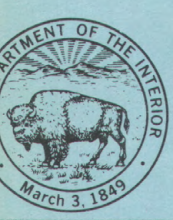
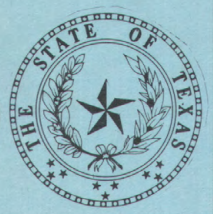
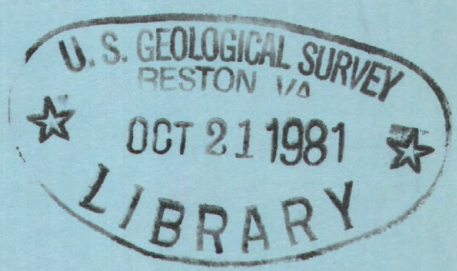




Water Resources Data for Texas

Volume 2. San Jacinto River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-80-2

WATER YEAR 1980

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

CALENDAR FOR WATER YEAR 1980

1979

OCTOBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
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1980

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JUNE

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JULY

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AUGUST

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31						

SEPTEMBER

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28	29	30				

Water Resources Data for Texas

Volume 2. San Jacinto River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-80-2

WATER YEAR 1980

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

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Surface-water data for the 1980 water year for Texas are presented in three volumes, appropriately identified as to content by river basins. Data in each volume consist of records of stage, discharge, and water quality of streams and canals; and stage, contents, and water quality of lakes and reservoirs. Also included are crest-stage and flood-hydrograph partial-record stations, reconnaissance partial-record stations, and 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. Records for a few pertinent stations in bordering States are also included. 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 Texas.

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JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information write to
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Austin, Texas 78701

1981

Preface

This report was prepared by the U.S. Geological Survey in cooperation with the State of Texas and other agencies by personnel of the Texas district of the Water Resources Division under the supervision of C. W. Boning, District Chief, and Alfred Clebsch, Jr., Regional Hydrologist, Central Region.

This report is one of a series issued by State under the general direction of Phil Cohen, Chief Hydrologist, and R. J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for Texas are in three volumes as follows:

Volume 1. Arkansas River basin, Red River basin, Sabine River basin, Neches River basin, Trinity River basin, and intervening and adjacent Coastal basins

Volume 2. San Jacinto River basin, Brazos River basin, San Bernard River basin, and intervening Coastal basins

Volume 3. Colorado River basin, Lavaca River basin, Guadalupe River basin, Nueces River basin, Rio Grande basin, and intervening Coastal basins

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FOR WHICH RECORDS ARE PUBLISHED

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

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

WATER RESOURCES DATA FOR TEXAS, 1980

VOLUME 2
SAN JACINTO RIVER BASIN, BRAZOS RIVER BASIN, SAN BERNARD RIVER BASIN, AND INTERVENING COASTAL BASINS

INTRODUCTION

Surface-water data for Texas for the 1980 water year are presented in three volumes, appropriately identified by river basins. Data in each each volume consist of records of stage, discharge, and water quality of streams and canals; and stage, contents, and water quality of lakes and reservoirs. Records for a few pertinent stations in bordering states are also included. These data represent that part of the National Water Data System operated by the U.S. Geological Survey in cooperation with State and Federal agencies in Texas.

Records of discharge (or stage) of streams and contents (or stage) of lakes and reservoirs were first published in a series of Geological Survey Water-Supply Papers entitled, "Surface Water Supply of the United States." Through water year 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 temperature, and suspended sediment were published from 1941 to 1971 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Virginia 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow and water quality 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, this report is identified as "U.S. Geological Survey Water-Data Report TX-80-2." Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

COOPERATION

Organizations that assisted in the collection of data in this report through joint funding agreements with the Geological Survey in 1980 are:

Texas Department of Water Resources, H. D. Davis, Executive Director; A. L. Black, Chairman; J. H. Garrett, Vice-Chairman; M. T. Potts, G. E. Roney, G. W. McCleskey, and W. O. Bankston, Members.

Pecos River Commission, Horace Babcock, Federal Representative and Chairman; L. A. Vick, Commissioner for Texas, and J. L. Cathey, Commissioner for New Mexico.

Sabine River Compact Administration, Lamar Carroon, Federal Representative and Chairman; R. J. Palmer and G. R. Dyson for Louisiana; and J. M. Syler and Nelson Davis for Texas.

City of Austin, John German, Jr., Director, Engineering Department.

City of Dallas, Monroe McCorkle, Director of Public Works.

City of Garland, J. G. Driskoll, City Engineer.

City of Houston, J. A. Schindewolf, Director of Public Works.

City of Mesquite, G. E. Dowling, City Engineer.

Assistance in the form of funds or services was furnished by the following Federal agencies:

Corps of Engineers, U.S. Army.

Environmental Protection Agency.

Federal Emergency Management Agency.

International Boundary and Water Commission, United States and Mexico, U.S. Section.

National Park Service.

Soil Conservation Service, Department of Agriculture.

U.S. Water and Power Resources Service.

Assistance in the form of funds or services was rendered by the following organizations through the Texas Department of Water Resources:

The cities of Abilene, Alice, Arlington, Austin, Brady, Cleburne, Clyde, Corpus Christi, Dallas, El Paso, Gainesville, Graham, Houston, Nacogdoches, San Angelo, San Antonio, and Wichita Falls; Athens Municipal Water Authority; Bexar, Medina, and Atascosa Counties Water Control and Improvement District No. 1; Bistone Municipal Water Supply District; Brazos River Authority; Colorado River Municipal Water District; Dallas County; Dallas Power and Light Company; Dow Chemical Company; Edwards Underground Water District; Franklin County Water District; Freese and Nichols, Inc.; Greenbelt Municipal and Industrial Water Authority; Guadalupe-Blanco River Authority; Harris County Flood Control District; Harris-Galveston Coastal Subsidence District; Lavaca-Navidad River Authority; Lone Star Steel Company; Lower Colorado River Authority; Lower Neches Valley Authority; MacKenzie Municipal Water Authority; North Central Texas Municipal Water Authority; Northeast Texas Municipal Water District; Nueces River Authority; Orange County; Palo Pinto County Municipal Water District; Red Bluff Water Power Control District; Reeves County Water Improvement District No. 1; Sabine River Authority of Texas; San Antonio City Public Service Board; San Antonio City Water Board; San Antonio River Authority; San Jacinto River Authority; Tarrant County Water Control and Improvement District No. 1; Texas Electric Service Company; Texas Utilities Services, Inc.; The Woodlands Development Corporation; Titus County Fresh Water Supply District No. 1; Tom Green County Water Control and Improvement District No. 1; Trinity River Authority; Upper Guadalupe River Authority; Upper Neches River Municipal Water Authority; Upper Trinity Basin Water Quality Compact; West Central Texas Municipal Water District; Wichita County Water Improvement District No. 2; and Wood County.

HYDROLOGIC CONDITIONS

Large variations in rainfall and runoff characterize the usual hydrologic conditions in Texas. In the east, streams are usually deep with wide alluvial flood plains, and streamflow is generally perennial. Normal annual rainfall exceeds 50 inches in the extreme east and annual runoff may average as much as 15 inches. In the west, streams are generally of the arroyo type and streamflow is highly ephemeral. Normal annual rainfall is less than 8 inches in the extreme west and annual runoff averages less than 0.1 inch in many areas.

During the 1980 water year, runoff for index station North Bosque River near Clifton, located in the central part of the State was in the deficient range (within the lowest 25 percent of record), with a mean discharge of only 19 percent of the long-term median. The other three index stations, Neches River near Rockland, located in east-central Texas, Guadalupe River near Spring Branch, located in south-central Texas, and North Concho River near Carlsbad, located in west Texas, were in the normal runoff range for the year. Figure 1 on page 28 shows a comparison of monthly and annual mean discharges for the index stations. Conservation storage in a selected group of 63 reservoirs, with a combined conservation capacity of 30,252,000 acre-feet, decreased from 86 percent of capacity in September 1979 to 75 percent of capacity in September 1980. Records from the 63 reservoirs show that 52 reservoirs decreased in contents, 10 increased, and one remained the same.

At the beginning of the 1980 water year, streamflow was in the deficient range in the northeastern part of the State, excessive (within the highest 25 percent of record) along the Gulf coast, and near normal in the remainder of the State. At the end of the first quarter, accumulated rainfall amounts were below normal across most of the State, with deficient runoff conditions existing across the entire northern half of the State. At the end of the second quarter, conditions were basically unchanged, with deficient runoff occurring in the northern half of the State and near-normal conditions existing in the southern half.

By late June, a combination of below-normal rainfall and record-breaking high temperatures brought moderate drought conditions to all of north and east Texas. At the end of July, drought conditions had further intensified in north and east Texas and below-normal runoff conditions existed across the entire State, except for the Guadalupe River basin in south-central Texas where conditions were normal.

Runoff conditions remained unchanged until mid-August when Hurricane Allen produced drought-breaking rainfall along its westward path across south and southwest Texas. A further improvement in flow conditions occurred in early September in the wake of tropical storm Danielle which produced heavy rainfall in the central and west-central parts of the State. At the end of the water year, deficient runoff conditions continued in a large portion of east-central Texas, above-normal conditions existed in south-central and west Texas, and normal conditions existed in the remainder of the state.

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 (SI) on the inside of the back cover.

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

Use of the new terminology began with data for the 1978 water year, and therefore, it first appears in that publication. Definitions on which the terminology is based are included in the "Definitions" sections of this report.

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, about 326,000 gallons, or 1,233 cubic meters.

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

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 with a golden-green metallic sheen within 24 hours when incubated at 35°C $\pm$ 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL (milliliters) 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 $\pm$ 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 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-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

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.

Biomass pigment ratio is the ratio of organic mass in mg/m^2 (milligrams per square meter) to the mass of chlorophyll a, in mg/m^2.

Bottom material: See Bed material.

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

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-ft, 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, and unless otherwise indicated is computed on the basis of a level pool. The computation does not include bank storage.

Control designates a feature downstream from a 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.

Cubic foot 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 foor per second (FT^3/S, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second. This rate is equivalent to approximately 7.48 gallons per second, 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 that material in a representative water sample which passes through a 0.45 μm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

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

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

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

Drainage area of a stream at a specified 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 stream above the specified location. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a 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.HT.) 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.

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

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

Micrograms per liter (UG/L, µg/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, and is based on the mass of sediment per liter of water-sediment mixture.

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

ND is used in some of the tables of pesticide data as an abbreviation for "Not Detected." Analyses in which this term is reported were made by the U.S. Environmental Protection Agency laboratory in Bay Saint Louis, Mississippi.

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 either by 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:

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

The particle-size ditribution 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.

Periphyton is the assemblage of microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, the assemblage may include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides and herbicides, which control insects and plants respectively, and 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 of 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 baceria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

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

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

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

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usuage, 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 during a given time. It is computed by multiplying discharge (ft^3/s) times mg/L times 0.0027.

Suspended-sediment load is 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.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigation.

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 in the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

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

Substrate is the physical surface upon which an organism lives.

Natural substrates refers to any naturally occurring emersed or submersed solid surface, such as 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.

Suspended, recoverable refers to the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

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

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 numbers 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 a substance in solution or suspension that passes a stream section during a 24-hour day.

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

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

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the mean discharge (ft^3/s), times the mg/L of the constituent, times the factor 0.0027, times the number of days.

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

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 example, the taxonomy of a particular mayfly, Hexagenia limbata is the following:

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

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.

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual basic-data reports.

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

As an added means of identification, each hydrologic station 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 station numbering system is not used at miscellaneous sites where only random water-quality samples or discharge measurements are taken. The complete number for each station consists of eight digits, such as 08123800. The first two digits, 08 or 07, identify the river basin as previously published in the series of water-supply papers on the Surface Water Supply of the United States. The digits 07 indicate the Lower Mississippi River basin, and the digits 08 indicate the Western Gulf of Mexico Basins. The remaining six digits of the station number are sequential in downstream order.

All records for a drainage basin that extends across State boundaries can be arranged in downstream order by assembling the pages from the appropriate State reports by station number.

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 that 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 Geological Survey to meet many of the information demands of agencies or groups involved in national 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 gaging stations where additional samples are collected monthly or twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The basic data collected at gaging stations consist of (1) records of stage; (2) measurements of discharge of streams and canals; and (3) stage, surface area, and contents of lakes and 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 basic data in determining the daily flow or volume of water in storage. Records of stage are obtained from 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 5-, 15-, 30-, or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is often determined by sounding at many points.

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 mesurements, 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; monthly and yearly mean discharges are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features 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 the hydrologists or observers) are used in applying the gage heights to the rating tables.

At some stream-gaging stations, the stage-discharge relation is affected by 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.

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

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment. However, the change in contents is not affected to the same extent.

At 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. For such periods, the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly values. For gaging stations on streams or canals, a table showing the daily, monthly, and yearly discharge is given. For a gaging station on a reservoir, a table showing the daily contents is given. Tables of daily or maximum and minimum daily gage heights are included for some gaging stations. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the current water year is shown on the inside of the front cover to facilitate finding the day of the week for any date.

The description of the gaging stations, except those partial-record stations published in tabular form in the back of the report, gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, general remarks, and notations of revisions of previously published records. The location of the gaging stations and the drainage areas are obtained from the 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 (U.S. Water Resources Council, 1968). 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 for 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; "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum, and a condenced history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITIONS OF TERMS" on page 9.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow at 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 statistic to have little significance. 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 maximum 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, it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations additional peak discharges are listed under EXTREMES FOR THE CURRENT YEAR; if they are all independent peaks above a selected base. The time of occurrence of the peaks and corresponding gage heights are also listed. 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 separate paragraph following the table of peaks.

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 mean 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 generally 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 significant statistics for the calendar and water years.

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables in the back of the report. 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 (or) 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 and samples collected within a short time period to investigate the seepage and (or) pollutant gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements and analyses are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of discharge 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 interpretation 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 because of the effects of diversion, municipal and industrial effluents consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, values for cubic feet per second per square mile and runoff in inches are not published unless satisfactory adjustments can be made. Adjustments for evaporation from a reservoir are not included in the published changes in reservoir contents, unless it is so stated.

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 Texas District Office in Austin. Most gaging-station records are available in computer-usable form, and many statistical analyses have been made.

Records of discharge collected by agencies other than the Geological Survey

The International Boundary and Water Commission, United States and Mexico, operates all gaging stations on the Rio Grande and near the mouth of its principal tributaries at and below El Paso, Texas. Records collected at these stations are published in annual bulletins by the Commission and may be obtained from the International Boundary and Water Commission, United States Section, P. O. Box 20003, El Paso, Texas 79998.

EXPLANATION OF SURFACE-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.

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.

Water analysis

Most methods for collecting and analyzing water samples are described in U.S. Geological Survey Techniques of Water Resources Investigations listed below.

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 loads.

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 the reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is probably 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 biocarbonate.

At stream-gaging stations where daily samples are obtained, tables are included to show monthly and annual weighted averages of specific conductance; weighted average concentrations of dissolved solids, chloride, sulfate, hardness; and loads of dissolved solids, chloride, and sulfate. The weighted averages have been computed by using the daily records of specific conductance and developing regression relationships between each water-quality parameter and specific conductance.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean value 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.

At some stations where continuous or daily records of specific conductance are obtained, concentrations of selected chemical constituents have been computed from regression relationships between specific conductance and the chemical constituents. The weighted average, monthly and annual concentrations and/or loads of these constituents may be published in this report. For each station where this has been done, a statement so indicating has been included in the remarks section of the station description.

Water temperature

Water temperatures are measured at most of the water-quality stations. Water temperatures are also taken at time of discharge measurements at gaging stations. At sites at which daily samples are taken, the water temperature is taken about the same time each day. Large streams have a small diurnal temperature change; but small, shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams and reservoirs may be affected by waste-heat discharges.

At stations where digital recording thermographs are present, the records published consist of maximum, minimum, and mean temperatures for each day and the monthly averages.

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected twice daily or, in some instances, hourly. The published values of sediment discharges for days of rapidly changing flow or concentrations were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days in which the published value of sediment discharge 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-sediment discharge relations, sediment concentrations observed immediately before and after 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 and in estimating 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.

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Most methods used by the U.S. Geological Survey have been published 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).

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 measurements, and data presentation,* by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 p.

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

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

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

3-A4. *Measurement of peak discharge at width contractions by indirect methods,* by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 4 p.

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

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

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

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

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 p.

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

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 p.

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

4-A1. *Some statistical tools in hydrology,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 p.
4-A2. *Frequency curves,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 p.
4-B1. *Low-flow investigations,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 p.
4-B2. *Storage analyses for water supply,* by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 p.
4-B3. *Regional analyses of streamflow characteristics,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 p.
5-A1. *Methods for determination of inorganic substances in water and fluvial sediments,* by M. W. Skougstad and others: USGS--TWRI Book 5, Chapter A1. 1979. 626 p.
5-A2. *Determination of minor elements in water by emission spectroscopy,* by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 p.
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 p.
5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples,* edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 p.
5-A5. *Methods for determination of radioactive substances in water and fluvial sediments,* by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 p.
5-C1. *Laboratory theory and methods for sediment analysis,* by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 p.
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 p.

08067600 LAKE CONROE NEAR CONROE, TX

LOCATION.--Lat 30°21'30", long 95°33'39", Montgomery County, Hydrologic Unit 12040101, at service outlet tower at Conroe Dam on West Fork San Jacinto River, 140 ft (43 m) upstream from centerline of dam, and 7.4 mi (11.9 km) west of Conroe.

DRAINAGE AREA.--445 mi² (1,153 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--The lake is formed by an earthfill dam 11,300 ft (3,440 m) long, including a controlled spillway. The dam was completed Sept. 1, 1972, and deliberate impoundment began Jan. 9, 1973. Water is used for municipal and industrial purposes in the Houston metropolitan area. In addition, a small diversion is used for cooling purposes at the Gulf State Utilities generating plant on Lewis Creek Reservoir near Conroe. During the current year, 7,020 acre-ft (8.66 hm³) was diverted to Lewis Creek Reservoir for that purpose. A spillway with five 40- by 30-foot (12 by 9 m) tainter gates is located near the center of dam. Low-flow releases are made through a separate multi-gated inlet tower. The tower has three gated openings and one uncontrolled opening. It is connected to a stilling basin and a concrete weir by a 14-foot-diameter (4 m) conduit through the dam. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	212.0	-
Design flood	205.5	532,000
Top of tainter gates	202.5	462,600
Top of conservation pool (uncontrolled tower outlet)	201.0	430,300
Normal operating level	200.4	417,900
Crest of spillway (sill of tainter gates)	173.0	64,960
Lowest gated outlet (invert)	144.5	300

COOPERATION.--The capacity table, furnished by the San Jacinto River Authority, is based on Geological Survey maps dated 1958-59.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 476,600 acre-ft (588 hm³) Apr. 21, 1979, elevation, 203.13 ft (61.914 m); minimum since normal operating level was reached, 372,800 acre-ft (460 hm³) Nov. 26, 1978, elevation, 198.12 ft (60.387 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 450,500 acre-ft (555 hm³) May 19, elevation, 201.95 ft (61.554 m); minimum, 376,400 acre-ft (464 hm³) Sept. 29, elevation, 198.31 ft (60.445 m).

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

198.0	370,500
200.0	409,600
202.0	451,600

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	435000	427600	429000	432800	429600	433000	440100	433200	427600	417500	400300	385700
2	433500	427400	428800	432000	429800	430700	437900	433500	427600	417100	399300	385100
3	432200	427000	428600	432400	430100	430100	436700	433000	427200	416400	398500	384700
4	430900	426300	428200	431800	430100	430700	434500	432800	427200	415800	398100	383900
5	429600	426300	428200	431300	430700	431100	432800	432400	427000	415600	397700	383900
6	429800	426500	428400	430700	430300	430500	432200	431300	426800	415000	397100	384300
7	429400	425700	428200	430300	429600	430900	431300	431100	426800	414600	397700	384500
8	429000	425500	428000	429800	433000	431300	431100	431500	427000	414000	397500	384700
9	429200	426300	428000	429400	433700	431100	430700	430500	427200	413100	397100	384500
10	427800	425500	427800	429600	436200	431300	429800	429800	426500	412500	396500	383900
11	427400	425300	427800	430500	437700	430900	430500	429600	426100	411700	396100	383400
12	427400	425500	435000	429400	437700	431100	431300	430300	425500	410900	395500	382600
13	427400	424700	435600	429400	436700	431100	430900	432000	424900	410100	395100	382000
14	427000	424500	435600	429400	435200	430700	430700	432200	424100	409400	394300	381400
15	426800	424100	435800	429600	434700	430300	430300	436000	423700	408800	395100	380900
16	426500	424100	436700	430300	434700	430500	429600	440900	423500	408400	394700	380300
17	426300	423700	434500	430300	433200	432000	430300	446500	423000	407800	394100	379500
18	426100	423500	433500	429800	432200	431300	429600	447100	423000	406900	393500	381200
19	425500	426800	433000	430300	431800	431800	429800	449500	422600	406100	392700	380100
20	425500	427000	432400	430700	431300	432800	429600	446700	422400	405700	392500	378900
21	425300	434300	433900	432600	431300	431300	429400	443700	422200	405700	392100	378700
22	426100	433200	431500	434500	430500	430500	429200	440100	421600	404900	392300	378200
23	425300	432400	432400	434100	431100	431100	429000	436500	421000	404500	392100	377600
24	424900	431800	432400	434100	432400	431300	428600	433500	420600	403700	391300	377000
25	424500	430300	432400	434500	431100	431300	430700	431300	420400	402700	390500	378700
26	423900	430300	432200	434300	430100	431500	430900	430700	420200	402300	389700	378200
27	423700	431300	431800	432800	430300	434700	429800	430100	419300	401900	409000	377200
28	423700	430900	431500	431800	430100	442400	429400	429000	418500	403100	388400	376600
29	423200	429600	433200	431300	430900	446100	429000	428600	418300	402500	387800	376400
30	427600	429000	433200	432000	---	444800	428800	428600	417900	401900	386800	376800
31	428200	---	433200	430500	---	442600	---	428000	---	401100	386200	---
MAX	435000	434300	436700	434500	437700	446100	440100	449500	427600	417500	409000	385700
MIN	423200	423500	427800	429400	429600	430100	428600	428000	417900	401100	386200	376400
(†)	200.90	200.94	201.14	201.01	201.03	201.58	200.93	200.89	200.40	199.57	198.82	198.33
(‡)	-9100	+800	+4200	-2700	+400	+11700	-13800	-800	-10100	-16800	-14900	-9400

CAL YR 1979 MAX 475500 MIN 404700 ‡ +34100
WTR YR 1980 MAX 449500 MIN 376400 ‡ -60500

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

08067600 LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1973 to current year.

302127095335501 LAKE CONROE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
JAN										
29...	1135	1.0	185	7.4	12.0	1.20	8.8	81	65	6
29...	1137	10	185	7.4	12.0	--	8.7	81	--	--
29...	1139	20	185	7.4	12.0	--	8.6	80	--	--
29...	1141	30	185	7.4	12.0	--	8.6	80	--	--
29...	1143	40	185	7.4	12.0	--	8.6	80	--	--
29...	1145	54	185	7.4	12.0	--	8.6	80	60	1
MAY										
22...	1000	1.0	188	8.4	25.5	2.38	8.6	104	67	9
22...	1002	10	188	8.4	25.0	--	8.7	105	--	--
22...	1004	20	188	8.4	25.0	--	8.7	105	--	--
22...	1006	30	190	7.2	22.0	--	5.3	61	--	--
22...	1008	40	190	6.8	20.0	--	1.9	21	--	--
22...	1010	50	223	7.1	18.0	--	1.2	15	--	--
22...	1012	58	223	7.1	18.0	--	1.2	13	74	0
SEP										
11...	1026	1.0	200	7.7	28.5	1.77	8.1	103	64	13
11...	1028	10	200	7.4	28.0	--	7.2	90	--	--
11...	1030	20	200	7.3	27.5	--	6.2	78	--	--
11...	1032	30	200	6.8	27.5	--	4.5	56	--	--
11...	1034	40	232	6.5	21.5	--	.1	1	--	--
11...	1036	51	267	6.3	19.0	--	.1	1	85	0

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
29...	23	1.8	10	.5	2.6	72	0	6.6	18
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	21	1.8	9.3	.5	2.6	72	0	4.2	16
MAY									
22...	23	2.3	10	.5	2.4	66	2	5.5	17
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	26	2.1	9.9	.5	2.7	94	0	3.9	17
SEP									
11...	22	2.1	12	.7	2.8	62	0	5.1	23
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	30	2.4	11	.5	3.0	120	0	2.1	18

LAKE CONROE NEAR CONROE, TX--Continued

302127095335501 LAKE CONROE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
29...	.1	1.3	99	.09	.42	.51	.020	20	<1
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	.09	.38	.47	.020	10	10
29...	--	--	--	--	--	--	--	--	--
29...	--	1.4	92	.09	.40	.49	.020	120	50
MAY									
22...	.1	1.8	97	.01	--	--	.020	<10	7
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	.01	.60	.61	.020	150	20
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	.06	.47	.53	.020	540	210
22...	--	--	--	--	--	--	--	--	--
22...	--	4.9	117	.00	.93	.93	.030	--	3900
SEP									
11...	.1	3.2	101	.00	.67	.67	.040	<10	9
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	.00	.58	.58	.030	20	30
11...	--	--	--	.00	.60	.60	.050	120	290
11...	--	--	--	--	--	--	--	--	--
11...	--	10	147	.00	3.0	3.0	.520	6100	4800

302132095333701 LAKE CONROE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
29...	1200	1.0	185	7.4	12.0	8.8	81
29...	1202	10	185	7.4	12.0	8.8	81
29...	1204	20	185	7.4	12.0	8.8	81
29...	1206	30	185	7.4	12.0	8.8	81
29...	1208	40	185	7.4	12.0	8.8	81
29...	1210	53	185	7.4	12.0	8.8	81
MAY							
22...	1036	1.0	188	8.4	25.5	8.6	105
22...	1038	10	188	8.4	25.0	8.6	104
22...	1040	20	188	8.4	25.0	8.7	105
22...	1042	30	190	7.1	22.0	4.8	55
22...	1044	40	190	6.8	19.5	2.0	22
22...	1046	50	200	6.8	19.0	1.1	12
22...	1048	54	223	6.8	18.5	.7	7
SEP							
11...	1055	1.0	200	7.8	29.0	8.2	105
11...	1057	10	200	7.7	28.0	7.7	96
11...	1059	20	200	7.1	27.5	6.2	78
11...	1101	30	200	6.7	27.0	3.9	48
11...	1103	40	232	6.5	21.5	.2	2
11...	1105	49	260	6.4	19.5	.2	2

LAKE CONROE NEAR CONROE, TX--Continued

302245095365301 LAKE CONROE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
29...	1115	1.0	188	7.6	12.5	9.4	88
29...	1117	10	188	7.6	12.5	9.4	88
29...	1119	20	188	7.6	12.5	9.4	88
29...	1121	29	188	7.6	12.5	9.4	88
MAY							
22...	0942	1.0	175	8.4	25.5	8.7	106
22...	0944	10	175	8.4	25.5	8.8	107
22...	0946	20	190	7.0	23.0	4.0	47
22...	0948	32	205	6.7	22.0	.8	9
SEP							
11...	1002	1.0	200	7.9	29.0	8.3	106
11...	1004	10	200	7.1	28.0	5.8	72
11...	1006	20	200	6.7	27.5	2.8	35
11...	1008	26	200	6.5	27.5	.4	5

302323095341201 LAKE CONROE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
29...	1245	1.0	185	7.5	12.0	8.5	79
29...	1247	10	185	7.4	12.0	8.5	79
29...	1249	20	185	7.4	12.0	8.5	79
29...	1251	30	185	7.4	12.0	8.5	79
29...	1253	40	185	7.4	12.0	8.4	78
29...	1255	46	185	7.4	12.0	8.4	78
MAY							
22...	1104	1.0	188	8.4	25.5	8.6	105
22...	1106	10	188	8.3	24.5	8.4	101
22...	1108	20	188	8.1	24.0	8.0	95
22...	1110	30	190	7.0	22.0	4.0	46
22...	1112	40	200	6.8	19.5	1.2	13
22...	1114	50	200	6.8	19.5	1.2	13
22...	1116	55	215	6.8	18.0	1.0	11
SEP							
11...	0920	1.0	200	7.9	28.5	8.5	108
11...	0922	10	200	7.3	28.0	6.8	85
11...	0924	20	200	7.0	27.5	5.7	71
11...	0926	30	200	6.8	27.0	4.5	56
11...	0928	44	245	6.5	21.5	.5	6

302320095334001 LAKE CONROE SITE CL

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
29...	1220	1.0	185	7.5	12.0	8.5	79
29...	1222	10	185	7.5	12.0	8.5	79
29...	1224	20	185	7.5	12.0	8.4	78
29...	1226	30	185	7.5	12.0	8.4	78
29...	1228	40	185	7.4	12.0	8.3	77
29...	1230	49	185	7.3	12.0	8.0	74
MAY							
22...	1122	1.0	188	8.4	25.0	8.5	102
22...	1124	10	188	8.2	24.0	8.4	100
22...	1126	20	188	8.0	24.0	8.0	95
22...	1128	30	190	7.0	23.5	4.7	55
22...	1130	40	200	6.8	19.5	1.7	18
22...	1132	51	200	6.8	19.0	.7	8
SEP							
11...	0938	1.0	200	7.8	29.0	8.2	105
11...	0940	10	200	7.1	27.5	6.2	78
11...	0942	20	200	6.7	27.5	4.5	56
11...	0944	30	200	6.6	27.0	3.5	43
11...	0946	35	238	6.6	22.0	.2	2

LAKE CONROE NEAR CONROE, TX--Continued

302448095374101 LAKE CONROE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
29...	1305	1.0	185	7.7	12.5	9.1	85
29...	1307	10	185	7.7	12.5	9.1	85
29...	1309	20	185	7.6	12.5	9.1	85
29...	1311	30	185	7.6	12.5	9.1	85
MAY							
22...	1157	1.0	173	8.7	26.0	9.0	111
22...	1159	10	173	8.7	25.5	9.2	112
22...	1201	20	200	6.7	22.5	1.1	13
22...	1203	31	200	6.8	21.5	.7	8
SEP							
11...	0900	1.0	200	7.9	28.5	8.2	104
11...	0902	10	200	7.2	28.0	5.9	74
11...	0904	21	200	6.5	27.0	1.4	17

302607095360901 LAKE CONROE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
JAN									
29...	1335	1.0	183	7.4	12.0	1.10	8.7	81	60
29...	1337	10	183	7.4	12.0	--	8.7	81	--
29...	1339	20	183	7.4	12.0	--	8.7	81	--
29...	1341	30	183	7.4	12.0	--	8.7	81	--
29...	1343	36	183	7.4	12.0	--	8.7	81	60
MAY									
22...	1228	1.0	187	8.5	25.0	1.80	9.1	110	67
22...	1230	10	187	8.1	24.5	--	8.1	96	--
22...	1232	20	187	7.1	22.5	--	5.6	64	--
22...	1234	30	195	6.8	21.0	--	3.0	34	--
22...	1236	40	205	6.7	20.0	--	.8	9	72
SEP									
11...	1136	1.0	200	8.1	29.5	1.49	9.2	118	64
11...	1138	10	200	6.9	28.0	--	5.2	65	--
11...	1140	20	200	6.8	28.0	--	4.6	58	--
11...	1142	30	200	6.4	27.5	--	.8	10	--
11...	1144	40	280	6.5	22.5	--	.3	3	97

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
JAN									
29...	3	21	1.9	9.8	.6	2.5	70	0	4.1
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	2	21	1.9	9.6	.5	2.5	71	0	3.6
MAY									
22...	9	23	2.2	11	.6	2.4	62	4	5.6
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	6	25	2.2	11	.6	2.5	80	0	5.7
SEP									
11...	5	22	2.2	13	.7	2.9	72	0	4.2
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	0	35	2.4	12	.5	2.8	130	0	1.3

LAKE CONROE NEAR CONROE, TX--Continued

302607095360901 LAKE CONROE SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
29...	16	1.2	91	.09	.42	.51	.020	20	2
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	16	1.3	91	.09	.35	.44	.030	20	4
MAY									
22...	18	1.9	99	.01	1.3	1.3	.030	<10	5
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	.01	.72	.73	.020	630	20
22...	--	--	--	--	--	--	--	--	--
22...	18	3.6	109	.01	1.4	1.4	.050	--	1100
SEP									
11...	22	4.5	106	.00	.79	.79	.030	<10	10
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	.00	.62	.62	.040	10	200
11...	--	--	--	--	--	--	--	--	--
11...	20	6.3	157	.00	2.5	2.5	.530	7200	6000

302714095372201 LAKE CONROE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	PHOSPHORUS, TOTAL (MG/L AS P)
JAN								
29...	1355	1.0	183	7.5	12.5	9.0	84	--
29...	1357	10	183	7.4	12.5	8.9	83	--
29...	1359	24	183	7.4	12.5	8.9	83	--
MAY								
22...	1304	1.0	187	8.6	25.5	8.8	107	--
22...	1306	10	196	7.1	23.5	5.0	59	--
22...	1308	24	202	6.6	22.0	1.2	14	--
SEP								
11...	1210	1.0	200	7.9	30.5	8.5	111	--
11...	1212	10	207	6.8	28.5	4.2	53	.140
11...	1214	20	220	6.4	28.0	.5	6	.210

303129095360501 LAKE CONROE SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
29...	1430	1.0	270	7.4	12.0	.90	8.4	78	81
29...	1432	10	300	7.3	12.0	--	8.2	76	--
29...	1434	20	340	7.2	12.0	--	7.0	65	--
29...	1436	29	340	7.2	12.0	--	7.0	65	97
MAY									
22...	1355	1.0	112	6.5	26.0	.46	4.9	60	38
22...	1357	10	160	6.4	22.5	--	.9	10	--
22...	1359	20	180	6.4	21.5	--	.8	9	--
22...	1401	33	183	6.4	21.5	--	.8	9	59
SEP									
11...	1250	1.0	206	8.1	30.5	1.28	9.4	124	64
11...	1252	5.0	209	7.6	29.0	--	7.7	99	--
11...	1254	10	215	6.4	27.0	--	.1	1	--
11...	1256	20	215	6.4	26.5	--	.1	1	--
11...	1258	30	215	6.4	26.5	--	.1	1	64

LAKE CONROE NEAR CONROE, TX--Continued

303129095360501 LAKE CONROE SITE GC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
29...	18	28	2.6	20	1.0	4.0	76	0	13
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	26	34	3.0	26	1.1	4.2	87	0	19
MAY									
22...	5	13	1.4	6.3	.4	2.9	40	0	3.4
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	9	20	2.1	12	.7	3.1	60	0	6.8
SEP									
11...	5	22	2.3	13	.7	2.8	73	0	5.1
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	4	22	2.3	14	.8	3.2	74	0	3.7

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
29...	35	9.8	150	.05	.70	.75	.080	100	8
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	48	15	192	.06	.66	.72	.120	90	30
MAY									
22...	11	10	68	.02	1.1	1.1	.120	170	40
22...	--	--	--	.02	1.0	1.0	.140	240	200
22...	--	--	--	--	--	--	--	--	--
22...	19	12	106	.01	1.3	1.3	.360	1100	640
SEP									
11...	25	4.5	111	.00	.96	.96	.050	<10	10
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	.00	.90	.90	.070	80	200
11...	--	--	--	--	--	--	.190	--	--
11...	27	4.6	114	.00	1.1	1.1	.110	290	170

LAKE CONROE NEAR CONROE, TX--Continued

302127095335501 LAKE CONROE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)
JAN							
29...	1135	1.0	1	80	<1	0	0
29...	1141	30	--	--	--	--	--
29...	1145	54	1	80	<1	0	1
MAY							
22...	1000	1.0	1	70	<1	0	0
22...	1004	20	--	--	--	--	--
22...	1008	40	--	--	--	--	--
22...	1012	58	4	100	<1	0	1
SEP							
11...	1026	1.0	2	50	<1	20	0
11...	1030	20	--	--	--	--	--
11...	1032	30	--	--	--	--	--
11...	1036	51	15	200	<1	0	0

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN							
29...	20	0	<1	.0	0	0	7
29...	10	--	10	--	--	--	--
29...	120	0	50	.0	0	0	6
MAY							
22...	<10	0	7	.5	0	0	<3
22...	150	--	20	--	--	--	--
22...	540	--	210	--	--	--	--
22...	--	0	3900	.4	0	0	<3
SEP							
11...	<10	1	9	.0	0	0	<3
11...	20	--	30	--	--	--	--
11...	120	--	290	--	--	--	--
11...	6100	1	4800	.0	0	0	5

LAKE CONROE NEAR CONROE, TX--Continued

302127095335501 LAKE CONROE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JAN 29,80		MAY 22,80		SEP 11,80	
TIME	1136		1001		1027	
TOTAL CELLS/ML	2400		16000		110000	
DIVERSITY: DIVISION	1.3		1.1		0.2	
.CLASS	1.3		1.1		0.2	
..ORDER	1.4		1.9		0.8	
...FAMILY	1.8		2.2		1.8	
....GENUS	2.6		2.8		2.3	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....GOLENKINIA	40	2	--	-	--	-
....MICRACTINIUM	120	5	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	120	5	690	4	*	0
....CHLORELLA	90	4	--	-	--	-
....CHODATELLA	*	0	*	0	--	-
....DICTYOSPHAERIUM	--	-	540	3	*	0
....KIRCHNERIELLA	--	-	250	2	--	-
....OOCYSTIS	50	2	*	0	--	-
....TETRAEDRON	90	4	--	-	*	0
....TREUBARIA	--	-	*	0	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	40	2	--	-	--	-
....SCENEDESMUS	70	3	1400	9	650	1
..TETRASPORALES						
...COCCOMYXACEAE						
....ELAKATOTHRIX	--	-	140	1	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	*	0	--	-
....CHLAMYDOMONAS	--	-	180	1	--	-
...VOLVOCACEAE						
....PANDORINA	--	-	--	-	1300	1
..ZYGNEMATALES						
...DESMIDIACEAE						
....STAURASTRUM	--	-	--	-	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	180	8	510	3	--	-
....MELOSIRA	1200#	51	360	2	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	*	0	--	-
...FRAGILARIACEAE						
....SYNEDRA	30	1	--	-	*	0
...NITZSCHIACEAE						
....NITZSCHIA	*	0	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	*	0	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	5500	5
....ANACYSTIS	300	13	6900#	43	8900	8
....COCCOCHLORIS	--	-	140	1	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	2800#	18	--	-
....ANABAENOPSIS	--	-	--	-	49000#	45
....APHANIZOMENON	--	-	1400	9	--	-
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	7700	7
....OSCILLATORIA	--	-	400	2	28000#	26
....SPIRULINA	--	-	--	-	1800	2
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	3400	3
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	--	-	--	-	*	0

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

LAKE CONROE NEAR CONROE, TX--Continued

303129095360501 LAKE CONROE SITE GC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JAN 29,80		MAY 22,80		SEP 11,80	
TIME	1431		1356		1251	
TOTAL CELLS/ML	8800		3000		200000	
DIVERSITY: DIVISION	1.1		1.3		0.3	
.CLASS	1.1		1.3		0.3	
..ORDER	1.2		1.8		1.1	
...FAMILY	1.2		2.2		1.6	
....GENUS	1.5		2.8		2.3	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	27	1	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	280	3	110	4	*	0
....CHODATELLA	--	-	--	-	*	0
....DICTYOSPHAERIUM	--	-	230	8	*	0
....KIRCHNERIELLA	100	1	190	6	1000	1
....OOCYSTIS	89	1	140	5	--	-
....SELENASTRUM	--	-	--	-	*	0
....TETRAEDRON	--	-	--	-	*	0
....WESTELLA	--	-	--	-	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	55	2	--	-
....SCENEDESMUS	*	0	150	5	2400	1
....TETRASTRUM	--	-	110	4	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	69	2	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
....STAURASTRUM	--	-	--	-	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	360	4	140	5	*	0
....MELOSIRA	1900#	22	--	-	--	-
....STEPHANODISCUS	--	-	--	-	*	0
..PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	--	-	41	1	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	*	0	--	-	--	-
...NAVICULACEAE						
....NAVICULA	*	0	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	59	1	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	8800	4
....ANACYSTIS	5900#	67	1500#	49	36000#	18
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	210	7	3000	2
....ANABAENOPSIS	--	-	--	-	26000	13
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	97000#	48
....OSCILLATORIA	--	-	--	-	22000	11
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	--	-	41	1	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	*	0	--	-	*	0

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

08067610 LAKE CONROE AT OUTFLOW WEIR NEAR CONROE, TX

LOCATION.--Lat 30°21'23", long 95°33'37", Montgomery County, Hydrologic Unit 12040101, on left side of stilling basin of outflow weir, 620 ft (189 m) downstream from centerline of dam on West Fork San Jacinto River, 770 ft (235 m) downstream from service outlet tower, 3.0 mi (4.8 km) upstream from State Highway 105, and 7.4 mi (11.9 km) west of Conroe.

DRAINAGE AREA.--445 mi^2 (1,153 km^2).

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

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 138.48 ft (42.209 m) National Geodetic Vertical Datum of 1929 (levels by San Jacinto River Authority).

REMARKS.--Records good. Discharge represents controlled outflow from service tower and does not constitute the total outflow from Lake Conroe. Uncontrolled low flows through weir published at West Fork San Jacinto River below Lake Conroe (station 08067650).

AVERAGE DISCHARGE.--7 years, 14.8 ft^3/s (0.419 m^3/s), 10,720 acre-ft/yr (13.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 339 ft^3/s (9.60 m^3/s) Feb. 19-25, 1974; no controlled releases for many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 224 ft^3/s (6.34 m^3/s) Sept. 5-7; maximum gage height, about 8.0 ft (2.44 m) date unknown; no controlled releases for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	148
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	148
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	190
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	219
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	224
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	42	76	224
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	79	76	224
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	80	76	196
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	81	76	146
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	81	76	151
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	82	76	151
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	84	76	147
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	82	76	146
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	80	76	146
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	80	76	146
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	80	75	146
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	78	76	146
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	78	75	146
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	78	76	144
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	78	76	143
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	77	76	144
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	76	147
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	76	147
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	76	146
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	106	146
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	148	146
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	148	146
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	78	148	146
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	78	148	146
30	.00	.00	.00	.00	---	.00	.00	.00	.00	76	148	144
31	.00	---	.00	.00	---	.00	---	.00	---	76	148	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	.00	2004.00	2816	4789
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	64.6	90.8	160
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	84	148	224
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	75	143
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	3970	5590	9500

CAL YR 1979 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT 0
WTR YR 1980 TOTAL 9609.00 MEAN 26.3 MAX 224 MIN .00 AC-FT 19060

08067650 WEST FORK SAN JACINTO RIVER BELOW LAKE CONROE NEAR CONROE, TX

LOCATION.--Lat 30°20'31", long 95°32'34", Montgomery County, Hydrologic Unit 12040101, on right bank at downstream side of bridge on State Highway 105, 3.0 mi (4.8 km) downstream from Lake Conroe Dam, and 5.9 mi (9.5 km) west of Conroe.

DRAINAGE AREA.--451 mi² (1,168 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1972 to current year (discharge for periods of outflow from Lake Conroe only).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 116.06 ft (35.375 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor. Discharge is outflow from Lake Conroe. Floodflows may include local runoff. Discharge estimated during periods of backwater.

AVERAGE DISCHARGE.--8 years (water years 1973-80), 259 ft³/s (7.335 m³/s), 187,600 acre-ft/yr (231 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, 6,000 ft³/s (170 m³/s) Apr. 21, 1979, gage height, 33.22 ft (10.126 m); maximum gage height, 33.49 ft (10.208 m) Apr. 18, 1979 (backwater from local runoff); no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1940 reached a stage of 41.94 ft (12.783 m), from information by the State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,950 ft³/s (55.2 m³/s) May 19 at 0900 hours, gage height, 26.37 ft (8.038 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1010	.00	.00	237	24	4.8	1290	63	.32	.00	76	148
2	677	.00	.00	235	.50	1.6	1280	176	.00	.00	76	148
3	414	.00	.00	258	.70	.92	1190	176	.00	.00	76	190
4	361	.00	.00	240	.50	1.3	816	176	.00	.00	76	219
5	122	.00	.00	233	.50	1.1	571	176	.00	.00	76	224
6	4.5	.00	.00	227	.50	1.0	398	176	.00	42	76	224
7	.32	.00	.00	227	.50	1.1	392	176	.00	79	76	224
8	.00	.00	.00	223	209	1.2	285	176	.00	80	76	196
9	.32	.00	.00	160	515	1.1	27	300	.00	81	76	146
10	.32	.00	.00	18	674	1.2	18	36	.00	81	76	151
11	.00	.00	.00	.60	1120	29	2.0	.80	.00	82	76	151
12	.00	.00	181	.30	647	173	2.0	.80	.00	84	76	147
13	.00	.00	374	.30	704	12	2.0	124	.00	82	76	146
14	.00	.00	348	.30	867	1.0	2.0	264	.00	81	76	146
15	.00	.00	340	.30	866	.90	1.6	317	.00	80	76	146
16	.00	.00	352	.30	943	1.0	1.6	670	.00	80	75	146
17	.00	.00	376	44	773	1.2	1.3	1130	.00	78	76	146
18	.00	.00	332	127	636	1.2	1.3	1260	.00	78	75	146
19	.00	.00	331	12	595	89	.92	1760	.00	78	76	144
20	.00	.00	330	.50	293	216	.92	1680	.00	78	76	143
21	.00	174	329	95	285	223	1.6	1640	.00	77	76	144
22	.00	545	329	627	283	208	2.0	1630	.00	76	76	147
23	.00	491	346	321	57	120	2.0	1620	.00	76	76	147
24	.00	475	342	292	5.9	13	2.0	1460	.00	76	76	146
25	.00	414	217	289	1.3	6.8	1.3	1220	.00	76	106	146
26	.00	17	121	476	1.3	98	.60	334	.00	76	148	146
27	.00	.60	240	660	1.3	412	3.8	260	.00	76	148	146
28	.00	1.3	239	476	1.3	856	3.8	140	.00	78	148	146
29	.00	.92	262	284	2.0	1160	4.3	7.2	.00	78	148	146
30	.00	.32	246	287	---	1100	3.3	.32	.00	76	148	144
31	.00	---	243	244	---	1260	---	.32	---	76	148	---
TOTAL	2589.46	2119.14	5878.00	6294.60	9507.30	5996.42	6307.34	17149.44	.32	2005.00	2816	4789
MEAN	83.5	70.6	190	203	328	193	210	553	.011	64.7	90.8	160
MAX	1010	545	376	660	1120	1260	1290	1760	.32	84	148	224
MIN	.00	.00	.00	.30	.50	.90	.60	.32	.00	.00	75	143
AC-FT	5140	4200	11660	12490	18860	11890	12510	34020	.6	3980	5590	9500

CAL YR 1979 TOTAL 219074.71 MEAN 600 MAX 5320 MIN .00 AC-FT 434500
WTR YR 1980 TOTAL 65452.02 MEAN 179 MAX 1760 MIN .00 AC-FT 129800

08067650 WEST FORK SAN JACINTO RIVER BELOW LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1972 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT 15...	1430	370	7.0	21.5	20	3.2	7.3	82	1.0	130	25
DEC 11...	1545	320	7.2	15.5	10	4.0	9.4	93	1.5	130	12
FEB 06...	1410	349	7.3	11.0	20	6.8	10.0	89	.2	130	24
APR 08...	1420	198	8.2	18.0	5	5.4	9.7	101	1.0	68	5
JUN 17...	1245	465	7.5	28.0	10	3.4	5.6	70	1.9	170	17
AUG 21...	0915	201	7.8	26.0	5	2.0	4.9	60	2.4	68	8

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
OCT 15...	46	4.1	21	.8	2.9	130	0	10	39	.1	14
DEC 11...	45	3.5	20	.8	2.4	140	0	7.1	31	.1	12
FEB 06...	46	3.8	21	.8	2.1	130	0	9.4	36	.1	14
APR 08...	24	1.9	10	.5	2.6	76	0	5.7	18	.2	--
JUN 17...	61	4.9	26	.9	2.7	190	0	9.4	52	.2	19
AUG 21...	24	2.0	12	.6	2.5	74	0	4.3	21	.1	3.2

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 15...	201	0	0	.02	.02	.04	.05	.48	.53	.050	4.8
DEC 11...	190	6	1	.00	.00	.00	.02	.60	.62	.030	7.2
FEB 06...	196	12	9	.10	.00	.10	.06	.52	.58	.050	5.7
APR 08...	--	14	1	.04	.01	.05	.08	.56	.64	.030	6.7
JUN 17...	269	7	5	.00	.01	.01	.03	.58	.61	.050	7.4
AUG 21...	106	4	0	.00	.00	.00	.01	.58	.59	.030	7.8

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
JUN 17...	1245	1	200	<1	0	1	10
AUG 21...	0915	2	80	<1	0	0	<10

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
JUN 17...	9	60	.0	0	0	6
AUG 21...	0	2	.0	0	0	4

08067650 WEST FORK SAN JACINTO RIVER BELOW LAKE CONROE NEAR CONROE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
DEC 11...	1545	.0	.00	.00	.0	.00	.00	.00	.00
JUN 17...	1245	.0	.00	.00	.0	.00	.00	.00	.00

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
DEC 11...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUN 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC 11...	.00	.00	.00	.00	0	.00	.07	.00	.00
JUN 17...	.00	.00	.00	.00	0	.00	.00	.00	.00

08067900 LAKE CREEK NEAR CONROE, TX
(Low-flow partial-record station)

LOCATION.--Lat 30°15'12", long 95°34'43", Montgomery County, Hydrologic Unit 12040101, at bridge on county road and 8.3 mi (13.4 km) southwest of Conroe.

DRAINAGE AREA.--291 mi² (754 km²).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT										
10...	1320	16	227	6.9	21.0	63	14	21	2.6	20
DEC										
03...	1250	25	318	--	10.0	92	28	32	3.0	22
JAN										
08...	1425	56	362	--	10.5	110	33	39	3.5	27
FEB										
12...	1500	1260	198	--	7.0	63	20	22	1.9	13
MAR										
27...	1425	182	355	--	15.5	91	32	31	3.3	30
MAY										
14...	1500	26	292	--	24.0	79	20	27	2.9	22
JUN										
24...	1245	7.1	278	--	28.5	74	17	25	2.9	22
JUL										
31...	1450	4.4	471	--	28.5	73	47	24	3.2	56
SEP										
09...	0910	5.6	479	--	25.5	71	45	23	3.3	60

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
10...	1.1	2.5	60	0	6.5	39	.1	19	140
DEC									
03...	1.0	2.9	78	0	7.5	54	.1	19	179
JAN									
08...	1.1	3.3	96	0	18	55	.2	16	209
FEB									
12...	.7	3.6	52	0	26	24	.1	9.7	126
MAR									
27...	1.4	2.4	72	0	7.6	61	.1	9.1	180
MAY									
14...	1.1	2.8	72	0	6.0	48	.1	16	160
JUN									
24...	1.1	2.2	70	0	2.2	46	.1	20	155
JUL									
31...	2.9	3.1	32	0	3.8	120	.1	20	246
SEP									
09...	3.1	3.4	32	0	8.8	130	.1	20	264

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX
(National stream-quality accounting network)

LOCATION.--Lat 30°14'40", long 95°27'25", Montgomery County, Hydrologic Unit 12040101, near right bank at downstream side of pier of bridge on Interstate Highway 45 and U.S. Highway 75, 300 ft (91 m) upstream from Missouri Pacific Railroad Co. bridge, 3.5 mi (5.6 km) downstream from Lake Creek, 4.2 mi (6.8 km) south of Conroe, and at mile 79 (127 km).

DRAINAGE AREA.--828 mi^2 (2,145 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to September 1927, July 1939 to current year.

REVISED RECORDS.--WSP 1058: 1926. WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 95.03 ft (28.965 m) National Geodetic Vertical Datum of 1929. May 7, 1924, to Sept. 30, 1927, nonrecording gage at railroad bridge 285 ft (87 m) downstream at datum 30.10 ft (9.174 m) higher. July 13, 1939, to Sept. 30, 1963, water-stage recorder at datum 5.0 ft (1.52 m) higher.

REMARKS.--Water-discharge records good. Regulated since Jan. 9, 1973, by Lake Conroe (station 08067600), capacity 532,000 acre-ft (656 hm^3), 14.5 mi (23.3 km) upstream. No large diversions above station.

AVERAGE DISCHARGE.--36 years (water years 1925-27, 1940-72) prior to regulation by Lake Conroe, 477 ft^3/s (13.51 m^3/s), 345,600 acre-ft/yr (426 hm^3/yr); 8 years (water years 1973-80) regulated, 619 ft^3/s (17.53 m^3/s), 448,500 acre-ft/yr (553 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110,000 ft^3/s (3,120 m^3/s) Nov. 25, 1940, gage height, 30.85 ft (9.403 m), present datum, from rating curve extended above 43,000 ft^3/s (1,220 m^3/s) on basis of velocity-area studies; no flow June 14, 1956, Sept. 19 to Oct. 1, 1965, result of temporary dams.
Maximum stage since at least December 1913, that of Nov. 25, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1913 reached a stage of 30.2 ft (9.20 m), present site and datum, from information by Missouri Pacific Railroad Co., discharge 101,000 ft^3/s (2,860 m^3/s), from rating curve as explained above.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,240 ft^3/s (177 m^3/s) May. 19 at 2200 hours, gage height, 18.77 ft (5.721 m); minimum daily, 20 ft^3/s (0.57 m^3/s) July 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	283	95	545	186	164	1980	72	76	24	101	165
2	801	151	86	541	118	237	1500	208	72	22	99	167
3	481	101	82	515	128	116	1390	390	66	23	98	166
4	444	80	79	483	121	100	1080	575	60	23	96	228
5	270	69	79	417	110	105	894	521	56	22	102	242
6	111	63	79	398	106	103	596	358	51	20	99	333
7	78	61	82	379	100	90	572	295	48	85	96	268
8	67	57	74	365	449	87	554	288	45	113	112	256
9	62	56	69	346	1240	83	192	421	47	111	96	208
10	65	58	68	154	1600	79	107	124	46	109	96	163
11	60	58	69	203	1530	76	96	72	42	107	96	164
12	50	51	516	127	1730	211	91	64	39	105	95	154
13	47	48	1570	102	1840	174	144	58	36	104	93	153
14	44	47	1020	96	1300	95	147	244	34	104	93	150
15	41	46	913	93	1090	67	103	429	32	104	96	149
16	41	44	927	92	1210	66	88	986	31	105	106	147
17	39	43	833	89	1280	74	80	1850	30	103	95	146
18	37	43	577	240	1100	108	76	2650	30	102	94	144
19	35	45	501	116	1150	81	72	5120	30	101	91	143
20	34	74	472	90	852	302	67	4900	31	100	90	144
21	33	444	457	118	615	357	63	3270	32	100	89	145
22	34	1870	449	1130	512	321	58	2410	30	100	88	147
23	47	1170	488	1330	342	291	56	1870	30	99	90	147
24	37	890	712	1110	151	118	55	1660	28	99	87	147
25	30	757	599	1080	129	90	107	1390	28	109	86	147
26	29	376	251	958	111	96	128	853	27	104	130	152
27	28	179	382	960	92	654	92	481	26	102	160	148
28	27	137	364	800	84	1870	79	399	25	114	171	147
29	27	134	505	490	82	1950	64	151	25	117	165	147
30	90	117	592	458	---	2510	58	103	24	107	163	200
31	780	---	578	462	---	2730	---	87	---	102	164	---
TOTAL	4989	7552	13568	14287	19358	13405	10589	32299	1177	2740	3337	5217
MEAN	161	252	438	461	668	432	353	1042	39.2	88.4	108	174
MAX	1020	1870	1570	1330	1840	2730	1980	5120	76	117	171	333
MIN	27	43	68	89	82	66	55	58	24	20	86	143
AC-FT	9900	14980	26910	28340	38400	26590	21000	64070	2330	5430	6620	10350

CAL YR 1979	TOTAL	482658	MEAN	1322	MAX	17800	MIN 27	AC-FT	957400
WTR YR 1980	TOTAL	128518	MEAN	351	MAX	5120	MIN 20	AC-FT	254900

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1961 to current year. Sediment records: October 1966 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1961 to current year.
WATER TEMPERATURES: October 1961 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 763 micromhos Apr. 20, 1971; minimum daily, 52 micromhos May 12, 1972.
WATER TEMPERATURES (1961-1979): Maximum daily, 36.0°C Aug. 6, 1964, July 9, 1967; minimum daily, 0.0°C Dec. 22, 1963, Jan. 31, 1968.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 399 micromhos Mar. 25; minimum daily, 125 micromhos Nov. 22, Mar. 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
16...	1335	41	240	7.3	23.5	15	4.8	10.9	128	1.9	130	K1
NOV												
23...	1125	1170	154	6.7	13.0	65	34	10.6	99	2.2	5500	5200
DEC												
12...	0915	91	249	7.4	15.5	40	120	9.0	89	4.2	900	2900
JAN												
23...	0930	1350	240	7.5	8.0	120	72	12.2	102	3.1	9700	3300
FEB												
06...	1145	106	331	7.3	11.0	30	18	9.5	85	.8	K14	K10
MAR												
05...	1800	105	324	7.3	15.0	30	36	9.6	94	2.9	K12	K2
APR												
08...	1150	557	210	7.6	17.5	10	11	8.8	91	1.5	98	74
MAY												
20...	1210	5050	146	7.4	23.0	80	48	6.6	76	2.7	13000	250
JUN												
17...	1000	29	265	7.1	26.0	30	8.6	5.9	71	3.6	320	78
JUL												
09...	1505	111	210	7.4	31.0	15	10	6.5	86	5.4	180	130
AUG												
20...	1515	90	220	7.4	30.0	5	10	5.3	70	2.8	36	K18
SEP												
23...	1635	147	206	7.5	28.5	10	7.1	7.7	99	2.5	100	56

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT											
16...	64	6	21	2.9	23	1.2	2.7	71	0	7.1	34
NOV											
23...	47	14	16	1.8	11	.7	2.8	41	0	7.6	25
DEC											
12...	64	15	21	2.7	22	1.2	2.7	59	0	7.9	35
JAN											
23...	71	17	24	2.6	17	.9	2.9	65	0	8.6	34
FEB											
06...	100	28	35	3.5	27	1.2	2.4	90	0	9.4	49
MAR											
05...	86	18	29	3.2	25	1.2	2.1	82	0	8.4	50
APR											
08...	70	7	24	2.4	13	.7	3.0	76	0	6.8	21
MAY											
20...	--	--	--	--	--	--	--	51	0	3.6	15
JUN											
17...	77	20	26	2.9	21	1.0	2.3	69	0	5.6	41
JUL											
09...	67	14	23	2.4	15	.8	2.9	70	0	7.2	27
AUG											
20...	61	9	21	2.1	15	.8	3.0	69	0	5.5	28
SEP											
23...	66	4	23	2.1	14	.8	3.0	76	0	3.0	24

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT 16...	.1	22	167	150	10	14	.24	.52	.710	.620	.49
NOV 23...	.1	6.5	102	91	102	30	.05	.07	.030	.070	1.4
DEC 12...	.1	18	189	139	168	15	.12	.06	.370	.380	3.0
JAN 23...	.1	8.7	163	130	118	30	.06	.04	.060	.010	1.1
FEB 06...	.1	18	202	190	21	8	.10	.17	.200	.200	.42
MAR 05...	.1	16	200	175	37	9	.12	.12	.300	.300	.70
APR 08...	.1	.1	124	108	29	0	.09	.08	.120	.120	.75
MAY 20...	.2	--	107	--	70	13	.04	.05	.070	.070	.90
JUN 17...	.1	22	172	155	16	0	.05	.04	.110	.090	.71
JUL 09...	.3	7.4	125	119	3	1	.10	.11	.270	.290	2.7
AUG 20...	.1	7.1	122	114	45	10	.11	.10	.180	.180	.82
SEP 23...	.2	5.8	131	113	7	8	.13	.13	.060	.090	.91

DATE	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 16...	.58	1.2	1.2	.310	.240	7.3	--	--	12	1.3	97
NOV 23...	.40	1.4	.47	.090	.040	12	--	--	73	231	92
DEC 12...	.43	3.4	.81	.630	.400	--	6.6	1.0	133	33	100
JAN 23...	.75	1.2	.76	.100	.060	17	--	--	138	503	79
FEB 06...	.29	.62	.49	.150	.050	8.6	--	--	23	6.6	99
MAR 05...	.40	1.0	.70	.050	.050	--	6.5	.5	42	12	100
APR 08...	.98	.87	1.1	.060	.030	6.7	--	--	26	39	89
MAY 20...	.76	.97	.83	.140	.070	14	--	--	103	1400	56
JUN 17...	.63	.82	.72	.200	.090	--	5.0	.4	24	1.9	98
JUL 09...	1.2	3.0	1.5	.260	.170	9.2	--	--	32	9.6	98
AUG 20...	.72	1.0	.90	.200	.150	6.7	--	--	41	10	100
SEP 23...	.59	.97	.68	.210	.170	--	9.1	.7	30	12	69

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
NOV 23...	1125	--	--	--	--	--	--	--	--	--	--
DEC 12...	0915	2	1	1	500	400	90	4	0	5	12
FEB 06...	1145	--	--	--	--	--	--	--	--	--	--
MAR 05...	1800	1	0	1	200	100	100	4	3	<1	0
JUN 17...	1000	3	2	1	100	0	100	1	--	<1	0
AUG 20...	1515	--	--	--	--	--	--	--	--	--	--
SEP 23...	1635	2	0	2	100	30	70	0	--	<1	0

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
NOV 23...	--	--	--	--	--	--	--	--	--	--	--
DEC 12...	12	0	1	0	<3	4	4	0	3000	2900	90
FEB 06...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	0	0	0	0	<3	4	2	2	1300	1200	70
JUN 17...	0	0	0	--	<3	5	5	0	870	800	70
AUG 20...	--	--	--	--	--	--	--	--	--	--	--
SEP 23...	0	0	1	--	<3	30	28	2	290	270	20

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
NOV 23...	--	--	--	--	--	--	--	--	--	--	--
DEC 12...	63	45	18	170	60	110	.1	.1	.0	0	0
FEB 06...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	30	18	12	90	20	70	.1	.0	.1	0	0
JUN 17...	7	0	20	260	40	220	--	--	.1	0	0
AUG 20...	--	--	--	--	--	--	--	--	--	--	--
SEP 23...	10	10	0	120	110	10	.1	.1	.0	6	0

DATE	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 23...	--	--	--	--	0	--	--	--	--	--
DEC 12...	4	0	0	0	0	0	0	180	160	20
FEB 06...	--	--	--	--	0	--	--	--	--	--
MAR 05...	1	0	0	0	0	0	0	20	10	7
JUN 17...	3	0	0	0	0	0	0	40	30	6
AUG 20...	--	--	--	--	0	--	--	--	--	--
SEP 23...	6	0	0	0	0	0	0	40	40	5

DATE	TIME	PCB TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 23...	1125	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 06...	1145	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)
NOV 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 06...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)
NOV 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 06...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL TRITHION, TOTAL (UG/L)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	PARATHION, TOTAL (UG/L)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 06...	ND	--	ND	--	ND	--	ND	--	--	--	--

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 23,79	MAR 5,80	MAY 20,80	JUN 17,80
TIME	1125	1800	1210	1000
TOTAL CELLS/ML	3500	1500	2300	2000
DIVERSITY: DIVISION	1.5	1.6	1.3	1.3
.CLASS	1.5	1.6	1.3	1.3
..ORDER	2.3	2.4	1.5	1.6
...FAMILY	3.0	3.0	1.7	2.0
....GENUS	3.8	3.4	2.0	2.2

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	9	1	--	-	--	-
...CHLOROCOCCACEAE								
....CHLOROCOCCUM	31	1	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	14	1	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	250	7	61	4	200	9	77	4
....CHODATELLA	--	-	9	1	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	31	1	18	1	72	3	--	-
....OOCYSTIS	--	-	79	5	29	1	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....CRUCIGENIA	250	7	--	-	110	5	260	13
....SCENEDESMUS	250	7	--	-	86	4	77	4
....TETRASTRUM	61	2	--	-	--	-	--	-
..TETRASPORALES								
...PALMELLACEAE								
....SPHAEROCYSTIS	120	3	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	180	12	57	3	26	1
...VOLVOCACEAE								
....PANDORINA	--	-	280#	19	--	-	--	-
..ZYGNEMATALES								
...DESMIDIACEAE								
....EUASTRUM	--	-	--	-	--	-	--	-
....STAURASTRUM	--	-	--	-	14	1	--	-

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

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980--Continued

DATE TIME	NOV 23,79 1125		MAR 5,80 1800		MAY 20,80 1210		JUN 17,80 1000	
TOTAL CELLS/ML	3500		1500		2300		2000	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	290	8	300#	20	160	7	77	4
....MELOSIRA	840#	24	130	9	--	-	26	1
....SKELETONEMA	61	2	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	46	1	--	-	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	*	0	9	1	--	-	--	-
...DIATOMACEAE								
....DIATOMA	--	-	9	1	--	-	--	-
...EUNOTIACEAE								
....EUNOTIA	*	0	--	-	--	-	--	-
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	--	-	--	-	26	1
....FRAGILARIA	--	-	--	-	--	-	--	-
....SYNEDRA	77	2	9	1	--	-	--	-
...NAVICULACEAE								
....NAVICULA	92	3	35	2	--	-	77	4
....PINNULARIA	--	-	--	-	--	-	13	1
...NITZSCHIACEAE								
....NITZSCHIA	200	6	97	7	29	1	1200#	58
...SURIRELLACEAE								
....SURIRELLA	--	-	9	1	--	-	--	-
...TABELLARIACEAE								
....TABELLARIA	320	9	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	*	0	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	31	1	--	-	1500#	65	--	-
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
....ANABAENOPSIS	--	-	97	7	--	-	--	-
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	--	-	--	-
....OSCILLATORIA	250	7	--	-	--	-	150	8
....SCHIZOTHRIX	230	7	53	4	--	-	--	-
...RIVULARIACEAE								
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	13	1
....TRACHELOMONAS	31	1	97	7	14	1	13	1
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	*	0	--	-	--	-	13	1

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

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JUL 9,80	AUG 20,80	SEP 23,80
TIME	1505	1515	1635
TOTAL CELLS/ML	34000	4100	62000
DIVERSITY: DIVISION	0.4	1.5	0.2
.CLASS	0.4	1.5	0.2
..ORDER	0.6	1.8	0.9
...FAMILY	0.8	2.5	1.4
....GENUS	1.1	2.9	2.3

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	--	-	--	-	--	-
...CHLOROCOCCACEAE						
....CHLOROCOCCUM	--	-	--	-	--	-
...COELASTRACEAE						
....COELASTRUM	--	-	180	4	--	-
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	*	0
....MICRACTINIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	*	0	--	-	330	1
....CHODATELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	100	2	--	-
....KIRCHNERIELLA	*	0	51	1	--	-
....OOCYSTIS	--	-	120	3	--	-
....SELENASTRUM	*	0	--	-	*	0
....TETRAEDRON	*	0	39	1	*	0
....TREUBARIA	--	-	26	1	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	51	1	--	-
....SCENEDESMUS	280	1	230	6	470	1
....TETRASTRUM	--	-	--	-	--	-
..TETRASPORALES						
...PALMELLACEAE						
....SPHAEROCYSTIS	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	220	1	--	-	*	0
...VOLVOCACEAE						
....PANDORINA	--	-	--	-	--	-
..ZYGNEMATALES						
...DESMIDIACEAE						
....EUASTRUM	--	-	*	0	--	-
....STAURASTRUM	--	-	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	*	0	--	-	--	-
....MELOSIRA	--	-	--	-	--	-
....SKELETONEMA	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	420	1	26	1	*	0
....RHOICOSPHENIA	--	-	1800#	44	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...EUNOTIACEAE						
....EUNOTIA	--	-	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....FRAGILARIA	--	-	77	2	--	-
....SYNEDRA	580	2	*	0	*	0
...NAVICULACEAE						
....NAVICULA	*	0	51	1	*	0
....PINNULARIA	*	0	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	420	1	90	2	*	0
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
...TABELLARIACEAE						
....TABELLARIA	--	-	--	-	--	-

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

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980--Continued

DATE	JUL 9,80		AUG 20,80		SEP 23,80	
TIME	1505		1515		1635	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	*	0
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	180	4	2700	4
....ANACYSTIS	860	3	510	13	8800	14
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	280	1	--	-	570	1
....ANABAENOPSIS	--	-	--	-	6900	11
...OSCILLATORIACEAE						
....LYNGBYA	29000#	85	540	13	19000#	31
....OSCILLATORIA	1700	5	--	-	22000#	36
....SCHIZOTHRIX	--	-	--	-	--	-
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	*	0
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	--	-	--	-
....TRACHELOMONAS	*	0	*	0	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	--	-	*	0

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

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	4989	188	103	1390	21	278	5.7	76	60
NOV.	1979	7552	172	95	1930	18	374	5.2	106	56
DEC.	1979	13568	189	104	3800	21	763	5.7	208	60
JAN.	1980	14287	238	130	5010	29	1110	7.1	273	72
FEB.	1980	19358	194	106	5550	22	1150	5.8	304	61
MAR.	1980	13405	196	107	3870	23	825	5.8	212	61
APR.	1980	10589	*	*	*	*	*	*	*	*
MAY	1980	32299	*	*	*	*	*	*	*	*
JUNE	1980	1177	*	*	*	*	*	*	*	*
JULY	1980	2740	*	*	*	*	*	*	*	*
AUG.	1980	3337	*	*	*	*	*	*	*	*
SEPT	1980	5217	*	*	*	*	*	*	*	*
TOTAL		128518	**	**	**	**	**	**	**	**
WTD. AVG.		351	**	**	**	**	**	**	**	**

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	182	162	255	250	205	285	155					
2	179	185	253	303	220	250	175					
3	189	204	255	237	245	290	193					
4	187	210	263	216	280	305	---					
5	196	218	266	210	304	303	---					
6	213	214	270	214	315	315	---					
7	220	244	247	217	328	335	---					
8	222	235	255	218	260	344	---					
9	230	230	260	217	144	325	---					
10	239	227	263	250	130	307	---					
11	254	235	267	283	150	320	285					
12	258	240	210	286	140	155	300					
13	236	245	135	291	135	240	288					
14	235	241	145	293	160	306	275					
15	233	240	160	295	189	315	280					
16	248	238	175	300	233	325	---					
17	241	235	197	310	245	330	295					
18	245	241	195	210	255	340	305					
19	250	239	191	255	268	346	---					
20	253	220	192	280	245	240	---					
21	255	166	193	306	190	200	---					
22	251	125	194	235	220	240	---					
23	225	140	175	225	240	320	---					
24	260	177	138	280	263	379	---					
25	291	188	200	260	278	399	---					
26	270	208	292	245	285	390	---					
27	255	235	250	212	295	300	---					
28	240	252	235	203	279	194	---					
29	231	250	204	209	303	177	---					
30	210	247	219	211	---	135	---					
31	129	---	235	208	---	125	---					
MEAN	230	216	219	249	235	285	255					

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

TEMPERATURE, WATER (DEG. C). WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	15.5	9.5	---	11.0	---	---					
2	---	---	8.0	11.5	---	---	16.0					
3	---	19.0	10.5	11.0	---	13.0	17.0					
4	---	---	10.0	10.5	8.5	13.0	---					
5	---	19.5	---	12.0	8.5	13.0	---					
6	---	16.5	---	---	11.0	---	---					
7	---	17.0	14.0	11.5	12.5	---	---					
8	---	19.0	---	11.0	10.5	16.0	---					
9	---	---	---	11.5	9.0	16.5	---					
10	---	---	10.0	13.5	9.5	16.0	---					
11	---	17.5	---	14.0	---	---	19.5					
12	---	---	---	---	---	19.0	18.5					
13	---	16.0	---	---	---	14.5	---					
14	---	17.5	---	16.5	12.0	14.0	14.5					
15	---	---	---	15.5	12.0	---	15.0					
16	---	18.0	---	17.0	11.0	---	---					
17	---	16.0	9.5	16.5	---	---	17.0					
18	---	15.5	9.0	---	12.0	13.0	16.0					
19	---	17.0	11.5	---	13.0	15.0	---					
20	---	17.0	---	16.0	11.0	18.0	---					
21	---	20.0	14.5	16.0	19.0	16.0	---					
22	24.0	---	16.0	---	---	---	---					
23	21.0	---	10.5	13.0	15.0	---	---					
24	---	14.5	---	14.5	18.0	19.0	---					
25	16.5	15.5	---	15.5	14.0	---	---					
26	---	15.0	12.5	16.0	16.0	---	---					
27	---	---	13.5	12.0	16.0	---	---					
28	23.5	15.5	13.0	12.0	15.0	15.0	---					
29	23.0	---	13.0	12.5	15.5	15.0	---					
30	21.5	11.0	11.5	12.0	---	---	---					
31	19.0	---	---	10.5	---	16.0	---					
MEAN	21.0	16.5	11.5	13.5	12.5	15.5	16.5					

08068520 SPRING CREEK AT SPRING, TX

LOCATION.--Lat 30°05'31", long 95°24'21", Harris-Montgomery County line, Hydrologic Unit 12040102, near right bank at downstream side of bridge on Riley-Fussel Road, 1.1 mi (1.8 km) northeast of Spring, 2.7 mi (4.3 km) downstream from Missouri Pacific Railroad bridge, 3.6 mi (5.8 km) downstream from former station 08068500 at Interstate Highway 45, 6.9 mi (11.1 km) upstream from Cypress Creek, and 9.9 mi (15.9 km) upstream from mouth.

DRAINAGE AREA.--419 mi^2 (1,085 km^2).

PERIOD OF RECORD.--April 1939 to current year. Prior to 1975, published as "near Spring".
Water-quality records: Chemical analyses: September 1961 to April 1964. Sediment records: December 1965 to September 1975.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 62.17 ft (18.949 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 5, 1946, nonrecording gage, and Jan. 6, 1946, to Oct. 1, 1965, water-stage recorder at site 3.6 mi (5.8 km) upstream at different datum. Oct. 2, 1965, to Feb. 19, 1976, water-stage recorder at former site at datum 10.93 ft (3.331 m) higher; unadjusted for land-surface subsidence.

REMARKS.--Records fair. No diversion above station. Several observations of water temperature were made during the current year.

AVERAGE DISCHARGE.--41 years, 219 ft^3/s (6.202 m^3/s), 7.10 in/yr (180 mm/yr), 158,700 acre-ft/yr (196 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,700 ft^3/s (1,210 m^3/s) Nov. 25, 1940, gage height, 33.60 ft (10.241 m), former site and datum, from graph based on gage readings; minimum, 1.1 ft^3/s (0.031 m^3/s) Oct. 23, 24, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1879, 34.3 ft (10.45 m), former site and datum, May 30, 1929, discharge 48,300 ft^3/s (1,370 m^3/s), from floodmarks identified by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft^3/s (70.8 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 10	0600	*3,900	110	15.05	4.587
May 21	1500	3,420	96.9	14.24	4.340

Minimum discharge, 13 ft^3/s (0.37 m^3/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	694	85	287	112	192	478	90	58	25	26	15
2	103	549	80	168	107	162	228	138	49	25	22	22
3	91	213	75	127	100	131	164	285	43	25	20	22
4	73	117	70	122	101	110	134	190	40	24	19	19
5	68	86	66	123	99	104	112	112	40	24	20	17
6	67	68	62	110	97	101	100	88	38	23	20	140
7	65	62	59	98	93	98	91	77	37	23	18	64
8	64	60	56	88	680	96	88	69	36	22	18	51
9	61	59	54	88	2700	94	84	88	64	22	16	49
10	61	56	52	78	3820	92	79	82	41	22	16	51
11	60	55	51	72	2480	91	74	62	99	21	18	40
12	60	52	217	66	1030	90	72	59	87	21	18	30
13	58	49	1410	62	470	89	75	62	50	21	16	24
14	56	49	1940	60	316	88	85	112	41	21	16	21
15	55	48	1190	58	249	87	84	85	34	21	18	20
16	56	45	519	58	304	86	77	177	32	20	30	18
17	56	44	287	73	466	85	71	680	31	19	23	18
18	56	44	195	77	587	84	66	901	30	19	18	18
19	55	43	146	79	478	82	62	2070	29	18	17	17
20	54	109	126	82	297	81	60	3000	29	18	16	16
21	53	311	119	495	247	80	57	3280	28	19	16	16
22	60	903	113	1570	221	79	56	2140	34	19	15	16
23	60	2060	126	2290	195	78	55	613	32	18	15	17
24	58	1200	161	2260	178	77	54	191	31	18	14	18
25	58	371	238	1380	158	76	85	123	29	18	14	20
26	52	200	208	489	149	88	211	90	29	18	14	28
27	50	139	146	252	141	336	206	74	27	18	13	21
28	46	113	121	183	135	933	109	64	27	37	14	21
29	47	102	164	146	130	1310	82	132	26	34	16	20
30	91	91	343	126	---	1510	70	127	26	28	16	193
31	544	---	410	123	---	873	---	84	---	34	16	---
TOTAL	2446	7992	8889	11290	16140	7483	3269	15345	1197	695	548	1042
MEAN	78.9	266	287	364	557	241	109	495	39.9	22.4	17.7	34.7
MAX	544	2060	1940	2290	3820	1510	478	3280	99	37	30	193
MIN	46	43	51	58	93	76	54	59	26	18	13	15
CFSM	.19	.64	.69	.87	1.33	.58	.26	1.18	.10	.05	.04	.08
IN.	.22	.71	.79	1.00	1.43	.66	.29	1.36	.11	.06	.05	.09
AC-FT	4850	15850	17630	22390	32010	14840	6480	30440	2370	1380	1090	2070

CAL YR 1979 TOTAL 269626 MEAN 739 MAX 12000 MIN 34 CFSM 1.76 IN 23.94 AC-FT 534800
WTR YR 1980 TOTAL 76336 MEAN 209 MAX 3820 MIN 13 CFSM .50 IN 6.78 AC-FT 151400

08068720 CYPRESS CREEK AT KATY-HOCKLEY ROAD NEAR HOCKLEY, TX

LOCATION.--Lat 29°57'00", long 95°48'29", Harris County, Hydrologic Unit 12040102, on left bank at bridge on Katy-Hockley Road, 3.3 mi (5.3 km) downstream from gage (station 08068700), 5.6 mi (9.0 km) southeast of Hockley, and 6.3 mi (10.1 km) upstream from gage (station 08068740).

DRAINAGE AREA.--110 mi² (285 km²).

PERIOD OF RECORD.--June 1975 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Concrete weir located 0.9 mi (1.4 km) downstream from gage. Datum of gage is 100.00 ft (30.480 m) National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Diversions and return flow for irrigation occur upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 74.2 ft³/s (2.101 m³/s), 53,760 acre-ft/yr (66.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,370 ft³/s (67.1 m³/s) Jan. 20, 1979, gage height, 61.05 ft (18.608 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood in June 1960 reached a stage of 62.0 ft (18.90 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft³/s (22.7 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 23	unknown	857	24.3	56.74	17.294	Feb. 10	0300	1,180	33.4	58.31	17.773
Dec. 13	unknown	800	22.7	56.40	17.191	May 20	1900	813	23.0	56.48	17.215
Jan. 23	0700	*1,240	35.1	58.51	17.834						

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	240	21	70	19	3.2	16	1.1	3.6	.86	1.9	.20
2	34	120	18	45	13	3.2	8.7	3.8	4.2	.24	3.2	.00
3	19	60	14	30	11	2.5	5.5	.00	2.0	.00	1.9	.00
4	12	40	11	35	10	2.0	3.1	.00	.00	.58	.02	.00
5	8.8	25	9.0	30	8.1	2.3	2.0	.00	.00	1.4	.00	1.0
6	8.5	20	7.4	25	7.3	2.3	1.4	1.2	.00	1.4	.86	90
7	9.3	15	5.6	20	6.5	2.1	1.2	2.6	1.0	.58	4.8	120
8	8.9	12	5.0	17	207	2.1	1.1	.00	1.8	.00	4.8	100
9	8.4	9.0	4.2	14	1050	1.9	.75	.00	62	.00	3.4	85
10	7.0	7.5	3.4	11	1160	1.8	.54	.00	160	1.4	2.3	55
11	5.6	6.0	2.9	8.5	956	1.5	.48	.18	81	3.2	1.4	35
12	4.7	5.0	250	6.5	380	1.3	.60	.28	24	3.5	2.1	25
13	4.0	4.0	750	5.0	171	1.2	1.5	.86	13	2.0	3.2	15
14	3.0	3.5	720	3.8	107	1.3	1.2	5.2	5.0	.00	3.4	11
15	2.7	3.0	350	2.9	90	1.2	1.4	12	.72	2.5	.05	9.7
16	2.6	2.5	180	2.6	118	1.3	1.5	44	.04	2.6	2.9	6.9
17	2.6	2.0	100	3.8	164	1.5	1.1	111	.00	.00	.24	4.6
18	2.9	1.7	50	7.5	87	1.3	.92	94	.00	.00	2.1	3.6
19	3.8	100	35	7.9	60	1.0	.61	383	2.1	3.0	.86	4.3
20	6.0	450	30	41	43	.86	.46	776	3.2	4.5	.00	5.7
21	6.4	500	25	621	32	1.0	.41	633	3.2	.39	.00	7.2
22	6.4	780	20	1090	23	1.0	.47	166	2.6	.00	.00	8.7
23	6.2	800	22	1210	16	1.0	1.7	78	.86	.07	.00	5.1
24	6.0	600	45	1080	10	.86	3.0	32	.38	4.3	.00	.63
25	5.5	320	40	667	6.9	.86	14	10	1.2	.08	.00	.92
26	4.5	200	25	236	4.3	.90	51	11	.00	.00	.00	7.0
27	4.0	120	20	141	3.0	26	14	8.0	.00	.74	.03	9.5
28	3.5	70	15	88	2.3	153	3.8	9.2	.00	2.9	.70	15
29	3.0	44	100	51	2.2	123	1.5	8.9	.00	20	2.3	17
30	25	28	240	36	---	81	.72	6.6	.58	4.8	1.6	71
31	250	---	120	27	---	36	---	4.5	---	.58	.80	---
TOTAL	521.3	4588.2	3238.5	5633.5	4767.6	460.48	140.66	2402.42	372.48	61.62	44.86	714.05
MEAN	16.8	153	104	182	164	14.9	4.69	77.5	12.4	1.99	1.45	23.8
MAX	250	800	750	1210	1160	153	51	776	160	20	4.8	120
MIN	2.6	1.7	2.9	2.6	2.2	.86	.41	.00	.00	.00	.00	.00
AC-FT	1030	9100	6420	11170	9460	913	279	4770	739	122	89	1420

CAL YR 1979 TOTAL 70499.06 MEAN 193 MAX 2240 MIN .00 AC-FT 139800
WTR YR 1980 TOTAL 22945.67 MEAN 62.7 MAX 1210 MIN .00 AC-FT 45510

NOTE.--No gage-height record Oct. 23 to Nov. 28 and Dec. 5 to Jan. 14.

08068740 CYPRESS CREEK AT HOUSE AND HAHL ROAD NEAR CYPRESS, TX

LOCATION.--Lat 29°57'32", long 95°43'03", Harris County, Hydrologic Unit 12040102, on right bank at bridge on House and Hahl Road, 1.4 mi (2.3 km) southwest of Cypress, and 6.3 mi (10.1 km) downstream from gage (station 08068720).

DRAINAGE AREA.--131 mi^2 (339 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1975 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 100.00 ft (30.480 m) National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Water-discharge records fair. Diversions and return flow for irrigation occur upstream from station.

AVERAGE DISCHARGE.--5 years, 102 ft^3/s (2.889 m^3/s), 73,900 acre-ft/yr (91.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,590 ft^3/s (73.3 m^3/s) Sept. 22, 1979, gage height, 46.33 ft (14.121 m); no flow for many days (result of pumping for irrigation).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1908, about 49 ft (14.9 m) in 1937, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft^3/s (28.3 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 23	0100	1,380	39.1	43.61	13.292	Jan. 23	unknown	*1,990	56.4	45.20	13.777
Dec. 14	0300	1,090	30.9	42.44	12.936	Feb. 10	unknown	1,500	42.5	-	-

Minimum discharge, no flow June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	285	28	72	25	9.3	29	6.0	7.5	.54	2.5	.50
2	39	142	23	43	20	9.6	17	20	6.8	.96	3.5	.25
3	26	76	19	39	15	8.8	12	10	4.5	.87	2.6	.20
4	19	44	17	47	12	7.5	7.9	5.0	.41	.32	.54	.15
5	15	34	22	36	10	7.4	5.2	3.0	.18	1.1	.39	.50
6	13	30	20	27	8.5	7.2	3.8	5.0	.13	1.3	.32	90
7	14	23	17	21	7.5	7.1	3.3	4.0	.37	1.5	5.8	150
8	14	18	9.7	22	220	6.7	2.9	2.0	1.4	.51	6.1	140
9	12	13	8.9	15	1200	6.4	1.9	1.2	79	.18	4.2	100
10	11	10	7.5	12	1400	6.2	1.3	1.0	211	.20	2.0	70
11	8.2	6.8	7.9	11	1100	5.9	1.1	.80	121	3.0	1.0	45
12	6.9	5.5	323	11	500	5.6	.91	.80	40	3.0	1.5	34
13	5.9	6.2	1030	11	250	4.9	1.9	1.0	22	2.8	2.2	22
14	5.1	4.3	981	7.3	140	4.4	2.0	5.0	10	2.5	3.1	16
15	4.3	2.9	462	5.5	108	4.1	1.8	6.7	2.2	19	.62	11
16	4.1	2.0	226	5.2	140	3.9	2.0	38	.69	14	2.5	8.4
17	5.8	1.4	132	4.8	180	3.9	2.0	116	.45	5.2	2.0	5.1
18	6.3	1.3	75	6.5	120	3.3	1.8	126	.42	1.4	2.5	3.5
19	6.9	132	49	8.0	69	2.8	1.5	400	1.7	2.5	1.5	4.0
20	10	597	45	50	50	2.8	1.2	894	4.3	5.0	1.0	6.0
21	12	621	36	1000	39	2.5	1.0	870	3.5	2.0	.50	6.5
22	11	1290	27	1700	31	2.2	1.2	300	2.9	.50	.25	8.0
23	12	1320	29	1900	23	2.1	2.0	109	1.6	.20	.20	6.5
24	11	876	61	1700	18	2.1	4.0	44	.24	4.0	.17	3.0
25	9.4	386	51	800	15	1.9	20	15	1.2	2.0	.14	2.0
26	6.8	216	31	400	12	1.9	60	13	.43	1.0	.12	10
27	6.4	144	23	200	10	34	30	11	.12	1.0	.10	8.0
28	4.4	95	19	120	9.4	221	15	100	.67	10	1.0	18
29	3.1	55	135	80	8.8	186	8.0	106	.19	40	2.0	20
30	35	37	293	50	---	135	5.0	33	.00	16	2.5	80
31	294	---	155	35	---	58	---	14	---	3.5	1.5	---
TOTAL	683.6	6474.4	4363.0	8439.3	5741.2	764.5	246.71	3260.50	524.90	146.08	54.35	868.60
MEAN	22.1	216	141	272	198	24.7	8.22	105	17.5	4.71	1.75	29.0
MAX	294	1320	1030	1900	1400	221	60	894	211	40	6.1	150
MIN	3.1	1.3	7.5	4.8	7.5	1.9	.91	.80	.00	.18	.10	.15
AC-FT	1360	12840	8650	16740	11390	1520	489	6470	1040	290	108	1720

CAL YR 1979 TOTAL 96920.61 MEAN 266 MAX 2550 MIN .00 AC-FT 192200
WTR YR 1980 TOTAL 31567.14 MEAN 86.2 MAX 1900 MIN .00 AC-FT 62610

NOTE.--No gage-height record Jan. 15 to Feb. 18.

08068740 CYPRESS CREEK AT HOUSE AND HAHL ROAD NEAR CYPRESS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
JAN												
17...	1025	4.8	300	6.8	17.0	240	120	8.3	85	1.9	56	13
MAY												
19...	1030	371	100	6.7	21.5	160	260	7.0	79	6.4	22	4
JUL												
17...	1100	5.5	420	7.4	28.5	50	32	6.9	87	9.3	120	0
SEP												
16...	1030	8.9	400	7.6	27.0	96	20	5.9	74	3.3	86	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN											
17...	17	3.3	33	1.9	5.0	52	0	24	48	.1	7.4
MAY											
19...	6.7	1.2	8.9	.8	2.6	21	0	9.6	11	.1	4.9
JUL											
17...	40	5.6	37	1.5	2.4	160	0	7.0	48	.5	23
SEP											
16...	26	5.2	40	1.9	11	140	0	7.6	50	.3	42

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
17...	164	36	34	.39	.02	.41	.04	1.5	1.5	.190	16
MAY											
19...	56	508	14	.30	.04	.34	.41	2.1	2.5	.400	33
JUL											
17...	243	5	0	.00	.00	.00	.06	1.4	1.5	.470	8.9
SEP											
16...	253	44	2	.02	.01	.03	.04	1.9	1.9	.670	21

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN							
17...	1025	11	100	<1	0	0	550
MAY							
19...	1030	1	50	<1	0	3	140
JUL							
17...	1100	3	200	1	0	4	30
SEP							
16...	1030	5	100	<1	0	0	1300

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN						
17...	0	3	.0	0	0	<3
MAY						
19...	0	4	.1	0	0	<3
JUL						
17...	0	<1	.2	0	0	7
SEP						
16...	1	20	.0	0	0	<3

08068740 CYPRESS CREEK AT HOUSE AND HAHL ROAD NEAR CYPRESS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JAN 17...	1025	.0	.00	.00	.0	.00	.00	.00	.00
MAY 19...	1030	.0	--	.00	.0	.00	.00	.00	.01
JUL 17...	1100	.0	.00	.00	.0	.00	.00	.00	.00
SEP 16...	1030	.0	.00	.00	.0	.00	.00	.00	.01

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
JAN 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAY 19...	.01	.00	.00	.00	.02	.00	.00	.00	.00
JUL 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 16...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 17...	.00	.00	.00	.00	0	.00	.00	.02	.00
MAY 19...	.00	.00	.00	.00	0	.00	.10	.01	.00
JUL 17...	.00	.00	.00	.00	0	.00	.00	.00	.00
SEP 16...	.00	.00	.00	.00	0	.00	.00	.00	.00

08069000 CYPRESS CREEK NEAR WESTFIELD, TX

LOCATION.--Lat 30°02'08", long 95°25'43", Harris County, Hydrologic Unit 12040102, near left bank at downstream side of bridge on Interstate Highway 45 and U.S. Highway 75, 0.9 mi (1.4 km) upstream from Senger Gully, 1.8 mi (2.9 km) northwest of Westfield, 2.0 mi (3.2 km) upstream from Missouri Pacific Railroad Co. bridge, and 11.0 mi (17.7 km) upstream from mouth.

DRAINAGE AREA.--285 mi^2 (738 km^2).

PERIOD OF RECORD.--July 1944 to current year.
Water-quality records: Sediment records: October 1976 to September 1979.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 63.89 ft (19.474 m) National Geodetic Vertical Datum of 1929; unadjusted for land-surface subsidence. Prior to Mar. 17, 1951, water-stage recorder at upstream side of bridge at datum 12.00 ft (3.658 m) higher.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No large diversion above station. Low flow is maintained by sewage effluent. Channel below gage was rectified in 1950-51 and 1975.

AVERAGE DISCHARGE.--36 years, 159 ft^3/s (4.503 m^3/s), 115,200 acre-ft/yr (142 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft^3/s (626 m^3/s) Oct. 8, 1949, gage height, 33.44 ft (10.193 m), present datum, from rating curve extended above 11,000 ft^3/s (312 m^3/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 34 ft (10.4 m), present datum, in May 1929, discharge 26,000 ft^3/s (736 m^3/s), from information by local resident. Flood in November 1940 reached a stage of about 32 ft (9.8 m), present datum, discharge 15,000 ft^3/s (425 m^3/s), from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,800 ft^3/s (51.0 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 23	1700	2,100	59.5	17.64	5.377	Feb. 10	1800	2,440	69.1	18.95	5.776
Jan. 22	1800	*3,320	94.0	21.75	6.629	May 27	1800	2,210	62.6	18.09	5.514

Minimum daily discharge, 11 ft^3/s (0.31 m^3/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	521	60	200	65	35	113	64	45	12	28	21
2	84	378	49	103	55	36	68	132	32	12	23	17
3	65	179	43	81	48	33	52	103	28	13	20	17
4	49	89	39	64	45	32	41	40	22	12	19	12
5	42	60	36	65	41	31	33	28	18	11	32	29
6	37	50	38	57	39	30	32	23	15	11	19	653
7	34	46	36	50	37	30	35	34	13	12	13	433
8	45	40	33	43	440	30	28	34	13	12	15	209
9	41	43	28	43	1430	29	23	35	111	12	16	176
10	46	31	27	38	2360	28	21	23	241	13	14	143
11	36	27	26	35	2210	27	22	20	264	16	14	108
12	34	25	597	34	1570	25	25	19	127	19	12	78
13	30	24	1300	32	872	24	46	24	50	14	11	60
14	28	25	1700	31	379	23	27	89	35	15	12	49
15	27	23	1250	30	231	22	22	111	26	15	36	43
16	26	20	648	29	284	21	20	213	20	20	91	38
17	24	21	328	39	314	21	18	446	14	26	18	36
18	27	21	184	36	325	20	18	260	14	19	13	32
19	28	22	112	34	170	20	18	1210	13	20	11	30
20	28	665	81	66	140	20	18	1630	13	20	12	29
21	28	1420	74	1390	110	19	17	1410	13	22	13	47
22	51	1410	65	3140	90	19	16	945	39	25	12	40
23	34	2010	96	3150	75	19	16	404	30	40	12	38
24	28	1830	84	2760	65	19	16	150	16	42	18	37
25	27	1120	110	1970	55	16	52	70	12	32	13	39
26	27	548	80	1330	50	26	79	42	11	30	12	47
27	25	308	56	586	45	865	89	35	12	26	35	42
28	26	194	46	281	40	832	47	33	12	231	22	54
29	25	133	187	168	38	579	29	572	12	130	23	54
30	232	83	302	110	---	468	22	317	12	60	24	512
31	642	---	389	81	---	243	---	82	---	37	28	---
TOTAL	1984	11366	8104	16076	11623	3642	1063	8598	1283	979	641	3123
MEAN	64.0	379	261	519	401	117	35.4	277	42.8	31.6	20.7	104
MAX	642	2010	1700	3150	2360	865	113	1630	264	231	91	653
MIN	24	20	26	29	37	16	16	19	11	11	11	12
CFSM	.23	1.33	.92	1.82	1.41	.41	.12	.97	.15	.11	.07	.37
IN.	.26	1.48	1.06	2.10	1.52	.48	.14	1.12	.17	.13	.08	.41
AC-FT	3940	22540	16070	31890	23050	7220	2110	17050	2540	1940	1270	6190

CAL YR 1979 TOTAL 163250 MEAN 447 MAX 4210 MIN 11 CFSM 1.57 IN 21.31 AC-FT 323800
WTR YR 1980 TOTAL 68482 MEAN 187 MAX 3150 MIN 11 CFSM .66 IN 8.94 AC-FT 135800

NOTE.--No gage-height record Feb. 18 to Mar. 24.

08069200 CYPRESS CREEK NEAR HUMBLE, TX
(Low-flow partial-record station)

LOCATION.--Lat 30°01'49", long 95°19'47", Harris County, Hydrologic Unit 12040102, 500 ft (150 m) north of end of dirt extension of Tettar Road, about 2 mi (3 km) upstream from mouth, and 4.7 mi (7.6 km) northwest of Humble.

DRAINAGE AREA.--319 mi^2 (826 km^2).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
JAN												
17...	1235	22	625	6.9	18.0	70	63	4.5	46	8.8	89	0
MAY												
19...	1315	1200	110	7.1	23.0	200	220	6.7	78	7.0	34	0
JUL												
17...	1310	28	740	7.7	31.0	40	4.2	7.1	93	9.4	100	0
SEP												
16...	1220	26	550	7.5	28.5	76	21	4.9	62	2.8	89	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN											
17...	28	4.7	78	3.6	8.1	170	0	29	76	.2	19
MAY											
19...	11	1.5	8.3	.6	3.5	44	0	8.2	8.5	.3	6.4
JUL											
17...	32	5.0	120	5.2	10	230	0	28	91	.6	22
SEP											
16...	28	4.7	77	3.5	11	180	0	31	64	.1	31

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
17...	327	52	22	1.5	.22	1.7	2.0	2.9	4.9	2.700	15
MAY											
19...	70	464	23	.22	.04	.26	.28	1.5	1.8	.790	26
JUL											
17...	422	18	1	5.1	.44	5.5	.45	1.9	2.3	6.600	15
SEP											
16...	336	16	0	1.2	.24	1.4	.22	1.8	2.0	3.900	17

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN							
17...	1235	3	90	<1	0	2	60
MAY							
19...	1315	2	60	<1	0	4	210
JUL							
17...	1310	6	70	<1	10	3	<10
SEP							
16...	1220	6	100	<1	0	3	300

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN						
17...	0	<1	.0	0	0	6
MAY						
19...	0	4	.1	0	0	4
JUL						
17...	0	<1	.2	0	0	8
SEP						
16...	1	7	.4	0	0	6

08069200 CYPRESS CREEK NEAR HUMBLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JAN 17...	1235	.2	--	.00	.0	.00	.00	.00	.18
MAY 19...	1315	.0	.00	.00	.0	.00	.00	.00	.35
JUL 17...	1310	.0	.00	.00	.0	.00	.00	.00	.79
SEP 16...	1220	.0	.00	.00	.0	.00	.00	.00	.52

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
JAN 17...	.01	.00	.00	.00	.00	.00	.00	.39	.00
MAY 19...	.00	.00	.00	.00	.00	.00	<.01	.07	.00
JUL 17...	.00	.00	.00	.00	.00	.00	.14	.01	.00
SEP 16...	.00	.00	.00	.00	.00	.00	.07	.14	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 17...	.00	.00	.00	.00	0	.00	.08	.01	.00
MAY 19...	.00	.00	.00	.00	0	.00	.07	.01	--
JUL 17...	.00	.00	.00	.00	0	.00	.12	.01	.00
SEP 16...	.00	.00	.00	.00	0	.00	.00	.00	.00

08069500 WEST FORK SAN JACINTO RIVER NEAR HUMBLE, TX

LOCATION.--Lat 30°01'37", long 95°15'28", Harris County, Hydrologic Unit 12040101, on right bank at bridge on U.S. Highway 59, 970 ft (296 m) upstream from Texas and New Orleans Railroad Co. bridge, 0.5 mi (0.8 km) downstream from Spring Creek, and 2.5 mi (4.0 km) north of Humble.

DRAINAGE AREA.--1,741 mi² (4,509 km²).

PERIOD OF RECORD.--October 1928 to September 1954, October 1954 to current year (gage heights only). Annual maximum and minimum gage heights only for October 1954 to September 1966 (published with station 08072000 Lake Houston near Sheldon). Published as San Jacinto River near Humble prior to 1938.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 30.53 ft (9.306 m) National Geodetic Vertical Datum of 1929. Prior to July 17, 1933, nonrecording gage at site 1,800 ft (549 m) downstream at same datum. July 17, 1933, to Mar. 5, 1939, nonrecording gage at present site and datum.

REMARKS.--Station discontinued as a streamflow station Sept. 30, 1954, due to backwater from Lake Houston. No large diversion above station. Only maximum daily gage heights above 15.5 ft (4.72 m) are published.

AVERAGE DISCHARGE.--26 years (water years 1929-54), 1,097 ft³/s (31.1 m³/s), 794,800 acre-ft/yr (980 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--1928-54: Maximum discharge, 187,000 ft³/s (5,300 m³/s) May 31, 1929, Nov. 25, 26, 1940; maximum gage height, 32.7 ft (9.97 m) May 31, 1929, Nov. 26, 1940, present site and datum, both affected by backwater from East Fork San Jacinto River; minimum discharge, 11 ft³/s (0.31 m³/s) Aug. 31, Sept. 1, 2, 1951.

1954-80: Maximum gage height since first appreciable storage at Lake Houston, 25.15 ft (7.666 m) Apr. 19, 1979; minimum since first appreciable storage at Lake Houston, 5.5 ft (1.68 m) Dec. 12, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1865, occurred in September 1900, May 31, 1929, and Nov. 25, 26, 1940, and all reached about the same stage, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 17.47 ft (5.325 m) May 20 at 1500 hours; minimum not determined.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	---			---				
2				---	---			---				
3				---	---			---				
4				---	---			---				
5				---	---			---				
6				---	---			---				
7				---	---			---				
8				---	---			---				
9				---	---			---				
10				---	16.01			---				
11				---	---			---				
12				---	---			---				
13				---	---			---				
14				---	---			---				
15				---	---			---				
16				---	---			---				
17				---	---			---				
18				---	---			---				
19				---	---			17.00				
20				---	---			17.47				
21				---	---			17.25				
22				15.73	---			16.38				
23				---	---			---				
24				---	---			---				
25				---	---			---				
26				---	---			---				
27				---	---			---				
28				---	15.56			---				
29				---	15.65			---				
30				---	---			---				
31				---	---			---				
MAX				---	---			---				
MIN				---	---			---				

08070000 EAST FORK SAN JACINTO RIVER NEAR CLEVELAND, TX

LOCATION.--Lat 30°20'11", long 95°06'14", Liberty County, Hydrologic Unit 12040103, near left bank at downstream side of bridge on State Highway 105, 1,880 ft (570 m) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi (1.9 km) west of Cleveland, and 4.3 mi (6.9 km) downstream from Winter Creek.

DRAINAGE AREA.--325 mi^2 (842 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 107.98 ft (32.912 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 13, 1955, at site 1,800 ft (549 m) upstream at datum 5.00 ft (1.524 m) higher.

REMARKS.--Water-discharge records good. No large diversion above station. The National Weather Service rain gage and gage-height telemeter located at station.

AVERAGE DISCHARGE.--41 years, 226 ft^3/s (6.400 m^3/s), 9.44 in/yr (240 mm/yr), 163,700 acre-ft/yr (202 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,000 ft^3/s (1,670 m^3/s) Nov. 24, 1940, gage height, 24.1 ft (7.35 m), present site and datum, from rating curve extended above 27,000 ft^3/s (765 m^3/s); minimum daily, 3.0 ft^3/s (0.085 m^3/s) Aug. 23, 24, Sept. 27, 28, 1956.
Maximum stage since at least 1900, that of Nov. 24, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 5, 1935, reached a stage of 23.6 ft (7.19 m), present site and datum, discharge 53,500 ft^3/s (1,520 m^3/s), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,440 ft^3/s (97.4 m^3/s) Mar. 30 at 1700 hours, gage height, 15.24 ft (4.645 m), no other peak above base of 2,500 ft^3/s (70.8 m^3/s); minimum, 12 ft^3/s (0.34 m^3/s) Aug. 4, 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	419	78	251	129	224	643	81	58	20	15	15
2	82	192	75	164	140	319	260	109	55	20	14	14
3	76	116	73	156	131	310	200	70	52	19	13	14
4	71	85	71	155	123	187	163	56	49	19	13	14
5	65	74	70	157	119	151	135	52	47	19	15	14
6	62	67	71	144	118	135	117	50	46	19	13	20
7	60	61	69	125	116	126	112	48	44	18	14	36
8	60	59	66	114	319	121	106	51	42	19	15	29
9	59	63	65	108	1390	115	94	50	41	18	15	24
10	56	64	64	104	1070	110	85	50	41	18	15	22
11	54	63	64	103	884	107	80	47	42	17	15	20
12	53	61	138	100	663	106	78	47	39	17	16	18
13	52	59	682	96	347	101	128	50	36	17	15	17
14	51	57	905	92	232	92	127	147	34	17	15	16
15	50	55	947	91	196	88	156	145	33	17	20	15
16	49	54	637	90	230	93	114	533	31	16	30	15
17	49	54	205	90	348	100	89	884	31	16	25	14
18	49	54	144	90	393	97	77	803	30	16	20	14
19	48	54	122	90	293	96	70	1310	29	15	16	16
20	47	57	112	101	210	125	64	1250	29	15	15	27
21	47	100	108	223	178	141	61	1060	41	15	14	23
22	49	558	106	502	157	132	58	652	35	19	14	22
23	61	1000	136	817	141	126	56	202	29	20	14	19
24	52	791	347	786	126	115	56	139	28	18	13	18
25	47	354	488	544	118	102	108	110	26	17	13	21
26	45	175	326	258	107	106	154	96	25	17	13	46
27	44	125	190	178	102	354	84	87	24	14	12	44
28	44	108	143	145	100	1150	67	79	23	16	13	35
29	44	96	162	128	100	1630	60	71	22	19	13	30
30	77	85	337	122	---	3120	54	66	21	24	14	30
31	475	---	388	119	---	2520	---	63	---	17	14	---
TOTAL	2167	5160	7389	6243	8582	12299	3656	8458	1083	548	476	662
MEAN	69.9	172	238	201	296	397	122	273	36.1	17.7	15.4	22.1
MAX	475	1000	947	817	1390	3120	643	1310	58	24	30	46
MIN	44	54	64	90	100	88	54	47	21	14	12	14
CFSM	.22	.53	.73	.62	.91	1.22	.38	.84	.11	.05	.05	.07
IN.	.25	.59	.85	.71	.98	1.41	.42	.97	.12	.06	.05	.08
AC-FT	4300	10230	14660	12380	17020	24400	7250	16780	2150	1090	944	1310

CAL YR 1979	TOTAL	191357	MEAN	524	MAX	6560	MIN	41	CFSM	1.61	IN	21.90	AC-FT	379600
WTR YR 1980	TOTAL	56723	MEAN	155	MAX	3120	MIN	12	CFSM	.48	IN	6.49	AC-FT	112500

08070000 EAST FORK SAN JACINTO RIVER NEAR CLEVELAND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 26...	0900	45	216	6.6	17.0	44	13	14	2.3	25
DEC 04...	0830	70	259	--	8.0	58	18	19	2.5	23
JAN 14...	1530	91	311	--	13.0	73	27	24	3.1	28
FEB 22...	1245	159	254	--	13.5	66	27	22	2.7	25
APR 07...	1130	114	282	--	17.5	69	23	23	2.9	23
MAY 23...	1500	180	235	--	22.0	57	18	19	2.3	20
JUN 30...	1340	21	258	--	31.0	51	22	16	2.7	28
AUG 12...	1200	16	247	--	28.0	38	22	11	2.5	31
SEP 24...	1430	18	250	--	27.0	33	18	9.3	2.3	33

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 26...	1.6	2.0	38	0	5.7	47	.1	13	128
DEC 04...	1.3	1.8	48	0	4.5	50	.1	16	141
JAN 14...	1.4	1.6	56	0	6.7	60	.1	16	167
FEB 22...	1.3	1.5	48	0	8.5	47	.1	13	143
APR 07...	1.2	1.6	57	0	6.9	47	.1	16	149
MAY 23...	1.2	2.1	48	0	3.2	43	.1	13	126
JUN 30...	1.7	1.5	36	0	1.5	60	.2	13	141
AUG 12...	2.2	1.2	19	0	.2	65	.1	14	134
SEP 24...	2.5	1.3	18	0	3.0	68	.1	12	138

08070500 CANEY CREEK NEAR SPLENDORA, TX

LOCATION.--Lat 30°15'34", long 95°18'08", Montgomery County, Hydrologic Unit 12040103, on left bank at downstream side of bridge on Farm Road 2090, 4 mi (6 km) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, and 8 mi (13 km) west of Splendora.

DRAINAGE AREA.--105 mi^2 (272 km^2).

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for some periods, published in WSP 1312. Water-quality records: Sediment records: December 1965 to September 1975.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 118.44 ft (36.101 m) National Geodetic Vertical Datum of 1929. Prior to June 17, 1965, at site 170 ft (52 m) upstream at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records good. No diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 75.3 ft^3/s (2.132 m^3/s), 9.74 in/yr (247 mm/yr), 54,550 acre-ft/yr (67.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft^3/s (991 m^3/s) June 14, 1973, gage height, 26.30 ft (8.016 m); minimum, 4.1 ft^3/s (0.12 m^3/s) Oct. 26, 1956, caused by construction upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1885, 27.0 ft (8.23 m) in November 1940, present site and datum, from information by local resident. Flood in May 1935 reached a stage of 24.3 ft (7.41 m), present site and datum, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,180 ft^3/s (33.4 m^3/s) Mar. 28 at 2200 hours, gage height, 10.55 ft (3.216 m), no peak above base of 1,500 ft^3/s (42.5 m^3/s); minimum, 13 ft^3/s (0.37 m^3/s) Sept. 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	100	39	59	42	64	77	93	27	16	17	17
2	40	47	39	52	40	74	66	120	26	16	16	16
3	38	37	38	54	41	58	62	60	26	16	16	15
4	36	33	37	59	41	55	58	45	25	16	16	15
5	35	31	35	53	40	55	52	40	25	17	15	16
6	34	31	35	48	39	53	49	38	24	16	15	21
7	33	30	34	46	38	52	49	37	24	16	16	25
8	33	29	33	45	194	52	49	38	23	17	17	22
9	33	29	33	43	522	51	47	45	23	17	17	24
10	32	31	33	41	341	50	44	39	23	17	17	23
11	31	31	33	41	143	49	43	37	23	17	16	19
12	31	29	108	41	98	49	43	36	22	17	17	17
13	31	28	655	39	83	48	45	40	21	17	16	16
14	31	27	275	38	76	46	74	61	21	17	16	16
15	30	27	77	38	74	44	53	81	20	16	16	15
16	30	27	59	38	97	45	47	248	20	15	16	14
17	30	27	50	38	215	48	43	449	20	15	17	14
18	30	27	44	38	110	52	42	215	19	15	16	14
19	30	29	42	38	83	49	40	367	19	15	16	14
20	30	30	41	37	74	54	38	517	19	15	15	14
21	30	43	41	53	70	57	38	104	19	15	15	13
22	31	573	41	243	64	52	38	62	19	15	15	13
23	33	282	47	390	60	48	38	47	19	18	15	14
24	31	128	151	111	58	49	38	40	19	17	15	14
25	30	71	94	67	55	48	57	37	18	17	15	14
26	29	56	62	56	52	47	60	35	17	16	14	44
27	28	48	53	50	51	163	44	33	17	16	14	44
28	28	45	49	45	51	808	40	31	16	18	15	24
29	28	42	72	43	51	787	38	30	16	19	17	21
30	81	40	182	43	---	246	37	29	16	19	17	24
31	296	---	79	43	---	110	---	28	---	18	18	---
TOTAL	1306	2008	2611	2030	2903	3463	1449	3082	626	511	493	572
MEAN	42.1	66.9	84.2	65.5	100	112	48.3	99.4	20.9	16.5	15.9	19.1
MAX	296	573	655	390	522	808	77	517	27	19	18	44
MIN	28	27	33	37	38	44	37	28	16	15	14	13
CFSM	.40	.64	.80	.62	.95	1.07	.46	.95	.20	.16	.15	.18
IN.	.46	.71	.93	.72	1.03	1.23	.51	1.09	.22	.18	.17	.20
AC-FT	2590	3980	5180	4030	5760	6870	2870	6110	1240	1010	978	1130

CAL YR 1979	TOTAL	69588	MEAN	191	MAX	3710	MIN 25	CFSM 1.82	IN 24.65	AC-FT	138000	
WTR YR 1980	TOTAL	21054	MEAN	57.5	MAX	808	MIN 13	CFSM .55	IN 7.46	AC-FT	41760	

08072000 LAKE HOUSTON NEAR SHELDON, TX

LOCATION.--Lat 29°54'58", long 95°08'28", Harris County, Hydrologic Unit 12040101, at intake structure on San Jacinto River near right bank 100 ft (30 m) upstream from Lake Houston Dam, 4.0 mi (6.4 km) north of Sheldon, 4.6 mi (7.4 km) upstream from bridge on U.S. Highway 90, and 18 mi (29.0 km) northeast of Houston.

DRAINAGE AREA.--2,828 mi² (7,325 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1954 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage at dam is 0.70 ft (0.213 m) below National Geodetic Vertical Datum of 1929; unadjusted for land-surface subsidence.

REMARKS.--The lake is formed by two earthfill embankment sections and a 3,160-foot-long (963 m) concrete spillway midway between the embankment sections. The dam was completed and storage began Apr. 9, 1954. The spillway includes two tainter gates, 18.0 by 20.5 ft (5.5 by 6.2 m), that can be used for control of releases below gage heights of 44.5 ft (13.56 m) and above 28.0 ft (8.53 m). In addition, there is a 36-inch-diameter (914 mm) sluice gate that is used for low-flow releases. Water is used for irrigation, municipal, and industrial supply in the Houston metropolitan area. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	63.0	-
Design flood	57.0	-
Crest of spillway	44.5	146,700
Crest of tainter gates (sill)	28.0	22,800
Lowest gated outlet (invert)	22.0	6,180

COOPERATION.--The capacity table, furnished by the city of Houston, is based on a sedimentation study made in 1965. Records of diversions were furnished by the San Jacinto River Authority and the city of Houston.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 217,700 acre-ft (268 hm³) Apr. 19, 1979, gage height, 49.50 ft (15.088 m); minimum since first filling of lake in August 1954, 53,380 acre-ft (65.8 hm³) Dec. 1, 1971, gage height, 34.08 ft (10.388 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 171,300 acre-ft (211 hm³) Mar. 29, gage height, 46.40 ft (14.143 m); minimum, 105,000 acre-ft (129 hm³) Sept. 4, gage height, 40.70 ft (12.405 m).

Capacity table (gage height, in feet, and total contents, in acre-feet)

40.5	103,000	45.0	152,900
41.5	113,000	46.5	172,700
43.0	129,100		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156600	159000	152500	157000	153300	152100	164100	155900	153700	139600	121900	106300
2	156300	157900	152500	156300	154000	151700	160700	158900	153300	139000	121400	105800
3	155500	156300	152300	155000	154000	153100	159000	157700	152800	138200	120800	105500
4	154100	155100	152100	155100	154200	154400	157500	157100	152300	137200	119900	105000
5	154200	154600	152100	155300	154200	154400	156700	156400	151800	136400	119700	108000
6	154000	153600	151400	155300	154100	154200	156300	155100	151400	135600	119300	114100
7	153500	152900	151400	154800	154000	154200	155900	155000	151000	134600	118900	117100
8	153200	152300	151200	154500	159300	154100	154400	154500	150700	133900	118300	118400
9	153100	152100	151100	154500	169800	153800	154200	153800	151400	133200	117700	119000
10	151400	151200	150900	154500	169500	153600	153800	154000	151200	132400	117400	119200
11	151000	150600	151000	154000	167200	153700	153800	153600	151400	131700	117100	119200
12	151100	150200	156200	153500	164200	153500	153700	153200	151200	130900	116300	119000
13	151000	149500	161600	153300	162400	152500	151000	153300	150900	130200	115700	118900
14	150400	149100	162800	153200	160300	152500	151500	153600	150100	129500	115200	118400
15	150100	148900	161600	153100	158600	152200	152200	156700	149500	128800	114700	118200
16	149900	148700	160100	153200	157700	152300	152700	161000	149000	128000	114300	117800
17	149600	148400	157600	153600	158600	151700	152800	166400	148300	127400	114000	117500
18	149400	148400	156600	153200	158800	151200	152100	165900	147800	126700	113300	117400
19	148900	148000	155900	153600	158600	151600	152000	169100	147200	125900	112700	117200
20	148700	148300	155500	157700	157600	153200	151700	171000	147400	125200	112100	117100
21	148200	154000	155300	163300	156800	154100	151500	168700	146800	125600	111800	116600
22	148900	158900	155300	169800	156000	154900	151200	165600	146100	125400	111400	116400
23	148300	162000	155800	169300	155700	155500	151000	162000	145600	124800	110700	116100
24	147800	161700	156600	167000	155000	154400	150500	159900	145000	124100	110000	115700
25	147700	159800	157300	164600	152900	154200	158600	158200	144400	123400	109200	115600
26	147300	157700	157200	162000	152700	154200	158200	157700	143600	122900	108600	115900
27	147200	156800	156400	159400	153100	164500	157100	155800	142900	122800	108000	116000
28	146900	154200	156200	158100	153300	169100	156200	155300	141800	123200	107400	116100
29	146500	152300	156300	156700	154100	170600	155800	155300	141100	123400	106900	117100
30	154900	152300	156800	156400	---	169400	155000	155100	140200	123000	106900	121200
31	159700	---	157100	153500	---	167500	---	154500	---	122500	106500	---
MAX	159700	162000	162800	169800	169800	170600	164100	171000	153700	139600	121900	121200
MIN	146500	148000	150900	153100	152700	151200	150500	153200	140200	122500	106500	105000
(†)	45.52	44.95	45.32	45.04	45.09	46.12	45.16	45.12	43.96	42.39	40.85	42.27
(‡)	+2500	-7400	+4800	-3600	+600	+13400	-12500	-500	-14300	-17700	-16000	-14700
(††)	19990	21160	21070	21100	19190	19280	20500	21800	24710	26140	23680	22730

CAL YR 1979 MAX 214400 MIN 146500 ‡ +5600 †† 244530
WTR YR 1980 MAX 171000 MIN 105000 ‡ -36000 †† 261350

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal and industrial use by San Jacinto River Authority and city of Houston.

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
MAR 05...	1100	121	12.0	32	9	10	1.6	9.8	.8
JUL 21...	1430	157	29.0	43	5	14	2.0	13	.9

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
MAR 05...	2.0	28	0	5.9	17	.0	5.4	66
JUL 21...	2.5	46	0	4.1	21	.2	4.2	84

08072020 LAKE HOUSTON PLANT INTAKE AT GALENA PARK, TX

LOCATION.--Lat 29°44'01", long 95°12'58", Harris County, Hydrologic Unit 12040104, at city of Houston municipal water plant intake from Lake Houston West Canal and 1 mi (2 km) east of Galena Park.

DRAINAGE AREA.--2,828 mi^2 (7,325 km^2).

PERIOD OF RECORD.--Periodic chemical analyses: May 1972 to current year. Pesticide analyses: May 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY 28...	1035	1	0	0	0	36	140
JUL 18...	0905	3	100	0	0	34	340
SEP 17...	1200	1	100	0	0	24	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 28...	0	10	.1	0	0	10
JUL 18...	1	30	.0	0	0	20
SEP 17...	0	310	.0	0	0	20

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAY 28...	1035	.0	.00	.00	.0	.00	.00	.00	.02
JUL 18...	0905	.0	.00	.00	.0	.00	.00	.00	.00
SEP 17...	1200	.0	.00	.00	.0	.00	.00	.00	.02

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY CHLOR TOTAL (UG/L)
MAY 28...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 18...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 28...	.00	.00	.00	.00	0	.00	.01	.00	.00
JUL 18...	.00	.00	.00	.00	0	.00	.00	.00	.00
SEP 17...	.00	.00	.00	.00	0	.00	.06	.00	.00

08072050 SAN JACINTO RIVER NEAR SHELDON, TX

LOCATION.--Lat 29°52'34", long 95°05'37", Harris County, Hydrologic Unit 12040104, on left bank at U.S. Highway 90 bridge, 0.3 mi (0.5 km) downstream from Southern Pacific Railway Co. bridge, 1.5 mi (2.4 km) east of Sheldon, 4.6 mi (7.4 km) downstream from Lake Houston, and 21 mi (34 km) northeast of Houston.

DRAINAGE AREA.--2,879 mi² (7,457 km²).

PERIOD OF RECORD.--February 1970 to current year (elevations only prior to 1973, beginning 1973 gage heights only).

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 0.69 ft (6.210 m) below National Geodetic Vertical Datum of 1929, adjustment of 1973. Prior records unadjusted for land-surface subsidence.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 20.12 ft (6.133 m) June 15, 1973; minimum elevation, -2.36 ft (-0.719 m) Feb. 13, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1875, 31.5 ft (9.60 m) Nov. 26, 1940, at site 0.3 mi (0.5 km) upstream at Southern Pacific Railway Co. bridge.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 6.35 ft (1.935 m) Jan. 22; minimum, about -1.8 ft (-0.55 m) Mar. 2.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	-	-	2.34	0.90	1.42	-1.11	1.40	-0.37	1.75	-0.39	1.99	-	3.92	3.32	-	-	-	-	2.02	-0.12	1.90	0.47	4.07	0.88
2	-	-	2.80	1.41	1.37	-.48	1.95	.44	2.22	.55	.43	-1.80	3.44	2.62	-	-	-	-	1.80	-.03	2.10	1.03	2.33	.38
3	-	-	2.57	.86	1.98	.18	2.34	-.15	2.22	.33	2.05	-.01	3.13	2.11	-	-	-	-	2.09	.12	2.29	1.09	2.20	.36
4	-	-	2.73	1.00	1.95	.15	1.22	-.45	1.90	.78	2.19	1.06	2.11	.81	-	-	-	-	2.78	.57	2.29	.59	2.40	.64
5	-	-	2.86	1.17	1.96	.47	1.31	.10	2.11	.66	1.54	.18	3.04	.86	-	-	-	-	-	.97	2.74	.64	2.64	1.12
6	-	-	2.79	.31	2.13	.33	2.31	1.25	1.92	.63	2.18	.13	3.19	1.83	-	-	-	-	-	-	1.94	.41	4.07	2.18
7	-	-	1.86	.40	1.93	.46	2.35	.23	3.57	1.03	2.54	1.41	2.91	1.31	-	-	-	-	-	-	2.30	.32	3.21	1.53
8	-	-	2.42	1.02	2.09	.46	1.63	.58	3.68	2.58	1.94	.58	2.38	.26	-	-	-	-	-	-	3.01	.23	2.59	1.31
9	-	-	2.94	.88	2.11	.77	1.84	.85	3.77	2.53	1.60	.10	2.03	.10	-	-	-	-	-	-	5.50	1.82	2.30	.93
10	-	-	1.55	.35	1.99	.70	2.59	1.62	4.29	3.78	2.23	.29	1.65	.55	-	-	-	-	-	-	4.82	3.11	1.89	.49
11	-	0.60	1.83	.56	2.13	1.49	2.78	1.16	4.30	3.49	2.31	.38	3.23	1.74	-	-	-	-	-	-	3.60	2.07	1.89	.68
12	2.30	.56	2.10	.52	2.24	1.22	2.00	.20	3.80	2.43	2.48	.82	2.80	.70	-	-	-	-	-	-	2.44	1.04	-	-
13	2.32	.41	1.21	.51	1.41	.54	2.68	1.16	3.27	1.97	2.14	-.35	1.25	-	-	-	2.61	-	-	-	2.29	1.01	-	-
14	2.11	.41	1.71	.67	2.40	1.41	2.78	.99	3.04	1.42	2.02	.43	.56	-	-	-	2.88	.75	-	-	2.61	1.04	-	-
15	2.57	1.00	1.96	.78	2.58	1.61	2.67	1.05	2.86	1.34	2.50	1.26	1.24	-.90	-	-	3.28	1.15	-	-	3.38	1.87	-	-
16	2.42	1.14	1.65	.31	2.56	1.17	2.53	.79	2.72	.04	2.84	1.08	1.71	-.51	-	-	3.07	1.28	-	-	2.37	1.28	-	-
17	2.32	1.20	1.79	.42	2.12	-.44	2.32	.56	1.96	-.03	2.65	-.17	1.99	-.06	-	-	2.77	.87	-	-	2.17	.90	-	-
18	2.33	1.23	2.23	.78	2.05	.36	2.61	.51	2.86	1.61	2.41	-.65	1.41	-.18	-	-	2.46	.82	-	-	2.30	.79	-	-
19	2.78	1.24	2.34	.97	2.04	.30	2.86	1.29	3.14	2.05	2.65	.95	1.66	-.61	-	-	2.72	.88	-	-	2.09	.55	-	-
20	2.88	1.63	2.75	1.28	2.08	.33	3.22	2.50	2.79	1.50	2.74	1.03	1.88	.00	-	-	2.24	.72	-	-	1.87	.34	-	-
21	3.28	1.76	2.90	.46	2.02	.53	3.33	2.39	2.79	1.29	1.48	-.42	1.94	-.12	-	-	2.08	.64	-	.57	1.89	.17	-	-
22	3.30	.51	2.06	-1.09	2.51	1.09	6.35	3.17	2.63	.95	2.58	.23	1.88	.15	-	-	1.77	.42	1.77	.42	1.80	.08	-	-
23	1.50	-.07	1.33	.38	2.61	.61	5.95	4.13	2.59	.74	2.85	1.14	2.21	.50	-	-	2.12	.66	1.96	.39	1.89	.02	-	-
24	1.96	.49	2.58	1.30	2.46	-.27	4.30	3.76	2.34	.79	2.09	.00	2.66	1.01	-	-	1.92	.47	2.14	.48	2.17	.05	-	-
25	2.17	.60	2.47	1.16	.67	-.10	3.80	2.78	1.79	-.38	2.02	.18	2.92	1.76	-	-	1.82	.21	2.77	.58	2.37	.13	-	-
26	2.14	.60	2.23	.51	1.83	.81	3.38	2.25	1.85	-.36	2.81	.76	2.20	.50	-	-	1.47	-.35	2.43	.84	2.78	.67	-	-
27	2.34	.59	2.14	.86	2.05	.74	2.75	.95	2.22	.81	3.69	2.17	.70	-.30	-	-	1.33	-.65	2.41	.38	2.48	1.03	-	-
28	2.22	.70	1.27	-.19	2.26	.71	2.88	1.27	2.07	.28	5.01	3.69	1.47	.09	-	-	2.17	-.45	1.97	.31	2.43	.97	-	-
29	2.32	.70	.23	-1.16	2.15	.37	2.92	1.31	2.19	.89	5.88	4.65	1.51	-.17	-	-	2.16	.12	1.84	-.11	2.69	1.03	-	-
30	4.92	1.04	1.47	-.42	1.71	-.02	2.65	1.10	----	----	5.84	4.41	-	-	-	-	2.05	.00	1.71	-.02	2.45	.83	-	-
31	3.33	1.27	----	----	1.70	-.84	1.96	-.90	----	----	4.41	3.63	----	----	-	-	----	----	1.78	.02	2.53	.25	----	----

08072300 BUFFALO BAYOU NEAR KATY, TX

LOCATION.--Lat 29°44'35", long 95°48'24", Fort Bend County, Hydrologic Unit 12040104, on left bank at bridge on county road, 2.5 mi (4.0 km) downstream from confluence of Willow Fork and Cane Island Branch of Buffalo Bayou, and 3.1 mi (5.0 km) southeast of Katy.

DRAINAGE AREA.--63.3 mi² (163.9 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 75.02 ft (22.866 m) National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Diversions and return of irrigation water from area above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,920 ft³/s (82.7 m³/s) Sept. 20, 1979, gage height, 37.54 ft (11.442 m); minimum daily, 0.88 ft³/s (0.025 m³/s) Mar. 18, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 750 ft³/s (21.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 22	0400	980	27.8	32.00	9.754	Feb. 9	unknown	800	22.7	-	-
Dec. 12	1800	1,480	41.9	33.25	10.135	May 19	unknown	1,200	34.0	-	-
Jan. 21	0700	*1,560	44.2	33.50	10.211	Sept. 6	1100	1,130	32.0	32.51	9.909

Minimum daily discharge, 1.0 ft³/s (0.028 m³/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	157	11	28	5.8	2.5	16	2.0	5.8	3.2	34	1.5
2	59	80	8.3	18	4.5	2.3	10	2.5	4.4	3.3	22	1.5
3	47	39	6.9	167	3.4	2.1	8.3	2.0	4.0	2.7	26	1.6
4	46	19	5.6	125	2.6	2.0	5.4	1.6	4.7	2.9	18	1.7
5	41	10	4.9	52	2.0	2.1	3.7	1.4	4.3	3.5	12	2.4
6	30	5.6	4.2	31	1.5	2.3	3.0	1.2	3.0	3.6	26	674
7	22	3.7	3.7	21	1.5	2.5	2.9	1.1	3.4	3.2	14	334
8	16	2.9	3.4	15	150	2.4	2.4	1.0	1.3	2.9	9.6	181
9	15	2.9	3.2	12	600	2.4	1.9	2.0	74	2.8	8.1	179
10	28	3.6	3.0	9.9	300	2.2	1.6	1.4	67	3.2	6.1	102
11	28	3.3	3.0	8.8	150	2.2	1.5	1.0	28	4.4	4.1	56
12	22	2.9	654	7.8	80	1.9	1.5	4.0	13	5.8	2.3	30
13	28	2.5	959	7.1	50	1.6	2.4	3.0	9.0	5.1	1.9	20
14	22	2.9	478	6.2	35	1.5	2.2	2.5	8.1	5.6	1.6	15
15	22	4.7	245	5.8	60	1.4	1.6	50	5.8	9.4	1.6	12
16	17	5.6	131	5.6	100	1.8	1.4	150	7.2	9.9	15	8.9
17	23	3.6	74	11	70	1.8	1.2	100	5.6	8.7	8.4	7.1
18	25	4.2	44	41	45	1.4	1.1	70	5.2	6.6	4.8	6.6
19	21	37	33	28	30	1.6	1.0	750	4.6	12	3.5	7.5
20	20	277	29	160	22	2.1	1.0	600	1.2	14	2.4	7.5
21	12	304	24	1430	16	2.0	1.0	100	3.7	10	2.4	7.0
22	9.6	793	20	1400	12	1.4	2.0	25	3.6	7.0	3.1	6.3
23	6.2	453	26	843	9.0	1.4	1.6	15	3.6	21	2.8	7.4
24	6.4	272	106	398	7.0	1.6	1.2	12	3.7	27	4.4	14
25	5.8	175	47	208	5.5	1.4	1.0	7.3	3.8	27	3.1	26
26	5.8	114	23	118	4.5	1.8	10	6.4	2.3	27	3.3	22
27	10	74	16	64	3.7	124	15	7.3	8.5	24	1.9	24
28	9.0	44	12	32	3.0	447	1.8	12	4.0	48	1.3	22
29	5.6	25	137	19	2.7	221	1.3	30	3.7	77	1.4	21
30	92	16	119	12	---	113	1.0	10	3.4	80	2.5	74
31	287	---	56	7.8	---	33	---	3.1	---	43	2.0	---
TOTAL	1050.4	2937.4	3290.2	5292.0	1776.7	987.7	106.0	1974.8	299.9	503.8	249.6	1873.0
MEAN	33.9	97.9	106	171	61.3	31.9	3.53	63.7	10.0	16.3	8.05	62.4
MAX	287	793	959	1430	600	447	16	750	74	80	34	674
MIN	5.6	2.5	3.0	5.6	1.5	1.4	1.0	1.0	1.2	2.7	1.3	1.5
AC-FT	2080	5830	6530	10500	3520	1960	210	3920	595	999	495	3720

CAL YR 1979	TOTAL	36049.3	MEAN 98.8	MAX 2560	MIN 1.3	AC-FT	71500	
WTR YR 1980	TOTAL	20341.5	MEAN 55.6	MAX 1430	MIN 1.0	AC-FT	40350	

NOTE.--No gage-height record Feb. 1 to Mar. 5.

08072500 BARKER RESERVOIR NEAR ADDICKS, TX

LOCATION.--Lat 29°46'11", long 95°38'49", Harris County, Hydrologic Unit 12040104, at dam on Buffalo Bayou, 45 ft (14 m) upstream from reservoir outlet works, 1,160 ft (354 m) upstream from Addicks-Howell county road, 1.1 mi (1.8 km) south of Addicks, and 1.2 mi (1.9 km) upstream from South Mayde Creek.

DRAINAGE AREA.--128 mi² (332 km²). Prior to August 1977, 134 mi² (347 km²). Basin boundary to change due to relocation of drainage ditches. During extreme floods, basin may receive and (or) lose runoff due to basin interchange.

PERIOD OF RECORD.--August 1945 to current year. On October 1973, the upper gage was converted to a flood-hydrograph partial-record station.

REVISED RECORDS.--WDR TX-77-1: Drainage area.

GAGE.--Water-stage recorders. Datum of gage is 0.33 ft (0.101 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--The reservoir is formed by a rolled earthfill dam 72,900 ft (22,200 m) long. The dam was completed Feb. 3, 1946, but was used as early as the spring of 1945 for flood control. The reservoir is operated for flood protection for the city of Houston. The controlled outlet works consist of five concrete conduits, 9 by 7 ft (2.7 by 2.1 m) wi e, each controlled by a vertical slide gate. Corps of Engineers gage-height telemetry at station. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	114.0	-
Ground gage height at ends of dam	107.0	207,000
Design flood	101.9	127,900
Crest of spillway (invert)	75.0	0

COOPERATION.--The capacity curve, furnished by the Corps of Engineers, is based on a survey made in 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,200 acre-ft (48.3 hm³) May 15, 1968, gage height, 94.60 ft (28.834 m); minimum, reservoir was dry at times.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 25,300 acre-ft (31.2 hm³) Oct. 1, gage height, 93.14 ft (28.389 m); minimum, 3.0 acre-ft (3,700 m³) Aug. 29, gage height, 75.33 ft (22.961 m).

Capacity table (gage height, in feet, and total contents, in acre-feet)

75.3	2.9	81.0	79	87.0	3,060
76.0	6.3	82.0	129	88.0	4,770
77.0	14	83.0	258	90.0	9,910
78.0	24	84.0	510	92.0	17,920
79.0	38	85.0	999	93.2	25,800
80.0	55	86.0	1,830		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23190.0	1950.0	4.5	3.6	8600.0	4.2	6510.0	5.3	4.3	3.7	6.5	3.4
2	21110.0	1770.0	4.0	5.1	6480.0	3.6	5470.0	4.5	4.2	3.7	5.6	3.7
3	19310.0	1200.0	3.7	52.4	4350.0	3.6	4240.0	4.3	4.1	3.7	6.0	3.4
4	17400.0	579.0	3.5	142.0	2280.0	3.5	2790.0	4.3	3.9	3.7	5.6	3.7
5	15640.0	67.5	3.4	51.9	346.0	3.5	1300.0	4.2	3.9	3.7	4.2	3.8
6	13910.0	4.6	3.4	9.1	5.8	3.5	89.0	4.1	3.8	3.7	4.8	320.0
7	12260.0	4.1	3.4	6.5	5.0	3.5	5.1	4.8	3.8	3.6	6.1	2660.0
8	10650.0	3.7	3.4	39.0	45.5	3.5	4.2	4.8	3.7	3.6	4.5	3630.0
9	8970.0	3.8	3.4	69.4	817.0	3.5	4.0	4.6	29.9	3.6	3.7	3470.0
10	7390.0	3.4	3.4	93.4	2050.0	3.5	4.0	4.3	74.2	3.6	3.6	2550.0
11	5810.0	3.4	3.4	122.0	2220.0	3.5	3.9	4.2	9.5	3.6	3.4	1270.0
12	4270.0	3.4	355.0	151.0	1870.0	3.5	3.8	4.2	5.7	4.0	3.4	112.0
13	2750.0	3.4	3190.0	179.0	1310.0	3.5	3.9	4.2	4.8	5.2	3.3	7.3
14	1370.0	15.0	4310.0	212.0	690.0	3.4	3.9	5.9	4.2	4.7	3.3	5.8
15	298.0	24.4	3800.0	237.0	183.0	3.4	3.8	11.8	4.2	5.2	3.4	5.0
16	5.1	34.1	2730.0	262.0	16.6	3.4	3.8	17.9	4.1	5.3	4.6	4.5
17	4.6	42.1	1360.0	379.0	15.4	3.5	3.7	29.7	4.0	4.5	4.2	3.8
18	4.8	49.0	302.0	149.0	7.1	3.5	3.7	18.0	4.0	4.3	3.6	3.5
19	4.3	64.8	8.3	10.2	5.9	3.5	3.6	653.0	4.0	4.1	3.5	3.6
20	4.4	1220.0	6.7	50.7	5.2	3.6	3.6	2020.0	3.9	4.9	3.4	4.2
21	4.2	2280.0	5.9	4770.0	4.8	3.6	3.6	2910.0	3.9	6.9	3.4	5.0
22	4.3	3660.0	5.4	12150.0	4.5	3.6	3.6	2590.0	3.8	6.5	3.4	4.3
23	3.9	4680.0	6.5	16160.0	4.1	3.6	3.6	1660.0	3.8	6.9	3.3	4.2
24	3.8	4590.0	15.5	17060.0	3.9	3.6	3.6	913.0	3.9	7.6	3.9	5.1
25	3.7	3830.0	7.5	16350.0	3.7	3.6	3.8	258.0	3.8	7.4	3.6	6.2
26	3.7	2850.0	5.4	15780.0	3.7	3.6	3.8	6.6	3.8	7.2	3.4	6.7
27	3.7	1690.0	4.7	15640.0	3.7	571.0	3.8	5.6	3.7	7.3	3.5	7.1
28	3.7	490.0	4.7	14790.0	3.7	2870.0	3.8	4.5	3.7	7.4	3.2	6.3
29	3.7	6.7	46.3	13660.0	3.7	5260.0	3.8	6.6	3.7	7.8	3.4	6.2
30	114.0	5.1	70.1	12110.0	---	7170.0	3.8	5.0	3.7	13.5	3.5	43.9
31	1150.0	---	10.8	10310.0	---	7260.0	---	4.4	---	7.9	3.5	---
MAX	23190	4680	4310	17060	8600	7260	6510	2910	74	13	6.5	3630
MIN	3.7	3.4	3.4	3.6	3.7	3.4	3.6	4.1	3.7	3.6	3.2	3.4

CAL YR 1979 MAX 34680 MIN 3.4
WTR YR 1980 MAX 23190 MIN 3.2

08072730 BEAR CREEK NEAR BARKER, TX

LOCATION.--Lat 29°49'50", long 95°41'12", Harris County, Hydrologic Unit 12040104, on bank at bridge on Clay Road, 2.5 mi (4.0 km) west of State Highway 6, and 4.1 mi (6.6 km) upstream from mouth of Langham Creek.

DRAINAGE AREA.--19.8 mi² (51.3 km²).

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 100.00 ft (30.480 m) National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records poor. Diversions and return of irrigation water from area above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 963 ft³/s (27.3 m³/s) Sept. 20, 1979, gage height, 16.72 ft (5.096 m); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 300 ft³/s (8.50 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 20	0400	379	10.7	13.42	4.090	Jan. 22	1400	*443	12.5	14.12	4.304
Dec. 13	0300	374	10.6	13.36	4.072	Feb. 9	0900	312	8.84	12.72	3.877

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	72	7.0	10	3.5	.60	10	.25	1.0	.10	1.2	.42
2	23	32	4.0	5.0	2.5	.50	5.0	.15	.60	.06	.81	.63
3	15	14	3.0	25	2.0	.40	3.0	.08	.35	.04	.75	.70
4	10	7.8	2.0	30	1.5	.30	2.0	.05	.19	.02	1.8	.28
5	7.3	5.8	1.5	15	1.2	1.0	1.2	.03	.10	.01	.70	.22
6	6.9	4.4	1.2	9.0	1.0	1.0	.80	.02	.16	.00	.12	11
7	5.3	3.6	1.0	5.0	.90	.19	.60	.05	.22	.00	.50	12
8	4.0	3.1	.90	3.0	15	.12	.40	.15	.19	.00	3.1	14
9	2.8	2.7	.80	2.0	283	.07	.30	.50	2.0	.00	3.1	21
10	1.8	2.2	.70	1.5	150	.03	.25	.40	15	.00	.81	17
11	1.1	1.8	.60	1.2	80	.02	.19	.30	6.0	.63	.31	12
12	.62	1.3	50	1.0	35	.00	.14	.60	3.0	.85	.19	7.5
13	.40	.92	313	.90	15	.60	.14	.25	1.5	1.3	.46	4.8
14	.45	.63	200	.80	10	1.0	.07	.75	1.0	3.1	.42	3.2
15	.45	.68	110	.70	7.0	.00	.04	2.5	.70	4.2	1.4	2.3
16	.53	.94	60	.60	10	.00	.01	6.0	.50	6.1	2.0	1.5
17	1.1	.70	35	20	15	.00	.00	20	.40	3.9	1.8	2.3
18	1.9	.35	20	10	8.0	.00	.00	14	.30	3.2	2.3	1.9
19	1.9	23	12	5.0	5.0	.00	.00	120	.25	2.5	3.3	1.9
20	1.4	340	8.0	20	3.0	.12	.00	130	.19	2.1	4.7	1.3
21	.95	240	5.0	400	2.0	.50	.00	60	.17	1.7	4.4	1.4
22	.79	325	4.0	427	1.5	.70	.00	30	.19	1.4	3.8	1.6
23	.98	250	3.0	300	1.0	1.0	.00	15	.24	1.9	3.4	1.3
24	1.8	150	6.0	180	.80	1.0	.00	8.0	.42	2.8	4.9	1.5
25	1.7	100	7.0	100	.60	.50	.00	4.0	.35	3.4	2.5	1.6
26	1.8	65	5.0	50	.50	.35	1.5	2.5	.21	3.1	2.5	1.7
27	6.4	40	3.0	30	.40	10	2.0	1.5	.14	9.1	1.8	2.2
28	3.8	25	2.0	20	.35	120	1.2	1.0	.21	7.3	1.1	2.6
29	2.2	15	15	12	.30	130	.70	.70	.08	9.5	.46	2.4
30	9.8	10	50	8.0	---	60	.40	.50	.05	7.4	.19	21
31	143	---	20	5.0	---	20	---	.40	---	3.7	.31	---
TOTAL	293.17	1737.92	950.70	1697.70	656.05	350.00	29.94	419.68	35.71	79.41	55.13	153.25
MEAN	9.46	57.9	30.7	54.8	22.6	11.3	1.00	13.5	1.19	2.56	1.78	5.11
MAX	143	340	313	427	283	130	10	130	15	9.5	4.9	21
MIN	.40	.35	.60	.60	.30	.00	.00	.02	.05	.00	.12	.22
AC-FT	582	3450	1890	3370	1300	694	59	832	71	158	109	304

CAL YR 1979 TOTAL 14027.59 MEAN 38.4 MAX 883 MIN .02 AC-FT 27820
WTR YR 1980 TOTAL 6458.66 MEAN 17.6 MAX 427 MIN .00 AC-FT 12810

08072760 LANGHAM CREEK AT STATE HIGHWAY 6 NEAR ADDICKS, TX

LOCATION.--Lat 29°51'55", long 95°38'44", Harris County, Hydrologic Unit 12040104, on right bank 100 ft (30 m) downstream from bridge on State Highway 6, 2.2 mi (3.5 km) downstream from Dinners Creek, and 5.6 mi (9.0 km) north of Addicks.

DRAINAGE AREA.--25.8 mi² (66.8 km²).

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 90.00 ft (27.432 m) National Geodetic Vertical Datum of 1929, 1973 adjustment. Prior to June 12, 1979, water-stage recorder at bridge 100 ft (30 m) upstream at same datum.

REMARKS.--Records poor. There was considerable urban development in the lower portions of the drainage area during the 1977-80 period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (estimated), 1,180 ft³/s (33.4 m³/s) Sept. 19, 1979, at 2100 hours, gage height, 24.42 ft (7.443 m); no flow for few days during period July to September 1977, and the 1978 and 1980 water years.

EXTREMES FOR PERIOD OF JULY TO SEPTEMBER 1977.--Maximum discharge during period, 50 ft³/s (1.42 m³/s) July 27, gage gage height unknown, no peak above base of 300 ft³/s (8.50 m³/s); no flow for many days.

EXTREMES FOR WATER YEAR 1978.--Peak discharges above base of 300 ft³/s (8.50 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 19	1200	414	11.7	a18.77	5.721
June 7	2100	*466	13.2	a19.33	5.892
Sept. 15	1700	391	11.1	18.51	5.642

a From peak mark.

Minimum discharge, no flow for many days.

EXTREMES FOR WATER YEAR 1979.--Peak discharges above base of 300 ft³/s (8.50 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
aNov. 27	0600	314	8.89	17.70	5.395	aApr. 20	0900	321	9.09	17.78	5.419
Jan. 1	1800	384	10.9	18.47	5.630	May 5	2400	328	9.29	17.86	5.444
Jan 7	0200	446	12.6	19.12	5.828	July 7	1700	312	8.84	17.68	5.389
aFeb. 6	1000	459	13.0	19.25	5.867	aSept. 19	b2100	b*1,180	33.4	24.42	7.443

a Water-quality samples were obtained during this runoff event.
b Estimated.

Minimum discharge, 0.01 ft³/s (0.0003 m³/s) Oct. 30.

EXTREMES FOR WATER YEAR 1980.--Peak discharges above base of 300 ft³/s (8.50 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 22	0400	351	9.94	18.11	5.520	Feb. 9	unknown	396	11.2	18.60	5.669
Dec. 13	1000	410	11.6	18.74	5.712	Mar. 28	0400	306	8.67	17.60	5.364
Jan. 22	1200	*597	16.9	20.40	6.218	May 19	1300	331	9.37	17.89	5.543

Minimum discharge, no flow for many days during March.

08072760 LANGHAM CREEK AT STATE HIGHWAY 6 NEAR ADDICKS, TX--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										6.6	.94	.00
2										1.5	2.8	.00
3										.00	1.3	.00
4										.00	.48	.00
5										.00	.64	.00
6										.20	2.4	.00
7										1.0	2.9	1.5
8										30	.72	3.7
9										25	1.3	6.2
10										15	1.0	6.1
11										10	1.3	4.5
12										14	.82	3.0
13										10	5.7	5.1
14										11	31	21
15										20	14	11
16										13	6.6	5.8
17										9.0	3.6	3.4
18										9.0	3.0	2.3
19										15	2.0	4.3
20										22	4	16
21										30	.90	11
22										15	.61	9.1
23										10	.49	5.8
24										7.0	.49	3.7
25										7.0	.96	3.4
26										10	.88	2.7
27										22	.40	12
28										30	.30	6.0
29										9.9	.21	3.0
30										5.6	.00	2.0
31										2.0	.00	---
TOTAL										360.80	89.14	152.60
MEAN										11.6	2.88	5.09
MAX										30	31	21
MIN										.00	.00	.00
AC-FT										716	177	303

WTR YR 1977 TOTAL - MEAN - MAX - MIN - AC-FT -

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	.04	4.4	.00	23	.14	.00	1.1	.06	9.4	63	.07
2	1.6	.62	1.8	.02	21	.18	.00	.12	30	5.1	21	.15
3	1.4	.82	.76	.02	12	.14	.00	2.2	80	4.8	7.7	.07
4	2.0	.45	.50	.00	6.6	.07	.00	5.0	150	2.1	3.0	.08
5	4.0	.23	.30	.00	3.7	.04	.00	1.8	130	1.9	.82	.07
6	3.0	.05	.19	.00	2.6	1.3	.00	1.5	110	1.6	2.2	.08
7	3.5	.00	.13	1.8	17	17	.00	1.6	350	1.8	1.4	.26
8	2.5	1.3	.10	6.6	146	21	.00	.60	390	2.3	6.1	.42
9	1.8	5.8	.07	1.0	91	3.8	.00	.48	219	1.3	6.3	.77
10	1.3	5.0	.01	.22	47	1.2	.00	.31	78	.88	3.8	33
11	1.0	2.3	.00	5.0	23	.65	.00	.20	31	4.9	1.0	107
12	.80	.99	.00	70	27	.36	.14	1.5	17	11	.16	71
13	1.0	.33	25	35	77	.27	.28	.41	11	9.0	.01	54
14	.80	.17	10	17	34	.19	.03	.08	7.6	6.7	.02	115
15	.60	.12	2.2	8.3	12	.13	.00	.00	6.8	2.6	.03	352
16	.45	.07	.71	80	5.7	.05	.00	.00	5.1	3.8	.00	304
17	.35	.04	.35	181	7.6	.00	.00	.00	3.6	3.6	.00	169
18	.25	.01	.21	175	16	.00	.00	.00	2.3	2.7	.00	83
19	.20	.00	.15	394	9.4	.00	.00	.00	1.7	16	.00	42
20	.15	.00	.08	295	4.7	.00	.00	.51	.97	35	.00	23
21	.20	.57	.04	153	1.5	.00	.00	.70	.99	28	.00	18
22	.15	.31	.04	85	.80	.00	.00	.68	.75	45	.00	12
23	.30	.18	.01	59	.38	.00	.00	.11	.38	32	.00	6.8
24	1.0	.13	.00	59	.30	.00	.00	.00	.03	26	.00	5.3
25	.50	.11	.00	53	.27	.00	.00	.00	.00	21	.00	3.9
26	.20	.08	.00	37	.20	.00	.00	.00	.00	15	.00	3.1
27	.05	.05	.00	36	.16	.00	.00	.00	.00	10	.00	6.6
28	.00	.01	.00	33	.16	.00	.00	.00	18	17	.00	7.2
29	.00	8.0	.00	14	---	.00	.00	.26	81	60	.00	3.4
30	.00	8.1	.00	11	---	.00	.53	.50	23	60	.03	2.8
31	.00	---	.00	8.6	---	.00	---	.13	---	151	.06	---
TOTAL	30.70	35.88	47.05	1818.56	590.07	46.52	.98	19.79	1748.28	591.48	116.63	1424.07
MEAN	.99	1.20	1.52	58.7	21.1	1.50	.033	.64	58.3	19.1	3.76	47.5
MAX	4.0	8.1	25	394	146	21	.53	5.0	390	151	63	352
MIN	.00	.00	.00	.00	.16	.00	.00	.00	.00	.88	.00	.07
AC-FT	61	71	93	3610	1170	92	1.9	39	3470	1170	231	2820

CAL YR 1977 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1978 TOTAL 6470.01 MEAN 17.7 MAX 394 MIN .00 AC-FT 12830

NOTE.--No gage-height record June 2-7.

08072760 LANGHAM CREEK AT STATE HIGHWAY 6 NEAR ADDICKS, TX--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	.26	35	3[illegible]	15	.68	6.2	7.3	8.3	.26	4.1	11
2	1.8	.18	20	[illegible]3	10	.79	49	3.1	11	.24	4.4	16
3	28	.23	14	100	20	1.5	261	1.8	6.7	.27	7.4	16
4	5.4	.11	16	46	30	.78	155	212	12	.23	4.3	17
5	2.3	.20	19	53	294	.62	51	272	12	.30	5.1	19
6	3.2	14	24	280	441	.73	24	105	19	.53	3.9	26
7	.71	3.4	67	407	297	.47	17	39	10	104	5.4	84
8	.95	3.0	89	260	120	.29	9.5	16	3.5	161	7.1	65
9	2.3	2.0	53	120	55	.29	5.0	6.6	1.9	59	9.6	28
10	1.7	1.5	23	61	25	.49	2.6	2.4	1.2	7.9	8.2	13
11	.36	2.0	11	82	15	.38	1.6	1.8	.95	3.6	3.0	9.0
12	.15	1.1	6.1	67	9.5	.27	1.2	1.0	.64	1.9	2.3	8.0
13	1.3	.94	3.8	39	6.9	1.5	.97	.63	.74	.93	1.5	7.0
14	4.1	1.1	3.1	22	4.5	.20	.72	.39	.55	1.2	7.9	8.0
15	3.5	.86	2.3	12	3.1	.12	.45	.32	.29	1.5	6.3	7.0
16	2.2	.96	2.2	7.5	2.1	.11	.36	.29	.20	2.2	3.5	6.0
17	1.6	1.3	2.1	6.3	12	.27	.46	.25	.23	2.3	4.1	5.0
18	3.3	.73	1.2	5.4	47	.33	45	.29	.27	1.6	3.5	50
19	2.6	15	.78	71	23	16	206	.60	.26	2.1	1.9	721
20	1.6	10	.59	85	9.4	20	300	.55	.21	2.5	.73	928
21	1.0	5.9	.45	40	5.8	32	163	1.2	.15	6.2	1.5	640
22	.70	3.1	.35	25	4.6	119	53	182	.14	19	2.5	477
23	.52	3.5	.30	15	3.6	86	28	147	.33	21	3.0	362
24	.38	2.7	.26	10	3.0	16	16	32	.23	30	2.5	255
25	.29	1.2	.22	7.5	3.8	5.5	8.6	6.1	.20	52	2.0	167
26	.25	122	.20	6.0	3.0	2.9	4.9	8.6	.16	42	4.0	112
27	.20	302	.20	5.0	1.4	1.6	2.6	8.3	.20	54	5.0	68
28	.14	197	.28	4.5	.98	1.7	1.6	5.0	.23	71	8.8	44
29	.03	118	5.9	4.0	---	1.5	20	29	.23	56	15	25
30	.01	75	10	35	---	1.6	26	17	.25	34	7.8	17
31	.31	---	82	30	---	26	---	15	---	13	9.0	---
TOTAL	75.20	889.27	493.33	2473.2	1465.68	339.62	1460.76	1122.52	92.06	751.76	155.33	4211.0
MEAN	2.43	29.6	15.9	79.8	52.3	11.0	48.7	36.2	3.07	24.3	5.01	140
MAX	28	302	89	407	441	119	300	272	19	161	15	928
MIN	.01	.11	.20	4.0	.98	.11	.36	.25	.14	.23	.73	5.0
AC-FT	149	1760	979	4910	2910	674	2900	2230	183	1490	308	8350

CAL YR 1978 TOTAL 7814.18 MEAN 21.4 MAX 394 MIN .00 AC-FT 15500
WTR YR 1979 TOTAL 13529.73 MEAN 37.1 MAX 928 MIN .01 AC-FT 26840

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	86	1.4	6.8	3.0	1.0	4.3	.50	.29	.63	4.1	2.4
2	9.9	32	.76	3.4	2.0	.50	2.9	.56	.29	.71	3.0	.89
3	12	8.1	.55	46	1.5	.20	2.0	.72	.19	.55	2.0	.86
4	6.7	2.8	.25	12	1.0	.05	1.2	1.5	.18	.48	3.0	.55
5	3.6	1.3	.16	5.2	.70	.01	1.1	.61	.25	.45	2.0	.60
6	2.9	1.3	1.7	2.8	.60	.00	1.0	.40	.21	.45	1.5	14
7	1.7	.73	.43	1.7	.50	.00	1.2	1.4	.19	.46	7.0	15
8	1.3	.41	.05	1.1	50	.00	.78	1.9	.25	.44	3.0	13
9	.94	1.5	.04	1.2	350	.01	.74	1.1	65	.46	2.0	12
10	1.6	.80	.05	1.3	200	.00	.92	.57	37	.45	1.5	12
11	4.1	.51	.03	1.9	80	.00	.80	.73	3.4	.44	1.2	7.0
12	4.1	.33	176	1.4	30	.01	.89	.74	.95	.41	1.0	3.5
13	4.3	.18	378	1.0	10	.02	1.4	.95	.54	.47	.90	2.5
14	2.1	.13	226	.87	7.0	.00	.79	2.7	.44	.50	.80	2.0
15	1.5	.12	106	.74	6.0	.02	.59	20	.48	.59	.70	1.5
16	1.2	.10	63	.70	20	.01	.70	13	.32	.65	.65	1.2
17	.91	.06	36	15	25	.01	.78	34	.29	.61	.62	1.5
18	.72	.05	19	6.0	10	.00	.78	3.4	.38	.50	.60	1.2
19	.72	28	10	3.1	5.0	.01	.46	254	.35	.39	.57	4.0
20	.48	236	6.3	68	2.5	2.9	.61	162	.35	2.6	.55	3.0
21	.33	319	4.8	519	1.5	.11	.67	37	.33	3.9	.52	2.0
22	2.1	340	3.8	563	1.0	.10	.49	6.9	15	1.4	.50	1.5
23	.27	290	6.0	406	.70	.10	.45	3.6	2.0	5.5	.48	1.2
24	.42	190	13	235	.45	.07	.66	1.1	.41	7.5	.46	3.0
25	.33	105	7.3	140	.30	.01	1.6	.78	.40	6.5	.45	10
26	.23	63	3.9	70	.20	.07	3.9	.73	.47	14	.44	5.0
27	.17	40	2.5	40	.15	85	1.5	.63	.35	18	.43	3.0
28	.12	20	6.3	20	.12	250	1.1	.53	.35	24	.43	2.0
29	.30	8.1	61	12	.10	92	.81	.41	.48	25	5.5	2.0
30	62	3.2	39	7.0	---	31	.58	.46	.71	17	.64	35
31	176	---	15	4.5	---	8.3	---	.30	---	7.6	.52	---
TOTAL	313.04	1778.72	1188.32	2196.71	809.32	471.51	35.70	553.22	131.85	142.64	47.06	163.40
MEAN	10.1	59.3	38.3	70.9	27.9	15.2	1.19	17.8	4.40	4.60	1.52	5.45
MAX	176	340	378	563	350	250	4.3	254	65	25	7.0	35
MIN	.12	.05	.03	.70	.10	.00	.45	.30	.18	.39	.43	.55
AC-FT	621	3530	2360	4360	1610	935	71	1100	262	283	93	324

CAL YR 1979 TOTAL 15352.01 MEAN 42.1 MAX 928 MIN .03 AC-FT 30450
WTR YR 1980 TOTAL 7831.49 MEAN 21.4 MAX 563 MIN .00 AC-FT 15530

NOTE.--No gage-height record Jan. 25 to Mar. 5.

08073000 ADDICKS RESERVOIR NEAR ADDICKS, TX

LOCATION.--Lat 29°47'28", long 95°37'24", Harris County, Hydrologic Unit 12040104, at dam on South Mayde Creek, 65 ft (20 m) upstream from reservoir outlet works, 2,700 ft (823 m) upstream from U.S. Highway 90, 1.2 mi (1.9 km) east of Addicks, and 1.4 mi (2.3 km) upstream from mouth.

DRAINAGE AREA.--129 mi² (334 km²). Prior to Aug. 1, 1977, 133 mi² (344 km²). Basin boundary change to relocation of drainage ditches. During extreme floods, basin may receive and (or) lose runoff due to basin interchange.

PERIOD OF RECORD.--June 1948 to current year. In October 1973, the upper gages were converted to flood-hydrograph partial-record stations.

REVISED RECORDS.--WDR TX-77-1: Drainage area.

GAGE.--Water-stage recorders. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--The reservoir is formed by a rolled earthfill dam 61,166 ft (18,643 m) long. The dam was completed in December 1948. The reservoir is operated for flood protection for the city of Houston. The outlet works consist of five concrete conduits 8 by 6 ft (2.4 by 1.8 m) wide, each controlled by a vertical slide gate. Runoff in excess of maximum design capacity will be discharged around both ends of dam. Corps of Engineers gage-height telemetry at station. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	123.5	-
Ground elevation at ends of dam	114.0	204,500
Design flood	113.0	188,030
Crest of spillway (invert)	73.0	0

COOPERATION.--The capacity curve, furnished by the Corps of Engineers, was based on a survey made in 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 37,460 acre-ft (46.2 hm³) May 15, 1968, elevation, 100.02 ft (30.486 m); minimum, reservoir was dry at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1935 reached a stage of 89.9 ft (27.40 m) at bridge on U.S. Highway 90, 2,700 ft (823 m) downstream from gage, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 17,580 acre-ft (21.7 hm³) Oct. 1, elevation, 96.57 ft (29.435 m); minimum, reservoir was dry for many days.

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

73.7	0	84.0	135	91.0	2,970
76.0	7	85.0	189	92.0	4,260
78.0	22	86.5	385	93.5	7,100
80.0	46	88.5	1,020	96.0	15,140
82.0	82	90.0	2,020	97.0	19,600

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15910.00	1220.0	.58	.58	1030.00	.0	4870.0	.00	.00	.00	.00	.00
2	14310.00	926.0	.13	.00	559.00	.0	3780.0	.00	.00	.00	.00	.00
3	12580.00	540.0	.00	34.90	227.00	.0	2550.0	.00	.00	.00	.00	.00
4	10860.00	230.0	.00	22.60	93.50	.0	1300.0	.00	.00	.00	.00	.00
5	9230.00	93.5	.00	1.20	1.20	.0	360.0	.00	.00	.00	.00	.00
6	7640.00	.4	.00	.58	.00	.0	40.9	.00	.00	.00	.00	96.30
7	6020.00	.0	.00	.13	.00	.0	.0	.00	.00	.00	2.30	245.00
8	4570.00	.0	.00	.00	60.40	.0	.0	.00	.00	.00	.00	224.00
9	3180.00	.0	.00	.00	735.00	.0	.0	.00	30.30	.00	.00	99.00
10	1860.00	.0	.00	.00	1650.00	.0	.0	.00	16.00	.00	.00	31.10
11	776.00	.0	.00	.00	1650.00	.0	.0	.00	.78	.00	.00	1.50
12	217.00	.0	183.00	.00	1270.00	.0	.0	.00	.00	.00	.00	.63
13	93.50	.0	1440.00	.00	815.00	.0	.0	.00	.00	.00	.00	.10
14	42.80	.0	2220.00	.00	441.00	.0	.0	.08	.00	.00	.00	.00
15	13.50	.0	2150.00	.00	189.00	.0	.0	23.00	.00	.00	.00	.00
16	2.00	.0	1650.00	.00	98.10	.0	.0	4.40	.00	.00	.00	.00
17	.00	.0	1000.00	10.90	34.60	.0	.0	9.00	.00	.00	.00	.00
18	.25	.0	415.00	2.50	1.10	.0	.0	1.30	.00	.00	.00	.00
19	.00	.0	121.00	1.20	.63	.0	.0	466.00	.00	.28	.00	.18
20	.00	198.0	1.00	44.10	.30	1.4	.0	1170.00	.00	.00	.00	.00
21	.00	683.0	.08	2530.00	.00	.0	.0	1430.00	.00	.00	.00	.00
22	.85	1680.0	.00	8040.00	.00	.0	.0	1030.00	.00	.50	.00	.00
23	.00	2540.0	.98	11380.00	.00	.0	.0	460.00	.00	.48	.00	.00
24	.00	2540.0	1.10	12060.00	.00	.0	.0	181.00	.00	.38	.00	.00
25	.00	1940.0	.50	11380.00	.00	.0	.0	68.30	.00	.60	.00	.88
26	.00	1140.0	.00	9990.00	.00	.0	.0	.00	.00	.88	.00	1.10
27	.45	402.0	.00	7550.00	.00	327.0	.0	.00	.00	.70	.00	.70
28	.23	84.8	.00	5650.00	.00	2220.0	.0	.00	.00	1.30	.00	.30
29	.00	4.8	16.60	4350.00	.00	4210.0	.0	.00	.00	3.50	.55	.18
30	78.20	1.2	19.80	3050.00	---	5370.0	.0	.00	.00	.55	.00	50.20
31	545.00	---	1.70	1860.00	---	5500.0	---	.00	---	.05	.00	---
MAX	15910	2540	2220	12060	1650	5500	4870	1430	30	3.5	2.3	245
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1979 MAX 25480 MIN .00
WTR YR 1980 MAX 15910 MIN .00

08073500 BUFFALO BAYOU NEAR ADDICKS, TX

LOCATION.--Lat 29°45'42", long 95°36'20", Harris County, Hydrologic Unit 12040104, near right bank at bridge on Dairy-Ashford Road over rectified channel, 1.8 mi (2.9 km) downstream from South Mayde Creek, and 2.6 mi (4.2 km) southeast of Addicks.

DRAINAGE AREA.--293 mi² (759 km²), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.40 ft (0.427 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted to land-surface subsidence. Prior to Feb. 2, 1948, water-stage recorder at bridge on natural channel 1,200 ft (370 m) to right at same datum. Feb. 2 to May 21, 1948, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records fair. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 3.2 and 3.0 mi (5.1 and 4.8 km) upstream, respectively, total capacity 315,900 acre-ft (390 hm³). Extreme low flow is sustained by drainage from irrigated lands.

AVERAGE DISCHARGE.--35 years, 208 ft³/s (5.891 m³/s), 150,700 acre-ft/yr (186 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s (317 m³/s) Aug. 29, 1945, gage height, 81.23 ft (24.759 m), former site; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 85.6 ft (26.09 m) in December 1935, adjusted to former site from floodmark 0.5 mi (0.8 km) downstream, on basis of slope of flood of Aug. 29, 1945, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,800 ft³/s (51.0 m³/s) Jan. 25 at 1200 hours, gage height, 63.23 ft (19.273 m); maximum gage height, 63.35 ft (19.309 m) Oct. 1 at 1130 hours; minimum daily discharge, 11 ft³/s (0.31 m³/s) Jan. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1630	140	52	124	1460	42	857	26	28	26	94	33
2	1610	350	43	64	1430	29	1210	52	27	26	73	37
3	1600	630	35	350	1370	24	1270	32	25	24	58	34
4	1580	594	27	508	1290	26	1470	22	25	25	52	31
5	1560	536	24	399	1130	27	1410	18	26	24	41	66
6	1540	324	22	172	399	24	1260	16	26	24	33	334
7	1520	49	20	63	39	22	504	29	23	25	88	224
8	1500	35	19	36	231	24	37	30	22	26	73	540
9	1460	34	17	22	681	22	25	33	216	25	35	1000
10	1430	35	16	18	804	21	22	25	420	25	29	1080
11	1360	31	16	16	794	22	20	21	311	28	27	888
12	1160	28	480	14	771	22	18	21	86	33	25	651
13	943	25	489	13	746	21	44	22	53	35	23	232
14	740	21	1120	11	737	18	25	49	44	34	21	81
15	501	17	1480	11	690	18	20	93	41	31	58	61
16	150	16	1430	11	598	19	18	357	37	47	46	52
17	60	16	1360	110	437	23	17	428	35	43	38	44
18	47	16	1190	315	216	24	16	347	34	36	30	41
19	57	19	782	285	81	21	16	386	32	40	25	42
20	50	286	412	297	59	44	15	710	32	44	24	42
21	47	633	67	1080	48	42	15	702	30	81	25	40
22	60	716	48	764	42	24	15	488	142	84	24	44
23	50	846	138	676	37	21	15	1090	46	78	25	40
24	33	1170	125	1370	32	24	15	691	36	74	28	47
25	30	1380	140	1770	28	21	60	609	30	79	29	104
26	32	1360	66	1680	25	21	30	444	27	89	25	100
27	33	1300	44	1650	25	610	20	42	26	104	41	110
28	39	1190	36	1600	25	616	18	35	27	123	27	100
29	38	683	353	1570	25	773	16	36	27	201	40	81
30	300	70	459	1540	---	300	16	55	25	208	51	304
31	450	---	359	1510	---	355	---	39	---	139	40	---
TOTAL	21610	12550	10869	18049	14250	3300	8494	6948	1959	1881	1248	6483
MEAN	697	418	351	582	491	106	283	224	65.3	60.7	40.3	216
MAX	1630	1380	1480	1770	1460	773	1470	1090	420	208	94	1080
MIN	30	16	16	11	25	18	15	16	22	24	21	31
AC-FT	42860	24890	21560	35800	28260	6550	16850	13780	3890	3730	2480	12860

CAL YR 1979 TOTAL 152939 MEAN 419 MAX 1740 MIN 16 AC-FT 303400
WTR YR 1980 TOTAL 107641 MEAN 294 MAX 1770 MIN 11 AC-FT 213500

08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: August 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT										
04...	0900	1800	112	6.8	25.0	70	12	3.1	37	6.2
11...	0935	1550	165	6.9	22.0	100	4.3	2.9	33	14
15...	1005	496	251	7.1	21.0	110	3.8	6.8	76	4.0
NOV										
28...	1055	1200	139	6.9	14.0	160	50	9.1	86	4.5
JAN										
29...	1255	1570	96	6.7	12.0	140	96	7.0	64	3.2
MAY										
19...	1130	489	200	6.7	23.0	--	--	7.0	80	6.5
21...	0950	1150	110	6.7	24.0	160	160	5.6	66	5.8
AUG										
04...	1140	52	600	7.6	28.0	30	39	6.5	82	4.5
SEP										
09...	1130	985	190	7.1	26.0	86	72	7.3	89	3.5

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
04...	10000	40	40	38	0	11	2.5	6.3	.4
11...	12000	K14	350	52	0	15	3.6	9.2	.6
15...	3100	40	60	--	--	--	--	--	--
NOV									
28...	6700	240	620	--	--	--	--	--	--
JAN									
29...	2000	190	240	--	--	--	--	--	--
MAY									
19...	31000	5200	8100	58	2	19	2.6	14	.8
21...	6700	1400	820	--	--	--	--	--	--
AUG									
04...	13000	820	98	150	0	48	7.6	65	2.3
SEP									
09...	15000	1000	1300	--	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT									
04...	4.0	48	0	4.6	7.6	.1	9.6	69	21
11...	5.1	73	0	6.3	14	.1	15	104	19
15...	--	--	--	--	--	--	--	--	12
NOV									
28...	--	--	--	--	--	--	--	--	15
JAN									
29...	--	--	--	--	--	--	--	--	30
MAY									
19...	3.7	68	0	11	15	.7	8.7	108	--
21...	--	--	--	--	--	--	--	--	95
AUG									
04...	6.1	200	0	17	80	.4	25	348	67
SEP									
09...	--	--	--	--	--	--	--	--	76

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
04...	17	.00	.02	.01	.03	1.2	1.2	.180	12
11...	3	.00	.02	.01	.12	1.5	1.6	.310	23
15...	13	.00	.04	.04	.22	1.9	2.1	.560	15
NOV									
28...	0	.10	.02	.12	.14	.00	.11	.280	12
JAN									
29...	20	.07	.01	.08	.06	1.0	1.1	.190	12
MAY									
19...	--	--	--	--	--	--	--	--	--
21...	13	.43	.04	.47	.24	1.2	1.4	.350	13
AUG									
04...	30	.87	.12	.99	.35	1.2	1.5	.870	9.1
SEP									
09...	8	.07	.03	.10	.08	1.1	1.2	.440	11

08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY 19...	1130	3	90	<1	0	4	80
AUG 04...	1140	5	200	<1	10	1	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 19...	0	6	.1	0	0	10
AUG 04...	0	<1	.0	0	0	<3

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAY 19...	1130	.0	.00	.00	.0	.00	.00	.00	.20
AUG 04...	1140	.0	.00	.00	.0	.00	.00	.00	.19

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
MAY 19...	.00	.00	.00	.00	<.05	.00	.00	.01	.00
AUG 04...	.00	.00	.00	.00	.00	.00	.02	.01	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 19...	.00	.00	.00	.00	0	.00	.24	.01	.00
AUG 04...	.00	.00	.00	.00	0	.00	.21	.03	.02

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX

LOCATION.--Lat 29°45'43", long 95°33'27", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on West Belt Drive in west Houston, 100 ft (30 m) downstream from Rummel Creek, 3.5 mi (5.6 km) downstream from station 08073500, and 3.7 mi (6.0 km) upstream from station 08073700.

DRAINAGE AREA.--307 mi² (795 km²), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1971 to current year.

GAGE.--Water-stage recorders and crest-stage gage. Datum of gage is 0.67 ft (0.204 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records fair. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 10.1 and 10.3 mi (16.3 and 16.6 km) upstream, respectively. Low flow is sustained by sewage effluent from Houston suburbs. The Corps of Engineers has a gage-height telemeter at station.

AVERAGE DISCHARGE.--9 years, 322 ft³/s (9.119 m³/s), 233,300 acre-ft/yr (288 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft³/s (107 m³/s) Mar. 20, 1972, gage height, 62.15 ft (18.943 m); minimum daily, 25 ft³/s (0.71 m³/s) Nov. 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,810 ft³/s (51.3 m³/s) June 22 at 1830 hours, gage height, 53.72 ft (16.374 m); minimum daily, 36 ft³/s (1.02 m³/s) Jan. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1590	178	85	166	1450	88	754	72	51	48	114	60
2	1580	500	69	99	1420	67	1160	95	51	47	97	66
3	1570	698	59	369	1360	56	1220	72	48	45	81	62
4	1560	669	54	465	1280	62	1440	58	48	46	75	58
5	1550	615	50	396	1140	61	1400	52	49	44	68	113
6	1540	374	46	209	504	54	1270	47	46	44	56	486
7	1530	89	45	110	82	53	542	79	44	46	137	255
8	1510	70	44	79	342	56	79	79	43	47	105	411
9	1480	66	42	52	678	54	64	76	307	45	63	958
10	1450	70	39	44	763	51	58	61	436	46	52	1090
11	1400	63	41	42	764	51	56	52	331	49	50	967
12	1240	62	735	40	740	53	57	53	107	55	46	746
13	1030	56	472	38	714	51	104	64	64	58	43	360
14	896	55	979	36	737	47	65	119	55	57	41	115
15	566	48	1440	36	702	49	56	124	51	49	137	90
16	323	51	1420	36	628	53	51	398	48	69	79	76
17	88	51	1350	201	438	73	47	489	44	66	63	69
18	81	51	1230	293	261	58	51	341	44	56	53	65
19	86	54	823	314	132	53	49	536	42	59	47	65
20	79	275	437	393	107	92	44	668	41	66	43	67
21	77	711	125	1370	94	76	47	810	60	202	45	67
22	81	850	90	1150	84	49	48	456	459	109	44	73
23	76	880	191	642	77	49	47	1020	169	97	43	65
24	68	1120	168	1250	70	52	51	716	68	91	45	70
25	62	1340	165	1740	64	44	168	630	57	93	48	134
26	64	1370	104	1710	58	52	87	421	53	103	45	166
27	63	1310	77	1660	59	935	65	69	50	112	62	144
28	73	1210	64	1610	61	697	55	62	50	165	47	127
29	70	848	353	1570	59	1160	50	63	49	262	87	108
30	290	126	406	1550	---	374	50	78	48	225	96	423
31	367	---	357	1500	---	302	---	64	---	156	77	---
TOTAL	22440	13860	11560	19170	14868	4972	9235	7924	3013	2657	2089	7556
MEAN	724	462	373	618	513	160	308	256	100	85.7	67.4	252
MAX	1590	1370	1440	1740	1450	1160	1440	1020	459	262	137	1090
MIN	62	48	39	36	58	44	44	47	41	44	41	58
AC-FT	44510	27490	22930	38020	29490	9860	18320	15720	5980	5270	4140	14990

CAL YR 1979 TOTAL 167000 MEAN 458 MAX 2410 MIN 39 AC-FT 331200
WTR YR 1980 TOTAL 119344 MEAN 326 MAX 1740 MIN 36 AC-FT 236700

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX --Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyes: December 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1979 to current year.
WATER TEMPERATURES: June 1979 to current year.

REMARKS.--Mean monthl and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 922 micromhos June 25, 1979; minimum daily, 90 micromhos Jan. 25, 1980.
WATER TEMPERATURES: Maximum daily, 30.5°C July 1, 1978; minimum daily, 9.0°C Feb. 11, 12, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 865 micromhos Mar. 15; minimum daily, 90 micromhos Jan. 25.
WATER TEMPERATURES: Maximum daily, 29.0°C July 13, 15, 16, 20; minimum daily, 9.0°C Feb. 11, 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT												
15...	1100	582	284	7.2	21.5	110	8.1	6.5	73	9.0	4400	84
17...	1230	93	620	7.5	26.0	30	32	8.7	106	8.0	--	270
NOV												
13...	1200	62	820	7.5	22.0	--	200	4.3	48	8.1	--	20000
28...	1235	1210	153	6.8	14.0	120	42	9.1	86	4.9	4100	140
DEC												
13...	1005	216	230	7.4	12.0	--	140	11.8	106	4.7	--	620
JAN												
08...	1145	94	500	8.0	15.0	--	57	10.2	100	8.0	--	88
29...	1330	1570	104	6.8	13.0	120	110	7.7	72	4.0	7000	250
FEB												
05...	1130	1150	157	7.1	11.5	--	71	9.8	88	1.9	--	94
MAR												
04...	1150	66	800	7.8	18.0	--	26	8.3	87	5.8	--	K1
APR												
01...	1255	734	148	7.3	18.0	--	180	8.8	93	4.4	--	K6
MAY												
06...	1045	53	780	7.7	24.5	10	14	6.0	71	7.1	--	K3
19...	1245	708	230	6.8	23.0	160	200	6.5	75	14	16000	4600
JUN												
10...	1110	450	275	7.3	25.0	30	350	6.7	80	15	--	80
JUL												
08...	1145	50	800	7.7	29.5	15	4.7	5.2	68	2.4	--	130
AUG												
04...	1240	81	700	7.6	29.0	25	22	5.9	77	5.2	190	K18
19...	1025	47	820	8.0	28.0	--	15	4.7	59	.7	--	K2
SEP												
04...	1035	58	730	7.8	27.5	30	34	5.5	69	3.7	--	K1
09...	1235	934	213	7.3	27.0	76	92	6.9	85	4.8	3200	290

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT												
15...	34	--	--	--	--	--	--	--	--	--	--	--
17...	200	120	0	35	6.7	77	3.1	5.8	200	0	22	66
NOV												
13...	14000	120	0	37	7.2	120	4.7	8.0	290	0	34	90
28...	42	--	--	--	--	--	--	--	--	--	--	--
DEC												
13...	2200	63	7	19	3.8	22	1.2	5.1	69	0	19	23
JAN												
08...	24	110	0	32	6.3	58	2.5	6.1	180	0	23	55
29...	150	--	--	--	--	--	--	--	--	--	--	--
FEB												
05...	40	43	0	13	2.6	13	.9	3.2	54	0	7.1	12
MAR												
04...	K1	160	0	50	9.3	96	3.3	6.4	280	0	29	88
APR												
01...	K12	36	0	11	2.1	13	.9	3.4	46	0	12	11
MAY												
06...	K4	140	0	43	7.9	120	4.4	6.9	280	0	36	89
19...	1600	60	0	19	3.0	17	1.0	3.8	76	0	15	17
JUN												
10...	210	62	0	20	3.0	28	1.5	6.1	77	0	21	31
JUL												
08...	150	130	0	41	7.7	120	4.5	7.5	290	0	37	92
AUG												
04...	K2	140	0	43	7.2	93	3.5	6.5	250	0	23	90
19...	K1	140	0	42	7.6	100	3.7	9.2	270	0	39	90
SEP												
04...	K1	140	0	42	7.7	92	3.4	7.9	260	0	25	85
09...	250	--	--	--	--	--	--	--	--	--	--	--

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
OCT												
15...	--	--	--	--	17	16	.00	.100	.05	--	.400	--
17...	.4	21	350	335	--	--	--	--	.18	.62	7.200	5.100
NOV												
13...	.4	26	406	466	--	--	--	--	.66	.15	16.000	9.700
28...	--	--	--	--	8	0	.10	.050	.15	--	.500	--
DEC												
13...	.2	11	168	141	--	--	--	--	.84	.68	.660	.640
JAN												
08...	.3	14	280	285	--	--	--	--	.50	.37	3.000	2.400
29...	--	--	--	--	36	2	.07	.010	.08	--	.240	--
FEB												
05...	.1	7.0	95	86	--	--	--	--	.20	.20	.460	.460
MAR												
04...	.4	19	412	439	--	--	--	--	.91	.46	7.200	6.600
APR												
01...	.2	.1	97	78	--	--	--	--	.52	.47	.950	.860
MAY												
06...	.4	22	457	464	29	0	--	--	.47	1.5	2.500	5.400
19...	.2	9.0	--	122	244	22	.60	.140	.74	--	.780	--
JUN												
10...	.4	7.8	166	156	408	48	--	--	.94	.94	.550	.550
JUL												
08...	.7	23	455	486	3	1	--	--	1.6	1.6	5.500	5.600
AUG												
04...	.4	26	--	413	25	28	.53	.440	.97	--	3.400	--
19...	.5	24	434	449	--	--	--	--	1.2	1.1	6.300	6.300
SEP												
04...	.5	24	351	410	36	2	--	--	1.1	1.2	4.600	4.500
09...	--	--	--	--	84	6	.09	.030	.12	--	.380	--

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT												
15...	1.5	--	1.9	--	.750	--	14	--	--	--	--	--
17...	.00	.00	4.0	.65	.070	.180	27	--	--	72	18	75
NOV												
13...	36	38	52	48	.040	.040	260	--	--	313	52	93
28...	1.1	--	1.6	--	.360	--	12	--	--	--	--	--
DEC												
13...	1.6	1.2	2.3	1.8	.750	.510	--	9.9	1.1	205	120	90
JAN												
08...	5.8	1.8	8.8	4.2	2.300	1.700	24	--	--	118	30	98
29...	1.2	--	1.4	--	.240	--	14	--	--	--	--	--
FEB												
05...	1.2	.45	1.7	.91	.350	.210	14	--	--	58	180	66
MAR												
04...	4.8	3.3	12	9.9	2.800	2.400	--	15	3.3	42	7.5	91
APR												
01...	2.8	1.2	3.7	2.1	.560	.410	12	--	--	184	365	88
MAY												
06...	5.7	--	8.2	--	2.600	1.600	26	--	--	23	3.3	96
19...	1.8	--	2.6	--	.790	--	19	--	--	--	--	--
JUN												
10...	2.4	2.0	2.9	2.5	1.400	.780	--	13	--	595	723	99
JUL												
08...	1.8	.20	7.3	5.8	3.800	2.500	13	--	--	7	.94	93
AUG												
04...	1.2	--	4.6	--	1.200	--	12	--	--	--	--	--
19...	3.6	2.3	9.9	8.6	2.500	2.200	16	--	--	16	2.0	88
SEP												
04...	9.4	1.8	14	6.3	2.600	2.700	--	13	.8	45	7.0	97
09...	1.2	--	1.6	--	.560	--	28	--	--	--	--	--

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS-PENDED TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, SUS-PENDED RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM SUS-PENDED RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
NOV											
13...	1200	--	--	--	--	--	--	--	--	--	--
DEC											
13...	1005	4	1	3	300	200	70	2	1	<1	24
FEB											
05...	1130	--	--	--	--	--	--	--	--	--	--
MAR											
04...	1150	4	1	3	300	100	200	6	5	<1	10
MAY											
06...	1045	--	--	--	--	--	--	--	--	--	--
19...	1245	--	--	4	--	--	80	--	--	<1	--
JUN											
10...	1110	5	0	5	200	100	100	0	--	<1	10
AUG											
04...	1240	--	--	4	--	--	200	--	--	<1	--
19...	1025	--	--	--	--	--	--	--	--	--	--
SEP											
04...	1035	7	2	5	200	0	200	3	--	<1	10

DATE	CHRO-MIUM, SUS-PENDED RECOV. (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, SUS-PENDED RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, SUS-PENDED RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
13...	24	0	2	0	<3	15	15	0	3800	3500	270
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
04...	10	0	0	0	<3	7	7	0	650	630	20
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
19...	--	0	--	--	--	--	--	5	--	--	70
JUN											
10...	10	0	3	--	<3	12	7	5	9100	9000	70
AUG											
04...	--	0	--	--	--	--	--	2	--	--	10
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	10	0	1	--	<3	5	1	4	680	650	30

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY SUS-PENDED RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, SUS-PENDED RECOV-ERABLE (UG/L AS NI)
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
13...	190	190	0	160	130	30	.2	.1	.1	5	1
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
04...	29	23	6	110	20	90	.1	.1	.0	0	0
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	0	--	--	2	--	--	.1	--	--
JUN											
10...	20	20	0	240	240	4	.3	.3	.0	9	4
AUG											
04...	--	--	0	--	--	6	--	--	.1	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	47	28	19	70	40	30	.3	.1	.2	4	2

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, SUS-PENDED TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, SUS-PENDED RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, SUS-PENDED RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV										
13...	--	--	--	--	3	--	--	--	--	--
DEC										
13...	4	0	0	0	1	0	1	160	140	20
FEB										
05...	--	--	--	--	0	--	--	--	--	--
MAR										
04...	0	0	0	0	0	0	0	30	10	20
MAY										
06...	--	--	--	--	0	--	--	--	--	--
19...	--	--	--	0	--	--	0	--	--	7
JUN										
10...	5	1	1	0	0	0	0	80	--	<3
AUG										
04...	--	--	--	0	--	--	0	--	--	5
19...	--	--	--	--	0	--	--	--	--	--
SEP										
04...	2	0	0	0	0	0	0	30	20	7

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAY									
19...	1245	.0	.00	.00	<.1	.00	.00	.00	.53
AUG									
12...	1240	.0	.00	.00	.0	.00	.00	.00	.83

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
MAY									
19...	<.01	.00	.00	.00	.00	.00	<.01	.07	.00
AUG									
12...	.00	.00	.00	.00	.00	.00	.09	.07	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
19...	.00	.00	.00	.00	0	.00	.34	.03	.01
AUG									
12...	.00	.00	.00	.01	0	.00	.35	.03	.00

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	MAR 4,80	MAY 6,80	JUN 10,80	JUL 8,80	AUG 19,80	SEP 4,80
TIME	1150	1045	1110	1145	1025	1035
TOTAL CELLS/ML	1100	13000	6300	1400	5000	990
DIVERSITY: DIVISION	1.4	0.3	1.0	1.5	0.4	0.6
.CLASS	1.4	0.3	1.0	1.5	0.4	0.6
..ORDER	2.0	0.6	1.5	2.0	0.8	1.1
...FAMILY	2.8	0.6	1.6	2.1	0.8	1.9
....GENUS	3.2	0.7	1.6	2.1	0.8	2.4

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...MICRACTINIACEAE												
....MICRACTINIUM	6	1	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	67	6	*	0	--	-	350#	25	--	-	13	1
....CHLORELLA	6	1	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	26	1	--	-
....KIRCHNERIELLA	12	1	*	0	--	-	--	-	--	-	--	-
....TETRAEDRON	12	1	*	0	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	*	0	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	73	6	210	2	430	7	--	-	100	2	26	3
....TETRASTRUM	49	4	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	*	0	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	230#	20	90	1	360	6	39	3	*	0	13	1
....MELOSIRA	12	1	--	-	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	72	1	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	--	-	72	1	--	-	--	-	--	-
....COCCONEIS	6	1	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE												
....CYMBELLA	6	1	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE												
....SYNEDRA	31	3	--	-	--	-	--	-	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	18	2	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....NAVICULA	86	8	--	-	--	-	13	1	39	1	--	-
...NITZSCHIACEAE												
....NITZSCHIA	370#	32	90	1	500	8	64	5	64	1	64	6
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOMONADACEAE												
....CRYPTOMONAS	6	1	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	--	-	260	2	570	9	210	15	330	7	--	-
....ANACYSTIS	--	-	220	2	--	-	--	-	64	1	100	10
..HORMOGONALES												
...NOSTOCACEAE												
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-	330#	34
...OSCILLATORIACEAE												
....LYNGBYA	--	-	--	-	--	-	--	-	--	-	230#	23
....OSCILLATORIA	--	-	12000#	92	4300#	68	640#	47	4400#	87	210#	21
....SCHIZOTHRIX	73	6	--	-	--	-	--	-	--	-	--	-
....SPIRULINA	43	4	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	31	3	*	0	--	-	39	3	*	0	--	-
....TRACHELOMONAS	--	-	*	0	--	-	13	1	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	--	-	13	1	--	-	--	-

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

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	22440	178	100	6040	16	983	11	658	45
NOV.	1979	13860	179	100	3750	16	615	11	404	45
DEC.	1979	11560	179	100	3120	16	508	11	338	45
JAN.	1980	19170	148	83	4280	13	690	9.2	474	38
FEB.	1980	14868	180	101	4030	16	655	11	441	45
MAR.	1980	4972	336	187	2510	34	452	16	221	69
APR.	1980	9235	210	117	2920	20	503	11	284	47
MAY	1980	7924	264	147	3140	25	536	15	313	61
JUNE	1980	3013	477	265	2160	47	386	24	194	100
JULY	1980	2657	612	339	2440	63	450	28	202	120
AUG.	1980	2089	576	320	1800	58	330	27	154	120
SEPT	1980	7556	285	159	3240	27	547	16	330	67
TOTAL		119344	**	**	39400	**	6650	**	4010	**
WTD. AVG.		326	219	122	**	21	**	12	**	52

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	333	325	225	111	535	131	781	624	748	558	450
2	110	178	380	323	123	545	115	570	640	752	575	560
3	115	150	435	244	130	668	109	650	665	760	588	638
4	123	160	485	167	137	733	108	700	702	750	649	693
5	129	188	520	178	144	737	110	716	718	753	675	642
6	127	213	576	250	209	740	127	742	708	752	694	200
7	128	398	649	307	495	767	205	667	733	748	460	235
8	151	549	675	394	350	800	513	666	735	757	496	220
9	159	586	690	528	217	814	612	645	425	751	563	200
10	164	638	682	597	175	775	662	633	300	764	620	175
11	183	640	690	640	135	826	685	690	374	750	657	208
12	207	681	200	661	136	820	703	703	400	724	701	226
13	203	693	264	663	143	821	600	732	472	745	707	235
14	204	712	127	695	137	836	627	403	520	789	737	253
15	273	745	106	736	176	865	720	475	550	729	400	475
16	370	728	103	742	215	864	733	296	637	701	388	510
17	569	740	112	500	209	858	788	190	666	673	500	544
18	635	753	123	319	264	861	814	207	677	676	647	578
19	629	797	148	340	324	851	803	199	694	671	725	668
20	638	291	167	388	394	600	804	176	710	664	697	650
21	635	165	296	142	450	612	822	118	731	510	685	640
22	534	150	390	158	495	631	825	294	320	528	692	550
23	576	144	350	170	529	632	827	141	389	558	700	570
24	631	130	325	108	531	714	834	150	584	616	702	565
25	646	124	330	90	609	793	600	163	650	650	729	450
26	651	120	375	95	662	768	617	275	697	638	715	384
27	699	125	406	92	704	175	614	426	702	637	650	400
28	704	137	472	100	693	193	656	569	725	570	705	415
29	596	154	286	106	701	120	700	615	724	450	517	455
30	400	272	150	105	---	144	739	654	736	472	411	323
31	230	---	175	109	---	236	---	623	---	508	399	---
MEAN	372	390	355	328	331	656	573	480	607	671	611	437

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

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

08073700 BUFFALO BAYOU AT PINEY POINT, TX

LOCATION.--Lat 29°44'48", long 95°31'24", Harris County, Hydrologic Unit 12040104, on downstream side of bridge on Piney Point Road, village of Piney Point, 3.7 mi (6.0 km) downstream from Rummel Creek, 7.2 mi (11.6 km) downstream from gage near Addicks (station 08073500), and 12.5 mi (20.1 km) upstream from gage at Houston (station 08074000).

DRAINAGE AREA.--317 mi^2 (821 km^2).

PERIOD OF RECORD.--October 1963 to September 1976, October 1976 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 1.35 ft (0.412 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Station is operated for the purpose of gate regulations at Barker and Addicks Reservoirs (stations 08072500 and 08073000), located 14.0 and 13.8 mi (22.5 and 22.2 km) upstream, respectively. Low flow is partly sustained by sewage effluent from Houston suburbs. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years (water years 1963-76), 265 ft^3/s (7.505 m^3/s), 192,000 acre-ft/yr (237 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,470 ft^3/s (127 m^3/s) June 13, 1973, gage height, 54.98 ft (16.758 m); maximum gage height, 55.15 ft (16.810 m) Sept. 19, 1979; minimum daily discharge, 6.0 ft^3/s (0.17 m^3/s) Dec. 6, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 45.63 ft (13.908 m) June 22 at 2100 hours; minimum, 32.65 ft (9.952 m) Aug. 14, 15.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.72	36.85	34.50	36.30	43.73	34.66	41.54	34.77	---	33.15	34.64	33.82
2	44.72	---	34.13	36.74	43.45	34.02	42.25	34.34	33.40	33.14	34.18	33.70
3	44.70	---	33.85	39.78	43.16	33.51	43.57	34.04	33.30	33.10	33.97	33.63
4	44.67	---	33.64	38.17	42.82	33.80	44.07	33.60	33.30	33.15	33.74	33.38
5	44.65	---	33.57	38.17	42.38	33.63	43.99	33.50	33.30	33.17	33.48	38.53
6	44.58	---	---	36.89	41.48	---	43.60	33.28	33.30	33.17	33.33	39.56
7	44.48	---	33.45	34.95	34.55	33.58	42.88	34.88	---	33.08	36.76	37.33
8	44.38	---	33.42	34.33	40.93	33.65	34.40	34.57	---	33.12	34.79	40.13
9	44.28	---	33.40	33.59	40.60	33.60	33.70	33.98	39.80	33.03	33.64	41.70
10	44.20	---	---	33.42	39.94	33.55	33.60	33.70	38.80	33.03	33.34	41.98
11	44.05	---	---	---	39.93	33.47	33.50	33.30	37.75	33.08	33.23	41.61
12	43.60	---	44.18	---	39.78	33.54	---	33.28	35.50	33.26	33.15	40.61
13	42.60	---	42.08	---	39.66	33.49	---	35.30	34.07	33.32	33.07	39.34
14	41.50	---	42.35	---	40.78	33.43	33.70	35.94	33.62	33.32	32.99	34.68
15	40.15	---	43.56	---	40.53	33.66	33.50	36.50	33.51	33.15	37.63	34.12
16	38.18	---	43.55	---	39.49	33.67	33.40	37.84	33.53	33.60	35.47	33.80
17	34.78	---	43.35	---	38.39	34.80	33.40	39.60	33.34	33.53	33.57	33.57
18	---	---	42.98	---	37.44	33.63	33.40	37.27	33.34	33.34	33.36	33.74
19	---	---	41.92	---	35.10	33.75	---	41.37	33.25	---	33.17	33.47
20	---	38.30	39.40	---	34.53	34.82	---	41.62	33.24	---	33.08	33.50
21	---	41.50	36.92	---	34.26	34.38	33.40	42.13	36.90	36.74	33.14	33.55
22	---	40.63	34.50	---	34.00	33.61	33.35	40.90	45.63	---	33.13	33.57
23	---	41.40	38.04	---	33.90	33.82	33.31	42.00	44.15	33.90	33.38	33.40
24	---	42.77	36.82	---	33.71	33.74	33.48	41.05	33.80	33.90	33.28	33.63
25	---	43.57	35.43	---	33.62	33.49	39.15	39.40	33.45	33.90	33.27	36.01
26	---	43.57	34.92	---	33.47	33.89	34.45	38.85	33.30	---	---	36.18
27	---	---	34.29	---	33.59	44.30	34.11	35.00	33.23	---	34.38	35.71
28	---	---	33.97	---	33.59	43.60	33.62	33.85	33.25	36.83	33.80	35.06
29	---	42.30	38.55	44.20	33.60	45.29	33.47	33.80	33.25	38.62	36.92	35.17
30	42.99	37.80	37.70	44.13	---	41.85	33.33	33.90	33.18	37.65	35.73	39.86
31	42.99	---	37.69	43.98	---	39.09	---	---	---	35.17	34.17	---
MAX	---	---	---	---	43.73	---	---	---	---	---	---	41.98
MIN	---	---	---	---	33.47	---	---	---	---	---	---	33.38

08074000 BUFFALO BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°45'36", long 95°24'30", Harris County, Hydrologic Unit 12040104, at bridge on Shepherd Drive in Houston and 0.8 mi (1.3 km) upstream from Waugh Drive.

DRAINAGE AREA.--358 mi^2 (927 km^2), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to September 1957, October 1957 to December 1961 (high-water records and discharge measurements), January 1962 to September 1975, October 1975 to current year (high-water records and discharge measurements).

REVISED RECORDS.--WSP 1732: Drainage area (former site).

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.36 ft (0.414 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted for land-surface subsidence. Prior to June 19, 1936, nonrecording gage, and June 19, 1936, to Jan. 16, 1962, water-stage recorder at site 0.8 mi (1.3 km) downstream at 4.08-foot (1.244 m) lower datum. Jan. 17, 1962, to Sept. 30, 1973, auxiliary water-stage recorder 0.8 mi (1.3 km) downstream. Water-stage recorder at Main Street (station 08074600) used as auxiliary gage after Sept. 30, 1973.

REMARKS.--Water-discharge records fair. Although floodflows are regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) located 26.3 and 26.8 mi (42.3 and 42.6 km) upstream, respectively, flood peaks from the urbanized areas below these reservoirs are often independent of the regulation. Discharge is computed using a stage-fall-discharge relationship for all storms which produce peak discharges above 1,500 ft^3/s (42.5 m^3/s). Discharges below 1,000 ft^3/s are computed or estimated following designated storm periods only. Low flow is mostly sustained by sewage effluent from Houston suburbs. Gage heights are affected by tides, backwater from Whiteoak Bayou, and other streams. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--8 years (water years 1936-44) unregulated, 272 ft^3/s (7.703 m^3/s), 197,100 acre-ft/yr (243 hm^3/yr); 26 years (water years 1944-57, 1962-75) regulated, 274 ft^3/s (7.760 m^3/s), 198,500 acre-ft/yr (245 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft^3/s (309 m^3/s) Aug. 30, 1945, gage height, 28.82 ft (8.784 m), at site 0.8 mi (1.3 km) downstream at present datum; minimum daily, 1.3 ft^3/s (0.037 m^3/s) May 24, 1939, Nov. 5, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--All flood data at site 0.8 mi (1.3 km) downstream at present datum. Maximum gage height since at least 1835, 49.0 ft (14.94 m) Dec. 9, 1935, discharge 40,000 ft^3/s (1,130 m^3/s); furnished by engineer for Harris County. Flood of May 31, 1929, reached a gage height of 43.5 ft (13.26 m), discharge 19,000 ft^3/s (538 m^3/s), at bridge on Capitol Avenue affected by bridge; furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Maxmum discharge, 3,630 ft^3/s (103 m^3/s) Jan. 22 at 1300 hours, gage height, 16.08 ft (4.901 m); minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1820	200	---	---	1550	---	715		---			---
2	1800	---	---	---	1540	---	1100		---			---
3	1780	---	---	---	1480	---	1240		---			---
4	1740	---	---	---	1400	---	1510		---			---
5	1740	---	---	---	1300	---	1470		---			192
6	1730	---	---	---	974	---	1420		---			1500
7	1690	---	---	---	250	---	1080		---			811
8	1660	---	---	---	632	---	179		---			484
9	1640	---	---	---	1070	---	---		---			923
10	1580	---	---	---	800	---	---		---			1220
11	1570	---	---	---	---	---	---		---			1210
12	1460	---	800	---	---	---	---		---			968
13	1220	---	600	---	---	---	---		---			690
14	1040	---	1000	---	---	---	---		---			200
15	800	---	1500	---	---	---	---		---			---
16	400	---	1500	---	---	---	---		---			---
17	---	---	1400	---	---	---	---		---			---
18	---	---	1300	---	---	---	---		---			---
19	---	---	900	---	---	---	---		---			---
20	---	159	500	893	---	---	---		---			---
21	---	839	---	1740	---	---	---		---			---
22	---	964	---	2680	---	---	---		399			---
23	---	801	---	1260	---	---	---		1090			---
24	---	1000	---	1070	---	---	---		77			---
25	---	1300	---	1630	---	---	---		---			---
26	---	1430	---	1920	---	---	---		---			---
27	---	1390	---	1810	---	1710	---		---			---
28	---	1300	---	1760	---	1570	---		---			---
29	---	1120	---	1720	---	1570	---		---			---
30	539	426	---	1670	---	1100	---		---			---
31	1050	---	---	1580	---	463	---		---			---
TOTAL	---	---	---	---	---	---	---		---			---
MEAN	---	---	---	---	---	---	---		---			---
MAX	---	---	---	---	---	---	---		---			---
MIN	---	---	---	---	---	---	---		---			---
AC-FT	---	---	---	---	---	---	---		---			---

CAL YR 1979 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1980 TOTAL - MEAN - MAX - MIN - AC-FT -

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 15...	1225	801	269	7.1	22.5	50	58	4.8	54	11	30000	6700
JAN 29...	1025	1710	120	6.6	13.0	160	110	8.0	75	4.7	28000	7000
JUL 16...	1125	60	780	7.3	29.0	25	2.1	3.0	38	34	1200000	460000
SEP 09...	1340	1040	218	7.5	27.0	80	160	6.5	80	14	84000	40000

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 15...	800	7	12	.00	.100	.08	.360	1.4	1.8	.770	16
JAN 29...	750	96	4	.09	.010	.10	.240	1.2	1.4	.380	14
JUL 16...	980	3	2	.94	.660	1.6	2.300	1.2	3.5	3.200	15
SEP 09...	2200	212	10	.19	.100	.29	.380	1.7	2.1	.730	17

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
JUL 16...	1125	5	100	<1	10	5	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUL 16...	0	<1	.1	1	0	8

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JUL 16...	1125	.0	.00	.04	.2	.00	.00	.00	.68

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
JUL 16...	.02	.00	.00	.00	.00	.01	.04	.03	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL 16...	.00	.00	.00	.00	0	.00	.00	.00	.00

08074145 BINGLE ROAD STORM SEWER AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°51'31", long 95°29'09", Harris County, Hydrologic Unit 12040104, over a 60-inch (152 mm) storm sewer in the center median at Bingle Road and 3,000 ft (914 m) north of station Cole Creek at Bingle Road, Houston (08074150).

DRAINAGE AREA.--0.21 mi^2 (0.54 km^2).

PERIOD OF RECORD.--May to current year.

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is arbitrary.

REMARKS.--Additional storm rainfall-runoff data for the period after May 16, 1980, can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980".

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110 ft^3/s (3.12 m^3/s), Sept. 6, 1980, elevation, 8.71 ft (2.655 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges for period May to September above base of 75 ft^3/s (2.12 m^3/s) and maximum (*)

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
June 9	0950	78	2.21	8.10	2.469
aJuly 21	1100	75	2.12	8.05	2.454
Sept. 6	0700	*110	3.12	8.71	2.655

a Water-quality smples were obtained during the runoff event.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: May to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JUN										
09...	0912	5.1	163	50	190	--	480000	12000	11000	462
09...	0921	29	--	--	--	>24	--	--	--	--
09...	0940	63	--	--	--	20	--	--	--	--
09...	0949	76	60	15	140	--	51000	7300	25000	488
09...	1007	30	--	--	--	12	--	--	--	--
09...	1017	16	75	30	140	--	25000	6700	15000	271
JUL										
21...	0938	6.1	--	--	--	4.7	6700	3000	60	--
21...	0953	17	--	--	--	5.0	2600	1200	360	--
21...	1103	67	--	--	--	9.9	56000	44000	580	--

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN									
09...	68	.81	.060	.87	.470	2.8	3.3	.710	54
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	148	.23	.030	.26	.190	1.8	2.0	.150	20
09...	--	--	--	--	--	--	--	--	--
09...	31	.25	.030	.28	.150	1.4	1.5	.180	20
JUL									
21...	--	1.8	.010	1.8	.060	1.3	1.4	.280	--
21...	--	2.1	.140	2.2	.030	2.3	2.3	.170	--
21...	--	.77	.060	.83	.140	1.6	1.7	.190	--

08074150 COLE CREEK AT DEIHL ROAD, HOUSTON, TX

LOCATION.--Lat 29°51'04", long 95°29'16", Harris County, Hydrologic Unit 12040104, on downstream side of bridge at Deihl Road in northwest Houston and 1.8 mi (2.9 km) upstream from mouth.

DRAINAGE AREA (revised).--7.50 mi² (19.42 km²). Prior to Oct. 1, 1976, 8.05 mi² (20.85 km²). Prior to Oct. 1, 1979, 7.33 mi² (18.98 km²). Drainage area changes are the result of drainage ditch relocations and extensions.

PERIOD OF RECORD.--April 1964 to current year. Gage at temporary location 1.0 mi (1.6 km) downstream at Antoine Drive May 18, 1965, to Sept. 1, 1966, due to bridge construction and channel rectification.

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair. No diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 7.63 ft³/s (0.216 m³/s), 5,530 acre-ft/yr (6.82 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft³/s (57.2 m³/s) Mar. 20, 1972, elevation, 78.60 ft (23.957 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Jan. 21	0500	545	15.4	75.11	22.894
Mar. 29	1200	*642	18.2	76.13	23.204

Minimum daily discharge, 0.08 ft³/s (0.002 m³/s) July 16, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	10	.35	2.2	1.6	5.5	6.7	2.6	.45	.24	.18	.44
2	.51	3.0	.35	1.9	3.9	.83	4.2	3.0	.43	.36	.17	.94
3	.40	1.5	.31	12	3.9	.72	2.8	1.0	.44	.40	.13	.98
4	.35	.80	.38	5.7	2.7	.95	1.7	.69	.46	.29	.12	1.4
5	.35	.50	.38	3.4	1.8	.73	1.4	.69	.42	.22	1.0	7.5
6	.78	.40	.57	2.6	1.5	.55	2.2	.78	.41	.27	.23	78
7	.62	.35	.65	2.2	1.4	.57	1.9	2.2	.39	.32	1.2	28
8	.41	.30	.65	2.1	51	.60	1.1	1.1	.37	.47	1.3	6.4
9	.28	.60	.61	2.1	47	.74	.92	.88	14	.46	.39	2.2
10	.28	.45	.69	1.9	13	.71	.77	.69	2.3	.84	.20	.69
11	.28	.40	.78	1.5	5.9	.65	.83	.65	.40	.26	.16	3.0
12	.45	.35	125	.93	3.8	.94	.88	.53	.21	.16	.26	.46
13	.40	.32	23	.83	2.8	.72	6.0	9.0	.17	.14	.23	.28
14	.36	.30	5.7	.74	3.1	.59	1.6	12	.21	.12	.17	.21
15	.39	.30	2.9	.65	3.6	.77	1.1	11	.19	.09	2.9	.31
16	.42	.30	1.9	.61	7.5	1.0	1.0	24	.19	.08	5.2	.20
17	.35	.30	1.9	67	4.2	1.6	1.1	14	.22	.11	.77	.17
18	.30	.30	1.9	16	2.7	.71	.98	2.9	.23	.11	.36	.20
19	.25	.35	1.5	3.4	2.3	.82	.98	49	.20	.08	.49	.46
20	.20	.38	1.4	80	1.9	8.2	.83	9.2	.16	1.0	.30	.51
21	.17	12	1.4	340	1.6	1.7	.78	2.8	.17	13	.18	.52
22	8.0	3.6	1.6	210	1.4	.78	.78	1.4	10	5.1	.15	.51
23	4.0	2.2	9.0	38	1.3	.99	.93	.99	5.3	.74	.34	.37
24	2.0	.78	9.5	11	1.0	.82	.88	.76	.66	.36	.14	.58
25	1.0	.53	3.4	6.9	.85	.55	36	.65	.33	.20	.10	.44
26	.70	.38	2.1	5.0	.82	2.1	3.5	.60	.26	.19	.25	.85
27	.50	.38	1.6	3.4	.81	90	1.2	.56	.25	1.4	.22	.86
28	.40	.28	1.5	2.7	.84	110	.88	.77	.21	5.2	.19	.44
29	.35	.28	16	2.6	.86	220	.83	.70	.22	1.7	1.1	.23
30	50	.31	5.7	2.5	---	50	1.2	.55	.24	.45	4.3	12
31	30	---	3.1	2.2	---	12	---	.47	---	.22	.80	---
TOTAL	105.16	41.94	225.82	832.06	175.08	516.84	85.97	156.16	39.49	34.58	23.53	149.15
MEAN	3.39	1.40	7.28	26.8	6.04	16.7	2.87	5.04	1.32	1.12	.76	4.97
MAX	50	12	125	340	51	220	36	49	14	13	5.2	78
MIN	.17	.28	.31	.61	.81	.55	.77	.47	.16	.08	.10	.17
AC-FT	209	83	448	1650	347	1030	171	310	78	69	47	296
(††)	2.81	1.26	3.81	5.52	1.95	5.97	1.95	3.92	1.72	2.49	2.00	5.01

CAL YR 1979 TOTAL 3455.45 MEAN 9.47 MAX 388 MIN .17 AC-FT 6850 †† 53.07
WTR YR 1980 TOTAL 2385.78 MEAN 6.52 MAX 340 MIN .08 AC-FT 4730 †† 38.41

†† Weighted-mean rainfall, in inches, based on four rain gages.

NOTE.--No gage-height record Oc. 18 to Nov. 19 and Mar. 27-30.

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX

LOCATION.--29°49'40", long 95°28'09", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at Costa Rica Street in northwest Houston and 1.0 mi (1.6 km) upstream from Whiteoak Bayou.

DRAINAGE AREA.--11.4 mi^2 (29.5 km^2). Prior to Oct. 1, 1973, 11.6 mi^2 (30.0 km^2).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Low-water concrete control since Dec. 9, 1970. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records good. Low flow is partially sustained by sewage effluent. No know diversion above station. Recording rain gage at station.

AVERAGE DISCHARGE.--16 years, 13.8 ft^3/s (0.391 m^3/s), 10,000 acre-ft/yr (12.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft^3/s (164 m^3/s) Mar. 20, 1972, elevation, 69.20 ft (21.092 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft^3/s (42.5 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)
a Oct. 30	1800	1,060	30.0	59.88	18.251
Mar. 29	1100	*2,190	62.0	62.98	19.196
a Sept. 6	0730	1,200	34.0	60.30	18.379

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 0.43 ft^3/s (0.012 m^3/s) Oct. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	4.2	12	3.7	3.4	28	12	14	2.5	1.8	2.0	5.1
2	1.7	4.1	8.3	3.9	7.4	2.3	10	9.3	2.7	2.0	1.7	8.3
3	1.6	2.7	7.2	38	4.8	2.9	7.3	3.1	3.3	1.6	1.6	7.0
4	1.2	3.1	4.2	4.8	3.3	4.0	4.8	3.3	4.1	1.6	1.8	4.3
5	1.5	4.4	4.2	3.5	4.1	2.3	4.4	3.7	3.0	1.8	4.8	42
6	2.0	4.0	5.9	2.5	4.5	2.3	7.2	5.0	3.7	1.8	2.2	196
7	1.9	4.4	6.3	2.3	4.3	5.8	5.2	14	3.7	2.0	9.9	69
8	1.5	4.0	4.2	2.6	140	5.8	3.7	9.3	3.7	2.0	5.4	18
9	1.4	4.9	5.5	2.3	37	2.2	3.3	4.2	56	15	2.7	8.1
10	1.3	3.4	5.2	3.2	10	1.6	3.2	3.3	7.7	4.9	2.8	3.7
11	1.5	3.2	5.5	3.5	6.2	1.9	3.4	3.0	3.0	1.8	3.9	4.1
12	1.4	2.3	237	2.1	4.7	3.1	4.2	3.1	3.7	1.6	7.2	3.0
13	1.3	3.2	18	2.3	5.3	3.2	27	28	2.7	1.6	3.0	3.0
14	.92	2.1	8.3	2.0	14	6.8	3.1	26	2.5	1.0	2.7	2.9
15	1.1	3.4	6.8	5.9	9.9	8.9	4.0	21	2.7	1.3	23	3.0
16	6.8	3.9	5.9	3.4	24	10	4.2	54	2.2	1.3	12	2.3
17	2.1	4.4	5.2	138	6.9	19	4.2	30	3.3	1.3	3.5	2.7
18	1.2	4.2	3.7	16	4.3	5.3	5.6	6.3	4.1	1.5	3.1	3.5
19	1.0	5.2	3.4	6.5	4.9	6.0	7.0	94	3.3	1.3	2.7	3.5
20	1.2	4.2	3.2	140	5.8	21	6.9	9.8	4.5	2.2	2.4	2.5
21	.43	57	3.2	211	6.8	5.1	9.1	4.9	3.3	43	3.8	2.0
22	23	12	2.9	265	9.7	3.6	13	4.9	96	8.0	3.4	2.1
23	2.8	6.8	29	38	10	6.4	13	4.7	12	2.7	3.8	1.8
24	2.1	3.4	6.8	18	11	6.0	13	3.7	2.7	2.0	4.5	6.9
25	1.6	1.8	3.4	12	9.2	4.7	125	3.0	1.8	1.2	3.9	1.7
26	1.8	3.2	3.2	8.6	4.0	14	7.0	3.3	2.2	1.3	4.4	7.8
27	1.4	3.9	3.7	7.2	3.9	332	3.3	3.3	2.0	15	5.9	6.4
28	1.1	4.8	3.7	6.0	5.4	74	2.2	3.7	1.2	32	6.5	3.2
29	1.8	5.9	52	6.3	4.6	288	2.9	4.1	1.2	8.1	11	3.4
30	134	6.3	4.2	5.4	---	40	2.4	3.3	1.8	4.3	12	55
31	16	---	3.4	4.5	---	19	---	3.0	---	1.9	5.9	---
TOTAL	220.75	180.4	475.5	968.5	369.4	935.2	321.6	386.3	246.6	168.9	163.5	482.3
MEAN	7.12	6.01	15.3	31.2	12.7	30.2	10.7	12.5	8.22	5.45	5.27	16.1
MAX	134	57	237	265	140	332	125	94	96	43	23	196
MIN	.43	1.8	2.9	2.0	3.3	1.6	2.2	3.0	1.2	1.0	1.6	1.7
AC-FT	438	358	943	1920	733	1850	638	766	489	335	324	957
(††)	2.54	1.29	3.46	5.27	2.07	5.58	1.65	3.53	2.20	2.25	1.72	5.28

CAL YR 1979	TOTAL	8233.35	MEAN	22.6	MAX	1200	MIN	.43	AC-FT	16330	††	56.14
WTR YR 1980	TOTAL	4918.95	MEAN	13.4	MAX	332	MIN	.43	AC-FT	9760	††	36.84

†† Weighted-mean rainfall, in inches, based on six rain gages.

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT										
30...	1650	151	177	7.4	18.5	25	50	8.8	93	22
30...	1725	860	113	7.3	18.0	25	80	8.9	93	21
31...	0940	11	227	7.6	17.0	30	73	9.9	101	13
MAY										
21...	1150	5.4	420	8.7	27.0	70	51	14.0	175	5.1
AUG										
05...	1220	2.7	500	8.5	29.0	35	1.5	12.5	160	7.8
SEP										
06...	1035	114	130	8.7	25.0	50	250	6.6	79	4.4
08...	1215	9.8	370	8.9	30.0	35	34	11.8	155	3.2

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
30...	290000	12000	26000	45	8	15	1.9	20	1.3
30...	190000	39000	7200	--	--	--	--	--	--
31...	500000	45000	16000	--	--	--	--	--	--
MAY									
21...	26000	8300	750	130	0	40	6.7	37	1.4
AUG									
05...	130000	59000	820	--	--	--	--	--	--
SEP									
06...	420000	120000	84000	--	--	--	--	--	--
08...	140000	28000	190	--	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT									
30...	2.6	45	0	9.3	25	.1	3.3	100	310
30...	--	--	--	--	--	--	--	--	300
31...	--	--	--	--	--	--	--	--	137
MAY									
21...	2.3	180	8	12	31	.2	14	240	65
AUG									
05...	--	--	--	--	--	--	--	--	5
SEP									
06...	--	--	--	--	--	--	--	--	348
08...	--	--	--	--	--	--	--	--	30

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
30...	21	.39	.000	.39	.290	1.5	1.8	.560	39
30...	14	.40	.000	.40	.400	1.4	1.8	.480	55
31...	12	.31	.040	.35	.180	1.3	1.5	7.700	28
MAY									
21...	14	.05	.010	.06	.070	1.0	1.1	.290	15
AUG									
05...	9	.00	.000	.00	.470	.63	1.1	.210	26
SEP									
06...	36	.29	.010	.30	.150	1.2	1.3	.320	14
08...	8	.01	.010	.02	.000	.76	.76	.260	9.4

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 30...	1650	2	60	<1	0	0	40
MAY 21...	1150	35	200	<1	0	5	70

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 30...	6	3	.0	0	0	10
MAY 21...	0	<1	.1	0	0	<3

DATE	TIME	PCB TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
OCT 30...	1650	.00	.00	1.3	.00	.02	.02	1.0	.03
MAY 21...	1150	--	--	--	--	--	--	.34	--

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
OCT 30...	.00	.00	.00	.00	.00	.01	.21	.02	.00
MAY 21...	--	--	.00	--	--	--	.17	--	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
OCT 30...	.00	.00	.00	0	.00	.02	.04	.00
MAY 21...	.00	--	.00	--	.00	.01	.01	.00

08074400 LAZYBROOK STREET STORM SEWER AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°48'15", long 95°26'04", Harris County, Hydrologic Unit 12040104, over a 54-inch (1,372 mm) storm sewer 30 ft (9 m) north of the intersection of Lazybrook Street and West T. C. Jester Boulevard, Houston.

DRAINAGE AREA.--0.13 mi² (0.34 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Flood-hydrograph and rainfall recorder. Datum of gage is -0.10 ft (0.030 m) National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980".

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 119 ft³/s (3.37 m³/s) Apr. 19, Aug. 19, and Oct. 30, 1979, gage height, 58.09 ft (17.706 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 55 ft³/s (1.56 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 30	1650	*119	3.37	58.09	17.706	Mar. 27	1540	99	2.80	57.75	17.602
Jan. 22	0945	55	1.56	56.85	17.328	aApr. 25	1100	50	1.42	56.74	17.294
aMar. 26	0235	.90	.025	54.43	16.590						

a Water-quality samples were obtained during this runoff event.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: March to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR												
26...	0155	.29	350	7.7	--	40	10	--	5.4	1300000	48000	2000
26...	0300	.71	213	7.6	--	50	16	--	22	1400000	44000	49000
APR												
25...	0930	.75	226	--	--	--	35	--	--	--	--	--
25...	0938	1.8	308	--	--	--	32	--	--	--	--	--
25...	0945	1.8	240	6.2	22.5	30	60	7.3	34	770000	1600	650
25...	0946	1.8	281	--	--	--	40	--	--	--	--	--
25...	0954	1.2	542	--	--	--	47	--	--	--	--	--
25...	1002	1.2	226	--	--	--	40	--	--	--	--	--
25...	1034	1.3	139	--	--	--	22	--	--	--	--	--
25...	1040	6.0	114	--	--	--	55	--	--	--	--	--
25...	1047	28	--	--	--	30	17	--	--	--	--	--
25...	1108	45	59	5.9	19.5	50	19	8.8	23	400000	2800	4500
25...	1111	28	73	--	--	--	25	--	--	--	--	--
25...	1118	15	--	--	--	30	13	--	--	--	--	--
25...	1133	5.6	79	--	--	--	12	--	--	--	--	--
25...	1147	2.9	86	--	--	--	16	--	--	--	--	--
25...	1225	.80	109	--	--	--	20	--	--	--	--	--
25...	1240	.67	108	6.2	22.5	60	13	5.3	13	310000	100000	79000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAR												
26...	76	0	26	2.8	40	2.0	6.4	130	0	19	27	.3
26...	42	2	15	1.2	23	1.5	4.9	49	0	20	22	.2
APR												
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	47	6	16	1.6	21	1.3	6.1	49	0	27	23	.1
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	12	1	4.4	.3	2.4	.3	5.1	14	0	7.7	3.2	.1
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	27	2	8.9	1.1	6.6	.6	5.5	30	0	13	6.2	.1

08074400 LAZYBROOK STREET STORM SEWER AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR												
26...	13	199	5	5	.39	.060	--	1.000	--	--	1.100	13
26...	4.9	115	35	19	1.1	.130	--	.940	--	--	.890	18
APR												
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	3.3	122	218	34	1.3	.090	1.4	2.700	7.3	10	2.100	47
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	492	132	.53	.030	.56	.990	3.1	4.1	.710	27
25...	1.2	31	42	9	.35	.010	.36	.730	2.3	3.0	.890	13
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	40	24	.63	.020	.65	1.200	1.2	2.4	.910	11
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	3.3	59	22	19	1.1	.050	1.1	.980	2.0	3.0	1.500	18

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
APR							
25...	0945	1	30	<1	0	4	80

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR						
25...	25	30	.2	1	0	50

08074500 WHITEOAK BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°46'30", long 95°23'49", Harris County, Hydrologic Unit 12040104, at downstream side of downstream bridge on Heights Boulevard in Houston, 560 ft (171 m) downstream from Texas and New Orleans Railroad Co. bridge, 2.4 mi (3.9 km) upstream from Little Whiteoak Bayou, and 4.0 mi (6.4 km) upstream from mouth.

DRAINAGE AREA.--86.3 mi² (223.5 km²). Prior to Oct. 1, 1976, 84.7 mi² (219.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year (October 1965 to September 1966, monthly discharge only).

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 7.35 ft (2.240 m) below National Geodetic Vertical Datum of 1929; unadjusted for land-surface subsidence. Prior to June 17, 1936, nonrecording gage, and June 17, 1936, to Apr. 28, 1965, water-stage recorder at site 480 ft (146 m) upstream at same datum.

REMARKS.--Water-discharge records fair. Low flow is partly sustained by industrial waste. No diversion above station

AVERAGE DISCHARGE.--44 years, 79.2 ft³/s (2.243 m³/s), 57,380 acre-ft/yr (70.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft³/s (490 m³/s) Mar. 20, 1972, gage height, 43.50 ft (13.259 m); maximum gage height, 43.60 ft (13.289 m) Nov. 13, 1961; no flow for many days during 1965 water year (result of construction dams).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1919, 51.5 ft (15.70 m) Dec. 9, 1935, prior to channel rectification, present site and datum, discharge 14,750 ft³/s (418 m³/s), furnished by the engineer for Harris County. The flood of May 31, 1929, reached a stage of 47.0 ± 0.5 ft (14.33 ± 0.15 m), prior to channel rectification, present site and datum, discharge 9,360 ft³/s (265 m³/s), computed on basis of current-meter measurement at stage 1.0 ft (0.30 m) below crest, furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
a Oct. 22	0845	559	15.8	19.10	5.822	Mar. 29	1300	*4,810	136	27.91	8.507
a Jan. 17	1600	1,920	54.4	22.68	6.913	a May 19	0700	1,350	38.2	21.36	6.511
Jan. 22	1230	4,080	116	26.73	8.147	a Sept. 6	1400	2,210	62.6	23.29	7.099

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 20 ft³/s (0.57 m³/s) Oct. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	98	35	32	41	144	115	80	31	33	23	26
2	29	40	36	30	56	38	76	102	28	29	21	33
3	29	28	32	300	44	34	60	40	29	27	21	26
4	30	25	26	35	36	42	47	34	28	26	24	25
5	24	28	25	32	35	35	44	34	28	26	86	219
6	30	25	26	30	37	32	57	34	30	25	35	1220
7	46	26	31	40	32	34	50	90	29	26	45	722
8	37	30	26	35	594	36	38	64	31	36	33	185
9	32	45	28	32	772	32	34	51	419	47	26	88
10	27	27	27	30	236	29	32	34	212	37	24	42
11	26	27	28	30	138	32	31	31	48	39	22	35
12	26	26	929	30	113	36	34	31	37	27	47	32
13	20	26	403	30	65	30	151	61	32	27	26	33
14	21	23	99	30	110	30	40	330	29	28	23	31
15	27	24	56	30	93	37	33	93	28	28	109	29
16	52	26	38	30	175	44	31	467	28	26	112	25
17	27	30	41	474	102	127	30	292	31	26	28	25
18	29	34	32	138	56	35	30	107	30	25	23	25
19	29	38	30	41	47	37	30	706	29	25	24	29
20	24	40	27	403	44	137	30	240	35	37	23	26
21	21	421	27	1650	43	57	29	92	27	150	24	24
22	145	188	34	1910	44	34	31	60	238	96	22	23
23	30	119	209	544	44	41	30	44	114	29	24	21
24	27	48	103	216	46	37	30	39	29	24	29	51
25	28	30	40	149	44	29	436	35	24	23	21	25
26	29	31	35	102	38	65	94	36	24	23	23	47
27	26	32	30	78	39	1610	43	36	23	92	27	39
28	22	29	30	60	40	1140	37	40	25	179	25	27
29	21	26	400	61	41	1490	35	180	26	73	51	24
30	734	27	50	52	---	497	34	63	28	30	87	376
31	433	---	35	43	---	182	---	37	---	23	37	---
TOTAL	2112	1617	2968	6697	3205	6183	1792	3583	1750	1342	1145	3533
MEAN	68.1	53.9	95.7	216	111	199	59.7	116	58.3	43.3	36.9	118
MAX	734	421	929	1910	772	1610	436	706	419	179	112	1220
MIN	20	23	25	30	32	29	29	31	23	23	21	21
AC-FT	4190	3210	5890	13280	6360	12260	3550	7110	3470	2660	2270	7010
(††)	2.60	1.54	3.68	5.08	2.23	5.52	1.83	4.69	2.18	1.99	1.76	5.96

CAL YR 1979 TOTAL 58426 MEAN 160 MAX 4880 MIN 13 AC-FT 115900 †† 54.06
WTR YR 1980 TOTAL 35927 MEAN 98.2 MAX 1910 MIN 20 AC-FT 71260 †† 39.06

†† Weighted-mean rainfall in inches, based on thirteen rain gages.

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT										
22...	0845	556	317	7.4	23.0	60	43	6.1	70	32
22...	1035	337	340	7.4	23.5	60	50	6.1	71	34
23...	0905	26	729	7.4	18.5	60	24	7.5	78	24
NOV										
28...	0930	25	892	7.6	15.0	25	3.3	9.8	95	29
JAN										
17...	1500	964	256	6.9	18.5	60	190	8.7	92	22
17...	1845	1060	227	7.3	17.0	80	420	7.5	77	26
18...	1300	101	469	6.9	17.0	70	63	8.8	89	16
MAY										
21...	1320	83	580	7.5	27.5	60	75	6.4	81	17
SEP										
06...	1210	1220	186	7.7	25.0	60	340	7.6	90	18
08...	1130	130	370	7.7	28.5	50	98	6.7	85	12

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
22...	840000	280000	64000	86	0	28	3.8	31	1.5
22...	1000000	300000	45000	--	--	--	--	--	--
23...	800000	120000	820	--	--	--	--	--	--
NOV									
28...	840000	120000	2600	--	--	--	--	--	--
JAN									
17...	500000	180000	68000	72	0	24	2.9	23	1.2
17...	400000	220000	32000	--	--	--	--	--	--
18...	200000	12000	3000	--	--	--	--	--	--
MAY									
21...	38000	29000	2500	160	0	48	8.8	57	2.0
SEP									
06...	1100000	540000	100000	--	--	--	--	--	--
08...	54000	10000	900	--	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT									
22...	3.5	110	0	19	33	.2	6.5	179	210
22...	--	--	--	--	--	--	--	--	117
23...	--	--	--	--	--	--	--	--	38
NOV									
28...	--	--	--	--	--	--	--	--	27
JAN									
17...	3.0	94	0	16	20	.1	6.7	142	1070
17...	--	--	--	--	--	--	--	--	1170
18...	--	--	--	--	--	--	--	--	68
MAY									
21...	4.3	230	0	19	60	.2	18	329	72
SEP									
06...	--	--	--	--	--	--	--	--	492
08...	--	--	--	--	--	--	--	--	88

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
22...	41	.40	.160	.56	.570	1.9	2.5	.930	41
22...	27	.72	.250	.97	.750	1.4	2.1	1.400	34
23...	14	.95	.450	1.4	3.800	.50	4.3	3.200	30
NOV									
28...	5	.54	.240	.78	6.800	.00	1.2	.090	27
JAN									
17...	152	.95	.150	1.1	.730	3.2	3.9	1.100	67
17...	156	.28	.030	.31	.430	3.2	3.6	.990	37
18...	6	.26	.060	.32	.470	2.1	2.6	.690	19
MAY									
21...	17	.42	.260	.68	1.400	1.9	3.3	2.000	19
SEP									
06...	58	.43	.030	.46	.340	2.4	2.7	.950	19
08...	4	.40	.120	.52	.910	3.0	3.9	1.900	13

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
OCT							
22...	0845	4	100	<1	0	0	80
JAN							
17...	1500	7	60	<1	10	5	50
MAY							
21...	1320	13	200	<1	0	6	50

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
OCT						
22...	2	30	.0	0	0	30
JAN						
17...	27	20	.2	0	0	20
MAY						
21...	0	70	.2	0	0	10

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
OCT 22...	0845	.1	--	.00	1.2	.00	.01	.06	.83
JAN 17...	1500	.3	--	.00	.5	.05	.03	.00	.38
MAY 21...	1320	.0	.00	.00	.0	.00	.00	.00	.38
JUL 14...	1330	.0	.00	.00	.1	.00	.00	.00	.32

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
OCT 22...	.04	.00	.00	.00	.03	.02	.02	.47	.00
JAN 17...	.02	.00	.00	.00	.02	.00	.01	.00	.00
MAY 21...	.00	.00	.00	.00	.00	.00	<.02	.13	.00
JUL 14...	.01	.00	.00	.00	.00	.00	.02	.04	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
OCT 22...	.00	.00	.00	.00	0	.00	.31	.05	.01
JAN 17...	.00	.00	.00	.00	0	.00	.06	.01	.00
MAY 21...	.00	.00	.00	.00	0	.00	.02	.02	.00
JUL 14...	.00	.00	.00	.00	0	.00	.02	.00	.00

08074540 LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°47'33", long 95°22'06", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at Trimble Street, Houston.

DRAINAGE AREA.--18.0 mi² (46.6 km²).

PERIOD OF RECORD.--June 1979 to current year. June to September 1979 published as Little Whiteoak Bayou at Houston (08074550).

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment. Prior to June 1979 occasional discharge measurements to arbitrary datum and water-quality samples were obtained at site 6,200 ft (1,890 m) downstream at North Main Street bridge (station 08074550, Little Whiteoak Bayou at Houston).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980". The record for June to September 1979 was published in the 1979 edition of this publication as station Little Whiteoak Bayou at Houston (08074550).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft³/s (135 m³/s) Sept. 19, 1979, elevation, 37.76 ft (11.509 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges for period June to September above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 30	1815	*2,870	81.3	33.76	10.290	Mar. 27	1715	1,940	54.9	31.12	9.485
Nov. 21	unknown	1,470	41.6	29.42	8.967	Mar. 29	1200	1,340	37.9	29.15	8.885
aDec. 12	1230	918	26.0	27.51	8.385	aMay 7	unknown	b50	1.42	b22.10	6.736
aJan. 17	1915	218	6.17	23.76	7.242	Sept. 5	2115	807	22.9	27.53	8.391
Jan. 22	1115	2,370	67.1	32.41	9.879						

a Water-quality samples were obtained during this runoff event.
b About.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: June 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
DEC										
11...	1120	9.0	762	7.0	18.0	10	4.4	5.7	59	9.6
12...	1140	843	211	7.4	17.5	30	350	8.7	89	25
12...	1600	391	190	7.3	15.0	50	270	8.4	82	17
13...	1330	28	349	6.9	13.5	--	46	8.1	76	17
JAN										
17...	1435	102	470	6.9	19.0	40	140	5.4	57	55
17...	1610	189	433	6.8	19.5	30	96	6.3	68	18
17...	1815	156	301	7.0	18.5	50	310	6.4	67	13
18...	1105	13	353	6.9	17.5	50	84	5.1	52	14
MAY										
07...	1050	40	420	6.7	22.5	30	33	4.5	52	15
JUL										
14...	1330	7.9	660	7.9	30.5	40	8.0	6.5	86	35
SEP										
06...	1300	144	196	7.5	26.0	50	74	5.6	68	13
08...	1050	11	320	7.4	26.5	45	16	2.1	26	5.0

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
DEC									
11...	1300000	300000	36000	--	--	--	--	--	--
12...	660000	100000	40000	63	0	21	2.5	18	1.0
12...	45000	40000	44000	--	--	--	--	--	--
13...	280000	130000	14000	--	--	--	--	--	--
JAN									
17...	900000	290000	46000	120	0	35	6.6	54	2.2
17...	860000	200000	54000	--	--	--	--	--	--
17...	720000	--	44000	--	--	--	--	--	--
18...	860000	300000	100000	--	--	--	--	--	--
MAY									
07...	780000	140000	46000	--	--	--	--	--	--
JUL									
14...	340000	100000	1800	130	0	39	8.0	99	3.8
SEP									
06...	2900000	710000	160000	--	--	--	--	--	--
08...	840000	300000	1300	--	--	--	--	--	--

08074540 LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
DEC									
11...	--	--	--	--	--	--	--	--	17
12...	2.7	79	0	11	17	.2	5.2	117	780
12...	--	--	--	--	--	--	--	--	392
13...	--	--	--	--	--	--	--	--	60
JAN									
17...	3.2	200	0	25	41	.3	11	275	1080
17...	--	--	--	--	--	--	--	--	294
17...	--	--	--	--	--	--	--	--	344
18...	--	--	--	--	--	--	--	--	68
MAY									
07...	--	--	--	--	--	--	--	--	80
JUL									
14...	5.3	280	0	24	71	.7	16	401	10
SEP									
06...	--	--	--	--	--	--	--	--	108
08...	--	--	--	--	--	--	--	--	12

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC									
11...	17	.06	.030	.09	1.400	2.0	3.4	.900	12
12...	72	.39	.050	.44	.350	2.9	3.3	1.100	34
12...	40	.37	.030	.40	.300	1.3	1.6	1.200	21
13...	15	.43	.060	.49	.810	--	--	1.100	--
JAN									
17...	188	.24	.030	.27	.730	8.4	9.1	1.500	110
17...	72	.25	.030	.28	.330	2.4	2.7	.540	26
17...	88	.10	.020	.12	.130	2.0	2.1	.320	30
18...	12	.33	.050	.38	.500	1.6	2.1	.350	11
MAY									
07...	9	.33	.040	.37	.890	1.9	2.8	.680	55
JUL									
14...	1	.00	.000	.00	2.800	2.0	4.8	2.900	17
SEP									
06...	0	.30	.030	.33	.530	1.4	1.9	.510	14
08...	0	.06	.030	.09	.610	1.2	1.8	.630	13

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
DEC							
12...	1140	3	60	<1	0	0	50
JAN							
17...	1435	2	100	1	0	0	200
JUL							
14...	1330	6	200	<1	0	1	<10

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
DEC						
12...	5	5	.0	0	0	5
JAN						
17...	4	260	.0	1	0	7
JUL						
14...	0	1	.1	1	0	8

08074540 LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
DEC 12...	1140	.00	.00	.00	.6	.00	.01	.00	.55	.01
JAN 17...	1435	.90	--	.00	.8	.03	.03	.00	.18	.03

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
DEC 12...	.00	.00	.00	.04	.00	--	.00	.34	.00
JAN 17...	.00	.00	.00	.02	--	.0	.00	.13	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC 12...	.00	.00	.02	.00	0	.00	.08	.04	.06
JAN 17...	.00	.00	.00	.00	0	.00	.06	.02	.00

08074600 BUFFALO BAYOU AT MAIN STREET, HOUSTON, TX

LOCATION.--Lat 29°45'54", long 95°21'32", Harris County, Hydrologic Unit 12040104, on left bank at mouth of White-oak Bayou at upstream side of Main Street viaduct in Houston and 3.2 mi (5.1 km) downstream from station 08074000.

DRAINAGE AREA.--469 mi² (1,215 km²).

PERIOD OF RECORD.--January 1962 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.47 ft (0.448 m) below National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers), 1973 adjustment; unadjusted for land-surface subsidence.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 23.6 ft (7.19 m) June 13, 1973; minimum, -3.5 ft (-1.07 m) Jan. 13, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum gage height since at least 1835, 38.5 ft (11.73 m) Dec. 9, 1935, present site and datum, unadjusted for land-surface subsidence.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 12.3 ft (3.75 m) Oct. 30; minimum, -0.4 ft (0.12 m) Mar. 2.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	4.1	2.8	3.9	2.3	2.8	1.3	2.9	-	3.4	1.9	3.2	-0.2	4.2	2.7	3.8	1.9	4.6	2.7	3.2	1.1	3.1	1.8	3.8	2.2
2	3.9	2.6	4.3	3.0	2.8	.9	3.2	1.7	3.9	2.6	1.9	-.4	4.5	3.1	3.4	-	4.6	2.8	2.9	1.1	3.4	2.3	3.6	1.9
3	4.0	2.4	4.2	2.5	3.3	1.6	4.6	-	3.9	2.3	3.4	1.6	4.4	3.4	3.2	1.6	4.4	2.6	3.2	1.3	3.5	2.3	3.5	1.9
4	3.5	-	4.4	2.7	3.4	1.4	-	-	3.3	2.5	3.7	2.5	-	2.4	3.3	1.4	4.2	2.3	3.4	1.7	4.1	2.3	3.8	2.1
5	-	-	4.5	2.8	3.4	1.7	3.2	-	3.6	2.4	3.0	1.6	-	2.6	3.1	1.5	4.3	2.2	3.4	2.0	5.0	2.5	6.0	2.7
6	-	2.9	4.2	1.9	3.5	1.6	3.5	2.4	-	2.1	3.7	1.7	4.7	3.4	3.4	1.3	4.2	2.6	3.5	2.0	3.8	2.1	7.6	4.5
7	3.8	2.7	3.7	1.9	3.5	1.8	3.6	1.6	4.8	-	3.8	2.8	4.2	2.9	3.5	2.8	3.7	2.5	3.8	1.7	4.4	2.1	5.5	3.5
8	3.9	2.8	3.8	2.3	3.5	1.8	2.9	2.0	-	3.7	3.2	1.9	3.6	1.3	3.5	1.6	3.4	1.7	3.4	1.6	4.4	2.1	4.0	2.8
9	4.1	2.6	4.3	2.3	3.6	-	3.2	2.1	-	-	2.9	1.5	-	1.4	3.5	1.8	5.0	1.4	3.2	1.4	7.0	3.3	3.8	2.6
10	3.1	2.3	3.0	1.8	-	2.1	3.8	2.9	2.8	-	3.5	1.6	3.8	-	4.2	2.9	3.7	1.9	3.3	1.5	6.2	4.3	3.5	2.3
11	3.7	2.6	3.6	2.0	3.4	2.8	4.1	-	3.4	2.0	3.6	1.7	4.3	2.7	4.0	-	3.8	2.1	3.3	1.4	4.9	3.3	3.4	2.5
12	4.0	2.5	3.6	1.9	6.5	2.7	-	-	-	1.9	-	2.0	3.9	1.9	4.2	-	3.6	2.6	3.3	1.6	3.8	2.4	3.3	2.3
13	4.0	2.5	2.7	1.8	4.4	2.0	4.0	-	3.8	-	3.3	-	3.1	.4	4.1	2.6	4.0	1.8	3.1	1.5	3.5	2.4	3.5	2.5
14	4.0	2.5	3.2	2.1	3.5	2.2	4.1	-	-	2.2	3.4	-	1.8	-.1	4.3	2.6	4.2	2.0	3.1	1.4	4.2	2.3	3.6	2.3
15	4.3	2.9	3.3	2.1	3.9	2.7	4.0	-	-	2.4	3.8	2.6	-	.4	6.2	3.0	4.5	2.3	3.0	1.3	4.7	3.2	3.2	2.1
16	4.1	2.9	3.0	1.6	3.9	2.6	3.8	2.1	3.6	1.3	4.1	2.4	2.9	.9	6.2	3.1	4.2	2.4	2.8	1.3	3.8	2.7	3.7	2.4
17	3.9	2.9	3.2	1.8	3.5	1.6	5.8	-	-	1.3	4.0	1.1	3.2	2.3	5.2	3.2	4.0	2.1	2.8	1.2	3.5	2.1	3.9	2.2
18	3.9	2.9	3.5	2.1	3.7	2.3	-	-	3.9	2.6	3.7	.9	2.7	1.2	4.4	2.8	3.7	2.0	3.3	2.0	3.6	2.2	4.7	2.0
19	4.4	3.2	3.7	2.3	3.6	2.2	-	-	4.0	2.9	4.1	2.3	3.0	.8	5.8	3.4	3.4	1.9	4.1	2.6	3.4	2.0	3.9	1.9
20	4.4	3.2	4.0	2.5	3.5	-	7.1	3.0	3.7	2.5	3.9	2.2	3.1	1.4	3.9	2.4	4.0	1.8	3.5	1.8	3.2	1.8	4.3	2.3
21	4.8	3.3	4.9	3.2	3.5	-	8.3	-	-	2.3	2.9	.9	3.1	1.2	4.5	2.6	3.2	1.7	3.9	1.8	3.1	1.5	4.1	2.4
22	4.7	2.1	3.9	.8	3.8	2.4	11.8	-	-	2.0	4.0	1.6	3.1	1.4	3.9	2.4	4.0	1.5	3.2	1.7	3.1	1.4	4.2	2.6
23	3.5	2.6	2.9	1.4	3.8	-	-	-	3.7	1.8	4.2	2.4	3.4	1.8	4.1	2.7	3.5	2.0	3.3	1.7	3.3	1.4	4.1	2.5
24	3.8	2.3	3.8	2.5	4.0	-	-	-	-	1.8	3.5	1.3	3.8	2.2	4.1	2.9	3.0	1.7	3.4	1.7	3.4	1.5	4.2	2.7
25	3.9	2.3	3.8	2.7	2.5	-	-	-	2.7	.8	3.4	1.5	6.1	3.4	4.1	2.8	2.9	1.4	4.1	1.9	3.6	1.5	4.5	3.1
26	3.9	2.4	3.8	2.3	2.9	1.8	-	-	3.1	-	4.0	2.1	3.2	1.4	3.9	2.7	2.5	.9	3.7	2.1	4.0	2.0	4.8	3.1
27	4.1	2.4	3.8	2.5	3.3	-	-	-	3.5	1.9	9.8	3.6	2.0	.8	3.9	2.3	2.5	.4	3.9	1.5	3.8	2.3	4.6	2.9
28	3.0	2.5	3.1	1.7	3.5	2.0	-	-	3.2	1.4	7.8	3.5	2.8	1.5	4.4	2.4	3.2	.7	3.8	1.6	3.8	2.4	4.4	2.6
29	4.1	2.7	2.0	1.1	3.9	1.9	-	-	3.3	2.1	9.6	3.5	2.7	1.2	4.5	2.6	3.3	1.3	3.1	1.2	5.0	2.4	4.1	1.9
30	12.3	2.8	2.9	1.4	3.0	1.4	-	2.8	---	---	5.1	2.1	4.0	1.5	4.4	2.8	3.2	1.0	2.9	1.5	3.8	2.3	4.4	1.5
31	7.5	2.6	---	---	-	-	3.6	1.4	---	---	3.7	1.9	---	---	4.5	2.7	---	---	3.0	1.5	3.9	2.6	---	---

08074700 BUFFALO BAYOU AT 69TH STREET, HOUSTON, TX

LOCATION.--Lat 29°45'15", long 95°17'51", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on 69th Street in Houston, 1.1 mi (1.8 km) upstream from Turning Basin, 2.8 mi (4.5 km) upstream from Brays Bayou, and 4.8 mi (7.7 km) downstream from Whiteoak Bayou.

DRAINAGE AREA.--476 mi² (1,233 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 1.73 ft (0.527 m) below National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers), 1973 adjustment; unadjusted for land-surface subsidence.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 15.1 ft (4.60 m) Sept. 11, 12, 1961, result of Hurricane Carla; minimum, -3.5 ft (-1.07 m) Jan. 13, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 7.8 ft (2.38 m) Oct. 30; minimum, -0.3 ft (-0.09 m) Mar. 2.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	3.7	1.9	4.1	2.6	3.0	1.5	3.0	1.0	3.1	1.1	3.3	0.0	4.2	2.8	3.8	2.0	4.8	3.0	3.4	1.4	3.1	1.8	3.9	2.4
2	3.5	1.8	4.3	3.1	3.0	1.1	3.3	1.9	3.6	2.1	2.0	-.3	4.5	3.1	3.6	2.0	4.9	3.1	3.1	1.3	3.2	2.3	3.7	2.0
3	3.6	1.6	4.2	2.5	3.5	1.8	3.9	1.4	3.5	1.8	3.6	1.7	4.4	3.2	3.3	1.6	5.6	2.9	3.4	1.6	3.5	2.4	3.6	2.0
4	3.0	1.5	4.4	2.7	3.5	1.8	2.8	1.1	3.4	2.1	3.7	2.6	3.5	2.0	3.5	1.4	4.4	2.6	3.6	2.0	4.0	2.3	3.9	2.2
5	3.8	1.7	4.5	2.9	3.6	2.0	3.4	1.6	3.4	2.1	3.0	1.8	4.4	2.3	3.2	1.6	4.6	2.6	3.6	2.3	4.8	2.6	4.1	2.9
6	3.7	2.3	4.2	1.9	3.7	1.7	3.7	2.7	3.2	2.0	3.7	1.7	4.7	3.3	3.5	1.5	4.5	2.9	3.7	2.3	3.7	2.2	5.8	3.4
7	3.5	2.1	3.8	2.0	3.6	2.0	3.8	1.8	5.0	2.5	4.0	2.9	4.2	2.7	3.5	1.7	4.0	3.1	3.9	2.0	4.2	2.2	4.8	3.3
8	3.5	2.3	4.0	2.6	3.6	2.0	3.2	2.1	5.1	3.8	3.3	2.1	3.8	1.6	3.5	1.8	3.7	2.2	3.5	1.9	4.5	2.1	4.2	2.9
9	3.7	2.0	4.4	2.5	3.7	2.4	3.4	2.3	3.7	1.0	3.0	1.7	3.5	1.6	3.6	1.9	3.4	1.8	3.3	1.6	7.3	3.5	3.8	2.6
10	2.8	1.7	3.1	2.0	3.5	2.3	4.1	3.2	2.7	.6	3.7	1.7	4.0	2.1	4.3	3.1	3.9	1.9	3.4	1.7	-	-	3.4	2.2
11	3.4	2.2	3.6	2.2	3.6	3.0	4.2	2.6	3.5	1.8	3.7	1.8	4.6	3.1	4.1	3.3	4.1	2.3	3.5	1.6	-	-	3.3	2.4
12	3.8	2.2	3.8	2.1	3.7	2.6	3.8	1.8	3.6	2.7	3.8	2.1	4.1	2.3	4.3	2.8	3.8	2.1	3.4	1.8	-	-	3.4	2.3
13	3.8	2.3	2.8	2.1	2.7	1.7	4.1	2.7	3.9	2.2	3.4	1.1	3.0	.5	4.2	2.8	4.2	2.0	3.2	1.8	-	-	3.6	2.7
14	3.9	2.4	3.2	2.3	3.4	2.1	4.2	2.4	4.0	2.1	3.5	1.9	2.1	.0	4.1	2.0	4.5	2.3	3.4	1.8	-	-	3.7	2.5
15	4.4	2.9	3.5	2.3	3.7	2.4	4.1	2.5	4.0	2.3	4.0	2.8	2.6	.7	6.3	2.9	4.8	2.7	3.2	1.7	-	-	3.3	2.2
16	4.2	3.0	3.1	1.9	3.7	2.1	4.0	2.3	3.5	1.1	4.2	2.6	3.1	1.1	6.1	3.4	4.5	2.8	3.1	1.6	-	-	3.9	2.5
17	4.1	3.0	3.3	2.0	2.9	.9	-	-	3.3	1.3	4.1	1.3	3.4	1.6	5.3	3.2	4.3	2.4	2.7	1.2	-	-	3.9	2.4
18	4.0	3.1	3.7	2.2	3.6	1.9	-	-	4.1	2.8	3.8	1.0	2.9	1.3	4.6	3.0	3.9	2.3	3.2	1.9	-	-	3.7	2.1
19	4.5	3.4	3.8	2.5	3.6	1.9	-	-	4.2	3.1	4.1	2.5	3.1	1.0	5.4	3.1	3.7	2.3	4.0	2.7	-	-	3.8	2.1
20	4.5	3.4	4.1	2.8	3.6	1.9	-	-	3.9	2.7	4.1	2.4	3.3	1.6	4.0	2.5	4.0	2.1	3.5	1.8	-	-	4.3	2.5
21	4.9	3.5	4.3	2.0	3.8	2.1	-	-	3.9	2.5	3.0	1.0	3.3	1.4	4.4	2.6	3.4	2.1	3.4	1.8	-	-	4.3	2.6
22	4.9	2.4	3.3	.4	4.0	2.6	-	-	3.7	2.2	4.1	1.8	3.3	1.7	4.0	2.6	3.4	1.9	3.1	1.8	-	-	4.4	2.8
23	3.7	1.8	2.9	1.2	4.0	1.9	-	-	3.8	1.9	4.3	2.7	3.5	2.0	4.2	3.7	3.5	2.1	3.2	1.8	-	-	4.2	2.7
24	4.0	2.5	3.7	2.3	4.0	1.2	-	-	3.6	2.0	3.5	1.5	4.0	2.4	4.1	3.3	3.3	2.0	3.3	1.7	-	-	4.4	2.9
25	4.0	2.5	3.8	2.4	2.6	1.3	-	-	2.9	.9	3.6	1.7	4.4	3.2	4.2	3.1	3.1	1.7	3.9	1.9	-	-	4.6	3.2
26	4.0	2.6	3.6	1.9	3.1	2.1	-	-	3.3	1.0	4.2	2.4	3.2	1.6	4.0	3.7	2.7	1.2	3.5	2.1	4.2	-	4.7	3.3
27	4.2	2.6	3.7	2.1	3.4	2.1	-	-	3.6	2.1	4.8	3.6	2.0	1.0	4.0	2.5	2.8	.8	3.6	1.6	3.9	2.6	4.6	3.0
28	4.2	2.7	2.9	1.1	3.7	2.2	4.1	-	3.3	1.6	4.6	2.8	2.9	1.5	4.5	2.7	3.5	1.0	3.3	1.6	3.9	2.6	4.5	2.6
29	4.2	2.9	1.8	.5	3.7	1.8	4.1	2.5	3.4	2.2	4.3	3.5	2.8	1.2	4.7	2.8	3.5	1.6	3.0	1.2	4.1	2.6	4.2	2.1
30	7.8	3.1	3.0	1.3	3.2	1.4	3.8	2.3	---	---	3.5	2.0	4.0	1.6	4.7	3.1	3.5	1.4	2.9	1.3	3.9	2.4	3.9	1.5
31	4.9	2.6	---	---	3.0	1.0	3.1	.3	---	---	3.8	2.0	---	---	4.7	2.9	---	---	3.0	1.5	4.0	2.8	---	---

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX

LOCATION.--Lat 29°39'23", long 95°33'43", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on Roark Road in southwest Houston.

DRAINAGE AREA.--11.5 mi² (29.8 km²). Oct. 1, 1976, to Dec. 31, 1977, 12.0 mi² (31.1 km²); August 1964 to Sept. 30, 1976, 11.6 mi² (30.0 km²). Drainage area changes were the result of ditch relocations or extensions.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD TX-74-1: Drainage area. WDR TX-77-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Recording rain gage at station.

AVERAGE DISCHARGE.--16 years, 12.0 ft³/s (0.340 m³/s), 8,690 acre-ft/yr (10.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,640 ft³/s (46.4 m³/s) Sept. 19, 1979 (corrected), elevation, 74.54 ft (22.720 m); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
aDec. 12	1330	335	9.49	67.01	20.425
Jan. 22	0800	*846	24.0	70.46	21.476
aMay 8	1530	21	.59	62.53	19.059

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 3.3 ft³/s (0.093 m³/s) May 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	5.9	4.4	4.8	6.6	7.3	7.0	23	4.0	5.2	5.2	5.4
2	6.3	4.0	4.4	4.5	16	5.2	6.1	7.5	4.1	5.5	4.9	5.9
3	6.3	4.4	4.3	46	7.2	5.2	5.9	4.6	3.8	5.1	5.0	6.0
4	5.9	4.9	4.2	11	6.5	6.3	4.7	4.6	3.8	4.9	5.1	7.7
5	6.2	5.1	4.2	6.8	7.2	5.3	4.9	4.3	3.7	4.9	5.3	33
6	6.0	4.4	4.1	5.8	6.3	4.8	5.2	4.1	3.9	4.9	5.6	238
7	6.0	4.7	4.1	5.0	5.6	4.7	5.2	6.0	4.0	4.8	5.4	71
8	6.2	4.7	4.1	4.6	49	4.6	4.8	6.8	3.8	4.9	5.2	44
9	6.3	5.0	4.3	4.5	24	4.6	4.4	5.6	130	5.1	5.3	27
10	5.8	4.7	4.4	4.5	11	4.8	4.7	4.1	15	4.9	5.3	13
11	5.6	4.7	4.3	4.5	8.9	4.6	4.6	3.9	6.4	5.0	5.2	9.0
12	5.1	4.7	123	4.6	8.0	4.8	4.8	3.9	5.5	5.0	5.4	7.2
13	5.6	4.7	30	4.6	6.8	4.3	8.4	5.7	5.5	6.6	6.0	6.4
14	5.7	4.9	10	4.6	15	4.6	5.6	14	5.3	5.3	5.3	5.3
15	5.9	4.9	6.9	4.4	13	6.8	4.8	4.6	5.4	5.1	23	5.9
16	5.7	4.5	5.3	4.8	13	6.6	4.1	6.5	5.7	4.9	7.4	5.6
17	5.7	4.5	5.0	41	9.5	14	4.3	6.4	6.3	4.7	5.8	5.5
18	5.2	4.7	5.5	14	7.9	5.6	4.2	4.3	6.3	4.7	5.6	5.5
19	5.2	5.0	4.8	8.4	6.6	5.8	4.1	93	6.2	4.9	5.5	6.0
20	5.6	5.1	4.3	89	5.9	5.0	4.1	9.9	6.3	5.2	5.4	5.6
21	5.7	55	4.0	183	5.8	4.2	4.6	5.2	5.9	6.5	5.3	7.7
22	7.3	11	3.9	403	5.7	4.1	4.6	4.2	5.7	5.6	5.5	6.3
23	4.8	7.2	5.5	132	5.3	4.8	4.2	4.8	5.7	5.1	5.8	5.7
24	4.9	4.7	6.3	48	5.2	4.6	3.5	4.7	5.5	5.0	9.0	5.8
25	4.0	4.5	5.1	16	4.9	4.2	62	4.1	5.4	5.1	6.9	5.6
26	5.5	4.5	4.3	14	4.6	6.4	8.4	4.1	5.5	5.2	6.3	20
27	4.4	4.3	4.8	12	4.7	126	5.0	4.1	5.2	5.8	5.7	36
28	4.5	4.1	4.8	8.8	4.7	34	4.9	4.0	5.3	16	5.5	14
29	4.6	4.2	48	8.0	4.7	110	5.5	4.0	5.2	7.1	5.9	11
30	37	4.3	8.0	7.3	---	28	6.0	3.3	5.1	6.1	5.5	84
31	14	---	5.9	7.8	---	12	---	3.7	---	5.6	5.3	---
TOTAL	213.8	199.3	342.2	1117.3	279.6	453.2	210.6	269.0	289.5	174.7	193.6	709.1
MEAN	6.90	6.64	11.0	36.0	9.64	14.6	7.02	8.68	9.65	5.64	6.25	23.6
MAX	37	55	123	403	49	126	62	93	130	16	23	238
MIN	4.0	4.0	3.9	4.4	4.6	4.1	3.5	3.3	3.7	4.7	4.9	5.3
AC-FT	424	395	679	2220	555	899	418	534	574	347	384	1410
(††)	2.08	1.45	3.62	5.80	1.64	3.53	1.39	3.10	1.86	1.10	1.89	8.27

CAL YR 1979 TOTAL 10953.4 MEAN 30.0 MAX 1100 MIN 2.3 AC-FT 21730 †† 61.35
WTR YR 1980 TOTAL 4451.9 MEAN 12.2 MAX 403 MIN 3.3 AC-FT 8830 †† 35.73

†† Weighted-mean rainfall, in inches based on four rain gages.

08074800 KEEGANS BAYOU AT ROAKK ROAD NEAR HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year. Sediment analyses: October 1970 to September 1971.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
DEC										
11...	0935	4.2	787	7.1	18.0	5	4.8	7.9	81	3.9
12...	0940	18	616	7.2	19.5	10	110	5.9	63	26
12...	1420	318	169	6.8	14.5	50	220	9.3	89	11
13...	1015	28	257	6.8	10.5	35	--	9.3	82	8.4
MAY										
08...	1530	20	440	7.2	23.0	10	68	5.5	64	14
08...	1620	17	500	7.2	22.5	10	34	6.6	76	10
27...	1100	4.1	760	7.2	27.0	10	27	5.0	62	16
AUG										
12...	0905	5.1	750	7.4	27.0	5	11	3.9	48	16

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
DEC									
11...	66	6	1	--	--	--	--	--	--
12...	38000	16000	2900	170	5	52	9.6	57	1.9
12...	20000	14000	7900	--	--	--	--	--	--
13...	340	150	170	--	--	--	--	--	--
MAY									
08...	34000	6700	650	--	--	--	--	--	--
08...	30000	4300	580	150	0	45	8.5	44	1.6
27...	6700	700	500	190	0	57	12	80	2.5
AUG									
12...	54000	12000	110	240	45	11	52	78	2.2

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
DEC									
11...	--	--	--	--	--	--	--	--	6
12...	7.1	200	0	34	62	.3	22	343	372
12...	--	--	--	--	--	--	--	--	506
13...	--	--	--	--	--	--	--	--	171
MAY									
08...	--	--	--	--	--	--	--	--	159
08...	5.6	190	0	23	48	.2	18	286	150
27...	8.3	260	0	34	91	.5	24	435	58
AUG									
12...	8.9	240	0	30	91	.2	26	415	25

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC									
11...	5	6.7	.160	6.9	2.200	1.3	3.5	7.000	10
12...	61	3.0	.150	3.1	.630	3.5	4.1	9.500	29
12...	50	1.1	.040	1.1	.260	1.7	2.0	.800	18
13...	19	1.7	.060	1.8	.270	1.5	1.8	1.400	16
MAY									
08...	7	.46	.070	.53	.380	1.5	1.9	2.300	43
08...	11	.24	.040	.28	.410	1.8	2.2	2.300	23
27...	8	.92	.180	1.1	1.700	1.4	3.1	6.900	8.6
AUG									
12...	14	4.1	.270	4.4	2.400	1.3	3.7	6.700	11

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
DEC							
12...	0940	6	100	<1	0	0	<10
MAY							
27...	1100	6	100	<1	0	3	<10
AUG							
12...	0905	6	90	<1	0	2	<10

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
DEC						
12...	0	20	.1	1	0	30
MAY						
27...	2	<1	.1	1	0	9
AUG						
12...	0	<1	.1	2	0	20

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
DEC									
12...	0940	.0	.00	.00	.3	.00	.00	.00	.15
MAY									
27...	1100	<.1	.00	.00	.0	.00	.00	.00	.53
AUG									
12...	0905	.0	.00	.00	.0	.00	.00	.00	.59

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
DEC									
12...	.01	.00	.00	.00	.00	.00	.02	.22	.00
MAY									
27...	.00	.00	.00	.00	.00	.00	<.02	.00	.00
AUG									
12...	.00	.00	.00	.00	.00	.00	.01	.00	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC									
12...	.00	.00	.00	.00	0	.00	--	--	--
MAY									
27...	.00	.00	.00	.00	0	.00	--	.01	--
AUG									
12...	.00	.00	.00	.00	0	.00	.14	.00	.00

08075000 BRAYS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°41'49", long 95°24'43", Harris County, Hydrologic Unit 12040104, near right bank at downstream side of pile bend of Main Street Bridge in southwest Houston, 1.6 mi (2.6 km) upstream from Harris Gully, and 11.6 mi (18.7 km) upstream from Buffalo Bayou.

DRAINAGE AREA.--94.9 mi² (245.8 km²). Prior to October 1976, 88.4 mi² (229.0 km²). Changes due to drainage ditch relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.16 ft (2.182 m) National Geodetic Vertical Datum of 1929, 197- adjustment; unadjusted for land-surface subsidence. Prior to June 20, 1936, nonrecording gage, and June 20, 1936, to Nov. 25, 1959, water-stage recorder at site 0.8 mi (1.3 km) downstream at same datum.

REMARKS.--Water-discharge records good. No diversion above station. Low flow is mostly sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--44 years, 116 ft³/s (3.285 m³/s), 84,040 acre-ft/yr (104 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/s (821 m³/s) June 15, 1976, gage height, 52.13 ft (15.889 m); minimum daily, 0.1 ft³/s (0.003 m³/s) Oct. 11, 12, 1937, Mar. 14, Apr. 1. 1958. Maximum discharge, that of June 15, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1911, 56.0 ft (17.07 m) in June 1919 before channel rectification, former site, from information by engineer for city of Houston.

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

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 30	1815	6,390	181	36.04	10.985
aDec. 12	1315	3,100	87.8	32.13	9.793
Jan. 22	1045	*11,300	320	40.66	12.393

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 78 ft³/s (2.21 m³/s) June 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	127	99	120	100	195	125	244	84	87	111	119
2	118	103	100	100	140	97	107	192	85	91	109	198
3	117	100	99	600	120	94	105	101	84	92	105	122
4	115	97	98	200	105	115	96	88	82	92	109	110
5	110	97	93	150	120	96	91	81	82	96	248	424
6	110	97	89	130	110	88	99	82	83	99	114	1810
7	108	91	88	120	100	89	107	129	83	104	209	517
8	105	92	93	110	405	90	93	155	83	103	141	579
9	101	103	92	105	528	88	84	117	750	102	115	240
10	100	92	88	98	193	91	83	85	232	102	102	137
11	98	90	88	94	127	94	85	80	102	100	109	112
12	93	90	1070	92	109	92	94	81	90	102	106	106
13	90	91	475	90	103	79	264	117	84	102	102	102
14	88	90	180	95	243	81	116	258	78	106	99	99
15	88	93	135	90	309	98	97	103	80	104	290	107
16	89	93	108	85	245	114	92	189	85	107	220	104
17	89	91	95	742	160	227	83	206	80	103	115	100
18	89	91	90	292	130	98	84	122	81	102	107	97
19	89	92	86	143	120	90	81	842	82	103	102	110
20	101	93	84	882	110	97	82	184	81	110	106	105
21	108	725	82	2150	105	88	82	109	121	342	98	105
22	147	257	80	4880	100	85	85	91	143	156	98	99
23	96	188	120	803	100	105	83	87	142	122	97	95
24	91	103	250	300	100	97	82	90	90	110	130	91
25	89	97	120	250	133	83	723	82	84	110	122	98
26	93	97	90	195	106	145	151	92	84	110	110	346
27	92	97	87	160	95	1610	93	85	83	263	117	582
28	92	94	85	140	95	658	90	86	83	452	142	244
29	102	92	650	125	107	1030	85	92	84	173	145	140
30	998	90	200	115	---	383	89	86	89	125	168	900
31	456	---	140	105	---	174	---	85	---	116	135	---
TOTAL	4381	3753	5254	13561	4518	6571	3631	4441	3494	4086	4081	7998
MEAN	141	125	169	437	156	212	121	143	116	132	132	267
MAX	998	725	1070	4880	528	1610	723	842	750	452	290	1810
MIN	88	90	80	85	95	79	81	80	78	87	97	91
AC-FT	8690	7440	10420	26900	8960	13030	7200	8810	6930	8100	8090	15860
(††)	2.11	1.47	3.13	5.84	1.73	3.78	1.57	3.31	1.99	1.64	2.01	7.63

CAL YR 1979 TOTAL 116683 MEAN 320 MAX 9620 MIN 65 AC-FT 231400 †† 59.41
WTR YR 1980 TOTAL 65769 MEAN 180 MAX 4880 MIN 78 AC-FT 130500 †† 36.21

†† Weighted-mean rainfall, in inches, based on eleven rain gages.

08075000 BRAYS BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
DEC										
11...	1030	82	781	7.5	21.5	5	12	10.5	117	4.2
12...	1045	239	590	6.9	20.5	25	340	7.3	79	42
12...	1505	2590	205	6.7	15.5	35	170	8.7	85	42
13...	1125	374	349	7.2	11.5	100	130	9.4	85	13
MAY										
27...	1230	86	840	7.7	29.0	15	3.4	13.2	169	10
AUG										
12...	1010	86	740	8.2	29.0	5	9.8	10.3	132	7.7

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
DEC									
11...	50	K2	K4	--	--	--	--	--	--
12...	140000	14000	5800	110	0	33	6.9	87	3.6
12...	120000	45000	8000	--	--	--	--	--	--
13...	170000	52000	34000	--	--	--	--	--	--
MAY									
27...	1700	K18	K6	150	0	44	9.9	110	3.9
AUG									
12...	5800	60	K1	140	0	41	7.9	99	3.7

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
DEC									
11...	--	--	--	--	--	--	--	--	18
12...	6.6	230	0	32	55	.5	19	354	354
12...	--	--	--	--	--	--	--	--	411
13...	--	--	--	--	--	--	--	--	188
MAY									
27...	6.8	280	0	42	100	.3	23	474	21
AUG									
12...	6.5	280	0	41	69	.7	23	426	8

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC									
11...	8	.75	.24	.99	4.7	4.9	9.6	.800	14
12...	62	.91	.19	1.1	3.0	6.8	9.8	7.800	40
12...	53	.50	.05	.55	.86	2.5	3.4	.300	25
13...	26	.89	.08	.97	.75	1.6	2.3	1.200	15
MAY									
27...	7	1.1	.27	1.4	1.6	1.6	3.2	.120	11
AUG									
12...	4	2.3	.48	2.8	2.1	1.4	3.5	3.500	25

08075000 BRAYS BAYOU AT HOUSTON, TX----Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
DEC 12...	1045	15	100	<1	10	0	30
MAY 27...	1230	6	100	1	0	5	<10
AUG 12...	1010	11	100	<1	0	5	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC 12...	6	80	.0	1	0	30
MAY 27...	0	5	.1	1	0	10
AUG 12...	0	2	.0	1	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
DEC 12...	1045	.0	.00	.00	.5	.00	.00	.00	.49
MAY 27...	1230	< 1	.00	<.01	.0	.00	<.01	.00	1.1
AUG 12...	1010	.0	.00	.00	.1	.00	.00	.00	.63

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
DEC 12...	.02	.00	.00	.00	.00	.00	.04	.43	.00
MAY 27...	<.01	<.13	.00	.00	<.01	<.01	<.05	.10	--
AUG 12...	.01	.00	.00	.00	.00	.00	.04	.05	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC 12...	.00	.00	.00	.00	0	.00	.00	.01	.02
MAY 27...	.00	.00	.00	.00	0	.00	.08	.00	.00
AUG 12...	.00	.00	.00	.01	0	.00	.08	.00	.00

08075100 BRAYS BAYOU AT SCOTT STREET, HOUSTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 29°42'35", long 95°21'23", Harris County, Hydrologic Unit 12040104, at bridge on Scott Street in Houston.

DRAINAGE AREA.--106 mi^2 (275 km^2).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: May 1971 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
SEP 06...	1530	2400	200	7.6	27.5	47	190	6.7	84	17	4500000	520000

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
SEP 06...	96000	434	36	.75	.050	.80	.450	2.1	2.5	.800	18

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX

LOCATION.--Lat 29°37'07", long 95°26'45", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Hiram Clarke Street in southwest Houston, 12.7 mi (20.4 km) upstream from gage Sims Bayou at Houston, and 19.7 mi (31.7 km) upstream from mouth.

DRAINAGE AREA.--20.2 mi² (52.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year (discharge measurements and supplemental peak discharges only Dec. 6, 1978, to Aug. 31, 1979).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Channel bed was lowered 5 to 6 ft (1.5 to 1.8 m) during rectification of 1978. No known diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Records furnished by Houston Lighting and Power Co. show that during the current year, about 630 acre-ft (777,000 m³) of ground water was used for cooling purposes then released to the bayou about 300 ft (90 m) upstream from gage. Recording rain gage located at station.

AVERAGE DISCHARGE.--15 years (water years 1965-78, 1980), 27.1 ft³/s (0.767 m³/s), 19,630 acre-ft/yr (24.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 4,500 ft³/s (127 m³/s) June 15, 1976, elevation, 57.12 ft (17.410 m); minimum daily, 1.5 ft³/s (0.042 m³/s) July 26, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 650 ft³/s (18.4 m³/s), and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 30	1945	1,650	46.7	45.84	13.972	Apr. 25	1300	678	19.2	42.47	12.945
a Jan. 3	0730	153	4.33	38.83	11.835	a July 21	1445	197	5.58	39.55	12.055
Jan. 22	1045	*2,640	74.8	48.97	14.926	Sept. 27	1945	792	22.4	43.01	13.109
Feb. 8	1900	890	25.2	42.95	13.091						

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge 7.7 ft³/s (0.22 m³/s) July 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	23	11	16	32	22	30	175	9.9	10	15	15
2	11	16	13	15	33	17	26	139	9.8	11	13	19
3	12	17	11	57	29	19	32	31	12	10	13	15
4	11	15	11	23	26	16	26	23	15	10	13	18
5	9.2	17	10	16	26	14	18	18	14	7.7	39	49
6	9.2	16	10	15	17	17	20	15	12	8.1	20	366
7	9.6	13	11	13	16	16	20	22	14	8.4	15	253
8	9.2	14	11	13	226	18	18	25	14	11	14	316
9	9.6	16	10	13	196	16	16	18	58	11	14	83
10	9.6	16	11	14	56	15	19	14	23	11	12	27
11	8.8	17	10	13	28	15	21	14	11	11	13	13
12	8.8	15	97	13	22	16	19	14	9.9	12	15	12
13	8.4	14	59	12	20	15	44	17	9.2	10	15	16
14	8.8	16	30	11	24	14	23	36	9.0	10	13	17
15	8.8	16	18	12	33	15	17	17	9.7	11	29	16
16	9.2	13	16	14	32	16	19	28	9.6	12	25	17
17	9.2	12	14	50	25	26	26	23	10	12	16	13
18	10	13	14	33	19	18	28	16	10	11	15	11
19	9.6	13	14	18	20	14	20	197	11	11	15	10
20	8.8	13	12	164	17	14	16	51	9.3	12	15	11
21	9.6	34	12	485	17	13	16	17	11	63	15	12
22	14	38	12	1430	16	13	14	15	9.4	20	14	10
23	10	24	53	222	16	17	14	13	12	20	14	11
24	9.6	12	45	56	17	16	17	10	11	12	11	9.6
25	9.2	13	16	34	17	12	258	11	11	11	12	8.7
26	9.6	11	13	28	16	19	53	10	10	12	12	66
27	12	12	13	24	16	301	19	10	11	12	12	250
28	9.6	14	14	21	14	182	18	11	17	103	13	185
29	10	10	109	24	15	214	18	11	16	55	13	36
30	326	11	29	30	---	94	17	10	13	14	14	271
31	128	---	18	33	---	39	---	10	---	14	14	---
TOTAL	740.4	484	727	2922	1041	1253	902	1021	401.8	546.2	483	2156.3
MEAN	23.9	16.1	23.5	94.3	35.9	40.4	30.1	32.9	13.4	17.6	15.6	71.9
MAX	326	38	109	1430	226	301	258	197	58	103	39	366
MIN	8.4	10	10	11	14	12	14	10	9.0	7.7	11	8.7
AC-FT	1470	960	1440	5800	2060	2490	1790	2030	797	1080	958	4280
(††)	2.83	1.22	2.99	6.08	2.04	3.29	2.32	3.81	1.19	1.64	1.25	7.95

CAL YR 1979 TOTAL - MEAN - MAX - MIN - AC-FT - †† -
WTR YR 1980 TOTAL 12677.7 MEAN 34.6 MAX 1430 MIN 7.7 AC-FT 25150 †† 36.61

†† Weighted-mean rainfall, in inches, based on two rain gages.

NOTE.--No elevation record Dec. 6 to Sept. 18.

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
JAN										
03...	1055	84	428	7.2	14.0	80	270	9.0	87	2.6
JUL										
15...	1130	11	920	7.4	30.0	15	6.1	7.2	95	>20
21...	1335	172	230	7.4	26.0	55	190	6.9	84	>24
21...	1435	196	300	7.6	26.0	60	250	6.4	78	12
AUG										
12...	1105	15	750	7.9	28.5	5	10	5.7	72	11

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
03...	220	K2	170	--	--	--	--	--	--
JUL									
15...	700	110	22	150	0	45	9.2	140	5.0
21...	13000	7700	8900	52	0	16	3.0	25	1.5
21...	110000	31000	9800	--	--	--	--	--	--
AUG									
12...	5400	1000	82	140	0	41	8.2	100	3.7

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN									
03...	--	--	--	--	--	--	--	--	580
JUL									
15...	6.4	300	0	77	93	.7	29	549	3
21...	3.0	85	0	16	21	.3	5.8	132	564
21...	--	--	--	--	--	--	--	--	564
AUG									
12...	5.8	290	0	43	65	.6	25	432	14

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
03...	80	.81	.160	.97	.930	1.8	2.7	2.400	20
JUL									
15...	2	2.4	.250	2.6	2.000	.80	2.8	3.600	8.2
21...	318	.34	.030	.37	.760	2.1	2.9	1.600	38
21...	68	.40	.040	.44	1.000	1.3	2.3	1.700	27
AUG									
12...	13	3.0	.310	3.3	2.600	1.2	3.8	3.700	15

08075400 SIMS BAYOU AT HIRAM CLARKE ST., HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUL							
15...	1130	9	100	<1	0	4	120
21...	1335	5	80	<1	10	2	30
AUG							
12...	1105	9	100	<1	0	4	10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUL						
15...	0	<1	.5	0	0	70
21...	0	2	.1	0	0	7
AUG						
12...	0	2	.2	1	0	8

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JUL									
15...	1130	.0	.00	.01	.0	.00	.00	.00	.23
21...	1335	.0	.00	.02	.3	.02	.00	.01	.27
AUG									
12...	1105	.0	.00	.00	.0	.00	.00	.00	.31

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
JUL									
15...	.00	.00	.00	.00	.00	.00	.01	.00	.00
21...	.03	.00	.00	.00	.00	.01	.01	.42	.00
AUG									
12...	.00	.00	.00	.00	.00	.00	.01	.00	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL									
15...	.00	.00	.00	.00	0	.00	.00	.00	.00
21...	.00	.00	.00	.00	0	.00	.00	.00	.00
AUG									
12...	.00	.00	.00	.00	0	.00	.48	.00	.00

08075500 SIMS BAYOU AT HOUSTON, TX

Location.--Lat 29°40'27", long 95°17'21", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on State Highway 35 in southeast Houston and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--63.0 mi² (163.2 km²). Prior to Oct. 1, 1976, 64.0 mi² (165.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1922: 1960. WDR TX-76-2: 1975(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.09 ft (0.942 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Low flow is largely sustained by sewage effluent from Houston suburbs and industrial wastes. Harris County Flood Control District rainfall and gage height telemetry at station.

AVERAGE DISCHARGE.--28 years, 79.4 ft³/s (2.249 m³/s), 57,530 acre-ft/yr (70.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s (317 m³/s) June 9, 1975, and June 16, 1976; maximum gage height, 33.17 ft (10.110 m) June 9, 1975; minimum daily, 0.9 ft³/s (0.025 m³/s) Aug. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 30	2115	2,790	79.0	21.92	6.681
Jan. 22	1245	*7,210	204	29.53	9.001
aJuly 21	1315	271	7.67	11.86	3.615

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 34 ft³/s (0.96 m³/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	100	39	54	61	66	79	172	41	34	47	53
2	42	54	42	55	63	45	64	322	39	34	55	53
3	41	48	42	210	62	49	60	82	39	34	52	57
4	41	45	39	95	58	52	52	60	39	37	52	60
5	42	46	38	63	61	47	48	58	41	35	72	200
6	43	42	38	56	58	42	48	43	39	36	104	1100
7	42	40	39	53	51	45	54	55	38	37	65	600
8	43	39	38	52	425	45	51	60	39	37	57	700
9	44	43	39	55	859	43	44	60	144	37	53	200
10	40	41	39	55	188	43	48	41	78	38	49	100
11	38	42	39	54	105	44	49	38	48	39	48	50
12	39	44	167	49	82	46	47	38	38	38	48	45
13	38	42	176	47	70	43	148	41	37	39	48	48
14	43	41	94	47	71	41	55	70	35	40	45	50
15	42	43	60	44	120	40	45	45	35	40	56	52
16	44	41	52	49	97	44	38	102	35	39	71	50
17	43	41	50	114	82	68	40	79	35	38	52	45
18	44	42	51	122	70	53	40	46	34	37	47	44
19	43	40	51	65	63	46	38	413	34	37	44	63
20	43	39	46	613	60	78	37	139	34	46	46	49
21	42	83	44	1610	56	46	38	66	34	96	44	51
22	81	129	44	4790	52	42	41	69	41	99	42	45
23	41	91	52	942	49	55	41	54	40	102	39	45
24	37	50	122	198	47	46	42	46	39	45	38	42
25	35	45	54	114	46	40	256	42	40	39	40	41
26	34	43	45	88	45	54	192	42	38	56	42	89
27	34	40	44	75	45	905	60	41	36	45	46	134
28	36	44	44	68	45	706	50	41	37	149	45	270
29	35	39	240	61	44	690	46	41	38	122	60	80
30	667	40	93	64	---	359	44	41	36	57	50	272
31	953	---	61	62	---	118	---	42	---	47	55	---
TOTAL	2832	1517	2022	10024	3135	4041	1895	2489	1281	1609	1612	4688
MEAN	91.4	50.6	65.2	323	108	130	63.2	80.3	42.7	51.9	52.0	156
MAX	953	129	240	4790	859	905	256	413	144	149	104	1100
MIN	34	39	38	44	44	40	37	38	34	34	38	41
AC-FT	5620	3010	4010	19880	6220	8020	3760	4940	2540	3190	3200	9300
(††)	3.04	1.29	2.41	7.15	2.05	3.83	1.75	4.03	1.24	2.18	1.42	7.27

CAL YR 1979 TOTAL 69214 MEAN 190 MAX 6400 MIN 32 AC-FT 137300 †† 61.66
WTR YR 1980 TOTAL 37145 MEAN 101 MAX 4790 MIN 34 AC-FT 73680 †† 37.66

†† Weighted-mean rainfall, in inches, based on six rain gages.

08075500 SIMS BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
JAN										
03...	1310	323	894	7.1	14.5	40	180	9.0	88	60
JUL										
15...	1300	40	1040	7.5	31.0	25	2.4	7.6	100	30
21...	1615	142	381	7.5	27.0	60	70	4.9	60	14
AUG										
12...	1210	49	840	7.8	29.5	10	17	3.4	44	6.3

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
03...	460000	60000	14000	--	--	--	--	--	--
JUL									
15...	140000	39000	2300	130	0	37	8.0	180	7.0
21...	140000	110000	41000	70	0	22	3.6	50	2.6
AUG									
12...	340000	70000	520	120	0	37	7.1	130	5.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN									
03...	--	--	--	--	--	--	--	--	440
JUL									
15...	6.0	240	0	160	100	.6	16	626	1
21...	3.8	110	0	24	46	.3	6.4	210	130
AUG									
12...	4.7	220	0	120	83	.5	12	503	24

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
03...	74	1.3	.310	1.6	1.300	3.0	4.3	1.600	26
JUL									
15...	0	1.1	.220	1.3	2.000	1.1	3.1	3.000	11
21...	18	.76	.070	.83	.930	1.6	2.5	1.300	18
AUG									
12...	18	1.3	.510	1.8	1.700	1.8	3.5	2.000	18

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUL							
15...	1300	12	100	<1	10	3	<10
21...	1615	11	50	<1	10	4	30
AUG							
12...	1210	11	90	<1	0	2	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUL						
15...	0	<1	.2	0	0	7
21...	0	2	.1	0	0	40
AUG						
12...	0	2	.1	0	0	8

08075500 SIMS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JUL									
15...	1300	.0	.00	.00	.0	.00	.00	.00	.24
21...	1615	.0	.00	.00	.1	.00	.00	.02	1.0
AUG									
12...	1210	.0	.00	.00	.0	.00	.00	.00	.07

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
JUL									
15...	.00	.00	.00	.00	.00	.00	.01	.01	.00
21...	.01	.00	.00	.00	.00	.00	.01	.25	.00
AUG									
12...	.00	.00	.00	.00	.00	.00	.01	.00	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL									
15...	.00	.00	.00	.00	0	.00	.00	.00	.00
21...	.00	.00	.00	.00	0	.00	.23	.01	.0*
AUG									
12...	.00	.00	.00	.00	0	.00	.07	.00	.00

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'35", long 95°14'37", Harris County, Hydrologic Unit 12040104, at gaging station at Forest Oaks Street Bridge in southeast Houston, 0.8 mi (1.3 km) upstream from auxiliary gage at mouth of Berry Creek, and 1.7 mi (2.7 km) upstream from Sims Bayou.

DRAINAGE AREA.--10.7 mi² (27.7 km²). Prior to Oct. 1, 1973, 11.1 mi² (28.7 km²). Oct. 1, 1976, to Dec. 31, 1977, 10.1 mi² (26.2 km²). Drainage ditch relocations resulted in drainage area changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year. April 1964 to September 1966 operated as a daily discharge station.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 2.72 ft (0.829 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment. Auxiliary water-stage recorder 0.8 mi (1.3 km) downstream at same datum. June 25, 1964, to Jan. 11, 1965, auxiliary nonrecording gage 0.8 mi (1.3 km) downstream at same datum.

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,650 ft³/s (132 m³/s), revised, July 26, 1979; maximum gage height, 23.85 ft (7.269 m) Sept. 20, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft³/s (25.5 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 30	1945	*2,180	61.7	b16.74	5.102
aJan. 22	1000	1,280	36.2	b17.92	5.462
aJuly 28	1615	128	3.62	b 5.67	1.728

a Water-quality samples were obtained during this runoff event.
b Not at same time as peak discharge.

REVISIONS.--The maximum discharge for the water year 1979 has been revised to 4,650 ft³/s (132 m³/s), July 26, 1979, superseding figure published in the report for 1979. Peak discharge of Mar. 19 (2000 hours) has been revised to 1,430 ft³/s (40.5 m³/s), gage height, 17.63 ft (5.374 m) at 2130 hours. Peak discharge of Sept. 20 (0130 hours) has been revised to 4,350 ft³/s (123 m³/s). The instantaneous flow value for the water-quality sample collected on July 26 (1255 hours) has been revised to 2,380 ft³/s (6.74 m³/s).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
JAN 22...	1010	1270	119	7.0	16.0	120	110	7.9	79	6.9
JUL 28...	1350	8.4	1360	7.3	26.0	25	150	3.6	44	65

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN 22...	190000	140000	45000	44	0	14	2.2	5.3	.3
JUL 28...	920000	240000	56000	120	0	37	7.5	220	8.6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN 22...	2.2	54	0	4.6	4.7	.1	5.1	65	186
JUL 28...	5.4	150	0	29	340	.6	6.6	721	406

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 22...	44	.09	.010	.10	.080	1.0	1.1	.180	11
JUL 28...	138	.59	.160	.75	2.800	13	16	4.100	48

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 22...	1010	2	30	<1	0	1	80
JUL 28...	1350	11	300	<1	10	2	60

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 22...	2	1	.1	0	0	7
JUL 28...	1	160	.0	0	0	10

DATE	TIME	PCB TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JAN 22...	1010	.20	--	.00	.1	.01	.01	.00	.04
JUL 28...	1350	.00	.00	.00	1.1	.00	.01	.01	.48

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
JAN 22...	.01	.00	.00	.00	.00	.01	.01	.01	.00
JUL 28...	.04	.00	.00	.00	.01	.02	.04	.07	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 22...	.00	.00	.00	.00	0	.00	.07	.01	.00
JUL 28...	.00	.00	.00	.01	0	.00	.20	.00	.00

08075730 VINCE BAYOU AT PASADENA, TX

LOCATION.--Lat 29°41'40", long 95°12'58", Harris County, Hydrologic Unit 12040104, on right bank of concrete lined channel at end of West Ellaine Avenue in Pasadena and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--7.32 mi² (18.96 km²). Prior to Jan. 1, 1978, 8.21 mi² (21.26 km²). Jan. 1 to Sept. 30, 1978, 7.61 mi² (19.71 km²). Drainage area revisions due to drainage ditch changes.

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.54 ft (0.774 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence (levels by Corps of Engineers).

REMARKS.--Records fair. Low flow is sustained by sewage effluent.

AVERAGE DISCHARGE.--9 years, 17.5 ft³/s (0.496 m³/s), 12,680 acre-ft/yr (15.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,940 ft³/s (112 m³/s) July 26, 1979, gage height, 16.93 ft (5.160 m); no flow Aug. 5, 6, 18, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft³/s (39.6 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 20	2000	1,460	41.3	13.03	3.972
Jan. 22	0715	*1,940	54.9	13.92	4.243

Minimum daily discharge, 0.08 ft³/s (0.002 m³/s) May 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	2.7	.32	.32	1.5	16	1.1	77	.19	1.3	1.0	.30
2	.23	2.1	.25	.30	3.1	1.0	1.2	5.2	.15	1.2	.65	.40
3	.30	.96	.39	54	4.8	.73	1.7	.56	.32	1.3	.41	.40
4	.56	.56	.41	5.6	4.5	1.9	.82	.38	.17	1.6	.83	.30
5	.22	.42	.49	1.8	15	1.2	.40	.22	.13	1.9	.99	50
6	.19	1.3	.66	1.0	7.4	.81	1.7	.19	.17	1.0	.71	25
7	.11	1.3	.42	.78	2.0	.92	1.4	7.5	1.4	.68	1.9	5.0
8	.15	1.7	.49	.67	139	1.1	.64	5.2	.33	.82	.51	1.5
9	.38	2.7	.26	.45	39	.96	.62	.56	70	.81	.26	1.0
10	.78	.41	.26	.82	6.1	1.1	.50	.08	2.9	.66	.64	.80
11	.90	.18	.26	1.7	3.0	.98	1.3	.08	.34	.98	.59	.70
12	.78	.25	19	.85	3.0	1.0	1.2	.15	.20	.74	.31	.60
13	2.7	.22	38	.56	3.0	.87	28	.30	.22	.77	.97	.55
14	3.3	.20	4.6	.59	6.1	.92	.54	1.2	.17	.82	.81	.50
15	2.7	.19	1.0	1.7	14	.86	1.7	1.9	.28	1.1	1.2	.50
16	1.2	.33	.56	17	8.5	2.7	2.6	52	.50	.85	2.9	1.0
17	.78	.28	.46	131	6.6	17	2.1	15	.50	.78	.80	1.2
18	.66	.30	.27	25	5.3	.94	2.8	.66	.46	.87	1.0	.38
19	.56	.45	.61	12	3.3	.78	1.1	122	.17	.75	.97	12
20	.46	.35	.27	455	2.4	23	.71	2.7	.11	2.2	.83	1.2
21	.56	23	.43	344	1.2	.99	.55	1.2	.52	2.9	.85	.66
22	32	15	.46	642	1.1	.36	.38	.46	.64	3.0	.70	.78
23	1.4	7.1	1.5	38	1.2	2.0	.26	.26	.24	1.6	.21	.78
24	1.0	.38	3.0	16	1.3	1.1	.56	.38	.21	.70	.59	.56
25	.73	.28	1.2	15	1.2	.33	19	1.0	.20	.54	.26	.46
26	.56	.26	.81	9.0	.94	7.1	.66	.78	.26	.76	.57	8.1
27	1.1	.24	.89	5.8	.75	238	.38	.46	.38	1.4	8.3	8.1
28	.66	.46	2.2	2.3	1.1	46	.26	.78	.56	27	1.0	1.7
29	.84	.65	43	2.4	3.0	170	.30	.38	.66	4.3	8.4	.56
30	168	.48	1.2	1.5	---	12	.19	.26	.90	1.8	1.0	44
31	41	---	.54	1.7	---	1.9	---	.22	---	1.4	.30	---
TOTAL	265.20	64.75	124.21	1788.84	289.39	554.55	74.67	299.06	83.28	66.53	40.46	169.03
MEAN	8.55	2.16	4.01	57.7	9.98	17.9	2.49	9.65	2.78	2.15	1.31	5.63
MAX	168	23	43	642	139	238	28	122	70	27	8.4	50
MIN	.11	.18	.25	.30	.75	.33	.19	.08	.11	.54	.21	.30
AC-FT	526	128	246	3550	574	1100	148	593	165	132	80	335
(††)	4.99	1.14	1.98	7.81	1.83	4.29	1.15	3.92	1.15	1.35	1.17	5.24

CAL YR 1979 TOTAL 11563.01 MEAN 31.7 MAX 1520 MIN .11 AC-FT 22940 †† 72.14
WTR YR 1980 TOTAL 3819.97 MEAN 10.4 MAX 642 MIN .08 AC-FT 7580 †† 36.02

†† Weighted-mean rainfall, in inches, based on two rain gages.

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°48'22", long 95°19'50", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Falls Street in northeast Houston.

DRAINAGE AREA.--2.57 mi² (6.66 km²). Oct. 1, 1973, to Sept. 30, 1978, 2.75 mi² (7.12 km²). Prior to Oct. 1, 1973, 3.50 mi² (9.07 km²). Drainage area changes due to changes in storm sewers.

WATER-DISCHARGE RECORDS

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

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 778 ft³/s (22.0 m³/s) June 13, 1973, elevation, 46.70 ft (14.234 m); maximum elevation, 47.35 ft (14.432 m) Sept. 1, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.08 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 30	unknown	292	8.27	44.18	13.466	aApr. 25	b1215	280	7.93	42.49	12.951
Jan. 22	0800	*384	10.9	43.12	13.143	aMay 28	unknown	b1	.028	unknown	-
aJan. 28	unknown	b3	.085	unknown	-	aAug. 6	unknown	b1	.028	unknown	-
aMar. 27	1630	208	5.89	41.42	12.625						

a Water-quality samples were obtained during this runoff event.
b About.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
JAN										
28...	1055	2.4	1110	6.9	15.0	15	11	3.7	36	8.4
MAR										
27...	1020	73	210	6.9	15.0	80	54	--	--	12
APR										
25...	0955	200	157	7.7	21.5	40	93	7.3	82	14
25...	1240	264	160	6.6	21.0	40	99	6.8	76	14
25...	1630	116	220	7.1	23.0	50	46	4.7	55	14
26...	0820	3.6	600	6.8	20.0	40	18	.6	7	9.9
MAY										
28...	1035	.70	1270	7.4	26.5	35	4.7	6.2	76	12
AUG										
06...	1045	.65	--	--	28.0	130	75	1.2	15	13

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
28...	520000	150000	11000	--	--	--	--	--	--
MAR									
27...	540000	190000	180000	--	--	--	--	--	--
APR									
25...	230000	100000	74000	--	--	--	--	--	--
25...	200000	100000	64000	50	11	17	1.9	7.4	.5
25...	580000	190000	42000	--	--	--	--	--	--
26...	3800000	2600000	28000	180	0	54	10	53	1.7
MAY									
28...	61000	13000	420	280	0	77	21	140	3.7
AUG									
06...	860000	210000	3000	--	--	--	--	--	--

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
JAN									
28...	--	--	--	--	--	--	--	--	24
MAR									
27...	--	--	--	--	--	--	--	--	94
APR									
25...	--	--	--	--	--	--	--	--	179
25...	3.3	48	0	17	11	.1	4.1	85	248
25...	--	--	--	--	--	--	--	--	53
26...	5.3	220	0	61	49	.2	12	353	37
MAY									
28...	7.9	470	0	68	140	1.1	19	706	13
AUG									
06...	--	--	--	--	--	--	--	--	48

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
28...	8	.34	.050	.39	2.200	2.4	4.6	1.300	5.6
MAR									
27...	30	1.0	.070	1.1	1.200	1.7	2.9	.890	17
APR									
25...	25	.35	.010	.36	1.000	3.7	4.7	1.800	27
25...	48	.67	.050	.72	1.100	2.1	3.2	2.200	29
25...	8	.50	.040	.54	.750	2.4	3.1	1.400	21
26...	9	.16	.030	.19	1.200	3.7	4.9	1.800	24
MAY									
28...	6	.36	.310	.67	12.000	1.0	13	8.100	12
AUG									
06...	48	4.7	.070	4.8	1.100	3.9	5.0	10.000	4.1

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
MAY							
28...	1035	4	40	<1	0	2	<10
AUG							
06...	1045	44	3	<1	20	14	<10

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
MAY						
28...	0	3	.1	1	0	30
AUG						
06...	0	30	.0	1	0	10

DATE	TIME	PCB TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
MAY									
28...	1035	<.10	.00	.00	.0	.00	.00	.00	.04
AUG									
06...	1045	.00	.00	.00	.0	.00	.00	.00	.02

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
MAY 28...	.00	<.02	.00	.00	.00	.00	.00	.01	.00
AUG 06...	.00	.00	.00	.00	.00	.00	.00	1.5	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 28...	.00	.00	.00	.00	0	.00	.00	.00	.00
AUG 06...	.00	.00	.00	.00	0	.00	.20	.03	.00

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX

LOCATION.--Lat 29°47'35", long 95°16'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of downstream service road bridge of Interstate Highway 610 in northeast Houston and 8.8 mi (14.2 km) upstream from mouth.

DRAINAGE AREA.--15.8 mi² (40.9 km²). Prior to Oct. 1, 1973, 16.8 mi² (43.5 km²). Oct. 1, 1973, to Sept. 30, 1978, 14.7 mi² (38.1 km²). Changes due to storm sewer relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year. Prior to October 1973, published as "U.S. Highway 90-A, Houston".

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence. Prior to Oct. 1, 1972, water-stage recorder at site 1,800 ft (549 m) upstream at same datum.

REMARKS.-Water-discharge records fair except for period of no gage-height, which are poor. Low flow is largely maintained by sewage and industrial effluent. Recording rain gage at station.

AVERAGE DISCHARGE.--16 years, 23.0 ft³/s (0.651 m³/s), 16,660 acre-ft/yr (20.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,380 ft³/s (95.7 m³/s) June 13, 1973, elevation, 38.11 ft (11.616 m); maximum gage height, 39.28 ft (11.973 m) June 15, 1976; minimum daily, 0.88 ft³/s (0.025 m³/s) Aug. 24, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 31	2200	1,140	32.3	33.89	10.330	aMar. 27	1900	927	26.3	31.45	9.586
Jan. 22	1130	*1,710	48.4	35.30	10.759	aApr. 25	1400	1,110	31.4	32.44	9.888

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 2.8 ft³/s (0.079 m³/s) July 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	26	7.2	12	5.9	40	17	14	3.9	4.2	4.4	6.2
2	5.8	13	6.1	10	8.0	25	14	11	3.8	4.1	4.4	9.7
3	5.4	9.9	6.1	55	7.0	15	13	6.5	3.9	4.2	4.1	4.9
4	5.0	8.8	6.3	19	6.5	10	11	5.9	3.7	2.9	3.7	4.2
5	4.6	7.6	6.6	14	6.4	9.0	10	6.0	3.9	2.8	13	45
6	4.4	7.0	6.2	12	6.7	8.0	12	5.8	6.3	2.8	5.0	255
7	4.1	6.4	6.0	12	6.0	7.0	12	21	4.7	2.8	8.0	90
8	4.1	6.4	6.2	10	106	6.5	10	13	5.0	6.1	5.2	25
9	3.9	9.1	6.2	10	154	6.2	8.1	9.4	29	9.3	4.6	10
10	3.8	8.9	6.1	9.4	30	6.0	7.4	6.3	9.2	4.1	8.5	8.0
11	4.6	7.8	6.1	9.2	16	6.0	7.9	5.8	5.2	3.7	8.5	7.0
12	4.3	7.0	109	7.2	12	6.0	7.8	5.6	5.0	4.2	23	6.0
13	4.1	6.6	80	6.8	9.8	6.0	50	6.4	5.1	3.7	36	5.6
14	4.0	6.6	21	6.2	15	6.0	12	15	5.2	3.9	5.7	5.3
15	4.1	6.6	14	6.0	29	6.0	8.5	10	6.1	4.0	22	5.1
16	4.2	6.3	11	6.2	36	6.0	7.8	10	4.6	3.9	14	5.0
17	4.8	6.4	9.7	42	18	25	7.2	50	7.0	3.6	4.9	4.9
18	4.1	6.3	8.9	22	14	15	8.5	25	4.0	3.4	4.5	4.8
19	4.2	6.2	8.8	10	12	10	7.4	148	3.3	3.4	4.4	5.0
20	4.2	6.2	8.7	198	10	9.0	6.0	23	3.1	5.6	3.8	5.8
21	3.3	42	8.8	423	9.0	8.0	5.2	14	3.4	40	3.1	6.9
22	21	39	8.7	959	8.0	7.0	5.4	9.8	3.7	20	3.6	5.4
23	6.8	29	23	200	7.2	10	6.2	7.6	4.0	12	3.8	5.5
24	5.8	15	18	50	6.6	12	5.7	6.8	3.9	9.0	3.3	6.2
25	5.0	13	9.4	25	6.4	10	469	6.5	3.3	7.0	3.5	7.2
26	5.2	13	9.0	15	6.2	15	107	5.5	3.2	6.0	3.6	14
27	5.0	8.7	9.2	12	6.0	540	19	4.8	3.0	5.0	4.8	10
28	5.0	11	8.5	9.3	6.0	289	15	4.8	3.5	10	4.8	6.4
29	5.0	11	67	8.4	6.0	310	14	4.6	4.2	9.0	8.0	9.0
30	252	9.2	19	7.4	---	107	12	4.4	4.0	6.0	24	62
31	354	---	18	6.5	---	30	---	4.5	---	4.2	13	---
TOTAL	757.6	360.0	538.8	2192.6	569.7	1565.7	896.1	471.0	158.2	210.9	263.2	645.1
MEAN	24.4	12.0	17.4	70.7	19.6	50.5	29.9	15.2	5.27	6.80	8.49	21.5
MAX	354	42	109	959	154	540	469	148	29	40	36	255
MIN	3.3	6.2	6.0	6.0	5.9	6.0	5.2	4.4	3.0	2.8	3.1	4.2
AC-FT	1500	714	1070	4350	1130	3110	1780	934	314	418	522	1280
(††)	3.10	1.27	2.62	6.67	1.99	5.59	3.95	3.28	.96	2.20	3.77	6.36

CAL YR 1979 TOTAL 16607.1 MEAN 45.5 MAX 1770 MIN 2.7 AC-FT 32940 †† 67.06
WTR YR 1980 TOTAL 8628.9 MEAN 23.6 MAX 959 MIN 2.8 AC-FT 17120 †† 41.76

†† Weighted-mean rainfall, in inches, based on three rain gages.

NOTE.--No gage-height record Feb. 20 to Mar. 26.

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
JAN										
28...	1150	9.3	947	6.9	14.0	20	7.5	3.5	34	9.6
MAR										
27...	1200	696	190	6.7	15.5	80	84	--	--	12
APR										
25...	1110	652	216	6.6	21.5	30	300	6.2	70	24
25...	1430	1100	165	7.1	21.5	30	110	5.9	66	11
26...	0730	113	420	6.8	20.5	50	30	2.6	29	15
27...	0800	21	700	6.6	18.0	30	19	3.2	33	5.5
MAY										
28...	1245	4.4	1540	8.0	28.5	30	23	12.4	158	16
AUG										
06...	1210	4.4	600	7.4	28.5	30	5.0	4.0	51	6.0

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
28...	13000	2000	150	--	--	--	--	--	--
MAR									
27...	600000	34000	51000	--	--	--	--	--	--
APR									
25...	170000	29000	48000	--	--	--	--	--	--
25...	180000	40000	64000	64	18	22	2.1	6.9	.4
26...	1800000	240000	13000	--	--	--	--	--	--
27...	66000	25000	4800	190	0	56	11	62	2.0
MAY									
28...	12000	1700	44	240	0	63	20	210	5.9
AUG									
06...	60000	16000	170	120	0	36	7.0	69	2.8

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN									
28...	--	--	--	--	--	--	--	--	11
MAR									
27...	--	--	--	--	--	--	--	--	264
APR									
25...	--	--	--	--	--	--	--	--	474
25...	3.3	56	0	22	8.6	.2	3.5	96	167
26...	--	--	--	--	--	--	--	--	53
27...	4.5	260	0	50	44	.3	14	370	34
MAY									
28...	47	420	0	52	250	.8	13	863	128
AUG									
06...	6.7	220	0	44	46	.5	11	329	3

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
28...	3	.14	.03	.17	1.9	2.5	4.4	1.700	11
MAR									
27...	40	.60	.03	.63	.73	2.0	2.7	.820	14
APR									
25...	29	1.1	.03	1.1	1.3	3.1	4.4	1.600	40
25...	26	.96	.04	1.0	1.1	1.9	3.0	.790	24
26...	54	1.5	.07	1.6	1.6	2.1	3.7	.910	20
27...	6	2.7	.05	2.7	7.7	5.3	13	.940	21
MAY									
28...	30	.08	.61	.69	4.9	6.1	11	2.900	43
AUG									
06...	1	.17	.09	.26	5.2	3.4	8.6	2.800	16

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY 28...	1245	5	200	<1	0	0	20
AUG 06...	1210	12	70	<1	0	2	50

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 28...	0	200	.1	0	0	7
AUG 06...	0	130	.0	0	0	30

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAY 28...	1245	<.1	.00	<.04	.0	.00	<.01	.00	.22
AUG 06...	1210	.0	.00	.00	.0	.01	.00	.00	.38

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
MAY 28...	.00	.00	.00	.00	<.03	.00	<.01	.01	.00
AUG 06...	.00	.00	.00	.00	.00	.00	.03	1.3	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 28...	.00	.00	.00	.01	0	.00	.27	.00	.01
AUG 06...	.00	.00	.00	.00	0	.00	.31	.02	.00

08075900 GREENS BAYOU AT U.S. HIGHWAY 75 NEAR HOUSTON, TX

LOCATION.--Lat 29°57'24", long 95°25'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of U.S. Highway 75 bridge, 9.0 mi (14.5 km) upstream from station 08076000, and 21 mi (34 km) upstream from Halls Bayou.

DRAINAGE AREA.--36.1 mi^2 (93.5 km^2). Prior to October 1973, 34.8 mi^2 (90.1 km^2).

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

REVISED RECORDS.--WDR TX-76-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair. Records furnished by Houston Lighting and Power Co. show that about 2,640 acre-ft (3.26 hm^3) of ground water used for cooling purposes was released to bayou about 8 mi (13 km) upstream from gage during the current year. No know diversion above station. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 30.8 ft^3/s (0.872 m^3/s), 22,310 acre-ft/yr (27.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,950 ft^3/s (83.5 m^3/s) Sept. 20, 1979, elevation, 90.46 ft (27.572 m); maximum elevation, 91.09 ft (27.764 m) Feb. 21, 1969; minimum daily discharge, 0.16 ft^3/s (0.004 m^3/s) Oct. 21, 22, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft^3/s (22.7 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 21	0430	1,030	29.2	83.90	25.573
Feb. 9	0030	962	27.2	83.60	25.481
Mar. 27	2000	*1,660	47.0	86.13	26.252

Minimum daily discharge, 6.1 ft^3/s (0.17 m^3/s) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	21	8.6	13	14	33	40	10	11	8.2	9.5	22
2	11	13	8.8	12	15	14	32	10	11	8.6	10	18
3	11	12	9.4	24	15	15	28	10	9.9	8.5	8.0	13
4	11	11	9.2	15	14	17	21	9.6	11	8.6	7.0	13
5	9.4	12	10	13	15	16	17	9.5	11	8.4	23	24
6	8.5	10	9.1	11	13	13	15	9.1	13	8.1	11	378
7	8.5	9.0	8.8	11	12	12	17	13	11	7.7	7.9	185
8	9.5	8.2	7.9	11	264	11	15	11	11	8.3	8.6	64
9	11	9.6	8.9	10	524	11	12	13	87	8.6	7.2	29
10	9.6	11	9.2	11	107	12	12	9.6	35	9.4	6.2	16
11	9.4	8.5	8.5	10	53	12	12	10	16	9.1	6.3	11
12	9.5	8.5	283	9.8	35	14	13	9.7	12	10	7.1	9.6
13	9.1	8.4	98	11	26	12	34	11	11	8.7	7.2	8.3
14	8.5	8.3	23	13	27	13	16	58	11	9.6	7.4	9.6
15	9.5	8.1	16	11	37	13	15	101	9.2	9.4	14	8.6
16	8.6	10	13	11	66	14	14	145	8.9	9.3	34	10
17	9.2	9.9	12	17	35	15	13	210	11	9.0	9.2	10
18	12	8.2	11	14	25	11	14	48	12	9.3	7.2	10
19	12	8.1	10	12	23	12	14	270	11	8.6	6.7	8.1
20	11	8.2	10	236	23	81	12	91	8.9	8.7	6.3	7.9
21	11	39	11	794	18	25	12	36	9.3	10	6.1	8.7
22	20	32	12	736	20	12	10	21	61	7.9	8.6	7.7
23	13	24	58	216	21	14	9.0	17	43	8.4	12	7.5
24	10	9.6	33	77	14	14	8.8	13	12	9.0	14	8.0
25	9.7	9.3	14	45	17	12	124	12	9.7	8.9	12	8.0
26	13	10	12	33	14	21	26	13	9.8	8.1	16	8.0
27	10	9.2	12	22	13	558	10	13	8.5	9.0	20	7.5
28	10	8.4	11	17	14	767	8.8	13	8.4	76	17	7.5
29	9.3	7.9	81	16	13	567	9.5	25	7.8	44	21	10
30	118	8.3	22	17	---	174	9.2	14	8.6	11	25	200
31	188	---	15	14	---	66	---	12	---	9.4	25	---
TOTAL	613.3	360.7	855.4	2462.8	1487	2581	593.3	1247.5	500.0	377.8	380.5	1128.0
MEAN	19.8	12.0	27.6	79.4	51.3	83.3	19.8	40.2	16.7	12.2	12.3	37.6
MAX	188	39	283	794	524	767	124	270	87	76	34	378
MIN	8.5	7.9	7.9	9.8	12	11	8.8	9.1	7.8	7.7	6.1	7.5
AC-FT	1220	715	1700	4880	2950	5120	1180	2470	992	749	755	2240
(††)	2.46	1.33	3.20	4.42	2.38	5.41	1.28	4.82	1.73	1.21	2.21	5.46

CAL YR 1979 TOTAL 20475.5 MEAN 56.1 MAX 1870 MIN 6.4 AC-FT 40610 †† 54.50
WTR YR 1980 TOTAL 12587.3 MEAN 34.4 MAX 794 MIN 6.1 AC-FT 24970 †† 35.91

†† Weighted-mean rainfall, in inches, based on five rain gages.

08076000 GREENS BAYOU NEAR HOUSTON, TX

LOCATION.--Lat 29°55'05", long 95°18'24", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on U.S. Highway 59, 10.5 mi (16.9 km) northeast of Houston, 12.0 mi (19.3 km) upstream from Halls Bayou, and 23.4 mi (37.7 km) upstream from mouth.

DRAINAGE AREA.--69.6 mi^2 (180.3 km^2). Prior to Oct. 1, 1973, 72.7 mi^2 (188.3 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft (0.201 m) below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Channel rectified during the water years 1974-75. No known diversion above station. Low flow is sustained by Houston Light and Power Co. effluent, which is obtained from ground-water sources. Recording rain gage at station.

AVERAGE DISCHARGE.--28 years, 56.4 ft^3/s (1.597 m^3/s), 40,860 acre-ft/yr (50.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,730 ft^3/s (219 m^3/s) Apr. 18, 1976, gage height, 61.92 ft (18.873 m); maximum gage height, 65.75 ft (20.041 m) Sept. 12, 1961 (prior to channel rectification); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,700 ft^3/s (48.1 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
a Oct. 22	1230	119	3.37	46.71	14.237	a Jan. 22	1200	*2,570	72.8	58.38	17.794
a Nov. 21	2230	587	16.6	50.14	15.283	Mar. 29	1500	2,480	70.2	58.18	17.733
a Jan. 21	0500	2,040	57.8	57.44	17.508						

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 13 ft^3/s (0.37 m^3/s) Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	51	20	24	31	82	99	133	24	22	18	23
2	20	27	17	22	36	32	70	71	24	20	18	19
3	20	23	17	65	36	28	60	29	21	20	17	16
4	19	23	17	34	31	32	46	24	23	20	15	16
5	17	21	19	25	38	32	39	24	23	20	39	27
6	16	20	17	22	34	28	37	24	24	20	33	1000
7	15	19	15	20	29	26	41	36	24	19	17	505
8	16	16	16	22	381	26	34	32	24	21	18	165
9	17	19	16	23	906	23	29	31	163	22	16	54
10	16	20	17	21	255	23	24	26	88	21	14	28
11	16	21	18	23	111	26	25	26	32	20	13	21
12	16	16	666	18	72	29	34	25	25	20	15	17
13	16	17	367	19	54	24	76	55	23	21	17	16
14	15	16	57	20	48	24	39	147	21	21	16	15
15	16	15	32	24	73	23	31	128	20	20	30	15
16	17	17	25	24	135	32	29	448	19	18	53	16
17	15	20	22	59	77	37	26	566	22	19	23	16
18	17	16	20	39	52	24	26	130	25	18	16	16
19	19	16	19	23	44	25	29	651	25	18	16	23
20	19	17	17	391	43	139	26	249	23	19	15	16
21	19	184	19	1600	37	59	26	79	22	52	14	18
22	48	163	20	1840	33	25	24	45	43	23	15	15
23	26	71	118	632	38	26	22	36	135	20	14	15
24	16	26	142	213	31	30	22	29	32	18	15	16
25	15	19	31	113	26	22	343	25	22	18	16	16
26	16	22	23	79	29	37	91	27	25	18	15	16
27	17	21	23	56	25	924	28	28	20	24	21	19
28	15	20	20	45	26	1560	23	27	19	192	19	18
29	15	19	208	43	25	1320	23	37	18	155	16	18
30	210	18	51	39	---	645	22	29	19	25	27	456
31	639	---	30	34	---	192	---	25	---	18	22	---
TOTAL	1383	973	2099	5612	2756	5555	1444	3242	1028	962	613	2631
MEAN	44.6	32.4	67.7	181	95.0	179	48.1	105	34.3	31.0	19.8	87.7
MAX	639	184	666	1840	906	1560	343	651	163	192	53	1000
MIN	15	15	15	18	25	22	22	24	18	18	13	15
AC-FT	2740	1930	4160	11130	5470	11020	2860	6430	2040	1910	1220	5220
(††)	2.51	1.50	3.21	5.00	2.22	5.36	1.55	4.65	1.74	1.40	1.55	5.39

CAL YR 1979 TOTAL 44022 MEAN 121 MAX 4280 MIN 13 AC-FT 87320 †† 55.01
WTR YR 1980 TOTAL 28298 MEAN 77.3 MAX 1840 MIN 13 AC-FT 56130 †† 36.08

†† Weighted-mean rainfall, in inches, based on seven rain gages.

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT										
22...	1250	114	778	7.5	23.5	20	77	4.5	52	24
NOV										
21...	1410	145	478	7.3	19.5	40	600	7.1	76	20
23...	0945	80	435	7.1	12.0	45	64	8.4	76	14
JAN										
21...	1100	1660	161	6.9	15.5	280	200	7.7	75	11
22...	1405	2530	145	7.2	14.5	240	150	8.1	79	4.3
23...	1150	551	193	6.9	10.5	210	160	9.3	82	4.5
JUL										
30...	1225	24	590	7.3	29.5	25	120	2.8	36	22

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
22...	800000	200000	6700	--	--	--	--	--	--
NOV									
21...	660000	38000	19000	120	0	37	6.1	56	2.2
23...	34000	18000	7700	--	--	--	--	--	--
JAN									
21...	140000	36000	20000	--	--	--	--	--	--
22...	120000	38000	25000	53	0	17	2.6	8.2	.5
23...	28000	3400	2200	--	--	--	--	--	--
JUL									
30...	25000	4900	2200	130	0	44	5.6	69	2.6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT									
22...	--	--	--	--	--	--	--	--	165
NOV									
21...	5.6	160	0	33	52	.3	16	285	1440
23...	--	--	--	--	--	--	--	--	146
JAN									
21...	--	--	--	--	--	--	--	--	634
22...	2.3	66	0	7.4	6.9	.1	7.1	84	344
23...	--	--	--	--	--	--	--	--	196
JUL									
30...	7.2	170	0	68	59	.4	21	358	160

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
22...	20	.74	.36	1.1	1.8	2.0	3.8	3.900	15
NOV									
21...	27	.60	.34	.94	1.4	3.2	4.6	1.000	24
23...	5	.30	.16	.46	.63	1.3	1.9	1.600	24
JAN									
21...	54	.10	.02	.12	.11	1.5	1.6	.280	19
22...	56	.03	.01	.04	.06	1.3	1.4	.190	18
23...	20	.07	.03	.10	.13	1.4	1.5	.010	18
JUL									
30...	38	.98	.42	1.4	1.4	1.1	2.5	2.100	17

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV 21...	1410	4	200	<1	0	0	20
JAN 22...	1405	2	70	<1	0	2	100
JUL 30...	1225	10	200	<1	0	4	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 21...	1	30	.0	1	0	<3
JAN 22...	0	3	.1	0	0	<3
JUL 30...	0	3	.0	1	0	4

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
NOV 21...	1410	.0	--	.00	.0	.00	.00	.00	.02
JAN 22...	1405	.0	.00	.00	.0	.00	.00	.00	.04
JUL 30...	1225	.0	.00	.00	.0	.00	.00	.00	1.6

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
NOV 21...	.00	.00	.00	.00	.00	.00	.01	.00	.00
JAN 22...	.00	.00	.00	.00	.00	.00	.00	.01	.00
JUL 30...	.00	.00	.00	.00	.00	.00	.02	.14	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 21...	.00	.00	.00	.00	0	.00	.17	.01	.00
JAN 22...	.00	.00	.00	.00	0	.00	.00	.01	.00
JUL 30...	.00	.00	.00	.00	0	.00	9.1	.00	.00

08076500 HALLS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°51'42", long 95°20'05", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Jensen Drive in northeast section of Houston and 11.0 mi (17.7 km) upstream from mouth.

DRAINAGE AREA.--27.6 mi² (71.5 km²). Oct. 1, 1973, to Sept. 30, 1977, 28.3 mi² (73.3 km²). Prior to Oct. 1, 1973, 24.7 mi² (64.0 km²). Changes were result of drainage ditch extensions or relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1732: Drainage area. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft (0.201 m) below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair except those for April, May, and September, which are poor. No known diversion above station. Low flow is sustained by sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--28 years, 27.4 ft³/s (0.776 m³/s), 19,850 acre-ft/yr (24.5 hm³).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,780 ft³/s (107 m³/s) Mar. 21, 1972, gage height, 60.70 ft (18.501 m); maximum gage height, 60.75 ft (18.517 m) June 13, 1973; no flow at times prior to 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
a Oct. 22	unknown	60	1.70	unknown	--	a Jan. 22	1300	*2,030	57.5	57.79	17.614
a Nov. 21	2030	233	6.60	49.50	15.088	Mar. 27	2000	1,280	36.2	56.06	17.087
a Jan. 21	0630	1,060	30.0	54.72	16.679						

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 6.4 ft³/s (0.18 m³/s) Aug. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	19	11	15	20	25	32	11	10	8.0	8.3	18
2	14	12	17	15	21	18	25	10	10	7.8	9.6	14
3	14	11	12	48	23	14	22	10	10	7.9	9.4	12
4	13	11	11	27	21	17	20	10	10	8.5	9.0	10
5	13	12	11	17	20	18	18	9.5	10	7.5	16	25
6	13	11	10	15	19	15	17	9.5	9.9	7.8	9.1	250
7	12	11	10	15	17	15	20	9.0	9.8	8.2	9.4	150
8	12	11	9.7	14	176	15	18	9.0	9.2	7.9	10	70
9	11	11	11	14	254	16	16	50	49	7.9	9.3	30
10	10	10	11	14	72	14	14	25	40	8.9	8.8	15
11	12	9.8	11	14	45	14	13	15	13	8.3	8.0	13
12	11	10	260	13	33	16	12	12	9.9	7.3	9.7	12
13	10	9.2	103	12	28	16	45	12	9.8	7.6	8.2	11
14	9.5	9.3	30	13	28	15	15	45	9.7	7.6	11	10
15	10	9.2	18	12	41	14	13	75	9.4	7.5	11	9.5
16	11	9.0	15	12	60	17	12	110	9.8	6.8	14	9.0
17	12	9.4	14	37	39	30	11	160	9.0	7.5	9.5	9.0
18	11	9.8	12	40	28	19	11	40	8.9	7.7	8.2	8.5
19	12	11	13	18	22	15	11	220	8.5	7.6	6.9	8.5
20	13	9.9	12	111	18	31	10	60	8.7	7.9	7.1	8.0
21	12	88	13	720	16	30	11	25	8.4	19	7.0	12
22	30	79	13	994	15	14	10	15	10	14	6.9	10
23	15	36	44	209	15	14	9.9	13	30	8.3	7.0	9.0
24	10	16	54	77	14	16	9.6	12	12	8.2	6.8	15
25	10	13	19	50	14	14	150	11	9.5	7.8	6.4	12
26	10	12	13	38	15	22	70	11	10	7.1	6.5	10
27	9.9	12	14	30	14	511	15	10	8.2	10	12	9.0
28	10	12	14	25	14	436	13	10	8.5	45	15	9.0
29	11	11	87	24	14	300	12	20	8.1	26	12	12
30	168	13	28	24	---	150	11	13	8.4	12	50	140
31	201	---	18	21	---	50	---	11	---	8.3	25	---
TOTAL	724.4	507.6	918.7	2688	1116	1911	666.5	1053.0	377.7	321.9	347.1	930.5
MEAN	23.4	16.9	29.6	86.7	38.5	61.6	22.2	34.0	12.6	10.4	11.2	31.0
MAX	201	88	260	994	254	511	150	220	49	45	50	250
MIN	9.5	9.0	9.7	12	14	14	9.6	9.0	8.1	6.8	6.4	8.0
AC-FT	1440	1010	1820	5330	2210	3790	1320	2090	749	638	688	1850
(††)	2.79	1.73	3.12	5.19	1.85	5.12	1.76	4.22	1.55	1.36	1.63	5.21

CAL YR 1979 TOTAL 20260.5 MEAN 55.5 MAX 2480 MIN 7.5 AC-FT 40190 †† 54.06
WTR YR 1980 TOTAL 11562.4 MEAN 31.6 MAX 994 MIN 6.4 AC-FT 22930 †† 35.53

†† Weighted-mean rainfall, in inches, based on five rain gages.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT										
22...	1340	45	671	7.1	24.0	40	2.8	2.1	25	24
NOV										
21...	1330	72	674	7.3	21.0	45	55	2.3	26	47
23...	1025	32	529	6.4	13.0	35	17	6.4	60	12
JAN										
21...	1210	712	195	6.8	15.5	120	100	6.6	65	9.6
22...	1315	2010	149	7.1	13.5	140	96	8.3	79	5.8
23...	1220	166	271	6.9	11.0	120	84	7.5	66	9.6
JUL										
30...	1110	11	560	7.2	28.5	40	4.0	2.7	34	10

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
22...	1300000	620000	17000	--	--	--	--	--	--
NOV									
21...	3800000	2800000	18000	160	0	49	10	81	2.8
23...	130000	120000	10000	--	--	--	--	--	--
JAN									
21...	420000	100000	46000	--	--	--	--	--	--
22...	21000	6700	5500	53	0	17	2.6	7.2	.4
23...	200000	26000	7300	--	--	--	--	--	--
JUL									
30...	14000	3600	200	120	0	39	6.1	53	2.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT									
22...	--	--	--	--	--	--	--	--	6
NOV									
21...	7.7	270	0	31	70	.3	20	403	175
23...	--	--	--	--	--	--	--	--	11
JAN									
21...	--	--	--	--	--	--	--	--	254
22...	2.5	66	0	6.3	7.2	.1	7.4	83	262
23...	--	--	--	--	--	--	--	--	184
JUL									
30...	7.9	190	0	31	55	.2	19	308	3

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
22...	12	.15	.18	.33	2.3	7.7	10	7.600	28
NOV									
21...	9	.13	.14	.27	7.9	10	18	1.100	44
23...	0	.20	.18	.38	1.5	2.9	4.4	5.800	19
JAN									
21...	34	.11	.03	.14	.17	1.6	1.8	.430	21
22...	48	.18	.02	.20	.21	1.6	1.8	.400	18
23...	28	.16	.05	.21	.35	1.7	2.0	.040	19
JUL									
30...	2	.10	.05	.15	5.0	4.0	9.0	4.100	19

08076500 HALLS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV 21...	1330	4	200	<1	0	0	60
JAN 22...	1315	3	70	<1	0	0	160
JUL 30...	1110	28	200	<1	0	2	90

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 21...	1	390	.3	0	0	20
JAN 22...	0	3	.0	0	0	9
JUL 30...	0	230	.1	1	0	4

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
NOV 21...	1330	.0	--	.00	.1	.00	.00	.00	.46
JAN 22...	1315	.0	.00	.00	.2	.01	.00	.02	.06
JUL 30...	1110	.0	.00	.00	.0	.00	.00	.00	.53

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
NOV 21...	.00	.00	.00	.00	.00	.00	.02	.09	.00
JAN 22...	.01	.00	.00	.00	.01	.02	.00	.00	.00
JUL 30...	.00	.00	.00	.00	.00	.00	.01	.07	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 21...	.00	.00	.00	.00	0	.00	.01	.00	.00
JAN 22...	.00	.00	.00	.00	0	.00	.03	.00	.00
JUL 30...	.00	.00	.00	.00	0	.00	.16	.02	.00

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX

LOCATION.--Lat 29°50'13", long 95°13'59", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of Ley Road Bridge in northeast Houston and 300 ft (91 m) downstream from mouth of Halls Bayou.

DRAINAGE AREA.--182 mi² (471 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1962 to December 1964, May to September 1971 (discharge measurements only), October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2.13 ft (0.649 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Water-discharge records fair except those below 1,000 ft³/s (28.3 m³/s), which are poor. Discharge is computed for all storms which produce peak discharges over 1,000 ft³/s (28.3 m³/s). Tidal influences on the stage-discharge relationship affect discharge below about 500 ft³/s (14.2 m³/s). Discharge below 1,000 ft³/s (28.3 m³/s) is estimated following designated storm periods only.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft³/s (473 m³/s) June 13, 1973, gage height, 34.27 ft (10.445 m); minimum not determined (affected by tides).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,200 ft³/s (119 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
aJan. 22	1900	*9,540	270	26.15	7.971
Mar. 28	0600	5,920	168	21.75	6.629

a Water-quality samples were obtained during this runoff event.

Minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	320	---	---	---	---	190	257				---
2	---	120	---	---	---	---	---	460				---
3	---	---	---	---	---	---	---	80				---
4	---	---	---	---	---	---	---	---				---
5	---	---	---	---	---	---	---	---				120
6	---	---	---	---	---	---	---	---				1630
7	---	---	---	---	80	---	---	---				930
8	---	---	---	---	1000	---	---	---				320
9	---	---	---	---	2200	---	---	---				120
10	---	---	---	---	600	---	---	---				---
11	---	---	---	---	300	---	---	---				---
12	---	---	964	---	200	---	---	---				---
13	---	---	1420	---	---	---	---	---				---
14	---	---	276	---	---	---	---	410				---
15	---	---	100	---	---	---	---	490				---
16	---	---	---	---	---	---	---	960				---
17	---	---	---	---	---	---	---	1200				---
18	---	---	---	---	---	---	---	530				---
19	---	---	---	---	---	---	---	1340				---
20	---	---	---	604	---	---	---	900				---
21	---	206	---	4540	---	---	---	250				---
22	---	517	---	6960	---	---	---	100				---
23	---	50	---	3840	---	---	---	---				---
24	---	---	---	750	---	---	---	---				---
25	---	---	---	400	---	---	1560	---				---
26	---	---	---	250	---	---	990	---				---
27	---	---	---	---	---	2180	100	---				---
28	---	---	---	---	---	4780	---	---				---
29	---	---	---	---	---	2830	---	---				---
30	775	---	---	---	---	2560	---	---				---
31	2570	---	---	---	---	640	---	---				---
TOTAL	---	---	---	---	---	---	---	---				---
MEAN	---	---	---	---	---	---	---	---				---
MAX	---	---	---	---	---	---	---	---				---
MIN	---	---	---	---	---	---	---	---				---
AC-FT	---	---	---	---	---	---	---	---				---

CAL YR 1979 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1980 TOTAL - MEAN - MAX - MIN - AC-FT -

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
JAN										
21...	0945	5230	184	7.0	16.0	120	230	7.3	72	12
22...	1130	7020	145	6.5	16.0	140	180	8.0	81	4.8
23...	1030	3790	171	7.1	11.5	240	96	8.2	73	4.4

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
21...	140000	39000	30000	62	4	20	2.8	13	.7
22...	500000	60000	32000	54	12	18	2.1	8.8	.5
23...	74000	15000	6700	--	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN									
21...	2.4	70	0	11	15	.1	6.1	105	800
22...	1.9	51	0	16	10	.1	5.3	87	360
23...	--	--	--	--	--	--	--	--	180

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
21...	68	.19	.03	.22	.18	1.8	2.0	.380	23
22...	28	.13	.02	.15	.13	1.2	1.3	.200	19
23...	32	.06	.03	.09	.11	1.1	1.2	.180	18

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN							
21...	0945	2	80	<1	0	2	90

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN						
21...	0	8	.1	0	0	<3

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JAN 21...	0945	.0	.00	.00	.1	.00	.00	.00	.06

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
JAN 21...	.00	.00	.00	.00	.00	.00	.00	.02	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 21...	.00	.00	.00	.00	0	.00	.06	.08	.00

08077000 CLEAR CREEK NEAR PEARLAND, TX

LOCATION.--Lat 29°35'50", long 95°17'11", Harris-Brazoria County line, Hydrologic Unit 12040204, at downstream side of pier of bridge on State Highway 35, 0.7 mi (1.1 km) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi (1.9 km) upstream from Hickory Slough, 2.3 mi (3.7 km) north of Pearland, and about 30 mi (48 km) upstream from head of Clear Lake.

DRAINAGE AREA.--38.8 mi^2 (100.5 km^2).

PERIOD OF RECORD.--July to October 1944, March to October 1946, April 1947 to December 1959, March 1963 to current year. Discharge for some high-water periods in 1944 and 1946 published in WSP 1392.

REVISED RECORDS.--WSP 1392: 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 26.58 ft (8.102 m) National Geodetic Vertical Datum of 1929, 1973 adjustment; prior records unadjusted for land-surface subsidence. Prior to June 9, 1948, nonrecording gage, and June 9, 1948, to Apr. 22, 1952, water-stage recorder at same site and datum 5.80 ft (1.768 m) higher.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Large area of riceland above station is irrigated with water from the Brazos River. Low flow from April to October is largely drainage from irrigated lands. Many diversions for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years (water years 1948-59, 1964-80), 36.7 ft^3/s (1.039 m^3/s), 26,590 acre-ft/yr (32.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft^3/s (61.5 m^3/s) Mar. 18, 1957; maximum gage height, 18.57 ft (5.660 m) July 26, 1979; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1960 (stage and discharge unknown), may have exceeded that of Mar. 18, 1957. Channel was rectified in 1933, 1952, 1968, and 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft^3/s (17.0 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 31	0100	697	19.7	10.62	3.237
Jan. 22	about 2400	*1,800	51.0	a17.89	5.453
Mar. 29	2200	614	17.4	9.90	3.018

a From floodmark.

Minimum daily discharge, 0.74 ft^3/s (0.021 m^3/s) Oct. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	109	2.0	6.6	9.8	4.5	61	30	15	11	9.6	2.2
2	8.0	40	2.0	4.5	8.2	3.5	33	160	15	9.7	7.0	1.9
3	7.0	21	2.1	4.3	8.3	3.1	24	95	17	9.3	5.1	2.5
4	6.0	15	5.6	4.4	7.7	3.5	14	29	15	8.9	3.8	1.8
5	5.0	11	7.6	4.4	6.7	3.5	8.0	11	14	9.3	3.4	3.5
6	4.5	8.0	5.7	4.4	6.0	3.1	5.6	5.2	13	8.4	4.6	40
7	4.0	6.0	3.8	4.4	5.1	3.1	5.4	3.9	13	9.1	3.2	32
8	3.5	5.0	2.6	4.0	40	3.1	4.8	4.5	8.9	9.3	2.7	59
9	3.0	4.0	1.9	3.5	314	3.0	3.8	6.0	11	9.6	2.8	40
10	2.7	3.0	1.5	3.1	168	2.9	3.0	4.6	17	11	2.6	18
11	2.3	2.5	1.3	3.0	75	2.9	2.8	3.2	25	12	2.3	12
12	2.0	2.0	1.8	2.6	42	2.9	2.8	2.7	14	12	1.9	10
13	1.8	1.5	14	2.2	26	2.6	27	3.0	9.8	11	1.6	6.5
14	1.6	1.3	15	2.0	20	2.3	11	3.6	8.4	12	4.5	4.4
15	1.4	1.2	9.7	2.0	59	2.1	5.6	4.3	8.4	13	4.5	3.2
16	1.2	1.1	7.6	2.0	60	2.3	3.8	8.6	11	13	3.4	2.2
17	1.1	1.1	5.5	3.0	46	4.6	2.9	13	11	14	6.8	1.8
18	1.0	1.1	4.0	6.0	28	3.1	6.6	9.9	10	14	6.0	1.4
19	.90	1.8	3.2	7.0	20	3.1	21	120	9.2	14	4.2	1.4
20	.90	2.2	2.9	10	15	6.8	8.3	85	8.9	12	3.0	1.3
21	1.5	3.0	2.8	100	12	11	16	41	11	13	2.8	1.4
22	1.4	8.5	2.8	1150	10	7.8	15	32	12	19	2.5	1.3
23	1.2	9.5	2.8	1500	8.1	6.7	16	19	17	23	2.4	1.1
24	1.1	6.6	2.8	800	6.7	5.7	15	14	13	34	2.3	1.0
25	1.0	4.6	3.1	250	5.3	3.9	25	13	18	23	2.2	.92
26	.90	3.7	3.2	130	4.2	4.0	28	15	15	24	2.1	2.9
27	.80	3.2	2.9	65	3.7	184	26	18	13	22	2.1	5.9
28	.75	2.9	2.4	35	3.5	408	23	18	12	38	2.2	48
29	.74	2.4	16	23	4.1	373	20	16	11	53	4.3	40
30	128	2.1	16	17	---	421	7.0	17	11	35	4.0	39
31	449	---	10	13	---	149	---	17	---	16	3.2	---
TOTAL	654.29	284.3	164.6	4166.4	1022.4	1640.1	445.4	822.5	387.6	522.6	113.1	386.62
MEAN	21.1	9.48	5.31	134	35.3	52.9	14.8	26.5	12.9	16.9	3.65	12.9
MAX	449	109	16	1500	314	421	61	160	25	53	9.6	59
MIN	.74	1.1	1.3	2.0	3.5	2.1	2.8	2.7	8.4	8.4	1.6	.92
AC-FT	1300	564	326	8260	2030	3250	883	1630	769	1040	224	767

CAL YR 1979 TOTAL 31717.49 MEAN 86.9 MAX 1910 MIN .74 AC-FT 62910
WTR YR 1980 TOTAL 10609.91 MEAN 29.0 MAX 1500 MIN .74 AC-FT 21040

NOTE.--No gage-height record Jan. 17-28.

08077650 MOSES LAKE-GALVESTON BAY NEAR TEXAS CITY, TX

LOCATION.--Lat 29°26'50", long 94°55'12", Galveston County, Hydrologic Unit 12040204, on right side of gate abutment of Texas City Flood Control Dike, one orifice located upstream and one downstream, at mouth of Moses Lake, and 4.5 mi (7.2 km) north of Texas City.

PERIOD OF RECORD.--May 1967 to current year.

GAGE.--Duplex water-stage recorder and crest-stage gages. Datum of gage is 0.49 ft (0.149 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers), 1973 adjustment. Prior records unadjusted for land-surface subsidence.

REMARKS.--The purpose of this station is to record gage heights of high tides in Galveston Bay and the corresponding gage heights of the water surface in Moses Lake. Moses Lake is connected to Galveston Bay by gated opening through levee. No gage heights are shown for Moses Lake until they reach 3.0 ft (0.91 m) on either side.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (Moses Lake), 4.4 ft (1.34 m) Sept. 20, 1979; minimum, -2.6 ft (-0.79 m) Mar. 12, 13, 1968. Maximum gage height (Galveston Bay), 4.8 ft (1.46 m) Aug. 9, 1980; minimum not recorded but probably occurred Mar. 12 or 13, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum gage height (Moses Lake), 3.1 ft (0.94 m) May 17; minimum, -1.2 ft (-0.37 m) Mar. 2. Maximum gage height (Galveston Bay), 4.8 ft (1.46 m) Aug. 9; minimum, -1.4 ft (-0.43 m) Apr. 13, 14.

MAXIMUM DAILY GAGE HEIGHT, IN FEET, GALVESTON BAY AND MOSES LAKE
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.
1	-	-	2.1	-	1.1	-	1.0	-	1.0	-	1.7	-	2.0	-	2.0	-	2.5	-	1.0	-	1.2	-	2.1	-
2	-	-	2.5	-	1.2	-	1.4	-	1.5	-	.0	-	2.3	-	1.7	-	2.7	-	1.0	-	1.3	-	1.9	-
3	-	-	2.3	-	1.7	-	1.7	-	1.5	-	1.4	-	2.7	-	1.4	-	2.4	-	1.4	-	1.5	-	2.0	-
4	-	-	2.3	-	1.9	-	.8	-	1.3	-	1.7	-	1.6	-	1.5	-	2.2	-	1.2	-	2.0	-	2.2	-
5	-	-	2.7	-	1.7	-	1.2	-	1.3	-	1.1	-	2.3	-	1.4	-	2.1	-	1.2	-	3.0	2.0	3.1	1.6
6	-	-	2.4	-	2.0	-	1.8	-	1.0	-	1.7	-	2.6	-	1.3	-	2.0	-	1.9	-	2.2	-	3.5	1.6
7	-	-	1.8	-	1.7	-	1.8	-	3.0	.9	2.0	-	2.3	-	1.3	-	1.7	-	1.9	-	2.3	-	2.6	-
8	-	-	2.3	-	1.7	-	1.3	-	3.2	1.1	1.5	-	1.8	-	1.3	-	1.7	-	1.5	-	2.7	-	2.1	-
9	-	-	2.7	-	1.8	-	1.4	-	2.2	-	1.3	-	1.7	-	1.7	-	1.4	-	1.6	-	4.8	1.2	1.7	-
10	-	-	1.6	-	1.6	-	2.2	-	1.0	-	1.6	-	2.0	-	2.1	-	1.9	-	1.7	-	4.2	1.2	1.4	-
11	-	-	1.8	-	1.7	-	2.2	-	1.4	-	1.7	-	2.4	-	2.0	-	2.0	-	1.6	-	3.0	1.2	1.3	-
12	-	-	1.9	-	1.7	-	1.6	-	1.4	-	1.9	-	2.2	-	2.0	-	1.9	-	1.5	-	1.9	-	1.5	-
13	-	-	1.3	-	1.2	-	1.9	-	1.8	-	1.8	-	1.8	-	2.0	-	2.1	-	1.3	-	1.7	-	1.6	-
14	-	-	1.5	-	1.7	-	1.9	-	1.9	-	1.6	-	-.2	-	1.9	-	2.3	-	1.3	-	1.9	-	2.0	-
15	-	-	1.7	-	1.9	-	1.9	-	2.0	-	2.0	-	.4	-	3.5	2.6	2.4	-	1.0	-	2.4	-	1.6	-
16	-	-	1.3	-	1.9	-	1.9	-	1.9	-	2.2	-	1.0	-	4.0	2.8	2.1	-	.9	-	2.0	-	2.2	-
17	-	-	1.5	-	1.5	-	1.6	-	1.1	-	1.9	-	1.3	-	3.2	3.1	2.1	-	1.2	-	1.9	-	2.3	-
18	-	-	1.9	-	1.6	-	1.7	-	1.8	-	1.5	-	1.0	-	2.5	-	1.6	-	1.7	-	1.8	-	1.9	-
19	2.2	-	2.0	-	1.7	-	1.9	-	2.0	-	2.0	-	1.3	-	2.7	-	1.4	-	1.9	-	1.8	-	2.0	-
20	2.4	-	2.2	-	1.8	-	2.0	-	1.4	-	2.0	-	1.2	-	1.9	-	1.8	-	1.8	-	1.6	-	2.1	-
21	2.7	-	2.4	-	1.7	-	2.0	-	1.8	-	1.2	-	1.2	-	2.1	-	1.2	-	1.7	-	1.5	-	2.3	-
22	2.9	-	1.4	-	2.2	-	2.4	-	1.8	-	2.0	-	1.1	-	1.8	-	1.2	-	1.6	-	1.5	-	2.3	-
23	1.7	-	.9	-	2.1	-	.3	-	1.9	-	2.1	-	1.3	-	1.9	-	1.2	-	1.8	-	1.4	-	2.2	-
24	2.0	-	1.8	-	2.0	-	1.1	-	1.9	-	1.9	-	1.8	-	2.1	-	1.1	-	1.8	-	1.6	-	2.3	-
25	2.2	-	1.9	-	.8	-	1.6	-	1.8	-	1.6	-	2.2	-	2.1	-	1.0	-	2.0	-	1.6	-	3.0	2.1
26	2.2	-	1.5	-	1.1	-	1.6	-	1.5	-	2.3	-	1.6	-	2.1	-	.7	-	1.9	-	2.0	-	2.9	-
27	2.4	-	1.7	-	1.5	-	1.4	-	1.8	-	2.9	-	.3	-	2.0	-	.7	-	1.7	-	1.9	-	2.8	-
28	2.3	-	1.3	-	1.8	-	1.9	-	1.3	-	2.1	-	1.0	-	2.3	-	1.1	-	2.0	-	1.8	-	2.6	-
29	2.2	-	.5	-	1.8	-	2.1	-	1.6	-	2.4	-	.8	-	2.4	-	1.3	-	1.3	-	1.8	-	2.3	-
30	4.1	1.9	1.1	-	1.3	-	1.9	-	-------		1.7	-	1.4	-	2.5	-	1.1	-	1.2	-	1.9	-	1.9	-
31	3.3	2.2	-------		1.3	-	1.3	-	-------		1.4	-	-------		2.4	-	-------		1.2	-	2.0	-	-------	

08077700 HIGHLAND BAYOU AT HITCHCOCK, TX

LOCATION.--Lat 29°21'12", long 95°01'49", Galveston County, Hydrologic Unit 12040204, at downstream side of bridge on Farm Road 2004, 0.6 mi (1.0 km) west of Hitchcock, and 7 mi (11 km) from mouth and Jones Bay.

DRAINAGE AREA.--15.6 mi² (40.4 km²).

PERIOD OF RECORD.--August 1963 to current year (elevations only prior to 1973, beginning 1973 gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 0.80 ft (0.244 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 14.33 ft (4.368 m) Sept. 20, 1979; minimum unknown.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1930, 14.6 ft (4.45 m) July 25, 1959, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 5.40 ft (1.646 m) Jan. 20; minimum, -0.54 ft (-0.165 m) Mar. 2.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	1.97	1.05	2.47	1.74	1.42	0.59	1.22	0.00	1.63	0.48	1.71	0.00	2.38	1.56	2.13	1.10	2.80	1.76	1.50	0.37	1.62	0.98	2.36	-
2	1.74	.90	2.92	2.16	1.47	.14	1.62	.69	2.03	1.23	.52	-.54	2.67	1.99	1.98	1.12	2.88	1.92	1.38	.41	1.77	1.28	2.10	-
3	1.85	.78	2.60	1.68	1.90	.77	2.25	1.37	1.99	.97	1.70	.33	2.82	1.85	1.72	.81	2.70	1.70	1.62	.58	1.95	1.32	2.21	-
4	1.46	.74	2.63	1.72	1.97	.82	1.37	.35	1.64	.89	2.04	1.41	1.92	1.22	1.80	.60	2.47	1.50	1.63	.97	2.36	1.50	2.43	-
5	1.92	.81	2.90	1.85	1.87	.92	1.52	.63	1.85	1.22	1.41	.78	2.73	1.21	1.70	.65	2.54	1.48	1.72	1.16	2.51	1.38	2.68	-
6	1.86	1.28	2.54	1.17	2.20	.84	1.93	1.35	1.52	.90	2.07	.77	3.00	1.91	1.73	.54	2.35	1.69	1.86	1.34	2.40	1.35	3.32	2.05
7	1.68	.95	2.19	1.24	1.90	1.04	2.03	.83	3.28	1.24	2.28	1.78	2.62	1.73	1.66	.69	2.25	1.55	2.18	1.03	2.63	1.33	2.82	1.89
8	1.86	1.01	2.41	1.51	1.93	1.00	1.53	1.02	3.33	2.60	1.87	1.22	2.26	1.06	1.95	.77	1.92	.95	1.93	.91	2.86	1.46	2.37	-
9	2.07	1.05	2.90	1.59	2.07	1.27	1.17	1.03	2.60	.47	1.72	.73	2.01	.81	1.97	1.00	1.55	.84	1.94	.89	5.14	2.39	2.03	-
10	1.49	.67	1.90	1.13	1.92	1.12	2.57	1.65	1.34	-.06	1.84	.82	2.45	1.06	2.36	1.74	2.28	1.15	1.97	.90	4.63	3.53	-	-
11	1.81	1.07	2.20	1.27	2.02	1.71	2.50	1.36	1.92	.77	2.18	.83	2.72	2.00	2.42	1.63	2.33	1.34	1.94	.82	3.53	2.36	-	-
12	2.09	1.12	2.10	1.32	2.07	1.42	2.22	.95	2.15	.90	2.24	1.29	2.62	1.56	2.42	.60	2.23	1.14	1.90	.84	2.36	1.79	-	-
13	2.09	1.25	1.80	1.12	1.61	1.16	2.46	1.58	2.30	1.28	2.06	.49	2.56	.35	2.33	1.25	2.44	1.17	1.71	.75	2.06	1.53	1.89	-
14	2.35	1.46	1.79	1.35	1.90	1.12	2.53	1.42	2.55	1.32	2.03	.79	.35	-.48	2.66	1.17	2.64	1.33	1.60	.70	2.32	-	2.24	-
15	2.61	1.84	1.87	1.32	2.06	1.33	2.52	1.55	2.65	1.56	2.30	1.51	.88	-.21	3.86	2.30	2.70	1.60	1.40	.58	2.78	2.05	2.00	-
16	2.47	1.90	1.56	.87	2.12	1.10	2.48	1.35	2.25	.78	2.60	1.64	1.41	.13	4.35	2.45	2.45	1.63	1.25	.40	2.23	-	2.40	-
17	2.37	1.87	1.65	.95	1.50	.12	2.16	1.06	1.67	.61	2.26	.76	1.65	.62	3.82	2.50	2.37	1.40	1.42	.48	2.10	-	2.45	-
18	2.34	1.90	2.16	1.20	1.84	.80	2.19	1.12	2.32	1.67	1.98	.43	1.22	.52	2.79	1.94	2.03	1.25	1.72	.98	2.09	-	2.17	-
19	2.56	2.05	2.25	1.41	1.97	.83	2.55	1.55	2.63	2.04	2.32	1.56	1.72	.27	3.34	2.00	1.86	1.22	2.24	1.60	2.02	-	2.35	-
20	2.75	2.11	2.62	1.50	2.07	.84	5.40	1.74	2.10	1.52	2.42	1.35	1.60	.61	2.40	1.55	1.78	1.02	2.17	1.07	1.88	-	2.38	-
21	2.96	2.12	2.68	1.34	1.99	.98	5.40	3.15	2.20	1.45	1.42	.50	1.57	.48	2.43	1.34	1.67	.89	2.00	.99	-	-	2.61	-
22	3.24	1.62	1.91	.39	2.42	1.38	4.30	2.96	2.15	1.32	2.31	.62	1.46	.63	2.18	1.45	1.64	.88	1.92	1.02	1.88	-	2.62	-
23	2.11	1.13	1.45	.26	2.52	1.45	3.25	1.05	2.11	1.12	2.53	1.54	1.62	.77	2.16	1.37	1.65	.96	2.04	1.12	1.87	-	2.58	-
24	2.44	1.61	2.00	1.27	2.32	.36	1.74	.74	2.07	1.13	2.10	.89	2.15	1.23	2.42	1.68	1.45	.70	2.10	1.17	1.97	-	2.60	2.04
25	2.49	1.56	2.30	1.23	.92	.11	2.07	.96	1.77	.47	1.87	.68	2.43	1.84	2.36	1.59	1.37	.52	2.42	1.23	2.05	-	2.87	2.10
26	2.52	1.47	1.73	.68	1.37	.85	2.20	1.34	1.97	.40	2.76	1.68	1.86	.48	2.33	1.46	1.07	.19	2.24	1.35	2.41	-	3.34	2.60
27	2.72	1.64	1.95	1.14	1.73	.90	1.93	.81	2.08	1.10	4.61	2.62	.80	.05	2.35	1.48	1.13	-.06	2.33	1.12	2.25	-	3.25	2.60
28	2.64	1.65	1.45	.59	1.92	1.10	2.42	1.09	1.52	.77	4.52	2.33	1.25	.45	2.60	1.52	1.53	.07	1.94	.86	2.18	-	2.88	1.85
29	2.55	1.78	1.07	.03	2.18	1.27	2.62	1.60	1.87	1.13	3.35	2.31	1.20	.50	2.70	1.66	1.65	.57	1.69	.64	2.33	-	2.61	-
30	4.11	2.02	1.32	.41	1.73	.58	2.55	1.52	----	----	2.88	1.03	1.84	.47	2.77	1.24	1.58	.49	1.59	.70	2.18	-	2.15	-
31	4.11	1.87	----	----	1.55	.16	1.88	.16	----	----	1.84	.91	----	----	2.75	1.70	----	----	1.61	.77	2.33	-	----	----

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX
(National stream-quality accounting network)

LOCATION.--Lat 29°22'09", long 95°19'14", Brazoria County, Hydrologic Unit 12040204, on right bank 800 ft (240 m) downstream from bridge on Farm Road 1462, 5.9 mi (9.5 km) southwest of Alvin, and 6.9 mi (11.1 km) upstream from State Highway 35.

DRAINAGE AREA.--87.7 mi² (227.1 km²). During extreme flooding, overflow from about 11 mi² (28 km²) of the Mustang Bayou drainage basin enters the Chocolate Bayou basin upstream from gage.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1944 and March to December 1946 (low-water records during irrigation season), January 1947 to February 1958, March 1958 to February 1959 (discharge measurements only), March 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 10.31 ft (3.142 m) National Geodetic Vertical Datum of 1929. Prior to May 3, 1959, nonrecording gage or water-stage recorders located at various sites from 900 to 1,400 ft (270 to 427 m) upstream and at datum 3.00 ft (0.914 m) higher.

REMARKS.--Water-discharge records fair. Large area of riceland above station is irrigated with water from Brazos River. Low flow from April to October is largely drainage from irrigated lands. Diversions for irrigation above station.

AVERAGE DISCHARGE.--31 years (water years 1948-57, 1960-80), 111 ft³/s (3.144 m³/s), 80,420 acre-ft/yr (99.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft³/s (609 m³/s) July 26, 1979, gage height, 23.88 ft (7.279 m); no flow at times.
Maximum stage is that of July 26, 1979. Flood of Oct. 8, 1949, reached a stage of 21.80 ft (6.645 m), present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 14, 1939, reached a stage of 22.9 ft (6.98 m), former site and present datum, adjusted from floodmark 1,700 ft (518 m) to right and 550 ft (168 m) upstream from present gage, on basis of slope of flood of Oct. 8, 1949, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 23	1800	*2,620	74.2	18.90	5.761
Mar. 30	0800	1,510	42.8	14.80	4.511

Minimum daily discharge, 0.77 ft³/s (0.022 m³/s) Sept. 18, 19, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	212	3.6	32	31	10	153	34	85	83	132	3.0
2	23	65	4.5	26	29	9.5	90	43	103	74	94	1.9
3	18	35	5.4	86	28	6.7	60	48	100	71	71	1.1
4	15	23	14	137	27	6.7	35	46	104	89	54	1.1
5	12	16	20	71	23	9.1	19	35	84	83	48	1.5
6	9.0	12	16	41	21	8.7	11	29	78	88	42	8.2
7	7.0	9.1	11	32	18	8.0	7.4	40	70	102	40	40
8	6.0	7.8	6.8	26	62	7.8	6.3	71	70	96	56	88
9	8.0	6.3	4.5	22	415	7.8	5.3	66	118	103	38	71
10	7.0	5.3	3.2	20	148	7.4	4.2	77	324	116	29	30
11	6.0	4.6	3.4	19	108	7.0	3.9	62	199	102	23	14
12	5.0	4.2	4.4	18	71	7.8	13	41	128	94	20	8.2
13	4.5	3.9	32	16	62	7.3	107	35	102	102	14	4.2
14	4.0	3.6	50	15	59	6.3	170	33	89	107	8.2	2.3
15	3.5	3.3	34	14	189	6.3	74	33	83	106	8.6	1.5
16	3.0	3.3	23	13	158	10	43	49	88	118	14	1.1
17	2.7	3.3	18	16	90	30	29	60	83	125	22	.89
18	2.5	3.0	16	23	59	28	19	47	85	132	19	.77
19	2.2	3.0	13	21	44	21	22	240	88	118	29	.77
20	2.0	3.0	12	80	35	26	28	150	82	117	37	1.1
21	1.8	3.3	12	1340	31	37	28	80	103	126	26	1.4
22	1.7	5.3	12	1990	26	27	44	73	335	172	13	1.4
23	1.7	7.8	11	2490	22	25	71	58	335	155	9.1	1.1
24	1.6	6.7	12	1780	16	28	46	56	249	126	7.8	.89
25	1.6	6.0	12	581	14	33	91	84	202	114	7.4	.77
26	1.5	5.3	12	213	10	31	124	52	149	112	7.0	30
27	1.5	4.6	11	129	9.1	559	66	41	111	157	11	242
28	1.4	4.2	10	81	8.2	1140	31	43	103	221	14	226
29	1.4	3.6	65	56	9.5	936	25	67	88	449	11	100
30	97	3.3	102	44	---	1360	26	71	88	289	8.2	119
31	631	---	50	36	---	485	---	75	---	159	5.6	---
TOTAL	912.6	476.8	603.8	9468	1822.8	4892.4	1452.1	1939	3926	4106	918.9	1003.19
MEAN	29.4	15.9	19.5	305	62.9	158	48.4	62.5	131	132	29.6	33.4
MAX	631	212	102	2490	415	1360	170	240	335	449	132	242
MIN	1.4	3.0	3.2	13	8.2	6.3	3.9	29	70	71	5.6	.77
AC-FT	1810	946	1200	18780	3620	9700	2880	3850	7790	8140	1820	1990

CAL YR 1979 TOTAL 121805.30 MEAN 334 MAX 15700 MIN 1.4 AC-FT 241600
WTR YR 1980 TOTAL 31521.59 MEAN 86.1 MAX 2490 MIN .77 AC-FT 62520

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: May 1971 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February to September 1978, December 1978 to current year.
WATER TEMPERATURES: February to September 1978, December 1978 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,440 micromhos Mar. 15, 1980; minimum daily, 100 micromhos July 26, 1979.
WATER TEMPERATURES: Minimum daily, 31.0°C June 24-26, 28, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,440 micromhos Mar. 15; minimum daily, 120 micromhos Jan. 23.
WATER TEMPERATURES: Minimum daily, 31.0°C June 24-26, 28; minimum daily, 6.5 °C Feb. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 29...	1300	1.4	1160	7.9	24.0	--	28	9.0	106	1.6	150	30
NOV 29...	1145	3.6	997	7.7	13.0	--	13	10.1	94	.9	40	54
DEC 17...	1430	17	900	7.3	10.0	--	17	11.4	99	1.7	310	290
JAN 29...	1205	55	590	8.1	15.0	--	82	8.7	84	2.0	2400	750
FEB 12...	1145	67	580	8.0	8.5	--	82	11.4	96	2.7	3100	2900
MAR 11...	1100	7.0	1260	8.2	20.5	--	12	8.0	88	4.0	68	44
APR 15...	1430	65	610	8.0	15.5	--	70	10.0	98	1.8	1300	900
MAY 13...	1145	35	660	7.8	26.0	--	54	6.4	78	6.6	40	100
JUN 04...	0950	103	560	7.9	27.5	--	68	6.9	86	2.7	680	250
JUL 15...	1130	105	810	8.0	29.0	--	20	6.6	85	2.3	170	500
AUG 05...	1030	49	840	8.2	28.5	1	22	7.2	91	2.5	230	180
SEP 09...	1145	71	645	7.6	26.0	47	32	6.3	77	2.8	580	370

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 29...	320	60	88	25	130	3.2	4.1	320	0	51	200
NOV 29...	290	23	83	19	94	2.4	3.1	320	0	60	130
DEC 17...	260	63	71	20	83	2.2	3.3	240	0	57	120
JAN 29...	180	39	50	13	50	1.6	3.0	170	0	40	73
FEB 12...	160	41	46	12	49	1.7	2.4	150	0	35	76
MAR 11...	370	62	100	28	130	3.0	2.2	370	0	47	230
APR 15...	170	60	47	12	53	1.8	3.3	130	0	62	75
MAY 13...	200	73	57	15	56	1.7	4.2	160	0	88	81
JUN 04...	160	53	47	11	42	1.4	3.6	140	0	56	59
JUL 15...	230	64	64	18	80	2.3	3.2	210	0	57	120
AUG 05...	230	59	62	18	94	2.7	3.8	210	0	53	160
SEP 09...	180	69	49	13	55	1.8	8.2	130	0	71	93

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT 29...	.5	11	650	667	--	--	.00	.00	.080	.010	.54
NOV 29...	.4	8.0	563	555	--	--	.03	.01	.030	.010	.26
DEC 17...	.4	10	504	484	--	--	.32	.13	.020	.000	1.8
JAN 29...	.3	14	339	327	--	--	.05	.04	.020	.030	.89
FEB 12...	.2	11	313	306	--	--	.06	.06	.030	.030	1.1
MAR 11...	.5	9.5	742	725	--	--	.01	.04	.000	.000	.58
APR 15...	.3	.2	367	345	--	--	6.2	6.3	.290	.250	1.1
MAY 13...	.4	10	411	391	--	--	1.0	.74	.450	.540	1.6
JUN 04...	.3	15	333	302	--	--	.41	.41	.060	.070	1.3
JUL 15...	.6	16	471	462	--	--	.04	.04	.010	.020	1.3
AUG 05...	.6	15	502	509	39	34	.05	.00	.070	.010	.87
SEP 09...	.3	20	406	374	48	2	.34	.27	.020	.000	1.7

DATE	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 29...	.63	.62	.64	.830	.040	5.8	--	--	41	.15	74
NOV 29...	.65	.29	.66	.040	.020	13	--	--	94	.91	62
DEC 17...	1.4	1.8	1.4	.060	.020	--	19	.7	32	1.5	88
JAN 29...	.26	.91	.29	.090	.040	9.6	--	--	55	8.2	96
FEB 12...	.52	1.1	.55	.090	.040	9.8	--	--	78	14	100
MAR 11...	.48	.58	.48	.030	.030	--	11	.4	68	1.3	90
APR 15...	1.3	1.4	1.5	.110	.050	12	--	--	103	18	100
MAY 13...	1.5	2.0	2.0	.090	.020	10	--	--	78	7.4	99
JUN 04...	1.0	1.4	1.1	.100	.030	--	12	1.4	100	28	100
JUL 15...	1.1	1.3	1.1	.110	.060	12	--	--	56	16	100
AUG 05...	.96	.94	.97	.060	.020	11	--	--	38	5.0	96
SEP 09...	1.6	1.7	1.6	.070	.070	--	12	1.3	51	9.8	100

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
NOV 29...	1145	--	--	--	--	--	--	--	--	--	--
DEC 17...	1430	1	0	1	400	200	200	0	0	3	0
FEB 12...	1145	--	--	--	--	--	--	--	--	--	--
MAR 11...	1100	1	0	1	400	100	300	3	0	4	0
MAY 13...	1145	--	--	--	--	--	--	--	--	--	--
JUN 04...	0950	3	1	2	200	100	100	1	0	3	0
AUG 05...	1030	--	--	--	--	--	--	--	--	--	--
SEP 09...	1145	6	2	4	200	100	100	0	--	<1	10

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
NOV 29...	--	--	--	--	--	--	--	--	--	--	--
DEC 17...	0	0	0	0	<3	0	0	0	390	370	20
FEB 12...	--	--	--	--	--	--	--	--	--	--	--
MAR 11...	0	0	0	0	<3	2	1	1	500	490	<10
MAY 13...	--	--	--	--	--	--	--	--	--	--	--
JUN 04...	0	0	1	--	<3	11	6	5	2000	2000	20
AUG 05...	--	--	--	--	--	--	--	--	--	--	--
SEP 09...	10	0	0	--	<3	4	1	3	1100	970	130

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
NOV 29...	--	--	--	--	--	--	--	--	--	--	--
DEC 17...	7	0	9	60	50	10	.1	.1	.0	0	0
FEB 12...	--	--	--	--	--	--	--	--	--	--	--
MAR 11...	38	19	19	50	40	10	.1	.0	.1	3	3
MAY 13...	--	--	--	--	--	--	--	--	--	--	--
JUN 04...	22	15	7	110	110	1	.1	.0	.1	9	7
AUG 05...	--	--	--	--	--	--	--	--	--	--	--
SEP 09...	6	3	3	90	80	10	.8	.8	.0	5	0

DATE	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 29...	--	--	--	--	0	--	--	--	--	--
DEC 17...	0	0	0	0	0	0	0	40	30	6
FEB 12...	--	--	--	--	0	--	--	--	--	--
MAR 11...	0	0	0	0	0	0	0	50	50	<3
MAY 13...	--	--	--	--	0	--	--	--	--	--
JUN 04...	2	1	1	0	0	0	0	50	--	<3
AUG 05...	--	--	--	--	0	--	--	--	--	--
SEP 09...	6	0	0	0	0	0	0	70	--	<3

DATE	LENGTH OF EXPOSURE (DAYS)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	CHLOR-B PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	BIOMASS CHLOROPHYLL RATIO PERIPHYTON (UNITS)
MAY 13...	28	8.50	9.84	30.5	1.59	43.9
JUL 15...	41	52.0	59.4	47.7	10.7	155

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 29,79	MAR 11,80	MAY 13,80	JUN 4,80
TIME	1145	1100	1145	0950
TOTAL CELLS/ML	550	21000	5300	2500
DIVERSITY: DIVISION	2.0	0.7	1.7	1.6
.CLASS	2.0	0.7	1.7	1.7
..ORDER	0.0	0.9	2.5	2.7
...FAMILY	0.0	1.0	3.2	3.1
....GENUS	0.0	1.3	3.5	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	--	-	--	-	--	-	13	1
...CHLOROCOCCACEAE								
....CHLOROCOCCUM	30	5	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	100	2	--	-
....MICRACTINIUM	--	-	--	-	130	3	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	480	2	100	2	190	8
....CHLORELLA	15	3	--	-	--	-	13	1
....DICTYOSPHAERIUM	--	-	--	-	--	-	51	2
....KIRCHNERIELLA	--	-	--	-	130	3	--	-
....OOCYSTIS	--	-	640	3	130	3	26	1
....SELENASTRUM	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	33	1	--	-
....TREUBARIA	--	-	--	-	33	1	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	20	4	640	3	670	13	280	12
....TETRASTRUM	--	-	640	3	130	3	--	-
..TETRASPORALES								
...COCCOMYXACEAE								
....ELAKATOTHRIX	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	40	7	480	2	200	4	150	6
....CHLOROGONIUM	--	-	--	-	--	-	13	1
...VOLVOCACEAE								
....GONIUM	--	-	--	-	540	10	--	-
....PANDORINA	--	-	--	-	--	-	210	8
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	15	3	17000#	81	1300#	25	400#	16
....MELOSIRA	5	1	640	3	--	-	51	2
..PENNALES								
...FRAGILARIACEAE								
....SYNEDRA	--	-	160	1	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	--	-	--	-	--	-
...NAVICULACEAE								
....GYROSIGMA	--	-	--	-	--	-	--	-
....NAVICULA	40	7	--	-	270	5	26	1
....PLEUROSIGMA	10	2	--	-	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	180#	32	--	-	640	12	440#	18
...SURIRELLACEAE								
....SURIRELLA	10	2	--	-	--	-	--	-
.XANTHOPHYCEAE								
..HETEROCOCCALES								
...CHLOROTHECIACEAE								
....OPHIOCYTIUM	--	-	--	-	33	1	13	1
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE	55	10	--	-	--	-	--	-
..CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	30	5	160	1	270	5	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	400	8	310	13
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
....ANABAENOPSIS	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	--	-	230	9
....SCHIZOTHRIX	76	14	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	5	1	160	1	67	1	13	1
....TRACHELOMONAS	25	5	--	-	33	1	13	1
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	--	-	13	1

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

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JUL 15,80	AUG 5,80	SEP 9,80
TIME	1130	1030	1145
TOTAL CELLS/ML	890	480	3200
DIVERSITY: DIVISION	1.7	1.8	0.8
.CLASS	1.7	1.8	0.8
..ORDER	2.0	2.1	1.2
...FAMILY	2.7	2.5	1.6
....GENUS	2.8	2.7	1.6

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	--	-	--	-	--	-
...CHLOROCOCCACEAE						
....CHLOROCOCCUM	--	-	--	-	--	-
...COELASTRACEAE						
....COELASTRUM	150#	17	--	-	--	-
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	26	3	13	3	52	2
....CHLORELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	*	0
....SELENASTRUM	13	1	--	-	--	-
....TETRAEDRON	--	-	--	-	*	0
....TREUBARIA	--	-	--	-	--	-
...SCENEDESMACEAE						
....SCENEDESMUS	150#	17	51	11	--	-
....TETRASTRUM	--	-	--	-	--	-
..TETRASPORALES						
...COCCOMYXACEAE						
....ELAKATOTHRIX	--	-	--	-	26	1
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	64	14	--	-
....CHLAMYDOMONAS	26	3	26	5	39	1
....CHLOROGONIUM	--	-	--	-	--	-
...VOLVOCACEAE						
....GONIUM	--	-	--	-	--	-
....PANDORINA	--	-	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	39	4	--	-	65	2
....MELOSIRA	--	-	--	-	--	-
..PENNALES						
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	13	3	--	-
...NAVICULACEAE						
....GYROSIGMA	13	1	--	-	--	-
....NAVICULA	13	1	13	3	100	3
....PLEUROSIGMA	--	-	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	280#	32	190#	41	180	6
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
.XANTHOPHYCEAE						
..HETEROCOCCALES						
...CHLOROTHECIACEAE						
....OPHIOCYTIUM	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE	--	-	--	-	--	-
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	13	1	39	8	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	--	-	51	11	150	5
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	180	6
....ANABAENOPSIS	130	14	--	-	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	2400#	74
....SCHIZOTHRIX	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	13	1	--	-	--	-
....TRACHELOMONAS	13	1	13	3	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	--	-	--	-

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

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	912.6	*	*	*	*	*	*	*	*
NOV.	1979	476.8	*	*	*	*	*	*	*	*
DEC.	1979	603.8	859	473	772	120	200	57	92	230
JAN.	1980	9468	257	141	3600	29	748	19	494	75
FEB.	1980	1822.8	571	314	1540	73	361	40	198	160
MAR.	1980	4892.4	391	215	2830	48	633	28	374	110
APR.	1980	1452.1	639	351	1380	83	325	45	176	180
MAY	1980	1939	552	303	1590	69	359	40	208	160
JUNE	1980	3926	543	299	3160	67	709	39	417	150
JULY	1980	4106	826	455	5040	120	1280	55	614	220
AUG.	1980	918.9	889	490	1220	130	314	59	146	240
SEPT	1980	1003.19	535	294	796	66	179	39	105	150
TOTAL		31521.59	**	**	**	**	**	**	**	**
WTD. AVG.		86	**	**	**	**	**	**	**	**

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			1260	659	748	1250	426	688	519	654	826	1020
2			1180	727	810	1310	515	677	531	675	851	1030
3			1120	700	876	1230	594	685	532	690	864	1040
4			1000	529	931	1260	643	662	542	723	888	1030
5			870	577	955	1280	694	669	545	715	890	1020
6			950	625	979	1270	783	690	554	716	897	1010
7			1020	701	1010	1250	832	652	567	717	877	648
8			1110	790	850	1270	976	520	577	729	850	625
9			1190	851	392	1230	963	496	550	736	870	661
10			1250	908	361	1350	978	579	485	760	900	675
11			1230	945	430	1300	1020	628	507	771	922	690
12			1170	1010	528	1280	1000	659	527	785	923	708
13			950	1040	615	1370	750	690	546	799	927	731
14			817	1070	709	1390	517	697	565	818	935	733
15			850	1080	475	1440	589	720	570	830	940	738
16			882	1090	504	1350	657	700	582	852	937	746
17			854	1150	528	1200	733	660	576	865	922	750
18			882	1170	592	1090	764	690	585	888	930	753
19			930	1150	686	1200	820	380	590	905	920	757
20			979	970	754	1170	782	460	610	925	914	761
21			1000	285	823	875	770	500	595	947	925	762
22			1020	210	896	846	754	520	517	940	932	770
23			1060	120	964	1060	700	532	509	942	941	772
24			1090	200	990	1050	739	569	520	955	948	785
25			1130	274	1020	1070	690	520	531	961	966	791
26			1150	344	1090	1110	656	531	553	966	964	507
27			1140	421	1120	506	634	554	567	944	981	486
28			1120	471	1160	302	670	555	612	850	987	450
29			789	576	1210	355	715	522	626	776	1040	480
30			617	630	---	241	738	508	645	757	1030	504
31			611	690	---	324	---	501	---	796	1010	---
MEAN			1010	708	793	1070	737	594	558	819	926	748

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	11.0	24.0	---	18.0	20.0	27.0	30.0	28.0	---
2			---	10.0	---	9.0	---	23.0	27.0	---	28.0	30.0
3			---	10.0	20.0	12.0	22.0	23.0	28.0	30.5	28.0	26.0
4			---	10.0	21.0	11.0	22.0	23.0	29.0	29.5	29.0	29.0
5			---	9.0	16.5	13.0	19.0	24.0	28.0	29.5	28.5	---
6			---	19.0	22.0	15.0	20.0	---	28.0	30.0	29.0	28.0
7			---	12.0	13.0	17.0	19.0	25.0	29.0	30.5	29.0	27.0
8			---	12.0	15.0	19.0	22.0	25.0	29.0	30.0	28.0	---
9			---	13.0	9.5	18.0	19.0	20.0	29.0	29.0	---	28.0
10			---	17.0	7.0	19.0	19.0	24.0	27.0	30.0	---	28.0
11			19.0	17.0	6.5	21.0	20.5	26.0	28.0	29.0	29.0	26.5
12			15.0	19.0	9.0	21.0	21.0	27.0	27.0	29.5	28.0	27.0
13			---	17.5	10.0	19.5	17.0	27.0	26.5	29.5	28.5	29.0
14			10.0	18.0	12.0	---	10.0	25.0	26.5	30.0	---	29.0
15			---	---	15.0	---	16.0	---	28.0	30.0	29.0	28.0
16			11.0	19.0	14.0	19.0	19.0	---	29.0	30.0	29.0	29.0
17			9.0	19.0	8.0	18.0	21.0	---	28.0	29.5	28.0	27.5
18			8.0	19.0	9.0	17.0	19.0	---	30.0	30.0	27.0	28.0
19			7.0	18.0	---	16.0	23.0	---	30.0	29.5	28.0	27.0
20			10.0	---	20.0	18.0	24.0	---	---	29.0	29.0	27.0
21			12.0	17.0	18.0	20.0	21.0	---	29.0	27.5	27.0	30.0
22			13.0	---	18.0	15.0	24.0	26.0	27.0	27.0	29.0	26.0
23			---	19.0	21.0	19.0	22.0	25.0	29.0	29.5	29.0	27.0
24			15.0	---	20.0	18.0	23.0	27.0	31.0	29.0	28.0	28.0
25			15.0	17.0	17.0	19.5	23.0	27.0	31.0	29.0	30.0	26.0
26			15.0	17.0	17.0	---	21.0	28.0	31.0	28.0	29.0	---
27			14.0	19.0	14.0	16.0	20.0	29.0	30.0	28.0	28.0	25.0
28			---	20.0	14.0	16.0	19.5	29.0	31.0	---	27.0	27.0
29			---	18.0	19.0	19.0	23.0	28.0	30.0	26.0	26.5	26.0
30			11.0	18.0	---	17.0	21.0	27.0	30.0	28.5	26.0	25.5
31			10.0	---	---	17.0	---	28.0	---	29.0	28.0	---
MEAN			12.0	16.0	15.0	17.0	20.5	25.5	28.5	29.0	28.0	27.5

08079000 OYSTER CREEK NEAR ANGLETON, TX

LOCATION.--Lat 29°09'30", long 95°28'32", Brazoria County, Hydrologic Unit 12040205, near center of low-water channel at downstream side of bridge on State Highway 35, 2.7 mi (4.3 km) west of Angleton, 4.1 mi (6.6 km) upstream from Missouri Pacific Railroad Co. bridge, 4.5 mi (7.2 km) downstream from Styles Bayou, and about 45 mi (72 km) upstream from Gulf of Mexico.

DRAINAGE AREA.--171 mi^2 (443 km^2).

PERIOD OF RECORD.--October 1944 to September 1980 (discontinued). Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1392: 1947. WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.31 ft (0.399 m) below National Geodetic Vertical Datum of 1929. Prior to Apr. 30, 1958, at site 500 ft (150 m) downstream at same datum.

REMARKS.--Records good. Diversions above station for irrigation. A large part of flow is water released from Harris Reservoir, capacity 12,000 acre-ft (14.8 hm^3) for industrial use below station. Harris Reservoir is supplied with water diverted from Brazos River during periods of floodflow. Several observations of water temperature were made during the year.

COOPERATION.--Records of water released from Harris Reservoir into Oyster Creek above station furnished by Dow Chemical Co.

AVERAGE DISCHARGE.--36 years, 184 ft^3/s (5.211 m^3/s), 133,300 acre-ft/yr (164 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft^3/s (300 m^3/s) May 10, 1957, gage height, 31.45 ft (9.586 m), present site, overflow from Brazos River; minimum daily, 0.3 ft^3/s (0.008 m^3/s) at times in 1955-56.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1900, 32.2 ft (9.81 m) in December 1913; flood of Dec. 5, 1940, reached a stage of 30.9 ft (9.42 m), from information by State Department of Highways and Public Transportation. At extreme high stages, the Brazos River overflows into Oyster Creek above this station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft^3/s (22.7 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 23	1000	*1,170	33.1	20.13	6.136
Mar. 30	1200	1,100	31.2	19.67	5.995

Minimum daily discharge, 50 ft^3/s (1.42 m^3/s) Aug. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	413	356	146	134	224	123	666	89	105	157	160	177
2	383	301	132	129	194	115	450	92	103	159	156	178
3	378	213	129	157	182	113	348	95	102	162	147	160
4	354	157	133	188	169	111	290	94	101	158	149	152
5	321	137	139	160	180	101	246	104	102	150	158	160
6	292	131	157	148	174	98	215	104	109	153	166	186
7	267	151	160	144	160	97	196	100	110	162	170	181
8	246	154	160	142	158	96	179	100	106	164	174	160
9	230	151	160	141	276	95	160	96	114	164	174	166
10	218	148	160	139	269	95	123	91	143	163	170	223
11	206	117	160	138	238	95	106	91	123	165	78	254
12	194	105	161	136	218	94	90	92	116	162	50	157
13	184	102	179	134	205	93	91	93	115	155	63	107
14	173	100	170	132	197	92	100	95	109	156	78	100
15	161	102	145	131	208	92	89	96	109	157	84	100
16	152	129	135	130	239	92	81	98	114	157	94	101
17	148	138	129	164	237	133	76	98	114	156	89	102
18	158	139	126	156	215	172	75	86	114	156	95	102
19	157	148	125	143	201	122	74	169	114	156	98	102
20	154	150	123	168	212	107	73	209	114	157	97	103
21	151	153	116	629	209	114	81	146	118	165	105	105
22	150	157	114	991	201	106	81	123	219	170	151	104
23	150	157	115	1160	190	100	79	108	197	169	169	104
24	148	151	116	1100	182	98	79	98	139	163	176	105
25	146	141	115	1040	173	95	80	95	128	160	178	107
26	144	146	114	739	165	120	81	96	146	155	180	140
27	141	147	115	543	154	286	80	110	154	160	173	361
28	140	147	114	408	132	753	80	109	156	161	170	250
29	139	148	124	350	126	836	89	107	159	164	175	143
30	144	148	141	321	---	1080	89	107	158	162	176	146
31	263	---	140	279	---	938	---	106	---	161	173	---
TOTAL	6505	4624	4253	10474	5688	6662	4547	3297	3811	4959	4276	4536
MEAN	210	154	137	338	196	215	152	106	127	160	138	151
MAX	413	356	179	1160	276	1080	666	209	219	170	180	361
MIN	139	100	114	129	126	92	73	86	101	150	50	100
AC-FT	12900	9170	8440	20780	11280	13210	9020	6540	7560	9840	8480	9000
(†)	6410	6340	6750	5070	4580	4620	3690	4770	6360	10020	8090	6980

CAL YR 1979 TOTAL 139237 MEAN 381 MAX 4560 MIN 69 AC-FT 276200 † 67590
WTR YR 1980 TOTAL 63632 MEAN 174 MAX 1160 MIN 50 AC-FT 126200 † 73680

† Discharge, in acre-ft, released from Harris Reservoir into Oyster Creek above gage (included in flow past gage).

08079100 EAST LEVEE DITCH NEAR FREEPORT, TX

LOCATION.--Lat 28°57'38", long 95°18'34", Brazoria County, Hydrologic Unit 12040205, on County Road 690, in room at left end of East Union Bayou drainage structure of East Levee, one orifice located upstream and one downstream from levee, 0.9 mi (1.4 km) upstream from Intracoastal Waterway, and 2.4 mi (3.9 km) east of Freeport.

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

GAGE.--Duplex water-stage recorder and crest-stage gages. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The purpose of this station is to record elevations of high tide at downstream side of levee and the corresponding elevations of the water surface at upstream side. No elevations are shown for the upstream side until they reach 3.0 ft (0.91 m) on either side. The levee is an earthen structure about 43 mi (69 km) long with a maximum height of 22 ft (6.7 m) NGVD. Gravity drainage structures with flapper gates and pumps to remove floodwaters from the downstream side are located at various points along the levee.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation (upstream side), 6.3 ft (1.92 m) Sept. 20, 1979; minimum not determined. Maximum elevation (downstream side), 5.6 ft (1.71 m) Aug. 9, 1980; minimum, -2.2 ft (-0.67 m) Feb. 3, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (upstream side), 3.2 ft (0.98 m) Sept. 26, 27; minimum, -0.6 ft (-0.18 m) June 27-29. Maximum elevation (downstream side), 5.6 ft (1.71 m) Aug. 9; minimum, -0.1 ft (-0.03 m) Mar. 2.

MAXIMUM DAILY ELEVATION, IN FEET, UPSTREAM AND DOWNSTREAM SIDES OF LEVEE
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down
1	-	2.0	-	2.8	-	1.4	-	1.6	-	1.8	-	1.5	-	-	-	2.0	-	2.6	-	1.5	-	-	-	-
2	-	1.8	-	3.1	-	1.8	-	1.7	-	2.1	-	1.1	-	-	-	2.0	-	2.7	-	1.6	-	-	-	-
3	-	1.5	-	2.8	-	2.2	-	1.4	-	1.7	-	1.5	-	-	-	1.6	-	2.6	-	1.8	-	-	-	-
4	-	1.4	-	2.8	-	2.0	-	1.3	-	1.5	-	1.7	-	-	-	1.7	-	2.5	-	1.5	-	-	-	-
5	-	1.8	-	2.7	-	2.3	-	1.6	-	1.6	-	1.2	-	-	-	1.6	-	2.5	-	1.8	-	-	-	-
6	-	1.7	-	2.4	-	2.1	-	1.8	-	1.3	-	1.7	-	-	-	1.6	-	2.1	-	1.9	-	-	-	-
7	-	1.6	-	2.4	-	2.1	-	1.6	-	2.7	-	2.0	-	-	-	1.6	-	1.8	-	2.4	-	-	-	-
8	-	1.8	-	2.8	-	1.9	-	1.7	-	2.7	-	1.6	-	-	-	1.7	-	1.6	-	2.1	-	2.9	-	-
9	-	1.6	-	2.6	-	2.1	-	1.7	-	1.5	-	1.5	-	-	-	2.1	-	1.5	-	2.3	0.1	5.6	-	-
10	-	1.7	-	2.3	-	2.0	-	2.1	-	1.1	-	1.8	-	-	-	2.0	-	2.1	-	2.3	-.1	4.7	-	-
11	-	1.9	-	2.3	-	1.9	-	1.9	-	1.9	-	1.8	-	-	-	2.0	-	2.6	-	2.4	.1	3.3	-	-
12	-	2.0	-	2.2	-	1.8	-	2.2	-	2.2	-	-	-	-	-	2.2	-	2.5	-	-	-	2.1	-	-
13	-	2.1	-	1.8	-	1.7	-	2.4	-	2.3	-	-	-	-	-	2.4	-	2.5	-	-	-	1.6	-	-
14	-	2.3	-	1.7	-	1.9	-	2.3	-	2.4	-	-	-	-	-	2.5	-	2.6	-	-	-	1.7	-	-
15	-	2.4	-	1.9	-	2.0	-	2.4	-	2.3	-	-	-	-	1.1	3.3	-	2.6	-	-	-	1.9	-	-
16	-	2.3	-	1.4	-	1.9	-	2.3	-	2.0	-	-	-	-	1.7	3.1	-	2.4	-	-	-	1.6	-	-
17	-	2.1	-	1.6	-	1.7	-	2.3	-	2.0	-	-	-	-	1.6	3.5	-	2.3	-	-	-	1.5	-	-
18	-	2.2	-	2.0	-	2.1	-	2.2	-	2.2	-	-	-	-	-	2.8	-	1.9	-	-	-	1.4	-	-
19	-	2.3	-	2.1	-	2.1	-	2.4	-	2.4	-	-	-	-	3.1	3.5	-	1.7	-	-	-	1.4	-	-
20	-	2.4	-	2.5	-	1.8	-	2.2	-	1.8	-	-	-	-	-	2.3	-	1.6	-	-	-	1.4	-	-
21	-	2.7	-	2.3	-	2.2	-	2.2	-	2.1	-	-	-	-	-	2.3	-	1.5	-	-	-	-	-	-
22	-	2.7	-	1.9	-	2.4	-	2.0	-	2.0	-	-	-	-	-	2.1	-	1.3	-	-	-	-	-	-
23	-	2.3	-	1.7	-	2.5	-	1.0	-	1.9	-	-	-	-	-	2.0	-	1.5	-	-	-	-	-	-
24	-	2.4	-	2.3	-	1.9	-	1.4	-	1.9	-	-	-	-	-	2.0	-	1.3	-	-	-	-	-	-
25	-	2.5	-	2.3	-	1.3	-	1.9	-	1.9	-	-	-	2.2	-	2.1	-	1.5	-	-	-	-	-	-
26	-	2.7	-	1.9	-	1.3	-	2.0	-	2.0	-	-	-	1.8	-	2.1	-	1.4	-	-	-	-	3.2	-
27	-	2.7	-	1.9	-	1.4	-	1.8	-	1.8	-	-	-	1.0	-	2.1	-	1.3	-	-	-	-	3.2	-
28	-	2.6	-	1.4	-	1.8	-	2.4	-	1.6	-	-	-	1.3	-	2.3	-	1.4	-	-	-	-	2.8	-
29	-	2.6	-	1.2	-	2.1	-	2.6	-	1.5	-	-	-	1.0	-	2.4	-	1.8	-	-	-	-	-	-
30	2.7	3.2	-	1.5	-	1.8	-	2.2	---	---	-	-	-	1.4	-	2.6	-	1.5	-	-	-	-	-	-
31	3.7	3.1	---	---	-	1.4	-	1.6	---	---	-	-	---	---	-	2.6	---	---	-	-	-	-	---	---

08079120 OLD BRAZOS RIVER NEAR FREEPORT, TX

LOCATION.--Lat 28°57'03", long 95°20'19", Brazoria County, Hydrologic Unit 12040205, in room at left gate abutment of Freeport levee guillotine gate structure, one orifice located upstream and one downstream side of gate, and 6,000 ft (1,829 m) downstream from river diversion channel near Freeport.

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

GAGE.--Duplex water-stage recorder and crest-stage gages. Datum of gage is 0.11 ft (0.034 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--The purpose of this station is to record gage heights of high tides at the downstream side of the levee and the corresponding elevation of the water surface at the upstream side. No gage heights are shown for the upstream side until they reach 3.0 ft (0.91 m) on either side. The levee is an earthen structure with a maximum height of 22 ft (8 m) NGVD. Gravity drainage structures, guillotine gate, and pumps to remove floodwaters from the downstream side are located along the levee.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (upstream side), 4.1 ft (1.25 m) May 19, 1980; minimum not determined. Maximum gage height (downstream side), 5.5 ft (1.68 m) Aug. 9, 1980; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum gage height (upstream side), 4.1 ft (1.25 m) May 19; minimum not determined. Maximum gage height (downstream side), 5.5 ft (1.68 m) Aug. 9; minimum not determined.

MAXIMUM DAILY GAGE HEIGHT, IN FEET, UPSTREAM AND DOWNSTREAM SIDES OF LEVEE
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down
1	-	1.7	-	2.2	-	1.0	-	1.2	-	-	-	-	-	-	-	2.1	-	2.2	-	1.2	-	1.1	-	1.8
2	-	1.6	-	2.6	-	1.5	-	1.4	-	-	-	-	-	-	-	1.7	-	2.3	-	1.0	-	1.2	-	1.8
3	-	1.3	-	2.4	-	1.7	-	1.0	-	-	-	-	-	-	-	1.4	-	2.2	-	1.2	-	1.3	-	1.9
4	-	1.1	-	2.5	-	1.7	-	1.1	-	-	-	-	-	-	-	1.5	-	2.1	-	1.0	-	1.5	-	2.1
5	-	1.6	-	2.4	-	2.2	-	1.3	-	-	-	-	-	-	-	1.5	-	2.0	-	1.1	-	1.9	-	2.3
6	-	1.4	-	2.1	-	1.7	-	1.5	-	-	-	-	-	-	-	1.4	-	1.8	-	1.2	-	2.1	3.0	3.1
7	-	1.3	-	2.1	-	1.7	-	1.2	-	-	-	-	-	-	-	1.3	-	1.4	-	1.8	-	2.0	-	2.4
8	-	1.6	-	2.5	-	1.6	-	1.3	-	-	-	-	-	-	-	1.4	-	1.2	-	1.5	-	2.6	-	1.9
9	-	1.4	-	2.2	-	1.5	-	1.4	-	-	-	-	-	-	-	2.1	-	1.1	-	1.7	4.0	5.5	-	1.6
10	-	1.5	-	1.9	-	1.5	-	1.8	-	-	-	-	-	-	-	1.6	-	2.0	-	1.8	3.8	4.3	-	1.2
11	-	1.7	-	1.9	-	1.4	-	1.5	-	-	-	-	-	-	-	1.6	-	2.2	-	1.8	-	2.9	-	1.2
12	-	1.7	-	1.8	-	1.2	-	-	-	-	-	-	-	-	-	1.9	-	2.1	-	1.6	-	1.6	-	1.3
13	-	1.7	-	1.5	-	1.1	-	-	-	-	-	-	-	-	-	2.2	-	2.3	-	1.5	-	1.4	-	1.4
14	-	2.1	-	1.3	-	1.5	-	-	-	-	-	-	-	-	-	2.5	-	2.4	-	1.5	-	1.6	-	1.5
15	-	2.0	-	1.4	-	1.7	-	-	-	-	-	-	-	-	3.6	3.2	-	2.4	-	1.0	-	1.9	-	1.9
16	-	1.9	-	1.0	-	1.4	-	-	-	-	-	-	-	-	3.1	2.8	-	2.1	-	.8	-	1.4	-	2.0
17	-	1.8	-	1.3	-	1.4	-	-	-	-	-	-	-	-	3.6	3.3	-	2.0	-	1.1	-	1.3	-	1.9
18	-	1.8	-	1.8	-	1.8	-	-	-	-	-	-	-	-	-	2.5	-	1.6	-	1.3	-	1.3	-	1.8
19	-	1.9	-	1.7	-	1.9	-	-	-	-	-	-	-	-	4.1	3.7	-	1.3	-	1.4	-	1.4	-	1.8
20	-	2.0	-	2.2	-	1.6	-	-	-	-	-	-	-	-	-	2.1	-	1.1	-	1.3	-	1.3	-	2.0
21	-	2.3	-	1.8	-	2.0	-	-	-	-	-	-	-	-	-	2.2	-	1.0	-	1.2	-	1.3	-	2.2
22	-	2.2	-	1.6	-	2.3	-	-	-	-	-	-	-	-	-	1.8	-	.8	-	1.3	-	1.5	-	2.4
23	-	2.0	-	1.4	-	2.2	-	-	-	-	-	-	-	-	-	1.7	-	1.0	-	1.6	-	1.4	-	2.2
24	-	2.1	-	2.1	-	1.6	-	-	-	-	-	-	-	-	-	1.7	-	.8	-	2.0	-	1.6	-	2.3
25	-	2.1	-	1.9	-	.9	-	-	-	-	-	-	-	1.9	-	1.7	-	1.0	-	1.9	-	1.5	-	2.5
26	-	2.3	-	1.5	-	.9	-	-	-	-	-	-	-	1.4	-	1.7	-	1.0	-	2.0	-	1.8	-	2.6
27	-	2.3	-	1.5	-	1.1	-	-	-	-	-	-	-	.4	-	1.8	-	.9	-	1.9	-	1.8	-	2.7
28	-	2.2	-	1.1	-	1.5	-	-	-	-	-	-	-	1.0	-	1.9	-	1.2	-	1.5	-	1.8	-	2.3
29	-	2.2	-	.8	-	1.8	-	-	-	-	-	-	-	.7	-	2.0	-	1.5	-	1.4	-	1.9	-	1.9
30	-	2.8	-	1.2	-	1.5	-	-	---	---	-	-	-	1.0	-	2.3	-	1.2	-	1.3	-	1.8	-	1.7
31	-	2.7	---	---	-	1.0	-	-	---	---	-	-	---	---	-	2.2	---	---	-	1.1	-	1.8	---	---

08079150 SOUTH LEVEE DITCH NEAR FREEPORT, TX

LOCATION.--Lat 28°55'28", long 95°21'23", Brazoria County, Hydrologic Unit 12040205, on southern arm of levee, in room at right end of South Levee drainage structure, one orifice located upstream and one downstream from levee, 0.6 mi (1.0 km) upstream from Intracoastal Waterway, 0.7 mi (1.1 km) west of State Highway 1495, and 1.7 mi (2.7 km) southwest of Freeport.

PERIOD OF RECORD.--May 1970 to current year.

GAGE.--Duplex water-stage recorder and crest-stage gages. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The purpose of this station is to record elevations of high tides at downstream side of levee and the corresponding elevation of the water surface at upstream side. No elevations are shown for the upstream side until they reach 3.0 ft (0.91 m) on either side. The levee is an earthen structure with a maximum elevation of 22 ft (6.7 m) NGVD. Gravity drainage structures, with flapper gates and pumps to remove floodwaters from the downstream side, are located along the levee.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation (upstream side), 5.0 ft (1.52 m) Sept. 20, 1979; minimum not determined. Maximum elevation (downstream side), 6.0 ft (1.83 m) Aug. 9, 1980; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (upstream side), 2.2 ft (0.67 m) Nov. 2; minimum not determined. Maximum elevation (downstream side), 6.0 ft (1.83 m) Aug. 9; minimum not determined.

MAXIMUM DAILY ELEVATION, IN FEET, UPSTREAM AND DOWNSTREAM SIDES OF LEVEE
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down
1	-	2.0	-	2.5	-	1.4	-	1.6	-	1.8	-	-	-	2.0	-	1.8	-	2.5	-	1.5	-	-	-	1.7
2	-	1.9	-	2.8	-	1.8	-	1.7	-	2.1	-	-	-	2.4	-	2.0	-	2.6	-	1.4	-	-	-	1.7
3	-	1.7	-	2.7	-	2.1	-	1.4	-	1.6	-	-	-	2.5	-	1.8	-	2.4	-	1.5	-	-	-	1.7
4	-	1.4	-	2.6	-	2.0	-	1.2	-	1.5	-	-	-	1.8	-	1.8	-	2.3	-	1.4	-	-	-	1.9
5	-	1.8	-	2.5	-	2.2	-	1.6	-	1.5	-	-	-	2.2	-	1.7	-	2.3	-	1.4	-	-	-	2.2
6	-	1.7	-	2.3	-	2.1	-	1.8	-	1.2	-	-	-	2.7	-	1.7	-	2.1	-	1.4	-	-	-	2.7
7	-	1.7	-	2.3	-	2.0	-	1.6	-	2.6	-	-	-	2.4	-	1.6	-	1.8	-	2.0	-	-	-	2.2
8	-	1.9	-	2.7	-	1.9	-	1.6	-	2.6	-	1.7	-	1.8	-	1.8	-	1.6	-	1.9	-	2.6	-	1.8
9	-	1.7	-	2.7	-	1.9	-	1.6	-	1.6	-	1.5	-	1.9	-	1.9	-	1.5	-	1.9	0.0	6.0	-	1.6
10	-	1.8	-	2.1	-	1.9	-	2.0	-	1.1	-	1.8	-	2.1	-	1.9	-	2.1	-	2.0	.0	4.5	-	1.2
11	-	2.0	-	2.2	-	1.9	-	1.9	-	1.9	-	1.8	-	2.3	-	2.0	-	2.3	-	2.1	.0	3.1	-	1.1
12	-	2.1	-	2.1	-	1.7	-	2.0	-	2.1	-	2.1	-	2.2	-	2.1	-	2.3	-	2.1	-	2.3	-	1.3
13	-	2.1	-	1.8	-	1.4	-	2.2	-	2.2	-	1.6	-	2.3	-	2.3	-	2.4	-	2.0	-	-	-	1.4
14	-	2.1	-	1.7	-	1.7	-	2.2	-	2.3	-	1.9	-	.7	-	2.3	-	2.5	-	1.8	-	-	-	1.5
15	-	2.4	-	1.8	-	1.9	-	2.2	-	2.1	-	2.0	-	1.2	-	3.2	-	2.6	-	1.8	-	-	-	1.7
16	-	2.2	-	1.3	-	1.8	-	2.2	-	1.9	-	2.2	-	1.5	-	2.7	-	2.3	-	1.4	-	1.6	-	1.8
17	-	2.1	-	1.6	-	1.7	-	2.2	-	1.8	-	2.0	-	1.8	-	3.5	-	2.2	-	-	-	1.4	-	1.8
18	-	2.1	-	2.1	-	2.0	-	2.1	-	2.1	-	1.8	-	1.6	-	2.7	-	1.8	-	-	-	1.3	-	1.6
19	-	2.2	-	2.0	-	2.1	-	2.3	-	2.3	-	2.2	-	1.7	-	2.9	-	1.7	-	-	-	1.4	-	1.7
20	-	2.3	-	2.5	-	1.9	-	2.1	-	1.7	-	2.2	-	1.7	-	2.2	-	1.4	-	-	-	1.3	-	1.8
21	-	2.6	-	2.3	-	2.2	-	2.1	-	2.0	-	1.5	-	1.6	-	2.1	-	1.3	-	-	-	1.3	-	2.0
22	-	2.5	-	1.9	-	2.3	-	1.9	-	-	-	2.0	-	1.4	-	1.9	-	1.2	-	-	-	1.4	-	2.2
23	-	2.2	-	1.7	-	2.3	-	1.2	-	-	-	2.3	-	1.5	-	1.9	-	1.3	-	-	-	1.4	-	1.9
24	-	2.4	-	2.3	-	2.2	-	1.5	-	-	-	1.7	-	1.7	-	1.9	-	1.2	-	-	-	1.6	-	2.0
25	-	2.4	-	2.3	-	1.3	-	1.8	-	-	-	1.9	-	2.0	-	2.1	-	1.4	-	-	-	1.5	-	-
26	-	2.5	-	1.9	-	1.2	-	2.0	-	-	-	2.5	-	1.7	-	2.0	-	1.3	-	-	-	1.7	-	-
27	-	2.5	-	1.9	-	1.4	-	1.9	-	-	-	2.8	-	.8	-	2.0	-	1.2	-	-	-	1.6	-	-
28	-	2.5	-	1.5	-	1.8	-	2.3	-	-	-	2.3	-	1.3	-	2.2	-	1.5	-	-	-	1.6	-	-
29	-	2.4	-	1.2	-	2.0	-	2.4	-	-	-	2.2	-	1.1	-	2.3	-	1.7	-	-	-	1.6	-	-
30	1.9	3.1	-	1.5	-	1.8	-	2.1	---	---	-	2.0	-	1.4	-	2.5	-	1.6	-	-	-	1.7	-	-
31	-	2.8	---	---	-	1.4	-	1.5	---	---	-	1.5	---	---	-	2.4	---	---	-	-	-	1.7	---	---

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX

LOCATION.--Lat 33°02'18",long 101°11'50", Garza County, Hydrologic Unit 12050004, on right bank at downstream side of bridge on U.S. Highway 84 at Justiceburg, 250 ft (76 m) downstream from Panhandle and Santa Fe Railroad, and at mile 143.4 (230.7 km) measured from confluence with Salt Fork Brazos River at mile 923.2 (1,485.4 km) on the Brazos River.

DRAINAGE AREA.--1,466 mi² (3,797 km²), of which 1,222 mi² (3,165 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1961 to current year. Prior to October 1963, published as Sand Creek or South Fork Double Mountain Fork Brazos River at Justiceburg.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,222.47 ft (677.409 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor. No known diversion above station.

AVERAGE DISCHARGE.--18 years (water years 1963-80), 28.6 ft³/s (0.810 m³/s), 1.59 in/yr (40 mm/yr), 20,720 acre-ft/yr (25.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft³/s (1,400 m³/s) May 6, 1969, gage height, 19.8 ft (6.04 m), from floodmarks; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1895, 25.8 ft (7.89 m) in 1914 and 22.2 ft (6.77 m) in September 1955, from information by local resident. Flood in July 1961 reached a stage of 18.2 ft (5.55 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,100 ft³/s (59.5 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 15	1100	3,530	100	8.70	2.652	Sept. 25	2300	2,780	78.7	a8.20	2.499
June 11	0700	3,260	92.3	8.50	2.591	Sept. 27	1700	*7,080	201	a10.06	3.066
Sept. 2	0200	2,520	71.4	a8.05	2,454						

a From floodmark.

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.02	.00	.00	.00	.07	.00	.00	23
2	.00	.00	.00	.00	.02	.00	.00	.00	4.4	.00	.00	440
3	.00	.00	.00	.00	.01	.00	.00	.00	.44	.00	.00	.64
4	.00	.00	.00	.00	.01	.00	.00	.00	.30	.00	.00	.07
5	.00	.00	.00	.00	.01	.00	.00	.00	.10	.00	.00	.05
6	.00	.00	.00	.00	.01	.00	.00	.00	.07	.00	.00	.05
7	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.02
8	.00	.00	.00	.00	.00	.00	.00	.00	306	.00	.00	.01
9	.00	.00	.00	.00	.00	.00	.00	.00	12	.00	.00	250
10	.00	.00	.00	.00	.00	.00	.00	.00	2.9	.00	.00	405
11	.00	.00	.00	.00	.00	.00	.00	.00	917	.00	.00	233
12	.00	.00	.00	.00	.00	.00	.00	.00	39	.00	.00	30
13	.00	.00	.24	.00	.00	.00	.00	.00	3.5	.00	.00	4.8
14	.00	.00	4.8	.00	.00	.00	.00	.00	.37	.00	.00	.18
15	.00	.00	18	.00	.00	.00	.00	1140	.25	.00	9.3	.10
16	.00	.00	2.7	.00	.00	.00	.00	157	.15	.00	119	.05
17	.00	.00	.00	.00	.00	.00	.00	11	.10	.00	.02	.01
18	.00	.00	.00	.00	.00	.00	.00	1.1	.07	.00	.00	.00
19	.00	.00	.05	.00	.00	.00	.00	.14	.05	.00	.00	.00
20	.00	.00	.04	.00	.00	.00	.00	17	.05	.00	.00	.00
21	.00	.00	.02	.00	.00	.00	.00	9.2	18	.00	2.5	.00
22	.00	.00	.01	.01	.00	.00	.00	.53	190	.00	.07	.00
23	.00	.00	1.9	.18	.00	.00	.00	.40	5.7	.00	.02	.00
24	.00	.00	.30	.07	.00	.00	.00	.30	.10	.00	.00	.00
25	.00	.00	.05	.05	.00	.00	.00	.20	.07	.00	.00	291
26	.00	.00	.02	.04	.00	.00	.00	.15	.05	.00	.00	1760
27	.00	.00	.01	.03	.00	.00	.00	.10	.03	.00	.00	2630
28	.00	.00	.01	.03	.00	.00	.00	.10	.01	.00	.00	1150
29	.00	.00	.00	.03	.00	.00	.00	.10	.00	.00	.10	298
30	27	.00	.00	.02	---	.00	.00	.10	.00	.00	.00	38
31	.00	---	.00	.02	---	.00	---	.10	---	.00	.00	---
TOTAL	27.00	.00	28.15	.48	.08	.00	.00	1337.52	1500.83	.00	131.01	7553.98
MEAN	.87	.000	.91	.015	.003	.000	.000	43.1	50.0	.000	4.23	252
MAX	27	.00	18	.18	.02	.00	.00	1140	917	.00	119	2630
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.004	.000	.004	.000	.000	.000	.000	.18	.21	.000	.02	1.03
IN.	.00	.00	.00	.00	.00	.00	.00	.20	.23	.00	.02	1.15
AC-FT	54	.00	56	1.0	.2	.00	.00	2650	2980	.00	260	14980

CAL YR 1979	TOTAL	18186.34	MEAN 49.8	MAX 5490	MIN .00	CFSM .20	IN 2.77	AC-FT 36070			
WTR YR 1980	TOTAL	10579.05	MEAN 28.9	MAX 2630	MIN .00	CFSM .12	IN 1.61	AC-FT 20980			

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1975 to current year. Sediment records: October 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to current year.
WATER TEMPERATURES: October 1975 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 20,600 micromhos Oct. 22, 1975; minimum daily, 375 micromhos Sept. 27, 1980.
WATER TEMPERATURES: Minimum daily, 4.0°C Jan. 7-9, 1976.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 18,600 micromhos Feb. 6; minimum daily, 375 micromhos Sept. 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT											
30...	1100	17	987	15.5	100	0	32	4.8	180	7.8	3.1
JAN											
24...	0832	.07	15000	2.0	1000	780	240	100	2900	40	9.1
MAY											
15...	0950	2260	809	15.0	44	0	13	2.8	160	11	3.4
JUN											
02...	1100	4.4	1280	24.5	83	0	23	6.1	240	12	4.1
AUG											
16...	0900	56	736	23.0	77	0	23	4.7	140	7.0	3.8
SEP											
26...	1310	1400	--	16.0	--	--	--	--	--	--	--
26...	1520	2770	--	16.0	--	--	--	--	--	--	--
28...	0930	798	--	15.0	--	--	--	--	--	--	--
28...	1000	798	383	15.0	30	0	8.6	2.0	73	5.8	2.2
30...	1230	34	--	24.0	--	--	--	--	--	--	--

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
30...	220	0	85	150	.6	10	574	--	--	--
JAN										
24...	280	0	520	4800	1.0	8.8	8720	--	--	--
MAY										
15...	210	0	67	120	.8	12	482	--	--	--
JUN										
02...	250	0	110	230	1.1	15	753	--	--	--
AUG										
16...	260	0	53	79	.9	13	445	--	--	--
SEP										
26...	--	--	--	--	--	--	--	27200	103000	--
26...	--	--	--	--	--	--	--	34000	254000	69
28...	--	--	--	--	--	--	--	10800	23300	--
28...	120	0	32	41	.7	10	229	--	--	--
30...	--	--	--	--	--	--	--	485	45	--

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM
SEP							
26...	1310	1400	16.0	27200	103000	--	--
26...	1520	2770	16.0	34000	254000	25	33
28...	0930	798	15.0	10800	23300	--	--
30...	1230	34	24.0	485	45	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
SEP							
26...	--	--	--	--	--	--	--
26...	40	49	58	69	83	95	99
28...	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	27.00	970	565	41	260	19	56	4.1	68
NOV.	1979	0.00	*	*	0.00	*	0.00	*	0.00	*
DEC.	1979	28.15	2580	1520	115	730	56	130	10	180
JAN.	1980	0.48	14800	8880	12	4800	6.3	540	0.7	*
FEB.	1980	0.08	18200	11000	2.4	6200	1.3	580	0.1	*
MAR.	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
APR.	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
MAY	1980	1337.52	981	571	2060	260	949	56	203	68
JUNE	1980	1500.83	918	535	2170	250	993	53	214	64
JULY	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
AUG.	1980	131.01	1190	698	247	330	117	64	23	82
SEPT	1980	7553.98	544	317	6460	140	2950	32	646	38
TOTAL		10579.05	**	**	11100	**	5090	**	1100	**
WTD. AVG.		29	668	389	**	180	**	39	**	47

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---		---	---	18000			---	18500		---	3250
2	---		---	---	18200			---	1280		---	1040
3	---		---	---	18100			---	5010		---	2900
4	---		---	---	18400			---	7500		---	4600
5	---		---	---	18500			---	9050		---	6500
6	---		---	---	18600			---	11200		---	8000
7	---		---	---	---			---	12500		---	9250
8	---		---	---	---			---	1000		---	10000
9	---		---	---	---			---	1390		---	1250
10	---		---	---	---			---	3400		---	575
11	---		---	---	---			---	774		---	560
12	---		---	---	---			---	950		---	823
13	---		12800	---	---			---	2330		---	2510
14	---		6280	---	---			---	6880		---	4000
15	---		1230	---	---			950	8500		7500	5900
16	---		1630	---	---			800	10100		695	7500
17	---		---	---	---			1750	11400		4500	8500
18	---		---	---	---			9500	12500		---	---
19	---		15900	---	---			11000	13100		---	---
20	---		16300	---	---			1500	13400		---	---
21	---		16800	---	---			1950	2470		979	---
22	---		17000	16500	---			11400	1120		4250	---
23	---		4500	12600	---			12300	1390		6500	---
24	---		5650	15000	---			13400	4500		---	---
25	---		7800	15400	---			13800	6250		---	1300
26	---		9400	16100	---			14700	8900		---	450
27	---		11300	16500	---			15400	10000		---	375
28	---		12000	16700	---			16200	11100		---	390
29	---		---	17300	---			16800	---		7500	675
30	970		---	17500	---			17600	---		---	1480
31	---		---	17900	---			18300	---		---	---
MEAN	970		9900	16200	18300			10400	7020		4560	3560

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---		---					---	---		---	---
2	---		---					---	24.5		---	22.0
3	---		---					---	25.0		---	---
4	---		---					---	---		---	---
5	---		---					---	---		---	---
6	---		---					---	---		---	---
7	---		---					---	---		---	---
8	---		---					---	20.5		---	---
9	---		---					---	25.0		---	---
10	---		---					---	22.0		---	22.0
11	---		---					---	21.0		---	23.0
12	---		---					---	22.0		---	22.0
13	---		4.0					---	24.0		---	21.0
14	---		2.0					16.0	18.0		---	---
15	---		2.0					---	---		---	---
16	---		.0					16.0	---		24.0	---
17	---		---					18.5	---		---	---
18	---		---					---	---		---	---
19	---		---					---	---		---	---
20	---		---					---	---		---	---
21	---		---					17.0	20.0		25.5	---
22	---		---					20.0	19.5		---	---
23	---		7.5					---	25.0		---	---
24	---		3.0					---	---		---	---
25	---		---					---	---		---	---
26	---		---					---	---		---	16.0
27	---		---					---	---		---	14.5
28	---		---					---	---		---	16.0
29	---		---					---	---		---	20.5
30	15.5		---					---	---		---	16.0
31	---		---					22.0	---		---	---
MEAN	15.5		3.0					18.5	22.0		25.0	19.5

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX
(National stream-quality accounting network)

LOCATION.--Lat 33°00'29", long 100°10'49", Stonewall County, Hydrologic Unit 12050004, on right bank at downstream side of bridge on U.S. Highway 83, 0.3 mi (0.5 km) downstream from Hitson Creek, 10 mi (16 km) south of Aspermont, and at mile 34.5 (55.5 km) measured from confluence with Salt Fork Brazos River which is at mile 923.2 (1,485.4 km) on the Brazos River.

DRAINAGE AREA.--8,796 mi² (22,782 km²), of which 6,932 mi² (17,954 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1923 to September 1934, June 1939 to current year.

REVISED RECORDS.--WSP 733: 1927(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,624.79 ft (495.236 m) National Geodetic Vertical Datum of 1929. Dec. 3, 1923, to Sept. 30, 1934, nonrecording gage at site 90 ft (27 m) downstream at datum 2.0 ft (0.61 m) higher, and June 8, 1939, to Aug. 12, 1972, water-stage recorder at present site and datum 2.0 ft (0.61 m) higher.

REMARKS.--Water-discharge records fair. Small diversions above station for oilfield operation.

AVERAGE DISCHARGE.--51 years (water years 1925-34, 1940-80), 163 ft³/s (4.616 m³/s), 1.19 in/yr (30 mm/yr), 118,100 acre-ft/yr (146 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 91,400 ft³/s (2,590 m³/s) Sept. 26, 1955, gage height, 29.5 ft (8.99 m), present datum; no flow at times most years.
Maximum stage since at least 1899, that of Sept. 26, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,800 ft³/s (249 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 15	2000	*36,000	1,020	20.83	6.349
Sept. 28	1730	21,400	606	16.14	4.919

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.00	.14	22	16	7.8	.77	6.1	26	6.2	.09	.17
2	.00	.00	.14	19	19	5.6	1.0	5.5	18	5.7	.05	.17
3	.00	.00	.14	17	16	6.1	7.7	3.6	13	5.2	.02	187
4	.00	.00	.11	16	15	5.6	7.6	3.3	8.3	4.7	.09	190
5	.00	.00	.11	15	15	3.3	2.3	3.3	7.6	4.7	40	63
6	.00	.00	.11	14	14	3.1	.75	2.8	11	4.6	35	28
7	.00	.02	.11	13	19	2.8	.22	43	6.1	4.3	15	17
8	.00	.03	.11	13	42	2.3	.00	67	9.5	4.0	7.1	13
9	.00	.01	.11	13	27	2.0	.00	31	125	1.1	3.1	11
10	.00	.01	.11	12	22	1.5	.00	12	66	1.1	1.2	13
11	.00	.01	.11	11	30	1.5	.00	5.3	120	.90	.61	613
12	.00	.01	2.6	10	25	1.4	.00	2.8	1120	.80	.48	553
13	.00	.02	5.8	9.6	23	.96	.00	1.0	358	.72	.25	302
14	.00	.01	7.0	9.5	23	.70	.00	.51	161	.80	.12	113
15	.00	.00	8.7	9.2	23	.45	.00	12800	91	.72	.04	76
16	.01	.01	6.1	9.2	26	.38	.00	9260	62	.72	.03	44
17	.00	.01	2.0	9.2	26	.31	.00	1400	52	11	.65	32
18	.00	.01	2.2	9.2	24	.24	.00	442	37	4.0	.73	25
19	.00	.01	1.8	9.1	21	.09	.00	311	27	4.4	23	20
20	.00	.01	14	9.9	17	.06	.00	194	47	1.7	12	16
21	.00	29	26	12	15	.00	.00	152	40	1.1	5.7	12
22	.00	35	29	15	13	.00	.00	130	18	1.0	4.4	10
23	.00	15	30	17	12	.10	.00	249	17	2.0	2.5	14
24	.00	5.9	30	21	13	.14	634	102	14	2.3	1.3	30
25	.00	3.0	27	22	12	.01	195	64	13	.64	.71	89
26	.00	1.4	28	20	10	.13	68	48	12	.64	.48	1530
27	.00	.64	28	20	9.2	.66	29	33	14	.50	.45	4000
28	.00	.38	38	15	8.0	13	17	90	11	.38	.30	13800
29	.00	.20	40	17	7.3	6.4	12	112	8.6	.34	.17	6830
30	.05	.14	33	18	---	1.7	7.6	110	7.6	.20	.17	1590
31	.00	---	26	15	---	.84	---	45	---	.15	.17	---
TOTAL	.09	90.83	386.50	441.9	542.5	69.17	982.94	25729.21	2520.7	76.61	155.91	30221.34
MEAN	.003	3.03	12.5	14.3	18.7	2.23	32.8	830	84.0	2.47	5.03	1007
MAX	.05	35	40	22	42	13	634	12800	1120	11	40	13800
MIN	.00	.00	.11	9.1	7.3	.00	.00	.51	6.1	.15	.02	.17
CFSM	.000	.002	.007	.008	.01	.001	.02	.45	.05	.001	.003	.54
IN.	.00	.00	.01	.01	.01	.00	.02	.51	.05	.00	.00	.60
AC-FT	.2	180	767	877	1080	137	1950	51030	5000	152	309	59940

CAL YR 1979	TOTAL	35504.36	MEAN	97.3	MAX	5300	MIN	.00	CFSM .05	IN .71	AC-FT	70420
WTR YR 1980	TOTAL	61217.70	MEAN	167	MAX	13800	MIN	.00	CFSM .09	IN 1.22	AC-FT	121400

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1948 to November 1951, October 1956 to Setember 1977. Chemical and biochemical analyses: October 1977 to September 1978. Sediment records: November 1949 to November 1951.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1948 to November 1951, October 1956 to current year.
WATER TEMPERATURES: November 1949 to November 1951, October 1956 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 13,100 micromhos July 29, 1980; minimum daily, 735 micromhos Oct. 24.
WATER TEMPERATURES (1945-51, 1956-67, 1969-79): Maximum daily, 38.0°C July 18, 1966; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 13,100 micromhos July 29; minimum daily, 840 micromhos Sept. 28.
WATER TEMPERATURES: Maximum daily, 29.0°C June 2; minimum daily, 0.0°C Nov. 29, 30, Dec. 17, Jan. 31, Feb. 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 30...	0850	.14	8460	--	.0	--	--	--	--	--	--
DEC 05...	1240	2.0	9400	7.5	6.0	.60	12.2	108	3.6	78	45
JAN 23...	1300	1.1	8580	7.3	6.0	.90	14.9	130	.7	--	K19
FEB 20...	0910	2.0	5620	8.0	8.5	2.4	12.8	117	2.2	520	320
MAR 19...	0830	.50	10600	7.5	6.5	1.8	14.6	128	2.1	30	26
MAY 21...	1430	88	4100	8.1	22.0	280	10.1	123	1.0	250	410
JUN 03...	1730	5.6	5800	8.0	30.0	85	9.0	125	2.6	210	34
JUL 15...	1500	1.0	10200	8.3	35.0	16	7.6	115	1.3	29	K16
AUG 20...	0900	3.6	4250	7.8	24.5	20	9.4	119	1.7	460	160
SEP 17...	0900	13	2300	8.1	18.5	830	10.6	119	1.0	1900	460

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV 30...	2800	2700	860	170	1000	8.2	15	130	0	1800	2100
DEC 05...	2600	2400	770	160	1000	8.6	17	180	0	1700	2100
JAN 23...	1600	1500	460	110	1200	13	9.2	140	0	1300	1900
FEB 20...	1100	990	290	100	790	10	14	180	0	1000	1200
MAR 19...	2800	2700	830	180	1300	11	17	140	0	2000	2500
MAY 21...	930	790	280	55	510	7.3	11	160	0	800	760
JUN 03...	1400	1300	440	79	840	9.7	13	140	0	1100	1300
JUL 15...	2700	2600	790	170	1500	13	21	130	0	2200	2700
AUG 20...	1300	1200	420	55	540	6.6	12	100	0	1200	770
SEP 17...	390	270	120	21	280	6.2	7.8	140	0	400	360

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)
NOV 30...	.5	9.1	--	6020	--	--	--	--	--	--
DEC 05...	.5	8.7	6420	5850	.03	.01	.120	.120	.11	.56
JAN 23...	.9	6.0	5210	5060	.02	.01	.040	.020	.08	.12
FEB 20...	1.8	4.9	3610	3490	.06	.02	.040	.010	.37	.65
MAR 19...	.7	4.9	6940	6900	.04	.01	.250	.270	.53	.44
MAY 21...	1.0	11	2550	2510	.38	.27	.100	.120	1.9	1.3
JUN 03...	.4	11	4110	3880	.02	.01	.100	.070	.82	.59
JUL 15...	.9	18	7780	7460	.04	.05	.150	.230	.67	.45
AUG 20...	.8	7.2	3170	3150	.23	.33	.080	.120	.65	.36
SEP 17...	1.1	7.0	1060	1270	.45	.41	.000	.000	1.1	.99

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 30...	--	--	--	--	--	--	--	--	--	--
DEC 05...	.23	.68	.000	.000	4.4	--	--	68	.37	42
JAN 23...	.12	.14	.010	.010	3.1	--	--	10	.03	86
FEB 20...	.41	.66	.050	.010	--	9.2	.2	36	.19	98
MAR 19...	.78	.71	.010	.010	3.0	--	--	21	.03	68
MAY 21...	2.0	1.4	.230	.010	5.4	--	--	705	168	71
JUN 03...	.92	.66	.080	.000	--	4.6	1.5	266	4.0	69
JUL 15...	.82	.68	.210	.020	4.4	--	--	39	.11	99
AUG 20...	.73	.48	.040	.000	--	6.4	.5	35	.34	93
SEP 17...	1.1	.99	.360	.030	6.3	--	--	875	31	95

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
FEB 20...	0910	3	0	3	400	200	200	1	1	0	10
MAR 19...	0830	--	--	--	--	--	--	--	--	--	--
JUN 03...	1730	4	0	4	600	400	200	0	0	0	10
JUL 15...	1500	--	--	--	--	--	--	--	--	--	--
AUG 20...	0900	4	0	4	0	0	0	0	0	0	10
SEP 17...	0900	--	--	--	--	--	--	--	--	--	--

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
FEB 20...	10	0	0	0	0	7	7	0	220	200	20
MAR 19...	--	--	--	--	--	--	--	--	--	--	--
JUN 03...	0	10	3	3	0	7	6	1	1800	1800	40
JUL 15...	--	--	--	--	--	--	--	--	--	--	--
AUG 20...	10	0	0	0	1	6	5	1	480	430	50
SEP 17...	--	--	--	--	--	--	--	--	--	--	--

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
FEB 20...	1	1	0	70	10	60	.2	.0	.5	4	4
MAR 19...	--	--	--	--	--	--	--	--	--	--	--
JUN 03...	4	4	0	110	70	40	.1	.0	.2	6	0
JUL 15...	--	--	--	--	--	--	--	--	--	--	--
AUG 20...	3	1	2	110	60	50	.1	.1	.0	4	4
SEP 17...	--	--	--	--	--	--	--	--	--	--	--

DATE	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
FEB 20...	0	1	0	1	5	5	0	30	20	10
MAR 19...	--	--	--	--	0	--	--	--	--	--
JUN 03...	7	1	0	1	2	2	0	50	40	10
JUL 15...	--	--	--	--	0	--	--	--	--	--
AUG 20...	0	1	1	0	1	1	0	30	10	20
SEP 17...	--	--	--	--	0	--	--	--	--	--

DATE	LENGTH OF EXPOSURE (DAYS)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	CHLOR-B PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	BIOMASS CHLOROPHYLL RATIO PERIPHYTON (UNITS)
MAR 19...	28	5.83	6.22	1.28	.290	305

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	MAR 19,80	MAY 21,80	JUN 3,80	JUL 15,80	AUG 20,80	SEP 17,80
TIME	0830	1430	1730	1500	0900	0900
TOTAL CELLS/ML	370	44000	85000	4400	100000	960
DIVERSITY: DIVISION	0.6	1.3	0.9	1.4	0.7	1.4
.CLASS	0.6	1.3	0.9	1.4	0.7	1.4
..ORDER	0.8	1.6	1.7	2.3	1.0	1.7
...FAMILY	1.3	2.1	1.9	2.5	1.5	1.7
....GENUS	1.4	2.8	2.0	3.1	1.7	1.7

ORGANISM	CELLS /MT	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...COELASTRACEAE												
....COELASTRUM	--	-	--	-	--	-	--	-	960	1	--	-
...HYDRODICTYACEAE												
....PEDIASTRUM	--	-	--	-	--	-	--	-	*	0	--	-
...MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	--	-	160	4	--	-	--	-
....GOLENKINIOPSIS	--	-	--	-	*	0	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	3400	8	1400	2	220	5	800	1	--	-
....CHODATELLA	--	-	--	-	--	-	*	0	*	0	--	-
....DICTYOSPHAERIUM	--	-	440	1	820	1	160	4	3700	4	--	-
....KIRCHNERIELLA	--	-	300	1	--	-	--	-	560	1	--	-
....OOCYSTIS	--	-	2100	5	1100	1	140	3	*	0	140	14
....SELENASTRUM	--	-	--	-	--	-	*	0	--	-	--	-
....TETRAEDRON	--	-	3300	7	--	-	--	-	--	-	--	-
....WESTELLA	--	-	--	-	--	-	--	-	1300	1	--	-
...SCENEDESMACEAE												
....ACTINASTRUM	--	-	1200	3	--	-	--	-	640	1	--	-
....CRUCIGENIA	--	-	--	-	--	-	80	2	--	-	--	-
....SCENEDESMUS	--	-	10000#	24	4900	6	--	-	3700	4	--	-
....TETRASTRUM	--	-	*	0	--	-	--	-	640	1	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	1500	3	*	0	520	12	*	0	140	14
....CHLOROGONIUM	--	-	--	-	--	-	*	0	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...CHAETOCERACEAE												
....CHAETOCEROS	--	-	--	-	820	1	--	-	--	-	--	-
...COSCINODISCACEAE												
....CYCLOTELLA	13	3	2800	6	5100	6	100	2	800	1	140	14
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	13	3	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....ENTOMONEIS	13	3	--	-	--	-	--	-	--	-	--	-
....NAVICULA	13	3	--	-	*	0	--	-	*	0	--	-
...NITZSCHIACEAE												
....NITZSCHIA	270#	72	*	0	*	0	220	5	720	1	--	-
...SURIRELLACEAE												
....SURIRELLA	--	-	--	-	--	-	*	0	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	-	--	-	--	-	--	-	*	0	--	-
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	--	-	--	-	40	1	*	0	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	51	14	--	-	*	0	320	7	1600	2	--	-
....ANACYSTIS	--	-	1200	3	26000#	30	1400#	32	3000	3	550#	57
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	--	-	--	-	800	1	--	-
...OSCILLATORIACEAE												
....LYNGBYA	--	-	1500	3	--	-	--	-	--	-	--	-
....OSCILLATORIA	--	-	15000#	35	43000#	51	940#	21	78000#	75	--	-
...RIVULARIACEAE												
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	4800	5	--	-

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

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	MAR 19,80 0830		MAY 21,80 1430		JUN 3,80 1730		JUL 15,80 1500		AUG 20,80 0900		SEP 17,80 0900	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	--	-	--	-	*	0	--	-
....TRACHELOMONAS	--	-	--	-	550	1	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	--	-	40	1	--	-	--	-

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

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	0.09	8940	6060	1.5	2200	0.5	1800	0.4	2300
NOV.	1979	90.83	4590	3000	737	930	227	970	238	1100
DEC.	1979	386.50	4780	3130	3270	960	1010	1000	1050	1100
JAN.	1980	441.9	7270	4860	5800	1600	1950	1500	1760	1800
FEB.	1980	542.5	6270	4150	6090	1300	1980	1300	1890	1500
MAR.	1980	69.17	8160	5500	1030	1900	358	1600	303	2100
APR.	1980	982.94	2590	1660	4410	460	1230	570	1510	580
MAY	1980	25729.21	1780	1130	78700	300	21000	400	27600	390
JUNE	1980	2520.7	2610	1680	11500	480	3270	570	3870	590
JULY	1980	76.61	9930	6790	1410	2500	519	1900	395	2600
AUG.	1980	155.91	4700	3070	1290	930	393	1000	420	1100
SEPT	1980	30221.34	1170	739	60300	190	15600	260	21500	250
TOTAL		61217.70	**	**	174000	**	47500	**	60500	**
WTD. AVG.		167	1650	1060	**	290	**	370	**	360

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8200	---	8440	7020	6670	8100	8050	5420	3840	8130	11400	5920
2	---	---	8730	6260	6430	8230	8900	5800	4690	8540	11200	6000
3	---	---	8420	6490	6750	8350	8070	6360	5820	9030	11100	2250
4	---	---	8600	6810	7050	8520	6730	6980	6470	9400	10100	1810
5	---	---	8790	7080	7760	8760	9300	7030	7170	9690	5250	1440
6	---	---	9080	7280	7830	8630	9930	7420	7860	9830	4500	2070
7	---	8900	9050	7470	7570	8800	10100	6850	7680	9930	3510	2530
8	---	8770	9510	7610	6320	8990	---	5950	6350	10000	4220	3000
9	---	9250	8880	7650	5350	8940	---	6500	3750	10100	5180	3560
10	---	9600	8800	7700	4790	9070	---	6330	3090	10200	6040	4080
11	---	9780	8820	7830	5280	9170	---	5910	3180	10300	6850	1750
12	---	9640	7000	7960	5980	9250	---	5930	2000	10300	7230	1240
13	---	9690	5200	8080	6370	9570	---	6370	1740	10400	7680	999
14	---	9600	4360	8180	6850	9650	---	7020	1650	10500	8210	1090
15	---	---	5680	8250	6120	9630	---	1660	1840	10600	8860	1280
16	9230	9600	6210	8300	5800	9500	---	1530	2360	10700	8900	1570
17	---	9790	7710	8340	5720	9570	---	1810	3030	10700	8960	2080
18	---	9450	8020	8400	5100	9610	---	2250	3320	10700	8110	2640
19	---	9520	7810	8550	5180	9860	---	2840	4110	10700	4600	3200
20	---	9840	8950	8330	6110	9800	---	2980	3550	10600	4250	3840
21	---	6500	6500	8190	6100	---	---	3740	3230	10500	4380	4450
22	---	3000	4170	7850	6400	---	---	3970	5690	10500	4600	5100
23	---	4270	3950	7960	6610	10500	---	3000	6470	10400	4750	4680
24	---	4410	4000	8090	6830	10200	2350	2880	7050	10500	4880	4870
25	---	4850	4350	8210	7040	10400	2510	3580	7530	10500	5120	4380
26	---	5530	4700	6760	7240	10300	2590	4250	7790	11300	5310	2750
27	---	6300	4720	5850	7430	10200	2900	5030	8240	12100	5500	1540
28	---	6790	4220	6000	7670	7960	3500	4850	8720	13000	5580	840
29	---	7450	3760	5850	7940	5600	4170	4260	7320	13100	5690	1050
30	9320	8440	4380	5730	---	6300	4860	3500	7600	12300	5750	1090
31	---	---	5080	5910	---	7250	---	3260	---	11900	5830	---
MEAN	8920	7870	6710	7420	6490	8990	6000	4690	5100	10500	6570	2770

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	---	2.0	3.0	.0	---	8.0	16.0	24.0	25.0	21.0	---
2	---	---	1.0	5.0	2.0	---	14.0	16.0	29.0	26.0	20.0	---
3	---	---	1.0	6.0	4.0	3.0	11.0	17.0	24.0	24.0	23.0	25.0
4	---	---	3.0	3.0	6.0	9.0	11.0	18.0	24.0	25.0	22.0	25.0
5	---	---	5.0	6.0	5.0	10.0	11.0	17.0	23.0	23.0	24.0	25.0
6	---	---	3.0	5.0	4.0	6.0	13.0	19.0	24.0	24.0	25.0	23.0
7	---	---	3.0	1.0	9.0	12.0	10.0	18.0	26.0	25.0	24.0	23.0
8	---	10.0	3.0	2.0	3.0	9.0	---	15.0	24.0	25.0	24.0	23.0
9	---	11.0	5.0	2.0	---	7.0	---	15.0	21.0	25.0	24.0	23.0
10	---	5.0	6.0	7.0	7.0	12.0	---	19.0	23.0	25.0	24.0	23.0
11	---	6.0	12.0	6.0	2.0	12.0	---	19.0	24.0	24.0	23.0	24.0
12	---	7.0	---	5.0	3.0	13.0	---	22.0	24.0	24.0	22.0	25.0
13	---	4.0	---	6.0	2.0	7.0	---	16.0	25.0	24.0	24.0	25.0
14	---	5.0	4.0	8.0	9.0	8.0	---	16.0	24.0	23.0	23.0	24.0
15	---	---	6.0	11.0	11.0	9.0	---	16.0	24.0	24.0	23.0	23.0
16	17.0	5.0	3.0	6.0	1.0	15.0	---	15.0	25.0	23.0	25.0	22.0
17	---	7.0	.0	6.0	1.0	6.0	---	18.0	25.0	23.0	23.0	19.0
18	---	11.0	1.0	8.0	2.0	5.0	---	20.0	25.0	22.0	---	20.0
19	---	12.0	3.0	13.0	9.0	9.0	---	19.0	25.0	24.0	---	24.0
20	---	17.0	3.0	6.0	11.0	9.0	---	21.0	24.0	24.0	---	22.0
21	---	9.0	8.0	6.0	9.0	---	---	20.0	25.0	24.0	---	---
22	---	4.0	10.0	5.0	9.0	---	---	20.0	23.0	25.0	---	25.0
23	---	3.0	---	1.0	8.0	---	---	21.0	25.0	23.0	---	19.0
24	---	11.0	6.0	4.0	7.0	6.0	10.0	23.0	24.0	20.0	---	20.0
25	---	5.0	5.0	6.0	5.0	8.0	14.0	23.0	24.0	23.0	---	22.0
26	---	6.0	6.0	4.0	5.0	---	12.0	24.0	25.0	---	---	---
27	---	6.0	9.0	1.0	7.0	14.0	13.0	26.0	24.0	---	---	17.0
28	---	2.0	8.0	---	10.0	10.0	15.0	22.0	23.0	28.0	---	---
29	---	.0	6.0	---	10.0	9.0	16.0	24.0	24.0	22.0	---	16.0
30	15.0	.0	3.0	3.0	---	6.0	19.0	24.0	25.0	22.0	---	18.0
31	---	---	3.0	.0	---	---	---	25.0	---	24.0	---	---
MEAN	17.5	6.5	4.5	5.0	6.0	9.0	12.5	19.5	24.5	24.0	23.0	22.0

08080950 DUCK CREEK NEAR GIRARD, TX

LOCATION.--Lat 33°21'22", long 100°42'17", Kent County, Hydrologic Unit 12050007, near right bank on downstream side of bridge on Farm Road 643, 2.5 mi (4.0 km) west of Girard, and 10.7 mi (17.2 km) upstream from mouth.

DRAINAGE AREA.--431 mi^2 (1,116 km^2), of which 152 mi^2 (394 km^2) probably is noncontributing.

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

REVISED RECORDS.--WRD TX-72-1: 1971. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,006.08 ft (611.453 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several small diversions upstream from gage. Flow is affected at times by discharge from flood-detention pools of 12 floodwater-retarding structures with combined detention capacity of 24,710 acre-ft (30.5 hm^3). These structures control runoff from 108 mi^2 (280 km^2). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 5.80 ft^3/s (0.164 m^3/s), 4,200 acre-ft/yr (5.18 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft^3/s (142 m^3/s) June 4, 1974, gage height, 15.22 ft (4.639 m); no flow at times in 1966, 1969, 1971, 1974, and 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902 occurred in March or April 1918 (stage and discharge unknown); the second highest stage, 19.8 ft (6.04 m) in September 1955, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 606 ft^3/s (17.2 m^3/s) May 16 at 0015 hours, gage height, 11.83 ft (3.606 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.35	1.1	1.0	1.1	.91	1.4	1.1	26	.06	.00	.00
2	.13	.37	.99	1.0	1.1	.93	1.5	1.3	16	.05	.00	.00
3	.13	.48	.99	.99	1.2	1.0	1.6	1.2	7.0	.04	.00	.00
4	.13	.57	.88	1.0	1.2	1.2	1.5	1.2	3.5	.03	.00	.00
5	.13	.65	.94	1.0	1.1	1.1	1.4	1.0	2.2	.02	.00	.00
6	.15	.63	.83	1.1	1.1	1.2	1.4	.80	1.5	.01	.00	.00
7	.15	.74	.88	1.1	1.1	1.2	1.4	.73	1.1	.01	.00	.00
8	.15	.90	.74	1.0	1.1	1.0	1.3	.62	1.2	.00	.00	.00
9	.15	1.2	.70	1.0	1.2	1.1	1.3	.66	1.0	.00	.00	.00
10	.15	1.2	.74	1.1	1.3	1.1	1.3	.59	.99	.00	.00	.01
11	.19	1.2	.77	.96	1.3	1.2	1.3	.39	56	.00	.00	.13
12	.19	1.1	.96	.94	1.2	1.2	1.3	.23	72	.00	.00	.03
13	.19	1.2	1.5	.97	1.1	1.1	1.5	.15	30	.00	.00	.00
14	.22	1.3	1.8	.98	1.1	1.1	1.4	.13	25	.00	.00	.00
15	.22	1.3	1.7	1.0	1.1	1.2	1.4	265	22	.00	.00	.00
16	.19	1.3	1.3	1.0	1.1	1.3	1.4	190	11	.00	.00	.00
17	.20	1.2	1.0	1.1	1.1	1.2	1.4	37	4.9	.00	.00	.00
18	.22	1.3	.88	1.0	1.2	1.1	1.0	31	3.4	.00	.00	.00
19	.21	1.3	.89	1.3	1.1	1.3	1.1	27	2.9	.00	.00	.00
20	.18	1.3	.87	2.5	.89	1.3	1.3	16	2.6	.00	.00	.00
21	.17	1.1	.90	1.9	.80	1.3	1.2	7.5	2.3	.00	.00	.00
22	.16	1.1	.93	1.7	.80	1.3	1.2	3.7	2.1	.00	.00	.00
23	.18	.98	1.7	1.7	.80	1.2	1.4	2.2	1.9	.00	.00	.00
24	.19	1.1	1.5	1.4	.82	1.2	1.6	1.6	1.8	.00	.00	.00
25	.21	1.1	1.3	1.3	.81	1.3	1.5	1.0	1.5	.00	.00	.02
26	.22	1.1	1.1	1.2	.81	1.5	1.4	.66	1.2	.00	.00	.12
27	.25	1.1	1.1	1.2	.95	1.7	1.3	.61	.90	.00	.00	23
28	.24	1.1	1.1	1.2	1.0	1.8	1.3	5.5	.60	.00	.00	11
29	.26	.99	1.1	1.1	.99	1.7	1.2	126	.30	.00	.00	1.6
30	.42	.99	1.1	1.2	---	1.6	1.1	47	.10	.00	.00	.53
31	.30	---	1.0	1.1	---	1.5	---	31	---	.00	.00	---
TOTAL	5.98	30.25	33.29	37.04	30.47	38.84	40.4	802.87	302.99	.22	.00	36.44
MEAN	.19	1.01	1.07	1.19	1.05	1.25	1.35	25.9	10.1	.007	.000	1.21
MAX	.42	1.3	1.8	2.5	1.3	1.8	1.6	265	72	.06	.00	23
MIN	.10	.35	.70	.94	.80	.91	1.0	.13	.10	.00	.00	.00
AC-FT	12	60	66	73	60	77	80	1590	601	.4	.00	72

CAL YR 1979 TOTAL 523.41 MEAN 1.43 MAX 52 MIN .06 AC-FT 1040
WTR YR 1980 TOTAL 1358.79 MEAN 3.71 MAX 265 MIN .00 AC-FT 2700

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX

LOCATION.--Lat 33°12'43", long 100°25'53", Stonewall County, Hydrologic Unit 12050007, on right bank at downstream side of bridge on U.S. Highway 380, 2.9 mi (4.7 km) northwest of Peacock, 6.2 mi (10.0 km) upstream from Croton Creek, 13.0 mi (20.9 km) northwest of Aspermont, and at mile 54.3 (87.4 km) measured from confluence with Double Mountain Fork Brazos River which is at mile 923.2 (1,485.4 km) on the Brazos River.

DRAINAGE AREA.--4,619 mi² (11,963 km²), of which 2,634 mi² (6,822 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1949 to September 1951, September 1964 to current year.

REVISED RECORD.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,724.32 ft (525.573 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1964, nonrecording gage at site 2.9 mi (4.7 km) upstream at datum 19.39 ft (5.910 m) higher.

REMARKS.--Water-discharge records fair. Some regulation by White River Reservoir, capacity 44,900 acre-ft (55.4 hm³), 79 mi (127 km) upstream. Several small diversions above station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950.

AVERAGE DISCHARGE.--17 years (water years 1951, 1965-80), 35.6 ft³/s (1.008 m³/s), 25,790 acre-ft/yr (31.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s (538 m³/s) Aug. 13, 1972, gage height, 13.75 ft (4.191 m); no flow at times most years.
Maximum stage since at least 1939, that of Aug. 13, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,300 ft³/s (320 m³/s) May 15 at 1200 hours, gage height, 11.44 ft (3.487 m), no other peak above base of 5,000 ft³/s (142 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.6	1.1	2.2	1.5	.94	1.5	60	.22	.00	.00
2	.00	.00	1.6	1.2	2.4	1.7	1.6	2.2	41	.16	.00	.00
3	.00	.00	1.6	.98	2.6	2.4	1.1	1.8	29	.10	.00	.00
4	.00	.00	1.6	.90	2.6	2.6	1.1	1.7	21	.08	.00	.00
5	.00	.00	1.6	.97	2.2	1.5	1.2	1.5	16	.06	.00	.00
6	.00	.00	1.5	1.4	1.9	1.9	1.3	1.3	13	.04	.00	.00
7	.00	.00	1.5	.84	2.1	2.4	.97	1.6	12	.03	.00	.00
8	.00	.00	1.3	.96	2.0	1.5	.67	1.0	48	.02	.00	.00
9	.00	.00	1.3	1.0	1.5	1.7	.75	.89	24	.02	.00	.00
10	.00	.00	1.2	1.6	3.0	1.7	.90	.96	15	.02	.00	.00
11	.00	.00	1.2	1.1	6.2	2.0	.65	.66	524	.03	.00	45
12	.00	.00	1.2	.76	5.5	2.2	.48	.41	713	.02	.00	109
13	.00	.00	1.1	1.3	4.8	1.3	.82	.22	207	.01	.00	41
14	.00	.00	1.0	1.3	5.1	1.3	.91	.65	69	.00	.00	12
15	.00	.00	1.3	1.6	4.0	1.4	.97	2650	36	.00	.00	4.1
16	.00	.00	.49	1.4	2.7	1.6	1.0	901	23	.00	.00	1.3
17	.00	.00	.35	1.5	2.8	1.0	.64	205	21	.00	.00	.16
18	.00	.00	.25	1.7	3.4	1.1	.61	50	18	.00	.00	.09
19	.00	.00	.20	1.5	4.3	1.3	.69	24	16	.00	.00	.02
20	.00	156	.22	1.5	3.5	1.3	.85	17	12	.00	.00	.00
21	.00	28	.24	1.8	2.6	1.2	.73	13	9.0	.00	.00	.00
22	.00	3.2	.30	7.0	2.3	1.1	.69	10	7.0	.00	.00	.00
23	.00	3.0	.57	5.9	1.8	1.3	.81	8.4	5.9	.00	.00	.70
24	.00	2.5	2.0	3.7	1.9	.99	1.5	7.0	5.0	.00	.00	.69
25	.00	1.6	1.1	3.1	2.0	1.1	1.4	5.6	3.7	.00	.00	1.0
26	.00	1.6	.87	2.5	2.2	1.2	.89	5.1	2.4	.00	.00	17
27	.00	1.6	.81	2.3	2.3	2.1	.83	5.7	1.6	.00	.00	334
28	.00	1.6	.89	2.1	2.5	2.6	.92	51	.78	.00	.00	1280
29	.00	1.6	1.3	2.1	2.5	1.5	.93	99	.50	.00	.00	436
30	.00	1.6	1.0	1.8	---	1.2	.78	249	.31	.00	.00	158
31	.00	---	.96	2.2	---	1.1	---	135	---	.00	.00	---
TOTAL	.00	202.30	32.15	59.11	84.9	48.79	27.63	4452.19	1954.19	.81	.00	2440.06
MEAN	.000	6.74	1.04	1.91	2.93	1.57	.92	144	65.1	.026	.000	81.3
MAX	.00	156	2.0	7.0	6.2	2.6	1.6	2650	713	.22	.00	1280
MIN	.00	.00	.20	.76	1.5	.99	.48	.22	.31	.00	.00	.00
AC-FT	.00	401	64	117	168	97	55	8830	3880	1.6	.00	4840

CAL YR 1979 TOTAL 2825.91 MEAN 7.74 MAX 458 MIN .00 AC-FT 5610
WTR YR 1980 TOTAL 9302.13 MEAN 25.4 MAX 2650 MIN .00 AC-FT 18450

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1949 to September 1951, October 1964 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1949 to September 1951, October 1964 to current year.
WATER TEMPERATURES: December 1949 to September 1951, October 1964 to current year.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 61,100 micromhos July 31, 1966; minimum daily, 900 micromhos Aug. 31, 1966.
WATER TEMPERATURES (1949-50, 1964-69, 1971-80): Maximum daily, 39.0°C June 25, 1968, July 30, 1978; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 57,500 micromhos Mar. 1; minimum daily, 1,480 micromhos May 15.
WATER TEMPERATURES: Maximum daily, 34.0°C June 27; minimum daily, 0.0°C on several days during January, February, and March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV									
23...	0810	3.1	25600	12.0	2800	2600	750	220	5300
DEC									
18...	1825	.19	34000	7.0	3000	2800	790	240	7200
JAN									
09...	1200	1.1	42100	5.0	3600	3400	930	310	8900
MAR									
04...	0930	2.4	45400	6.0	3400	3200	840	310	11000
APR									
29...	1225	1.0	49500	25.0	3900	3800	990	350	11000
MAY									
16...	1300	1360	4390	18.0	510	440	160	27	760
29...	1430	139	11900	26.5	1000	850	290	68	2300
JUN									
18...	1510	17	18600	37.5	1500	1400	380	130	3800
SEP									
30...	1335	154	8490	20.5	540	440	150	39	1600

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV									
23...	44	24	160	0	2500	8200	.3	13	17100
DEC									
18...	58	24	210	0	2000	13000	.3	9.5	23400
JAN									
09...	65	30	190	0	2700	15000	.4	8.9	28000
MAR									
04...	82	35	180	0	2600	17000	.7	7.3	31900
APR									
29...	77	35	150	0	3100	17000	.8	3.4	32600
MAY									
16...	15	9.9	83	0	470	1200	.5	5.0	2670
29...	32	15	190	0	850	3700	.6	9.9	7330
JUN									
18...	43	20	160	0	1000	6300	.6	8.4	11700
SEP									
30...	30	8.6	120	0	420	2700	.5	8.8	5090

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	0.00	*	*	0.00	*	0.00	*	0.00	*
NOV.	1979	202.30	8380	5380	2940	2700	1450	690	378	820
DEC.	1979	32.15	31600	20600	1790	10600	924	2200	190	*
JAN.	1980	59.11	38800	25400	4060	13300	2130	2500	401	*
FEB.	1980	84.9	45200	29800	6820	15800	3630	2700	630	*
MAR.	1980	48.79	46900	30900	4070	16500	2170	2800	369	*
APR.	1980	27.63	49300	32600	2430	17500	1300	2900	214	*
MAY	1980	4452.19	3590	2310	27800	1100	13800	290	3480	340
JUNE	1980	1954.19	5820	3740	19800	1900	9770	470	2500	560
JULY	1980	0.81	38700	25400	56	13300	29	2500	5.5	*
AUG.	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT	1980	2440.06	5240	3350	22100	1600	10700	460	3010	530
TOTAL		9302.13	**	**	91800	**	45900	**	11200	**
WTD. AVG.		25	5660	3660	**	1800	**	450	**	530

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	26500	42300	37500	57500	48700	51000	5000	40300		---
2		---	26600	42200	42700	50200	46400	50400	8010	39000		---
3		---	27600	42400	50000	44100	45800	47200	12000	38500		---
4		---	25800	42100	39800	45500	48100	50600	11900	38800		---
5		---	26400	41700	40500	46600	48000	47100	23100	37500		---
6		---	26700	42300	40000	46400	47700	47400	28500	37100		---
7		---	27200	42400	42600	45400	46700	47700	28400	38600		---
8		---	27300	42600	44200	45500	46300	50000	15100	38400		---
9		---	27600	42400	46900	45700	50400	50400	15500	36400		---
10		---	28100	41700	46700	45800	49400	50500	18100	36600		---
11		---	28900	41500	46100	46600	50400	50300	3480	36900		6270
12		---	29400	42500	46500	46300	50100	50200	2710	36400		3820
13		---	29900	42600	48300	46000	50000	48000	2870	33900		2280
14		---	31600	42400	48100	46300	50400	47000	3530	---		6000
15		---	33200	46100	44600	46100	51000	1480	3490	---		8180
16		---	33000	44500	48900	47600	51800	2920	10000	---		13600
17		---	33700	42400	43500	47300	51400	4450	13100	---		19000
18		---	34800	42500	44300	47700	49600	6860	22900	---		20200
19		---	35100	42600	47500	47600	49100	7360	25000	---		21600
20		5560	35400	42400	41200	47300	50200	17400	27400	---		---
21		13600	37200	42100	47300	43500	49900	21500	31200	---		---
22		20500	37000	33700	46900	48000	49100	27000	31000	---		---
23		23400	37100	32700	46800	48100	48600	31300	39900	---		20000
24		25400	35500	44300	46000	48400	49000	35500	40200	---		20600
25		25300	37000	42400	45800	46100	53700	38000	42200	---		19500
26		26000	40000	35800	45000	48400	51600	42300	42900	---		14300
27		26600	41300	33900	44800	44700	49700	43900	43000	---		6440
28		26400	39700	31300	41400	45000	50200	37900	43600	---		4500
29		25500	39600	29800	45300	49000	49500	20700	41600	---		5500
30		24600	39400	38800	---	48900	50600	3210	41300	---		8060
31		---	42300	34500	---	48800	---	2750	---	---		---
MEAN		22100	32900	40400	44800	47100	49400	33300	22600	37600		11800

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	1.0	6.0	---	.0	8.0	16.0	24.0	23.0		---
2		---	2.0	6.0	---	.0	12.0	15.0	24.0	24.0		---
3		---	2.0	6.0	10.0	3.0	12.0	15.0	23.0	22.0		---
4		---	8.0	7.0	10.0	---	10.0	16.0	23.0	23.0		---
5		---	---	5.0	8.0	6.0	8.0	16.0	23.0	21.0		---
6		---	---	2.0	8.0	5.0	8.0	19.0	22.0	21.0		---
7		---	---	1.0	8.0	7.0	8.0	17.0	22.0	25.0		---
8		---	---	2.0	.0	7.0	8.0	14.0	20.0	24.0		---
9		---	---	3.0	.0	7.0	8.0	14.0	21.0	23.0		---
10		---	---	8.0	.0	8.0	8.0	18.0	21.0	23.0		---
11		---	---	7.0	.0	14.0	16.0	18.0	22.0	23.0		---
12		---	---	7.0	2.0	10.0	12.0	19.0	23.0	23.0		22.0
13		---	---	18.0	15.0	7.0	5.0	14.0	23.0	22.0		23.0
14		---	---	12.0	8.0	7.0	5.0	---	22.0	---		23.0
15		---	24.0	13.0	8.0	7.0	11.0	15.0	22.0	---		23.0
16		---	10.0	11.0	.0	7.0	12.0	15.0	23.0	---		21.0
17		---	8.0	8.0	.0	7.0	12.0	15.0	23.0	---		13.0
18		---	11.0	8.0	---	7.0	11.0	21.0	24.0	---		18.0
19		---	7.0	8.0	18.0	7.0	11.0	16.0	24.0	---		---
20		---	7.0	8.0	16.0	7.0	25.0	18.0	22.0	---		---
21		12.0	8.0	8.0	15.0	7.0	18.0	18.0	23.0	---		---
22		12.0	8.0	.0	15.0	9.0	18.0	18.0	23.0	---		---
23		12.0	13.0	.0	10.0	9.0	18.0	20.0	22.0	---		19.0
24		12.0	---	3.0	15.0	6.0	15.0	20.0	22.0	---		19.0
25		17.0	13.0	5.0	15.0	7.0	15.0	20.0	23.0	---		---
26		17.0	7.0	3.0	17.0	10.0	11.0	20.0	23.0	---		17.0
27		9.0	8.0	---	20.0	10.0	16.0	22.0	34.0	---		17.0
28		4.0	7.0	---	25.0	10.0	16.0	24.0	33.0	---		15.0
29		2.0	6.0	---	---	8.0	---	24.0	25.0	---		16.0
30		1.0	6.0	---	---	8.0	16.0	23.0	25.0	---		17.0
31		---	5.0	---	---	9.0	---	24.0	---	---		---
MEAN		10.0	8.0	6.5	9.5	7.0	12.0	18.0	23.5	23.0		19.0

08081050 SHORT CROTON CREEK AT MOUTH NEAR JAYTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 33°18'27", long 100°31'57", Kent County, Hydrologic Unit 12050007, at mouth, 0.2 mi (0.3 km) upstream from county road crossing on Croton Creek, and 4.7 mi (7.6 km) northeast of Jayton.

PERIOD OF RECORD.--Chemical analyses: October 1960 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JAN 22...	1430	.46	71300	7.0	4600	1200	400	3400	28000
SEP 30...	0915	.62	87200	17.0	6200	1700	480	4500	39000

08081100 CROTON CREEK BELOW SHORT CROTON CREEK NEAR JAYTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 33°18'23", long 100°31'55", Kent County, Hydrologic Unit 12050007, at county road crossing and 4.7 mi (7.6 km) northeast of Jayton.

PERIOD OF RECORD.--Periodic discharge measurements: August 1959 to current year. Periodic water-quality data: October 1960 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JAN									
22...	1521	1.9	43900	7.0	3500	970	260	3100	16000
MAR									
05...	0721	.12	53800	6.0	5200	1400	410	4100	15000
MAY									
27...	0930	1.4	23300	25.0	3500	1100	190	3000	7300
SEP									
30...	0900	4.6	25400	17.0	2900	910	140	2400	9600

08081200 CROTON CREEK NEAR JAYTON, TX

LOCATION.--Lat 33°17'18", long 100°25'52", Stonewall County, Hydrologic Unit 12050007, on left bank 220 ft (67 m) downstream from county road, 0.9 mi (1.4 km) upstream from mouth, and 8.5 mi (13.7 km) northeast of Jayton.

DRAINAGE AREA.--290 mi² (751 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.-- Water-stage recorder and crest-stage gage. Datum of gage is 1,694.45 ft (516.468 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 11, 1976, at site 680 ft (207 m) upstream at same datum.

REMARKS.--Water-discharge records fair. No diversion above station.

AVERAGE DISCHARGE.--21 years, 14.2 ft³/s (0.402 m³/s), 0.66 in/yr (17 mm/yr), 10,290 acre-ft/yr (12.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft³/s (300 m³/s) Oct. 18, 1960, gage height, 12.40 ft (3.780 m), from rating curve extended above 3,100 ft³/s (87.8 m³/s); maximum gage height, 12.52 ft (3.816 m) May 20, 1977, from floodmark; no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1935, 13.5 ft (4.11 m) in 1941 or 1942, present datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,360 ft³/s (152 m³/s) May 15 at 1000 hours, gage height, 11.18 ft (3.408 m), from floodmark, no other peak above base of 1,600 ft³/s (45.3 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.03	.41	.01	.00	.03	16	.00	.00	.00
2	.00	.00	.00	.03	.32	.01	.00	.43	9.1	.00	.00	.00
3	.00	.00	.00	.01	.20	.01	.00	21	5.3	.00	.00	.00
4	.00	.00	.00	.00	.17	.01	.00	7.8	3.5	.00	.00	.00
5	.00	.00	.00	.00	.12	.00	.00	3.0	2.8	.00	.00	.00
6	.00	.00	.00	.00	.10	.00	.00	1.5	2.1	.00	.00	.00
7	.00	.00	.00	.00	.14	.00	.00	.93	1.4	.00	.00	.00
8	.00	.00	.00	.00	.25	.00	.00	.38	2.6	.00	.00	.00
9	.00	.00	.00	.00	.71	.00	.00	.54	3.7	.00	.00	.00
10	.00	.00	.00	.00	1.0	.00	.00	4.4	2.2	.00	.00	.00
11	.00	.00	.00	.00	2.0	.00	.00	1.9	211	.00	.00	.00
12	.00	.00	.00	.00	1.9	.00	.00	.70	255	.00	.00	.00
13	.00	.00	.82	.00	1.1	.00	.00	.12	67	.00	.00	.00
14	.00	.00	2.8	.00	.77	.00	.00	.01	29	.00	.00	.00
15	.00	.00	2.6	.00	.68	.00	.00	1980	14	.00	.00	.00
16	.00	.00	1.1	.00	.68	.00	.00	296	7.8	.00	.00	.00
17	.00	.00	.24	.00	.68	.00	.00	111	4.5	.00	.00	.00
18	.00	.00	.07	.00	.65	.00	.00	45	2.7	.00	.00	.00
19	.00	.00	.07	.00	.52	.00	.00	15	9.4	.00	.00	.00
20	.00	18	.03	.19	.36	.00	.00	8.4	4.5	.00	.00	.00
21	.00	3.0	.01	2.8	.31	.00	.00	7.2	2.5	.00	.00	.00
22	.00	1.3	.01	2.8	.17	.00	.00	7.2	1.3	.27	.00	.00
23	.00	.39	.14	2.6	.09	.00	.00	6.8	.91	.00	.00	.00
24	.00	.15	1.4	1.7	.07	.00	.00	5.3	.48	.00	.00	.00
25	.00	.05	.59	1.1	.04	.00	.00	4.0	.21	.00	.00	.00
26	.00	.00	.19	1.1	.02	.00	.00	2.7	.09	.00	.00	.28
27	.00	.00	.10	.89	.01	.03	.00	2.0	.04	.00	.00	73
28	.00	.00	.14	.85	.02	.05	.00	2.4	.01	.00	.00	137
29	.00	.00	.19	.70	.01	.00	.00	351	.03	.00	.00	66
30	.00	.00	.10	.59	---	.00	.00	109	.00	.00	.00	19
31	.00	---	.05	.48	---	.00	---	33	---	.00	.00	---
TOTAL	.00	22.89	10.65	15.87	13.50	.12	.00	3028.74	659.17	.27	.00	295.28
MEAN	.000	.76	.34	.51	.47	.004	.000	97.7	22.0	.009	.000	9.84
MAX	.00	18	2.8	2.8	2.0	.05	.00	1980	255	.27	.00	137
MIN	.00	.00	.00	.00	.01	.00	.00	.01	.00	.00	.00	.00
CFSM	.000	.003	.001	.002	.002	.000	.000	.34	.08	.000	.000	.03
IN.	.00	.00	.00	.00	.00	.00	.00	.39	.08	.00	.00	.04
AC-FT	.00	45	21	31	27	.2	.00	6010	1310	.5	.00	586

CAL YR 1979 TOTAL 2420.51 MEAN 6.63 MAX 268 MIN .00 CFSM .02 IN .31 AC-FT 4800
WTR YR 1980 TOTAL 4046.49 MEAN 11.1 MAX 1980 MIN .00 CFSM .04 IN .52 AC-FT 8030

08081200 CROTON CREEK NEAR JAYTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1959 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCANCE: October 1961 to current year.
WATER TEMPERATURES: October 1961 to September 1973.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (1961-64, 1972-80): Maximum daily, 54,100 micromhos Feb 11, 1978; minimum daily, 1,570 micromhos Aug. 3, 1976.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 50,000 micromhos Jan. 24; minimum daily, 1,710 micromhos May 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
DEC										
18...	0955	.08	40700	--	.5	4200	4100	1200	290	7800
FEB										
05...	1100	.12	40300	--	9.5	4300	4100	1200	310	8300
MAR										
04...	1600	.01	39900	--	13.0	4500	4300	1300	300	8400
MAY										
22...	0845	7.3	15300	--	17.0	2800	2700	910	120	2600
29...	1150	503	5220	7.5	23.0	1700	1600	630	38	620
JUN										
12...	1010	250	4040	--	--	1700	1700	630	36	340
SEP										
30...	0950	9.3	21600	--	17.5	2800	2800	910	130	4200

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
DEC									
18...	52	27	150	0	3000	13000	.2	6.5	25400
FEB									
05...	55	26	160	0	3400	13000	.3	4.7	26300
MAR									
04...	55	28	180	0	3300	14000	.1	8.1	27400
MAY									
22...	22	18	100	0	2200	4400	.4	6.0	10300
29...	6.5	10	150	0	1600	950	.3	12	3930
JUN									
12...	3.6	7.9	60	0	1500	550	.3	6.4	3100
SEP									
30...	35	18	71	0	2400	7000	.2	7.5	14700

08081200 CROTON CREEK NEAR JAYTON, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	0.00	*	*	0.00	*	0.00	*	0.00	*
NOV.	1979	22.89	23800	16100	996	7500	461	2700	166	*
DEC.	1979	10.65	39900	26800	771	13200	381	3600	102	*
JAN.	1980	15.87	45000	30200	1290	15100	647	3800	164	*
FEB.	1980	13.50	40300	27000	985	13400	487	3600	130	*
MAR.	1980	0.12	40700	27300	8.9	13500	4.4	3600	1.2	*
APR.	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
MAY	1980	3028.74	3410	2530	20700	640	5230	1000	8460	1100
JUNE	1980	659.17	6350	4630	8250	1300	2370	1700	3030	1800
JULY	1980	0.27	35700	24000	17	11700	8.5	3300	2.4	*
AUG.	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT	1980	295.28	14400	9940	7920	4100	3310	2200	1720	*
TOTAL		4046.49	**	**	40900	**	12900	**	13800	**
WTD. AVG.		11	5200	3750	**	1200	**	1300	**	1400

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	32900	41900	42700		45200	8750	---		---
2		---	---	32700	41600	41800		44000	11300	---		---
3		---	---	32000	41200	41400		10500	13900	---		---
4		---	---	---	40700	39900		12700	16400	---		---
5		---	---	---	40300	---		14800	17900	---		---
6		---	---	---	39100	---		21000	20000	---		---
7		---	---	---	37400	---		27300	21700	---		---
8		---	---	---	30200	---		33500	21200	---		---
9		---	---	---	32500	---		39800	21600	---		---
10		---	---	---	34200	---		34100	23700	---		---
11		---	---	---	40800	---		36500	6250	---		---
12		---	---	---	45100	---		37300	4300	---		---
13		---	31600	---	42700	---		39700	5800	---		---
14		---	36900	---	41600	---		41600	6400	---		---
15		---	46800	---	41900	---		1710	8830	---		---
16		---	43200	---	39700	---		4500	11300	---		---
17		---	41300	---	38900	---		7000	13700	---		---
18		---	39700	---	39500	---		9750	16200	---		---
19		---	37400	---	39400	---		10800	10200	---		---
20		24800	36500	44000	40100	---		11900	9610	---		---
21		12600	35900	42700	41100	---		13700	9400	---		---
22		31700	34800	41600	40100	---		15500	9230	35700		---
23		32500	33500	46000	37400	---		17300	9920	---		---
24		33000	40200	50000	38400	---		19100	13800	---		---
25		33500	37000	49100	45000	---		21000	14800	---		---
26		---	34800	48100	45400	---		23800	16700	---		40100
27		---	34800	46700	42300	40500		26400	19700	---		13400
28		---	33400	45200	45300	40300		26000	22100	---		12200
29		---	35900	44000	44800	---		5580	22700	---		18000
30		---	37400	43100	---	---		5250	---	---		21600
31		---	35300	42500	---	---		5770	---	---		---
MEAN		28000	37200	42700	40300	41100		21400	14000	35700		21100

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX
(National stream-quality accounting network)

LOCATION.--Lat 33°20'02", long 100°14'16", Stonewall County, Hydrologic Unit 12050007, on left bank at downstream side of bridge on U.S. Highway 83, 5.5 mi (8.8 km) downstream from Salt Croton Creek, 13.2 mi (21.2 km) north of Aspermont, and at mile 27.3 (43.9 km) measured from confluence with Double Mountain Fork Brazos River which is at mile 923.2 (1,485.4 km) on the Brazos River.

DRAINAGE AREA.--5,130 mi² (13,287 km²), of which 2,634 mi² (6,822 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1923 to August 1925, June 1939 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,588.70 ft (484.236 m) National Geodetic Vertical Datum of 1929. Dec. 5, 1923, to Aug. 29, 1925, nonrecording gage at site 6.7 mi (10.8 km) downstream at different datum. June 15, 1939, to July 13, 1972, water-stage recorder at present site. July 14, 1972, to July 14, 1975, at site 0.1 mi (0.2 km) upstream at same datum.

REMARKS.--Water-discharge records fair. No large diversion above station. Some regulation by White River Reservoir, capacity 44,900 acre-ft (55.4 hm³), 106 mi (171 km) upstream. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950.

AVERAGE DISCHARGE.--41 years (water years 1940-80), 111 ft³/s (3.144 m³/s), 80,420 acre-ft/yr (99.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,200 ft³/s (1,480 m³/s) Sept. 25, 1955, gage height, 14.92 ft (4.548 m), from rating curve extended above 29,000 ft³/s (821 m³/s); no flow at times most years. Maximum stage since at least 1900, that of Sept. 25, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1913 reached a stage of 14.4 ft (4.39 m), and flood in November 1934 reached a stage of 13.7 ft (4.18 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,670 ft³/s (246 m³/s) May 15 at 2300 hours, gage height, 7.59 ft (2.313 m), no peak above base of 12,000 ft³/s (340 m³/s); minimum daily, 0.03 ft³/s (0.001 m³/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.07	.76	2.6	5.7	2.7	1.4	.04	232	.26	.13	.03
2	.11	.08	1.4	2.6	5.9	2.9	1.2	13	159	.25	.09	.03
3	.11	.09	1.0	2.4	4.6	3.3	.86	6.2	122	.20	.08	.03
4	.09	.11	.89	2.3	4.2	3.9	.88	13	95	.10	.09	.03
5	.07	.11	.89	2.3	4.0	3.1	.83	4.0	81	.10	.05	.04
6	.07	.10	1.0	2.3	3.6	2.9	.58	1.7	68	.09	.04	.03
7	.07	.11	1.0	2.0	4.0	2.6	.36	1.1	60	.08	.04	.03
8	.06	.15	1.0	2.1	11	2.4	.26	.82	137	.07	.04	.04
9	.05	.12	1.0	1.7	42	2.3	.20	.47	136	.06	.03	2.1
10	.05	.16	1.0	1.7	19	1.9	.20	.30	100	.10	.04	8.5
11	.04	.20	1.4	1.5	15	2.2	.20	.26	350	.09	.04	1.0
12	.04	.18	1.8	1.4	18	2.0	.17	.29	860	.05	.03	.17
13	.04	.14	20	1.2	18	1.5	.15	.13	375	.05	.04	12
14	.05	.16	12	1.1	15	1.5	.13	.67	205	.05	.04	9.7
15	.04	.16	10	.92	14	1.3	.12	4080	121	.05	.04	1.8
16	.04	.15	7.8	.89	12	1.4	.11	1690	74	.04	.04	.35
17	.04	.17	4.9	.85	9.3	1.1	.10	523	51	.04	.12	.21
18	.04	.19	3.6	1.8	9.2	.90	.11	295	36	.04	.32	.18
19	.03	.19	2.9	3.9	7.8	1.0	.11	193	28	.05	.07	.17
20	.03	308	2.8	5.9	4.9	.85	.11	152	24	.05	.04	.13
21	.04	178	2.5	10	4.4	.67	.11	126	17	.06	.06	.11
22	.04	68	2.1	16	3.6	.90	.09	91	13	12	.03	.11
23	.04	17	2.5	22	2.9	.79	.10	79	8.7	25	.04	.24
24	.04	4.1	3.2	14	2.9	.65	.06	65	5.3	2.8	.04	.21
25	.04	3.0	3.7	9.8	2.9	.74	.06	55	3.4	1.7	.03	26
26	.05	1.9	3.6	9.2	2.9	.74	.09	46	2.0	1.4	.03	188
27	.05	1.9	3.2	7.8	3.2	1.3	.05	41	1.1	.90	.03	1080
28	.06	1.0	7.1	6.9	2.9	2.5	.03	38	.66	.63	.10	1740
29	.07	1.0	4.4	6.5	3.0	2.7	.04	309	.56	.42	.08	955
30	.09	.89	2.9	6.5	---	1.8	.04	429	.39	.30	.04	311
31	.10	---	2.7	6.0	---	1.9	---	336	---	.21	.04	---
TOTAL	1.82	587.43	115.04	156.16	255.9	56.44	8.75	8589.98	3366.11	47.24	1.93	4337.24
MEAN	.059	19.6	3.71	5.04	8.82	1.82	.29	277	112	1.52	.062	145
MAX	.13	308	20	22	42	3.9	1.4	4080	860	25	.32	1740
MIN	.03	.07	.76	.85	2.9	.65	.03	.04	.39	.04	.03	.03
AC-FT	3.6	1170	228	310	508	112	17	17040	6680	94	3.8	8600

CAL YR 1979 TOTAL 12784.95 MEAN 35.0 MAX 965 MIN .03 AC-FT 25360
WTR YR 1980 TOTAL 17524.04 MEAN 47.9 MAX 4080 MIN .03 AC-FT 34760

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1948 to September 1951, October 1956 to September 1974. Chemical and biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1948 to September 1951, October 1956 to current year.
WATER TEMPERATURES: October 1948 to September 1951, October 1956 to current year.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 173,000 micromhos Apr. 12, 1974; minimum daily, 1,690 micromhos July 8, 1960.
WATER TEMPERATURES: Maximum daily, 38.0°C Aug. 2, 1973; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 127,000 micromhos Dec. 23; minimum daily, 3,810 micromhos June 12.
WATER TEMPERATURES: Maximum daily, 35.0°C on several days during June and July; minimum daily, 0.0°C Nov. 30, Jan. 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 03...	0930	78	77800	7.6	16.5	.80	11.9	--	3.3	29	140
NOV 07...	0930	.30	77920	7.4	10.0	2.6	7.9	103	1.8	K13	430
DEC 05...	0900	1.4	62000	7.7	6.5	1.6	10.3	117	3.6	25	27
JAN 23...	0900	24	78840	7.3	1.0	2.6	11.7	127	1.1	--	55
FEB 19...	1725	8.5	68740	6.5	18.0	.25	11.2	172	2.3	K6	K9
MAR 18...	1515	1.2	77000	7.9	17.5	1.4	10.0	154	1.9	<1	K4
APR 15...	1730	.40	83000	8.1	28.0	7.7	12.9	230	3.6	<1	76
MAY 21...	0930	130	15600	7.9	18.0	1000	9.6	113	1.5	2000	3800
JUN 03...	1400	106	10500	8.0	30.0	1100	8.7	124	2.3	640	620
JUL 15...	1715	.10	80200	8.2	37.0	12	6.5	138	1.6	<1	22
AUG 19...	1600	.07	80300	8.0	34.5	45	10.2	151	2.0	K5	92
SEP 16...	1700	5.4	41000	8.0	29.5	160	7.9	130	1.6	70	97

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 03...	2700	2500	640	260	18000	152	77	160	0	4200	31000
NOV 07...	5400	5300	1500	390	19000	113	13	170	0	3700	29000
DEC 05...	4000	3900	1100	310	16000	110	64	180	0	3200	24000
JAN 23...	3900	3800	980	360	15000	104	60	130	0	1900	31000
FEB 19...	5100	5000	1300	460	16000	97	52	130	0	2900	27000
MAR 18...	5100	5000	1300	460	19000	115	70	120	0	3100	31000
APR 15...	5600	5500	1500	440	20000	117	71	120	0	3800	30000
MAY 21...	1800	1700	540	110	3000	31	17	140	0	1500	4800
JUN 03...	1400	1200	420	82	2200	26	14	210	0	1100	3500
JUL 15...	6100	5900	1700	440	20000	112	100	140	0	4400	35000
AUG 19...	5600	5500	1600	390	20000	116	84	100	0	3700	32000
SEP 16...	2600	2500	740	180	8500	73	35	140	0	1800	13000

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT 03...	.5	11	--	54300	.06	.020	.08	--	.470	--	.26
NOV 07...	.3	10	57000	53700	--	--	.04	.05	.450	.430	.00
DEC 05...	.8	19	44800	44800	--	--	.60	.59	.460	.430	.11
JAN 23...	.0	.7	57100	49400	--	--	.26	.25	.820	.860	.00
FEB 19...	.3	5.5	47200	47800	--	--	.28	.28	.320	.320	.00
MAR 18...	.3	6.0	57300	55000	--	--	.17	.17	.500	.500	.00
APR 15...	.4	5.5	59600	55900	--	--	.02	.05	.490	.490	.47
MAY 21...	.4	10	10100	10000	--	--	.23	.36	.140	.110	1.1
JUN 03...	.3	11	7340	7440	--	--	.30	.32	.090	.070	1.7
JUL 15...	.6	8.5	62100	61700	--	--	.00	.00	.480	.350	.06
AUG 19...	.4	7.1	60400	57800	--	--	.29	.00	.490	.500	.23
SEP 16...	.5	7.5	26400	24300	--	--	.53	.54	.520	.420	.58

DATE	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 03...	--	.73	.32	.000	.010	--	3.9	.3	35	7.4	76
NOV 07...	.00	.45	.38	.010	.010	6.2	--	--	19	.02	81
DEC 05...	.17	.57	.60	.020	.010	2.2	--	--	9	.03	42
JAN 23...	.00	.49	.45	.000	.000	4.2	--	--	42	2.8	38
FEB 19...	.00	.27	.28	.010	.010	--	4.1	.1	20	.46	97
MAR 18...	.00	.50	.46	.020	.020	4.1	--	--	7	.02	86
APR 15...	.00	.96	.45	.050	.010	5.1	--	--	18	.02	70
MAY 21...	1.2	1.2	1.3	.340	.030	12	--	--	1410	495	82
JUN 03...	.71	1.8	.78	.290	.010	--	4.3	6.9	1540	441	100
JUL 15...	.03	.54	.38	.030	.020	3.7	--	--	16	.00	70
AUG 19...	.06	.72	.56	.030	.030	--	--	<.1	10	.00	86
SEP 16...	.34	1.1	.76	.090	.010	4.4	--	--	129	1.9	99

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT 03...	0930	7	4	3	300	0	600	0	0	0	40
NOV 07...	0930	--	--	--	--	--	--	--	--	--	--
FEB 19...	1725	2	0	2	700	400	300	1	1	0	50
MAR 18...	1515	--	--	--	--	--	--	--	--	--	--
JUN 03...	1400	8	3	5	900	400	500	1	0	1	40
JUL 15...	1715	--	--	--	--	--	--	--	--	--	--
AUG 19...	1600	8	2	6	400	0	400	0	0	2	50
SEP 16...	1700	--	--	--	--	--	--	--	--	--	--

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT 03...	0	60	0	0	0	0	0	0	950	--	280
NOV 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 19...	0	50	0	0	0	3	3	0	490	240	250
MAR 18...	--	--	--	--	--	--	--	--	--	--	--
JUN 03...	30	10	15	15	0	30	8	22	18000	18000	70
JUL 15...	--	--	--	--	--	--	--	--	--	--	--
AUG 19...	0	50	0	0	1	4	0	6	810	450	360
SEP 16...	--	--	--	--	--	--	--	--	--	--	--

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
OCT 03...	0	0	0	450	0	450	.2	.0	.4	--	--
NOV 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 19...	0	0	5	200	30	170	.2	.0	.4	0	0
MAR 18...	--	--	--	--	--	--	--	--	--	--	--
JUN 03...	25	21	4	780	660	120	.1	.0	.2	37	34
JUL 15...	--	--	--	--	--	--	--	--	--	--	--
AUG 19...	0	0	3	300	20	280	--	--	.2	2	2
SEP 16...	--	--	--	--	--	--	--	--	--	--	--

DATE	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 03...	--	1	0	1	0	0	0	40	0	40
NOV 07...	--	--	--	--	0	--	--	--	--	--
FEB 19...	0	6	0	6	0	0	0	20	0	20
MAR 18...	--	--	--	--	0	--	--	--	--	--
JUN 03...	3	2	1	1	0	0	0	100	60	40
JUL 15...	--	--	--	--	0	--	--	--	--	--
AUG 19...	0	1	0	1	0	0	0	70	20	50
SEP 16...	--	--	--	--	0	--	--	--	--	--

DATE	LENGTH OF EXPOSURE (DAYS)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	CHLOR-B PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	BIOMASS CHLOROPHYLL RATIO PERIPHYTON (UNITS)
OCT 03...	28	5.43	5.91	9.02	.330	53.2
NOV 07...	35	8.66	9.13	5.10	.000	92.2
MAR 18...	28	2.76	3.23	.180	.000	2611
APR 15...	28	.314	.394	3.08	.000	26.0
SEP 16...	28	15.3	17.7	1.19	.000	2017

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 7,79	MAR 18,80	MAY 21,80	JUN 3,80
TIME	0930	1515	0930	1400
TOTAL CELLS/ML	730	30000	790	6100
DIVERSITY: DIVISION	1.7	0.2	0.7	0.7
.CLASS	1.7	0.2	0.7	0.7
..ORDER	1.7	0.2	0.9	0.9
...FAMILY	1.7	0.2	0.9	1.1
....GENUS	1.9	0.2	1.3	1.9

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...MICRACTINIACEAE								
....MICRACTINIUM	29	4	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	72	9	55	1
....DICTYOSPHAERIUM	--	-	--	-	570#	73	110	2
....KIRCHNERIELLA	--	-	--	-	--	-	*	0
....OOCYSTIS	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	*	0	--	-	--	-
....CHLAMYDOMONAS	--	-	--	-	--	-	55	1
...PHACOTACEAE								
....PTEROMONAS	--	-	--	-	--	-	*	0
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	--	-	*	0	72	9	--	-
....MELOSIRA	--	-	--	-	--	-	--	-
..PENNALES								
...CYMBELLACEAE								
....AMPHORA	--	-	--	-	--	-	--	-
....CYMBELLA	--	-	*	0	72	9	55	1
...NAVICULACEAE								
....ENTOMONEIS	--	-	*	0	--	-	--	-
....NAVICULA	160#	22	170	1	--	-	250	4
....NEIDIUM	14	2	--	-	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	--	-	400	1	--	-	330	5
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	*	0	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	230#	31	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	160	3
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
....ANABAENOPSIS	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	--	-	2900#	48
....OSCILLATORIA	290#	39	29000#	98	--	-	2100#	35
....SPIRULINA	14	2	--	-	--	-	--	-
...RIVULARIACEAE								
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	--	-	*	0	--	-	--	-

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

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JUL 15,80	AUG 19,80	SEP 16,80
TIME	1715	1600	1700
TOTAL CELLS/ML	6600	6000	2600
DIVERSITY: DIVISION	1.4	0.8	1.6
.CLASS	1.4	0.8	1.6
..ORDER	1.5	1.2	1.9
...FAMILY	2.5	1.2	2.4
....GENUS	2.6	1.2	2.9

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	180	7
....DICTYOSPHAERIUM	--	-	--	-	55	2
....KIRCHNERIELLA	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	210	8
...SCENEDESMACEAE						
....SCENEDESMUS	130	2	--	-	250	10
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	*	0	--	-
....CHLAMYDOMONAS	230	4	*	0	14	1
...PHACOTACEAE						
....PTEROMONAS	--	-	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	33	1	--	-	710#	28
....MELOSIRA	--	-	--	-	140	5
..PENNALES						
...CYMBELLACEAE						
....AMPHORA	--	-	--	-	14	1
....CYMBELLA	--	-	--	-	--	-
...NAVICULACEAE						
....ENTOMONEIS	--	-	77	1	--	-
....NAVICULA	270	4	39	1	14	1
....NEIDIUM	--	-	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	2500#	38	90	2	110	4
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	33	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	55	2
....ANACYSTIS	--	-	570	9	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	730	11	--	-	--	-
....ANABAENOPSIS	270	4	--	-	82	3
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	--	-
....OSCILLATORIA	1200#	18	4500#	75	730#	28
....SPIRULINA	--	-	--	-	--	-
...RIVULARIACEAE						
....RAPHIDIOPSIS	1100#	16	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	130	2	670	11	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	--	-	--	-

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

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	1.82	80400	56900	279	32000	157	3200	16	*
NOV.	1979	587.43	18000	11300	17900	5700	9080	1300	2030	*
DEC.	1979	115.04	92100	66900	20800	38400	11900	3000	945	*
JAN.	1980	156.16	78700	55700	23500	31400	13200	3100	1320	*
FEB.	1980	255.9	71100	49500	34200	27500	19000	3200	2200	*
MAR.	1980	56.44	78800	55800	8510	31500	4790	3200	481	*
APR.	1980	8.75	85500	61100	1440	34600	818	3200	76	*
MAY	1980	8589.98	12600	7820	181000	3900	91100	920	21400	*
JUNE	1980	3366.11	11200	7020	63800	3600	32300	800	7260	*
JULY	1980	47.24	46700	32900	4200	18500	2360	1900	245	*
AUG.	1980	1.93	85200	60900	317	34600	180	3200	17	*
SEPT	1980	4337.24	36300	24800	290000	13500	158600	1800	21300	*
TOTAL		17524.04	**	**	646000	**	344000	**	57300	**
WTD. AVG.		48	20700	13700	**	7300	**	1200	**	**

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80200	76400	60200	76800	78600	66800	96000	76400	4920	65700	93700	90100
2	80000	77800	61000	77500	71400	67800	86900	74800	9750	68700	93300	86500
3	81500	78400	73800	78200	67100	68600	80500	85300	12600	73200	91800	85800
4	80900	79500	76100	79300	68200	72100	76800	39100	16400	71900	80500	89700
5	80400	79800	73000	80900	73300	66500	81600	40800	19000	75500	92500	91000
6	80000	80100	71100	84800	72400	69800	94200	52100	22500	72700	94600	91700
7	80600	79200	65000	85200	74000	72000	93300	55600	27100	78100	93500	89500
8	82100	77300	73700	85900	64300	75400	89800	66800	41000	76700	92700	86300
9	83200	74900	76100	86700	85000	74500	85200	80000	27500	76000	92400	84100
10	80900	72500	67400	88100	74200	77400	86100	91700	26900	80500	92000	120000
11	82000	78200	68900	88300	77000	77600	84400	86900	12400	73300	88800	78500
12	81600	81500	60800	86300	70000	75100	82700	79800	3810	81800	90600	88500
13	82300	80300	108000	85200	62800	77000	80000	73600	4250	82800	92100	8050
14	81500	81700	99700	86900	62100	79000	80800	78500	4590	83500	92600	7210
15	80700	79200	98000	85600	63900	80600	80600	13300	5910	84100	90400	17300
16	79800	77500	87700	86200	59600	81300	80800	7630	8850	85400	88000	43700
17	81100	76800	75000	87800	66900	80300	81000	5980	10500	78500	90000	63200
18	79300	80000	77600	89000	77100	77500	80900	7860	14100	84400	65500	69300
19	80600	77400	74500	90800	68600	73400	80200	10100	18800	83900	85500	75900
20	82100	16800	75600	89400	71400	72600	79800	15500	21100	82900	88500	78500
21	82400	15300	76500	105000	72000	73200	78600	18900	23600	83600	89700	81000
22	83100	20000	80800	98600	73100	76500	79400	21700	27700	86500	90000	79000
23	82800	28300	127000	86700	63300	80000	80300	25000	28700	10200	90300	63500
24	82400	36800	123000	59800	64300	77100	79000	28600	33900	95400	90400	72600
25	81900	42900	121000	60900	57700	78100	76000	31100	37100	89100	91500	14100
26	81400	45900	102000	61500	58700	78900	72200	32700	42200	89500	91300	54200
27	81700	52100	89500	61900	64000	73700	76500	34500	49200	90900	90000	10300
28	81500	54100	78200	65000	67300	92300	78300	35800	53000	93400	69500	71100
29	81000	58100	86000	62200	66700	119000	79000	24500	55500	94300	88500	7730
30	72200	58000	91600	69800	---	116000	78700	10500	60700	93600	90900	10000
31	74700	---	83400	72500	---	104000	---	6960	---	93800	91000	---
MEAN	80800	63900	83300	80700	68800	79200	82000	42300	24100	80000	89100	63600

WTR YR 1980 MEAN 70000 MAX 127000 MIN 3810

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	11.0	12.0	12.0	6.0	8.0	20.0	20.0	26.0	31.0	30.0	29.0
2	25.0	12.0	10.0	11.0	12.0	10.0	20.0	20.0	29.0	34.0	30.0	25.0
3	21.0	15.0	11.0	13.0	13.0	11.0	19.0	23.0	28.0	29.0	32.0	22.0
4	22.0	17.0	14.0	7.0	14.0	14.0	19.0	27.0	30.0	34.0	25.0	30.0
5	24.0	18.0	9.0	6.0	9.0	14.0	18.0	28.0	21.0	32.0	30.0	28.0
6	25.0	14.0	12.0	11.0	14.0	18.0	19.0	25.0	21.0	33.0	31.0	26.0
7	24.0	16.0	11.0	7.0	10.0	13.0	18.0	27.0	35.0	33.0	---	27.0
8	25.0	18.0	12.0	10.0	3.0	17.0	17.0	20.0	23.0	35.0	31.0	23.0
9	17.0	13.0	13.0	9.0	5.0	17.0	20.0	22.0	26.0	35.0	31.0	22.0
10	20.0	9.0	16.0	14.0	5.0	16.0	21.0	25.0	29.0	31.0	30.0	28.0
11	21.0	13.0	12.0	8.0	6.0	16.0	20.0	27.0	30.0	33.0	25.0	30.0
12	22.0	13.0	5.0	11.0	10.0	16.0	10.0	25.0	24.0	33.0	28.0	29.0
13	15.0	9.0	4.0	18.0	13.0	18.0	13.0	17.0	27.0	33.0	31.0	30.0
14	21.0	14.0	6.0	16.0	15.0	18.0	17.0	19.0	29.0	34.0	30.0	30.0
15	23.0	15.0	10.0	13.0	9.0	20.0	21.0	15.0	31.0	34.0	27.0	30.0
16	22.0	15.0	3.0	15.0	5.0	18.0	19.0	20.0	30.0	29.0	30.0	28.0
17	23.0	15.0	3.0	15.0	5.0	16.0	20.0	25.0	24.0	30.0	30.0	29.0
18	23.0	16.0	9.0	---	12.0	15.0	18.0	21.0	23.0	---	31.0	32.0
19	24.0	20.0	8.0	11.0	11.0	19.0	24.0	18.0	34.0	---	31.0	29.0
20	23.0	17.0	13.0	6.0	15.0	16.0	26.0	25.0	34.0	---	30.0	---
21	24.0	12.0	11.0	7.0	15.0	12.0	---	24.0	35.0	---	32.0	26.0
22	12.0	9.0	13.0	6.0	9.0	16.0	---	27.0	30.0	25.0	---	23.0
23	17.0	10.0	10.0	9.0	13.0	15.0	25.0	27.0	25.0	31.0	30.0	25.0
24	18.0	14.0	---	11.0	13.0	15.0	21.0	29.0	31.0	35.0	32.0	25.0
25	19.0	14.0	13.0	10.0	15.0	16.0	16.0	31.0	32.0	30.0	30.0	21.0
26	21.0	7.0	14.0	4.0	16.0	16.0	16.0	29.0	31.0	31.0	32.0	17.0
27	16.0	11.0	11.0	3.0	18.0	15.0	20.0	26.0	31.0	35.0	30.0	16.0
28	20.0	9.0	10.0	1.0	19.0	20.0	24.0	27.0	---	25.0	25.0	16.0
29	22.0	7.0	9.0	.0	9.0	16.0	25.0	27.0	29.0	32.0	30.0	19.0
30	13.0	.0	9.0	2.0	---	17.0	26.0	25.0	29.0	30.0	29.0	24.0
31	12.0	---	10.0	4.0	---	18.0	---	24.0	---	35.0	28.0	---
MEAN	20.5	13.0	10.0	9.0	11.0	15.5	19.5	24.0	28.5	32.0	29.5	25.5

08082100 STINKING CREEK NEAR ASPERMONT, TX

LOCATION.--Lat 33°14'00", long 100°12'47", Stonewall County, Hydrologic Unit 12050007, at downstream side of bridge on Farm Road 1263, 4.9 mi (7.9 km) upstream from Salt Fork Brazos River, and 6.8 mi (10.9 km) north of Aspermont.

DRAINAGE AREA.--88.8 mi² (230.0 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,601.5 ft (488.14 m) National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation bridge plans).

REMARKS.--Water-discharge records good. No known diversion above station. Recording rain gage at station prior to May 1, 1978.

AVERAGE DISCHARGE.--15 years, 3.63 ft³/s (0.103 m³/s), 0.56 in/yr (14 mm/yr), 2,630 acre-ft/yr (3.24 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,440 ft³/s (69.1 m³/s) May 15, 1980, gage height, 11.20 ft (3.414 m); no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1925, 31 ft (9.4 m) in September 1955, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.5 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 15	1930	*2,440	69.1	11.20	3.414
Sept. 27	0800	300	8.50	6.13	1.868

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.11	.12	.23	.33	.39	.40	.10	.25	.07	.00	.00
2	.05	.11	.12	.17	.32	.35	1.5	.76	.18	.07	.00	.16
3	.05	.11	.12	.17	.31	.38	1.9	.24	.15	.05	.00	.08
4	.04	.12	.12	.18	.30	.34	1.2	1.5	.12	.03	.00	.00
5	.05	.13	.14	.18	.28	.32	.90	.53	.08	.04	.00	.00
6	.06	.12	.12	.19	.29	.32	.62	.13	.05	.05	.00	.00
7	.06	.18	.14	.18	.29	.33	.29	.05	.03	.03	.00	.00
8	.05	.21	.15	.20	.25	.33	.08	.06	51	.03	.00	.00
9	.05	.29	.15	.21	.25	.33	.12	.01	9.7	.03	.00	.18
10	.06	.22	.15	.21	.42	.33	.20	.01	1.8	.02	.00	.00
11	.06	.18	.20	.19	.42	.32	.21	.00	1.6	.02	.00	.00
12	.07	.18	.45	.18	.37	.34	.21	.00	1.3	.01	.00	.00
13	.07	.18	.49	.17	.63	.31	.52	.00	.87	.01	.00	.00
14	.07	.17	.47	.21	.58	.31	.42	.09	.50	.01	.00	.00
15	.07	.15	.44	.21	.44	.29	.18	1170	.31	.01	.00	.00
16	.06	.17	.36	.20	.45	.32	.14	693	.22	.01	.00	.00
17	.06	.18	.33	.18	.41	.32	.14	64	.16	.01	.02	.00
18	.06	.18	.33	.18	.38	.29	.06	18	.13	.01	.38	.00
19	.06	.16	.33	.20	.34	.29	.05	10	.13	.01	.07	.00
20	.04	2.9	.34	.31	.30	.32	.04	7.6	.13	.01	.00	.00
21	.03	32	.38	.37	.27	.38	.04	5.8	.13	.01	.00	.00
22	.05	5.9	.38	.40	.27	.33	.03	3.7	.12	.01	.00	.00
23	.04	2.7	.44	.34	.25	.32	.02	2.6	.13	.01	.00	.00
24	.04	1.1	.47	.24	.35	.37	.04	1.9	.10	.01	.00	.07
25	.04	.36	.42	.21	.31	.33	.07	1.3	.08	.01	.00	6.0
26	.04	.16	.40	.27	.33	.42	.10	.90	.08	.01	.00	21
27	.07	.10	.38	.29	.29	.42	.04	.73	.10	.01	.00	118
28	.07	.09	1.6	.29	.31	.45	.04	.57	.09	.01	.00	230
29	.07	.10	.41	.31	.32	.49	.02	.52	.07	.00	.00	151
30	.28	.12	.55	.34	---	.43	.01	.42	.09	.00	.00	12
31	.23	---	.49	.34	---	.35	---	.33	---	.00	.00	---
TOTAL	2.11	48.68	10.99	7.35	10.06	10.82	9.59	1984.85	69.70	.61	.47	538.49
MEAN	.068	1.62	.35	.24	.35	.35	.32	64.0	2.32	.020	.015	17.9
MAX	.28	32	1.6	.40	.63	.49	1.9	1170	51	.07	.38	230
MIN	.03	.09	.12	.17	.25	.29	.01	.00	.03	.00	.00	.00
CFSM	.001	.02	.004	.003	.004	.004	.004	.72	.03	.000	.000	.20
IN.	.00	.02	.00	.00	.00	.00	.00	.83	.03	.00	.00	.23
AC-FT	4.2	97	22	15	20	21	19	3940	138	1.2	.9	1070

CAL YR 1979 TOTAL 1286.40 MEAN 3.52 MAX 231 MIN .02 CFSM .04 IN .54 AC-FT 2550
WTR YR 1980 TOTAL 2693.72 MEAN 7.36 MAX 1170 MIN .00 CFSM .08 IN 1.13 AC-FT 5340

08082100 STINKING CREEK NEAR ASPERMONT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1965 to current year. Periodic sediment records: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
NOV											
01...	1355	.11	8030	11.0	2600	2600	630	260	850	7.2	17
DEC											
11...	1530	.22	7150	11.0	2600	2500	460	360	760	6.4	15
JAN											
23...	1141	.34	7790	2.0	2800	2600	630	290	880	7.3	13
MAR											
04...	1545	.34	8920	14.0	2700	2500	600	280	1000	8.5	17
APR											
15...	1540	.19	11500	23.0	3500	3400	730	400	1400	10	16
MAY											
16...	1030	466	--	17.0	--	--	--	--	--	--	--
16...	1100	466	784	17.0	280	220	92	11	48	1.3	7.5
20...	1900	7.5	--	24.0	--	--	--	--	--	--	--
JUL											
01...	0840	.07	9540	28.0	3300	3200	760	330	1200	9.2	19
AUG											
18...	1640	.26	8770	31.0	3100	3000	710	320	1000	7.8	20
SEP											
29...	1455	93	714	16.5	260	210	87	11	32	.9	6.6
29...	1500	93	--	16.5	--	--	--	--	--	--	--

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV										
01...	100	0	2200	1600	.3	.4	5610	--	--	--
DEC										
11...	170	0	2100	1400	.3	.3	5180	--	--	--
JAN										
23...	200	0	2100	1700	.3	.2	5710	--	--	--
MAR										
04...	170	0	2400	1800	.3	.3	6180	--	--	--
APR										
15...	79	0	2500	2700	.3	.5	7790	--	--	--
MAY										
16...	--	--	--	--	--	--	--	754	949	97
16...	66	0	210	82	.3	6.0	489	--	--	--
20...	--	--	--	--	--	--	--	107	2.2	--
JUL										
01...	100	0	2600	2200	.4	4.9	7160	--	--	--
AUG										
18...	100	0	2300	2000	.5	6.1	6410	--	--	--
SEP										
29...	70	0	190	60	.2	8.4	430	--	--	--
29...	--	--	--	--	--	--	--	373	94	--

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM
MAY							
16...	1030	466	17.0	754	949	83	84
20...	1900	7.5	24.0	107	2.2	--	--
SEP							
29...	1500	93	16.5	373	94	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
MAY							
16...	90	93	95	97	99	99	100
20...	--	--	--	--	--	--	--
SEP							
29...	--	--	--	--	--	--	--

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX

LOCATION.--Lat 33°22'59", long 100°04'51", Stonewall County, Hydrologic Unit 12060101, on left bank 600 ft (180 m) downstream from Wedington Creek, 9.5 mi (15.3 km) upstream from mouth, and 15.4 mi (24.8 km) southwest of Knox City.

DRAINAGE AREA.--251 mi^2 (650 km^2).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-75-1: 1966-67, 1969-74.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,462.44 ft (445.752 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. No diversion or regulation above station. Recording rain gage at station prior to May 1, 1978.

AVERAGE DISCHARGE.--15 years, 14.1 ft^3/s (0.399 m^3/s), 0.76 in/yr (19 mm/yr), 10,220 acre-ft/yr (12.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,100 ft^3/s (909 m^3/s) Aug. 30, 1966, gage height, 32.36 ft (9.863 m); from rating curve extended above 240 ft^3/s (6.80 m^3/s) on basis of step-backwater analysis and slope-area measurements of 2,660, 6,530, and 32,100 ft^3/s (75.3, 185, and 909 m^3/s); no flow at times. Maximum stage since at least 1921, that of Aug. 30, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1932 reached a stage of about 32 ft (9.8 m), from information by local residents.

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

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 15	2230	*3,180	90.1	21.03	6.410
May 29	2100	709	20.1	13.27	4.045
Sept. 28	0600	739	20.9	13.42	4.090

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.17	.31	.31	.24	.10	.09	15	.20	.00	.00
2	.00	.00	.17	.31	.30	.22	.13	.17	10	.18	.00	.00
3	.00	.00	.17	.30	.27	.20	.16	.17	7.4	.16	.00	.00
4	.00	.00	.17	.24	.27	.21	.11	.28	4.5	.15	.00	.00
5	.00	.00	.17	.24	.27	.20	.09	.50	3.7	.12	.00	.00
6	.00	.00	.17	.24	.27	.20	.09	.53	2.7	.12	.00	.00
7	.00	.00	.17	.24	.29	.20	.09	.87	2.1	.13	.00	.00
8	.00	.00	.17	.24	.20	.20	.09	72	17	.12	.00	.00
9	.00	.00	.17	.24	.10	.18	.08	13	16	.12	.00	24
10	.00	.00	.17	.24	.65	.13	.06	3.9	5.6	.11	.00	64
11	.00	.00	.20	.24	.62	.14	.06	2.0	3.4	.09	.00	16
12	.00	.00	.19	.24	.48	.15	.07	1.1	5.9	.09	.00	4.1
13	.00	.00	.57	.24	.48	.14	.08	.79	9.0	.07	.00	.77
14	.00	.00	.59	.24	.44	.13	.09	1.9	3.1	.06	.00	.34
15	.00	.00	.50	.24	.42	.12	.09	1290	1.6	.06	.00	.57
16	.00	.00	.44	.24	.46	.14	.09	1000	1.4	.06	17	.14
17	.00	.00	.33	.24	.48	.14	.07	50	1.1	.06	14	.22
18	.00	.00	.28	.24	.42	.13	.06	24	.79	.06	1.7	.10
19	.00	.00	.24	.24	.38	.13	.06	15	.70	.06	.42	.05
20	.00	11	.28	.24	.36	.11	.06	14	.62	.06	.19	.03
21	.00	19	.30	.24	.34	.11	.06	50	.48	.07	.10	.01
22	.00	3.7	.24	.62	.27	.11	.07	36	.42	.13	.05	.00
23	.00	1.0	.28	.62	.27	.11	.08	16	.55	.11	.03	.16
24	.00	.52	.30	.52	.27	.11	.08	9.1	.70	.09	.01	.34
25	.00	.40	.29	.45	.27	.11	.08	5.9	.70	.09	.00	14
26	.00	.34	.29	.39	.27	.10	.09	4.2	.42	.09	.00	28
27	.00	.24	.24	.36	.27	.13	.09	3.7	.36	.12	.00	388
28	.00	.22	.76	.36	.24	.20	.09	3.4	.27	.14	.00	463
29	.00	.17	.56	.32	.24	.19	.10	307	.24	.11	.00	93
30	.00	.17	.47	.31	---	.14	.08	176	.20	.07	.00	32
31	.00	---	.39	.31	---	.10	---	24	---	.03	.00	---
TOTAL	.00	36.76	9.44	9.50	9.91	4.72	2.55	3125.60	115.95	3.13	33.50	1128.83
MEAN	.000	1.23	.30	.31	.34	.15	.085	101	3.87	.10	1.08	37.6
MAX	.00	19	.76	.62	.65	.24	.16	1290	17	.20	17	463
MIN	.00	.00	.17	.24	.10	.10	.06	.09	.20	.03	.00	.00
CFSM	.000	.005	.001	.001	.001	.001	.000	.40	.02	.000	.004	.15
IN.	.00	.01	.00	.00	.00	.00	.00	.46	.02	.00	.00	.17
AC-FT	.00	73	19	19	20	9.4	5.1	6200	230	6.2	66	2240

CAL YR 1979 TOTAL 739.84 MEAN 2.03 MAX 87 MIN .00 CFSM .008 IN .11 AC-FT 1470
WTR YR 1980 TOTAL 4479.89 MEAN 12.2 MAX 1290 MIN .00 CFSM .05 IN .66 AC-FT 8890

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1965 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1965 to current year.
WATER TEMPERATURES: October 1965 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 47,400 micromhos Oct. 23, 1969; minimum daily, 1,060 micromhos Aug. 30, 1966.
WATER TEMPERATURES: Maximum daily, 37.0°C June 16, 1978; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 43,300 micromhos Feb. 1; minimum daily, 1,880 micromhos May 16.
WATER TEMPERATURES: Maximum daily, 36.0°C June 24; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV 29...	1715	.17	17100	--	4.0	2900	2700	750	240	2900
DEC 31...	0945	.39	35500	--	1.0	4400	4200	1100	390	6800
JAN 23...	0951	.80	28200	--	2.0	3500	3300	890	300	5200
APR 15...	1340	.09	35100	--	22.0	6000	5800	1400	600	6500
MAY 31...	0940	25	5390	7.6	25.0	1300	1200	420	58	730
JUL 31...	0945	.14	23200	--	24.0	5600	5600	1200	640	3700
AUG 19...	0920	.47	8670	--	27.0	1900	1800	560	120	1300
SEP 30...	1810	24	5680	--	22.0	1700	1600	510	92	670

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV 29...	24	28	140	0	1700	5300	.3	2.2	11000
DEC 31...	45	50	150	0	1700	12000	.2	.4	22100
JAN 23...	38	34	140	0	2200	8500	.2	1.4	17200
APR 15...	37	46	190	0	3800	12000	.4	.9	24400
MAY 31...	8.9	12	100	0	1100	1200	.4	5.1	3580
JUL 31...	21	48	77	0	3800	7000	.4	.6	16400
AUG 19...	13	19	90	0	1300	2300	.4	6.1	5650
SEP 30...	7.2	14	110	0	1300	1300	.4	10	3950

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	0.00	*	*	0.00	*	0.00	*	0.00	*
NOV.	1979	36.76	26300	17700	1760	8500	840	2800	275	*
DEC.	1979	9.44	27300	18300	467	8900	228	2700	68	*
JAN.	1980	9.50	36900	24300	624	13000	333	2300	59	*
FEB.	1980	9.91	39700	26000	696	14300	383	2000	54	*
MAR.	1980	4.72	35000	23200	295	12100	154	2500	32	*
APR.	1980	2.55	33000	21900	151	11300	78	2500	18	*
MAY	1980	3125.60	3780	2670	22600	980	8240	750	6330	900
JUNE	1980	115.95	12200	8470	2650	3400	1070	2000	632	*
JULY	1980	3.13	23300	15900	134	7300	61	2800	24	*
AUG.	1980	33.50	12600	8760	792	3500	320	2100	189	*
SEPT	1980	1128.83	3320	2350	7150	850	2600	660	2020	790
TOTAL		4479.89	**	**	37300	**	14300	**	9700	**
WTD. AVG.		12	4400	3080	**	1200	**	800	**	980

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	17800	35800	43300	38300	27500	37600	7450	26200	---	---
2		---	18200	35900	43100	39000	24600	37200	9130	26000	---	---
3		---	18500	40100	41800	38200	25500	38900	11100	25700	---	---
4		---	18900	39800	41100	37000	26000	37800	13600	25500	---	---
5		---	19300	39500	41400	33300	26400	38000	14300	24900	---	---
6		---	19600	39000	38300	36000	27000	35500	15600	24800	---	---
7		---	19500	40100	37500	36500	27400	27400	16900	24400	---	---
8		---	19700	40700	38100	37800	27200	13800	12400	23800	---	---
9		---	19800	38500	38800	37400	31000	6020	10600	23300	---	10500
10		---	19900	38600	32600	35800	30500	10000	11500	23500	---	7420
11		---	21500	37700	34500	34900	34500	12600	12000	22700	---	8260
12		---	21900	36700	36100	34800	34700	16900	16600	22500	---	9300
13		---	18500	36200	37300	36200	34500	21500	12200	22100	---	12000
14		---	20400	36000	41900	36000	35200	20300	10300	22000	---	12900
15		---	21500	36100	42000	36400	35800	3980	12900	22200	---	9890
16		---	24400	35700	41700	36000	36100	1880	14300	22000	15700	12900
17		---	27200	35300	41600	35900	36000	6190	16600	21800	9450	14700
18		---	30100	35400	41200	34800	35900	10500	18800	22200	8850	15200
19		---	31800	32700	42400	34100	37300	13600	19600	22700	9110	15300
20		29900	33700	33100	43100	34000	37100	14400	20000	23100	9480	15700
21		27800	36600	33500	42300	34400	36900	6610	20200	22500	11500	16900
22		18500	37100	29000	42500	34600	37100	6160	20300	23400	11400	---
23		11100	36700	30400	42800	35100	37600	7570	20700	21200	11600	15900
24		11700	37200	33500	42200	34900	36300	11700	25400	20900	12100	15500
25		12900	37000	36800	41600	34600	38900	13600	28500	21000	---	13700
26		14300	34600	40200	39000	33300	38500	15700	29000	21100	---	11400
27		15300	35100	41600	39300	31700	38200	16600	29900	21200	---	2120
28		16000	29300	42000	39400	29200	38600	17400	29700	21600	---	2030
29		16800	28700	42400	35700	31100	39100	2230	27300	21800	---	3810
30		17900	33000	42600	---	27500	38400	3870	28000	22400	---	5720
31		---	35300	43000	---	27400	---	5390	---	23200	---	---
MEAN		17500	26500	37400	40100	34700	33700	16500	17800	23000	11000	11000

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	4.0	4.0	.0	3.0	18.0	18.0	---	27.0	---	---
2		---	5.0	4.0	3.0	.0	20.0	---	22.0	28.0	---	---
3		---	7.0	6.0	4.0	5.0	14.0	21.0	24.0	26.0	---	---
4		---	9.0	4.0	4.0	8.0	13.0	24.0	29.0	31.0	---	---
5		---	9.0	---	6.0	10.0	15.0	20.0	23.0	25.0	---	---
6		---	7.0	5.0	8.0	6.0	15.0	20.0	25.0	26.0	---	---
7		---	8.0	1.0	7.0	16.0	16.0	26.0	26.0	27.0	---	---
8		---	8.0	.0	---	10.0	15.0	17.0	24.0	27.0	---	---
9		---	8.0	6.0	---	11.0	15.0	16.0	22.0	26.0	---	---
10		---	10.0	5.0	.0	10.0	14.0	26.0	25.0	27.0	---	23.0
11		---	10.0	7.0	.0	11.0	15.0	20.0	23.0	29.0	---	---
12		---	---	7.0	.0	14.0	10.0	25.0	29.0	31.0	---	30.0
13		---	---	8.0	5.0	11.0	8.0	---	26.0	26.0	---	30.0
14		---	---	10.0	6.0	9.0	16.0	18.0	24.0	25.0	---	26.0
15		---	7.0	10.0	8.0	---	22.0	15.0	29.0	27.0	---	25.0
16		---	---	6.0	5.0	---	20.0	15.0	24.0	28.0	28.0	25.0
17		---	.0	6.0	1.0	15.0	16.0	20.0	25.0	25.0	---	20.0
18		---	2.0	8.0	3.0	9.0	15.0	---	32.0	24.0	30.0	22.0
19		---	2.0	13.0	12.0	10.0	24.0	25.0	26.0	29.0	28.0	26.0
20		---	2.0	5.0	12.0	13.0	18.0	---	25.0	29.0	25.0	27.0
21		13.0	9.0	5.0	14.0	13.0	18.0	20.0	29.0	27.0	29.0	29.0
22		---	8.0	---	12.0	10.0	19.0	23.0	26.0	---	29.0	---
23		8.0	7.0	6.0	9.0	10.0	20.0	22.0	34.0	25.0	29.0	25.0
24		6.0	6.0	4.0	7.0	16.0	22.0	28.0	36.0	29.0	25.0	26.0
25		6.0	5.0	7.0	7.0	16.0	23.0	---	27.0	25.0	---	---
26		11.0	5.0	3.0	10.0	17.0	12.0	30.0	30.0	26.0	---	---
27		9.0	6.0	1.0	15.0	10.0	15.0	27.0	32.0	25.0	---	15.0
28		5.0	---	---	9.0	13.0	16.0	---	26.0	29.0	---	16.0
29		4.0	7.0	---	9.0	12.0	17.0	---	27.0	24.0	---	16.0
30		4.0	5.0	---	---	15.0	---	---	27.0	23.0	---	22.0
31		---	1.0	---	---	15.0	---	25.0	---	24.0	---	---
MEAN		7.5	6.0	5.5	6.5	11.0	16.5	22.0	27.0	26.5	28.0	23.5

08082500 BRAZOS RIVER AT SEYMOUR, TX
(National stream-quality accounting network)

LOCATION.--Lat 33°34'51", long 99°16'02", Baylor County, Hydrologic Unit 12060101, on left bank at downstream (revised) side of bridge on U.S. Highways 277 and 283, 0.8 mi (1.3 km) upstream from Wichita Valley Railway bridge, 1.0 mi (1.6 km) southwest of courthouse in Seymour, and at mile 847.4 (1,363.5 km).

DRAINAGE AREA.--15,538 mi² (40,243 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1923 to current year.

REVISED RECORDS.--WSP 808: 1924-29. WSP 1312: 1933. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,238.97 ft (377.638 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 6, 1972, at datum 2.00 ft (0.610 m) higher.

REMARKS.--Water-discharge records fair. Small diversions above station for irrigation and oilfield operation. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950. National Weather Service gage-height telemeter located at station.

AVERAGE DISCHARGE.--56 years (water years 1925-80), 378 ft³/s (10.70 m³/s), 273,900 acre-ft/yr (338 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,400 ft³/s (2,700 m³/s) Oct. 16, 1926, gage height, 17.16 ft (5.230 m), from floodmarks, present datum, from rating curve extended above 48,000 ft³/s (1,360 m³/s) on basis of slope-area measurement of 95,400 ft³/s (2,700 m³/s); maximum gage height, 23.00 ft (7.010 m), present datum, Sept. 28, 1955, discharge 71,200 ft³/s (2,020 m³/s); no flow at times.
Since 1906, the maximum stage was that of Sept. 28, 1955, and maximum discharge was that of Oct. 16, 1926.

EXTREMES OUTSIDE PERIOD OF RECORD.- A flood in 1906 reached about the same stage as the flood in 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 11,000 ft³/s (312 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 17	2130	*25,300	716	13.53	4.124
Sept. 30	0600	21,200	600	a12.50	3.810

a From floodmark.

Maximum daily discharge, 0.10 ft³/s (0.003 m³/s) Oct. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.83	.51	32	40	20	16	10	32	725	70	3.4	.46
2	.51	.51	27	30	22	15	14	27	530	65	2.7	.43
3	.46	.43	22	29	24	17	13	42	420	55	2.4	3.4
4	.41	.47	12	28	27	16	45	36	338	49	2.1	2.7
5	.40	.41	16	28	22	14	40	21	271	44	1.2	.56
6	.37	.34	10	24	22	14	25	18	228	41	1.2	.46
7	.33	.35	8.0	22	23	14	16	16	190	38	.99	.48
8	.26	.40	9.1	24	22	14	9.3	19	174	37	1.4	307
9	.17	.46	10	20	22	14	7.5	15	162	33	1.4	249
10	.15	.51	12	22	25	13	7.5	9.5	182	31	1.6	79
11	.12	1.1	13	18	32	12	4.9	27	242	27	1.9	55
12	.12	1.2	9.8	17	38	12	3.7	22	292	25	2.1	75
13	.10	.56	20	17	46	12	3.7	18	243	23	3.0	63
14	.15	.51	28	17	49	12	3.7	17	1070	21	9.8	321
15	.25	.48	26	17	40	12	4.1	1190	715	20	70	432
16	.31	.51	24	16	36	12	4.3	12200	484	18	81	186
17	.30	.51	27	15	41	12	3.6	21300	349	15	156	110
18	.28	.50	24	18	43	12	2.7	6350	271	14	130	68
19	.25	.46	29	17	43	11	2.8	1880	226	12	103	41
20	.20	.54	24	17	39	10	3.1	1160	205	11	94	22
21	.17	387	17	20	35	9.8	3.4	967	180	11	75	12
22	.15	392	25	20	32	9.8	2.6	834	173	10	77	4.5
23	.13	193	28	20	28	9.2	2.7	688	166	8.7	52	7.4
24	.15	133	26	20	25	8.6	2.4	586	169	8.7	41	4.5
25	.15	83	24	20	25	7.4	2.8	586	125	6.9	26	4.4
26	.13	60	24	20	24	8.0	2.4	731	104	6.4	15	227
27	.13	50	27	20	23	11	76	920	92	5.8	3.0	791
28	.15	41	65	19	22	15	94	2550	84	5.8	1.4	7370
29	.14	36	72	18	20	14	60	807	79	5.8	2.1	13200
30	.23	34	59	18	---	11	39	752	72	5.4	.83	15000
31	.29	---	50	18	---	10	---	735	---	4.1	.51	---
TOTAL	7.79	1419.76	799.9	649	870	377.8	509.2	54555.5	8561	727.6	963.03	38637.29
MEAN	.25	47.3	25.8	20.9	30.0	12.2	17.0	1760	285	23.5	31.1	1288
MAX	.83	392	72	40	49	17	94	21300	1070	70	156	15000
MIN	.10	.34	8.0	15	20	7.4	2.4	9.5	72	4.1	.51	.43
AC-FT	15	2820	1590	1290	1730	749	1010	108200	16980	1440	1910	76640

CAL YR 1979 TOTAL 54584.75 MEAN 150 MAX 3570 MIN .10 AC-FT 108300
WTR YR 1980 TOTAL 108077.87 MEAN 295 MAX 21300 MIN .10 AC-FT 214400

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1959 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: August 1959 to current year.
WATER TEMPERATURES: August 1959 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 80,400 micromhos May 24, 1971; minimum daily, 559 micromhos May 22, 1979.
WATER TEMPERATURES: Maximum daily, 37.0°C Aug. 6, 1959, Sept. 3, 1963; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 27,500 micromhos Feb. 2; minimum daily, 1,260 micromhos May 28.
WATER TEMPERATURES: Maximum daily, 34.0°C July 27; minimum daily, 0.0°C Dec. 17, Jan. 29, 31, Feb. 17, Mar. 2.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 15...	0850	.26	9620	7.7	17.0	1400	1200	380	100	1700
NOV 27...	0840	49	25800	--	6.5	2600	2500	500	330	5300
DEC 31...	1120	44	11100	--	3.5	1500	1300	420	100	1900
JAN 07...	0905	23	14000	--	.0	1700	1500	430	140	2500
APR 24...	1430	2.4	15900	--	25.0	2100	1900	560	160	2900
MAY 16...	1050	12000	3750	--	16.5	640	540	210	27	580
JUN 23...	1000	180	7250	--	25.0	1100	1000	330	76	1200
AUG 05...	1105	1.1	18600	--	25.0	3000	2900	810	230	3600
SEP 30...	0840	20600	1660	--	16.5	390	320	130	17	190

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 15...	20	14	160	0	1300	2600	.6	12	6190
NOV 27...	--	30	100	0	1800	8600	.3	5.9	16600
DEC 31...	22	11	150	0	1200	3100	.5	8.2	6810
JAN 07...	27	16	160	0	1400	4100	.8	2.7	8670
APR 24...	28	18	230	0	1800	4700	.9	3.4	10300
MAY 16...	10	9.0	120	0	540	910	.4	7.0	2340
JUN 23...	15	13	130	0	1000	2000	.8	7.8	4690
AUG 05...	29	25	120	0	2200	5700	.8	16	12600
SEP 30...	4.2	6.0	88	0	350	280	.4	7.9	1020

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	7.79	10000	6280	132	2700	57	1200	26	*
NOV.	1979	1419.76	7510	4800	18400	2300	8640	760	2900	920
DEC.	1979	799.9	13100	8320	18000	3700	8100	1500	3180	*
JAN.	1980	649	13400	8530	14900	3900	6770	1500	2620	*
FEB.	1980	870	18800	12100	28400	5800	13700	1800	4140	*
MAR.	1980	377.8	16600	10600	10800	5000	5050	1700	1730	*
APR.	1980	509.2	8580	5390	7410	2300	3220	1000	1440	1200
MAY	1980	54555.5	3230	2000	294000	800	117600	460	67300	500
JUNE	1980	8561	7080	4420	102000	1900	42900	920	21300	1000
JULY	1980	727.6	14600	9290	18300	4200	8340	1600	3110	*
AUG.	1980	963.03	18900	12100	31500	5800	15100	1800	4680	*
SEPT	1980	38637.29	2490	1530	160000	600	63000	360	37700	390
TOTAL		108077.87	**	**	704000	**	292000	**	150000	**
WTD. AVG.		295	3870	2410	**	1000	**	510	**	580

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10200	10000	13000	11100	25600	18500	15400	4750	7650	12900	18200	19600
2	10300	9670	12100	12700	27500	18700	14500	4980	7500	13300	18700	19900
3	10400	10100	12000	14400	25000	17000	13700	5250	7390	13800	18800	11000
4	10500	10800	11900	13600	22000	17400	12100	5680	6460	13900	18700	10800
5	10500	10600	12000	14000	20000	17500	11500	3480	6520	13700	19000	11200
6	10400	10400	12100	14200	19800	17200	8480	3660	6690	13900	19100	11600
7	10300	10200	12200	14100	19100	16900	8450	5580	7770	14300	19300	12400
8	10700	9510	12300	13800	16000	16800	7930	7120	8820	14500	19700	2890
9	10800	8930	12500	13700	12100	16500	8090	7800	9950	14700	20100	3440
10	10500	8360	12600	13600	14500	16600	9530	11000	10300	14800	20200	3810
11	10200	7150	12400	14000	14100	16800	11400	12100	10400	14900	20300	4250
12	10000	6950	12700	14100	14600	17000	13700	26900	10200	15000	20000	3510
13	10100	7780	11100	14300	15100	17100	13600	20500	11400	15200	20100	3410
14	10100	7800	10700	14100	16800	17000	14900	14900	6000	15400	19900	2250
15	9430	8050	10800	14200	14700	16800	16000	8170	5290	15700	19700	2430
16	9500	8030	10600	14100	15500	16300	16200	3750	3960	16000	20400	1660
17	9720	8070	13100	14000	16400	16700	16000	2100	3870	16100	17500	1630
18	9680	8150	12900	13600	17600	16600	15900	3040	3960	16300	17000	1600
19	9870	8220	13200	13800	22400	16800	15700	3250	4720	16600	18700	1720
20	9300	8200	14300	13700	23100	16900	15600	3850	5650	16900	19000	2140
21	10000	1620	14700	9400	22700	16800	15700	4430	6320	16400	19100	2460
22	10200	1380	13500	9520	22400	17000	15900	4720	7270	16500	19200	2890
23	9870	4130	12900	9630	21300	16500	15800	5470	7600	16700	19800	3120
24	9720	17500	13900	10700	20300	16600	15900	7580	8780	16900	20300	3440
25	9580	21700	16100	9870	19700	16700	15700	7240	9530	17000	20900	3850
26	9430	25900	17800	10300	19500	16400	15500	5790	8660	16800	21200	4060
27	9400	25300	19600	13500	19200	15100	7500	5390	10400	16500	21400	4100
28	9370	17100	15800	15200	18800	14000	5140	1260	11400	16700	21500	4160
29	9030	14100	13500	16700	18200	13200	4130	2570	11600	17200	19300	2340
30	7930	13100	10500	20700	---	14700	4520	4750	12300	17500	18400	1660
31	10000	---	11000	20500	---	15400	---	5920	---	17900	19000	---
MEAN	9900	10600	13000	13600	19100	16600	12500	6870	7950	15600	19500	5440

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	12.5	5.0	3.0	6.0	---	19.0	---	25.5	26.0	23.0	23.0
2	15.0	10.0	9.5	---	8.0	.0	22.0	20.0	23.0	---	23.5	30.0
3	16.0	10.5	11.5	4.5	3.0	3.0	21.0	19.5	24.5	33.0	24.5	29.5
4	13.0	9.5	11.5	5.5	14.5	15.0	11.0	18.0	23.0	23.0	29.5	---
5	24.5	15.0	9.0	3.5	6.0	3.5	19.0	20.5	23.0	29.0	25.0	25.0
6	25.0	---	2.5	3.5	4.0	4.0	17.0	20.0	23.0	29.5	24.0	25.0
7	22.0	8.0	3.5	5.0	7.0	20.0	21.0	31.5	25.0	25.5	26.5	27.5
8	20.5	13.5	---	9.0	2.5	11.5	21.0	22.0	24.0	25.0	26.5	24.0
9	17.0	10.5	---	8.0	2.0	14.0	15.0	12.5	---	25.0	26.0	---
10	13.0	8.0	16.5	13.0	.5	18.0	23.0	18.0	22.5	24.5	---	24.0
11	21.0	---	14.0	9.0	2.5	11.0	---	22.0	24.5	28.0	26.0	25.0
12	20.0	7.0	---	5.0	3.0	22.5	10.0	27.0	23.0	27.5	24.0	25.0
13	14.0	6.0	4.0	5.5	6.0	18.0	12.0	---	---	25.0	27.0	28.5
14	16.5	6.0	8.0	8.5	12.0	---	17.5	20.0	24.0	26.5	---	---
15	18.0	16.0	9.5	8.0	10.0	10.0	20.5	17.0	28.0	24.0	24.0	25.0
16	24.0	6.0	4.0	7.5	---	19.0	22.0	15.0	30.0	24.0	25.0	22.5
17	24.5	12.0	.0	6.0	.0	16.0	12.5	17.0	---	24.0	25.0	---
18	21.0	18.0	.5	7.5	2.5	15.5	14.0	19.5	24.5	25.0	---	29.0
19	27.0	18.0	3.5	14.5	14.0	19.5	18.0	19.5	29.5	25.5	25.0	22.5
20	11.0	17.0	12.0	---	18.5	19.0	15.0	22.0	32.5	24.0	25.5	28.5
21	22.5	12.0	11.0	7.0	19.5	20.5	26.5	20.5	24.5	29.0	26.0	24.0
22	16.0	5.5	13.0	5.0	14.0	17.0	16.5	22.0	27.0	25.5	26.5	22.5
23	11.5	8.0	8.5	4.5	8.5	14.5	20.5	22.0	24.0	24.0	28.0	20.0
24	12.0	7.5	---	12.5	6.0	---	25.0	22.5	24.0	32.0	30.0	25.0
25	13.0	---	5.0	8.5	4.0	12.0	24.0	28.0	33.0	29.0	27.0	---
26	---	13.0	6.5	1.5	2.5	22.0	12.0	26.5	27.0	---	25.0	18.5
27	21.0	11.0	8.5	.5	12.0	---	---	24.5	29.0	34.0	23.5	---
28	12.5	9.0	9.0	1.0	18.0	22.5	13.0	20.0	33.0	32.0	23.5	15.0
29	22.0	.5	6.5	.0	9.0	15.0	19.0	23.5	28.0	25.0	26.0	16.5
30	17.0	1.5	3.5	3.0	---	12.0	17.5	25.5	29.5	---	24.0	16.5
31	11.0	---	3.5	.0	---	19.0	---	24.5	---	24.0	24.0	---
MEAN	18.5	10.0	7.5	6.0	7.5	14.5	18.0	21.5	26.0	26.5	25.5	24.0

08082700 MILLERS CREEK NEAR MUNDAY, TX

LOCATION.--Lat 33°19'45", long 99°27'53", Throckmorton County, Hydrologic Unit 12060101, near right bank on downstream side of bridge on Farm Road 1720, 12.7 mi (20.4 km) southeast of Munday, and 24.6 mi (39.6 km) upstream from mouth.

DRAINAGE AREA.--104 mi^2 (269 km^2).

PERIOD OF RECORD.--July 1963 to current year.
Water-quality records: Sediment records: October 1976 to September 1978.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,350 ft (411 m), from topographic map.

REMARKS.--Records poor. No diversions above station.

AVERAGE DISCHARGE.--17 years (water years 1964-80), 5.92 ft^3/s (0.168 m^3/s), 0.77 in/yr (20 mm/yr), 4,290 acre-ft/yr (5.29 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,600 ft^3/s (980 m^3/s) Aug. 24, 1978, gage height, 17.53 ft (5.343 m); no flow most of time.
Maximum stage since 1930, 18.0 ft (5.49 m) in October 1962, from information by local resident.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1883 occurred June 13, 1930, and exceeded 18.0 ft (5.49 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft^3/s (38.5 m^3/s) Sept. 29 at 1045 hours, gage height, 13.41 ft (4.087 m), no other peak above base of 200 ft^3/s (5.66 m^3/s); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	1.4	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.73	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.29	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	2.8	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	4.4	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	1.7	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.63	.85	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	4.6	.32	.00	.00	15
28	.00	.00	.00	.00	.00	.00	.00	57	.05	.00	.00	341
29	.00	.00	.00	.00	.00	.00	.00	6.0	.00	.00	.00	996
30	.00	.00	.00	.00	---	.00	.00	4.4	.00	.00	.00	291
31	.00	---	.00	.00	---	.00	---	2.7	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	75.33	12.68	.00	.00	1643.00
MEAN	.000	.000	.000	.000	.000	.000	.000	2.43	.42	.000	.000	54.8
MAX	.00	.00	.00	.00	.00	.00	.00	57	4.4	.00	.00	996
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.000	.000	.000	.02	.004	.000	.000	.53
IN.	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.59
AC-FT	.00	.00	.00	.00	.00	.00	.00	149	25	.00	.00	3260

CAL YR 1979	TOTAL 1213.83	MEAN 3.33	MAX 268	MIN .00	CFSM .03	IN .43	AC-FT 2410
WTR YR 1980	TOTAL 1731.01	MEAN 4.73	MAX 996	MIN .00	CFSM .05	IN .62	AC-FT 3430

08082800 MILLERS CREEK RESERVOIR NEAR BOMARTON, TX

LOCATION.--Lat 33°24'32", long 99°23'19", Baylor County, Hydrologic Unit 12060101, at intake tower on left bank of Millers Creek, 1.1 mi (1.8 km) upstream from dam, 7.1 mi (11.4 km) southeast of Bomarton, and 13.2 mi (21.2 km) upstream from mouth.

DRAINAGE AREA.--240 mi² (622 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Freese and Nichols, Inc., Consulting Engineers bench mark).

REMARKS.--The reservoir is formed by an earthfill dam 9,250 ft (2,820 m) long. The dam was completed in 1974 and storage began in July 1974. Dead storage, 1,240 acre-ft (1.53 hm³) below elevation, 1,303.4 ft (397.28 m). The reservoir is used for municipal, mining, and industrial water supply. The uncontrolled emergency spillway is an open cut 3,000 ft (910 m) wide located on left bank about 800 ft (240 m) upstream from level. The service spillway is an uncontrolled morning-glory-type drop inlet, 16.5 ft (5.0 m) square, that discharges through a 5.0-foot-square (1.5 m) concrete conduit. Low-flow releases are made by valves in the outlet vault of the drop inlet. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	1,355.0	-
Crest of spillway	1,340.1	49,080
Crest of spillway	1,331.2	25,180
Lowest gated outlet (invert)	1,305.0	1,660
Dead storage	1,303.4	1,240

COOPERATION.--The area-capacity tables, prepared from data of Sept. 17, 1965, were furnished by Freese and Nichols, Inc., Consulting Engineers. Record of diversions furnished by North Central Texas Municipal Water Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 34,380 acre-ft (42.5 hm³) Aug. 6, 1978, elevation, 1,335.30 ft (406.999 m); minimum contents were below dead storage elevation prior to Apr. 20, 1977, and July 17 to Aug. 3, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,990 acre-ft (29.6 hm³) Sept. 30 at 2400 hours, elevation, 1,330.57 ft (405.558 m); minimum, 14,680 acre-ft (18.1 hm³) Sept. 23, elevation, 1,324.35 ft (403.662 m).

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

1,324.0	14,270	1,328.0	19,630
1,325.0	15,470	1,329.0	21,230
1,326.0	16,760	1,330.0	22,950
1,327.0	18,130	1,331.0	24,800

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22600	21230	20720	20660	20290	20050	19600	18690	19270	17930	16320	15240
2	22480	21230	20720	20630	20360	20070	19550	18690	19260	17850	16270	15190
3	22480	21220	20710	20560	20400	20130	19510	18660	19200	17780	16230	15190
4	22410	21250	20720	20560	20420	20120	19510	18660	19170	17710	16190	15150
5	22360	21150	20690	20560	20360	20080	19510	18640	19130	17670	16190	15140
6	22300	21080	20680	20600	20320	20070	19460	18630	19090	17630	16160	15050
7	22340	21100	20640	20560	20320	20070	19370	18630	19060	17570	16100	15030
8	22290	21230	20640	20580	20320	20020	19320	18580	18920	17510	16050	15030
9	22080	21130	20640	20560	20340	20020	19340	18580	18920	17460	16020	15030
10	22130	21100	20720	20690	20360	20050	19370	18600	18920	17430	15980	15040
11	22090	21080	20550	20560	20360	20000	19180	18560	18890	17390	15940	15040
12	22080	21070	20640	20550	20390	19970	19130	18510	18880	17320	15930	15030
13	22080	21080	20640	20630	20450	19940	19090	18420	18820	17250	15890	14990
14	22040	21070	20660	20630	20450	19910	19070	18390	18730	17210	15850	14970
15	21870	21070	20660	20640	20360	19890	19100	18480	18730	17160	15770	14940
16	21880	21050	20550	20560	20360	19860	19070	18480	18670	17090	15770	14870
17	21870	21080	20560	20530	20360	19850	19010	18500	18640	17040	15750	14810
18	21870	21120	20600	20560	20400	19820	18980	18420	18600	16970	15750	14830
19	21850	21100	20580	20450	20470	19800	18980	18410	18570	16920	15730	14810
20	21800	21070	20600	20450	20440	19770	18970	18380	18530	16880	15710	14790
21	21680	21000	20630	20470	20370	19740	18940	18420	18500	16840	15660	14760
22	21570	20930	20610	20470	20340	19710	18920	18410	18470	16810	15650	14730
23	21580	20970	20630	20480	20310	19660	18920	18420	18470	16720	15600	14830
24	21550	20930	20610	20560	20280	19630	18880	18390	18360	16680	15580	14810
25	21530	20900	20630	20470	20280	19630	18780	18440	18290	16650	15520	14830
26	21520	21000	20610	20360	20240	19630	18730	18470	18250	16600	15500	14800
27	21450	20840	20630	20360	20180	19630	18720	18560	18170	16560	15450	15070
28	21420	20760	20680	20320	20120	19660	18730	19030	18120	16530	15390	17350
29	21500	20720	20630	20320	20070	19680	18730	19290	18050	16450	15370	21670
30	21380	20740	20610	20320	---	19680	18700	19300	17980	16410	15340	23990
31	21250	---	20600	20320	---	19690	---	19300	---	16370	15290	---
MAX	22600	21250	20720	20690	20470	20130	19600	19300	19270	17930	16320	23990
MIN	21250	20720	20550	20320	20070	19630	18700	18380	17980	16370	15290	14730
(†)	1329.01	1328.70	1328.61	1328.44	1328.28	1328.04	1327.39	1327.79	1326.89	1325.71	1324.85	1330.57
(‡)	-1470	-510	-140	-280	-250	-380	-990	+600	-1320	-1610	-1080	+8700
(††)	138	76.7	81.2	78.0	72.1	87.2	113	91.7	146	196	154	116

CAL YR 1979 MAX 26460 MIN 20550 ‡ -2260 †† 1223
WTR YR 1980 MAX 23990 MIN 14730 ‡ +1270 †† 1350

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-ft.
†† Diversions, in acre-feet, for North Central Texas Municipal Water Authority.

08082800 MILLERS CREEK RESERVOIR NEAR BOMARTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
SEP 15...	1050	346	26.0	140	0	37	12	13	.5

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
SEP 15...	9.4	180	0	18	16	.3	.6	195

08083100 CLEAR FORK BRAZOS RIVER NEAR ROBY, TX

LOCATION.--Lat 32°47'15", long 100°23'18", Fisher County, Hydrologic Unit 12060102, on right bank at downstream side of pile bent of bridge on State Highway 70, 3.0 mi (4.8 km) north of Roby, 3.2 mi (5.1 km) upstream from Cottonwood Creek, and 255.7 mi (411.4 km) upstream from mouth.

DRAINAGE AREA.--228 mi^2 (591 km^2).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,885.09 ft (574.575 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No known diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years (water years 1963-80), 9.12 ft^3/s (0.258 m^3/s), 0.54 in/yr (14 mm/yr), 6,610 acre-ft/yr (8.15 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,050 ft^3/s (200 m^3/s) Oct. 18, 1965, gage height, 21.48 ft (6.547 m); maximum gage height, 21.52 ft (6.559 m) Sept. 19, 1969; no flow at times in 1963-67.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since the 1890's, about 22 ft (6.7 m) in May and June 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft^3/s (8.50 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 15	2000	*6,720	190	a21.33	6.501
Sept. 27	0700	317	8.98	8.87	2.704
Sept. 29	0300	5,960	169	a20.95	6.386

a From floodmark.

Minimum discharge, 0.07 ft^3/s (0.002 m^3/s) part of each day Oct. 3-5, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.32	.44	.58	.58	.48	.75	.51	2.4	.75	.12	.25
2	.09	.25	.45	.59	.59	.45	.75	.51	2.3	.72	.23	.26
3	.08	.28	.46	.61	.58	.45	.71	.50	2.2	.67	.22	.26
4	.07	.29	.46	.63	.58	.45	.68	.50	2.2	.67	.26	.29
5	.07	.29	.51	.58	.57	.48	.68	.51	2.0	.66	4.8	.32
6	.08	.28	.45	.58	.55	.55	.67	.51	1.9	.60	2.4	.33
7	.11	.38	.47	.58	.57	.50	.63	.53	1.8	.56	.83	.33
8	.13	.40	.47	.58	.73	.48	.57	.51	1.8	.52	.57	.36
9	.10	.34	.49	.58	.62	.50	.58	.49	1.9	.54	.42	.54
10	.09	.32	.52	.61	.57	.54	.63	.50	6.6	.52	.42	124
11	.09	.33	.55	.59	.54	.54	.60	.49	8.5	.49	.31	33
12	.16	.33	.81	.58	.54	.57	.57	.47	36	.46	.33	4.6
13	.15	.33	.66	.59	.54	.53	.57	.43	4.9	.46	.35	1.5
14	.16	.35	.62	.59	.55	.55	.57	3.4	2.5	.45	.33	1.0
15	.22	.37	.60	.60	.54	.58	.59	2440	1.8	.43	.44	.89
16	.22	.37	.59	.60	.51	.59	.60	1430	1.5	.43	28	.71
17	.21	.40	.58	.60	.52	.59	.56	43	1.4	.44	21	.58
18	.22	.42	.58	.62	.53	.58	.55	13	1.3	.46	5.6	.48
19	.21	.41	.52	.65	.52	.58	.55	7.6	1.2	.45	1.2	.62
20	.19	.42	.53	.64	.50	.64	.57	6.1	1.1	.43	.60	1.0
21	.17	.42	.56	.64	.47	.62	.55	5.5	25	.28	.45	1.0
22	.14	.38	.57	.73	.46	.62	.55	4.9	8.9	.18	.41	1.0
23	.13	.38	.58	.68	.48	.68	.55	4.5	2.9	.18	.40	1.0
24	.16	.39	.58	.62	.51	.65	.56	4.1	1.6	.18	.36	1.0
25	.21	.40	.58	.63	.48	.62	.53	3.6	1.2	.16	.40	1.0
26	.23	.39	.58	.61	.46	.66	.50	3.2	1.0	.11	.40	32
27	.23	.40	.58	.60	.46	.74	.49	3.3	.88	.11	.25	184
28	.22	.43	.64	.60	.47	.83	.50	51	.79	.11	.26	1500
29	.25	.44	.60	.62	.49	.76	.49	7.4	.79	.11	.25	3090
30	.23	.42	.58	.63	---	.68	.50	3.3	.79	.11	.26	237
31	.23	---	.58	.58	---	.71	---	2.6	---	.11	.25	---
TOTAL	4.95	10.93	17.19	18.92	15.51	18.20	17.60	4042.96	129.15	12.35	72.12	5219.32
MEAN	.16	.36	.55	.61	.53	.59	.59	130	4.31	.40	2.33	174
MAX	.25	.44	.81	.73	.73	.83	.75	2440	36	.75	28	3090
MIN	.07	.25	.44	.58	.46	.45	.49	.43	.79	.11	.12	.25
CFSM	.001	.002	.002	.003	.002	.003	.003	.57	.02	.002	.01	.76
IN.	.00	.00	.00	.00	.00	.00	.00	.66	.02	.00	.01	.85
AC-FT	9.8	22	34	38	31	36	35	8020	256	24	143	10350

CAL YR 1979 TOTAL 1307.19 MEAN 3.58 MAX 184 MIN .07 CFSM .02 IN .21 AC-FT 2590
WTR YR 1980 TOTAL 9579.20 MEAN 26.2 MAX 3090 MIN .07 CFSM .12 IN 1.56 AC-FT 19000

08083240 CLEAR FORK BRAZOS RIVER AT HAWLEY, TX

LOCATION.--Lat 32°35'53", long 99°48'53", Jones County, Hydrologic Unit 12060102, on right bank 90 ft (27 m) upstream from upstream bridge on U.S. Highways 83 and 277, 0.8 mi (1.3 km) south of Hawley, 7.4 mi (11.9 km) upstream from Mulberry Creek, and 188.6 mi (303.5 km) upstream from mouth.

DRAINAGE AREA.--1,416 mi² (3,667 km²).

PERIOD OF RECORD.--October 1967 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,612.45 ft (491.475 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 21, 1973, at datum 0.80 ft (0.244 m) higher.

REMARKS.--Records good October to April and fair thereafter. Lake Sweetwater, capacity 11,900 acre-ft (14.7 hm³), is located on a tributary upstream from gage.

AVERAGE DISCHARGE.--13 years, 47.2 ft³/s (1.337 m³/s), 34,200 acre-ft/yr (42.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,540 ft³/s (242 m³/s) Sept. 30, 1980, gage height, 21.07 ft (6.422 m), present datum; no flow July 30, 31, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1915 occurred in 1932; second highest stage in 1957, 25.0 ft (7.62 m), present datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 18	0200	1,720	48.7	14.47	4.410	Sept. 11	1600	1,850	52.4	14.41	4.392
May 28	0030	960	27.2	12.16	3.706	Sept. 30	1930	*8,540	242	21.07	6.422

Minimum daily discharge, 0.67 ft³/s (0.019 m³/s) Apr. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	2.4	5.9	6.4	7.2	7.1	6.4	.74	28	11	8.0	9.0
2	3.2	2.4	6.1	6.4	7.2	7.1	6.6	1.2	23	11	7.9	8.8
3	3.1	2.4	5.9	6.2	7.2	7.1	6.6	1.2	20	11	7.9	8.5
4	2.9	2.4	5.9	6.2	7.1	7.1	6.2	1.2	17	10	7.8	8.1
5	2.9	2.4	6.1	6.1	7.2	6.9	6.0	1.2	16	10	114	7.8
6	2.8	2.3	6.2	5.8	7.2	6.9	5.7	1.6	15	10	94	7.6
7	2.9	2.4	6.1	5.6	7.2	7.3	5.2	5.2	14	10	25	7.4
8	2.9	2.7	6.1	5.4	7.1	7.5	4.8	21	14	10	16	7.2
9	2.9	3.0	6.1	5.1	7.1	7.3	4.9	7.6	14	10	13	7.0
10	2.9	3.0	6.1	5.1	7.2	7.2	5.0	5.6	14	9.5	12	396
11	2.9	3.0	5.9	5.1	7.2	7.1	4.9	5.0	14	9.1	11	1250
12	2.9	3.0	8.4	5.1	7.2	7.6	4.7	3.7	14	9.0	9.7	752
13	2.9	3.0	9.6	5.1	7.1	7.9	5.0	2.7	14	9.0	8.8	582
14	2.8	3.0	8.3	5.1	7.1	7.4	4.4	2.7	14	8.6	8.1	191
15	2.8	3.0	7.2	5.4	7.1	7.4	3.6	4.7	27	8.6	7.4	90
16	2.8	3.0	9.1	5.6	7.2	8.1	3.5	25	23	8.3	7.2	76
17	2.8	3.1	8.5	5.9	7.2	8.4	3.0	675	16	8.2	7.6	66
18	2.7	3.4	7.2	6.1	7.1	7.8	1.7	1070	14	8.0	142	57
19	2.4	3.6	6.9	6.4	7.1	7.2	1.3	78	13	8.4	92	46
20	2.4	4.3	6.7	6.6	7.1	7.5	1.4	42	13	9.0	37	40
21	2.8	5.4	6.6	6.9	7.2	7.8	2.3	47	13	8.8	23	32
22	2.9	5.6	6.3	7.1	7.1	7.8	1.8	71	13	8.8	19	24
23	2.4	5.8	7.3	7.4	7.1	7.8	.98	35	13	8.7	17	20
24	2.3	5.4	7.7	7.4	7.1	7.6	1.7	25	13	8.5	15	30
25	2.0	5.4	6.7	7.4	7.1	7.5	2.8	21	12	8.4	14	35
26	2.1	5.6	6.2	7.4	7.2	7.2	2.4	20	12	8.3	13	40
27	2.2	5.8	6.1	7.4	7.1	9.2	2.1	63	12	8.3	12	927
28	2.2	5.8	19	7.4	7.1	10	1.3	776	12	8.2	12	3950
29	2.2	5.7	29	7.3	7.1	8.1	.82	139	11	8.2	11	6150
30	4.2	5.8	6.4	7.1	---	7.0	.67	69	11	8.1	10	6850
31	2.4	---	6.4	7.2	---	6.6	---	48	---	8.0	9.5	---
TOTAL	85.0	114.1	246.0	194.7	207.2	234.5	107.77	3269.34	459	281.0	791.9	21675.4
MEAN	2.74	3.80	7.94	6.28	7.14	7.56	3.59	105	15.3	9.06	25.5	723
MAX	4.2	5.8	29	7.4	7.2	10	6.6	1070	28	11	142	6850
MIN	2.0	2.3	5.9	5.1	7.1	6.6	.67	.74	11	8.0	7.2	7.0
AC-FT	169	226	488	386	411	465	214	6480	910	557	1570	42990

CAL YR 1979 TOTAL 8103.60 MEAN 22.2 MAX 704 MIN 2.0 AC-FT 16070
WTR YR 1980 TOTAL 27665.91 MEAN 75.6 MAX 6850 MIN .67 AC-FT 54880

08083245 MULBERRY CREEK NEAR HAWLEY, TX

LOCATION.--Lat 32°34'04", long 99°47'32", Jones County, Hydrologic Unit 12060102, on right bank at downstream side of downstream bridge on U.S. Highways 83 and 277, 3.3 mi (5.3 km) south of Hawley, and 5.8 mi (9.3 km) upstream from mouth.

DRAINAGE AREA.--205 mi² (531 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1967 to current year.

REVISED RECORDS.--WRD TX-74-1: 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 1,615.98 ft (492.551 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. No known diversion above station.

AVERAGE DISCHARGE.--12 years (water years 1969-80), 9.39 ft³/s (0.266 m³/s), 0.62 in/yr (16 mm/yr), 6,800 acre-ft/yr (8.38 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft³/s (77.9 m³/s) May 28, 1980, gage height, 16.00 ft (4.877 m); no flow at times most years.
Maxium stage since 1932, that of May 28, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1957 reached a stage of about 16.0 ft (4.88 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.50 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 28	0200	*2,750	77.9	16.00	4.877
Sept. 10	0700	318	9.01	6.68	2.036
Sept. 28	1330	669	18.9	10.34	3.152

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.4	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.9	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.6	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28	104
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	12
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.2
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.96
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.41
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	116	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	47	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	7.9	.00	.00	26
24	.00	.00	.00	.00	.00	.00	.00	.00	.72	.00	.00	8.4
25	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	2.3
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	51
27	.00	.00	.00	.00	.00	.00	.00	62	.00	.00	.00	86
28	.00	.00	.17	.00	.00	.00	.00	1190	.00	.00	.00	526
29	.00	.00	2.1	.00	.00	.00	.00	52	.00	.00	.00	479
30	.00	.00	1.7	.00	---	.00	.00	8.6	.00	.00	.00	135
31	.00	---	.03	.00	---	.00	---	.72	---	.00	.00	---
TOTAL	.00	.00	4.00	.00	.00	.00	.00	1313.32	171.76	.00	20.32	1438.92
MEAN	.000	.000	.13	.000	.000	.000	.000	42.4	5.73	.000	.66	48.0
MAX	.00	.00	2.1	.00	.00	.00	.00	1190	116	.00	12	526
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.001	.000	.000	.000	.000	.21	.03	.000	.003	.23
IN.	.00	.00	.00	.00	.00	.00	.00	.24	.03	.00	.00	.26
AC-FT	.00	.00	7.9	.00	.00	.00	.00	2600	341	.00	40	2850

CAL YR 1979 TOTAL 1194.05 MEAN 3.27 MAX 293 MIN .00 CFSM .02 IN .22 AC-FT 2370
WTR YR 1980 TOTAL 2948.32 MEAN 8.06 MAX 1190 MIN .00 CFSM .04 IN .54 AC-FT 5850

08083245 MULBERRY CREEK NEAR HAWLEY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
MAY 29...	0940	53	588	24.5	200	73	52	16	40

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
MAY 29...	1.2	8.2	150	0	72	72	.4	15	350

08083430 ELM CREEK AT ABILENE, TX

LOCATION.--Lat 32°30'29", long 99°44'27", Taylor County, Hydrologic Unit 12060102, on left bank at downstream side of bridge on State Highway Loop 243 in the city of Abilene and about 17 mi (27 km) upstream from mouth.

DRAINAGE AREA.--422 mi^2 (1,093 km^2).

PERIOD OF RECORD.--October 1979 to September 1980.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1,647.16 ft (502.054 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Since 1921, flow largely regulated by Lake Abilene, capacity 7,900 acre-ft (9.74 hm^3), about 30 mi (48 km) upstream. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 757 ft^3/s (21.4 m^3/s) May 28, 1980, gage height, 7.42 ft (2.262 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 757 ft^3/s (21.4 m^3/s) May 28 at 0300 hours, gage height, 7.42 ft (2.262 m); no flow Aug. 28 to Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.50	.11	1.2	.18	.18	.30	.30	3.7	2.2	.39	.00
2	.03	.21	.11	.76	.18	.18	.27	.30	3.0	2.0	.31	.00
3	.03	.14	.12	.42	.18	.18	.25	.29	2.3	1.8	.23	.00
4	.02	.10	.12	.25	.18	.18	.25	.29	2.5	1.5	71	.00
5	.03	.09	.13	.21	.18	.20	.24	.30	2.1	1.3	14	.00
6	.03	.23	.13	.20	.20	.20	.22	101	2.0	1.2	5.5	.00
7	.03	.22	.14	.18	.21	.20	.21	120	1.9	1.1	3.0	.00
8	.05	.16	.15	.18	39	.20	.20	19	9.7	.92	2.2	.00
9	.04	.13	.15	.17	14	.20	.21	3.4	53	.88	1.7	17
10	.04	.12	.15	.17	8.0	.20	.21	.96	5.0	.85	1.5	8.1
11	.04	.12	.15	.21	5.4	.20	.22	.42	3.0	.78	1.3	2.2
12	.03	.11	14	.24	1.6	.20	.22	.22	3.2	.70	1.2	1.7
13	.03	.11	12	.24	.92	.20	.22	.18	2.7	.68	1.0	1.5
14	.03	.12	7.6	.22	.52	.20	.22	.16	2.3	.62	.84	1.3
15	.04	.15	3.1	.20	.36	.20	.24	69	2.2	.56	.70	1.1
16	.04	.16	.77	.18	.25	.20	.24	41	2.1	.60	.61	.93
17	.03	.14	.33	.18	.24	.20	.24	5.9	2.0	.67	.53	.76
18	.03	.14	.21	.18	.22	.20	.24	1.8	2.1	.59	.50	.66
19	.04	.14	.17	.17	.20	.20	.24	2.0	2.1	.54	.45	.59
20	.05	.14	.15	.17	.18	.21	.25	.91	2.5	2.7	.39	.49
21	.08	15	.14	.28	.17	.21	.25	32	25	2.6	.34	.42
22	.04	2.4	.13	52	.17	.21	.25	2.8	130	2.1	.27	.34
23	.05	.36	70	6.7	.17	.21	.25	.90	77	1.8	.21	56
24	.05	.20	7.4	.96	.17	.21	.27	.40	14	1.5	.15	21
25	.05	.14	1.2	.48	.17	.21	.39	.24	5.6	1.2	.10	33
26	.05	.13	1.4	.44	.17	.22	.32	.27	4.2	.99	.04	227
27	.04	.11	.92	.42	.17	10	.32	33	3.2	.85	.02	134
28	.05	.11	120	.27	.17	11	.32	405	2.8	.80	.00	371
29	.09	.11	32	.22	.18	1.2	.30	54	2.5	.71	.00	292
30	24	.11	5.9	.20	---	.38	.30	9.4	2.3	.62	.00	162
31	5.1	---	1.8	.18	---	.30	---	4.9	---	.52	.00	---
TOTAL	30.29	21.90	280.68	67.88	73.74	28.08	7.66	910.34	376.0	35.88	108.48	1333.09
MEAN	.98	.73	9.05	2.19	2.54	.91	.26	29.4	12.5	1.16	3.50	44.4
MAX	24	15	120	52	39	11	.39	405	130	2.7	71	371
MIN	.02	.09	.11	.17	.17	.18	.20	.16	1.9	.52	.00	.00
AC-FT	60	43	557	135	146	56	15	1810	746	71	215	2640

CAL YR 1979	TOTAL	-	MEAN	-	MAX	-	MIN	-	AC-FT -
WTR YR 1980	TOTAL	3274.02	MEAN	8.95	MAX	405	MIN	.00	AC-FT 6490

08083470 CEDAR CREEK AT ABILENE, TX

LOCATION.--Lat 32°26'56", long 99°43'13", Taylor County, Hydrologic Unit 12060102, on right bank at upstream side of North Second Street Bridge and State Highway 355 at Abilene, 0.2 mi (0.3 km) downstream from Lytle Creek, 4.1 mi (6.6 km) downstream from Buttonwillow Creek, 5.9 mi (9.5 km) upstream from Rainy Creek, 7.2 mi (11.6 km) downstream from Kirby Lake, and 9.8 mi (15.8 km) upstream from mouth.

DRAINAGE AREA.--119 mi^2 (308 km^2).

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,677.67 ft (511.354 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow is partly regulated by Lytle Lake, capacity 1,200 acre-ft (1.48 hm^3), and by Lake Kirby, capacity 7,620 acre-ft (9.40 hm^3). Records furnished by the city of Abilene show that 636 acre-ft (784,000 m^3) was diverted from Lake Kirby during the current year. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 6.00 ft^3/s (0.170 m^3/s), 4,350 acre-ft/yr (5.36 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,670 ft^3/s (132 m^3/s) Sept. 18, 1974, gage height, 12.54 ft (3.822 m); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 678 ft^3/s (19.2 m^3/s) May 28 at 0030 hours, gage height, 5.28 ft (1.609 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.3	.02	.16	.13	.10	.26	.01	.00	.00	.00	.00
2	.00	.79	.06	.15	.15	.07	.25	.01	.00	.00	.00	.00
3	.00	.37	.07	.14	.14	.16	.21	.01	.04	.00	.00	.00
4	.00	.17	.03	.12	.14	.17	.17	.00	.00	.00	22	.00
5	.00	.12	.03	.12	.16	.11	.10	.00	.00	.00	.01	.00
6	.00	.08	.02	.14	.13	.11	.10	46	.00	.00	.00	.00
7	.00	3.6	.02	.08	.16	.12	.09	19	.00	.00	.00	.00
8	.00	4.1	.02	.21	12	.12	.07	12	13	.00	.00	.00
9	.00	1.5	.02	.08	4.5	.12	.08	2.5	5.2	.00	.00	.00
10	.23	.87	.02	.09	3.9	.08	.08	1.0	.00	.00	.00	.00
11	4.5	.50	.02	.08	2.0	.08	.08	.41	.03	.00	.00	.00
12	2.2	.26	8.6	.03	.73	.11	.08	.20	.00	.00	.00	.00
13	.06	.12	3.4	.03	.45	.07	.08	.09	.00	.00	.00	.00
14	.00	.08	4.6	.03	.43	.04	.08	.05	.00	.00	.00	.00
15	.00	.06	1.0	.05	.36	.02	.08	49	.00	.00	.00	.00
16	.00	.04	.16	.06	.32	.02	.08	14	.00	.00	.00	.00
17	.00	.03	.05	.04	.28	.02	.08	3.6	.00	.00	2.8	.00
18	.00	.02	1.6	.05	.30	.01	.08	3.2	.00	.00	1.5	.00
19	.00	.01	.64	.05	.31	.01	.08	2.8	.00	.00	.00	.00
20	.00	1.5	.12	.19	.23	.08	.07	5.5	.00	1.3	.00	.00
21	.00	21	.06	2.2	.17	.14	.06	9.8	.03	.04	.00	.00
22	.00	5.6	.04	28	.19	.07	.05	1.5	8.5	.00	.00	.00
23	.00	3.8	33	1.4	.15	.26	.02	.42	.01	.00	.00	.00
24	.00	3.2	1.7	.46	.15	1.0	.05	.16	.00	.00	.00	.00
25	.00	3.8	.27	.35	.11	.22	.04	.06	.00	.00	.00	.00
26	.00	2.0	.13	.28	.14	.31	.01	.03	.00	.00	.00	141
27	.00	.61	.06	.16	.17	15	.01	41	.00	.00	.00	160
28	.00	.07	48	.17	.14	7.3	.02	135	.00	.00	.00	273
29	.00	.02	2.5	.17	.16	1.8	.02	3.7	.00	.00	.00	220
30	11	.02	.67	.32	---	.70	.01	.27	.00	.00	.00	45
31	4.3	---	.32	.19	---	.37	---	.08	---	.00	.00	---
TOTAL	22.29	55.64	107.25	35.60	28.20	28.79	2.49	351.40	26.81	1.34	26.31	839.00
MEAN	.72	1.85	3.46	1.15	.97	.93	.083	11.3	.89	.043	.85	28.0
MAX	11	21	48	28	12	15	.26	135	13	1.3	22	273
MIN	.00	.01	.02	.03	.11	.01	.01	.00	.00	.00	.00	.00
AC-FT	44	110	213	71	56	57	4.9	697	53	2.7	52	1660

CAL YR 1979 TOTAL 2052.82 MEAN 5.62 MAX 398 MIN .00 AC-FT 4070
WTR YR 1980 TOTAL 1525.12 MEAN 4.17 MAX 273 MIN .00 AC-FT 3030

08083500 FORT PHANTOM HILL RESERVOIR NEAR NUGENT, TX

LOCATION.--Lat 32°36'58", long 99°40'05", Jones County, Hydrologic Unit 12060102, at outlet gate tower near right bank, 120 ft (37 m) upstream from dam on Elm Creek, 4.3 mi (6.9 km) upstream from mouth, and 5.4 mi (8.7 km) south of Nugent.

DRAINAGE AREA.--470 mi² (1,217 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1940 to current year. Prior to October 1965, monthend contents only.

REVISED RECORDS.--WSP 1562: 1953-57 (figures of monthend contents). WDR TX-76-2: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is 1,580.78 ft (481.822 m) National Geodetic Vertical Datum of 1929.

REMARKS.--The reservoir is formed by a rock-faced earthfill dam 3,740 ft (1,140 m) long. The dam was completed and storage began in October 1938. The uncontrolled service spillway is a cut channel through natural ground with a concrete ogee weir located 0.7 mi (1.1 km) from right end of dam. The service outlet works consist of a concrete tower with a 4.0- by 7.0-foot (1.2 by 2.1 m) conduit. The service tower contains five gated openings at various elevations. The dam and reservoir are owned by the city of Abilene and were built to impound water for municipal use. Since July 1974, the West Texas Utility Co. has operated a steam generating powerplant on the reservoir. During the year, the city of Abilene diverted 21,780 acre-ft (26.9 hm³) from Clear Fork Brazos River into Fort Phantom Hill Reservoir and an undetermined amount of floodflow was diverted by gravity ditch from Deadman Creek into the reservoir. The capacity table was based on a survey of Oct. 2, 1953. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	69.2	-
Crest of spillway	55.1	74,310
Highest gated outlet (invert)	28.0	10,330
Lowest gated outlet (invert)	1.6	-

COOPERATION.--Records of gage heights and diversions were furnished by the city of Abilene. The capacity table is furnished by the Soil Conservation Service.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents observed, 89,910 acre-ft (111 hm³) May 25, 1957, gage height, 58.7 ft (17.89 m); minimum observed, 19,040 acre-ft (23.5 hm³) Apr. 23-25, 1953, gage height, 34.5 ft (10.52 m).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents observed, 39,360 acre-ft (48.5 hm³) Oct. 1 gage height, 44.5 ft (13.56 m); minimum observed, 20,510 acre-ft (25.3 hm³) Sept 9, gage height, 35.4 ft (10.79 m).

Capacity table (gage height, in feet, and total contents, in acre-feet)

35.0	19,840	41.0	31,080
38.0	25,070	45.0	40,640

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39360	35400	33770	34000	32410	31080	29180	26590	32860	30240	25070	21340
2	39100	35400	33770	33770	32410	31080	29180	26590	32860	30030	24890	21170
3	39100	35170	33770	33770	32410	31080	29180	26590	32640	29820	24710	21170
4	38850	35170	33770	33770	32410	30870	28970	26400	32640	29820	24520	21170
5	38590	34930	33540	33770	32190	30870	28970	26400	32640	29610	24520	21010
6	38590	34930	33540	33770	32190	30870	28970	26210	32410	29390	24520	20840
7	38340	34930	33540	33540	32190	30870	28970	26590	32410	29180	24340	20840
8	38340	34930	33540	33540	32190	30660	28770	26780	32410	28970	24340	20670
9	38080	34930	33540	33540	32190	30660	28770	26780	32190	28970	24160	20510
10	37830	34930	33300	33300	32190	30660	28570	26590	32190	28770	23980	20670
11	37830	34930	33300	33300	32190	30660	28570	26590	31970	28570	23980	20840
12	37590	34700	33300	33300	32190	30660	28370	26590	31970	28370	23790	22030
13	37590	34700	33300	33300	32190	30450	28370	26400	31750	28170	23790	23610
14	37350	34700	33540	33300	32190	30450	28170	26400	31750	27970	23610	24340
15	37350	34700	33540	33300	31970	30450	28170	26400	31530	27770	23610	24340
16	37100	34700	33540	33080	31970	30240	27970	26590	31300	27570	23430	24340
17	37100	34700	33300	33080	31970	30240	27970	26590	31300	27370	23250	24160
18	36860	34470	33300	32860	31970	30240	27770	26970	31080	27170	23250	23980
19	36860	34470	33300	32860	31750	30030	27770	28770	31080	26970	23070	23980
20	36610	34470	33300	32860	31750	30030	27770	28770	30870	26780	23070	23790
21	36610	34470	33300	32860	31530	30030	27570	28570	30870	26780	22900	23610
22	36610	34470	33300	32860	31530	29820	27370	28570	30870	26780	22900	23610
23	36370	34470	33300	32860	31530	29820	27370	28570	30870	26590	22730	23610
24	36120	34230	33540	32860	31300	29610	27170	28370	31530	26400	22550	23980
25	36120	34230	33540	32860	31300	29610	27170	28370	31530	26400	22380	25070
26	35880	34230	33540	32860	31300	29610	27170	28370	31300	26210	22200	26400
27	35880	34230	33540	32860	31300	29390	26970	28170	31080	26020	22030	27770
28	35630	34000	33540	32640	31300	29390	26970	29390	30870	25830	22030	30030
29	35630	34000	34000	32640	31300	29390	26780	31970	30660	25640	21850	33080
30	35630	33770	34000	32640	---	29390	26780	32860	30450	25450	21680	35880
31	35630	---	34000	32640	---	29390	---	32860	---	25260	21510	---
MAX	39360	35400	34000	34000	32410	31080	29180	32860	32860	30240	25070	35880
MIN	35630	33770	33300	32640	31300	29390	26780	26210	30450	25260	21510	20510
(†)	43.0	42.2	42.3	41.7	41.1	40.2	38.9	41.8	40.7	38.1	36.0	43.1
(‡)	-3730	-1860	+230	-1360	-1340	-1910	-2610	+6080	-2410	-5190	-3750	+14370
(††)	2300	686	687	1260	1340	1160	1680	1310	2120	3210	1910	1180

CAL YR 1979 MAX 55820 MIN 33300 ‡ -10740 †† 20630
WTR YR 1980 MAX 39360 MIN 20510 ‡ -3480 †† 18840

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use.

08083500 FORT PHANTOM HILL RESERVOIR NEAR NUGENT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
OCT									
16...	1330	747	20.0	200	56	47	21	65	2.0
APR									
16...	1330	874	17.0	240	72	56	25	77	2.2

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT								
16...	9.2	180	0	73	100	.4	2.5	407
APR								
16...	9.0	208	0	82	110	.4	1.2	463

08084000 CLEAR FORK BRAZOS RIVER AT NUGENT, TX

LOCATION.--Lat 32°41'24", long 99°40'09", Jones County, Hydrologic Unit 12060102, on right bank 33 ft (10 m) downstream from bridge on Farm Road 600 at Nugent, 2 mi (3 km) downstream from Elm Creek, 4 mi (6 km) upstream from Deadman Creek, and 167.8 mi (270.0 km) upstream from mouth.

DRAINAGE AREA.--2,199 mi² (5,695 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1924 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,531.91 ft (466.926 m) National Geodetic Vertical Datum of 1929 (levels by Brazos River Authority). Prior to Dec. 12, 1933, nonrecording gage at site 575 ft (175 m) downstream at same datum.

REMARKS.--Water-discharge records good. Flow affected by four reservoirs with a capacity of 103,600 acre-ft (128 hm³). Numerous diversions above station for municipal supply and oilfield operation materially affect low flow. See table below for records of diversions from river above station into Fort Phantom Hill Reservoir.

AVERAGE DISCHARGE.--14 years (water years 1925-38) prior to completion of Fort Phantom Hill Reservoir, 186 ft³/s (5.268 m³/s), 134,800 acre-ft/yr (166 hm³/yr); 42 years (water years 1939-80) partially regulated, 80.8 ft³/s (2.288 m³/s), 58,540 acre-ft/yr (72.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 47,000 ft³/s (1,330 m³/s) Sept. 8, 1932, gage height, 27.05 ft (8.245 m), site then in use, from rating curve extended above 25,000 ft³/s (708 m³/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 30 ft (9.1 m) in 1876; floods in 1900 and May 1923 reached stages of 24 and 24.5 ft (7.3 and 7.47 m), respectively, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,250 ft³/s (149 m³/s) Sept. 29 at 1930 hours, gage height, 14.39 ft (4.386 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	3.9	16	10	5.9	3.8	6.7	.19	31	2.4	.01	.13
2	2.1	4.4	14	7.3	6.0	3.5	6.3	.12	18	1.8	.01	.06
3	2.1	3.3	15	6.3	6.8	3.4	6.3	.09	13	1.6	.00	.04
4	2.1	2.6	14	6.0	7.7	3.4	5.8	.07	11	1.2	.00	.02
5	2.0	2.4	14	5.8	8.0	3.4	5.4	.07	9.6	.75	100	.01
6	2.1	2.7	15	5.6	8.1	3.4	5.4	.07	8.6	.43	35	.00
7	2.3	2.8	15	5.5	8.3	3.4	5.1	.12	7.9	.25	25	.00
8	2.4	3.2	12	5.4	9.0	3.4	4.9	.46	7.8	.20	17	.00
9	2.1	3.7	9.7	5.4	8.1	3.0	4.5	.76	7.8	.12	14	.00
10	2.1	3.5	8.1	5.4	7.4	3.4	4.5	1.2	7.3	.09	13	108
11	2.2	3.6	7.5	5.5	6.6	3.4	4.5	1.2	7.1	.07	11	348
12	2.4	3.6	6.3	5.4	6.1	3.4	4.1	.99	7.0	.05	10	310
13	2.4	3.3	6.3	5.4	5.8	3.5	3.7	.74	8.1	.05	9.5	141
14	2.3	3.0	6.0	5.5	5.6	3.7	3.7	.55	8.3	.05	8.5	82
15	2.4	3.5	5.8	6.2	5.4	3.7	3.5	.50	14	.04	7.5	80
16	2.7	3.8	5.3	6.2	5.3	3.9	3.4	2.1	21	.02	8.0	74
17	1.7	4.9	4.7	6.3	4.9	3.7	3.0	153	13	.02	9.0	65
18	2.0	6.8	4.1	6.1	4.9	3.7	2.5	140	8.8	.01	35	54
19	2.3	8.1	4.0	5.8	4.9	3.7	2.4	128	7.3	.01	130	44
20	2.9	8.9	3.7	6.1	4.8	3.7	2.0	56	6.0	.01	33	36
21	3.0	10	3.4	6.3	4.5	4.8	1.7	37	12	.01	20	28
22	3.0	9.8	3.4	7.8	4.5	7.0	1.4	55	27	.01	11	21
23	3.0	9.1	3.4	7.2	4.9	7.0	1.1	41	32	.02	6.2	17
24	3.0	9.7	3.7	6.8	4.5	7.1	.92	24	37	.02	3.6	27
25	3.0	10	3.7	6.5	4.5	7.1	.73	16	31	.02	2.2	32
26	3.0	10	3.4	6.3	4.5	7.0	.53	11	24	.02	1.7	33
27	3.0	15	3.2	6.3	4.2	8.0	.34	8.9	13	.02	1.2	36
28	3.0	18	24	6.3	4.1	8.0	.23	2090	8.4	.02	.88	644
29	3.4	19	24	6.3	4.1	7.5	.21	334	5.6	.02	.61	4590
30	3.4	19	11	6.3	---	7.1	.21	90	4.0	.01	.40	5080
31	3.4	---	11	6.3	---	7.2	---	58	---	.01	.25	---
TOTAL	78.9	211.6	280.7	193.6	169.4	148.3	95.07	3251.13	416.6	9.35	513.56	11850.26
MEAN	2.55	7.05	9.05	6.25	5.84	4.78	3.17	105	13.9	.30	16.6	395
MAX	3.4	19	24	10	9.0	8.0	6.7	2090	37	2.4	130	5080
MIN	1.7	2.4	3.2	5.4	4.1	3.0	.21	.07	4.0	.01	.00	.00
AC-FT	156	420	557	384	336	294	189	6450	826	19	1020	23500
(†)	0	0	0	0	0	0	0	5530	617	0	0	15630

CAL YR 1979 TOTAL 10035.27 MEAN 27.5 MAX 555 MIN .04 AC-FT 19900 † 1450
WTR YR 1980 TOTAL 17218.47 MEAN 47.0 MAX 5080 MIN .00 AC-FT 34150 † 21780

† Diversions, in acre-feet, into Fort Phantom Hill Reservoir from river above station.

08084000 CLEAR FORK BRAZOS RIVER AT NUGENT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1948 to September 1953. Chemical and biochemical analyses: February 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT										
04...	1130	5.8	2650	7.6	18.5	8.7	88	5.0	830	590
DEC										
06...	1300	15	3300	7.5	8.0	12.5	112	3.0	1100	870
FEB										
20...	1550	6.2	3650	7.9	13.0	16.0	163	3.3	1300	1000
APR										
16...	1200	5.4	4200	7.8	16.0	13.2	140	2.2	1400	1200
JUN										
04...	1245	14	1580	7.6	26.0	7.4	97	2.2	490	350
AUG										
20...	1520	37	1415	7.6	29.0	6.2	84	4.2	330	250

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT										
04...	170	99	250	3.8	10	300	0	360	540	.4
DEC										
06...	240	130	360	4.7	11	320	0	770	550	.5
FEB										
20...	280	140	370	4.5	6.2	280	0	1000	560	.5
APR										
16...	310	160	440	5.1	7.6	270	0	660	650	.5
JUN										
04...	120	47	140	2.7	11	170	0	300	240	.3
AUG										
20...	94	23	150	3.6	9.8	94	0	300	220	.3

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT									
04...	18	1600	.00	.02	.02	.03	.97	1.0	.070
DEC									
06...	11	2230	.06	.02	.08	.05	.37	.42	.140
FEB									
20...	3.4	2500	1.1	.03	1.1	.09	.85	.94	.050
APR									
16...	6.3	2370	.02	.01	.03	.00	.84	.84	.050
JUN									
04...	14	956	.68	.03	.71	.18	2.4	2.6	.140
AUG									
20...	5.7	849	.71	.12	.83	.20	1.0	1.2	.170

08084100 DEADMAN CREEK NEAR NUGENT, TX
(Reconnaissance partial-record station)

LOCATION.--Lat 32°40'36", long 99°37'00", Jones County, Hydrologic Unit 12060102, at low-water crossing on county road, 3.2 mi (5.1 km) east of Nugent, and 4.4 mi (7.1 km) upstream from Clear Fork Brazos River.

DRAINAGE AREA.--168 mi^2 (435 km^2).

PERIOD OF RECORD.--Periodic discharge measurements and water-quality data: October 1967 to current year.

REMARKS.--During the current water year, the city of Abilene discharged 8,530 acre-ft (10.5 hm^3) of sewage effluent into creek 12 mi (19 km) upstream from station.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 04...	1000	15	1760	7.1	18.0	6.8	69	18	250	64
DEC 06...	1110	14	2000	7.4	9.5	11.1	104	16	270	95
FEB 20...	1400	18	1790	8.0	14.0	15.9	166	85	300	58
APR 16...	1030	14	2000	7.8	18.0	15.8	176	55	340	58
JUN 04...	1115	43	1860	7.9	26.5	9.9	127	61	290	82
AUG 20...	1415	.60	2030	9.4	32.5	16.1	233	4.0	280	120

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 04...	55	28	250	6.8	21	230	0	220	280	1.0
DEC 06...	56	31	260	6.9	23	210	0	200	350	.7
FEB 20...	64	35	240	6.0	20	300	0	210	280	.8
APR 16...	77	37	290	6.8	20	350	0	250	320	.8
JUN 04...	64	31	280	7.2	18	250	0	260	300	.7
AUG 20...	60	31	310	8.1	17	110	40	220	440	.7

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 04...	1.6	970	3.5	.78	4.3	2.4	2.5	4.9	7.300
DEC 06...	11	1040	3.2	.33	3.5	1.4	.90	2.3	2.300
FEB 20...	8.6	1010	2.3	.42	2.7	10	10	20	12.000
APR 16...	9.6	1180	1.3	.46	1.8	12	4.0	16	14.000
JUN 04...	12	1090	1.3	.57	1.9	4.8	6.2	11	5.800
AUG 20...	.9	1170	.13	.05	.18	.07	2.5	2.6	1.600

08084500 LAKE STAMFORD NEAR HASKELL, TX

LOCATION.--Lat 33°04'44", long 99°34'52", Haskell County, Hydrologic Unit 12060103, on left bank at intake structure of West Texas Utilities Co. steam powerplant at Lake Stamford on Paint Creek, 1.0 mi (1.6 km) upstream from dam, 1.7 mi (2.7 km) upstream from California Creek, 10 mi (16 km) southeast of Haskell, and 21.8 mi (35.1 km) upstream from mouth.

DRAINAGE AREA.--368 mi² (953 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-77-2: Drainage area.

GAGE.--Nonrecording gage read once daily. Datum of gage is 2.77 ft (0.84 m) National Geodetic Vertical Datum of 1929 (levels by Freese and Nichols, Inc., Consulting Engineers).

REMARKS.--The lake is formed by a rolled earthfill dam 3,600 ft (1,097 m) long. The dam was completed in March 1953, and deliberate impoundment began in June 1953. The emergency spillway is an uncontrolled natural channel located near right end of dam. The service spillway is an uncontrolled channel excavated through natural ground, 169 ft (52 m) wide, located 900 ft (270 m) to left of left end of dam. The service outlet is a controlled 24-inch-diameter (610 mm) concrete pipe that is used for low-flow releases. During the current year, the cities of Stamford and Hamlin diverted 2,450 acre-ft (3.02 hm³) for municipal use. The capacity table is based on sedimentation survey of 1966. Gage-height record was furnished by the West Texas Utilities Co. from their powerplant 1.0 mi (1.6 km) upstream from dam. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	1,434.0	-
Crest of spillway	1,423.0	110,400
Crest of spillway	1,414.0	53,070
Lowest gated outlet (invert)	1,380.0	358

COOPERATION.--The capacity table was furnished by the Soil Conservation Service. The diversions were furnished by the city of Stamford.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 103,700 acre-ft (128 hm³) Aug. 5, 1978, gage height, 1,422.2 ft (433.49 m); minimum since first appreciable storage in June 1954, 14,060 acre-ft (17.3 hm³) Jan. 29-31, 1957, gage height, 1,400.2 ft (426.78 m).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 79,360 acre-ft (97.8 hm³) Sept. 30, gage height, 1,418.8 ft (432.45 m); minimum, 30,410 acre-ft (37.5 hm³) Sept. 17-25, gage height, 1,408.1 ft (429.19 m).

Capacity table (gage height, in feet, and total contents, in acre-feet)

1,407.0	27,190	1,415.0	57,920
1,409.0	33,250	1,417.0	68,560
1,410.0	40,330	1,419.0	80,640
1,413.0	48,530		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49410	46370	44700	44280	43880	43470	41880	39200	40720	39200	34920	31960
2	48970	45950	44700	45110	43880	43470	41880	39200	40720	38830	34920	31960
3	49410	45950	44700	44700	43880	43470	41880	39200	40720	38460	34920	31650
4	48970	45950	44700	44700	43880	43470	41880	39200	40720	38460	34920	31020
5	48970	45950	44700	44700	43880	42670	41880	39200	40720	38100	34240	30410
6	48530	45950	44280	44700	43470	42670	41880	39200	40720	38100	34240	31020
7	48530	45950	44280	44700	43880	42670	41880	39580	40720	37730	33910	31020
8	48090	45950	44280	44700	43880	42670	41880	39580	40330	37730	33580	30710
9	48090	45950	44280	43880	43880	42670	41100	40330	40330	37370	33910	31020
10	47650	45950	44280	43880	43880	42670	41100	40330	40330	37010	33250	31020
11	47650	45950	44700	43880	43880	42670	41100	40330	39950	37010	33580	31330
12	47650	45530	44700	43880	43880	43070	41100	40330	39950	37010	33250	31330
13	47650	45530	44700	43880	43880	43070	41100	39580	39950	36660	33580	30710
14	47650	45530	44700	43880	44280	43070	40720	39580	39950	36660	33250	30710
15	47650	45530	44280	43880	44280	43070	40720	39580	39950	36660	33250	30710
16	47650	45530	44280	43880	44280	43070	40330	39580	39950	36660	33250	30710
17	47650	45530	44280	43880	44280	42670	40330	39950	39580	36660	33250	30410
18	47650	45530	44280	43880	44280	42670	40330	39950	39580	36300	33580	30410
19	47650	45530	44280	43880	44280	42670	40330	40330	39200	36300	33580	30410
20	47220	45530	44280	43880	43880	42670	40330	40330	39200	35950	33250	30410
21	47220	45530	44280	43880	43880	42670	40330	40720	39200	35950	32600	30410
22	47220	45110	44280	43880	44280	42670	40330	41100	39950	35950	32600	30410
23	46790	45110	44280	44280	44280	42670	40330	40720	39950	35610	32600	30410
24	47790	45110	44280	44280	44280	42670	40330	41100	39580	35610	32600	30410
25	46790	45110	44280	44280	43880	42670	39950	40720	39200	35610	32600	30410
26	46790	45110	44280	44280	43880	41880	39950	40720	39200	35260	32280	31960
27	46790	45110	44280	44280	43880	41880	39950	40720	39200	35260	31960	33250
28	46790	44700	44280	44280	43880	41880	39950	41100	39200	35260	32280	37730
29	46790	44700	44280	43880	43880	41880	39950	40720	39200	35260	32280	73800
30	46790	44700	44280	44280	---	41880	39200	40720	39200	34920	32280	79360
31	46370	---	44280	43880	---	41880	---	40720	---	34920	31960	---
MAX	49410	46370	44700	45110	44280	43470	41880	41100	40720	39200	34920	79360
MIN	46370	44700	44280	43880	43470	41880	39200	39200	39200	34920	31960	30410
(†)	1412.5	1412.1	1412.0	1411.9	1411.9	1411.4	1410.7	1411.1	1410.7	1409.5	1408.6	1418.8
(‡)	-3040	-1670	-420	-400	0	-2000	-2680	+1520	-1520	-4280	-2960	-47400
(††)	191	143	145	142	142	162	196	173	275	367	297	238

CAL YR 1979 MAX 64690 MIN 44280 ‡ -7850 †† 2029
WTR YR 1980 MAX 79360 MIN 30410 ‡ +29950 †† 2471

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use by cities of Stamford and Hamlin.

08084500 LAKE STAMFORD NEAR HASKELL, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
OCT 15...	1245	644	20.5	190	45	46	19	50	1.6

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT 15...	9.8	180	0	74	65	.3	5.2	358

08084800 CALIFORNIA CREEK NEAR STAMFORD, TX

LOCATION.--Lat 32°55'51", long 99°38'32", Jones County, Hydrologic Unit 12060103, near right bank at downstream side of bridge on Farm Road 142, 9 mi (14 km) east of Stamford, and 19.4 mi (31.2 km) upstream from Paint Creek.

DRAINAGE AREA.--478 mi^2 (1,238 km^2).

PERIOD OF RECORD.--October 1962 to current year.
Water-quality records: Specific conductance: October 1962 to September 1979. Water temperature: October 1962 to September 1979.

REVISED RECORDS.--WSP 2122: 1965. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,470 ft (448 m), from topographic map.

REMARKS.--Water-discharge records fair. Three small diversions above station.

AVERAGE DISCHARGE.--18 years, 29.1 ft^3/s (0.824 m^3/s), 0.83 in/yr (21 mm/yr), 21,080 acre-ft/yr (26.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft^3/s (1,130 m^3/s) Aug. 4, 1978, gage height, 31.00 ft (9.449 m), from floodmark, from rating curve extended above 21.0 ft (6.40 m) on basis of field discharge estimates of peak flows; no flow at times.
Maximum stage since at least 1897, that of Aug. 4, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1962, reached a stage of 29.6 ft (9.02 m), from floodmark; flood of July 1961 (stage unknown) was third highest. Other large floods are reported to have occurred in June 1909, June 24, 1915, and May 1957; flood of September 1962 reached a stage of 28.1 ft (8.56 m); from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft^3/s (11.3 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 28	1630	1,140	32.3	16.09	4.904
Sept. 26	0330	831	23.5	15.59	4.752
Sept. 29	1400	*7,870	223	a28.88	8.803

a From floodmark.

Minimum discharge, no flow Aug. 23, 24, 30, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.14	.74	1.8	1.4	.81	2.2	1.5	6.2	.29	.02	.01
2	.16	.13	.63	1.7	1.4	.77	1.7	1.6	3.9	.23	.02	.01
3	.16	.13	.54	1.8	1.4	.75	1.6	.96	2.9	.13	.02	.01
4	.13	.13	.57	1.9	1.6	.79	1.4	.78	2.4	.11	.04	.02
5	.15	.14	.58	1.7	1.4	.85	1.1	.65	2.3	.08	.03	.02
6	.16	.17	.66	1.5	1.3	.84	.84	.64	2.0	.09	.03	.02
7	.16	.21	.66	1.3	1.3	.88	.85	20	1.7	.08	.03	.02
8	.13	.30	.69	1.2	1.9	.84	.62	3.3	1.5	.09	.05	.03
9	.13	.49	.66	1.2	2.0	.89	.46	1.7	1.5	.10	.06	.04
10	.13	.27	.71	1.2	2.4	.96	.42	1.9	1.3	.13	.06	.07
11	.11	.23	.64	1.2	2.5	.69	.40	1.3	1.4	.14	.07	.07
12	.10	.23	1.1	.97	2.5	.74	.43	1.3	1.5	.13	.08	.05
13	.10	.19	1.2	.99	2.7	.67	.50	1.0	1.4	.14	.08	.07
14	.09	.31	1.6	1.2	2.5	.52	.44	1.1	1.4	.12	.10	.10
15	.10	.32	1.3	1.1	2.2	.66	.45	12	1.7	.14	.11	.10
16	.11	.32	1.4	.98	2.0	.62	.36	41	1.7	.12	.13	.11
17	.10	.34	2.0	1.0	1.8	.53	.32	9.4	1.6	.11	.15	.14
18	.13	.33	2.6	1.0	1.7	.52	.33	62	1.4	.08	.15	.15
19	.12	.33	2.0	1.9	1.7	.54	.32	82	1.2	.09	1.6	.16
20	.08	.38	1.5	2.0	1.3	.60	.28	26	1.1	.08	.31	.15
21	.05	.36	1.2	1.4	1.2	.58	.25	15	1.6	.10	.03	.15
22	.05	.38	1.2	1.4	1.3	.52	.23	8.7	2.8	.16	.02	.16
23	.06	.36	2.3	1.6	1.2	.58	.25	4.8	.94	.07	.00	.40
24	.06	.39	1.9	1.6	1.6	.58	.32	3.6	1.2	.06	.00	.43
25	.05	.47	1.5	1.5	1.3	.52	.43	2.8	1.9	.04	.06	204
26	.05	.36	1.4	1.5	1.0	.66	.34	32	1.5	.04	.29	667
27	.05	.32	1.4	1.4	1.0	.84	.28	38	.98	.04	.10	380
28	.06	.33	5.3	1.4	1.0	1.0	.21	833	.74	.04	.02	4310
29	.07	.32	1.9	1.3	.92	.94	.16	246	.50	.03	.01	6730
30	.12	.41	2.7	1.4	---	1.4	1.4	32	.37	.03	.00	4950
31	.12	---	2.3	1.4	---	2.9	---	12	---	.02	.00	---
TOTAL	3.25	8.79	44.88	43.54	47.52	24.99	18.89	1498.03	52.63	3.11	3.67	17243.49
MEAN	.10	.29	1.45	1.40	1.64	.81	.63	48.3	1.75	.10	.12	575
MAX	.16	.49	5.3	2.0	2.7	2.9	2.2	833	6.2	.29	1.6	6730
MIN	.05	.13	.54	.97	.92	.52	.16	.64	.37	.02	.00	.01
CFSM	.000	.001	.003	.003	.003	.002	.001	.10	.004	.000	.000	1.20
IN.	.00	.00	.00	.00	.00	.00	.00	.12	.00	.00	.00	1.34
AC-FT	6.4	17	89	86	94	50	37	2970	104	6.2	7.3	34200

CAL YR 1979	TOTAL	6215.28	MEAN 17.0	MAX 1820	MIN .05	CFSM .04	IN .48	AC-FT 12330				
WTR YR 1980	TOTAL	18992.79	MEAN 51.9	MAX 6730	MIN .00	CFSM .11	IN 1.48	AC-FT 37670				

08085500 CLEAR FORK BRAZOS RIVER AT FORT GRIFFIN, TX

LOCATION.--Lat 32°56'04", long 99°13'27", Shackelford County, Hydrologic Unit 12060104, on right bank just downstream from pier of bridge on old Fort Griffin-Throckmorton Road, 0.4 mi (0.6 km) northeast of Fort Griffin, 1.0 mi (1.6 km) upstream from bridge on U.S. Highway 283, 1.7 mi (2.7 km) upstream from Mill Creek, and 74.6 mi (120.0 km) upstream from mouth.

DRAINAGE AREA.--3,988 mi^2 (10,329 km^2).

PERIOD OF RECORD.--December 1923 to current year.

REVISED RECORDS.--WSP 1392: 1949. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,174.09 ft (357.863 m) National Geodetic Vertical Datum of 1929. Prior to June 23, 1932, nonrecording gage at same site and datum.

REMARKS.--Records good. Diversions above station for irrigation, municipal supply, and oilfield operations materially affect low flow. Gage-height telemeter at station.

AVERAGE DISCHARGE.--56 years (water years 1925-80), 223 ft^3/s (6.315 m^3/s), 161,600 acre-ft/yr (199 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 149,000 ft^3/s (4,220 m^3/s) Aug. 4, 1978, gage height, 38.88 ft (11.851 m), from floodmark, from rating curve extended above 33,600 ft^3/s (952 m^3/s) on basis of contracted-opening and flow-over-road measurement of peak flow; no flow at times.
Maximum stage since 1876, that of Aug. 4, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1900 reached a stage of 38.0 ft (11.58 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,200 ft^3/s (685 m^3/s) Sept. 30, stage rising, peak occurred Oct. 1, 1980; maximum peak discharge, 3,980 ft^3/s (113 m^3/s) May 29, gage height, 12.94 ft (3.994 m), no other peak above base of 3,900 ft^3/s (110 m^3/s); no flow July 23 to Aug. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	1.8	18	43	21	31	10	6.9	185	16	.00	3.8
2	.32	2.0	19	38	21	30	10	10	126	12	.00	2.5
3	.35	1.8	17	30	20	29	11	12	87	9.9	.00	1.3
4	.31	1.7	19	27	19	28	12	15	59	7.8	.00	1.1
5	.29	1.8	21	24	20	27	13	16	44	6.1	.00	.98
6	.33	2.0	21	23	21	31	13	11	34	4.7	.00	.79
7	.37	2.1	18	29	21	35	12	9.5	28	3.6	.00	.68
8	.38	2.1	16	28	24	34	12	10	25	2.9	.00	.76
9	.41	2.2	15	27	25	37	13	11	23	2.3	.00	1.1
10	.30	5.8	14	27	26	30	12	11	19	2.2	.00	3.8
11	.31	19	14	26	29	24	12	18	16	1.9	.00	2.5
12	.32	21	15	26	32	24	11	19	14	1.3	.00	1.5
13	.35	19	16	25	32	21	15	21	12	.86	.00	.92
14	.29	16	18	25	30	19	17	16	11	.64	.00	254
15	.39	14	19	26	31	17	25	100	10	.44	.00	122
16	.45	16	20	26	29	17	24	64	11	.19	.00	88
17	.75	15	19	28	29	17	21	21	10	.20	.00	100
18	.91	16	19	28	28	13	21	16	9.0	.16	.00	92
19	.98	16	18	28	26	13	25	28	8.2	.10	.00	71
20	.97	15	18	29	24	11	24	374	7.1	.10	.00	65
21	1.0	19	18	31	25	11	18	278	7.4	.06	.00	33
22	.84	31	17	32	25	13	15	155	94	.04	.00	22
23	.72	27	18	29	23	12	13	87	94	.00	8.9	67
24	.72	25	19	27	22	12	26	63	128	.00	42	36
25	.80	25	19	26	27	12	29	119	152	.00	31	81
26	.88	21	19	26	29	13	9.9	568	107	.00	38	280
27	1.0	16	19	28	30	13	8.4	74	71	.00	36	1190
28	.93	16	31	25	31	14	7.5	145	48	.00	34	6710
29	.92	16	32	23	31	15	6.7	2320	30	.00	21	15900
30	1.6	16	28	22	---	14	6.7	1270	21	.00	9.5	21700
31	1.8	---	27	21	---	12	---	276	---	.00	5.4	---
TOTAL	20.51	402.3	601	853	751	629	453.2	6144.4	1490.7	73.49	225.80	46832.73
MEAN	.66	13.4	19.4	27.5	25.9	20.3	15.1	198	49.7	2.37	7.28	1561
MAX	1.8	31	32	43	32	37	29	2320	185	16	42	21700
MIN	.29	1.7	14	21	19	11	6.7	6.9	7.1	.00	.00	.68
AC-FT	41	798	1190	1690	1490	1250	899	12190	2960	146	448	92890

CAL YR 1979 TOTAL 34115.63 MEAN 93.5 MAX 3760 MIN .29 AC-FT 67670
WTR YR 1980 TOTAL 58477.13 MEAN 160 MAX 21700 MIN .00 AC-FT 116000

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX

LOCATION.--Lat 32°42'27", long 99°16'29", Shackelford County, Hydrologic Unit 12060105, on downstream side of bridge on U.S. Highway 6, 1.7 mi (2.7 km) southeast of Albany, and 2.0 mi (3.2 km) upstream from Salt Prong Hubbard Creek.

DRAINAGE AREA.--39.3 mi^2 (101.8 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1962 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,340.54 ft (408.597 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. No diversion above station.

AVERAGE DISCHARGE.--17 years (water years 1964-80), 7.16 ft^3/s (0.203 m^3/s), 2.47 in/yr (63 mm/yr), 5,190 acre-ft/yr (6.40 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft^3/s (2,920 m^3/s) Aug. 4, 1978, gage height, 23.3 ft (7.10 m), from floodmarks, from rating curve extended above 1,500 ft^3/s (42.5 m^3/s) on basis of slope-area measurement of 4,570 ft^3/s (129 m^3/s), contracted-opening measurement of 9,520 ft^3/s (270 m^3/s), and computation of flow-through-culvert, contracted-opening, and flow-over-road determinations of 103,000 ft^3/s (2,920 m^3/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood information begins in 1940. Floods of June 10, 1940, and July 18, 1953, reached stages of about 21 ft (6.4 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft^3/s (2.83 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 26	0200	118	3.34	3.55	1.082
Sept. 29	1500	*284	8.04	4.23	1.289

Minimum discharge, 0.09 ft^3/s (0.003 m^3/s) Sept. 21-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.26	.42	.81	.67	.67	.94	.32	.63	.18	.18	.19
2	.26	.27	.42	.82	.61	.61	.98	.30	.56	.19	.17	.18
3	.27	.27	.48	.79	.61	.51	.94	.28	.51	.17	.17	.18
4	.25	.29	.46	.74	.61	.47	.82	.29	.51	.13	.18	.18
5	.26	.29	.47	.74	.56	.46	.84	.27	.49	.14	.19	.19
6	.27	.27	.48	.80	.56	.48	.76	.30	.44	.14	.17	.17
7	.27	.28	.43	.74	.58	.49	.66	.54	.37	.15	.18	.19
8	.23	.32	.44	.74	.67	.48	.57	7.7	.40	.17	.17	.19
9	.22	.30	.46	.75	.81	.51	.59	1.5	.44	.17	.18	.24
10	.25	.30	.47	.85	1.1	.51	.66	.69	.46	.17	.18	.29
11	.27	.30	.43	.79	.89	.55	.65	.53	.46	.17	.19	.25
12	.27	.30	.55	.67	.81	.51	.58	.46	.48	.17	.21	.21
13	.27	.30	.55	.67	.81	.51	.65	.42	.46	.17	.22	.19
14	.26	.31	.53	.69	.81	.57	.61	.43	.44	.17	.21	.16
15	.27	.30	.56	.67	.81	.67	.65	14	.40	.17	.19	.14
16	.27	.32	.51	.67	.81	.74	.60	3.0	.39	.16	.19	.13
17	.27	.36	.51	.67	.81	.61	.51	.95	.38	.20	.25	.11
18	.27	.37	.51	.71	.81	.65	.50	.61	.35	.21	.49	.11
19	.26	.37	.51	.72	.77	.67	.54	.56	.30	.23	.36	.12
20	.23	.42	.51	.67	.68	.60	.52	.57	.31	.25	.31	.11
21	.22	.48	.51	.74	.55	.65	.51	1.4	.34	.27	.26	.10
22	.19	.41	.53	3.0	.65	.78	.50	.94	1.5	.31	.27	.09
23	.18	.43	1.9	1.4	.67	.72	.47	.64	1.7	.35	.27	.14
24	.21	.46	1.6	.93	.74	.65	.42	.54	.66	.34	.26	.16
25	.22	.45	.89	.81	.74	.75	.39	.58	.39	.33	.23	23
26	.22	.44	.84	.75	.74	.82	.35	29	.28	.29	.22	12
27	.22	.42	.68	.67	.75	1.4	.40	3.1	.26	.38	.22	12
28	.22	.40	4.2	.67	.74	2.4	.39	4.2	.21	.31	.21	21
29	.23	.36	2.3	.74	.74	1.2	.39	1.5	.18	.25	.22	59
30	.33	.38	1.0	.74	---	.97	.29	.97	.21	.21	.22	36
31	.24	---	.80	.67	---	.96	---	.77	---	.20	.21	---
TOTAL	7.68	10.43	24.95	25.83	21.11	22.57	17.68	77.36	14.51	6.75	6.98	167.02
MEAN	.25	.35	.80	.83	.73	.73	.59	2.50	.48	.22	.23	5.57
MAX	.33	.48	4.2	3.0	1.1	2.4	.98	29	1.7	.38	.49	59
MIN	.18	.26	.42	.67	.55	.46	.29	.27	.18	.13	.17	.09
CFSM	.006	.009	.02	.02	.02	.02	.02	.06	.01	.006	.006	.14
IN.	.01	.01	.02	.02	.02	.02	.02	.07	.01	.01	.01	.16
AC-FT	15	21	49	51	42	45	35	153	29	13	14	331

CAL YR 1979	TOTAL	1204.90	MEAN	3.30	MAX	300	MIN	.18	CFSM	.08	IN	1.14	AC-FT	2390
WTR YR 1980	TOTAL	402.87	MEAN	1.10	MAX	59	MIN	.09	CFSM	.03	IN	.38	AC-FT	799

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: November 1962 to current year. Sediment records: October 1967 to September 1975.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1962 to current year.
WATER TEMPERATURES: November 1962 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specitic conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 9,750 micromhos Sept. 28-30, 1968; minimum measured daily, 408 micromhos Sept. 16, 1974; minimum estimated daily, 149 micromhos Aug. 4, 1978.
WATER TEMPERATURES (1962-69, 1974-76): Maximum daily, 33.0°C July 11, 1964; minimum daily, 0.0°C Jan. 12, 1963, Jan. 29, 1966.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,310 micromhos Sept. 18; minimum daily, 720 micromhos Sept. 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 09...	1025	.26	5400	7.7	20.0	1300	1100	330	110	650
NOV 13...	1105	.30	5600	--	12.0	1400	1300	350	130	600
JAN 07...	1605	.72	5280	--	8.0	1200	1100	310	110	590
FEB 05...	1730	.56	5200	--	12.0	1300	1200	320	120	570
MAR 03...	1135	.58	5480	--	7.0	1300	1200	340	110	620
APR 02...	0830	.96	5830	--	16.5	1300	1200	340	120	620
MAY 28...	1225	4.9	2880	--	27.0	620	520	170	48	320
JUN 19...	0855	.30	4240	--	27.0	960	800	250	81	590
SEP 30...	1600	231	1440	--	22.0	310	210	92	20	160

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 09...	7.9	5.1	190	0	170	1700	.2	14	3070
NOV 13...	7.0	5.3	180	0	190	1700	.3	11	3080
JAN 07...	7.3	4.5	170	0	160	1600	.3	8.2	2870
FEB 05...	6.9	4.1	170	0	160	1600	.3	7.2	2870
MAR 03...	7.5	4.4	170	0	120	1700	.5	7.6	2990
APR 02...	7.4	4.2	170	0	160	1700	.3	4.2	3030
MAY 28...	5.6	5.3	120	0	65	830	.4	5.2	1500
JUN 19...	8.3	5.1	190	0	130	1400	.4	8.6	2560
SEP 30...	3.9	5.2	130	0	25	390	.3	14	770

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	7.68	5060	2750	57	1500	31	150	3.1	1200
NOV.	1979	10.43	5300	2880	81	1600	45	160	4.4	1200
DEC.	1979	24.95	5300	2880	194	1600	107	160	11	1200
JAN.	1980	25.83	5000	2720	190	1500	104	150	10	1100
FEB.	1980	21.11	5250	2850	163	1600	90	160	8.9	1200
MAR.	1980	22.57	5470	2970	181	1600	100	160	9.9	1300
APR.	1980	17.68	5730	3100	148	1700	82	170	8.1	1300
MAY	1980	77.36	2590	1430	299	760	158	76	16	580
JUNE	1980	14.51	4090	2240	88	1200	47	120	4.7	930
JULY	1980	6.75	5210	2830	52	1600	28	150	2.8	1200
AUG.	1980	6.98	5580	3030	57	1700	32	170	3.1	1300
SEPT	1980	167.02	1760	978	441	520	233	52	23	400
TOTAL		402.87	**	**	1950	**	1060	**	105	**
WTD. AVG.		1.1	3270	1790	**	970	**	97	**	750

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4750	5400	5480	4320	5420	5420	5680	5820	3310	4720	5390	5900
2	4600	5440	5490	5300	5420	5430	5750	5840	3350	4810	5510	5850
3	4420	5520	5510	5280	5400	5440	5730	5900	3400	4700	5250	5900
4	4840	5490	5550	5250	5440	4890	5700	5860	3390	4780	5360	5980
5	5250	5400	5570	5220	5360	5400	5680	5870	3520	4830	5440	5370
6	4780	5450	5210	5010	5300	5450	5750	5630	3600	4900	5550	5780
7	5020	5520	5510	5250	5350	5480	5770	5690	3650	4950	5470	5570
8	5250	5480	5400	5230	5340	5490	5790	3500	3520	5030	5480	5820
9	4260	5240	5000	5170	5310	5460	5800	4100	3750	5070	5590	4630
10	4590	5300	4850	5000	5280	5450	5810	4610	3960	5080	5670	5830
11	4900	5390	5450	5130	5400	5500	5800	4850	3840	5100	5750	5300
12	5140	5320	4750	4800	5350	5550	5790	5050	3950	5140	5500	4800
13	5350	5030	5380	4810	5280	5560	5650	5040	4070	5210	5580	5150
14	4750	4060	5420	4820	5270	5520	5800	4940	3970	5290	5600	5450
15	4260	5370	5000	4970	5220	5470	5570	3360	4080	5410	5640	5700
16	5370	5520	5210	5120	5320	5480	5680	2720	4160	5550	6030	5900
17	5290	5320	5390	5230	5310	5540	5710	2690	4090	5420	5480	6120
18	5310	5290	5470	4670	5310	5590	5680	2760	4010	5400	5500	6310
19	5380	5280	5350	4590	5340	5640	5710	2830	4240	5370	5540	5990
20	5450	5180	5240	4750	5280	5680	5700	2890	4470	5340	5590	5920
21	5430	5100	5270	4800	4530	5650	5670	2940	4300	5330	5550	6040
22	5450	5480	5230	4500	4600	5600	5720	3050	4580	5300	5590	6000
23	5460	5410	5000	4650	4660	5650	5670	3160	4670	5260	5620	4260
24	4950	4650	5050	5350	4730	5690	5730	3230	4550	5280	5650	5970
25	5210	5560	5270	5330	5390	5660	5760	3360	4430	5310	5700	4770
26	5440	5480	5450	5300	5340	5640	5800	1260	4570	5290	5710	2440
27	4890	5530	5620	5360	5330	5210	5810	2000	4580	5310	5760	1110
28	5200	5450	5360	5380	5350	5070	5830	2980	4560	5300	5520	1200
29	5280	5340	5400	5400	5420	5350	5800	3360	4600	5280	5600	720
30	5450	5260	5450	5390	---	5720	5780	3250	4640	5270	5690	1450
31	5400	---	5340	5420	---	5730	---	3300	---	5350	5770	---
MEAN	5070	5310	5310	5060	5240	5500	5740	3930	4060	5170	5580	4910

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	13.0	---	11.0	---	---	18.0	19.0	---	---	29.0	30.0
2	---	---	10.0	10.0	10.0	---	20.0	21.0	30.0	33.0	29.0	29.0
3	24.0	---	---	---	11.0	15.0	---	---	30.0	32.0	28.0	30.0
4	21.0	16.0	---	---	---	14.0	---	---	32.0	30.0	---	---
5	24.0	14.0	14.0	11.0	12.0	12.0	---	---	36.0	---	31.0	30.0
6	21.0	---	13.0	---	12.0	---	16.0	22.0	---	---	29.0	30.0
7	---	13.0	10.0	8.0	10.0	14.0	18.0	22.0	29.0	---	28.0	28.0
8	21.0	15.0	---	---	---	---	18.0	20.0	27.0	---	30.0	28.0
9	19.0	12.0	---	10.0	---	---	19.0	22.0	---	---	---	27.0
10	19.0	---	14.0	---	---	13.0	12.0	21.0	32.0	---	---	28.0
11	21.0	13.0	15.0	10.0	10.0	---	---	---	31.0	---	30.0	---
12	---	12.0	9.0	11.0	---	15.0	14.0	25.0	---	---	29.0	29.0
13	20.0	14.0	9.0	---	12.0	14.0	10.0	23.0	30.0	---	30.0	---
14	---	12.0	---	14.0	15.0	---	10.0	18.0	31.0	---	---	28.0
15	21.0	14.0	11.0	---	10.0	17.0	---	19.0	---	---	30.0	---
16	24.0	15.0	---	13.0	6.0	16.0	18.0	21.0	29.0	---	29.0	29.0
17	23.0	18.0	8.0	14.0	---	---	---	21.0	32.0	---	27.0	---
18	21.0	---	10.0	13.0	15.0	13.0	20.0	---	33.0	---	30.0	30.0
19	---	---	---	---	16.0	---	21.0	27.0	---	---	---	30.0
20	24.0	---	13.0	---	18.0	15.0	---	---	33.0	---	29.0	29.0
21	25.0	14.0	---	9.0	17.0	---	18.0	27.0	33.0	---	31.0	---
22	---	12.0	15.0	---	---	---	17.0	---	28.0	---	30.0	---
23	22.0	12.0	---	10.0	---	---	22.0	30.0	32.0	---	---	20.0
24	19.0	14.0	---	11.0	14.0	12.0	21.0	32.0	---	29.0	30.0	18.0
25	---	12.0	12.0	---	11.0	---	20.0	31.0	35.0	30.0	30.0	22.0
26	20.0	13.0	---	11.0	12.0	13.0	19.0	26.0	31.0	26.0	31.0	22.0
27	19.0	11.0	12.0	---	---	15.0	---	30.0	---	29.0	29.0	18.0
28	19.0	9.0	10.0	6.0	17.0	---	21.0	27.0	35.0	---	30.0	17.0
29	---	---	---	6.0	10.0	---	---	26.0	---	---	---	18.0
30	16.0	9.0	10.0	6.0	---	12.0	19.0	26.0	32.0	30.0	---	22.0
31	14.0	---	9.0	4.0	---	17.0	---	---	---	30.0	27.0	---
MEAN	21.0	13.0	11.5	10.0	12.5	14.0	17.5	24.0	31.5	30.0	29.5	25.5

08086212 HUBBARD CREEK BELOW ALBANY, TX

LOCATION.--Lat 32°43'58", long 99°08'25", Shackelford County, Hydrologic Unit 12060105, on left bank 0.5 mi (0.8 km) downstream from Salt Prong Hubbard Creek, 2.8 mi (4.5 km) upstream from Newcomb Creek, 4.5 mi (7.2 km) upstream from U.S. Highway 180, 9.1 mi (14.6 km) east of Albany, 22.6 mi (36.4 km) upstream from Hubbard Creek Reservoir, and 35.2 mi (56.6 km) upstream from mouth. Water-quality sampling site on left bank 0.5 mi (0.8 km) downstream.

DRAINAGE AREA.--613 mi² (1,588 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,184.99 ft (361.185 m) National Geodetic Vertical Datum of 1929. Prior to June 12, 1968, water-stage recorder at site 2.1 mi (3.4 km) downstream at datum 7.63 ft (2.326 m) lower.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--14 years, 70.7 ft³/s (2.002 m³/s), 1.57 in/yr (40 mm/yr), 51,220 acre-ft/yr (63.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 330,000 ft³/s (9,350 m³/s) Aug. 4, 1978, gage height, 41.41 ft (12.622 m), from floodmark, from rating curve extended above 110 ft³/s (3.12 m³/s) on basis of step-backwater method and computation of flow-through culverts, contracted-openings, and flow-over-road determination of 330,000 ft³/s (9,350 m³/s) at site 4.5 mi (7.2 km) downstream; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,180 ft³/s (61.7 m³/s) Sept. 29 at 1100 hours, gage height, 9.92 ft (3.024 m), no other peak above base of 2,000 ft³/s (56.6 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.00	.00	1.9	.96	.81	.51	.14	3.9	.07	.59	.00
2	.00	.00	.00	1.3	.86	.81	.51	1.8	3.0	.03	.45	.00
3	.00	.00	.00	1.2	.81	.81	.43	.78	2.6	.11	.28	.00
4	.00	.00	.00	1.1	.77	.81	.51	.47	2.2	.08	.26	.00
5	.01	.00	.00	1.0	.72	.81	.43	.36	1.7	.15	.19	.00
6	.01	.00	.00	.92	.62	.81	.27	.32	1.5	.27	.06	.00
7	.00	.00	.00	.81	.51	.81	.17	.66	1.3	.27	.01	.00
8	.00	.00	.00	.82	.51	.72	.19	1.3	7.3	.24	.00	.00
9	.00	.00	.00	.81	.61	.61	.42	1.7	42	.20	.00	.00
10	.00	.00	.00	.78	.67	.61	.37	1.3	12	.09	.00	.00
11	.00	.00	.04	.72	1.0	.61	.71	1.8	5.3	.07	.00	.00
12	.00	.00	.14	.72	1.2	.61	.62	1.5	2.5	.02	.00	.00
13	.00	.00	.14	.72	1.2	.61	.37	1.2	1.5	.01	.00	.00
14	.00	.00	.14	.72	1.2	.61	.23	1.0	1.0	.00	.00	.00
15	.00	.00	.17	.61	1.2	.61	.14	22	.70	.00	.00	.00
16	.00	.00	.22	.61	1.2	.61	.19	34	.61	.00	.00	.00
17	.00	.00	.22	.61	1.2	.72	.14	13	.38	.00	.03	.00
18	.00	.00	.22	.55	1.2	.61	.08	6.1	.22	.00	.78	.00
19	.00	.00	.22	.51	.99	.51	.08	3.7	.19	.00	.62	.00
20	.00	.00	.22	.51	.90	.61	.16	3.1	.14	.00	.12	.00
21	.00	.00	.22	.51	.90	.72	.26	22	.14	.00	.00	.00
22	.00	.00	.22	1.1	.85	.72	.18	6.3	19	.34	.00	.00
23	.00	.00	.43	1.3	.81	.72	.18	3.0	56	.11	.00	.00
24	.00	.00	.81	1.1	.81	.72	.26	2.0	17	.12	.00	.00
25	.00	.00	.73	1.0	.81	.72	.20	1.5	7.3	.44	.00	.00
26	.00	.00	.47	1.1	.81	.72	.22	390	4.2	.61	.00	.00
27	.00	.00	.41	1.1	.81	.72	.22	41	2.0	.65	.00	.72
28	.00	.00	2.5	1.1	.81	.61	.19	27	.87	.71	.00	236
29	.00	.00	3.7	1.0	.81	.81	.14	20	.48	.61	.00	1060
30	.00	.00	2.2	1.0	---	.81	.14	11	.21	.67	.00	434
31	.00	---	2.2	1.0	---	.72	---	6.1	---	.77	.00	---
TOTAL	.15	.00	15.62	28.23	25.75	21.71	8.52	626.13	197.24	6.64	3.39	1730.72
MEAN	.005	.000	.50	.91	.89	.70	.28	20.2	6.57	.21	.11	57.7
MAX	.13	.00	3.7	1.9	1.2	.81	.71	390	56	.77	.78	1060
MIN	.00	.00	.00	.51	.51	.51	.08	.14	.14	.00	.00	.00
CFSM	.000	.000	.001	.001	.001	.001	.000	.03	.01	.000	.000	.09
IN.	.00	.00	.00	.00	.00	.00	.00	.04	.01	.00	.00	.11
AC-FT	.3	.00	31	56	51	43	17	1240	391	13	6.7	3430

CAL YR 1979	TOTAL	23817.52	MEAN	65.3	MAX	7160	MIN	.00	CFSM	.11	IN	1.45	AC-FT	47240
WTR YR 1980	TOTAL	2664.10	MEAN	7.28	MAX	1060	MIN	.00	CFSM	.01	IN	.16	AC-FT	5280

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1966 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1966 to current year.
WATER TEMPERATURES: October 1966 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specitic conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (1966-70, 1972-80): Maximum daily, 21,200 micromhos Feb. 15, 21, 1978; minimum measured daily, 253 micromhos Sept. 8, 1967; minimum estimated daily, 129 micromhos Aug. 4, 1978.
WATER TEMPERATURES (1966-77, 1979): Maximum daily, 37.0°C July 11, 1969; minimum daily, 0.0°C Dec. 11, 1972, Jan. 8, 10, 1973.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 10,200 micromhos Dec. 11; minimum daily, 323 micromhos Sept. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
DEC 17...	1340	.21	7950	1.5	1400	1300	350	120	1100
JAN 08...	1100	.80	5120	5.5	1100	1000	300	97	620
FEB 04...	1510	.73	4770	12.0	1100	980	290	95	570
MAR 03...	1325	.83	5000	7.0	1100	990	290	94	620
APR 30...	1100	.12	6580	21.5	1300	1200	340	110	840
MAY 28...	1415	29	756	27.5	180	110	52	13	78
JUN 19...	1025	.25	2430	28.0	490	370	130	40	290
AUG 06...	1130	.09	6450	26.5	1200	1100	300	120	920

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
DEC 17...	13	8.6	130	0	270	2500	.2	4.0	4420
JAN 08...	8.0	6.8	160	0	240	1500	.2	4.4	2850
FEB 04...	7.4	6.5	170	0	250	1400	.3	3.5	2700
MAR 03...	8.1	6.1	150	0	250	1500	.2	1.5	2840
APR 30...	10	7.3	120	0	280	2000	.3	1.1	3640
MAY 28...	2.5	5.6	90	0	--	--	.2	7.0	--
JUN 19...	5.7	6.7	140	0	85	660	.2	5.7	1290
AUG 06...	11	19	100	0	440	2000	.4	9.2	3830

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	0.15	3800	2080	0.8	1100	0.4	170	0.07	780
NOV.	1979	0.00	*	*	0.00	*	0.00	*	0.00	*
DEC.	1979	15.62	5760	3240	137	1700	73	230	9.7	1200
JAN.	1980	28.23	5010	2780	212	1500	112	210	16	1000
FEB.	1980	25.75	4670	2590	180	1400	95	200	14	950
MAR.	1980	21.71	5170	2880	169	1500	89	210	13	1000
APR.	1980	8.52	5810	3260	75	1700	40	230	5.4	1200
MAY	1980	626.13	1310	703	1190	360	610	61	103	270
JUNE	1980	197.24	1190	632	337	320	171	58	31	250
JULY	1980	6.64	5750	3230	58	1700	31	230	4.2	1200
AUG.	1980	3.39	6140	3470	32	1900	17	240	2.2	1200
SEPT	1980	1730.72	1370	734	3430	380	1760	63	295	280
TOTAL		2664.10	**	**	5820	**	3000	**	492	**
WTD. AVG.		7.3	1500	809	**	420	**	68	**	310

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3780		---	4640	4960	4960	5240	6640	1350	3970	6100	---
2	---		---	4500	4840	5000	5350	6350	1450	4050	6150	---
3	---		---	4830	4720	5000	5370	6400	1590	3910	6300	---
4	---		---	5030	4770	4930	5340	6440	1850	4260	6350	---
5	3900		---	5030	4710	4960	5390	6510	2140	4490	6370	---
6	3950		---	5110	4790	5020	5510	6600	2250	4700	6450	---
7	---		---	5130	4750	5030	5610	6450	2400	4690	6600	---
8	---		---	5120	4890	5040	5670	6000	1750	4750	---	---
9	---		---	5150	4770	5080	5790	5890	1090	4810	---	---
10	---		---	5110	4810	5100	5740	5960	1250	5250	---	---
11	---		10200	5130	4670	5140	5720	5650	1350	5570	---	---
12	---		10100	5200	4690	5150	5750	5700	1400	5740	---	---
13	---		8310	5250	4550	5190	5990	5990	1450	5880	---	---
14	---		7250	5280	4420	5230	5840	6340	1510	---	---	---
15	---		7680	5300	4420	5240	5780	4020	1600	---	---	---
16	---		7450	5310	4590	5240	5830	2890	1690	---	---	---
17	---		7950	5350	4590	5180	5980	3050	1760	---	6450	---
18	---		8020	5340	4560	5200	5990	3160	2150	---	6000	---
19	---		8320	5480	4520	5150	6130	3370	2430	---	6050	---
20	---		8240	5530	4530	5150	6120	3500	2750	---	6340	---
21	---		8170	5330	4580	5220	6150	2380	3100	---	---	---
22	---		8110	4950	4610	5270	6230	1970	994	6050	---	---
23	---		7220	4920	4650	5340	6240	2800	898	6310	---	---
24	---		6210	4940	4720	5350	6290	3750	1000	6250	---	---
25	---		6250	4910	4750	5390	6530	4600	1480	6200	---	---
26	---		6390	4870	4760	5410	6380	724	2000	6130	---	---
27	---		6160	4880	4790	5570	6500	848	2420	6100	---	8400
28	---		5690	4890	4850	5420	6720	756	2900	6080	---	4280
29	---		5360	4940	4880	5210	6690	950	3410	6120	---	1140
30	---		4450	4920	---	5130	6580	1100	3880	6060	---	323
31	---		4650	4900	---	5200	---	1250	---	6020	---	---
MEAN	3880		7250	5070	4690	5180	5950	4130	1910	5360	6290	3540

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	---	---		
2								---	---	---		
3								---	25.0	31.0		
4								---	---	---		
5								---	---	---		
6								---	---	---		
7								---	---	---		
8								22.0	---	---		
9								---	---	---		
10								---	---	32.0		
11								---	26.0	---		
12								24.0	---	---		
13								---	---	---		
14								---	---	---		
15								22.0	---	---		
16								20.0	---	---		
17								24.0	29.0	---		
18								---	---	---		
19								22.0	---	---		
20								22.0	---	---		
21								21.0	---	---		
22								23.0	---	---		
23								---	27.0	---		
24								---	---	---		
25								---	---	---		
26								---	---	---		
27								24.0	---	---		
28								---	---	---		
29								---	---	---		
30								---	---	---		
31								---	---	---		
MEAN								22.5	27.0	31.5		

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX

LOCATION.--Lat 32°38'54", long 99°00'15", Stephens County, Hydrologic Unit 12060105, on left bank 600 ft (180 m) downstream from Battle Creek, 1.6 mi (2.6 km) upstream from bridge on Farm Road 576, 9.8 mi (15.8 km) southwest of Breckenridge, and about 14.6 mi (23.5 km) upstream from Hubbard Creek Dam.

DRAINAGE AREA.--280 mi² (725 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1962 to current year. Prior to October 1975, published as "near Breckenridge."

REVISED RECORDS.--WDR TX-76-2: Drainage area at former site.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,185.83 ft (361.441 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1975, at site 1.6 mi (2.6 km) downstream at datum 7.41 ft (2.259 m) lower.

REMARKS.--Water-discharge records good. Flow is affected by Lake Cisco, capacity 25,600 acre-ft (31.6 hm³).

AVERAGE DISCHARGE.--18 years (water years 1963-80), 26.0 ft³/s (0.736 m³/s), 1.26 in/yr (32 mm/yr), 18,840 acre-ft/yr (23.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,170 ft³/s (231 m³/s) May 13, 1965, gage height, 23.30 ft (7.102 m); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--According to information from State Department of Highways and Public Transportation, the floods of May 16, 1949, July 20, 1953, and Apr. 29, 1957, each reached a stage of 24.6 ft (7.50 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,060 ft³/s (30.0 m³/s) Sept. 29 at 2130 hours, gage height, 7.77 ft (2.368 m), no peak above base of 2,000 ft³/s (56.6 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.16	.05	.00	.01	.00	.05	.00	.00	.00
2	.00	.00	.00	.07	.03	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.02	.02	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.26	.00	.00	.00	.00
8	.00	.00	.00	.00	.04	.00	.00	202	1.1	.00	.00	.00
9	.00	.00	.00	.00	.07	.00	.00	52	2.6	.00	.00	.00
10	.00	.00	.00	.00	.07	.00	.00	8.3	.15	.00	.00	.00
11	.00	.00	.00	.00	.07	.00	.00	2.1	.00	.00	.00	.00
12	.00	.00	.00	.00	.07	.00	.00	.46	.00	.00	.00	.00
13	.00	.00	.00	.00	.07	.00	.00	.09	.00	.00	.00	.00
14	.00	.00	.00	.00	1.1	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.60	.00	.00	1.7	.00	.00	.00	.00
16	.00	.00	.00	.00	.33	.00	.00	11	.00	.00	.00	.00
17	.00	.00	.00	.00	.20	.00	.00	9.9	.00	.00	.00	.00
18	.00	.00	.00	.00	.14	.00	.00	2.2	.00	.00	.00	.00
19	.00	.00	.00	.00	.09	.00	.00	.91	.00	.00	.00	.00
20	.00	.00	.00	.00	.04	.00	.00	1.9	.00	.00	.00	.00
21	.00	.00	.00	.04	.03	.00	.00	26	.00	.00	.00	.00
22	.00	.00	.00	3.7	.01	.00	.00	10	.00	.00	.00	.00
23	.00	.00	.00	14	.00	.00	.00	1.8	.00	.00	.00	.00
24	.00	.00	.00	5.4	.00	.00	.00	.33	.00	.00	.00	.00
25	.00	.00	.00	1.4	.00	.00	.00	.11	.00	.00	.00	.00
26	.00	.00	.00	.65	.00	.00	.00	2.7	.00	.00	.00	.00
27	.00	.00	.00	.33	.00	.00	.00	.67	.00	.00	.00	.09
28	.00	.00	8.4	.17	.00	.03	.00	11	.00	.00	.00	62
29	.00	.00	5.0	.15	.00	.05	.00	4.8	.00	.00	.00	481
30	.00	.00	.88	.14	---	.05	.00	.59	.00	.00	.00	286
31	.00	---	.33	.10	---	.02	---	.14	---	.00	.00	---
TOTAL	.00	.00	14.61	26.33	3.03	.15	.01	350.96	3.90	.00	.00	829.09
MEAN	.000	.000	.47	.85	.10	.005	.000	11.3	.13	.000	.000	27.6
MAX	.00	.00	8.4	14	1.1	.05	.01	202	2.6	.00	.00	481
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.002	.003	.000	.000	.000	.04	.000	.000	.000	.10
IN.	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.11
AC-FT	.00	.00	29	52	6.0	.3	.02	696	7.7	.00	.00	1640

CAL YR 1979	TOTAL	7953.55	MEAN	21.8	MAX	2020	MIN	.00	CFSM	.08	IN	1.06	AC-FT	15780
WTR YR 1980	TOTAL	1228.08	MEAN	3.36	MAX	481	MIN	.00	CFSM	.01	IN	.16	AC-FT	2440

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1962 to current year. Sediment records: October 1967 to September 1975.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1962 to current year.
WATER TEMPERATURES: February 1962 to current year.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specitic conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 28,700 micromhos Apr. 5, 10, 1976; minimum daily, 59 micromhos Nov. 21, 1963.
WATER TEMPERATURES (1976-77): Maximum daily, 31.0°C June 26, 1977; minimum daily, 0.0°C Jan. 9, 10, 1977.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,730 micromhos Apr. 1; minimum daily, 201 micromhos Sept. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
DEC									
30...	1400	1.8	1840	260	200	80	15	250	6.7
JAN									
27...	1700	.25	802	180	74	56	9.8	85	2.8
MAY									
08...	0930	10	11400	--	--	--	--	--	--
09...	0845	13	425	110	31	37	4.5	35	1.4
SEP									
30...	0900	230	207	74	8	26	2.3	10	.5

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
DEC								
30...	7.2	74	0	64	470	.2	5.1	928
JAN								
27...	5.4	130	0	33	160	.2	5.1	419
MAY								
08...	--	--	--	480	3900	--	--	--
09...	4.5	98	0	20	66	.5	7.7	224
SEP								
30...	3.5	80	0	11	21	.2	5.7	119

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	0.00	*	*	0.00	*	0.00	*	0.00	*
NOV.	1979	0.00	*	*	0.00	*	0.00	*	0.00	*
DEC.	1979	14.61	1120	595	23	320	13	44	1.7	180
JAN.	1980	26.33	778	409	29	220	16	30	2.2	130
FEB.	1980	3.03	1530	811	6.6	440	3.6	59	0.5	250
MAR.	1980	0.15	5360	2980	1.2	1600	0.7	210	0.09	920
APR.	1980	0.01	6730	3800	0.1	2100	0.06	270	0.01	1200
MAY	1980	350.96	532	279	264	150	141	21	20	87
JUNE	1980	3.90	715	375	3.9	200	2.1	28	0.3	120
JULY	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
AUG.	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT	1980	829.09	217	113	253	60	135	8.4	19	35
TOTAL		1228.08	**	**	582	**	311	**	43	**
WTD. AVG.		3.4	335	176	**	94	**	13	**	54

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	1920	880	---	6730	---	911			---
2			---	1930	890	---	---	---	---			---
3			---	1950	900	---	---	---	---			---
4			---	---	---	---	---	---	---			---
5			---	---	---	---	---	---	---			---
6			---	---	---	---	---	---	---			---
7			---	---	---	---	---	6000	---			---
8			---	---	818	---	---	556	800			---
9			---	---	797	---	---	436	673			---
10			---	---	815	---	---	413	745			---
11			---	---	845	---	---	500	---			---
12			---	---	871	---	---	745	---			---
13			---	---	1140	---	---	789	---			---
14			---	---	1160	---	---	---	---			---
15			---	---	1570	---	---	950	---			---
16			---	---	2290	---	---	761	---			---
17			---	---	2420	---	---	804	---			---
18			---	---	2450	---	---	484	---			---
19			---	---	2340	---	---	592	---			---
20			---	---	2240	---	---	685	---			---
21			---	1900	2200	---	---	305	---			---
22			---	1000	2210	---	---	450	---			---
23			---	587	---	---	---	627	---			---
24			---	1030	---	---	---	675	---			---
25			---	847	---	---	---	702	---			---
26			---	830	---	---	---	640	---			---
27			---	808	---	---	---	750	---			750
28			606	797	---	4410	---	431	---			350
29			1810	820	---	5170	---	650	---			209
30			1870	835	---	5750	---	807	---			201
31			1920	855	---	6260	---	850	---			---
MEAN			1550	1150	1490	5400	6730	858	782			378

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX

LOCATION.--Lat 32°49'53", long 98°58'03", Stephens County, Hydrologic Unit 12060105, on left bank just upstream from dam on Hubbard Creek, 1.4 mi (2.3 km) upstream from U.S. Highway 183, 6.5 mi (10.5 km) northwest of Breckenridge, and 12.6 mi (20.3 km) upstream from mouth.

DRAINAGE AREA.--1,085 mi² (2,810 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1962 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--The reservoir is formed by a rolled earthfill dam 5,630 ft (1,720 m) long. There are two additional levees, the north and south, making an overall length of 3.5 mi (5.6 km). Storage began September 1962 and the dam was completed in December 1962. The emergency spillway is a 2,000-foot-wide (610 m) cut through natural ground near the left end of dam. The service spillway is a partially controlled morning-glory type, with 12 lift gates designed to discharge 30,000 ft³/s (850 m³/s), with a 17.5-foot (5.3 m) head through a 22.0-foot-diameter (6.7 m) concrete conduit. The dam is the property of the West Central Texas Municipal Water District. The District has a permit to divert 56,000 acre-ft (69.0 hm³) annually for municipal, mining, and industrial uses. Diversions during the current year are as follows: 9,300 acre-ft (11.5 hm³) for municipal use, 3,990 acre-ft (4.92 hm³) for oilfield operation, and 1,720 acre-ft (2.12 hm³) for irrigation and domestic uses. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	1,208.0	-
Crest of spillway	1,194.0	515,800
Top of gates	1,185.1	350,900
Top of conservation pool	1,183.0	317,800
Crest of spillway	1,176.6	230,100
Sill of gate	1,138.0	5,580
Lowest gated outlet (invert)	1,136.0	3,470

COOPERATION.--The diversions and capacity table were furnished by the West Central Texas Municipal Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 401,500 acre-ft (495 hm³) Aug. 5, 1978, elevation, 1,188.06 ft (362.121 m); minimum since normal operating level was reached in May 1969, 171,200 acre-ft (211 hm³) Oct. 18-20, 1972, elevation, 1,171.3 ft (357.01 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 283,300 acre-ft (349 hm³) Oct. 1 at 0100 hours, elevation, 1,180.65 ft (359.862 m); minimum, 223,400 acre-ft (275 hm³) Sept. 24, elevation, 1,176.05 ft (358.460 m).

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

1,175.0	211,000	1,179.0	260,700
1,177.0	235,000	1,181.0	288,300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	282900	274000	268300	269400	267600	265600	262000	256600	262200	253900	239500	230000
2	282500	274000	268400	268900	267600	265700	262000	256500	262000	253200	239000	229400
3	282100	274100	268100	268800	267700	265800	261600	256500	261600	252700	238400	229300
4	281700	273600	268100	268700	267900	265000	261400	256400	261400	252200	238000	228900
5	281200	273000	267700	268500	267700	265200	261200	256100	261000	251700	237400	228600
6	280800	272900	267900	268300	267500	265400	261000	257000	261000	251100	237300	228000
7	280700	273000	267600	268400	267500	265200	260400	257400	261000	250700	236900	227800
8	280300	272900	267500	268300	267600	265000	260200	257600	260200	250400	236400	227500
9	279700	272500	267300	268400	268000	264900	260200	257600	259900	249700	236000	227900
10	279800	272100	268000	268100	268100	264900	259900	257800	259600	249400	235700	227900
11	279400	271900	266800	268000	268100	265000	259400	257700	259400	249000	235400	227700
12	279000	271800	267900	268100	268100	264300	259000	257600	259000	248700	235200	227400
13	278400	271900	267700	268000	268300	264100	258900	257000	258600	248100	234900	227100
14	278700	271700	268000	268100	268400	263900	258700	257200	258100	247500	234400	226800
15	278400	271700	267900	268000	267900	263400	258700	260300	257800	247100	234000	226500
16	278400	271400	267300	268000	267900	263100	258200	260400	257300	246500	233400	225700
17	278400	271400	267300	268000	267900	263700	257700	260600	257400	246100	235200	225400
18	278300	271400	267500	268100	268000	263400	257700	260000	257000	245600	234700	225400
19	278400	271500	267200	267600	267900	263400	257900	260200	256800	245100	234500	224700
20	278000	271500	267300	267900	267200	262600	257600	260200	256600	244600	234100	224500
21	277700	270800	267300	268300	267700	262700	257400	260400	256400	244100	233800	223800
22	276900	270700	267300	268700	267600	262500	257300	260600	256500	243800	233400	223500
23	276500	270600	268300	268900	267200	262600	257200	260400	256800	243300	233200	223500
24	276300	270200	268300	268900	267100	262200	258100	260300	256600	242900	232800	225400
25	276100	270200	268300	268700	266600	261900	257700	260200	256200	242300	232400	226100
26	276100	269900	268000	268300	266900	261900	257300	263100	256000	242100	232100	226200
27	275400	269200	267900	268000	266900	262900	257300	263100	255600	241600	231600	228900
28	275200	269100	269400	267700	266900	262300	257000	263400	255200	241400	231500	233200
29	274900	268500	269400	267900	266200	262600	257300	262900	254700	240900	231500	240800
30	274800	268700	269200	267500	---	262300	256900	263000	254000	240500	231000	242600
31	274200	---	269200	267300	---	262000	---	262900	---	240000	230500	---
MAX	282900	274100	269400	269400	268400	265800	262000	263400	262200	253900	239500	242600
MIN	274200	268500	266800	267300	266200	261900	256900	256100	254000	240000	230500	223500
(†)	1180.00	1179.59	1179.63	1179.49	1179.41	1179.10	1178.71	1179.16	1178.49	1177.40	1176.63	1177.60
(‡)	-9100	-5500	+500	-1900	-1100	-4200	-5100	+6000	-8900	-14000	-9500	+12100

CAL YR 1979 MAX 328300 MIN 266800 ‡ -9000
WTR YR 1980 MAX 282900 MIN 223500 ‡ -40700

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

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1963 to current year.

324932098575101 HUBBARD CREEK RESERVOIR SITE P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
JAN										
16...	0927	1.0	985	8.1	9.0	1.00	10.5	95	230	120
16...	0929	10	985	8.1	8.6	--	10.5	93	--	--
16...	0931	20	985	8.1	8.6	--	10.5	93	--	--
16...	0933	30	985	8.1	8.5	--	10.5	93	--	--
16...	0935	40	985	8.1	8.4	--	10.5	93	--	--
16...	0937	50	985	8.1	8.2	--	10.5	92	--	--
16...	0939	64	985	8.0	8.0	--	10.5	92	220	120
MAY										
02...	1055	1.0	1010	8.4	18.5	.91	8.1	90	250	140
02...	1057	10	1010	8.4	18.0	--	8.1	89	--	--
02...	1059	20	1010	8.3	17.5	--	7.4	80	--	--
02...	1101	30	1010	8.2	17.0	--	7.3	78	--	--
02...	1102	40	1010	8.1	16.5	--	6.6	70	--	--
02...	1104	50	1010	8.0	15.5	--	5.7	59	--	--
02...	1106	60	1010	8.0	15.5	--	5.4	56	--	--
02...	1108	66	1010	8.0	15.5	--	5.0	52	250	140
AUG										
19...	0935	1.0	1060	7.6	27.5	1.68	6.8	88	250	150
19...	0937	10	1060	7.6	27.5	--	6.8	88	--	--
19...	0939	20	1060	7.6	27.5	--	6.8	88	--	--
19...	0941	30	1060	7.6	27.5	--	6.8	88	--	--
19...	0943	40	1060	7.6	27.0	--	6.5	84	--	--
19...	0945	50	1060	7.1	26.5	--	3.3	42	--	--
19...	0947	63	1040	6.6	21.0	--	.1	1	260	120

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
16...	66	15	86	2.5	7.8	130	0	41	210
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	65	15	83	2.4	7.8	130	0	42	210
MAY									
02...	72	17	95	2.6	9.2	140	0	39	230
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	73	17	100	2.7	9.2	140	0	42	230
AUG									
19...	70	18	110	3.0	9.5	120	0	43	260
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	75	18	96	2.6	8.6	170	0	24	240

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324932098575101 HUBBARD CREEK RESERVOIR SITE P1--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
16...	.2	4.8	495	.04	.42	.46	.020	<10	<1
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	.04	.55	.59	.020	10	0
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	4.8	492	.05	.51	.56	.020	50	9
MAY									
02...	.4	.1	532	.01	1.3	1.3	.020	<10	<1
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	.01	.61	.62	.020	10	10
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	.7	541	.01	.80	.81	.040	<10	80
AUG									
19...	.4	2.2	572	.00	1.1	1.1	.010	<10	3
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	.00	1.1	1.1	.010	30	20
19...	--	--	--	.00	.86	.86	.010	30	310
19...	--	6.1	556	.00	1.7	1.7	.030	1600	1900

324712098575701 HUBBARD CREEK RESERVOIR SITE P4

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
16...	1001	1.0	985	8.1	8.9	10.6	95
16...	1003	10	985	8.1	8.8	10.6	95
16...	1005	20	985	8.1	8.7	10.6	95
16...	1007	30	985	8.1	8.5	10.6	94
MAY							
02...	1140	1.0	1010	8.3	19.5	7.6	85
02...	1142	5.0	1010	8.3	19.5	7.6	85
02...	1144	10	1010	8.3	19.5	7.6	85
02...	1146	13	1010	8.3	19.5	7.6	85
AUG							
19...	0924	1.0	1060	7.6	26.5	6.8	87
19...	0926	12	1060	7.6	26.5	6.7	86

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324843098582901 HUBBARD CREEK RESERVOIR SITE P6

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
16...	1231	1.0	985	8.2	9.1	10.4	94
16...	1233	10	985	8.2	8.8	10.4	94
16...	1235	20	985	8.2	8.7	10.4	92
16...	1237	30	985	8.2	8.6	10.4	92
16...	1239	40	985	8.2	8.6	10.4	92
16...	1241	50	985	8.1	8.6	10.4	92
16...	1243	60	985	8.1	8.5	10.4	92
16...	1245	65	985	8.1	8.5	10.4	92
MAY							
02...	1022	1.0	1010	8.4	18.5	8.1	90
02...	1024	10	1010	8.4	18.5	8.1	90
02...	1028	20	1010	8.3	18.0	7.9	87
02...	1030	30	1010	8.3	18.0	7.9	87
02...	1032	40	1010	8.1	16.5	6.3	67
02...	1034	50	1010	8.0	16.0	5.7	60
02...	1036	60	1010	8.0	16.0	5.5	58
02...	1038	66	1010	8.0	16.0	5.3	56
AUG							
19...	0855	1.0	1060	7.6	27.0	6.7	87
19...	0857	10	1060	7.6	27.0	6.7	87
19...	0859	20	1060	7.6	27.0	6.7	87
19...	0901	30	1060	7.6	27.0	6.7	87
19...	0903	40	1060	7.6	27.0	6.4	83
19...	0905	50	1060	6.9	25.5	1.4	18
19...	0907	61	1040	6.7	21.5	.2	2

324649099000501 HUBBARD CREEK RESERVOIR SITE P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
JAN									
16...	1255	1.0	985	8.2	9.5	1.20	10.4	95	220
16...	1257	10	985	8.2	8.5	--	10.4	92	--
16...	1259	20	985	8.2	8.5	--	10.4	92	--
16...	1301	30	985	8.1	8.4	--	10.4	92	--
16...	1303	40	985	8.1	8.5	--	10.4	92	230
MAY									
02...	0945	1.0	1010	8.3	18.5	.61	7.8	87	250
02...	0947	10	1010	8.3	18.5	--	7.8	87	--
02...	0949	20	1010	8.3	18.5	--	7.8	86	--
02...	0951	30	1010	8.1	17.0	--	6.4	69	--
02...	0953	40	1010	8.1	17.0	--	6.3	68	--
02...	0955	46	1010	8.1	17.0	--	6.2	67	260
AUG									
18...	1740	1.0	1070	7.8	27.5	.58	7.8	97	250
18...	1742	10	1070	7.8	27.5	--	7.2	94	--
18...	1744	20	1070	7.7	27.0	--	6.5	84	--
18...	1746	30	1070	7.7	27.0	--	6.6	86	--
18...	1748	42	1070	7.7	27.0	--	6.6	86	250

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324649099000501 HUBBARD CREEK RESERVOIR SITE P9--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
16...	120	65	15	84	2.4	8.0	130	0	39
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	130	67	16	85	2.4	7.9	130	0	44
MAY									
02...	140	72	17	94	2.6	9.3	140	0	43
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	150	75	18	94	2.5	10	140	0	44
AUG									
18...	140	69	19	110	3.0	9.1	130	0	37
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	140	70	19	110	3.0	9.2	130	0	44

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
16...	200	4.9	480	.05	.63	.68	.020	40	7
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	.04	.51	.55	.020	20	0
16...	--	--	--	--	--	--	--	--	--
16...	220	4.6	445	.04	.58	.62	.020	20	10
MAY									
02...	230	1.0	535	.01	.72	.73	.020	<10	<3
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	.02	.66	.68	.050	10	10
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	230	2.0	543	.01	.81	.82	.060	550	80
AUG									
18...	240	2.5	551	.00	.86	.86	.020	<10	1
18...	--	--	--	.00	.76	.76	.020	10	0
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	260	2.6	581	.00	.96	.96	.030	<10	10

324606099000201 HUBBARD CREEK RESERVOIR SITE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
16...	1316	1.0	985	8.1	10.6	10.4	96
16...	1318	10	985	8.1	9.1	10.4	94
16...	1320	20	985	8.1	8.9	10.4	94
16...	1322	30	985	8.1	8.8	10.4	94
16...	1324	40	985	8.1	8.8	10.4	94
MAY							
02...	0820	1.0	1010	8.3	18.5	8.2	91
02...	0822	10	1010	8.3	18.5	8.2	91
02...	0824	20	1010	8.3	18.5	7.9	88
02...	0826	30	1010	8.1	17.0	6.8	73
02...	0828	37	1010	8.1	17.0	6.4	69
AUG							
18...	1720	1.0	1070	7.8	27.5	7.4	97
18...	1722	10	1070	7.8	27.5	7.2	95
18...	1724	20	1070	7.7	27.0	6.6	86
18...	1726	30	1070	7.7	27.0	6.6	86
18...	1728	40	1070	7.7	27.0	6.4	83

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324514099010201 HUBBARD CREEK RESERVOIR SITE P11

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
16...	1333	1.0	985	8.1	9.7	10.4	95
16...	1335	10	985	8.1	9.0	10.3	93
16...	1337	20	985	8.1	9.0	10.3	93
16...	1339	25	985	8.0	9.0	10.2	92
MAY							
02...	0845	1.0	1010	8.3	19.5	8.0	90
02...	0847	10	1010	8.3	19.0	7.8	87
02...	0849	20	1010	8.0	17.5	6.2	67
02...	0851	28	1010	7.9	17.0	5.5	59
AUG							
18...	1805	1.0	1070	7.8	27.5	7.4	97
18...	1807	10	1070	7.8	27.5	7.0	92
18...	1809	20	1070	7.7	27.0	6.7	87
18...	1811	27	1070	7.7	27.0	6.7	87

324301099001701 HUBBARD CREEK RESERVOIR SITE P12

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
16...	1350	1.0	1020	8.1	10.5	.40	9.9	92	240
16...	1352	5.0	1020	8.0	10.0	--	9.7	89	--
16...	1354	10	1020	8.0	10.0	--	9.7	89	--
16...	1356	17	1020	7.9	10.0	--	9.7	89	240
MAY									
02...	0900	1.0	1060	8.2	20.0	.34	7.1	81	270
02...	0902	5.0	1060	8.2	20.0	--	7.1	81	--
02...	0904	10	1060	8.1	20.0	--	6.6	75	--
02...	0906	17	1060	7.6	18.5	--	3.9	43	260
AUG									
18...	1830	1.0	1140	7.9	29.0	.15	8.1	109	270
18...	1832	4.0	1140	7.9	29.0	--	7.8	105	--
18...	1834	7.0	1140	7.8	29.0	--	7.4	100	--
18...	1836	10	1130	7.7	28.5	--	6.4	85	--
18...	1838	14	1110	7.6	27.5	--	5.8	75	260

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
16...	120	70	16	87	2.4	7.9	150	0	42
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	120	70	16	87	2.4	7.9	150	0	41
MAY									
02..	160	78	19	98	2.6	9.6	140	0	45
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	150	76	18	100	2.7	8.4	140	0	42
AUG									
18...	150	74	20	110	2.9	9.6	140	0	45
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	150	73	19	110	3.0	9.9	130	0	43

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

3243010990017O1 HUBBARD CREEK RESERVOIR SITE P12--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
16...	210	3.6	510	.03	.68	.71	.020	<10	6
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	210	3.7	510	.04	.75	.79	.040	<10	10
MAY									
02...	240	1.0	560	.01	1.4	1.4	.040	<10	5
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	240	.4	554	.01	1.0	1.0	.070	<10	70
AUG									
18...	280	3.9	615	.00	1.2	1.2	.050	<10	2
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	270	3.9	593	.00	1.3	1.3	.100	<10	2

324949098594301 HUBBARD CREEK RESERVOIR SITE P13

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
16...	1022	1.0	985	8.1	9.1	10.6	95
16...	1024	10	985	8.1	8.9	10.6	95
16...	1026	20	985	8.1	8.8	10.6	95
16...	1028	30	985	8.1	8.8	10.6	95
16...	1030	40	985	8.1	8.6	10.6	94
16...	1032	50	985	8.0	8.6	10.4	92
MAY							
02...	1200	1.0	1010	8.4	18.5	8.0	89
02...	1202	10	1010	8.4	18.5	8.0	89
02...	1204	20	1010	8.4	18.0	8.0	88
02...	1206	30	1010	8.2	17.5	6.8	74
02...	1208	40	1010	8.0	16.0	5.7	60
02...	1210	50	1010	8.0	16.0	5.3	56
02...	1212	62	1010	7.9	16.5	4.7	50
AUG							
19...	1020	1.0	1060	7.6	27.0	6.9	90
19...	1022	10	1060	7.6	27.0	6.9	90
19...	1024	20	1060	7.6	27.0	6.9	90
19...	1026	30	1060	7.6	27.0	6.8	88
19...	1028	40	1060	7.6	27.0	6.7	87
19...	1030	51	1060	7.6	27.0	6.6	86

324802099021601 HUBBARD CREEK RESERVOIR SITE P15

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
16...	1045	1.0	985	8.1	8.5	10.6	94
16...	1047	10	985	8.1	8.3	10.6	94
16...	1049	20	985	8.1	8.3	10.6	94
16...	1051	30	985	8.1	8.3	10.6	94
16...	1053	37	985	8.1	8.4	10.2	91
MAY							
02...	1225	1.0	1020	8.3	20.0	7.7	88
02...	1227	10	1020	8.3	19.5	7.7	87
02...	1229	20	1020	8.1	18.0	6.3	69
02...	1231	33	1020	7.9	18.0	5.4	59
AUG							
19...	1045	1.0	1060	7.6	27.0	6.8	88
19...	1047	10	1060	7.6	27.0	6.7	87
19...	1049	20	1060	7.5	27.0	6.6	86
19...	1051	34	1060	7.5	27.0	6.2	81

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324653099032401 HUBBARD CREEK RESERVOIR SITE P16

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
16...	1100	1.0	990	8.2	9.0	.60	10.4	94	250
16...	1102	10	990	8.2	9.0	--	10.4	94	--
16...	1104	20	990	8.1	9.0	--	10.4	94	--
16...	1106	25	990	8.1	9.0	--	10.4	94	230
MAY									
02...	1240	1.0	1030	8.3	20.5	.27	7.4	85	260
02...	1242	10	1030	8.3	20.0	--	7.3	83	--
02...	1244	20	1030	8.2	20.0	--	6.9	78	--
02...	1246	24	1080	7.6	18.5	--	3.4	38	270
AUG									
19...	1105	1.0	1070	7.6	27.0	.21	6.9	90	250
19...	1107	10	1070	7.6	26.5	--	6.8	87	--
19...	1109	20	1070	7.6	26.5	--	6.7	86	--
19...	1111	25	1070	7.6	26.5	--	6.6	85	250

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
16...	130	71	17	91	2.5	7.8	140	0	43
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	120	67	16	88	2.5	7.9	140	0	41
MAY									
02...	140	73	18	96	2.6	8.4	140	0	41
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	150	76	19	100	2.7	8.7	140	0	43
AUG									
19...	150	69	19	110	3.0	9.6	120	0	46
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	140	69	19	110	3.0	9.6	130	0	46

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
16...	220	4.5	523	.04	.62	.66	.030	<10	2
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	210	4.3	503	.04	.53	.57	.020	<10	4
MAY									
02...	240	.0	545	.01	.87	.88	.040	<10	4
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	250	1.6	568	.01	1.6	1.6	.060	420	150
AUG									
19...	260	2.4	575	.00	1.1	1.1	.040	<10	4
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	270	2.4	592	.00	1.2	1.2	.060	<10	7

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324608099042101 HUBBARD CREEK RESERVOIR SITE P17

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
16...	1124	1.0	1080	7.9	10.0	9.8	90
16...	1126	5.0	1080	7.9	9.6	9.7	88
16...	1128	10	1080	7.9	9.6	9.7	88
16...	1130	15	1080	7.9	9.3	9.7	88
16...	1132	20	1080	7.8	9.1	9.5	86
16...	1134	23	1080	7.7	9.1	9.5	86
MAY							
02...	1305	1.0	1080	8.2	21.5	7.5	88
02...	1307	5.0	1080	8.2	21.0	7.5	87
02...	1309	10	1080	8.0	20.0	6.0	68
02...	1311	15	1180	7.5	18.5	3.8	42
02...	1313	19	1200	7.4	18.5	2.9	32
02...	1315	23	1200	7.4	18.5	2.4	27
AUG							
19...	1300	1.0	1160	7.5	28.0	6.3	83
19...	1302	5.0	1130	7.2	27.0	4.6	60
19...	1304	9.0	1120	7.2	27.0	4.5	58
19...	1306	13	1110	7.2	27.0	4.4	57
19...	1308	17	1100	7.1	27.0	3.9	51
19...	1310	21	1100	7.0	27.0	3.2	42
19...	1312	25	1100	7.0	27.0	3.1	40

324541099053601 HUBBARD CREEK RESERVOIR SITE P18

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
16...	1143	1.0	1350	7.9	10.0	.60	9.7	89	310
16...	1145	5.0	1350	7.9	10.0	--	9.7	89	--
16...	1147	10	1400	7.9	9.8	--	9.6	88	--
16...	1149	15	1640	7.7	9.3	--	9.4	85	--
16...	1151	18	1640	7.7	9.5	--	9.4	85	360
MAY									
02...	1335	1.0	1450	8.0	22.5	.52	7.7	92	330
02...	1337	5.0	1450	8.1	21.5	--	7.7	91	--
02...	1339	10	1660	7.3	20.0	--	2.4	27	--
02...	1341	15	1660	7.2	19.5	--	1.0	11	--
02...	1343	19	1660	7.2	19.5	--	.7	8	400
AUG									
19...	1220	1.0	1220	7.2	28.0	.30	5.4	71	280
19...	1222	4.0	1220	7.1	28.0	--	4.9	64	--
19...	1224	8.0	1220	7.1	28.0	--	4.4	58	--
19...	1226	12	1220	7.0	28.0	--	4.1	58	--
19...	1228	16	1220	7.0	28.0	--	3.7	49	280

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324541099053601 HUBBARD CREEK RESERVOIR SITE P18--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
JAN									
16...	180	87	23	130	3.2	7.9	160	0	64
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	230	99	27	160	3.7	7.9	160	0	70
MAY									
02...	210	91	26	150	3.6	8.8	150	0	62
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	280	110	30	170	3.7	9.9	150	0	74
AUG									
19...	160	75	22	130	3.4	9.7	140	0	52
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	170	77	22	130	3.4	9.7	140	0	49

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN									
16...	320	3.7	636	.13	.87	1.0	.030	<10	2
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	370	3.9	817	.09	.63	.72	.040	<10	10
MAY									
02...	360	.5	772	.01	1.4	1.4	.040	<10	20
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	420	1.2	890	.01	1.2	1.2	.060	<10	720
AUG									
19...	300	4.2	662	.00	.71	.71	.060	<10	110
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	310	4.2	671	.00	.94	.94	.050	<10	160

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324932098575101 HUBBARD CREEK RESERVOIR SITE P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)
JAN							
16...	0927	1.0	1	200	<1	0	0
16...	0933	30	--	--	--	--	--
16...	0939	64	1	200	<1	0	0
MAY							
02...	1055	1.0	1	200	<1	0	2
02...	1101	30	--	--	--	--	--
02...	1108	66	1	200	<1	0	1
AUG							
19...	0935	1.0	1	200	<1	0	0
19...	0943	40	--	--	--	--	--
19...	0945	50	--	--	--	--	--
19...	0947	63	7	200	<1	0	0

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN							
16...	<10	2	<1	.2	0	0	<3
16...	10	--	0	--	--	--	--
16...	50	2	9	.1	0	0	5
MAY							
02...	<10	1	<1	.0	0	0	<3
02...	10	--	10	--	--	--	--
02...	<10	2	80	.3	0	0	<3
AUG							
19...	<10	1	3	.1	0	0	<3
19...	30	--	20	--	--	--	--
19...	30	--	310	--	--	--	--
19...	1600	1	1900	.1	0	0	<3

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324932098575101 HUBBARD CREEK RESERVOIR SITE P1

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 16,80	MAY 2,80	AUG 19,80
TIME	0928	1056	0936
TOTAL CELLS/ML	1200	6800	71000
DIVERSITY: DIVISION	0.7	0.1	0.2
.CLASS	0.7	0.1	0.2
..ORDER	0.8	0.2	0.6
...FAMILY	1.4	0.2	1.4
....GENUS	1.9	0.2	1.9

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	19	2	--	-	*	0
....CHLORELLA	700#	59	--	-	--	-
....OOCYSTIS	39	3	--	-	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	97	8	--	-	--	-
....SCENEDESMUS	78	7	--	-	*	0
....TETRASTRUM	39	3	--	-	--	-
..TETRASPORALES						
...COCCOMYXACEAE						
....ELAKATOTHRIX	--	-	--	-	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	--	-	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	190#	16	6600#	98	*	0
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	*	0
...NITZSCHIACEAE						
....NITZSCHIA	19	2	50	1	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	100	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	--	-	--	-	5000	7
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	19000#	26
HORMOGONALES						
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	11000	15
....OSCILLATORIA	--	-	--	-	35000#	50
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	*	0

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

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324541099053601 HUBBARD CREEK RESERVOIR SITE P18

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 16,80	MAY 2,80	AUG 19,80
TIME	1144	1336	1219
TOTAL CELLS/ML	6200	4200	310000
DIVERSITY: DIVISION	1.5	1.8	0.3
.CLASS	1.5	1.8	0.3
..ORDER	1.8	2.3	0.7
...FAMILY	2.4	2.8	1.1
....GENUS	2.7	3.6	1.8

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	1800	1
...MICRACTINIACEAE						
....GOLENKINIA	--	-	22	1	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	420	10	2100	1
....CHLORELLA	2000#	31	--	-	--	-
....CLOSTERIOPSIS	--	-	22	1	--	-
....KIRCHNERIELLA	--	-	66	2	--	-
....SELENASTRUM	--	-	88	2	--	-
....TETRAEDRON	--	-	66	2	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	690	11	290	7	*	0
....SCENEDESMUS	260	4	480	12	1600	1
....TETRASTRUM	170	3	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	150	4	--	-
....CHLAMYDOMONAS	--	-	310	7	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	390	6	110	3	*	0
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	150	4	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	1200#	19	--	-	--	-
....SYNEDRA	--	-	110	3	--	-
...NITZSCHIACEAE						
....NITZSCHIA	170	3	110	3	3100	1
.CHRYSOPHYCEAE						
..CHRYSOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	22	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	130	2	66	2	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	1200#	20	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	1200#	29	4200	1
....ANACYSTIS	--	-	220	5	17000	6
....COCCOCHLORIS	--	-	22	1	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	23000	8
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	200000#	63
....OSCILLATORIA	--	-	--	-	57000#	18
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	66	2	*	0
....TRACHELOMONAS	43	1	150	4	*	0
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	22	1	--	-

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

08086500 HUBBARD CREEK NEAR BRECKENRIDGE, TX

LOCATION.--Lat 32°50'13", long 98°56'52", Stephens County, Hydrologic Unit 12060105, on downstream side of pier of bridge on U.S. Highway 183, 1.4 mi (2.3 km) downstream from Hubbard Creek Reservoir, 6.8 mi (10.9 km) northwest of Breckenridge, 8.2 mi (13.2 km) upstream from Gonzales Creek, and 11.2 mi (18.0 km) upstream from Clear Fork Brazos River.

DRAINAGE AREA.--1,089 mi² (2,821 km²), of which 1,085 mi² (2,810 km²) is above Hubbard Creek Dam.

PERIOD OF RECORD.--April 1955 to current year.
Water-quality records: Chemical analyses: April 1955 to September 1975. Water temperatures: April 1955 to September 1975.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,092.12 ft (332.878 m), corrected, National Geodetic Vertical Datum of 1929. Prior to July 16, 1959, at site 300 ft (91 m) upstream at same datum.

REMARKS.--Records good. Flow is regulated by Hubbard Creek Reservoir (station 08086400). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years (water years 1956-62) prior to completion of Hubbard Creek Dam, 170 ft³/s (4.814 m³/s), 123,200 acre-ft/yr (152 hm³/yr); 18 years (water years 1963-80) regulated, 33.4 ft³/s (0.946 m³/s), 24,200 acre-ft/yr (29.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,500 ft³/s (977 m³/s) May 26, 1957, gage height, 34.00 ft (10.363 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1925, 34.2 ft (10.42 m) July 20, 1953, from information by local resident and State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 306 ft³/s (8.67 m³/s) Sept. 29 at 0700 hours, gage height, 7.65 ft (2.332 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.22	.14	.10	.12	.09	.06	.02	.00	.00	.00
2	.00	.00	.22	.14	.10	.09	.11	.08	.02	.00	.00	.00
3	.00	.00	.19	.14	.10	.08	.12	.06	.03	.00	.00	.00
4	.00	.00	.19	.14	.10	.10	.12	.05	.02	.00	.00	.00
5	.00	.00	.16	.13	.11	.10	.11	.04	.01	.00	.00	.00
6	.00	.00	.13	.12	.10	.10	.08	.05	.01	.00	.00	.00
7	.00	.00	.15	.12	.11	.09	.05	.10	.01	.00	.00	.00
8	.00	.00	.14	.12	.23	.08	.02	.43	.00	.00	.00	.00
9	.00	.00	.14	.12	.23	.01	.03	.96	.00	.00	.00	.00
10	.00	.00	.12	.12	.16	.00	.04	.40	.00	.00	.00	.00
11	.00	.04	.23	.12	.15	.00	.04	.22	.01	.00	.00	.00
12	.00	.12	.52	.11	.10	.00	.09	.13	.00	.00	.00	.00
13	.00	.16	.37	.10	.09	.00	.14	.07	.00	.00	.00	.00
14	.00	.19	.27	.10	.09	.00	.12	.11	.00	.00	.00	.00
15	.00	.24	.21	.09	.08	.00	.11	31	.00	.00	.00	.00
16	.00	.34	.18	.10	.08	.00	.12	7.7	.00	.00	.00	.00
17	.00	.37	.15	.10	.08	.00	.08	1.7	.00	.00	.00	.00
18	.00	.45	.15	.10	.08	.00	.07	.76	.00	.00	.38	.00
19	.00	.42	.16	.11	.08	.00	.10	.45	.00	.00	.05	.00
20	.00	.42	.16	.12	.08	.00	.12	.20	.00	.00	.02	.00
21	.00	.56	.16	.21	.08	.00	.11	3.6	.01	.00	.01	.00
22	.00	.42	.16	.47	.12	.00	.07	1.6	.05	.00	.01	.00
23	.00	.40	.45	.38	.13	.00	.05	.41	.06	.00	.01	.00
24	.00	.35	.29	.28	.13	.00	3.8	.15	.04	67	.01	.00
25	.00	.34	.16	.22	.13	.01	1.8	.06	.03	65	.00	.00
26	.00	.30	.14	.22	.14	.01	.22	6.6	.02	.17	.00	.00
27	.00	.31	.14	.16	.12	.81	.10	1.4	.01	.03	.00	5.8
28	.00	.30	.95	.14	.12	.42	.08	.53	.00	.01	.00	57
29	.00	.25	.52	.14	.13	.19	.07	.19	.00	.00	.00	88
30	.00	.25	.18	.12	---	.09	.05	.08	.00	.00	.00	5.8
31	.00	---	.14	.12	---	.07	---	.05	---	.00	.00	---
TOTAL	.00	6.23	7.35	4.80	3.35	2.37	8.11	59.24	.35	132.21	.49	156.60
MEAN	.000	.21	.24	.15	.12	.076	.27	1.91	.012	4.26	.016	5.22
MAX	.00	.56	.95	.47	.23	.81	3.8	31	.06	67	.38	88
MIN	.00	.00	.12	.09	.08	.00	.02	.04	.00	.00	.00	.00
AC-FT	.00	12	15	9.5	6.6	4.7	16	118	.7	262	1.0	311

CAL YR 1979	TOTAL	15295.79	MEAN 41.9	MAX 2640	MIN .00	AC-FT 30340			
WTR YR 1980	TOTAL	381.10	MEAN 1.04	MAX 88	MIN .00	AC-FT 756			

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX

LOCATION.--Lat 32°57'36", long 98°45'59", Young County, Hydrologic Unit 12060104, on right bank 5 ft (2 m) upstream from old mill dam 180 ft (55 m) upstream from bridge on Farm Road 1974, 400 ft (122 m) northwest of U.S. Post Office at Eliasville, and 13.2 mi (21.2 km) upstream from mouth.

DRAINAGE AREA.--5,697 mi² (14,755 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1915 to April 1920, December 1923 to August 1925, July 1928 to September 1951, October 1961 to current year. Monthly discharge only for some periods published in WSP 1312 as "near Crystal Falls".

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,027.77 ft (313.264 m) National Geodetic Vertical Datum of 1929. See WSP 1922 for history of changes prior to Dec. 18, 1961.

REMARKS.--Water-discharge records good. Many small diversions above station for municipal supply and oilfield operations.

AVERAGE DISCHARGE.--27 years (water years 1917-19, 1929-51, 1962) prior to completion of Hubbard Creek Dam, 430 ft³/s (12.18 m³/s), 311,500 acre-ft/yr (384 hm³/yr); 18 years (water years 1963-80) regulated, 245 ft³/s (6.938 m³/s), 177,500 acre-ft/yr (219 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,000 ft³/s (1,930 m³/s) Aug. 5, 1978, gage height, 37.04 ft (11.290 m), present site and datum, from rating curve extended above 40,000 ft³/s (1,130 m³/s); no flow at times.
Maximum stage since 1877, that of Aug. 5, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1, 1957, reached a stage of 35 ft (10.7 m), present site and datum; flood in September 1900 reached about same stage, from information by State Department of Highways and Public Transportation and local residents. Other floods are reported to have occurred in 1876, Apr. 27, 1890, 1932, 1941, and 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,200 ft³/s (374 m³/s) Sept. 30 at 2330 hours, stage rising, peak occurred Oct. 3; maximum peak discharge, 3,980 ft³/s (113 m³/s) May 30 at 1600 hours, gage height, 11.93 ft (3.636 ft), no peak above base of 6,000 ft³/s (170 m³/s); minimum daily, 0.03 ft³/s (0.001 m³/s) Sept. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	.75	10	32	24	26	14	7.9	320	38	.37	.05
2	.60	.70	10	26	22	25	13	17	189	20	.19	.05
3	.42	.70	11	40	22	27	13	45	142	14	.09	.05
4	.43	.68	12	40	22	27	9.7	38	110	10	.08	.05
5	.39	.67	12	32	22	25	8.2	18	81	6.8	.08	.05
6	.34	.52	12	28	18	25	7.3	62	63	5.0	.08	.05
7	.26	.61	13	25	17	24	7.0	107	51	4.3	.08	.05
8	.26	.71	18	22	27	22	7.7	189	40	2.9	.08	.05
9	.19	.70	16	24	36	26	8.3	82	34	2.1	.07	.05
10	.15	.67	15	29	38	29	7.4	38	31	1.5	.07	.05
11	.12	.70	13	26	32	28	6.5	18	28	.96	.07	.05
12	.08	.61	19	27	33	23	6.7	14	25	.66	.07	.04
13	.06	.66	23	27	32	18	8.1	13	19	.38	.07	.04
14	.05	.70	24	25	35	15	7.8	15	13	.19	.07	.03
15	.30	.76	28	25	35	14	6.6	496	11	.11	.07	.03
16	.66	.87	27	25	35	14	6.0	1220	9.4	.10	.07	.11
17	.61	.96	25	26	35	12	7.5	210	7.6	.09	.07	76
18	.73	2.0	18	29	33	11	13	86	6.7	.08	.07	98
19	.82	9.4	17	32	32	9.7	13	60	6.0	.07	.07	86
20	.84	10	17	33	32	9.1	11	40	5.6	.06	.07	77
21	.71	13	18	43	26	11	11	519	5.7	.05	.07	62
22	.90	13	19	64	26	9.4	13	424	9.9	.05	.07	49
23	1.1	15	33	64	24	9.5	13	223	49	.05	.07	48
24	.97	16	46	40	25	9.7	12	126	112	.05	.07	53
25	.86	22	26	32	24	9.3	41	95	97	.05	.07	86
26	.68	19	19	27	20	10	39	229	144	13	.07	139
27	.61	15	17	26	22	15	39	628	130	11	.07	584
28	.57	15	48	26	27	24	21	205	81	4.1	.07	3320
29	.52	13	95	27	29	33	12	203	65	2.0	.07	9630
30	.77	11	40	27	---	20	8.3	2950	49	.81	.07	12700
31	.77	---	36	25	---	16	---	1200	---	.41	.06	---
TOTAL	16.58	185.37	737	974	805	576.7	391.1	9577.9	1934.9	138.87	2.65	27008.80
MEAN	.53	6.18	23.8	31.4	27.8	18.6	13.0	309	64.5	4.48	.085	900
MAX	1.1	22	95	64	38	33	41	2950	320	38	.37	12700
MIN	.05	.52	10	22	17	9.1	6.0	7.9	5.6	.05	.06	.03
AC-FT	33	368	1460	1930	1600	1140	776	19000	3840	275	5.3	53570

CAL YR 1979 TOTAL 62406.02 MEAN 171 MAX 6200 MIN .05 AC-FT 123800
WTR YR 1980 TOTAL 42348.87 MEAN 116 MAX 12700 MIN .03 AC-FT 84000

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1961 to current year. Pesticide analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1961 to current year.
WATER TEMPERATUES: October 1961 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 7,400 micromhos Jan. 9, 1971; minimum daily, 227 micromhos Aug. 5, 1978.
WATER TEMPERATURES: Maximum daily, 38.0°C Aug. 6 1964; minimum daily, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,910 micromhos Nov. 26; minimum daily, 267 micromhos Sept. 29.
WATER TEMPERATURES: Maximum daily, 30.5°C July 2; minimum daily, 3.5°C Feb. 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV 19...	1110	10	3540	14.0	710	570	180	63	430
JAN 02...	1715	25	2820	8.5	680	530	170	63	340
FEB 19...	1250	32	2460	9.0	550	320	130	54	300
MAR 24...	1605	10	2930	15.5	600	410	140	61	350
APR 23...	0715	13	3760	20.5	850	650	200	86	490
JUN 16...	1730	8.6	746	33.5	200	95	56	15	66
JUL 28...	1730	3.2	1090	31.0	280	150	71	24	120
AUG 18...	1515	.07	1280	31.5	280	160	69	26	150
SEP 30...	1305	12600	296	15.0	110	21	34	6.4	15

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV 19...	7.0	11	170	0	170	1000	.3	6.0	1940
JAN 02...	5.7	10	190	0	280	700	.3	5.3	1660
FEB 19...	5.6	11	280	0	290	490	.5	1.8	1420
MAR 24...	6.2	14	230	0	270	620	.8	1.6	1570
APR 23...	7.3	17	250	0	340	950	.5	1.0	2210
JUN 16...	2.0	6.9	130	0	73	130	.3	8.8	420
JUL 28...	3.1	8.3	160	0	110	210	.4	9.5	632
AUG 18...	3.9	9.1	150	0	69	310	.4	9.8	717
SEP 30...	.6	4.4	110	0	25	27	.2	8.2	174

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
FEB 19...	1250	.0	0	.00	.00	.0	.0	0	.00	.0
AUG 18...	1515	.0	0	.00	.00	.0	.0	0	.00	.0

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
FEB 19...	.00	.1	.00	.0	.00	.00	.0	.00	.00	.0
AUG 18...	.00	.1	.00	.0	.00	.00	.0	.00	.00	.0

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)
FEB 19...	.00	.00	.0	.00	.0	.00	.0	.00	.00	.0
AUG 18...	.00	.00	.0	.00	.0	.00	.0	.00	.00	.0

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
FEB 19...	.00	.00	.00	.00	0	0	.00	.01	.00	.00
AUG 18...	.00	.00	.00	.00	0	0	.00	.00	.04	.00

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	16.58	2840	1730	77	560	25	470	21	750
NOV.	1979	185.37	4860	3350	1680	990	495	1200	607	1300
DEC.	1979	737	2840	1730	3450	560	1110	470	940	750
JAN.	1980	974	3100	1920	5050	610	1610	540	1430	820
FEB.	1980	805	2530	1510	3280	490	1070	390	841	660
MAR.	1980	576.7	2730	1650	2570	530	833	440	685	720
APR.	1980	391.1	3550	2260	2380	710	745	690	724	950
MAY	1980	9577.9	1870	1080	28000	360	9330	250	6470	490
JUNE	1980	1934.9	751	400	2090	140	741	64	332	190
JULY	1980	138.87	796	425	159	150	56	68	26	200
AUG.	1980	2.65	1260	692	4.9	240	1.7	130	0.9	320
SEPT	1980	27008.80	489	262	19100	93	6750	43	3170	120
TOTAL		42348.87	**	**	67800	**	22800	**	15300	**
WTD. AVG.		116	1030	593	**	200	**	130	**	270

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2380	3120	3840	2950	2930	2450	3170	3770	809	696	1130	1450
2	2410	3130	3260	2800	2830	2510	3180	3750	686	717	1140	1470
3	2430	3150	2950	2950	2770	2570	3160	3690	658	729	1150	1480
4	2480	3160	2990	3240	2690	2530	3150	3610	612	736	1160	1500
5	2510	3180	2830	2850	2640	2560	3160	3680	589	752	1180	1510
6	2540	3210	3090	2750	2580	2600	3180	3720	580	762	1190	1560
7	2550	3230	3250	2820	2550	2630	3190	3690	592	781	1200	1580
8	2650	3250	3240	2960	1860	2620	3190	2400	597	786	1210	1590
9	2700	3270	3120	3030	2560	2630	3200	1820	612	791	1230	1600
10	2690	3300	2990	2730	2640	2690	3210	2610	628	794	1240	1590
11	2700	3320	2770	2740	2690	2680	3260	2900	636	804	1250	1610
12	2730	3340	2810	2790	2700	2660	3270	3000	649	816	1250	1620
13	2800	3360	2820	2860	2650	2670	3280	3010	669	826	1250	1630
14	2820	3370	2840	2880	2560	2680	3310	2990	687	828	1260	1640
15	2840	3380	2760	2970	2540	2720	3360	2650	719	840	1280	1650
16	2850	3400	2700	3080	2510	2740	3430	2040	734	843	1300	1670
17	2870	3430	2730	3250	2570	2750	3500	620	753	852	1320	1830
18	2890	3440	2660	3270	2480	2760	3510	657	763	868	1270	2050
19	2900	3510	2590	3390	2460	2790	3570	864	767	882	1300	2170
20	2930	3590	2530	3450	2470	2820	3760	1120	789	887	1310	2110
21	2950	3760	2460	3430	2430	2840	3770	1090	800	900	1320	2210
22	2960	4120	2360	3260	2420	2860	3780	1460	804	897	1340	1870
23	2940	4850	2350	3240	2400	2900	3770	1770	824	915	1360	1620
24	2960	5360	2310	3310	2390	2920	3760	1500	1070	930	1370	1540
25	2980	5730	2570	3300	2410	2940	3750	1360	1250	945	1370	1470
26	2990	5910	2630	3320	2430	2960	3730	1210	827	963	1390	1560
27	3000	5270	2710	3300	2420	2990	3710	2700	712	1070	1400	1880
28	3030	5420	2750	3220	2400	3000	3820	2270	655	1090	1410	1250
29	3050	5320	2800	3150	2390	3020	3980	2830	650	1110	1410	267
30	2890	5270	3570	3020	---	3080	3840	1750	683	1130	1420	312
31	3100	---	3740	3000	---	3140	---	1460	---	1140	1440	---
MEAN	2790	3910	2870	3070	2530	2760	3470	2320	727	874	1290	1580

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

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

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX

LOCATION.--Lat 33°01'27", long 98°38'37", Young County, Hydrologic Unit 12060201, on left bank 225 ft (69 m) downstream from bridge on State Highway 67, 1.8 mi (2.9 km) downstream from Clear Fork Brazos River, 2.0 mi (3.2 km) northeast of South Bend, and at mile 758.2 (1,219.9 km).

DRAINAGE AREA.--22,673 mi² (58,723 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1938 to current year.

REVISED RECORDS.--WRD TX-74-1: 1973. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,002.98 ft (305.708 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 23, 1939, nonrecording gage at site 255 ft (69 m) upstream. Feb. 23, 1939, to Mar. 9, 1961, water-stage recorder at site 225 ft (69 m) upstream.

REMARKS.--Water-discharge records good. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--42 years, 819 ft³/s (23.19 m³/s), 593,400 acre-ft/yr (732 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,400 ft³/s (2,480 m³/s) May 4, 1941, gage height, 27.35 ft (8.336 m); maximum gage height, 41.50 ft (12.649 m) Aug. 6, 1978, from floodmark; no flow at times. Maximum stage since 1938 (corrected), that of Aug. 6, 1978.

EXTREME OUTSIDE PERIOD OF RECORD.--Flood in 1876 (corrected) reached a stage of 36.2 ft (11.03 m), from information by State Department of Highways and Public Transportation and Corps of Engineers. Flood of Sept. 24, 1900, reached a stage of 29.5 ft (8.99 m), and flood of June 16, 1930, reached a stage of 35.5 ft (10.82 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,000 ft³/s (793 m³/s) Sept. 30, stage rising, peak occurred Oct. 2, 1980; maximum peak discharge, 9,810 ft³/s (278 m³/s) May 19, gage height, 16.59 (5.057 m), no peak above base of 11,000 ft³/s (312 m³/s); minimum daily discharge, 1.8 ft³/s (0.051 m³/s) Sept. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	5.6	50	108	51	41	25	40	1400	120	15	5.8
2	7.9	5.0	44	82	54	49	24	76	1200	98	14	4.6
3	7.7	4.8	42	68	51	55	22	191	1040	85	13	4.6
4	7.3	5.6	37	78	58	43	21	164	882	73	13	3.4
5	6.8	4.8	34	75	54	40	21	85	656	61	13	2.4
6	6.6	4.0	29	69	53	46	18	78	535	54	11	1.8
7	6.4	4.7	28	58	54	41	16	244	435	49	9.5	1.8
8	6.2	5.3	29	58	56	38	15	532	369	44	8.3	1.9
9	6.0	4.5	29	56	71	37	27	275	323	42	7.9	2.6
10	7.6	4.4	32	61	93	38	31	179	295	39	7.5	3.5
11	7.3	4.8	25	51	81	40	20	98	255	37	7.2	3.2
12	7.9	4.8	32	54	73	40	17	62	255	37	7.2	5.9
13	6.5	4.9	37	52	74	32	17	43	303	32	7.2	31
14	7.4	5.0	35	51	76	32	17	37	331	28	6.8	33
15	8.8	5.0	35	51	74	35	15	939	384	26	6.1	37
16	16	4.9	28	47	78	35	16	2450	1160	26	5.8	75
17	10	5.4	35	46	88	23	11	7070	817	25	13	190
18	9.6	5.7	33	48	90	30	10	8530	584	23	19	165
19	8.5	5.4	33	48	78	30	14	8560	442	23	8.3	142
20	7.5	8.6	31	46	79	21	17	3020	342	23	7.9	111
21	7.1	8.3	30	61	73	21	17	2200	359	22	13	87
22	4.8	9.3	32	78	68	30	17	2070	255	21	12	59
23	5.7	91	46	89	62	25	17	1680	225	20	10	61
24	5.8	318	51	82	59	16	32	1390	248	20	9.5	56
25	5.7	217	61	64	59	19	28	1170	258	20	7.5	76
26	6.1	160	46	52	58	21	41	1080	269	20	6.5	97
27	5.3	130	37	48	52	24	35	1630	280	20	5.8	355
28	4.6	95	64	47	51	30	32	7160	215	20	5.5	5860
29	5.6	63	147	47	47	32	23	7400	161	20	7.2	17700
30	7.4	60	111	50	---	35	19	3820	141	19	7.2	25900
31	6.4	---	90	49	---	33	---	2870	---	17	6.5	---
TOTAL	224.7	1263.8	1393	1874	1915	1032	635	65143	14419	1164	291.4	51076.5
MEAN	7.25	42.1	44.9	60.5	66.0	33.3	21.2	2101	481	37.5	9.40	1703
MAX	16	318	147	108	93	55	41	8560	1400	120	19	25900
MIN	4.6	4.0	25	46	47	16	10	37	141	17	5.5	1.8
AC-FT	446	2510	2760	3720	3800	2050	1260	129200	28600	2310	578	101300

CAL YR 1979	TOTAL	117782.0	MEAN 323	MAX 5580	MIN 4.0	AC-FT	233600	
WTR YR 1980	TOTAL	140431.4	MEAN 384	MAX 25900	MIN 1.8	AC-FT	278500	

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1942 to March 1948, October 1968 to September 1969. Chemical and biochemical analyses: November 1977 to current year. Pesticide analyses: March 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1977 to current year.
WATER TEMPERATURES: November 1977 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 14,000 micromhos Dec. 4, 1979; minimum daily, 350 micromhos Aug. 6, 1978.
WATER TEMPERATURES: Maximum daily, 35.0°C July 4, 5, 9, 14, 1978; minimum daily, 0.0°C Jan. 10, 11, 18, 21, Feb. 18, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 14,000 micromhos Dec. 4; minimum daily, 547 micromhos Sept. 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 16...	0900	17	6400	7.9	17.0	21	8.8	97	2.7	1600	1400
NOV 05...	1330	4.7	8100	8.0	17.5	3.5	10.6	117	1.8	30	21
DEC 03...	1510	39	12000	8.0	11.0	54	10.4	101	1.8	52	45
JAN 14...	1330	48	7590	8.2	13.5	1.8	12.1	123	1.1	K8	K6
FEB 19...	1300	98	9150	8.3	15.0	4.0	11.0	117	1.9	K6	K17
MAR 17...	1440	21	9200	8.4	17.5	3.5	11.2	119	1.1	62	52
APR 21...	1435	17	7100	8.1	29.5	3.5	9.3	129	3.0	99	K20
MAY 19...	1355	9250	2490	7.7	21.5	620	6.8	80	2.6	1700	3500
JUN 09...	1430	871	6100	8.2	27.0	120	8.3	109	3.1	45	42
JUL 21...	1400	23	11100	8.0	28.0	31	7.3	99	1.8	44	100
AUG 18...	1400	19	7430	8.1	31.0	15	6.8	97	2.5	560	830
SEP 15...	1500	43	9600	8.1	31.0	4.5	9.3	133	3.4	800	44

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 16...	1000	900	280	73	1000	14	11	120	0	770	1700
NOV 05...	1400	1200	370	110	1300	15	16	180	0	800	2300
DEC 03...	1200	1100	350	89	2300	28	13	140	0	740	4000
JAN 14...	1100	1000	300	96	1300	17	13	180	0	740	2200
FEB 19...	1400	1200	360	110	1500	18	12	210	0	910	2600
MAR 17...	1300	1100	340	110	1600	19	15	210	2	900	2600
APR 21...	1200	1100	310	110	1200	15	16	210	0	710	2100
MAY 19...	730	670	250	26	250	4.0	7.9	74	0	680	390
JUN 09...	960	850	280	63	880	12	12	140	0	850	1300
JUL 21...	1700	1600	470	120	1900	20	17	140	0	1200	3000
AUG 18...	1100	1100	320	84	1200	15	13	88	0	1000	2000
SEP 15...	1600	1500	450	120	1700	18	6.4	90	0	1400	2700

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)
OCT 16...	.5	7.8	3950	3900	.04	.04	.130	.060	.48	.42
NOV 05...	.4	6.8	5000	4990	.05	.05	.110	.080	.66	.44
DEC 03...	.3	5.9	7530	7570	.15	.14	.050	.050	.87	.52
JAN 14...	.4	3.1	4750	4740	.06	.04	.050	.070	.37	.36
FEB 19...	.5	1.5	5670	5600	.03	.03	.060	.030	.44	.25
MAR 17...	.5	1.6	5830	5670	.01	.01	.150	.120	2.4	.98
APR 21...	.7	3.0	4560	4550	.07	.03	.230	.100	1.2	1.0
MAY 19...	.3	7.4	1710	1650	.33	.34	.100	.100	2.9	1.5
JUN 09...	.6	12	3890	3460	.22	.04	--	--	--	--
JUL 21...	.7	9.1	7410	6780	.02	.04	.070	.000	1.4	.51
AUG 18...	.5	4.6	4760	4670	.58	.04	.110	--	--	--
SEP 15...	.6	4.1	6490	6430	.00	.00	.050	.040	1.2	.84

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 16...	.61	.48	.040	.000	13	--	--	36	1.7	99
NOV 05...	.77	.52	.030	.010	32	--	--	24	.30	86
DEC 03...	.92	.57	.300	.000	4.9	--	--	60	6.3	99
JAN 14...	.42	.43	.020	.010	--	11	.4	8	1.0	89
FEB 19...	.50	.28	.070	.010	5.0	--	--	12	3.2	77
MAR 17...	2.5	1.1	.090	.060	--	8.0	.5	11	.62	91
APR 21...	1.4	1.1	.090	.030	20	--	--	52	2.4	97
MAY 19...	3.0	1.6	1.200	.020	19	--	--	3530	88200	79
JUN 09...	--	--	.220	.040	--	--	--	249	586	95
JUL 21...	1.5	.51	.070	.010	--	3.8	1.9	60	3.7	99
AUG 18...	--	--	.230	.010	--	--	--	49	2.5	99
SEP 15...	1.2	.88	.050	.040	--	6.6	2.1	39	4.5	99

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
DEC 03...	1510	--	--	--	--	--	--	--	--	--	--
JAN 14...	1330	1	0	1	300	0	300	1	1	0	0
FEB 19...	1300	--	--	--	--	--	--	--	--	--	--
MAR 17...	1440	2	1	1	200	0	200	0	0	0	10
JUN 09...	1430	--	--	--	--	--	--	--	--	--	--
JUL 21...	1400	3	1	2	200	0	200	0	0	0	20
AUG 18...	1400	--	--	--	--	--	--	--	--	--	--
SEP 15...	1500	2	1	1	200	0	200	0	0	0	20

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
DEC 03...	--	--	--	--	--	--	--	--	--	--	--
JAN 14...	0	0	2	2	0	8	8	0	140	120	20
FEB 19...	--	--	--	--	--	--	--	--	--	--	--
MAR 17...	0	10	3	3	0	2	1	1	210	180	30
JUN 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	0	20	0	0	0	45	45	0	720	650	70
AUG 18...	--	--	--	--	--	--	--	--	--	--	--
SEP 15...	0	20	1	1	0	6	5	1	530	510	20

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
DEC 03...	--	--	--	--	--	--	--	--	--	--	--
JAN 14...	2	1	1	90	30	60	.0	.0	.0	3	0
FEB 19...	--	--	--	--	--	--	--	--	--	--	--
MAR 17...	1	1	0	180	50	130	.1	.1	.0	6	6
JUN 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	6	6	0	410	350	60	.4	.1	.3	6	3
AUG 18...	--	--	--	--	--	--	--	--	--	--	--
SEP 15...	6	6	0	200	160	40	.2	.2	.0	6	2

DATE	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
DEC 03...	--	--	--	--	0	--	--	--	--	--
JAN 14...	6	1	0	1	0	0	0	150	130	20
FEB 19...	--	--	--	--	0	--	--	--	--	--
MAR 17...	0	1	0	1	0	0	0	10	0	20
JUN 09...	--	--	--	--	0	--	--	--	--	--
JUL 21...	3	0	0	0	0	0	0	50	30	20
AUG 18...	--	--	--	--	0	--	--	--	--	--
SEP 15...	4	0	0	0	0	0	0	40	10	30

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 05...	1330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 19...	1300	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)
NOV 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 19...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)
NOV 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 19...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL TRITHION, TOTAL (UG/L)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	PARATHION, TOTAL (UG/L)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 19...	ND	--	ND	--	ND	--	ND	--	--	--	--

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	DEC 3,79	MAR 17,80	MAY 19,80	JUN 9,80
TIME	1510	1440	1355	1430
TOTAL CELLS/ML	1400	11000	1500	55000
DIVERSITY: DIVISION	1.6	1.7	0.6	1.4
.CLASS	1.6	1.7	0.6	1.4
..ORDER	2.0	2.1	0.6	1.6
...FAMILY	3.1	2.5	0.8	2.2
....GENUS	3.1	2.8	0.8	2.7

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...CHLOROCOCCACEAE								
....CHLOROCOCCUM	250#	18	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	1800	3
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	53	4	2200#	19	--	-	3600	7
....CHODATELLA	--	-	69	1	--	-	*	0
....DICTYOSPHAERIUM	--	-	--	-	--	-	1800	3
....KIRCHNERIELLA	23	2	69	1	--	-	740	1
....OOCYSTIS	--	-	140	1	--	-	2400	4
....SELENASTRUM	--	-	410	4	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
....WESTELLA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	120	9	1100	10	--	-	18000#	33
....TETRASTRUM	--	-	--	-	--	-	3000	5
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	*	0
....CHLAMYDOMONAS	8	1	--	-	--	-	300	1
....PLATYMONAS	120	9	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...CHAETOCERACEAE								
....CHAETOCEROS	--	-	3000#	27	--	-	--	-
...COSCINODISCACEAE								
....CYCLOTELLA	53	4	210	2	--	-	9200#	17
..PENNALES								
...ACHNANTHACEAE								
....COCCONEIS	8	1	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	--	-	27	2	--	-
...FRAGILARIACEAE								
....FRAGILARIA	15	1	--	-	--	-	--	-
...NAVICULACEAE								
....CALONEIS	--	-	--	-	27	2	--	-
....NAVICULA	53	4	210	2	55	4	--	-
...NITZSCHIACEAE								
....NITZSCHIA	76	6	--	-	110	7	890	2
...SURIRELLACEAE								
....SURIRELLA	--	-	--	-	--	-	--	-

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

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980--Continued

DATE TIME	DEC 3,79 1510		MAR 17,80 1440		MAY 19,80 1355		JUN 9,80 1430	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	2500#	22	--	-	--	-
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	310#	23	--	-	--	-	--	-
....ANABAENOPSIS	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	--	-	--	-
....OSCILLATORIA	--	-	1400	12	1300#	86	13000#	23
....SCHIZOTHRIX	250#	18	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	23	2	140	1	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	*	0
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	--	-	--	-

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

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUL 21,80 1400		AUG 18,80 1400		SEP 15,80 1500	
TOTAL CELLS/ML	20000		4400		99000	
DIVERSITY: DIVISION	0.8		0.4		0.5	
.CLASS	0.8		0.4		0.5	
..ORDER	1.6		1.2		1.2	
...FAMILY	2.2		1.6		1.2	
....GENUS	2.6		2.0		1.2	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHLOROCOCCACEAE						
....CHLOROCOCCUM	--	-	--	-	--	-
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	--	-
...MICRACTINIACEAE						
....GOLENKINIA	*	0	*	0	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	700	4	--	-	--	-
....CHODATELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	300	2	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-
....OOCYSTIS	2000	10	160	4	3500	4
....SELENASTRUM	--	-	--	-	--	-
....TETRAEDRON	--	-	*	0	--	-
....WESTELLA	--	-	24	1	--	-
...SCENEDESMACEAE						
....SCENEDESMUS	--	-	36	1	870	1
....TETRASTRUM	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	100	1	--	-	*	0
....PLATYMONAS	--	-	--	-	--	-

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

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980--Continued

DATE TIME	JUL 21,80 1400		AUG 18,80 1400		SEP 15,80 1500	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...CHAETOCERACEAE						
....CHAETOCEROS	--	-	--	-	--	-
...COSCINODISCACEAE						
....CYCLOTELLA	200	1	*	0	3300	3
..PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	--	-	--	-
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	--	-
...NAVICULACEAE						
....CALONEIS	--	-	--	-	--	-
....NAVICULA	--	-	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	150	1	49	1	--	-
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	1200	6	--	-	--	-
....ANACYSTIS	4700#	24	1200#	27	75000#	76
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	290	7	--	-
....ANABAENOPSIS	5400#	27	55	1	--	-
...OSCILLATORIACEAE						
....LYNGBYA	--	-	2200#	51	--	-
....OSCILLATORIA	4800#	24	300	7	15000#	16
....SCHIZOTHRIX	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	100	1	--	-	*	0

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

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	224.7	8010	4970	3010	2200	1310	930	564	1300
NOV.	1979	1263.8	4450	2740	9350	1200	3960	540	1850	740
DEC.	1979	1393	7830	4870	18300	2100	8070	890	3350	1200
JAN.	1980	1874	7500	4630	23400	2000	10100	890	4520	1200
FEB.	1980	1915	9420	5880	30400	2600	13700	1000	5350	1400
MAR.	1980	1032	8720	5430	15100	2400	6680	990	2750	1300
APR.	1980	635	7950	4940	8460	2200	3720	910	1560	1200
MAY	1980	65143	2470	1480	260000	560	98700	350	61600	490
JUNE	1980	14419	6040	3710	144000	1600	61000	740	28700	1000
JULY	1980	1164	9520	5960	18700	2700	8450	1000	3250	1400
AUG.	1980	291.4	10300	6500	5110	3000	2350	1100	855	*
SEPT	1980	51076.5	1070	638	88000	230	32100	160	21900	220
TOTAL		140431.4	**	**	625000	**	250000	**	136000	**
WTD. AVG.		384	2710	1650	**	660	**	360	**	490

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8420	7200	12400	8090	7880	9540	7780	10800	2760	7040	9980	9010
2	8450	7540	11800	9490	7810	9250	7660	10900	3360	7400	10500	8750
3	8580	7840	12400	10500	7780	9580	8000	5730	4580	8050	10600	9100
4	8630	8100	14000	7500	7950	9930	8330	2790	8390	8740	10800	9480
5	8650	8380	13000	6920	8240	9440	8670	2730	6950	8990	10900	9930
6	8660	8470	11900	7430	8500	8860	8840	3250	6360	9340	11100	10200
7	8700	8550	11500	7560	8560	8970	9100	3600	6090	9760	11200	9910
8	8780	8320	11000	7600	8700	9050	9360	1550	5940	10000	11400	9770
9	8860	8460	10000	7820	9440	8740	10400	3450	6100	10300	11500	10300
10	9200	8580	9200	7770	10200	8430	12500	3540	6210	10400	11600	10100
11	9150	8640	9540	7730	10400	8320	12100	3630	6740	10500	11500	10300
12	9100	8600	8350	7650	10900	8230	11500	4100	7200	10600	11400	9980
13	9170	8560	7400	7620	9400	8340	11200	4170	8140	10700	11300	9750
14	9100	8500	7180	7590	8760	8450	10700	4390	9870	10900	11600	9680
15	8450	8580	7150	7440	8870	8590	9840	1150	11600	11000	11500	9600
16	5900	8630	7090	7550	8800	8730	9160	1710	10700	11100	11800	9390
17	4440	8650	7040	7630	8740	9200	8850	3000	5770	11300	9000	6960
18	5510	8680	7250	7500	8540	8730	8570	2480	5130	11200	7430	4200
19	6700	8700	7460	7350	9590	8860	8220	2580	4700	11100	8210	3180
20	7600	8570	7230	7470	9980	8980	7740	3080	4810	11200	8940	2960
21	8050	8620	7010	6860	10600	9090	7220	2670	3830	11100	9560	3150
22	8540	8240	6890	6280	10400	9190	7030	3020	4920	11000	9900	3170
23	8600	6500	6800	5680	10300	9300	6980	3930	5500	11200	10200	2810
24	8670	1500	6710	6360	10500	9400	4570	4440	5320	11100	10400	3290
25	8740	1840	6640	7030	10400	9030	5090	5140	5670	11000	10700	2600
26	8600	3080	6790	7160	10600	8670	6080	5360	5300	10900	10800	2410
27	8670	3780	6850	7300	10300	8300	5120	4810	5340	10800	11000	1830
28	8810	6820	6350	7370	9970	7930	5220	1150	5800	10400	11100	852
29	8950	11600	4220	7410	9830	7060	5610	1420	6220	9370	10900	547
30	7460	12600	5030	7480	---	6500	5930	1360	6760	9650	10600	1290
31	7680	---	7080	7520	---	7220	---	2000	---	9840	9440	---
MEAN	8220	7740	8490	7510	9380	8710	8250	3680	6200	10200	10500	6480

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.0	17.0	15.0	15.0	---	---	26.0	26.0	30.0	---	---	---
2	27.0	18.0	12.0	---	15.0	9.0	25.0	28.0	30.0	36.0	35.0	32.0
3	25.0	20.0	14.0	10.0	16.0	---	---	25.0	30.0	37.0	---	---
4	24.0	---	16.0	---	17.0	22.0	---	28.0	30.0	36.0	---	33.0
5	27.0	20.0	20.0	10.0	---	---	23.0	31.0	32.0	30.0	34.0	---
6	28.0	---	14.0	16.0	17.0	21.0	---	---	32.0	32.0	---	31.0
7	29.0	13.0	---	---	---	---	---	29.0	34.0	35.0	---	---
8	30.0	---	16.0	---	---	18.0	---	21.0	30.0	36.0	---	---
9	---	---	16.0	---	---	---	---	25.0	29.0	---	35.0	27.0
10	21.0	---	19.0	18.0	---	19.0	26.0	31.0	30.0	36.0	---	---
11	---	16.0	---	---	14.0	---	---	30.0	31.0	---	---	32.0
12	29.0	---	---	16.0	15.0	22.0	---	31.0	30.0	36.0	---	---
13	---	18.0	10.0	---	---	---	13.0	28.0	---	---	35.0	33.0
14	25.0	---	11.0	---	21.0	21.0	---	25.0	---	36.0	---	---
15	21.0	---	---	---	---	---	---	20.0	31.0	---	---	33.0
16	28.0	---	---	---	---	23.0	25.0	26.0	31.0	35.0	35.0	33.0
17	27.0	20.0	8.0	17.0	11.0	---	---	26.0	32.0	---	---	29.0
18	27.0	---	---	---	---	19.0	---	23.0	34.0	36.0	33.0	31.0
19	29.0	---	13.0	17.0	21.0	---	29.0	25.0	33.0	---	---	32.0
20	29.0	22.0	---	---	---	---	---	25.0	33.0	36.0	34.0	31.0
21	---	---	---	---	22.0	22.0	23.0	25.0	33.0	---	---	32.0
22	20.0	14.0	20.0	---	---	---	---	26.0	31.0	35.0	---	29.0
23	---	17.0	15.0	18.0	16.0	---	---	28.0	35.0	---	35.0	24.0
24	23.0	20.0	---	---	---	18.0	21.0	32.0	35.0	35.0	---	---
25	---	18.0	---	15.0	---	---	---	32.0	35.0	---	---	24.0
26	---	17.0	17.0	---	19.0	---	17.0	32.0	35.0	---	35.0	---
27	26.0	16.0	---	9.0	---	17.0	---	28.0	37.0	36.0	---	20.0
28	---	10.0	13.0	---	---	24.0	27.0	27.0	---	---	28.0	24.0
29	25.0	10.0	13.0	---	---	---	---	27.0	36.0	35.0	---	24.0
30	17.0	11.0	12.0	---	---	24.0	30.0	28.0	36.0	---	33.0	25.0
31	17.0	---	12.0	---	---	---	---	30.0	---	---	---	---
MEAN	25.5	16.5	14.5	14.5	17.0	20.0	24.0	27.5	32.5	35.0	34.0	29.0

08088300 BRIAR CREEK NEAR GRAHAM, TX

LOCATION.--Lat 33°12'43", long 98°37'06", Young County, Hydrologic Unit 12060201, near right bank on downstream side of bridge on Farm Road 1769, 3.7 mi (6.0 km) upstream from mouth, and 7.0 mi (11.3 km) northwest of Graham.

DRAINAGE AREA.--24.2 mi² (62.7 km²).

PERIOD OF RECORD.--April 1958 to current year. Prior to October 1965, published as Oak Creek near Graham.

REVISED RECORDS.--WSP 2122: 1962. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,090 ft (332 m), from topographic map.

REMARKS.--Records fair. No diversion above station.

AVERAGE DISCHARGE.--22 years (water years 1959-80), 3.56 ft³/s (0.101 m³/s), 2.00 in/yr (51 mm/yr), 2,580 acre-ft/yr (3.18 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,730 ft³/s (77.3 m³/s) Sept. 19, 1976, gage height, 12.31 ft (3.752 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 15.2 ft (4.63 m) in September 1955. Flood in May 1957 reached a stage of 15.0 ft (4.57 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft³/s (5.66 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 15	1500	428	12.1	6.61	2.015
May 28	0315	*675	19.1	9.61	2.929
Sept. 28	1700	642	18.2	9.30	2.835

Minimum discharge, no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.26	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.86	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	1.2	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	4.2	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.78	.00	.00	.00	.21
10	.00	.00	.00	.00	.00	.00	.00	.18	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	115	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	47	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	3.9	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.74	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.15	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	2.6	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	16	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	3.5	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.66	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.12	.00	.00	.03	.00
25	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	42	.00	.00	.00	11
28	.00	.00	.00	.00	.00	.00	.00	362	.00	.00	.00	291
29	.00	.00	1.4	.00	.00	.00	.00	17	.00	.00	.00	305
30	.00	.00	.06	.00	---	.00	.00	3.2	.00	.00	.00	28
31	.00	---	.00	.00	---	.00	---	.91	---	.00	.00	---
TOTAL	.00	.00	1.46	.00	.00	.00	.00	622.07	.35	.00	.03	635.21
MEAN	.000	.000	.047	.000	.000	.000	.000	20.1	.012	.000	.001	21.2
MAX	.00	.00	1.4	.00	.00	.00	.00	362	.26	.00	.03	305
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.002	.000	.000	.000	.000	.83	.000	.000	.000	.88
IN.	.00	.00	.00	.00	.00	.00	.00	.96	.00	.00	.00	.98
AC-FT	.00	.00	2.9	.00	.00	.00	.00	1230	.7	.00	.06	1260

CAL YR 1979 TOTAL 288.43 MEAN .79 MAX 75 MIN .00 CFSM .03 IN .44 AC-FT 572
WTR YR 1980 TOTAL 1259.12 MEAN 3.44 MAX 362 MIN .00 CFSM .14 IN 1.94 AC-FT 2500

08088400 LAKE GRAHAM NEAR GRAHAM, TX

LOCATION.--Lat 33°08'04", long 98°36'48", Young County, Hydrologic Unit 12060201, near left end of earthen dam on Salt Creek, 2.2 mi (3.5 km) northwest of Graham, 5 mi (8 km) downstream from Briar Creek, and 9.5 mi (15.3 km) upstream from mouth.

DRAINAGE AREA.--221 mi² (572 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1958 to September 1963 (unpublished record), October 1963 to current year. Prior to October 1965, monthend contents only.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.30 ft (0.396 m) Salt Creek datum. Prior to October 1963, non-recording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,000 ft (1,500 m) long. Lake Graham was connected with Lake Eddleman in 1959 by a cut channel at a gage height of 1,050.0 ft (320.04 m). Deliberate impoundment began Apr. 28, 1958, and the dam was completed in July 1958. The uncontrolled emergency spillway is a 1,050-foot-wide (320 m) cut at the right end of dam. The spillway is designed to discharge 136,500 ft³/s (3,870 m³/s) at a gage height of 1,087.5 ft (331.47 m). The dam is the property of the city of Graham and was built to impound water for municipal and industrial uses. In addition, water is used by the Texas Electric Service Co. for operation of their steam generating powerplant. The capacity table is based on an original survey of Lake Eddleman in 1928 and a Salt Creek survey of 1953. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	1,092.0	-
Crest of spillway	1,075.0	53,680
Bottom of interconnecting channel	1,050.0	8,670
Lowest gated outlet (invert)	1,050.0	8,670

COOPERATION.--Capacity table was furnished by Freese, Nichols, and Endress, Consulting Engineers. Record of diversions furnished by the city of Graham and the Texas Electric Service Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 61,120 acre-ft (75.4 hm³) Apr. 30, 1970, gage height, 1,077.77 ft (328.504 m); minimum, 28,760 acre-ft (35.5 hm³) Sept. 30, 1979, gage height, 1,064.09 ft (324.335 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 56,260 acre-ft (69.4 hm³) May 29 at 1100 hours, gage height, 1,075.99 ft (327.962 m); minimum, 23,380 acre-ft (28.8 hm³) May 1, gage height, 1,061.23 ft (323.463 m).

Capacity table (gage height, in feet, and total contents, in acre-feet)

1,060.0	21,240	1,070.0	41,480
1,062.0	24,780	1,072.0	46,220
1,064.0	28,580	1,074.0	51,140
1,066.0	32,630	1,076.0	56,290
1,068.0	36,940		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28640	27490	26370	26210	25580	25300	24270	23490	54590	51240	47540	44780
2	28580	27410	26370	26190	25560	25260	24270	23510	54360	51090	47440	44610
3	28520	27320	26350	26170	25540	25090	24270	23510	54120	50990	47290	44540
4	28430	27300	26310	26140	25520	25000	24250	23490	53910	50870	47200	44470
5	28330	27320	26310	26080	25520	24970	24210	23470	53710	50770	47050	44400
6	28310	27260	26270	26100	25500	24950	24140	23710	53530	50670	46950	44350
7	28290	27200	26230	26040	25450	24950	24120	23960	53380	50570	46850	44280
8	28230	27160	26190	26000	25610	24950	24030	23910	53170	50370	46780	44200
9	28070	27140	26180	25950	25630	24760	24000	23800	53100	50200	46680	44130
10	27980	27070	26180	25950	25630	24740	23960	23740	53050	50020	46610	44130
11	27960	27030	26190	25950	25630	24910	23960	23730	52990	49900	46540	44060
12	27900	26970	26270	25870	25590	24890	23960	23650	52890	49780	46490	43960
13	27840	26950	26210	25870	25610	24840	23940	23580	52820	49630	46390	43890
14	27760	26920	26190	25870	25630	24780	23910	23530	52740	49500	46290	43840
15	28000	26900	26140	25910	25580	24720	23870	25610	52690	49380	46170	43750
16	27940	26880	26140	25910	25560	24710	23820	26420	52560	49260	46050	43630
17	28000	26840	26080	25870	25540	24630	23780	26500	52440	49160	46030	43560
18	27960	26840	26040	25820	25560	24600	23740	26520	52540	49060	45980	43490
19	28000	26820	26040	25760	25650	24560	23710	26480	52260	48910	45880	43400
20	27960	26800	26020	25760	25410	24540	23650	26590	52180	48810	45790	43280
21	28040	26800	26000	25800	25500	24500	23620	26820	52180	48710	45740	43140
22	27900	26750	26000	25850	25480	24430	23530	26990	52130	48610	45670	43120
23	27860	26710	26190	25830	25450	24410	23470	26950	52050	48460	45600	43310
24	27800	26650	26160	25780	25460	24360	23530	26940	51980	48370	45520	43260
25	27760	26570	26120	25780	25460	24320	23640	26920	51900	48250	45430	43240
26	27680	26560	26100	25740	25350	24280	23560	26880	51780	48120	45330	43240
27	27680	26560	26080	25710	25320	24270	23600	28270	51700	48070	45210	43750
28	27640	26540	26370	25670	25300	24250	23530	55320	51570	48030	45160	50520
29	27550	26460	26330	25630	25300	24230	23470	56000	51470	47900	45090	55770
30	27640	26400	26290	25630	---	24190	23470	55320	51340	47780	45090	55450
31	27550	---	26270	25610	---	24270	---	54880	---	47660	44920	---
MAX	28640	27490	26370	26210	25650	25300	24270	56000	54590	51240	47540	55770
MIN	27550	26400	26000	25610	25300	24190	23470	23470	51340	47660	44920	43120
(†)	1063.47	1062.87	1062.80	1062.45	1062.28	1061.72	1061.28	1075.46	1074.08	1072.59	1071.46	1075.68
(‡)	-1210	-1150	-130	-660	-310	-1030	-800	+31410	-3540	-3680	-2740	+10530
(††)	458	379	359	378	344	328	288	280	543	784	660	507

CAL YR 1979 MAX 33160 MIN 26000 ‡ -4650 †† 4348
WTR YR 1980 MAX 56000 MIN 23470 ‡ +26690 †† 5308

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use by the city of Graham and for use by Texas Electric Service Co. powerplant.

08088400 LAKE GRAHAM NEAR GRAHAM, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
FEB									
11...	1735	966	7.5	240	110	70	15	100	2.8
MAY									
06...	0710	1050	24.5	240	120	73	15	110	3.1

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
FEB								
11...	10	150	0	33	220	.4	4.2	527
MAY								
06...	11	150	0	59	230	.7	3.9	576

08088450 BIG CEDAR CREEK NEAR IVAN, TX

LOCATION.--Lat 32°49'39", long 98°43'25", Stephens County, Hydrologic Unit 12060201, on left bank at downstream side of bridge on Farm Road 717, 3.2 mi (5.1 km) south of Ivan, 8.2 mi (13.2 km) northwest of Caddo, and 11.6 mi (18.7 km) northeast of Breckenridge.

DRAINAGE AREA.--97.0 mi^2 (251.2 km^2).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,090 ft (33 m), from topographic map.

REMARKS.--Records good. No regulation or diversion above station.

AVERAGE DISCHARGE.--15 years (water years 1966-80), 10.2 ft^3/s (0.289 m^3/s), 1.43 in/yr (36 mm/yr), 7,390 acre-ft/yr (9.11 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,590 ft^3/s (272 m^3/s) July 8, 1968, gage height, 22.39 ft 16.824 m), from rating curve extended above 1,000 ft^3/s (28.3 m^3/s) on basis of slope-area measurement of 7,980 ft^3/s (226 m^3/s); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,480 ft^3/s (41.9 m^3/s) Sept. 25 at 2400 hours, gage height, 10.86 ft (3.310 m), no other peak above base of 1,000 ft^3/s (28.3 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.02	.14	.02	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.04	.13	.02	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.03	.13	.02	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.04	.15	.02	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.03	.17	.02	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.04	.20	.02	.00	.00	.00	.00	.00	.00
7	.00	.00	.01	.04	.21	.02	.00	.00	.00	.00	.00	.02
8	.00	.00	.01	.05	.36	.01	.00	25	.00	.00	.00	.02
9	.00	.00	.01	.07	.07	.01	.00	16	.00	.00	.00	.04
10	.00	.00	.01	.09	.02	.01	.00	2.0	.00	.00	.00	.03
11	.00	.00	.01	.10	.02	.01	.00	.45	.00	.00	.00	.03
12	.00	.00	.03	.08	.02	.01	.00	.05	.00	.00	.00	.05
13	.00	.00	.02	.05	.01	.01	.00	.00	.00	.00	.00	.08
14	.00	.00	.02	.05	.01	.01	.00	.00	.00	.00	.00	.09
15	.00	.00	.02	.06	.01	.01	.00	8.6	.00	.00	.00	.10
16	.00	.00	.02	.07	.01	.01	.00	17	.00	.00	.00	.14
17	.00	.00	.02	.07	.01	.01	.00	2.2	.00	.00	.00	.19
18	.00	.00	.02	.07	.01	.01	.00	.36	.00	.00	.00	.16
19	.00	.00	.02	.07	.01	.01	.00	.06	.00	.00	.00	.16
20	.00	.00	.02	.09	.01	.00	.00	.00	.00	.00	.00	.16
21	.00	.00	.02	.10	.01	.00	.00	23	.00	.00	.00	.08
22	.00	.00	.02	.12	.01	.01	.00	5.7	.00	.00	.00	.06
23	.00	.00	.08	.04	.01	.00	.00	.96	.00	.00	.00	.08
24	.00	.00	.04	.04	.01	.00	.00	.17	.00	.00	.00	.15
25	.00	.00	.03	.07	.01	.00	.01	.02	.00	.00	.00	85
26	.00	.00	.04	.08	.02	.00	.01	.00	.00	.00	.00	142
27	.00	.00	.04	.09	.02	.01	.00	.00	.00	.00	.00	4.3
28	.00	.00	.12	.11	.02	.01	.00	.00	.00	.00	.00	198
29	.73	.00	.02	.13	.02	.01	.00	.00	.00	.00	.00	342
30	.01	.00	.02	.15	---	.01	.00	.00	.00	.00	.00	21
31	.00	---	.02	.15	---	.00	---	.00	---	.00	.00	---
TOTAL	.74	.00	.69	2.24	1.83	.31	.02	101.57	.00	.00	.00	793.94
MEAN	.024	.000	.022	.072	.063	.010	.001	3.28	.000	.000	.000	26.5
MAX	.73	.00	.12	.15	.36	.02	.01	25	.00	.00	.00	342
MIN	.00	.00	.00	.02	.01	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.001	.001	.000	.000	.03	.000	.000	.000	.27
IN.	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.30
AC-FT	1.5	.00	1.4	4.4	3.6	.6	.04	201	.00	.00	.00	1570

CAL YR 1979 TOTAL 144.29 MEAN .40 MAX 35 MIN .00 CFSM .004 IN .06 AC-FT 286
WTR YR 1980 TOTAL 901.34 MEAN 2.46 MAX 342 MIN .00 CFSM .03 IN .35 AC-FT 1790

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX

LOCATION.--Lat 32°52'20", long 98°25'32", Palo Pinto County, Hydrologic Unit 12060201, at Morris Sheppard Dam on Brazos River, 2.6 mi (4.2 km) upstream from Loving Creek, 11.3 mi (18.2 km) southwest of Graford, and at mile 687.5 (1,106.2 km).

DRAINAGE AREA.--23,596 mi² (61,114 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1941 to current year. Prior to October 1977, published as Possum Kingdom Reservoir.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.10 ft (0.030 m) National Geodetic Vertical Datum of 1929 (levels by Brazos River Authority). Prior to Mar. 19, 1968, mercury U-tube in powerhouse at present site and datum.

REMARKS.--The lake is formed by reinforced concrete dam, Ambursen-type, massive buttress with flat-slab deck, a controlled spillway, two bulkhead sections, and an earthen-dike section. Total length of dam is 2,740 ft (835 m) long. The dam was completed and storage began Mar. 21, 1941. The spillway has nine roof-weir gates (modified bear-trap type) that are 73.66 by 13 ft (22.45 by 4 m) each and are designed to discharge about 100,000 ft³/s (2,830 m³/s) at a gage height of 1,000.0 ft (304.80 m). The outlet works consist of one controlled 54-inch-diameter (1,372 mm) conduit. Water is used for power development, irrigation, municipal, industrial, and recreational purposes. Two generators located in the powerhouse at dam can produce 22,500 kilowatts at a 1,000 ft (305 m) gage height. Eleven major reservoirs, with a combined capacity of 607,800 acre-ft (749 hm³), largely regulate the inflow. The capacity curve is based on recomputation of survey made in 1974. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	1,024.0	-
Design flood (top of gates)	1,000.0	570,200
Crest of spillway	987.0	383,300
Invert of penstock	911.5	4,560
Lowest gated outlet (invert of 54-inch conduit)	874.8	0

COOPERATION.--Capacity table 3-C furnished by the Brazos River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 743,700 acre-ft (917 hm³) Oct. 5, 1941, gage height, 1,001.0 ft (305.10 m); minimum observed, 273,000 acre-ft (337 hm³) Feb. 19 to Mar. 17, 1953, gage height, 967.0 ft (294.74 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 559,200 acre-ft (689 hm³) May 31 at 2100 hours, gage height 999.37 ft (304.608m); minimum, 438,700 acre-ft (541 hm³) Sept. 24, gage height, 991.45 ft (302.194 m).

Capacity table (gage height, in feet, and total contents, in acre-feet)

990.0	419,800	996.0	504,000
992.0	446,100	998.0	536,000
994.0	474,100	1,000.0	570,200

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	523000	507500	498200	499300	490200	488100	484100	477900	558000	533400	489600	461700
2	522500	507000	498200	499900	490500	487600	484100	477700	555600	531300	488100	461000
3	521700	506800	498200	499000	490500	487200	483600	477600	553000	529600	487500	460700
4	520400	506000	498000	499000	490300	487300	483300	477300	549100	528000	487200	460600
5	520200	506000	498400	499000	490200	486700	483200	476700	546600	526500	486600	460100
6	518800	505100	497900	498800	490000	486700	482700	476900	545700	524900	484700	459900
7	517700	505300	497900	498800	489900	486600	482400	476600	545000	523100	483600	459400
8	516600	505400	497700	498800	490900	486300	482000	476900	545000	521700	483300	459900
9	515000	505100	497600	498800	491100	486600	481800	477700	545700	520100	482600	460300
10	514700	504300	497600	499100	491400	486400	481700	478500	546200	518600	482100	458900
11	514400	504200	497400	498800	491700	486400	481700	478900	545000	517200	481400	457500
12	513100	503900	497300	498700	491700	486600	481100	478900	545000	515500	480700	456000
13	512300	503600	497300	499000	492100	486000	481000	478800	545000	513600	480200	453700
14	511800	502800	497100	499300	492400	485500	480800	478500	545200	511500	479600	451900
15	515300	502200	497100	499100	492100	485500	480800	478800	545400	509800	479100	449500
16	515000	502500	497000	499100	490300	486100	480700	477300	545700	508200	478000	448000
17	514200	502000	497000	499000	489900	485200	479600	479100	546700	506400	478000	446200
18	513700	502300	496700	499300	490300	485100	478600	485400	546900	503700	478500	444300
19	512800	502500	496500	499400	490600	485100	478200	497300	547400	502000	477700	444200
20	511500	502200	496700	499100	490900	485000	478000	512000	547200	501900	476300	444000
21	510700	502200	497000	499600	490800	484700	478000	519400	548100	501300	475100	442000
22	509500	500800	496800	499600	490800	484400	477200	524300	548300	500800	473200	440100
23	509200	500500	498000	498800	490300	484400	477200	527500	547800	500500	471500	439100
24	509000	500300	497600	498700	490200	483600	478200	530600	545900	499100	469100	438700
25	508700	500600	497900	498800	489900	483500	478600	532200	544700	497600	467200	440100
26	508400	500800	497900	498500	489900	483600	478200	532200	543000	495500	465800	440900
27	508500	500300	498000	497000	490200	484100	477900	534400	541400	495200	465200	442400
28	507900	499600	499000	495900	490300	484400	477900	540700	538900	494900	464800	449200
29	507800	498700	499000	494200	490300	484400	477900	549100	537400	493000	464800	470800
30	507600	498000	499000	494200	---	483900	478000	555900	535400	491700	464400	497700
31	507600	---	499000	492300	---	484100	---	559100	---	490600	463700	---
MAX	523000	507500	499000	499900	492400	488100	484100	559100	558000	533400	489600	497700
MIN	507600	498000	496500	492300	489900	483500	477200	476600	535400	490600	463700	438700
(†)	996.23	995.61	995.67	995.23	995.10	994.68	994.27	999.36	997.96	995.12	993.27	995.59
(‡)	-16000	-9600	-1000	-6700	-2000	-6200	-6100	+81100	-23700	-44800	-26900	+34000

CAL YR 1979 MAX 560600 MIN 496500 ‡ 31300
WTR YR 1980 MAX 559100 MIN 438700 ‡ 25900

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

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1962 to current year.

325208098254201 POSSUM KINGDOM LAKE SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
17...	1440	1.0	2510	8.4	11.6	10.7	103
17...	1442	10	2510	8.4	10.3	10.7	100
17...	1444	20	2510	8.4	10.2	10.4	96
17...	1446	30	2510	8.4	10.2	10.2	94
17...	1448	40	2510	8.3	10.1	9.5	88
17...	1450	50	2510	8.2	10.0	9.1	84
17...	1452	60	2510	8.1	9.9	8.7	81
MAY							
03...	1325	1.0	2540	7.6	20.0	8.9	100
03...	1327	10	2540	7.6	19.0	9.2	101
03...	1329	20	2540	7.7	18.0	9.6	103
03...	1331	30	2540	7.6	16.0	9.6	99
03...	1333	40	2540	7.5	15.0	9.0	91
03...	1335	50	2540	7.4	14.5	8.3	83
03...	1337	60	2540	7.3	13.5	7.4	73
03...	1338	70	2540	7.1	12.5	6.4	62
03...	1339	80	2540	7.0	12.0	5.4	51
03...	1340	93	2540	6.9	11.5	3.8	36
AUG							
20...	1320	1.0	2870	7.9	28.0	6.9	91
20...	1322	10	2870	7.8	28.0	6.9	91
20...	1324	20	2870	7.8	28.0	6.8	89
20...	1326	30	2870	7.8	27.5	6.5	84
20...	1328	40	2870	7.3	26.0	3.3	42
20...	1330	50	2740	7.1	21.0	.2	2
20...	1332	57	2730	7.2	19.5	.2	2

325218098254101 POSSUM KINGDOM LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
JAN										
17...	1405	1.0	2510	8.5	11.5	2.60	10.8	104	380	270
17...	1407	10	2510	8.5	10.8	--	10.8	102	--	--
17...	1409	20	2510	8.4	10.2	--	10.2	94	--	--
17...	1411	30	2510	8.3	10.0	--	9.8	91	--	--
17...	1413	40	2510	8.2	10.0	--	9.1	84	--	--
17...	1415	50	2510	8.2	9.9	--	9.1	84	--	--
17...	1417	60	2510	8.2	9.8	--	9.0	83	--	--
17...	1419	70	2510	8.1	9.7	--	8.8	81	--	--
17...	1421	80	2700	7.7	9.3	--	5.8	53	--	--
17...	1423	90	2820	7.7	9.3	--	5.0	46	--	--
17...	1425	100	2820	7.7	9.5	--	5.0	46	420	310
MAY										
03...	1251	1.0	2540	7.6	20.5	6.4	8.5	97	430	330
03...	1253	10	2540	7.6	19.0	--	9.1	100	--	--
03...	1255	20	2540	7.7	17.5	--	9.7	103	--	--
03...	1257	30	2540	7.6	16.0	--	9.5	98	--	--
03...	1259	40	2540	7.5	15.0	--	8.9	90	--	--
03...	1301	50	2540	7.4	14.5	--	8.4	84	--	--
03...	1303	60	2540	7.3	13.5	--	7.4	73	--	--
03...	1305	70	2540	7.1	12.5	--	6.7	64	--	--
03...	1307	80	2540	7.0	11.5	--	5.9	56	--	--
03...	1309	90	2540	7.0	11.5	--	4.1	38	--	--
03...	1311	99	2540	6.8	11.5	--	3.2	30	430	310
AUG										
20...	1245	1.0	2870	7.8	28.0	3.3	6.8	89	470	370
20...	1247	10	2870	7.8	28.0	--	6.8	89	--	--
20...	1249	20	2870	7.8	28.0	--	6.7	88	--	--
20...	1251	30	2870	7.8	27.5	--	5.9	77	--	--
20...	1253	40	2870	7.2	26.0	--	2.7	35	--	--
20...	1255	50	2740	7.1	21.0	--	.0	0	--	--
20...	1257	60	2750	7.1	18.0	--	.0	0	--	--
20...	1259	70	2780	7.1	16.5	--	.0	0	--	--
20...	1301	80	2780	7.1	16.5	--	.0	0	--	--
20...	1303	90	2920	7.1	15.5	--	.0	0	--	--
20...	1305	98	4130	7.0	15.5	--	.0	0	690	490

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325218098254101 POSSUM KINGDOM LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JAN									
17...	99	31	360	8.1	7.7	130	0	280	560
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	110	34	400	8.5	8.0	130	0	300	620
MAY									
03...	120	32	360	7.5	8.4	130	0	270	620
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	120	31	360	7.6	8.3	140	0	270	610
AUG									
20...	130	34	430	8.7	8.9	110	0	330	700
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	200	45	650	11	10	250	0	440	1100

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN									
17...	.4	6.2	1410	.02	.65	.67	.010	20	0
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	.06	.03	.09	.020	20	10
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	6.5	1540	.11	.92	1.0	.120	30	190
MAY									
03...	.4	5.1	1480	.01	.63	.64	.010	20	0
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	.04	.78	.82	.010	20	20
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	6.5	1480	.10	1.4	1.5	.020	20	250
AUG									
20...	.4	3.2	1690	.00	.56	.56	.000	10	10
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	.00	1.3	1.3	.010	20	10
20...	--	--	--	.00	1.3	1.3	.010	10	10
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	11	2580	.00	1.1	1.1	.700	70	1200

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325250098275301 POSSUM KINGDOM LAKE SITE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
17...	1345	1.0	2510	8.4	11.0	10.3	97
17...	1347	10	2510	8.3	10.0	9.6	89
17...	1349	20	2510	8.2	10.0	9.3	86
17...	1351	30	2510	8.2	10.0	9.3	86
17...	1353	40	2510	8.2	10.0	9.1	84
17...	1355	50	2510	8.2	9.5	9.2	85
17...	1357	60	2510	8.1	9.5	9.2	85
MAY							
03...	1200	1.0	2540	7.6	19.0	8.9	98
03...	1202	10	2540	7.6	19.0	9.0	99
03...	1204	20	2540	7.6	17.5	9.4	100
03...	1206	30	2540	7.6	16.5	9.3	97
03...	1208	40	2540	7.5	15.0	8.5	86
03...	1210	50	2540	7.3	14.0	7.3	72
03...	1212	60	2540	7.1	14.0	6.3	62
AUG							
20...	1225	1.0	2890	7.8	28.0	7.0	91
20...	1227	10	2890	7.8	28.0	6.9	90
20...	1229	20	2890	7.8	28.0	6.9	90
20...	1231	32	2890	7.8	28.0	6.5	84

325256098275301 POSSUM KINGDOM LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
17...	1320	1.0	2510	8.4	11.0	10.3	97
17...	1322	10	2510	8.4	10.5	10.1	94
17...	1324	20	2510	8.3	10.0	9.7	90
17...	1326	30	2510	8.2	10.0	9.5	88
17...	1328	40	2510	8.2	9.5	9.0	83
17...	1330	50	2510	8.1	9.5	8.9	82
17...	1332	60	2510	8.1	9.5	8.9	82
17...	1334	70	2510	8.1	9.5	8.5	78
17...	1336	80	2700	7.8	9.5	6.2	57
17...	1338	90	2820	7.6	9.5	4.1	38
17...	1340	94	2820	7.6	9.5	4.0	37
MAY							
03...	1220	1.0	2540	7.6	19.5	8.8	98
03...	1222	10	2540	7.6	19.0	9.0	99
03...	1224	20	2540	7.6	18.0	9.3	100
03...	1226	30	2540	7.6	16.0	9.3	96
03...	1228	40	2540	7.5	14.5	8.6	86
03...	1230	50	2540	7.3	14.0	7.5	74
03...	1232	60	2540	7.2	13.0	6.9	67
03...	1234	70	2540	7.0	12.5	5.1	49
03...	1236	80	2540	6.9	12.0	3.9	37
03...	1238	91	2540	6.9	12.0	3.0	29
AUG							
20...	1200	1.0	2890	7.8	28.0	7.0	91
20...	1202	10	2890	7.8	28.0	7.0	91
20...	1204	20	2890	7.8	28.0	6.9	90
20...	1206	30	2890	6.5	27.5	6.7	86
20...	1208	40	3000	6.9	25.5	.8	10
20...	1210	50	2890	6.9	22.0	.1	1
20...	1212	60	2880	7.0	18.5	.1	1
20...	1214	70	2860	7.0	17.5	.1	1
20...	1216	80	2830	7.0	16.5	.1	1
20...	1218	90	3090	7.0	16.5	.1	1

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325129098311801 POSSUM KINGDOM LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
17...	1225	1.0	2510	8.4	10.9	10.5	99
17...	1227	10	2510	8.4	10.1	10.1	94
17...	1229	20	2510	8.2	9.7	9.5	87
17...	1231	30	2510	8.2	9.6	9.5	87
17...	1233	40	2510	8.2	9.4	9.1	83
17...	1235	50	2510	8.1	9.3	9.0	83
17...	1237	60	2510	8.1	9.2	9.0	81
17...	1239	70	2510	8.1	9.1	8.9	80
17...	1241	78	2510	8.1	9.0	8.9	80
MAY							
03...	1055	1.0	2660	7.5	19.5	8.8	99
03...	1057	10	2660	7.6	19.5	8.9	99
03...	1059	20	2660	7.6	18.5	9.1	100
03...	1101	30	2660	7.6	16.5	9.0	94
03...	1103	40	2660	7.1	15.0	6.7	68
03...	1105	50	2660	7.0	14.5	5.3	53
03...	1107	60	2660	6.9	14.0	4.5	45
03...	1109	74	2660	6.8	14.0	3.5	35
AUG							
20...	1105	1.0	3040	7.8	27.5	6.6	85
20...	1107	10	3050	7.8	27.5	6.6	85
20...	1109	20	3060	7.8	27.5	6.4	82
20...	1111	30	3060	7.5	27.0	5.2	67
20...	1113	40	3220	6.9	25.5	.4	5
20...	1115	50	3160	6.9	21.5	.1	1
20...	1117	60	3160	6.9	19.5	.1	1
20...	1119	72	3160	6.9	19.0	.1	1

325327098314001 POSSUM KINGDOM LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
17...	1110	1.0	2530	8.3	10.0	2.10	10.1	94	380
17...	1112	10	2530	8.4	9.7	--	10.2	94	--
17...	1114	20	2530	8.3	9.6	--	9.8	90	--
17...	1116	30	2530	8.2	9.0	--	9.3	84	--
17...	1118	40	2530	8.1	8.9	--	9.3	84	--
17...	1120	50	2530	8.1	8.8	--	9.3	84	--
17...	1122	60	2530	8.1	8.5	--	9.3	82	--
17...	1124	70	2530	8.1	8.5	--	9.3	82	380
MAY									
03...	0925	1.0	2620	7.5	19.5	3.7	8.9	99	430
03...	0927	10	2620	7.6	19.0	--	9.1	100	--
03...	0928	20	2620	7.6	18.0	--	9.4	101	--
03...	0929	30	2650	7.4	16.5	--	8.3	86	--
03...	0931	40	2820	7.2	15.5	--	6.8	69	--
03...	0933	50	2820	7.0	15.0	--	5.6	57	--
03...	0935	60	2820	7.0	14.5	--	4.6	46	--
03...	0937	68	2820	6.8	14.5	--	4.0	40	470
AUG									
20...	0925	1.0	3030	7.8	28.0	1.25	6.9	91	500
20...	0927	10	3030	7.8	27.5	--	6.8	87	--
20...	0929	20	3030	7.8	27.5	--	6.5	83	--
20...	0931	30	3080	7.5	27.5	--	5.0	64	--
20...	0933	40	3200	7.0	27.0	--	1.6	21	--
20...	0935	50	3450	6.8	22.5	--	.3	4	--
20...	0937	60	3490	6.8	20.5	--	.3	3	--
20...	0939	66	3510	6.8	20.0	--	.1	1	590

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325327098314001 POSSUM KINGDOM LAKE SITE DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
17...	270	100	32	360	8.0	7.7	130	0	280
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	270	100	31	380	8.5	7.8	130	0	250
MAY									
03...	320	120	32	380	8.0	8.3	130	0	270
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	350	130	35	400	8.0	8.6	140	0	300
AUG									
20...	410	140	36	440	8.6	9.5	110	0	360
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	460	170	39	530	9.5	9.7	150	0	390

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
17...	570	6.1	1420	.04	.14	.18	.010	30	0
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	.05	.15	.20	.020	20	0
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	580	5.6	1420	.05	.20	.25	.040	30	0
MAY									
03...	610	4.7	1490	.01	1.4	1.4	.010	50	10
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	.03	.89	.92	.010	10	20
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	700	4.9	1650	.08	.78	.86	.020	10	180
AUG									
20...	730	3.7	1770	.00	.73	.73	.010	10	10
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	.00	1.1	1.1	.020	20	10
20...	--	--	--	.00	.98	.98	.020	20	10
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	880	5.7	2100	.00	1.3	1.3	.090	210	690

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325347098265701 POSSUM KINGDOM LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
17...	1700	1.0	2540	8.4	10.4	10.4	97
17...	1702	10	2540	8.4	9.7	10.4	95
17...	1704	20	2540	8.3	9.3	10.1	93
17...	1706	30	2540	8.2	8.7	9.7	86
17...	1708	40	2540	8.1	8.4	9.1	81
17...	1710	52	2540	8.0	8.4	9.1	81
MAY							
03...	1435	1.0	2880	7.5	21.0	8.3	95
03...	1437	10	2880	7.5	20.0	8.3	93
03...	1439	20	2880	7.4	18.5	7.9	86
03...	1441	30	2990	7.2	17.0	6.4	67
03...	1443	40	3050	7.0	16.0	5.3	55
03...	1445	51	3100	6.8	16.0	3.0	31
AUG							
20...	1530	1.0	3100	8.2	29.0	7.7	103
20...	1532	10	3110	8.1	28.5	7.5	99
20...	1534	20	3130	8.1	28.5	6.6	87
20...	1536	30	3140	7.9	28.5	5.7	75
20...	1538	40	3180	7.6	28.0	3.9	51
20...	1540	52	3960	7.1	27.0	.1	1

325557098264401 POSSUM KINGDOM LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
17...	1645	1.0	2630	8.3	10.7	10.3	96
17...	1647	10	2630	8.3	9.4	10.4	95
17...	1649	20	2630	8.2	9.2	10.0	90
17...	1651	30	2700	8.2	8.8	9.6	86
17...	1653	41	3600	7.9	8.8	7.9	72
MAY							
03...	1506	1.0	3050	7.5	21.0	8.2	94
03...	1508	10	3080	7.5	20.0	8.1	91
03...	1510	20	3090	7.4	18.5	7.3	79
03...	1512	30	3090	7.1	17.5	5.0	53
03...	1514	38	3180	6.8	17.5	2.8	30
AUG							
21...	0910	1.0	3150	7.9	28.0	7.0	91
21...	0912	10	3150	7.8	28.0	6.8	88
21...	0914	20	3160	7.8	28.0	6.4	83
21...	0916	30	3160	7.7	28.0	5.5	71
21...	0918	41	3160	7.6	27.5	4.4	56

325715098250501 POSSUM KINGDOM LAKE SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
17...	1625	1.0	2650	8.3	11.0	1.10	10.3	97	410
17...	1627	10	2650	8.3	9.5	--	10.5	96	--
17...	1629	20	2700	8.2	9.5	--	9.9	91	--
17...	1631	32	4160	7.8	9.5	--	6.9	64	570
MAY									
03...	1530	1.0	3150	7.5	21.0	.61	8.1	93	590
03...	1532	10	3240	7.4	20.0	--	7.6	85	--
03...	1534	20	3240	7.1	18.5	--	5.3	58	--
03...	1536	29	3810	6.7	18.5	--	2.5	27	620
AUG									
21...	0940	1.0	3240	7.9	28.5	.61	7.5	100	530
21...	0942	10	3240	7.9	28.5	--	6.8	91	--
21...	0944	20	3250	7.8	28.5	--	6.3	84	--
21...	0946	28	3270	7.5	28.0	--	3.7	48	540

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325715098250501 POSSUM KINGDOM LAKE SITE GC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
17...	300	110	32	370	8.0	7.9	130	0	300
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	460	150	47	620	11	8.5	130	0	390
MAY									
03...	470	160	46	480	8.6	9.1	140	0	330
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	500	170	47	560	9.8	9.4	140	0	380
AUG									
21...	460	150	38	460	8.7	8.9	87	0	410
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	460	150	39	480	9.0	10	89	0	420

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
17...	620	5.4	1510	.04	.39	.43	.020	30	0
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	990	4.1	2270	.03	.80	.83	.060	30	50
MAY									
03...	790	4.0	1890	.01	.62	.63	.020	10	10
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	970	4.4	2210	.01	1.1	1.1	.070	20	240
AUG									
21...	790	4.2	1900	.00	.92	.92	.030	20	10
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	810	4.4	1960	.00	1.2	1.2	.050	20	60

325047098291201 POSSUM KINGDOM LAKE SITE P3

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
17...	1255	1.0	2510	8.3	10.9	9.7	92
17...	1257	10	2510	8.3	10.4	9.8	92
17...	1259	20	2510	8.3	10.1	9.7	90
17...	1301	30	2510	8.3	10.1	9.6	89
17...	1303	40	2510	8.2	9.9	9.3	86
17...	1304	50	2510	8.1	9.8	8.8	81
17...	1306	60	2510	8.1	9.7	8.5	78
MAY							
03...	1135	1.0	2570	7.5	20.5	8.8	100
03...	1137	10	2570	7.6	19.5	8.9	99
03...	1139	20	2570	7.5	18.5	9.0	98
03...	1141	30	2570	7.5	16.0	8.6	89
03...	1143	40	2570	7.4	15.5	7.8	80
03...	1145	50	2570	7.0	14.5	5.7	57
03...	1147	56	2570	6.9	14.0	5.1	50
AUG							
20...	1400	1.0	2980	7.8	28.0	6.5	84
20...	1402	10	2980	7.8	28.0	6.5	84
20...	1404	20	2980	7.8	27.5	5.9	77
20...	1406	30	3020	7.5	27.0	4.3	55
20...	1408	40	3080	7.0	26.0	.4	5
20...	1410	50	2950	7.0	22.0	.2	2
20...	1412	64	2910	7.0	19.5	.2	2

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325125098323701 POSSUM KINGDOM LAKE SITE P5

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
17...	1205	1.0	2510	8.2	10.0	9.6	89
17...	1207	10	2510	8.2	9.5	9.6	88
17...	1209	20	2510	8.2	9.4	9.3	85
17...	1211	30	2510	8.1	9.4	9.2	84
17...	1213	35	2510	8.1	9.4	9.2	84
MAY							
03...	1034	1.0	2620	7.5	20.5	8.5	97
03...	1036	10	2620	7.5	20.0	8.4	94
03...	1038	20	2620	7.2	19.0	6.9	76
03...	1040	25	2620	7.1	17.5	5.4	58
AUG							
20...	1050	1.0	3020	7.6	27.5	6.2	81
20...	1052	10	3020	7.6	27.5	6.2	81
20...	1054	22	3020	7.5	27.5	5.3	69

325301098342901 POSSUM KINGDOM LAKE SITE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
17...	1140	1.0	2510	8.4	10.3	10.3	96
17...	1142	10	2510	8.4	9.8	10.3	95
17...	1144	20	2510	8.3	9.6	10.1	93
17...	1146	30	2510	8.2	9.1	9.3	84
17...	1148	40	2510	8.1	9.0	9.1	82
17...	1150	50	2510	8.1	8.9	9.1	82
17...	1152	60	2510	8.1	8.8	8.9	80
17...	1154	70	2510	8.0	8.8	8.6	77
MAY							
03...	1000	1.0	2690	7.5	20.0	8.7	98
03...	1002	10	2690	7.5	19.5	8.9	99
03...	1004	20	2690	7.5	17.5	9.2	98
03...	1006	30	2690	7.4	16.5	8.6	90
03...	1008	40	2690	7.0	15.5	5.8	59
03...	1010	50	2690	6.8	14.5	3.7	37
03...	1012	62	2690	6.7	15.0	2.9	29
AUG							
20...	1000	1.0	3020	7.9	27.5	6.9	90
20...	1002	10	3020	7.9	27.5	6.8	88
20...	1004	20	3020	7.8	27.5	6.5	84
20...	1006	30	3030	7.7	27.5	5.7	74
20...	1008	40	3050	6.9	26.0	1.0	13
20...	1010	50	2800	6.8	21.0	.0	0
20...	1012	61	2780	6.8	19.0	.0	0

325915098243001 POSSUM KINGDOM LAKE SITE P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
17...	1345	1.0	2790	8.2	10.1	10.5	97
17...	1347	10	2790	8.3	9.6	10.0	92
17...	1349	20	2790	8.2	9.4	9.7	90
17...	1351	30	4240	7.7	9.2	5.6	51
MAY							
03...	1550	1.0	3230	7.5	21.0	8.4	97
03...	1552	10	3270	7.4	20.0	6.9	78
03...	1554	20	3530	6.9	19.0	4.2	46
03...	1556	26	3640	6.7	19.0	3.0	33
AUG							
21...	1010	1.0	3270	8.0	28.5	7.5	99
21...	1012	10	3270	7.9	28.5	6.8	89
21...	1014	20	3270	7.8	28.5	6.4	84
21...	1016	27	3280	7.6	28.5	4.8	63

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325725098280301 POSSUM KINGDOM LAKE SITE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
17...	1605	1.0	2900	8.3	10.5	1.00	10.4	97	450
17...	1607	10	3000	8.3	10.0	--	10.1	94	--
17...	1609	15	3880	8.1	10.5	--	9.3	88	530
MAY									
03...	1610	1.0	3770	7.4	23.5	.30	8.0	96	510
03...	1612	7.0	4840	7.3	22.5	--	6.4	75	700
AUG									
21...	1040	1.0	3630	7.9	28.5	.40	7.2	96	600
21...	1042	9.0	4370	7.2	28.0	--	4.4	58	640

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
17...	350	120	37	450	9.2	8.1	130	0	310
17...	--	--	--	--	--	--	--	--	--
17...	420	140	43	580	11	8.2	130	0	390
MAY									
03...	390	140	38	580	11	9.7	140	0	360
03...	590	190	55	700	12	9.1	140	0	450
AUG									
21...	530	170	42	560	10	11	88	0	500
21...	570	180	46	640	11	9.0	85	0	550

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
17...	690	5.0	1680	.03	.16	.19	.020	30	10
17...	--	--	--	--	--	--	--	--	--
17...	940	3.8	2170	.02	.34	.36	.070	30	10
MAY									
03...	920	3.7	2120	.01	.80	.81	.050	20	30
03...	1200	3.4	2680	.01	1.2	1.2	.080	110	100
AUG									
21...	930	4.5	2260	.00	1.1	1.1	.050	70	10
21...	1100	4.7	2570	.00	1.4	1.4	.080	20	60

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325218098254101 POSSUM KINGDOM LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)
JAN							
17...	1405	1.0	2	200	0	0	0
17...	1413	40	--	--	--	--	--
17...	1425	100	1	300	1	0	0
MAY							
03...	1251	1.0	1	200	0	0	0
03...	1303	60	--	--	--	--	--
03...	1311	99	2	200	0	0	0
AUG							
20...	1245	1.0	1	400	1	10	0
20...	1251	30	--	--	--	--	--
20...	1253	40	--	--	--	--	--
20...	1305	98	12	600	1	0	0

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN							
17...	20	2	0	.1	0	0	0
17...	20	--	10	--	--	--	--
17...	30	1	190	.1	0	0	0
MAY							
03...	20	2	0	.1	0	0	10
03...	20	--	20	--	--	--	--
03...	20	1	250	.4	0	0	10
AUG							
20...	10	0	10	.2	0	0	10
20...	20	--	10	--	--	--	--
20...	10	--	10	--	--	--	--
20...	70	0	1200	.2	0	0	50

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325218098254101 POSSUM KINGDOM LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 17,80		MAY 3,80		AUG 20,80	
TIME	1406		1252		1246	
TOTAL CELLS/ML	48000		1000		24000	
DIVERSITY: DIVISION	1.3		1.4		0.2	
.CLASS	1.3		1.4		0.2	
..ORDER	1.7		1.6		0.4	
...FAMILY	1.9		2.1		1.2	
....GENUS	2.2		2.4		1.4	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHLOROCOCCACEAE						
....CHLOROCOCCUM	590	1	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	1300	3	--	-	*	0
....CHLORELLA	15000#	31	52	5	--	-
....OOCYSTIS	*	0	26	2	*	0
....TETRAEDRON	*	0	100	10	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	470	1	--	-	--	-
....SCENEDESMUS	1200	2	470#	45	330	1
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	*	0	13	1	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	590	1	13	1	*	0
..PENNALES						
...NAVICULACEAE						
....NAVICULA	710	1	--	-	--	-
.CHRYSOPHYCEAE						
..CHRYSOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	130	13	*	0
...CRYPTOMONADACEAE						
....CRYPTOMONAS	1700	3	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	23000#	47	39	4	450	2
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	280	1
....ANABAENOPSIS	--	-	--	-	5800#	24
....APHANIZOMENON	--	-	--	-	420	2
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	190#	19	17000#	68
....SCHIZOTHRIX	3600	7	--	-	--	-
....SPIRULINA	*	0	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	--	-	*	0

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

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325725098280301 POSSUM KINGDOM LAKE SITE P10

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 17,80		MAY 3,80		AUG 21,80	
TIME	1606		1611		1039	
TOTAL CELLS/ML	9100		10000		290000	
DIVERSITY: DIVISION	1.5		1.3		0.1	
.CLASS	1.5		1.3		0.1	
..ORDER	1.6		2.0		0.2	
...FAMILY	1.8		2.3		1.1	
....GENUS	1.9		2.7		1.8	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	93	1	490	5	--	-
....CHLORELLA	2000#	22	190	2	--	-
....KIRCHNERIELLA	47	1	--	-	--	-
....OOCYSTIS	--	-	760	7	--	-
....SELENASTRUM	--	-	*	0	--	-
....TETRAEDRON	--	-	--	-	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	150	1	--	-
....SCENEDESMUS	370	4	1100	11	*	0
....TETRASTRUM	--	-	610	6	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	210	2	--	-	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	120	1	420	4	*	0
..PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	--	-	--	-	*	0
...FRAGILARIACEAE						
....SYNEDRA	*	0	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	47	1	*	0	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	650	7	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	5400#	59	2700#	26	6200	2
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	81000#	28
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	110000#	39
....OSCILLATORIA	--	-	3400#	33	85000#	30
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	140	2	230	2	*	0
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	76	1	--	-

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

08088600 BRAZOS RIVER AT POSSUM KINGDOM DAM NEAR GRAFORD, TX

LOCATION.--Lat 32°52'00", long 98°26'00", Palo Pinto County, Hydrologic Unit 12060201, immediately below Possum Kingdom Dam, 2.6 mi (4.2 km) upstream from Loving Creek, 11.3 mi (18.2 km) southwest of Graford, and 20 mi (32 km) upstream from gaging station near Palo Pinto.

DRAINAGE AREA.--23,596 mi² (61,114 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: January 1942 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1942 to current year.
WATER TEMPERATURES: October 1949 to September 1955, October 1965 to current year.

REMARKS.--Discharges are computed on the basis of releases from Possum Kingdom Reservoir. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,110 micromhos Feb. 20, 1961; minimum daily, 494 micromhos May 4, 1957.
WATER TEMPERATURES (1949-55, 1965-75): Maximum daily, 26.5°C on several days during September 1971; minimum daily, 7.0°C on several days in February 1951.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,950 micromhos on several days during August and September; minimum daily, 2,160 micromhos Oct. 1-3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT									
31...	0800	20	2320	20.0	370	260	100	29	340
DEC									
04...	1400	20	2420	15.0	430	320	120	32	350
JAN									
23...	1600	2730	2520	11.0	440	320	120	33	360
FEB									
28...	1600	20	2520	14.0	430	320	120	32	360
APR									
30...	1600	20	2560	--	430	320	120	31	360
JUN									
30...	1600	20	2670	--	430	330	120	32	380
JUL									
30...	1000	20	2820	--	460	370	130	34	430
AUG									
22...	1600	20	2940	--	490	400	140	35	410
SEP									
30...	1700	2719	2940	--	490	400	140	35	410

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
31...	7.7	8.0	130	0	230	530	.3	6.0	1310
DEC									
04...	7.3	7.8	130	0	260	560	.4	8.0	1400
JAN									
23...	7.5	8.1	140	0	280	600	.4	7.2	1480
FEB									
28...	7.5	9.2	130	0	280	610	.4	5.4	1480
APR									
30...	7.6	8.2	130	1	270	600	.3	4.7	1460
JUN									
30...	8.0	8.5	120	0	290	650	.5	3.3	1540
JUL									
30...	8.7	9.3	110	0	330	710	.4	3.2	1700
AUG									
22...	8.0	9.1	110	0	320	720	.4	5.2	1690
SEP									
30...	8.0	9.3	110	0	320	720	.4	5.2	1690

08088600 BRAZOS RIVER AT POSSUM KINGDOM DAM NEAR GRAFORD, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	5540	2290	1310	19700	530	7860	250	3740	390
NOV.	1979	2851	2330	1340	10300	530	4120	250	1960	390
DEC.	1979	1838	2390	1370	6820	550	2730	260	1300	400
JAN.	1980	4743	2540	1470	18800	590	7540	280	3610	430
FEB.	1980	3330	2440	1410	12600	560	5060	270	2420	410
MAR.	1980	2347	2550	1470	9310	590	3740	280	1790	430
APR.	1980	2203	2540	1470	8720	590	3500	280	1680	430
MAY	1980	23524	2550	1470	93300	590	37500	280	17900	430
JUNE	1980	24085	2610	1510	97900	610	39400	290	18900	440
JULY	1980	18518	2770	1600	80100	650	32300	310	15600	460
AUG.	1980	9801	2910	1690	44800	680	18100	330	8740	490
SEPT	1980	16713	2940	1710	77100	690	31200	330	15100	490
TOTAL		115493	**	**	479000	**	193000	**	92700	**
WTD. AVG.		316	2660	1540	**	620	**	300	**	440

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2160	2340	2360	2460	2400	2540	2540	2550	2570	2650	2820	2930
2	2160	2340	2360	2500	2400	2540	2550	2550	2570	2670	2810	2930
3	2160	2340	2360	2500	2400	2540	2550	2550	2570	2670	2810	2940
4	2280	2320	2420	2500	2400	2550	2550	2550	2570	2700	2810	2940
5	2280	2320	2420	2500	2520	2540	2550	2550	2580	2700	2810	2940
6	2280	2320	2420	2500	2520	2550	2550	2550	2600	2720	2820	2940
7	2280	2320	2440	2500	2520	2550	2550	2550	2600	2740	2810	2940
8	2280	2340	2440	2520	2390	2550	2550	2550	2600	2750	2810	2940
9	2280	2340	2440	2520	2450	2550	2550	2550	2610	2790	2860	2940
10	2280	2340	2440	2520	2520	2550	2550	2550	2600	2780	2900	2940
11	2260	2340	2420	2520	2520	2550	2550	2550	2650	2790	2930	2940
12	2260	2340	2440	2520	2520	2550	2550	2550	2650	2770	2940	2940
13	2320	2330	2420	2520	2520	2550	2550	2550	2650	2770	2930	2940
14	2320	2310	2360	2520	2520	2550	2550	2550	2650	2780	2940	2940
15	2320	2310	2360	2520	2520	2550	2550	2550	2650	2780	2950	2940
16	2320	2310	2380	2520	2440	2550	2560	2550	2650	2770	2950	2940
17	2320	2320	2390	2540	2440	2550	2560	2520	2640	2780	2950	2950
18	2320	2340	2380	2520	2500	2550	2540	2520	2650	2830	2940	2950
19	2320	2340	2440	2520	2520	2550	2540	2520	2640	2830	2950	2950
20	2320	2340	2420	2520	2520	2550	2510	2520	2640	2830	2940	2940
21	2320	2340	2420	2520	2530	2550	2510	2540	2640	2830	2940	2940
22	2320	2320	2420	2520	2530	2550	2510	2540	2650	2830	2940	2940
23	2320	2320	2420	2520	2530	2550	2540	2540	2640	2830	2940	2940
24	2320	2320	2420	2520	2530	2550	2540	2540	2630	2820	2940	2940
25	2320	2320	2420	2520	2520	2550	2550	2540	2640	2810	2940	2940
26	2320	2330	2420	2540	2520	2550	2550	2530	2650	2820	2940	2940
27	2320	2330	2420	2540	2520	2550	2550	2530	2670	2820	2940	2930
28	2320	2330	2420	2540	2520	2550	2560	2560	2670	2830	2950	2930
29	2320	2340	2430	2560	2520	2550	2560	2560	2670	2820	2950	2940
30	2320	2340	2430	2560	---	2550	2560	2560	2670	2820	2950	2940
31	2320	---	2440	2580	---	2550	---	2560	---	2820	2930	---
MEAN	2290	2330	2410	2520	2490	2550	2550	2540	2630	2780	2900	2940

08088600 BRAZOS RIVER AT POSSUM KINGDOM DAM NEAR GRAFORD, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.5	20.0	---	---	11.0							
2	23.5	19.5	---	13.0	---							
3	23.5	19.5	15.0	---	---							
4	23.5	---	15.0	---	11.5							
5	23.0	---	14.5	---	11.0							
6	23.0	---	15.5	---	11.0							
7	22.0	---	15.0	12.0	11.0							
8	22.0	---	---	13.0	12.0							
9	22.0	---	---	12.0	---							
10	21.5	---	15.0	13.0	---							
11	21.5	---	15.0	12.0	12.0							
12	22.0	---	14.5	---	11.5							
13	21.5	---	14.5	---	12.0							
14	22.0	---	15.0	11.0	13.0							
15	21.5	---	---	11.5	---							
16	21.5	---	---	11.5	---							
17	21.5	---	---	11.5	---							
18	21.0	---	14.5	11.5	---							
19	21.0	---	15.0	---	13.0							
20	21.0	---	14.5	---	13.5							
21	21.0	---	14.0	11.0	13.0							
22	21.0	---	---	11.5	---							
23	21.0	---	---	11.0	---							
24	20.5	---	---	11.0	---							
25	20.5	---	---	---	13.5							
26	20.5	---	---	---	13.0							
27	20.5	---	14.0	---	13.0							
28	20.5	---	13.5	10.5	14.0							
29	20.0	---	---	10.5	---							
30	20.0	---	---	10.5	---							
31	20.0	---	13.5	10.5	---							
MEAN	21.5	19.5	14.5	11.5	12.5							

08089000 BRAZOS RIVER NEAR PALO PINTO, TX

LOCATION.--Lat 32°51'45", long 98°18'08", Palo Pinto County, Hydrologic Unit 12060201, on right bank 100 ft (30 m) upstream from bridge on Farm Road 4, 300 ft (91 m) downstream from Dark Valley Creek, 6.5 mi (10.5 km) north of Palo Pinto, and at mile 667.3 (1,073.7 km).

DRAINAGE AREA.--23,811 mi² (61,670 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--January 1924 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "near Mineral Wells" 1924-33.

REVISED RECORDS.--WSP 1512: 1924-25, 1929, 1932-34. WSP 1712: 1935-36, 1937-38(M), 1939, 1940(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 831.23 ft (253.359 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 15, 1933, nonrecording gage at site 19 mi (31 km) downstream at datum 38.19 ft (11.640 m) lower.

REMARKS.--Records good. Since 1941, flow largely regulated by Possum Kingdom Lake (station 08088500) 20 mi (32 km) upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years (water years 1925-40) prior to completion of Possum Kingdom Lake, 1,262 ft³/s (35.74 m³/s), 914,300 acre-ft/yr (1,130 hm³/yr); 40 years (water years 1941-80) regulated, 907 ft³/s (25.69 m³/s), 657,100 acre-ft/yr (810 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,600 ft³/s (2,710 m³/s) June 16, 1930, at site 19 mi (31 km) downstream from Mineral Wells, gage height, 30 ft (9.1 m), present site and datum; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage occurred in 1876, from data by Corps of Engineers, and was several feet higher than the flood of June 16, 1930, which reached a stage of about 30 ft (9.1 m) and was the highest since at least 1876.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,770 ft³/s (248 m³/s) Sept. 30, stage rising, peak occurred Oct. 3; maximum peak discharge, 3,080 ft³/s (87.2 m³/s) June 1, gage height, 4.77 ft (1.454 m); minimum daily discharge, 10 ft³/s (0.28 m³/s) Mar. 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	561	36	336	33	1040	106	27	29	3040	860	513	253
2	103	31	84	32	764	273	31	34	3030	999	103	593
3	60	30	47	32	92	375	32	151	3030	857	421	92
4	272	29	118	32	97	253	30	73	3010	746	105	48
5	218	169	54	60	162	59	27	186	2060	623	63	487
6	80	89	36	49	88	38	25	429	1560	547	48	65
7	523	46	31	34	51	75	163	334	647	664	627	46
8	489	35	30	32	46	209	80	673	784	676	399	41
9	520	33	30	75	56	57	42	96	97	636	104	43
10	96	31	31	51	49	37	29	39	59	640	406	50
11	53	29	31	35	42	32	22	24	50	594	429	612
12	221	27	36	33	41	28	24	21	411	601	97	583
13	475	30	36	31	39	19	28	20	80	762	55	646
14	95	259	35	31	37	13	27	22	47	714	44	980
15	90	207	93	32	36	114	25	27	38	713	39	1030
16	113	123	56	33	50	49	24	2210	35	749	35	1090
17	350	77	311	33	847	26	22	2110	201	700	184	643
18	272	51	486	32	151	18	398	2020	284	769	94	498
19	218	36	189	31	58	11	352	2050	429	1210	184	1010
20	345	34	59	33	42	10	218	833	278	484	209	93
21	571	35	42	38	35	10	142	147	96	111	445	74
22	531	39	36	50	31	33	135	77	57	65	491	1040
23	89	193	40	634	30	42	75	60	46	300	973	1000
24	52	173	41	229	30	45	55	51	341	99	1020	497
25	41	57	37	145	30	183	41	47	986	431	834	378
26	37	39	33	55	90	56	30	194	768	739	615	90
27	34	81	33	230	145	40	23	744	950	576	494	59
28	33	51	40	485	52	41	19	1890	1140	133	275	140
29	33	294	46	656	35	38	20	2990	1100	334	87	481
30	41	245	40	852	---	32	40	2980	787	300	51	1980
31	43	---	34	137	---	28	---	3000	---	519	36	---
TOTAL	6659	2609	2551	4265	4266	2350	2206	23561	25441	18151	9480	14662
MEAN	215	87.0	82.3	138	147	75.8	73.5	760	848	586	306	489
MAX	571	294	486	852	1040	375	398	3000	3040	1210	1020	1980
MIN	33	27	30	31	30	10	19	20	35	65	35	41
AC-FT	13210	5170	5060	8460	8460	4660	4380	46730	50460	36000	18800	29080

CAL YR 1979 TOTAL 141956 MEAN 389 MAX 5350 MIN 23 AC-FT 281600
WTR YR 1980 TOTAL 116201 MEAN 317 MAX 3040 MIN 10 AC-FT 230500

08090300 LAKE PALO PINTO NEAR SANTO, TX

LOCATION.--Lat 32°38'53", long 98°15'56", Palo Pinto County, Hydrologic Unit 12060201, on left bank near left end of dam on Palo Pinto Creek, 4.0 mi (6.4 km) upstream from bridge on Farm Road 4, 4.4 mi (7.1 km) northwest of Santo, 7.5 mi (12.1 km) upstream from Big Sunday Creek, and 18.7 mi (30.1 km) upstream from mouth.

DRAINAGE AREA.--461 mi² (1,194 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Freese and Nichols, Inc., Consulting Engineers, bench mark).

REMARKS.--The lake is formed by a rock-faced earthfill dam 1,300 ft (400 m) long with a 550-foot (170 m) uncontrolled ogee-crested emergency spillway at right end of dam. The dam was completed and storage began in April 1964. During the summer of 1965, the dam was raised 2 ft (0.6 m) and the spillway crest was raised 4 ft (1.2 m) and lengthened from 500 to 550 ft (150 to 170 m). The lake is the property of Palo Pinto County Municipal Water District No. 1 and was built to impound water for municipal use, principally for the city of Mineral Wells. Water is released to the downstream channel through a 30-inch (762 mm) gated concrete pipe. It then flows 15 mi (24 km) downstream to a diversion lake where it is then pumped to the city of Mineral Wells. In addition, water is circulated through a steam generating powerplant owned by the Brazos Electric Power Co-Operative, Inc. The capacity table is based on a survey completed in 1959. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	898.0	-
Design flood	893.0	163,200
Crest of spillway	867.0	44,090
Lowest gated outlet (invert)	835.0	1,900

COOPERATION.--Capacity table furnished by Freese and Nichols, Inc, Consulting Engineers, for Palo Pinto Municipal Water District No. 1. Records of diversions furnished by the city of Mineral Wells.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 56,060 acre-ft (69.1 hm³) Oct. 31, 1974, elevation, 871.15 ft (265.57 m); minimum since initial filling to present spillway elevation, 18,750 acre-ft (23.1 hm³) Jan. 18, 1979, elevation, 854.96 ft (260.592 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 36,290 acre-ft (44.7 hm³) Oct. 1 at 0100 hours, elevation, 863.88 ft (263.311m); minimum, 21,300 acre-ft (26.3 hm³) Sept. 26, elevation, 856.51 ft (261.064 m).

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

856.0	20,430	862.0	32,020
859.0	25,830	865.0	38,980

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36290	35150	33980	33390	32860	32350	31200	29740	32000	29660	25870	23030
2	36100	35150	33960	33320	32860	32370	31130	30080	31980	29490	25790	22940
3	35960	35170	33910	33230	32880	32350	31070	30120	31910	29390	25670	22850
4	35910	35200	33890	33190	32880	32300	31020	30100	31840	29070	25560	22770
5	35940	35030	33860	33210	32900	32240	30980	30080	31780	28990	25460	22690
6	35840	34550	33910	33230	32900	32260	30960	30020	31740	28840	25390	22600
7	35910	34970	33840	33150	32920	32240	30830	30550	31650	28720	25310	22590
8	35870	35130	33800	33080	32920	32150	30760	31670	31580	28600	25240	22590
9	35640	35010	33750	33060	32920	32150	30740	31950	31540	28500	25140	22600
10	35470	34510	33680	33010	32970	32130	30680	32000	31450	28390	25050	22570
11	35520	34970	33680	32990	32830	32080	30510	31950	31390	28130	24990	22520
12	35520	34760	33640	32970	32900	32150	30550	32040	31260	28050	24910	22430
13	35380	34870	33820	32900	32970	31950	30570	32040	31150	27950	24820	22320
14	35400	34870	33800	32900	32880	31910	30530	32040	31040	27870	24710	22270
15	35680	34800	33800	32860	32810	31910	30510	32110	30940	27790	24600	22180
16	35640	34760	33770	32860	32860	31890	30360	32280	30830	27680	24520	22090
17	35680	34690	33680	32810	32880	31760	30290	32280	30720	27600	24410	21990
18	35590	34690	33620	32790	32860	31710	30250	32280	30640	27500	24330	21900
19	35590	34640	33800	32740	32860	31690	30210	32280	30570	27360	24240	21810
20	35680	34620	33550	32880	32790	31580	30190	32330	30530	27300	24170	21750
21	35570	34570	33530	33030	32740	31560	30120	32300	30420	27180	24040	21630
22	35430	34530	33530	33170	32720	31500	30100	32350	30380	26940	23940	21560
23	35330	34460	33530	33320	32660	31390	30060	32300	30290	26820	23920	21450
24	35360	34410	33570	33300	32630	31350	30000	32280	30230	26710	23800	21380
25	35290	34370	33480	33260	32570	31350	29950	32260	30170	26610	23700	21330
26	35260	34300	33410	33260	32570	31350	29870	32170	30080	26510	23630	21300
27	35260	34230	33350	33230	32610	31480	29810	32130	30000	26430	23480	21400
28	35200	34120	33390	33230	32610	31430	29810	32220	29910	26310	23430	21920
29	35260	34020	33390	33210	32460	31370	29790	32150	29830	26200	23340	24780
30	35570	34000	33390	32990	---	31260	29740	32110	29720	26100	23230	25330
31	35310	---	33390	32860	---	31260	---	32040	---	25980	23140	---
MAX	36290	35200	33980	33390	32970	32370	31200	32350	32000	29660	25870	25330
MIN	35200	34000	33350	32740	32460	31260	29740	29740	29720	25980	23140	21300
(†)	863.46	862.89	862.62	862.38	862.20	861.65	860.94	862.01	860.93	859.08	857.56	858.74
(‡)	-980	-1310	-610	-530	-400	-1200	-1520	+2300	-2320	-3740	-2840	+2190
(††)	348	295	316	302	305	310	299	261	487	571	499	430

CAL YR 1979 MAX 44310 MIN 18780 ‡ +14290 †† 4050
WTR YR 1980 MAX 36290 MIN 21300 ‡ -10960 †† 4420

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use by city of Mineral Wells.

08090300 LAKE PALO PINTO NEAR SANTO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
MAY 21...	1815	426	24.5	150	18	46	8.4	24	.9

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
MAY 21...	5.7	160	0	36	31	.3	4.2	234

08090800 BRAZOS RIVER NEAR DENNIS, TX

LOCATION.--Lat 32°36'56", long 97°55'32", Parker County, Hydrologic Unit 12060201, at downstream side of bridge on Farm Road 1543, 0.2 mi (0.3 km) south of Dennis, 1.0 mi (1.6 km) upstream from Patrick Creek, and at mile 589.8 (949.0 km).

DRAINAGE AREA.--25,237 mi² (65,364 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1968 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 697.67 ft (212.650 m) National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transporation bench marks).

REMARKS.--Water-discharge records good. Flow is largely regulated by releases from storage in Possum Kingdom Lake (station 08088500) and Lake Palo Pinto (station 08090300). Flow is affected at times by discharge from the flood-detention pools of ten floodwater-retarding structures with a combined detention capacity of 11,890 acre-ft (14.7 hm³). These structures control runoff from 46.5 mi² (120.4 km²) in the East Keechi and Pollard Creeks drainage basins. There are many diversions above station for irrigation, municipal supply, and oil-field operations. Brazos River Authority gage-height telemeter at station.

AVERAGE DISCHARGE.--12 years (water years 1969-80), 790 ft³/s (22.37 m³/s), 572,400 acre-ft/yr (706 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,300 ft³/s (1,680 m³/s) Aug. 10, 1978, gage height, 25.86 ft (7.882 m), from floodmarks; minimum, 0.87 ft³/s (0.025 m³/s) Aug. 2, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1930, 31.8 ft (9.69 m) in May 1957, from floodmark, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,910 ft³/s (82.4 m³/s) Sept. 30 at 0430 hours, gage height, 7.09 ft (2.161 m); height, 7.12 ft (2.170 m) June 5; minimum, 22 ft³/s (0.62 m³/s) Apr. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	463	75	67	80	689	86	51	38	2670	975	373	289
2	428	66	238	69	347	95	51	51	2710	839	575	223
3	435	53	271	62	1140	68	47	113	2720	856	599	176
4	206	49	230	59	662	89	41	162	2730	938	329	602
5	111	48	151	55	328	229	37	96	2740	747	351	422
6	74	42	104	54	205	325	35	86	2360	620	333	288
7	158	38	96	54	165	183	35	110	2060	542	228	380
8	143	43	100	47	238	112	27	466	1170	577	217	406
9	214	107	86	46	448	83	26	573	871	631	379	301
10	344	85	72	61	268	69	26	649	657	606	492	245
11	400	67	69	65	231	137	56	302	341	593	342	217
12	216	56	150	55	183	120	60	170	224	579	367	172
13	114	49	98	59	158	80	64	104	165	567	551	436
14	69	45	86	75	128	62	60	70	185	659	364	789
15	398	43	85	64	114	50	48	90	271	704	206	1060
16	460	45	70	59	98	50	46	140	182	692	155	1180
17	204	127	61	53	91	43	37	469	132	715	137	1320
18	156	181	56	53	84	35	30	2030	102	705	171	1020
19	175	155	72	48	518	47	28	1910	83	705	143	882
20	244	125	361	49	322	67	28	1960	112	1040	171	1080
21	199	104	344	72	197	50	245	1890	379	772	178	928
22	261	80	210	303	134	45	159	778	314	479	217	499
23	428	68	198	400	97	37	151	374	267	350	457	469
24	406	57	170	231	80	33	122	243	175	199	726	1220
25	197	54	115	359	66	30	245	165	120	158	1200	950
26	112	87	96	391	54	31	165	126	298	245	1100	808
27	77	161	76	245	53	33	129	95	833	461	857	714
28	58	110	90	202	49	116	89	90	871	774	631	571
29	46	81	132	147	43	126	66	618	1050	650	726	1530
30	220	66	109	488	---	88	47	2490	1220	334	525	2740
31	149	---	96	800	---	65	---	2630	---	293	408	---
TOTAL	7165	2367	4159	4805	7190	2684	2251	19088	28012	19005	13508	21917
MEAN	231	78.9	134	155	248	86.6	75.0	616	934	613	436	731
MAX	463	181	361	800	1140	325	245	2630	2740	1040	1200	2740
MIN	46	38	56	46	43	30	26	38	83	158	137	172
AC-FT	14210	4690	8250	9530	14260	5320	4460	37860	55560	37700	26790	43470

CAL YR 1979	TOTAL	194095	MEAN 532	MAX 11000	MIN 20	AC-FT	385000
WTR YR 1980	TOTAL	132151	MEAN 361	MAX 2740	MIN 26	AC-FT	262100

08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1970 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1970 to current year.
WATER TEMPERATURES: October 1970 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,880 micromhos Aug. 29, 1976; minimum daily, 300 micromhos Mar. 27, 1977.
WATER TEMPERATURES: Maximum daily, 38.5°C July 26, 1976; minimum daily, 0.0°C on several days during winter months 1977-79.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,040 micromhos Aug. 22; minimum daily, 746 micromhos Jan. 23.
WATER TEMPERATURES: Maximum daily, 36.0°C June 26; minimum daily, 3.0°C Feb. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 31...	0820	134	1070	11.0	200	120	56	14	140
DEC 19...	1645	83	2120	9.0	370	230	100	28	280
JAN 31...	1700	791	2440	4.0	430	310	120	31	350
FEB 12...	1800	181	1770	9.0	300	200	85	22	240
MAR 26...	1715	36	2630	15.0	500	370	140	37	380
JUN 30...	1500	962	2680	32.0	430	320	120	32	380
JUL 31...	1615	259	2830	32.5	440	350	120	35	420
AUG 20...	1845	243	3010	32.5	480	390	130	38	460
SEP 30...	1945	2580	982	19.5	180	110	56	10	120

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 31...	4.3	5.4	100	0	100	230	.2	3.9	599
DEC 19...	6.4	6.8	160	0	220	470	.3	3.0	1190
JAN 31...	7.4	7.3	140	0	270	560	.4	3.6	1410
FEB 12...	6.0	7.0	130	0	190	400	.3	3.2	1010
MAR 26...	7.4	8.1	160	0	290	610	.3	1.3	1550
JUN 30...	8.0	8.7	130	0	290	660	.5	3.5	1560
JUL 31...	8.7	9.6	120	0	300	730	.4	2.7	1680
AUG 20...	9.1	11	110	0	320	760	.4	4.6	1780
SEP 30...	3.9	5.8	86	0	100	210	.2	4.8	549

08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	7165	2150	1200	23300	470	9170	240	4620	380
NOV.	1979	2367	2260	1270	8110	500	3200	250	1610	400
DEC.	1979	4159	2230	1250	14100	490	5540	250	2790	390
JAN.	1980	4805	1840	1020	13300	400	5190	200	2630	330
FEB.	1980	7190	2220	1250	24300	490	9570	250	4810	390
MAR.	1980	2684	2500	1420	10300	560	4090	290	2050	440
APR.	1980	2251	2540	1440	8760	570	3480	290	1740	440
MAY	1980	19088	2250	1270	65300	500	25800	250	13000	400
JUNE	1980	28012	2610	1490	113000	590	44800	300	22400	450
JULY	1980	19005	2730	1560	80200	620	32000	310	16000	470
AUG.	1980	13508	2910	1680	61300	670	24600	340	12200	500
SEPT	1980	21917	2570	1470	87200	590	34800	290	17400	440
TOTAL		132151	**	**	509000	**	202000	**	101000	**
WTD. AVG.		361	2510	1430	**	570	**	280	**	440

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2400	1890	2380	1840	2510	2250	2280	2590	2540	2670	2880	2940
2	2380	2030	2400	1860	2520	2350	2340	2540	2560	2670	2900	2960
3	2390	1920	2500	1990	2550	2430	1960	1840	2560	2680	2900	2960
4	2380	2050	2490	2010	2530	2460	2280	1980	2580	2690	2860	2990
5	2400	2130	2480	1980	2500	2470	2340	2170	2580	2700	2910	2990
6	2420	2170	2460	2030	2510	2550	2390	2130	2590	2700	2910	2970
7	2430	2200	2440	2080	2500	2590	2430	1920	2600	2710	2920	2950
8	2440	2240	2420	2110	2330	2580	2400	1700	2600	2720	2940	2910
9	2400	2200	2420	2120	1300	2580	2360	1600	2590	2730	2950	2940
10	2390	2240	2450	2100	1470	2570	2400	1900	2600	2720	2950	2900
11	2370	2340	2460	2010	1590	2570	2440	2160	2610	2730	2950	2870
12	2410	2350	1730	1940	1750	2600	2440	2240	2620	2730	2960	2900
13	2440	2360	1910	2010	1770	2610	2290	2290	2630	2740	2930	2750
14	2460	2280	2160	2120	1760	2610	2460	2330	2640	2750	2950	2880
15	1550	2200	2100	2170	1810	2590	2430	2150	2690	2750	2960	2790
16	1810	2220	1990	2150	1760	2580	2440	1600	2690	2760	2970	2880
17	1710	2240	1960	2160	1750	2580	2400	1670	2700	2740	2980	2890
18	1950	2300	2040	2220	1820	2570	2360	2260	2720	2750	2980	2890
19	2180	2320	2140	2200	2200	2580	2360	2490	2740	2760	2990	2890
20	2040	2350	2220	2160	2240	2620	2370	2510	2760	2750	3010	2900
21	2160	2360	2400	1830	2290	2640	2750	2230	2790	2720	3000	2910
22	2140	2360	2440	856	2330	2670	2690	2360	2780	2730	3040	2920
23	2180	2100	1850	746	2310	2640	2750	2350	2790	2760	2790	2940
24	2100	2180	2140	1280	2300	2660	2800	2210	2770	2800	2870	2930
25	2200	2260	2260	1560	2290	2650	2650	2250	2790	2820	2900	2890
26	2300	2340	2040	1810	2290	2630	2500	2300	2810	2640	2920	2860
27	2290	2300	1980	2000	2240	2500	2470	2330	2790	2710	2910	2800
28	2300	2380	1970	2050	2230	2330	2470	2310	2730	2810	2880	2720
29	2360	2420	1920	1710	2210	2220	2540	2370	2690	2740	2890	1790
30	1310	2400	1880	2240	---	2310	2570	2100	2680	2830	2900	982
31	1070	---	1830	2440	---	2240	---	2500	---	2830	2940	---
MEAN	2170	2240	2190	1930	2130	2520	2450	2170	2670	2740	2930	2800

08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.5	15.5	4.0	11.0	4.0	8.5	19.0	23.0	25.0	34.0	26.0	31.0
2	22.0	15.0	8.0	11.0	5.0	8.5	20.0	23.5	25.0	29.5	32.0	32.0
3	21.5	19.0	10.0	9.0	9.0	11.0	21.5	24.5	25.0	33.0	31.0	32.0
4	22.0	16.5	---	6.5	10.0	16.0	23.0	25.0	25.0	32.0	26.0	32.0
5	23.0	17.5	10.0	7.0	13.0	13.0	19.0	26.5	27.0	33.0	30.5	31.0
6	24.5	12.5	11.0	11.0	12.0	15.5	21.0	26.0	28.0	34.0	30.0	---
7	---	11.5	13.0	7.0	9.0	17.5	24.0	29.5	29.5	---	33.5	28.0
8	27.0	16.0	7.5	6.0	7.0	14.0	21.0	23.5	27.0	29.0	33.5	29.0
9	22.5	15.0	11.0	9.0	3.0	---	23.5	24.0	26.0	32.0	31.5	28.0
10	19.0	10.0	14.0	11.0	5.0	15.0	22.5	26.5	30.0	29.0	30.0	35.0
11	25.0	14.0	17.0	9.0	6.0	15.0	22.5	26.5	31.0	34.0	28.5	30.0
12	23.0	---	7.5	11.5	9.0	20.0	12.0	29.5	31.0	32.5	30.5	32.0
13	20.0	13.0	7.0	12.0	13.0	18.0	12.0	25.0	31.5	34.0	---	30.0
14	17.0	14.0	8.0	15.0	13.0	13.0	27.5	24.5	31.0	33.0	32.0	31.0
15	19.0	14.0	11.0	13.5	14.5	13.0	22.0	20.0	32.0	34.0	---	30.0
16	23.0	15.0	16.5	15.0	6.5	18.0	24.0	26.0	32.0	34.0	32.0	29.0
17	25.0	11.0	6.0	14.0	6.5	17.0	22.0	28.0	33.0	---	32.0	29.0
18	25.0	19.0	4.0	11.5	11.0	13.0	26.0	24.5	34.0	---	32.0	30.0
19	22.0	19.0	9.5	13.5	14.0	17.0	24.5	23.5	35.0	33.0	31.5	29.0
20	26.0	19.0	10.5	12.0	17.0	19.0	20.0	24.0	32.0	32.0	32.5	28.0
21	26.0	17.0	8.5	10.0	18.5	18.0	26.0	23.5	33.0	28.5	28.5	29.0
22	20.5	12.0	13.5	8.5	16.5	17.0	25.0	25.0	31.0	33.0	28.5	29.0
23	19.5	13.0	7.0	9.0	14.5	---	---	28.0	34.0	28.0	29.5	27.5
24	20.0	12.0	12.5	10.5	14.5	16.0	23.0	26.0	35.0	32.0	27.5	27.0
25	20.5	13.0	12.0	9.0	---	12.0	23.0	32.0	---	34.0	28.5	26.0
26	23.0	14.0	12.0	9.0	14.0	15.0	16.0	33.0	36.0	30.0	28.5	28.0
27	---	10.5	11.0	6.0	13.0	14.0	20.5	32.0	34.0	32.0	29.5	20.0
28	23.0	9.0	12.0	4.5	17.0	19.0	22.5	33.0	34.0	29.0	28.0	19.0
29	22.0	9.0	---	4.0	16.5	16.0	27.5	29.5	32.0	33.0	32.5	18.0
30	28.5	6.5	11.0	4.0	---	18.0	23.0	27.5	32.0	34.0	32.0	19.5
31	11.0	---	11.0	4.0	---	16.0	---	25.0	---	32.5	30.0	---
MEAN	22.5	14.0	10.0	9.5	11.0	15.5	22.0	26.5	30.5	32.0	30.5	28.0

08090900 LAKE GRANBURY NEAR GRANBURY, TX

LOCATION.--Lat 32°22'27", long 97°41'20", Hood County, Hydrologic Unit 12060201, at right end of spillway of DeCordove Bend Dam on Brazos River, 2.6 mi (4.2 km) upstream from Fall Creek, 7.5 mi (12.1 km) southeast of Granbury, and at mile 542.5 (872.9 km).

DRAINAGE AREA.--25,679 mi² (66,509 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The lake is formed by an Ambursen-type concrete and earthfill dam 2,256 ft (688 m) long, including a 932-foot (284 m) concrete spillway. The dam was completed on Aug. 30, 1969, and deliberate impoundment began Sept. 15, 1969. The spillway consists of sixteen 36- by 35-foot (11.0 by 10.7 m) tainter gates and two 7- by 8-foot (2.1 by 2.4 m) sluice gates. The outflow from the sluice gates discharges into a bay where it is then controlled by two 4- by 4.5-foot (1.2 by 1.4 m) sluice gates with inverts at 625.8 ft (190.74 m). Flow is affected at times by discharge from the flood-detention pools of 11 floodwater-retarding structures with a combined detention capacity of 13,360 acre-ft (16.5 hm³). These structures control runoff from 52.7 mi² (136 km²) in the East Keechi, Kickapoo, and Ruckers Creeks drainage basins. The lake was built by the Brazos River Authority for the conservation of water for irrigation, municipal, and industrial uses. Total monthly diversions given in the table below were furnished by the Brazos River Authority. The largest diversion was 10,780 acre-ft (13.3 hm³) for industrial uses. Records furnished by the city of Granbury show that 437 acre-ft (539,000 m³) of sewage effluent was returned above station during the current year. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	706.5	-
Top of tainter gates (design flood)	693.0	153,500
Crest of spillway	658.0	15,440
Lowest gated outlet (invert)	640.0	2,200

COOPERATION.--The capacity curve, based on data prepared by the Ambursen Engineering Corporation, was furnished by the Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 158,800 acre-ft (196 hm³) Mar. 27, 1977, elevation, 693.60 ft (211,409 m); minimum since first filling in October 1969, 97,600 acre-ft (120 hm³) Aug. 9, 1978, elevation 685.28 ft (208.873 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 155,200 acre-ft (191 hm³) Oct. 18 at 1745, elevation, 693.20 ft (211.287 m); minimum, 128,000 acre-ft (158 hm³) Aug. 27, elevation, 689.84 ft (210.263 m).

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

689.0	121,900	692.0	145,000
690.0	129,200	693.0	153,500
691.0	136,900	694.0	162,300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151700	150600	150000	150400	150300	149700	148500	150000	149400	150900	141600	130700
2	151400	150500	150200	150700	150100	149300	149200	150100	149100	150300	142000	130700
3	151400	150100	150500	150400	149900	148900	148800	150000	149100	150000	142200	130700
4	151700	150000	150900	150500	150000	150200	148700	150100	149000	149800	142600	130800
5	151200	150200	151500	150100	150100	149400	148400	150000	148900	149300	142500	131000
6	150300	149900	150900	151300	150200	150000	148500	149700	148400	148600	142600	131000
7	150000	149600	150700	150000	150800	150600	150800	149700	150400	147700	142800	130800
8	150000	149800	150700	150000	150700	150700	148300	148300	149100	147200	142600	131000
9	150300	149900	150800	150000	150800	150600	148200	148600	149300	147200	142400	131700
10	150600	149800	150400	150000	150800	150600	147700	149700	150000	147200	142900	131700
11	151500	149600	151200	150100	148800	150300	148900	149900	149900	146900	143300	131500
12	151600	149700	151800	149900	149100	151300	148500	148900	149800	146800	143200	131400
13	151400	149600	151300	150100	149400	150000	148800	148700	149500	146600	143600	131300
14	151100	149500	150700	150000	149500	149600	148400	149200	149300	146400	143700	132000
15	152000	149500	150800	150600	150300	149300	148300	148800	149400	146200	143200	133100
16	149500	149500	150800	149100	149800	149400	148300	149400	149500	145700	142900	134300
17	149200	149400	150300	148800	149200	149300	148400	148800	149300	145200	143000	136100
18	149400	149700	150200	148700	148800	148900	148300	149200	149100	144700	142700	137300
19	149400	150000	150300	149100	149400	148800	148300	148100	148800	144300	142400	138200
20	149900	150000	150300	149600	149600	149000	148200	149100	148800	144000	142000	139100
21	151300	151100	151200	149400	150000	148900	148400	150000	149000	144200	141500	140300
22	150000	150400	151000	149800	150100	148800	148800	149700	149300	144000	140300	140800
23	150600	150200	151200	149800	150300	149600	148900	149400	149400	143500	138600	141000
24	151100	150200	150000	150700	150200	149000	149700	149200	149300	142700	136100	142000
25	151200	150300	150000	151200	149800	149000	149200	148900	149200	141900	133400	143500
26	150400	150000	150300	151100	149600	148800	149200	149100	148900	141400	130000	144900
27	150300	150300	150200	150100	149700	149400	149400	148900	149700	141000	128600	146000
28	150100	150400	150900	149900	149700	148700	149400	148800	149900	141100	129500	146500
29	149200	150000	150300	150200	150800	148800	149400	148600	150300	141500	130400	147700
30	150600	150000	150300	150000	---	148300	149500	150000	151100	141600	130600	146600
31	150800	---	150200	150600	---	147800	---	149700	---	141600	130700	---
MAX	152000	151100	151800	151300	150800	151300	150800	150100	151100	150900	143700	147700
MIN	149200	149400	150000	148600	148300	147800	147700	148100	148400	141000	128600	130700
(†)	692.69	692.60	692.62	692.53	692.69	692.34	692.54	692.56	692.72	691.59	690.20	692.19
(‡)	+200	-800	+200	-800	+1400	-3000	+1700	+200	+1400	-9500	-10900	+15900
(††)	860	99	100	98	92	100	100	109	1710	2830	2710	2400

CAL YR 1979 MAX 152100 MIN 145700 †† 22280 ‡ +200
WTR YR 1980 MAX 152000 MIN 128600 †† 11210 ‡ -4000

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-ft, for municipal, irrigation, and industrial use.

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1970 to current year.

322227097412101 LAKE GRANBURY SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
JAN										
18...	1040	1.0	1890	8.2	12.0	1.70	10.5	99	320	210
18...	1042	10	1890	8.2	11.5	--	10.5	98	--	--
18...	1044	20	1890	8.2	11.2	--	10.4	96	--	--
18...	1046	30	1890	8.1	11.0	--	10.2	93	--	--
18...	1048	40	1890	8.1	10.0	--	9.8	88	--	--
18...	1050	50	1890	8.0	9.5	--	9.5	85	--	--
18...	1052	60	1890	7.9	9.5	--	9.1	81	--	--
18...	1054	68	1890	7.8	9.5	--	8.9	79	320	200
MAY										
05...	1100	1.0	1900	8.3	23.0	1.95	8.8	104	340	220
05...	1102	10	1900	8.4	21.0	--	9.5	108	--	--
05...	1104	20	1900	8.3	19.0	--	7.7	85	--	--
05...	1106	30	1900	8.1	17.5	--	6.2	66	--	--
05...	1108	40	1900	7.7	16.5	--	4.4	46	--	--
05...	1110	50	1900	7.7	16.0	--	3.8	39	--	--
05...	1112	60	1900	7.6	15.5	--	2.5	26	--	--
05...	1114	68	1900	7.5	15.5	--	1.8	18	340	210
AUG										
21...	1540	1.0	2520	8.0	30.0	1.19	8.5	113	410	310
21...	1545	10	2520	8.0	28.5	--	8.6	110	--	--
21...	1546	20	2520	7.8	28.0	--	7.3	94	--	--
21...	1548	30	2520	7.7	28.0	--	6.7	86	--	--
21...	1550	40	2520	7.6	28.0	--	6.1	78	--	--
21...	1552	50	2480	6.9	26.5	--	.3	4	--	--
21...	1554	60	2050	6.9	20.5	--	.1	1	--	--
21...	1605	65	2030	6.9	20.5	--	.1	1	360	180

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
18...	90	24	250	6.0	6.7	140	0	190	410
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	88	24	260	6.3	6.7	140	0	210	410
MAY									
05...	93	26	270	6.4	8.2	140	0	180	440
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	94	25	270	6.4	8.2	150	0	170	440
AUG									
21...	110	33	370	7.9	9.7	120	0	270	640
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	100	27	290	6.6	7.3	220	0	180	480

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 LAKE GRANBURY SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
18...	.3	5.0	1050	.06	.18	.24	.030	<10	<1
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	.06	.24	.30	.030	20	10
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	5.2	1070	.06	.32	.38	.030	30	120
MAY									
05...	.3	3.5	1090	.00	1.8	1.8	.030	<10	<1
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	<10	<3
05...	--	--	--	.12	.57	.69	.020	10	10
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	4.5	1090	1.8	.70	2.5	.040	<10	260
AUG									
21...	.4	3.0	1500	.00	.90	.90	.020	20	10
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	.00	1.0	1.0	.020	30	20
21...	--	--	--	.00	1.0	1.0	.040	50	820
21...	--	--	--	--	--	--	--	--	--
21...	--	6.4	1200	.00	2.6	2.6	.370	160	1600

322231097412001 LAKE GRANBURY SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
18...	1110	1.0	1890	8.2	11.5	10.7	100
18...	1112	10	1890	8.2	11.5	10.6	99
18...	1114	20	1890	8.2	11.0	10.6	98
18...	1116	30	1890	8.1	10.5	10.2	93
18...	1118	40	1890	8.0	10.0	9.6	86
MAY							
05...	1130	1.0	1900	8.3	23.0	9.0	106
05...	1132	10	1900	8.4	21.5	9.3	107
05...	1134	20	1900	8.2	19.0	7.6	84
05...	1136	31	1900	8.0	19.0	6.1	67
AUG							
21...	1610	1.0	2520	7.9	30.5	8.3	111
21...	1612	10	2520	8.0	28.5	8.7	113
21...	1614	20	2520	7.8	28.5	7.6	97
21...	1616	30	2520	7.8	28.5	7.3	94
21...	1618	37	2520	7.7	28.5	7.1	91

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322345097421901 LAKE GRANBURY SITE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
18...	1015	1.0	1890	8.2	11.5	10.3	96
18...	1017	10	1890	8.1	11.0	10.1	94
18...	1019	20	1890	8.0	10.5	9.7	88
18...	1021	33	1890	7.9	10.0	9.0	81
MAY							
05...	1015	1.0	1900	8.3	22.0	8.9	103
05...	1017	10	1900	8.3	21.0	9.2	105
05...	1019	21	1900	8.1	20.0	7.2	80
AUG							
21...	1700	1.0	2600	8.1	31.5	8.6	116
21...	1702	10	2600	8.1	29.5	9.0	118
21...	1704	17	2600	8.0	29.5	8.1	107

322341097420601 LAKE GRANBURY SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
18...	0955	1.0	1890	8.1	11.5	10.2	95
18...	0957	10	1890	8.1	11.0	10.1	94
18...	0959	20	1890	8.1	10.5	9.9	90
18...	1001	30	1890	8.0	10.0	9.5	86
18...	1003	40	1890	8.0	9.5	9.3	83
18...	1005	50	1890	7.9	9.5	9.0	80
18...	1007	63	1890	7.8	9.5	8.7	78
MAY							
05...	1022	1.0	1900	8.4	22.5	8.9	103
05...	1024	10	1900	8.4	21.0	9.4	107
05...	1026	20	1900	8.3	19.0	7.8	86
05...	1028	30	1900	7.9	17.5	5.5	59
05...	1030	40	1900	7.6	16.5	3.7	39
05...	1032	50	1900	7.6	16.0	3.2	33
05...	1034	60	1900	7.5	16.0	2.5	26
05...	1036	65	1900	7.5	16.0	2.0	21
AUG							
21...	1642	1.0	2600	8.1	31.5	8.5	115
21...	1644	10	2600	8.1	29.0	8.3	109
21...	1646	20	2600	7.8	29.0	6.8	88
21...	1648	30	2530	7.3	28.0	4.7	60
21...	1650	40	2520	7.2	27.5	3.6	46
21...	1652	50	2420	6.9	25.5	.1	1
21...	1654	63	2100	6.8	21.0	.1	1

322337097415401 LAKE GRANBURY SITE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
18...	1025	1.0	1890	8.2	11.0	10.2	94
18...	1027	10	1890	8.1	10.5	10.2	93
18...	1029	20	1890	8.0	10.5	9.6	87
18...	1031	26	1890	8.0	10.5	9.4	85
MAY							
05...	1045	1.0	1900	8.3	22.5	8.9	103
05...	1047	10	1900	8.3	21.0	8.9	101
05...	1049	21	1900	8.1	20.0	6.6	73
AUG							
21...	1630	1.0	2580	8.1	31.5	8.1	109
21...	1632	10	2580	8.0	29.0	7.4	97
21...	1634	20	2560	7.8	29.0	6.9	91

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322537097414501 LAKE GRANBURY SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
18...	0940	1.0	1890	8.1	11.0	10.0	93
18...	0942	10	1890	7.9	10.5	8.8	80
18...	0944	18	1890	7.9	10.5	8.7	79
MAY							
05...	0950	1.0	1840	8.2	22.0	9.0	105
05...	0952	9.0	1840	8.2	21.0	8.1	92
AUG							
21...	1730	1.0	2580	8.1	32.0	8.7	119
21...	1732	7.0	2580	8.1	31.0	8.7	118

322422097423901 LAKE GRANBURY SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
18...	0920	1.0	1890	8.0	12.5	9.5	90
18...	0922	10	1890	8.0	11.5	9.5	89
18...	0924	20	1890	8.0	10.0	9.5	86
18...	0926	30	1890	7.9	10.0	8.8	79
18...	0928	40	1890	7.8	9.5	8.6	77
18...	0930	50	1890	7.8	9.5	8.6	77
18...	0932	58	1890	7.8	9.5	8.5	76
MAY							
05...	0915	1.0	1920	8.3	22.0	8.7	101
05...	0917	10	1920	8.3	21.0	8.8	100
05...	0919	20	1920	8.2	19.0	7.5	82
05...	0921	30	1920	7.8	17.5	5.3	56
05...	0923	40	1920	7.6	16.0	3.1	32
05...	0925	50	1920	7.5	16.0	2.5	26
05...	0927	58	1920	7.5	16.0	2.3	24
AUG							
21...	1750	1.0	2600	8.1	31.5	8.2	111
21...	1752	10	2600	8.0	29.5	7.9	104
21...	1754	20	2600	7.7	29.0	5.3	70
21...	1756	30	2600	7.0	28.5	.1	1
21...	1758	40	2600	6.9	27.5	.1	1
21...	1800	50	2490	6.9	26.0	.1	1
21...	1802	57	2220	6.8	23.0	.1	1

322437097423901 LAKE GRANBURY SITE DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
18...	0905	1.0	1890	8.0	12.0	9.7	92
18...	0907	10	1890	8.0	11.5	9.7	91
18...	0909	23	1890	7.9	10.0	9.4	85
MAY							
05...	0930	1.0	1920	8.3	22.0	8.6	100
05...	0932	10	1920	8.2	21.0	8.2	93
05...	0934	20	1920	8.1	19.0	7.1	78
05...	0936	25	1920	7.9	18.5	5.9	64
AUG							
21...	1815	1.0	2600	8.1	31.5	8.2	111
21...	1817	13	2600	8.0	29.5	7.7	101

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322458097443101 LAKE GRANBURY SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
18...	0845	1.0	1890	8.1	12.0	10.2	96
18...	0847	10	1890	8.1	12.0	10.2	96
18...	0849	20	1890	8.0	10.5	9.5	86
18...	0851	30	1890	8.0	9.5	9.4	84
18...	0853	40	1890	7.9	9.0	9.0	80
18...	0855	50	1890	7.8	9.0	8.7	77
MAY							
05...	0850	1.0	1950	8.3	22.0	8.9	103
05...	0852	10	1930	8.3	21.0	9.0	102
05...	0854	20	1930	8.0	18.5	6.4	70
05...	0856	30	1930	7.8	17.5	5.7	61
05...	0858	40	1930	7.6	16.5	3.9	41
05...	0900	54	1930	7.5	16.0	2.4	25
AUG							
21...	1836	1.0	2590	8.2	31.0	9.5	128
21...	1838	10	2590	8.0	29.5	7.7	101
21...	1840	20	2590	7.6	29.0	4.7	62
21...	1842	30	2600	7.3	28.5	3.4	44
21...	1844	40	2600	7.0	28.0	.4	5
21...	1846	52	2600	6.8	26.0	.2	2

322619097463301 LAKE GRANBURY SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
JAN									
18...	1150	1.0	1890	8.3	11.0	1.30	11.1	105	310
18...	1152	10	1890	8.3	11.0	--	11.2	105	--
18...	1154	20	1890	8.1	10.0	--	9.8	89	--
18...	1156	30	1890	8.0	9.5	--	9.7	87	--
18...	1158	42	1990	7.8	8.0	--	8.2	74	340
MAY									
05...	1220	1.0	1930	8.4	23.0	1.16	9.4	111	350
05...	1222	10	1930	8.3	20.5	--	8.2	92	--
05...	1224	20	1940	7.8	19.0	--	4.5	49	--
05...	1226	30	1950	7.7	17.5	--	3.7	39	--
05...	1228	41	2000	7.4	17.5	--	1.5	16	390
AUG									
21...	1906	1.0	2590	8.3	30.0	--	9.8	132	410
21...	1912	10	2590	8.2	29.0	--	9.1	120	--
21...	1918	20	2600	7.8	29.0	--	6.2	83	--
21...	1924	30	2610	7.6	29.0	--	4.8	64	--
21...	1930	39	2610	7.4	29.0	--	3.6	48	410

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
JAN									
18...	190	85	23	250	6.2	6.7	140	0	190
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	220	96	25	260	6.1	6.6	150	0	200
MAY									
05...	220	98	25	270	6.3	8.2	150	0	190
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	250	110	27	270	6.0	8.2	160	0	190
AUG									
21...	320	110	33	390	8.4	9.9	110	0	270
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	320	110	33	400	8.6	10	110	0	260

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322619097463301 LAKE GRANBURY SITE FC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
18...	390	4.6	1020	.07	.76	.83	.020	<10	<1
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	.08	.76	.84	.030	20	10
18...	--	--	--	--	--	--	--	--	--
18...	430	4.7	1100	.05	.18	.23	.030	<10	70
MAY									
05...	440	1.9	1110	.00	1.6	1.6	.080	<10	<3
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	.01	.78	.79	.040	10	10
05...	--	--	--	--	--	--	--	--	--
05...	460	3.4	1150	.02	.90	.92	.050	10	420
AUG									
21...	650	3.0	1520	.00	.83	.83	.040	10	0
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	.00	.87	.87	.030	30	10
21...	--	--	--	.00	.77	.77	.040	30	10
21...	660	3.4	1530	.00	1.1	1.1	.060	10	80

322703097451401 LAKE GRANBURY SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN								
18...	1218	1.0	1910	8.1	12.0	--	10.7	101
18...	1220	10	1910	8.1	11.5	--	10.6	99
18...	1222	20	1910	7.8	10.5	--	8.3	75
18...	1224	24	1910	7.7	11.0	--	7.4	69
MAY								
05...	1440	1.0	1930	8.3	24.5	--	8.9	107
05...	1442	10	1930	8.1	21.5	--	7.0	80
05...	1444	23	2000	7.3	20.0	--	.7	8
AUG								
22...	0840	1.0	2590	8.0	28.5	.64	8.0	104
22...	0842	11	2590	7.9	28.0	--	7.4	95

322834097470801 LAKE GRANBURY SITE HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
18...	1240	1.0	2000	8.1	11.5	.80	10.4	98	340
18...	1242	10	2000	8.1	11.0	--	9.8	92	--
18...	1244	20	2000	8.1	10.5	--	9.8	90	--
18...	1246	32	2030	7.8	10.0	--	7.7	70	350
MAY									
05...	1410	1.0	2060	8.2	24.5	.91	8.8	107	--
05...	1412	10	2060	8.1	21.5	--	7.3	84	--
05...	1414	20	2060	7.7	19.5	--	3.9	43	--
05...	1416	33	2060	7.5	18.5	--	1.1	12	--
AUG									
22...	0905	1.0	2600	8.0	29.0	.67	9.0	118	--
22...	0911	10	2730	7.6	28.0	--	5.6	73	--
22...	0915	20	2800	7.3	28.0	--	4.5	58	--
22...	0922	30	2820	7.1	27.5	--	3.0	38	--

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322834097470801 LAKE GRANBURY SITE HC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
JAN									
18...	220	96	25	260	6.1	6.6	150	0	210
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	220	95	28	260	6.0	6.6	160	0	200
MAY									
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
AUG									
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN									
18...	440	4.2	1120	.05	.38	.43	.010	<10	<1
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	450	5.3	1120	.06	.76	.82	.050	30	40
MAY									
05...	--	--	--	.00	.80	.80	.030	20	50
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	.00	1.0	1.0	.050	--	--
AUG									
22...	--	--	--	.00	.79	.79	.030	30	10
22...	--	--	--	.00	1.0	1.0	.040	30	10
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	.00	1.3	1.3	.060	40	150

322819097483201 LAKE GRANBURY SITE IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
18...	1255	1.0	2030	8.1	11.5	10.1	95
18...	1257	10	2030	8.0	10.5	9.1	83
18...	1259	21	2030	7.7	10.0	7.4	67
MAY							
05...	1505	1.0	2060	8.2	25.5	8.2	101
05...	1507	10	2060	7.7	21.5	4.2	48
05...	1509	20	2060	7.3	20.5	1.0	11
AUG							
22...	0930	1.0	2630	8.0	29.0	8.8	114
22...	0932	10	2750	7.6	28.0	5.7	73
22...	0936	23	2810	7.2	28.0	3.6	46

LAKE GRANBURY NEAR GRANBURY, TX--Continued

323318097480101 LAKE GRANBURY SITE JC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
18...	1325	1.0	1900	8.3	12.0	10.7	101
18...	1327	10	1900	8.1	11.0	9.2	85
18...	1329	23	1900	7.9	11.0	7.8	72
MAY							
05...	1530	1.0	2380	8.2	25.0	8.3	101
05...	1532	10	2380	7.7	21.0	4.4	50
05...	1534	23	2380	7.3	20.0	.6	7
AUG							
22...	1000	1.0	2920	7.8	30.0	8.4	112
22...	1002	10	2960	7.4	29.0	4.3	56
22...	1004	20	2980	7.0	28.5	1.5	19

323435097492001 LAKE GRANBURY SITE KC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
18...	1340	1.0	1870	8.3	12.0	.90	11.0	104	340
18...	1342	10	1870	8.2	11.5	--	10.6	99	--
18...	1344	14	1880	8.0	11.0	--	9.8	91	340
MAY									
05...	1550	1.0	2380	8.3	26.0	.40	9.2	115	440
05...	1552	10	2380	7.3	21.5	--	1.6	18	--
05...	1554	13	2380	7.3	21.5	--	1.1	13	440
AUG									
22...	1024	1.0	2990	7.9	31.0	.43	9.5	128	460
22...	1031	10	2990	7.0	29.5	--	2.0	26	--
22...	1038	17	2990	6.8	29.5	--	.3	4	480

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
18...	200	92	26	250	5.9	6.2	170	0	200
18...	--	--	--	--	--	--	--	--	--
18...	220	93	26	240	5.7	6.1	150	0	210
MAY									
05...	320	120	33	330	6.9	8.3	140	0	240
05...	--	--	--	--	--	--	--	--	--
05...	310	120	33	330	6.9	8.2	150	0	250
AUG									
22...	370	120	38	450	9.2	9.7	100	0	320
22...	--	--	--	--	--	--	--	--	--
22...	360	130	37	450	9.0	9.4	140	0	310

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
18...	400	2.4	1060	.01	.12	.13	.020	<10	<1
18...	--	--	--	--	--	--	--	--	--
18...	390	2.5	1040	--	--	--	--	10	6
MAY									
05...	570	.1	1370	.00	.87	.87	.080	20	10
05...	--	--	--	--	--	--	--	--	--
05...	570	.6	1390	.00	.80	.80	.050	10	150
AUG									
22...	780	3.2	1770	.00	1.0	1.0	.050	30	10
22...	--	--	--	--	--	--	--	--	--
22...	760	4.5	1770	.00	1.2	1.2	.100	310	1500

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 LAKE GRANBURY SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)
JAN							
18...	1040	1.0	1	200	<1	0	0
18...	1046	30	--	--	--	--	--
18...	1054	68	1	200	<1	0	0
MAY							
05...	1100	1.0	1	200	<1	0	1
05...	1106	30	--	--	--	--	--
05...	1108	40	--	--	--	--	--
05...	1114	68	1	200	<1	0	1
AUG							
21...	1540	1.0	1	400	0	0	0
21...	1550	40	--	--	--	--	--
21...	1552	50	--	--	--	--	--
21...	1605	65	6	400	0	20	0

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN							
18...	<10	2	<1	.1	0	0	<3
18...	20	--	10	--	--	--	--
18...	30	2	120	.0	0	0	<3
MAY							
05...	<10	1	<1	.2	0	0	<3
05...	<10	--	<3	--	--	--	--
05...	10	--	10	--	--	--	--
05...	<10	1	260	.3	0	0	<3
AUG							
21...	20	0	10	.1	0	0	0
21...	30	--	20	--	--	--	--
21...	50	--	820	--	--	--	--
21...	160	3	1600	.1	0	0	10

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 LAKE GRANBURY SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 18,80	MAY 5,80	AUG 21,80
TIME	1041	1101	1542
TOTAL CELLS/ML	67000	3500	460000
DIVERSITY: DIVISION	0.6	0.8	0.1
.CLASS	0.6	0.8	0.1
..ORDER	0.6	1.0	0.4
...FAMILY	0.7	1.8	0.8
....GENUS	0.9	2.8	1.6

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....GOLENKINIA	*	0	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	1800	3	75	2	--	-
....CHLORELLA	1900	3	75	2	--	-
....DICTYOSPHAERIUM	610	1	--	-	--	-
....KIRCHNERIELLA	1100	2	--	-	--	-
....OOCYSTIS	690	1	250	7	--	-
....SELENASTRUM	--	-	100	3	*	0
....TETRAEDRON	--	-	1300#	38	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	760	1	500	14	--	-
....SCENEDESMUS	*	0	150	4	2300	1
....TETRASTRUM	--	-	200	6	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	75	2	--	-
....CHLAMYDOMONAS	*	0	50	1	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	--	-	*	0
....STAURASTRUM	*	0	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	610	1	--	-	--	-
..PENNALES						
...CYMBELLACEAE						
....CYMBELLA	*	0	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	75	2	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	25	1	--	-
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	59000#	88	580#	17	23000	5
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	42000	9
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	160000#	35
....OSCILLATORIA	--	-	--	-	230000#	50

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

LAKE GRANBURY NEAR GRANBURY, TX--Continued

323435097492001 LAKE GRANBURY SITE KC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 18,80		MAY 5,80		AUG 22,80	
TIME	1341		1551		1023	
TOTAL CELLS/ML	3500		24000		420000	
DIVERSITY: DIVISION	0.7		1.4		0.3	
.CLASS	0.7		1.4		0.3	
..ORDER	0.9		1.5		0.5	
...FAMILY	1.8		2.5		1.1	
....GENUS	3.0		3.7		2.0	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	1700	7	*	0
...MICRACTINIACEAE						
....GOLENKINIA	--	-	290	1	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	910#	26	1200	5	*	0
....CHLORELLA	310	9	290	1	--	-
....CHODATELLA	18	1	1200	5	--	-
....DICTYOSPHAERIUM	--	-	1600	7	*	0
....OOCYSTIS	570#	16	1300	5	*	0
....SELENASTRUM	--	-	290	1	--	-
....TETRAEDRON	--	-	1300	5	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	150	4	2300	10	--	-
....SCENEDESMUS	310	9	2900	12	4600	1
....TETRASTRUM	640#	18	1200	5	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	91	3	150	1	--	-
..ZYGNEMATALES						
...DESMIDIACEAE						
....STAURASTRUM	18	1	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	220	6	580	2	*	0
....MELOSIRA	--	-	290	1	--	-
..PENNALES						
...NITZSCHIACEAE						
....NITZSCHIA	--	-	--	-	4000	1
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	730	3	*	0
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	440	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	4600	1
....ANACYSTIS	--	-	6100#	25	9800	2
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	72000#	17
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	150000#	35
....OSCILLATORIA	--	-	--	-	170000#	41
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	55	2	--	-	--	-
....TRACHELOMONAS	91	3	150	1	--	-
...PETALOMONADACEAE						
....CALYCOMONAS	110	3	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	290	1	*	0

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

08091000 BRAZOS RIVER NEAR GLEN ROSS, TX

LOCATION.--Lat 32°16'18", long 97°39'48", Somervell County, Hydrologic Unit 12060201, at downstream side of bridge on U.S. Highway 67, 600 ft (180 m) downstream from Georges Creek, 4.1 mi (6.6 km) upstream from Paluxy River, 6 mi (10 km) northeast of Glen Rose, and at mile 511.2 (822.5 km).

DRAINAGE AREA.--25,818 mi² (66,869 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--October 1923 to current year.

REVISED RECORDS.--WSP 1058: 1932. WSP 1512: 1946-47, 1949. WSP 1712: 1928(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 567.82 ft (173.072 m) National Geodetic Vertical Datum of 1929. Prior to May 7, 1931, nonrecording gage at site 2.5 mi (4.0 km) downstream at same datum. May 7, 1931, to Sept. 30, 1957, water-stage recorder at site 2.4 mi (3.9 km) downstream at same datum, used as supplementary gage Oct. 1, 1957, to Apr. 1, 1959. Apr. 27, 1950, to Sept. 30, 1957, water-stage recorder, present gage, used as supplementary gage.

REMARKS.--Records good. Flow is largely regulated since September 1969 by Lake Granbury (station 08090900) 31 mi (50 km) upstream. Many diversions above station for irrigation, municipal supply, and oilfield operation. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years (water years 1924-69) prior to regulation by Lake Granbury, 1,567 ft³/s (44.38 m³/s), 1,135,000 acre-ft/yr (1.40 km³/yr); 11 years (water years 1970-80) regulated, 779 ft³/s (22.06 m³/s), 564,400 acre-ft/yr (696 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97,600 ft³/s (2,760 m³/s) May 18, 1935, gage height, 23.68 ft (7.218 m), site then in use, from floodmarks; maximum gage height, 33.89 ft (10.330 m), present site, May 27, 1957; no flow at times prior to construction of Morris Sheppard Dam (1941) on the Brazos River forming Possum Kingdom Lake.
Maximum stage since at least 1876, that of May 27, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 reached a stage of 27 ft (8.2 m), and flood in May 1922 reached a stage of 29.5 ft (8.99 m), which could have equaled or exceeded flood in 1957 at present site, each at site 2.4 mi (3.9 km) downstream, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,990 ft³/s (84.7 m³/s) Sept. 30 at 2000 hours, gage height, 8.28 ft (2.524 m); minimum, 6.3 ft³/s (0.18 m³/s) Sept. 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	188	119	84	847	52	72	66	2620	601	34	20
2	332	85	63	57	847	101	51	115	2620	793	21	15
3	349	56	38	51	314	86	41	126	2620	806	16	15
4	257	127	49	48	418	42	53	126	2620	820	12	15
5	142	77	39	55	397	33	55	104	2620	820	14	11
6	189	46	52	52	262	41	52	158	2620	820	14	14
7	327	46	125	147	145	52	44	195	1850	806	14	23
8	170	47	159	80	105	44	39	870	1280	806	12	22
9	79	45	100	51	948	43	41	1260	1750	506	10	33
10	41	40	49	49	1100	48	46	266	401	421	10	23
11	36	38	45	47	349	155	38	98	155	419	10	15
12	34	54	68	45	89	180	46	297	282	420	16	15
13	31	58	176	45	65	191	69	833	96	418	17	14
14	121	45	362	51	61	180	262	322	64	418	16	14
15	214	38	308	51	58	167	225	264	43	417	20	23
16	1570	35	99	48	67	170	75	281	36	634	15	13
17	1520	36	101	52	188	160	58	175	33	728	13	11
18	360	35	160	52	189	78	51	641	30	728	9.7	11
19	91	38	72	88	187	60	46	2120	28	728	9.7	9.2
20	57	36	66	76	270	45	45	1650	29	728	8.2	8.0
21	48	39	165	386	233	39	42	1770	53	728	7.3	16
22	49	77	197	1090	75	59	38	2120	39	728	151	16
23	354	60	289	948	61	48	37	498	30	393	600	12
24	126	50	987	889	50	41	37	358	26	273	1040	10
25	142	53	545	308	92	53	206	305	24	303	1700	10
26	137	36	247	81	178	58	511	266	22	304	2090	17
27	364	48	79	75	89	57	149	82	20	320	2040	32
28	307	39	67	163	55	318	73	100	34	306	655	35
29	105	43	115	81	52	493	53	108	398	314	64	45
30	177	55	356	68	---	257	65	289	422	197	29	2150
31	163	---	257	636	---	211	---	2040	---	82	20	---
TOTAL	8138	1670	5554	5954	7791	3562	2620	17903	22865	16785	8687.9	2667.2
MEAN	263	55.7	179	192	269	115	87.3	578	762	541	280	88.9
MAX	1570	188	987	1090	1100	493	511	2120	2620	820	2090	2150
MIN	31	35	38	45	50	33	37	66	20	82	7.3	8.0
AC-FT	16140	3310	11020	11810	15450	7070	5200	35510	45350	33290	17230	5290

CAL YR 1979 TOTAL 278430.0 MEAN 763 MAX 26400 MIN 24 AC-FT 552300
WTR YR 1980 TOTAL 104197.1 MEAN 285 MAX 2620 MIN 7.3 AC-FT 206700

08091500 PALUXY RIVER AT GLEN ROSE, TX

LOCATION.--Lat 32°13'53", long 97°46'37", Somervell County, Hydrologic Unit 12060202, on left bank at downstream side of remaining pier of dismantled highway bridge, 500 ft (152 m) upstream from bridge on U.S. Highway 67, 1.0 mi (1.6 km) upstream from Cross Branch, 1.2 mi (1.9 km) southwest of Glen Rose, and 5.1 mi (8.2 km) upstream from mouth.

DRAINAGE AREA.--410 mi^2 (1,062 km^2).

PERIOD OF RECORD.--October 1923 to September 1925, May 1947 to current year. Prior to October 1965, published as Paluxy Creek at Glen Rose.

REVISED RECORDS.--WSP 1392: 1949, 1952. WSP 2122: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 609.66 ft (185.824 m) National Geodetic Vertical Datum of 1929. Oct. 27, 1923, to Sept. 30, 1925, nonrecording gage at bridge 1.8 mi (2.9 km) downstream at datum 13.62 ft (4.151 m) lower.

REMARKS.--Records good. Flow is affected at times discharge from flood-dentention pools of four floodwater-retarding structures with combined detention capacity of 2,690 acre-ft (3.32 hm^3). These structures control runoff from 12.2 mi^2 (31.6 km). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years (water years 1925, 1948-80), 66.9 ft^3/s (1.895 m^3/s), 2.22 in/yr (56 mm/yr), 48,470 acre-ft/yr (59.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft^3/s (1,420 m^3/s) Oct. 4, 1959, gage height, 25.4 ft (7.74 m), from rating curve extended above 32,000 ft^3/s (906 m^3/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1877, 27.2 ft (8.29 m) Apr. 17, 1908, present site and datum, discharge 59,000 ft^3/s (1,670 m^3/s), from rating curve extended as explained above. Flood of May 21, 1922, reached a stage of 26.0 ft (7.92 m), present site and datum, discharge 53,000 ft^3/s (1,500 m^3/s), from rating curve extended as explained above. Flood in November 1918 reached about the same stage as flood of May 21, 1922, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,120 ft^3/s (60.0 m^3/s) May 14 at 2100 hours, gage height, 6.13 ft (1.868 m), no peak above base of 4,000 ft^3/s (113 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	3.6	5.3	14	11	7.8	13	15	21	.97	.03	.00
2	2.2	5.3	5.3	12	11	7.6	13	46	20	.81	.27	.00
3	1.8	4.4	5.6	11	11	7.6	14	70	18	.75	.20	.00
4	1.7	3.7	5.6	10	11	7.9	13	29	17	.62	.16	.00
5	1.5	3.5	6.9	10	11	7.9	12	21	17	.50	.13	.00
6	1.2	3.0	6.1	9.8	10	7.9	11	19	14	.35	.10	.00
7	1.1	3.3	6.0	9.4	9.8	8.1	11	51	14	.29	.07	.03
8	1.4	3.6	5.9	9.0	13	8.2	11	123	14	.25	.05	11
9	1.1	3.7	6.0	9.0	15	8.0	9.0	202	17	.22	.03	3.9
10	.86	3.7	6.2	9.0	16	8.2	8.3	55	13	.19	.02	1.8
11	.84	3.2	6.7	9.1	16	8.4	9.2	37	12	.17	.03	.17
12	.79	3.3	11	8.7	14	9.4	11	30	9.6	.15	.03	.13
13	.72	3.5	11	8.4	13	8.4	21	26	8.7	.13	.04	.11
14	.75	3.8	11	8.4	12	8.3	22	282	8.1	.12	.02	.10
15	1.7	3.8	9.7	8.8	12	7.8	18	626	7.5	.11	.00	.08
16	2.5	3.9	8.4	9.0	11	8.6	17	477	7.1	.10	.00	.08
17	1.7	4.2	7.9	8.6	11	8.3	15	180	6.6	.08	.00	.04
18	2.1	4.7	7.5	8.4	11	8.1	13	101	5.7	.07	.00	.04
19	2.0	4.9	7.3	8.4	11	7.9	12	74	5.2	.07	.00	.03
20	1.9	5.0	7.3	9.7	9.9	7.8	11	59	4.8	.06	.00	.03
21	1.9	5.5	8.1	13	9.3	7.5	11	62	4.7	.06	.00	.02
22	1.6	4.6	10	59	9.0	7.5	10	59	4.5	.07	.00	.01
23	1.4	4.4	18	88	8.9	8.1	11	50	4.4	.05	.00	.00
24	1.3	4.2	26	33	8.6	7.9	14	43	4.0	.05	.00	.00
25	1.3	4.6	19	22	8.4	9.1	69	37	3.5	.05	.00	.04
26	1.3	5.3	15	17	8.3	9.5	37	33	2.9	.04	.00	.17
27	1.8	4.9	13	15	8.4	13	25	31	2.7	.05	.00	.61
28	1.7	4.5	18	14	8.3	19	19	30	2.0	.05	.00	.23
29	1.5	4.9	31	14	8.4	29	16	28	1.6	.05	.02	2.0
30	5.4	4.8	21	13	---	19	14	26	1.2	.04	.01	15
31	4.5	---	16	12	---	14	---	23	---	.03	.00	---
TOTAL	53.96	125.8	341.8	490.7	317.3	305.8	490.5	2945	271.8	6.55	1.21	35.62
MEAN	1.74	4.19	11.0	15.8	10.9	9.86	16.4	95.0	9.06	.21	.039	1.19
MAX	5.4	5.5	31	88	16	29	69	626	21	.97	.27	15
MIN	.72	3.0	5.3	8.4	8.3	7.5	8.3	15	1.2	.03	.00	.00
CFSM	.004	.01	.03	.04	.03	.02	.04	.23	.02	.001	.000	.003
IN.	.00	.01	.03	.04	.03	.03	.04	.27	.02	.00	.00	.00
AC-FT	107	250	678	973	629	607	973	5840	539	13	2.4	71

CAL YR 1979	TOTAL	38196.16	MEAN	105	MAX	16100	MIN	.72	CFSM .26	IN 3.47	AC-FT	75760
WTR YR 1980	TOTAL	5386.04	MEAN	14.7	MAX	626	MIN	.00	CFSM .04	IN .49	AC-FT	10680

08091730 SQUAW CREEK RESERVOIR NEAR GLEN ROSE, TX

LOCATION (revised).--Lat 32°18'00", long 97°47'12", Somervell County, Hydrologic Unit 12060202, on upstream side of intake structure near power house, 1.8 mi (2.9 km) upstream from dam, 3.9 mi (6.3 km) north of Glen Rose, and 6.1 mi (9.8 km) upstream from mouth.

DRAINAGE AREA.--64.0 mi² (166 km²).

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

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

REMARKS.--The reservoir is formed by a rolled earthfill dam 4,360 ft (1,330 m) long. Deliberate impoundment began in February 1977, and the dam was completed in June 1977. The flood-control outlet works consist of an ungated 100-foot-long (30 m) concrete ogee spillway located at right end of dam. The low-flow outlet works consist of a concrete outlet tower with three 4- by 6-foot (1 by 2 m) slide gates and a 6- by 6-foot (2 by 2 m) slide gate, which feed into a 6-foot (2 m) inside diameter concrete conduit that extends through the dam. Records furnished by the Texas Utilities Generating Co. show 10,770 acre-ft (13.3 hm³) was diverted by pipeline from Lake Granbury into the reservoir. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following tables:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	796.0	228,100
Crest of spillway	783.0	178,100
Crest of spillway (normal operating level)	775.0	151,100
Invert of slide gate (No. 1)	764.0	117,300
Invert of slide gate (No. 2)	715.0	24,670
Invert of slide gate (No. 3)	666.5	380
Lowest gated outlet (invert)	653.0	0

COOPERATION.--The capacity table, furnished by Texas Utilities Services Inc., was prepared by Freese and Nichols Inc., Consulting Engineers. Record of water diverted from Lake Granbury was furnished by the Texas Utilities Generating Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 153,100 acre-ft (189 hm³) June 5, 1979, elevation, 775.64 ft (236.415 m); minimum since initial filling of reservoir on May 3, 1979, 145,800 acre-ft (180 hm³) Dec. 11, 1979, elevation, 773.41 ft (235.735 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 149,100 acre-ft (184 hm³) Sept 30 at 0400 hours, elevation, 774.42 ft (236.043 m); minimum, 145,800 acre-ft (180 hm³) Dec. 11, elevation 773.41 ft (235.735 m).

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

773.0	144,500
774.0	147,700
775.0	151,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148000	147500	146100	146600	146900	146500	146400	146600	147500	147400	147100	147400
2	148000	147400	146100	146600	146800	146400	146500	146800	147400	147300	147100	147400
3	148000	147400	146100	146500	146800	146400	146500	146800	147400	147300	147000	147400
4	148000	147300	146100	146500	146800	146400	146400	146800	147400	147300	147000	147500
5	147900	147300	146100	146400	146800	146400	146400	146700	147300	147300	147000	147500
6	148000	147200	146000	146500	146800	146400	146400	147000	147300	147300	147000	147500
7	148000	147200	145900	146400	146800	146400	146400	147100	147200	147300	147000	147500
8	148000	147100	145900	146300	147000	146400	146300	147200	147200	147300	147000	147900
9	147900	147100	145900	146300	147000	146300	146300	147200	147100	147300	147000	148000
10	147800	147000	145900	146300	147000	146400	146300	147200	147100	147300	147000	148100
11	147800	147000	145900	146300	147000	146400	146300	147200	147100	147300	147100	148100
12	147700	146900	146200	146300	146900	146300	146300	147200	147100	147300	147100	148000
13	147700	146900	146100	146300	146900	146300	146500	147200	147100	147300	147100	148000
14	147600	146800	146100	146300	147000	146300	146500	147500	147100	147300	147100	148100
15	147900	146800	146100	146300	147000	146300	146500	147700	147100	147200	147100	148100
16	148000	146800	146100	146300	146900	146300	146400	147800	147100	147200	147100	148100
17	147900	146800	146100	146300	146900	146300	146400	147800	147100	147200	147100	148100
18	147900	146700	145900	146200	146800	146200	146300	147800	147200	147200	147100	148100
19	147800	146800	145900	146300	146900	146300	146300	147800	147200	147200	147100	148100
20	147800	146800	145900	146300	146900	146200	146300	147900	147300	147200	147100	148100
21	147800	146700	146100	146500	146800	146200	146300	147900	147400	147200	147100	148100
22	147700	146600	146100	147100	146800	146200	146300	147900	147400	147200	147100	148100
23	147600	146600	146400	147100	146800	146100	146200	147900	147400	147200	147200	148100
24	147600	146500	146400	147100	146800	146100	146700	147900	147400	147200	147200	148200
25	147500	146500	146400	147100	146700	146200	146800	147900	147400	147200	147200	148300
26	147400	146500	146400	147100	146700	146200	146600	147900	147400	147200	147300	148400
27	147400	146400	146400	147000	146700	146500	146600	147800	147400	147200	147100	148600
28	147400	146300	146700	147000	146700	146500	146600	147800	147400	147200	147400	148600
29	147300	146200	146600	147000	146700	146500	146600	147700	147400	147200	147400	149000
30	147600	146200	146600	146900	---	146400	146600	147700	147400	147200	147400	149000
31	147500	---	146600	146900	---	146400	---	147600	---	147200	147400	---
MAX	148000	147500	146700	147100	147000	146500	146800	147900	147500	147400	147400	149000
MIN	147300	146200	145900	146200	146700	146100	146200	146600	147100	147200	147000	147400
(†)	773.95	773.53	773.65	773.75	773.69	773.61	773.65	773.97	773.90	773.83	773.91	773.41
(‡)	-300	-1300	+400	+300	-200	-300	+200	+1000	-200	-200	+200	+1600

CAL YR 1979 MAX 153000 MIN 110100 ‡ +36200
WTR YR 1980 MAX 149000 MIN 145900 ‡ +1200

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

08091750 SQUAW CREEK NEAR GLEN ROSE, TX

LOCATION.--Lat 32°16'12", long 97°43'56", Somervell County, Hydrologic Unit 12060202, on left bank at downstream side of bridge on State Highway 144, 2.1 mi (3.4 km) upstream from mouth, 2.5 mi (4.0 km) downstream from Squaw Creek Dam, and 2.8 mi (4.5 km) northeast of Glen Rose.

DRAINAGE AREA.--70.3 mi^2 (182.1 km^2).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 599.00 ft (182.575 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No known diversions between Squaw Creek Reservoir and this station. Flow regulated since Feb. 15, 1977, by Squaw Creek Reservoir. During the year, low flows sustained by releases from pipeline used to divert water from Lake Granbury (station 08090900) to Squaw Creek Reservoir (station 08091730). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years, 7.30 ft^3/s (0.207 m^3/s), 5,290 acre-ft/yr (6.52 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,030 ft^3/s (256 m^3/s) Apr. 8, 1975, gage height, 11.90 ft (3.627 m), from rating curve extended above 1,000 ft^3/s (283 m^3/s) on basis of velocity-area study; minimum, 0.02 ft^3/s (0.001 m^3/s) Aug. 28, 29, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1934, about 20.5 ft (6.25 m) in May 1957, from information by State Department of Highways and Public Transportation (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 65.0 ft^3/s (1.84 m^3/s) May 14 at 2200 hours, gage height, 3.89 ft (1.186 m); minimum, 1.4 ft^3/s (0.040 m^3/s) July 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	3.9	3.4	3.7	3.2	3.4	3.4	4.0	5.1	4.2	3.2	7.0
2	3.2	3.7	3.4	3.7	3.2	3.4	3.4	5.7	5.6	4.2	5.2	6.8
3	3.0	3.7	3.4	3.7	2.9	3.4	3.4	3.4	7.8	3.5	5.4	7.1
4	3.1	3.7	3.4	3.7	2.9	3.4	3.4	3.4	8.4	2.8	5.7	5.4
5	3.3	3.7	3.4	3.7	2.9	3.2	3.4	3.4	8.4	3.2	5.6	2.9
6	3.4	3.7	3.4	3.7	2.9	3.2	3.4	4.0	7.9	3.3	6.0	2.8
7	3.4	3.7	3.4	3.7	2.9	3.7	3.9	7.7	7.2	3.2	5.4	2.9
8	3.4	3.7	3.4	3.4	3.7	3.7	3.7	7.4	6.7	3.1	5.4	4.8
9	3.5	4.0	3.4	3.4	3.7	3.7	3.4	4.2	7.0	2.9	5.4	4.2
10	3.7	3.7	3.4	3.4	3.7	3.7	3.4	2.7	6.3	3.2	5.9	3.1
11	3.6	3.7	3.4	3.3	3.2	4.0	3.6	2.5	5.9	3.2	5.6	2.9
12	3.6	3.7	4.8	3.2	2.9	4.0	4.2	2.9	6.2	3.1	3.4	2.8
13	3.7	3.4	3.7	3.2	2.7	4.0	6.6	4.1	6.0	2.6	5.0	3.1
14	3.7	3.4	3.7	3.2	2.7	4.0	4.2	11	5.7	2.7	5.2	3.1
15	11	3.4	3.7	3.2	2.5	4.0	4.0	13	5.5	2.6	5.4	2.9
16	4.1	3.4	3.4	3.2	2.5	3.8	4.0	8.3	5.2	2.4	5.0	2.7
17	3.4	3.4	3.4	3.2	2.5	3.4	3.7	6.0	4.9	2.2	5.0	2.8
18	3.4	3.4	3.4	3.4	2.5	3.4	3.7	5.7	4.5	2.3	5.9	2.9
19	3.4	3.2	3.4	3.4	2.2	3.4	3.7	5.3	3.3	2.3	5.2	2.9
20	3.4	3.4	3.4	3.4	2.2	3.9	3.4	5.5	5.3	2.3	5.0	2.9
21	3.4	3.9	3.8	3.4	3.2	4.1	3.6	8.9	6.0	2.2	4.7	2.7
22	4.5	4.0	4.5	7.3	2.9	4.0	3.7	6.1	5.7	2.4	3.5	2.7
23	4.3	4.0	7.8	3.7	3.2	4.0	3.4	6.5	5.7	2.4	3.0	2.9
24	4.2	4.0	3.7	3.6	3.2	3.7	4.3	6.8	5.8	2.3	3.2	3.0
25	4.0	4.0	3.4	3.4	3.4	3.7	4.6	7.3	5.3	2.3	3.2	3.4
26	3.7	4.0	3.4	3.4	3.2	3.7	4.0	7.4	5.2	3.1	3.3	4.0
27	3.7	4.0	3.4	3.4	3.2	4.5	3.7	7.4	4.8	3.1	4.1	4.9
28	3.7	4.0	7.0	3.4	3.2	4.9	3.7	7.4	4.8	3.1	7.6	4.0
29	3.7	4.0	4.1	3.4	3.4	3.6	3.7	7.6	4.5	3.2	7.8	7.0
30	9.6	3.7	3.7	3.4	---	3.4	3.6	6.9	4.3	3.6	7.4	4.3
31	4.1	---	3.7	3.2	---	3.4	---	5.6	---	3.7	6.9	---
TOTAL	125.3	111.5	118.8	110.4	86.8	115.7	114.2	188.1	175.0	90.7	158.6	114.9
MEAN	4.04	3.72	3.83	3.56	2.99	3.73	3.81	6.07	5.83	2.93	5.12	3.83
MAX	11	4.0	7.8	7.3	3.7	4.9	6.6	13	8.4	4.2	7.8	7.1
MIN	3.0	3.2	3.4	3.2	2.2	3.2	3.4	2.5	3.3	2.2	3.0	2.7
AC-FT	249	221	236	219	172	229	227	373	347	180	315	228

CAL YR 1979 TOTAL 4181.3 MEAN 11.5 MAX 781 MIN 1.9 AC-FT 8290
WTR YR 1980 TOTAL 1510.0 MEAN 4.13 MAX 13 MIN 2.2 AC-FT 3000

08091900 LAKE PAT CLEBURNE NEAR CLEBURNE, TX

LOCATION.--Lat 32°17'20", long 97°24'54", Johnson County, Hydrologic Unit 12030109, at side of walkway from dam to outlet structure, near left end of Cleburne Dam on Nolan River, 2.2 mi (3.5 km) upstream from Buffalo Creek, 4.3 mi (6.9 km) south of Cleburne, and 21.4 mi (34.4 km) upstream from mouth.

DRAINAGE AREA.--100 mi² (259 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Homer Hunter Associates, Consulting Engineers bench mark).

REMARKS.--The lake is formed by a rock-faced earthfill dam 5,050 ft (1,540 m) long, including a 150-foot-wide (46 m) uncontrolled concrete service spillway at left end of dam. An emergency spillway, 500 ft (150 m) wide, is cut in natural ground on the right bank about 400 ft (120 m) from right end of dam. Storage began Aug. 4, 1964. Lake is the property of city of Cleburne and was built to impound water for municipal use. Capacity table based on survey of 1958 from Geological Survey topographic maps. Records furnished by city of Cleburne indicate that 2,400 acre-ft (2.96 hm³) of sewage effluent was returned to a tributary of Nolan River which enters below this station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	753.0	-
Top of design flood pool	752.3	66,700
Crest of spillway	744.0	45,430
Crest of spillway (top of conservation pool)	733.5	25,560
Lowest gated outlet (invert)	690.0	115

COOPERATION.--Records of diversions furnished by the city of Cleburne. Capacity table furnished by Homer Hunter Associates, Consulting Engineers for the city of Cleburne.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,850 acre-ft (49.1 hm³) May 3, 1979, elevation, 741.41 ft (225.982 m); minimum, 13,870 acre-ft (17.1 hm³) Jan. 16-17, 1979, elevation, 724.23 ft (220.745 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 25,780 acre-ft (31.8 hm³) May 26, elevation, 733.64 ft (223.613 m); minimum, 20,300 acre-ft (25.0 hm³) Sept. 26, elevation, 729.80 ft (222.443 m).

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

729.0	19,270	732.0	23,320
730.0	20,560	733.0	24,790
731.0	21,900	734.0	26,340

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23090	22320	21720	21710	22130	22030	21790	23150	25620	24350	22720	21220
2	23040	22290	21710	21720	22130	21990	22250	23320	25570	24290	22660	21180
3	23000	22270	21680	21700	22110	21950	22580	23320	25540	24230	22550	21140
4	22930	22220	21670	21670	22110	21990	22580	23330	25510	24170	22500	21100
5	22900	22210	21680	21660	22110	21950	22580	23320	25480	24120	22450	21050
6	22860	22170	21640	21680	22100	21920	22580	23320	25450	24060	22390	21010
7	22800	22140	21630	21640	22100	21930	22580	23390	25420	24010	22360	20990
8	22790	22130	21600	21600	22150	21920	22530	23520	25400	23960	22320	20990
9	22720	22150	21590	21590	22180	21900	22520	23550	25370	23900	22270	20950
10	22660	22110	21570	21610	22170	21900	22460	23550	25340	23840	22240	20930
11	22650	22080	21610	21570	22180	21890	22490	23550	25310	23790	22200	20890
12	22600	22070	21670	21550	22180	21920	22530	23610	25250	23730	22150	20830
13	22560	22060	21640	21550	22180	21860	22790	23620	25190	23670	22100	20790
14	22520	22040	21610	21530	22200	21840	22860	23670	25140	23600	22060	20770
15	22660	22010	21610	21550	22240	21820	22890	24550	25080	23540	22000	20740
16	22660	21990	21600	21550	22200	21840	22890	24890	25040	23480	21950	20690
17	22650	21970	21550	21530	22170	21810	22890	24930	25010	23420	21890	20650
18	22620	21970	21530	21520	22170	21770	22870	24990	24950	23360	21840	20600
19	22600	21970	21530	21520	22170	21750	22860	24980	24900	23300	21790	20540
20	22560	21990	21520	21520	22150	21740	22860	25220	24900	23250	21740	20490
21	22530	22010	21590	21610	22170	21710	22830	25670	24890	23260	21710	20440
22	22530	21960	21590	22150	22170	21680	22820	25700	24810	23250	21670	20410
23	22500	21930	21780	22220	22150	21720	22800	25710	24790	23160	21640	20370
24	22460	21900	21750	22220	22140	21670	22960	25750	24720	23100	21570	20340
25	22430	21890	21740	22220	22110	21660	23070	25760	24670	23040	21530	20340
26	22390	21860	21740	22240	22100	21640	23030	25750	24630	23020	21480	20370
27	22380	21850	21720	22180	22100	21750	23020	25750	24570	22960	21410	20430
28	22360	21810	21780	22200	22080	21810	23000	25730	24490	22940	21420	20400
29	22320	21770	21770	22180	22110	21840	22990	25680	24450	22890	21400	20580
30	22410	21740	21740	22210	---	21820	23090	25670	24410	22830	21340	20580
31	22360	---	21740	22150	---	21790	---	25640	---	22790	21270	---
MAX	23090	22320	21780	22240	22240	22030	23090	25760	25620	24350	22720	21220
MIN	22320	21740	21520	21520	22080	21640	21790	23150	24410	22790	21270	20340
(†)	731.33	730.88	730.88	731.18	731.15	730.92	731.84	733.55	732.74	731.63	730.54	730.02
(‡)	-760	-620	0	+410	-40	-320	+1300	+2550	-1240	-1610	-1520	-690
(††)	289	231	236	238	228	242	244	256	319	439	466	388

CAL YR 1979 MAX 38150 MIN 13870 ‡ +7,730 †† 3050
WTR YR 1980 MAX 25760 MIN 20340 ‡ -2,540 †† 3580

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use by city of Cleburne.

08091900 LAKE PAT CLEBURNE NEAR CLEBURNE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
APR 01...	1415	288	14.0	130	2	44	3.8	7.8	.3

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
APR 01...	3.3	150	0	13	7.3	.2	2.1	155

08092000 NOLAN RIVER AT BLUM, TX

LOCATION.--Lat 32°09'02", long 97°24'09", revised, Hill County, Hydrologic Unit 12060202, on right bank 60 ft (18 m) upstream from bridge on Farm Road 933, 0.6 mi (1.0 km) northwest of Blum, 2.8 mi (4.5 km) downstream from Mustang Creek, 3.0 mi (4.8 km) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.2 mi (5.1 km) upstream from Rock Creek, and 8.5 mi (13.7 km) upstream from mouth.

DRAINAGE AREA.--282 mi² (730 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to September 1925, November 1947 to current year.

REVISED RECORDS.--WSP 1312: 1925(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 551.48 ft (168.091 m) National Geodetic Vertical Datum of 1929. July 29, 1924, to Sept. 30, 1925, and Nov. 14, 1947, to May 28, 1949, nonrecording gage at railway bridge (now abandoned) 0.5 mi (0.8 km) upstream at datum 5.00 ft (1.524 m) higher. May 29 to July 7, 1949, nonrecording gage at present site and datum then in use, 5.00 ft (1.524 m) higher than present datum.

REMARKS.--Water-discharge records good. Since August 1964, flow from 100 mi² (259 km²) affected by storage in Lake Pat Cleburne (station 08091900) located 13 mi (21 km) upstream. Records furnished by the city of Cleburne show that during the current year 3,570 acre-ft (4.40 hm³) was diverted from Lake Pat Cleburne and 2,400 acre-ft (2.96 hm³) of sewage effluent was returned to a tributary upstream from the gage.

AVERAGE DISCHARGE.--17 years (water years 1925, 1949-64) prior to regulation by Lake Pat Cleburne, 66.1 ft³/s (1.872 m³/s), 47,890 acre-ft/yr (59.0 hm³/yr); 16 years (water years 1965-80) regulated, 97.6 ft³/s (2.764 m³/s), 70,710 acre-ft/yr (87.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,200 ft³/s (1,760 m³/s) May 7, 1969, gage height, 31.23 ft (9.519 m), from rating curve extended above 22,200 ft³/s (629 m³/s) on basis of contracted-opening measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, 35.0 ft (10.67 m) May 8, 1922, present site and datum, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,550 ft³/s (185 m³/s) May 15 at 1730 hours, no other peak above base of 5,000 ft³/s (142 m³/s); minimum, 0.20 ft³/s (0.006 m³/s) July 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	7.2	3.8	5.8	5.4	8.4	7.6	32	11	.97	.77	.80
2	1.7	4.6	4.1	5.6	5.4	8.5	14	41	9.9	.87	.49	.83
3	1.2	3.9	4.5	5.5	6.9	8.9	465	26	9.4	.61	.37	.75
4	.90	3.5	4.5	5.1	7.9	9.3	52	21	9.1	1.5	.33	.70
5	1.9	3.4	4.3	5.0	8.1	8.6	28	19	8.9	.92	.52	.57
6	1.1	3.1	3.8	5.4	8.4	8.6	23	30	8.4	.32	.45	.38
7	.97	2.2	3.0	5.2	8.2	8.6	20	39	8.0	.22	.50	.28
8	1.6	4.3	3.2	4.6	9.3	8.6	19	42	7.5	.71	.48	.25
9	2.1	4.2	4.7	4.7	16	8.5	18	42	7.2	1.0	.46	2.4
10	1.9	7.2	4.8	5.6	13	8.3	18	26	7.6	.61	.69	7.4
11	1.2	5.1	4.9	5.3	11	8.2	21	21	7.8	.51	.47	3.1
12	1.3	4.1	6.3	5.0	11	8.0	20	30	7.0	.32	.86	1.4
13	1.7	3.5	17	4.8	11	9.5	62	28	5.9	.74	.75	.71
14	1.2	3.6	8.8	4.9	12	9.3	94	129	5.7	.68	.69	.58
15	11	3.3	6.3	5.0	11	8.3	40	2990	5.0	.29	.44	.97
16	24	2.9	5.5	4.6	9.2	8.3	27	1680	4.3	.32	.36	1.7
17	7.8	3.5	5.1	4.5	8.5	8.4	23	146	3.7	.53	.36	1.5
18	3.7	3.6	4.9	4.9	8.6	7.5	21	63	3.3	.38	.60	1.3
19	2.5	4.2	4.2	5.1	8.8	8.0	20	41	3.0	.35	.46	1.4
20	2.1	4.6	5.5	5.0	9.4	8.0	21	34	2.4	.40	.34	1.3
21	1.7	4.2	5.5	7.4	8.8	7.1	20	222	2.1	.47	.43	.78
22	2.2	8.4	13	196	8.5	7.0	18	59	8.0	.89	.45	.82
23	2.4	5.8	57	105	9.2	8.2	18	33	4.6	2.5	.30	1.6
24	4.0	4.3	40	20	8.4	7.7	19	26	3.6	2.0	.25	1.2
25	2.6	3.6	14	13	8.0	8.9	62	21	2.8	3.2	.25	2.8
26	2.6	4.1	8.3	9.4	7.8	8.8	24	18	2.4	2.5	.29	3.2
27	2.9	3.6	6.8	7.5	8.3	10	20	16	1.7	1.7	.26	13
28	2.5	3.8	7.1	6.7	8.5	24	19	17	.99	.93	.76	17
29	2.6	3.6	10	6.7	8.3	12	18	14	1.0	.95	3.8	24
30	40	3.9	9.4	6.6	---	11	17	13	.87	1.5	1.1	42
31	27	---	6.4	5.9	---	8.4	---	12	---	1.2	.62	---
TOTAL	162.17	127.3	286.7	485.8	264.9	282.9	1248.6	5931	163.16	30.09	18.90	134.72
MEAN	5.23	4.24	9.25	15.7	9.13	9.13	41.6	191	5.44	.97	.61	4.49
MAX	40	8.4	57	196	16	24	465	2990	11	3.2	3.8	42
MIN	.90	2.2	3.0	4.5	5.4	7.0	7.6	12	.87	.22	.25	.25
AC-FT	322	252	569	964	525	561	2480	11760	324	60	37	267

CAL YR 1979 TOTAL 56766.97 MEAN 156 MAX 12900 MIN .90 AC-FT 112600
WTR YR 1980 TOTAL 9136.24 MEAN 25.0 MAX 2990 MIN .22 AC-FT 18120

08092000 NOLAN RIVER AT BLUM, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT										
30...	1000	5.6	540	8.0	19.0	7.7	86	1.3	120	0
DEC										
11...	1630	6.4	598	9.1	19.0	16.7	182	1.6	170	0
FEB										
13...	1700	14	585	8.8	12.0	18.2	170	2.7	170	3
APR										
10...	1200	19	430	9.0	20.5	>20.0	>222	2.4	160	0
JUN										
04...	0945	9.8	620	8.4	25.5	9.9	121	1.2	210	0
SEP										
22...	1415	.83	800	8.9	28.0	9.8	126	.4	72	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT										
30...	42	4.3	64	2.5	7.5	220	0	39	34	.4
DEC										
11...	58	5.6	70	2.4	7.2	190	30	61	40	.5
FEB										
13...	57	5.6	60	2.0	6.4	170	14	66	45	.5
APR										
10...	55	4.9	31	1.1	4.8	150	24	38	23	.4
JUN										
04...	80	3.2	45	1.3	4.2	260	4	49	33	.4
SEP										
22...	22	4.2	140	7.2	10	200	26	77	82	.6

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT									
30...	2.5	302	.01	.00	.01	.02	.69	.71	4.400
DEC									
11...	.7	367	.04	.02	.06	.03	.76	.79	.220
FEB									
13...	1.8	340	2.7	.09	2.8	.80	1.3	2.1	2.500
APR									
10...	3.8	259	--	--	--	--	--	.94	.740
JUN									
04...	6.0	353	.41	.01	.42	.00	.61	.61	.540
SEP									
22...	5.8	466	.00	.00	.00	.00	1.2	1.2	2.200

08092500 LAKE WHITNEY NEAR WHITNEY, TX

LOCATION.--Lat 31°51'55", long 97°22'18", Bosque County, Hydrologic Unit 12060202, on State Highway 22, in intake structure of Whitney Dam on Brazos River, 2.4 mi (3.9 km) upstream from Coon Creek, 3.5 mi (5.6 km) upstream from Iron Creek, 7.4 mi (11.9 km) southwest of Whitney, and at mile 442.4 (712.0 km).

DRAINAGE AREA.--27,189 mi^2 (70,420 km^2), approximately, of which 9,566 mi^2 (24,776 km^2) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1951 to current year. Prior to October 1970, published as Whitney Reservoir. Prior to October 1980, published as Whitney Lake.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The lake is formed by a concrete-gravity and rolled earthfill dam 17,695 ft (5,393 m) long, including spillway. The dam was completed in April 1951 and deliberate impoundment began Dec. 10, 1951. The concrete spillway is 680 ft (210 m) long and includes 17 tainter gates 38.0 by 40.0 ft (11.6 by 12.2 m) each. The outlet works are comprised of 16 gate-operated conduits that are 5.0 by 9.0 ft (1.5 by 2.7 m) each. The space between elevations 522.0 and 571.0 ft (159.11 and 174.04 m) is reserved for flood-control storage. At a maximum design elevation of 573.0 ft (174.65 m), the spillway is designed to discharge 684,000 ft^3/s (19,400 m^3/s). The capacity table is based on a survey made in April and May 1959. Flow is affected at times by discharge from flood-detention pools of four floodwater-retarding structures with combined detention capacity of 2,690 acre-ft (3.32 hm^3). These structures control runoff from 12.2 mi^2 (31.6 km^2) in the Paluxy River drainage basin. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	584.0	-
Design flood	573.0	2,100,000
Top of gates	571.0	1,999,500
Crest of spillway (sill of gates)	533.0	627,100
Top of conservation pool (top of designated power storage)	522.0	411,100
Lowest controlled outlet (invert)	448.83	4,270

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,980,000 acre-ft (2.44 km^3) May 29, 1957, elevation, 570.25 ft (173.812 m); minimum daily since power pool elevation first reached in April 1954, 250,200 acre-ft (308 hm^3) Nov. 1, 1956, elevation, 509.52 ft (155.302 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 554,500 acre-ft (684 hm^3) June 11 at 0700 hours, elevation, 529.78 ft (161.477 m); minimum, 406,200 acre-ft (501 hm^3) Jan. 24 at 2100 hours, elevation, 521.70 ft (159.014 m).

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

520.0	379,100	526.0	478,800
522.0	411,100	528.0	517,100
524.0	444,000	530.0	559,200

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	510400	499600	473600	436500	411100	427100	435500	446900	523500	525800	492400	450100
2	509100	499600	473600	436500	412700	426700	437800	447900	528100	524300	490200	448700
3	508900	499400	472700	436700	414200	426700	438200	448200	532000	522900	487900	447200
4	507100	497300	472700	435200	414800	428600	438000	448600	535700	521500	488300	445500
5	507100	499000	473100	434900	416300	427100	437500	449400	539700	520100	486400	443800
6	503900	499000	472300	434900	416300	426700	437700	450600	543600	518400	484400	442800
7	501400	496900	472000	433200	417100	427100	438000	454200	546800	516900	483100	443300
8	499600	496500	472000	431400	419200	427200	438200	455500	550400	515700	481400	444500
9	500200	497400	472200	430000	420400	427200	438000	458400	553200	514600	479300	444600
10	499000	496700	471100	430500	421500	427600	436800	459800	554300	513000	478000	443100
11	498200	496000	473100	429700	423500	427200	439000	460300	550600	511600	477000	440800
12	496700	495200	468600	427600	423600	427200	439200	461100	550400	509600	477000	439700
13	496900	493300	465100	427700	423800	428900	440500	463300	550200	508100	475400	437000
14	496300	490500	462700	425100	424000	429100	441000	465800	549400	506500	470200	434200
15	499000	489600	461000	422800	425800	428900	441500	482100	548100	505100	469100	430900
16	498400	488800	460400	420700	425300	430400	441100	489200	546800	503700	466700	428600
17	498600	488700	455900	418100	424500	430500	442300	491100	545700	503000	465200	427400
18	498800	488500	453000	415200	423800	430400	442000	492200	543600	502600	462600	423000
19	497300	487900	452100	414700	425300	430400	442000	497100	543100	501800	459800	423500
20	496100	488500	450400	412100	425300	430700	442000	503200	545100	500600	457400	422800
21	494500	489800	449600	408800	426100	430500	442000	505900	543800	499800	454500	422700
22	495200	486200	448200	409600	426400	430000	442000	510600	543600	499200	451800	422200
23	495000	483600	449200	408000	426700	432000	441800	512800	541600	498600	449400	422000
24	495200	482500	448200	407100	427100	430500	443000	513800	539700	497400	449600	422200
25	495000	482300	448200	408000	427600	430700	445500	515000	538000	496100	450400	422300
26	494600	480200	446500	409300	426600	431000	445700	515900	534900	495600	450800	422800
27	494800	481400	445300	408800	426900	431200	446300	516700	533200	496300	453300	423300
28	495800	479100	443600	409500	427100	432900	446300	516500	530800	495600	455500	423300
29	494300	476800	440500	409500	427200	434500	446300	516300	528700	494600	454500	424600
30	499000	473800	438300	410900	---	434700	446500	516900	527400	493700	452600	425800
31	499600	---	436500	410100	---	434900	---	519200	---	493300	451300	---
MAX	510400	499600	473600	436700	427600	434900	446500	519200	554300	525800	492400	450100
MIN	494300	473800	436500	407100	411100	426700	435500	446900	523500	493300	449400	422000
(†)	527.11	525.72	523.55	521.94	522.99	523.45	524.15	528.10	528.50	526.78	524.43	522.90
(‡)	-11200	-25800	-37300	-26400	+17100	+7700	+11600	+72700	+8200	-34100	-42000	-25500

CAL YR 1979 MAX 768300 MIN 436500 ‡ -85000
WTR YR 1980 MAX 554300 MIN 407100 ‡ -96100

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

08092500 WHITNEY LAKE NEAR WHITNEY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1961 to current year.

315203097222601 WHITNEY LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
JAN										
23...	1015	1.0	1290	8.0	10.0	1.20	10.2	91	240	120
23...	1017	10	1290	8.0	10.0	--	10.1	90	--	--
23...	1019	20	1290	8.0	10.0	--	10.1	90	--	--
23...	1021	30	1290	8.0	10.0	--	10.1	90	--	--
23...	1023	40	1290	8.0	10.0	--	10.1	90	--	--
23...	1025	50	1290	8.0	10.0	--	10.1	90	--	--
23...	1027	60	1290	8.0	10.0	--	10.1	90	--	--
23...	1029	70	1290	8.0	10.0	--	10.1	90	--	--
23...	1031	80	1290	8.0	10.0	--	10.1	90	--	--
23...	1033	90	1290	7.9	10.0	--	10.1	90	240	130
MAY										
06...	1040	1.0	1310	8.4	21.0	2.00	9.4	107	260	140
06...	1042	10	1310	8.4	20.0	--	9.0	100	--	--
06...	1044	20	1310	8.3	19.0	--	8.2	90	--	--
06...	1046	30	1310	8.0	17.5	--	6.7	71	--	--
06...	1048	40	1310	8.0	17.5	--	6.4	68	--	--
06...	1050	50	1310	8.0	16.5	--	6.1	64	--	--
06...	1052	60	1310	7.9	16.0	--	5.6	58	--	--
06...	1054	70	1310	7.8	15.5	--	5.2	53	--	--
06...	1056	80	1310	7.8	15.5	--	4.8	49	--	--
06...	1058	91	1310	7.6	15.5	--	3.7	38	260	140
AUG										
26...	1010	1.0	1410	7.8	28.0	1.83	7.7	97	260	160
26...	1012	10	1410	7.8	28.0	--	7.2	91	--	--
26...	1014	20	1410	7.5	27.5	--	5.5	69	--	--
26...	1016	30	1410	7.4	27.5	--	4.3	54	--	--
26...	1018	40	1400	7.2	27.0	--	3.2	40	--	--
26...	1020	45	1390	7.0	26.5	--	1.9	23	--	--
26...	1022	50	1390	6.9	25.0	--	.1	1	--	--
26...	1024	60	1320	6.9	20.5	--	.1	1	--	--
26...	1026	70	1320	6.9	19.5	--	.1	1	--	--
26...	1028	80	1320	6.9	18.5	--	.1	1	--	--
26...	1030	93	1320	6.9	18.0	--	.1	1	260	120

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
23...	70	16	160	4.5	5.3	150	0	110	250
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	71	16	150	4.2	5.3	140	0	120	260
MAY									
06...	77	17	160	4.3	5.4	150	0	130	270
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	78	17	160	4.3	5.4	150	0	130	270
AUG									
26...	72	20	190	5.1	6.8	130	0	140	330
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	78	17	170	4.5	6.2	180	0	110	290

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315203097222601 WHITNEY LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
23...	.2	4.9	690	.02	.22	.24	.010	<10	<1
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	.02	.19	.21	.000	10	0
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	5.5	697	.02	.22	.24	.020	230	60
MAY									
06...	.3	3.7	737	.01	1.6	1.6	.010	<10	<3
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	.02	.67	.69	.010	10	10
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	4.4	739	.09	.84	.93	.030	<10	90
AUG									
26...	.3	4.8	828	.00	--	--	.020	<10	2
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	.00	.63	.63	.020	10	0
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	.00	.85	.85	.030	10	0
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	7.6	769	.00	1.0	1.0	.210	170	920

315214097222001 WHITNEY LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
23...	1100	1.0	1290	8.0	10.0	10.2	91
23...	1102	10	1290	8.0	10.0	10.1	90
23...	1104	20	1290	8.0	10.0	10.1	90
23...	1106	35	1290	8.0	10.0	10.1	90
MAY							
06...	1115	1.0	1310	8.4	21.0	9.4	107
06...	1117	10	1310	8.4	20.0	9.1	101
06...	1119	20	1310	8.2	19.0	8.1	89
06...	1121	30	1310	8.0	17.5	7.0	74
06...	1123	41	1310	7.9	17.5	6.0	64
AUG							
26...	1101	1.0	1410	7.9	28.0	7.8	99
26...	1103	10	1410	7.8	28.0	7.5	95
26...	1105	20	1410	7.7	28.0	6.1	77
26...	1107	30	1410	7.4	27.5	4.5	57
26...	1109	36	1410	7.3	27.5	4.2	53

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315432097234601 WHITNEY LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
MAY							
06...	1545	1.0	1310	8.3	23.5	8.8	105
06...	1547	10	1310	8.4	21.0	9.5	108
06...	1549	20	1310	8.2	19.5	7.9	88
06...	1551	30	1310	8.0	18.0	6.2	67
06...	1553	40	1310	7.9	17.5	5.6	60
06...	1555	50	1310	7.8	17.0	5.0	53
06...	1557	60	1310	7.6	16.5	3.7	39
06...	1559	70	1310	7.6	16.5	3.3	34
06...	1601	84	1310	7.5	16.0	1.4	14
AUG							
26...	1150	1.0	1420	7.9	29.0	8.5	110
26...	1152	10	1420	7.9	28.5	8.0	103
26...	1154	20	1420	7.4	28.0	4.2	53
26...	1156	30	1400	7.2	27.5	2.9	37
26...	1158	40	1400	7.2	27.5	2.2	28
26...	1200	50	1380	7.0	26.0	.1	1
26...	1202	60	1330	6.9	21.0	.1	1
26...	1204	70	1330	6.9	20.0	.1	1
26...	1206	84	1330	6.9	19.0	.1	1

315722097240201 WHITNEY LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
JAN									
23...	1200	1.0	1320	8.0	10.5	.90	9.9	90	250
23...	1202	10	1320	8.0	10.5	--	9.9	90	--
23...	1204	20	1320	8.0	10.0	--	9.8	88	--
23...	1206	30	1320	8.0	10.0	--	9.8	88	--
23...	1208	40	1320	8.0	10.0	--	9.8	88	--
23...	1210	50	1320	8.0	10.0	--	9.8	88	--
23...	1212	60	1320	8.0	10.0	--	9.8	88	--
23...	1214	69	1320	8.0	10.0	--	9.8	88	250
MAY									
06...	1245	1.0	1330	8.3	23.0	1.65	8.9	105	270
06...	1247	10	1330	8.4	20.5	--	9.1	102	--
06...	1249	20	1330	8.0	19.0	--	6.4	70	--
06...	1251	30	1330	7.9	18.0	--	5.9	63	--
06...	1253	40	1330	7.8	17.5	--	5.4	57	--
06...	1255	50	1330	7.7	17.0	--	4.3	45	--
06...	1257	60	1330	7.6	16.5	--	4.0	42	--
06...	1259	72	1330	7.6	16.5	--	3.1	22	270
AUG									
26...	1230	1.0	1420	7.9	30.5	1.71	8.2	108	260
26...	1232	10	1420	7.9	29.5	--	7.5	99	--
26...	1234	20	1450	7.7	29.0	--	5.6	73	--
26...	1236	30	1560	7.1	28.5	--	1.7	22	--
26...	1238	35	1560	7.1	28.5	--	1.6	21	--
26...	1240	40	1560	7.1	28.0	--	.9	11	--
26...	1242	45	1540	7.1	28.0	--	.8	10	--
26...	1244	50	1440	7.1	27.0	--	.2	2	--
26...	1246	60	1340	7.0	21.5	--	.1	1	--
26...	1248	70	1340	6.9	20.5	--	.1	1	270

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315722097240201 WHITNEY LAKE SITE DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
23...	130	72	18	170	4.6	5.3	150	0	130
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	120	71	17	160	4.4	5.3	150	0	120
MAY									
06...	150	79	18	160	4.2	5.4	150	0	130
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	150	79	18	160	4.2	5.4	150	0	130
AUG									
26...	150	71	20	200	5.4	6.8	130	0	140
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	110	78	18	170	4.5	6.3	200	0	110

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
23...	260	4.7	734	.04	.32	.36	.030	<10	<1
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	.04	.17	.21	.010	40	10
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	270	4.9	722	.04	.15	.19	.010	<10	5
MAY									
06...	280	3.4	750	.02	1.2	1.2	.060	<10	<3
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	.02	.79	.81	.020	20	10
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	280	4.3	751	.04	.80	.84	.030	<10	90
AUG									
26...	330	4.8	837	.00	.67	.67	.030	<10	1
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	.00	.81	.81	.030	10	10
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	.00	.81	.81	.020	10	10
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	.00	.77	.77	.030	50	1300
26...	--	--	--	--	--	--	--	--	--
26...	280	8.8	770	.00	1.9	1.9	.150	140	1200

WHITNEY LAKE NEAR WHITNEY, TX--Continued

320122097260901 WHITNEY LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
JAN									
23...	1315	1.0	1390	7.9	11.0	.60	9.9	91	--
23...	1318	10	1390	7.9	11.0	--	9.9	91	--
23...	1320	20	1390	7.9	10.5	--	9.4	85	--
23...	1322	30	1390	7.8	10.0	--	9.4	84	--
23...	1324	44	1390	7.8	10.0	--	9.4	84	--
MAY									
06...	1430	1.0	1410	8.3	24.0	.90	8.7	105	270
06...	1432	10	1400	8.3	21.5	--	8.6	99	--
06...	1434	20	1380	7.8	19.0	--	5.5	60	--
06...	1436	30	1380	7.6	17.5	--	3.2	34	--
06...	1438	40	1380	7.5	17.0	--	1.9	20	--
06...	1440	45	1380	7.5	17.0	--	1.9	20	270
AUG									
26...	1350	1.0	1470	8.0	31.5	.98	8.1	108	--
26...	1352	10	1480	8.0	30.5	--	7.6	100	--
26...	1354	20	1510	7.8	30.0	--	6.3	83	--
26...	1356	25	1580	7.4	30.0	--	5.4	71	--
26...	1358	30	1850	7.0	29.5	--	.3	4	--
26...	1400	40	1950	7.0	29.0	--	.0	0	--
26...	1402	48	1950	7.0	29.0	--	.0	0	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
JAN									
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
MAY									
06...	150	77	19	180	4.8	6.6	150	0	140
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	140	77	18	170	4.5	5.4	160	0	130
AUG									
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN									
23...	--	--	--	.05	.26	.31	.030	40	0
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	.06	.25	.31	.010	50	10
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	.05	.38	.43	.060	80	30
MAY									
06...	300	3.0	800	.01	1.7	1.7	.030	<10	<3
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	.02	.79	.81	.020	90	30
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	290	4.1	774	.02	1.3	1.3	.040	<10	250
AUG									
26...	--	--	--	.00	.60	.60	.030	10	10
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	.00	.79	.79	.040	10	0
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	.00	.87	.87	.060	20	90
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	.00	1.1	1.1	.060	280	510

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315907097222801 WHITNEY LAKE SITE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)
JAN							
23...	1235	1.0	750	7.8	9.5	.20	9.5
23...	1238	10	1000	7.8	9.5	--	9.3
23...	1240	15	1150	7.8	10.0	--	9.2
23...	1242	20	1310	7.8	10.0	--	9.1
23...	1244	30	1310	7.8	10.0	--	9.1
23...	1246	39	1310	7.7	10.0	--	8.2
MAY							
06...	1510	1.0	1320	8.3	23.5	1.50	9.1
06...	1512	10	1320	8.3	21.0	--	9.0
06...	1514	20	1330	8.0	19.0	--	6.3
06...	1516	30	1330	7.8	18.0	--	5.2
06...	1518	40	1340	7.6	17.5	--	3.6
06...	1520	48	1350	7.5	17.5	--	2.3
AUG							
26...	1315	1.0	1440	8.0	31.0	1.37	8.5
26...	1317	10	1440	8.0	30.0	--	8.2
26...	1319	20	1450	7.3	29.0	--	3.4
26...	1321	30	1470	7.1	28.5	--	1.2
26...	1323	35	1490	7.1	28.5	--	.8
26...	1325	43	1490	7.1	28.5	--	.5

DATE	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN							
23...	84	.69	.43	1.1	.100	80	10
23...	82	--	--	--	--	--	--
23...	82	--	--	--	--	--	--
23...	81	--	--	--	--	--	--
23...	81	--	--	--	--	--	--
23...	73	.04	.25	.29	.020	40	40
MAY							
06...	108	.01	1.8	1.8	.020	10	10
06...	102	--	--	--	--	--	--
06...	69	--	--	--	--	--	--
06...	56	--	--	--	--	--	--
06...	38	--	--	--	--	--	--
06...	24	.03	1.0	1.0	.030	10	210
AUG							
26...	113	.00	.77	.77	.040	20	10
26...	108	--	--	--	--	--	--
26...	44	--	--	--	--	--	--
26...	15	--	--	--	--	--	--
26...	10	--	--	--	--	--	--
26...	6	.00	.81	.81	.050	10	190

320401097291301 WHITNEY LAKE SITE P11

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
JAN									
23...	1350	1.0	1630	7.8	11.0	.80	9.8	90	310
23...	1352	10	1630	7.8	11.0	--	9.8	90	--
23...	1354	17	1630	7.7	11.0	--	8.9	82	300
MAY									
06...	1400	1.0	1420	8.2	25.0	.60	9.1	111	300
06...	1402	10	1460	7.7	22.0	--	5.1	59	--
06...	1404	19	1490	7.4	20.5	--	2.3	26	300
AUG									
26...	1440	1.0	1990	8.2	32.5	.73	9.5	128	310
26...	1442	5.0	2110	8.0	32.0	--	8.6	116	--
26...	1444	10	2260	7.6	31.0	--	6.3	84	--
26...	1446	15	2320	7.2	30.5	--	3.2	42	--
26...	1448	20	2320	6.9	30.0	--	.2	3	370

WHITNEY LAKE NEAR WHITNEY, TX--Continued

320401097291301 WHITNEY LAKE SITE P11--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
23...	160	87	22	220	5.5	5.8	180	0	150
23...	--	--	--	--	--	--	--	--	--
23...	140	84	21	220	5.6	5.8	190	0	140
MAY									
06...	170	83	22	170	4.3	5.5	160	0	140
06...	--	--	--	--	--	--	--	--	--
06...	170	85	21	180	4.5	5.6	160	0	140
AUG									
26...	220	81	27	290	7.1	8.5	120	0	190
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	260	100	30	330	7.4	9.0	140	0	220

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
23...	330	4.3	908	.06	.32	.38	.020	<10	40
23...	--	--	--	.06	.25	.31	.030	40	40
23...	330	4.3	899	.06	.29	.35	.030	<10	60
MAY									
06...	300	2.1	801	.01	.73	.74	.040	<10	<3
06...	--	--	--	.02	.87	.89	.050	10	40
06...	300	3.4	814	.01	.99	1.0	.040	<10	200
AUG									
26...	480	--	1140	.00	1.2	1.2	.060	<10	2
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	.00	1.2	1.2	.060	10	0
26...	--	--	--	--	--	--	--	--	--
26...	570	4.3	1330	.00	1.1	1.1	.070	80	510

315500097204001 WHITNEY LAKE SITE P15

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)
JAN							
23...	1130	1.0	1050	7.9	9.5	.20	9.9
23...	1132	10	1100	7.9	9.5	--	9.8
23...	1134	18	1240	8.0	9.5	--	9.8
MAY							
06...	1150	1.0	1310	8.3	23.0	--	9.0
06...	1152	10	1310	8.3	22.0	--	8.3
06...	1154	23	1310	7.7	19.5	--	4.9
AUG							
26...	1130	1.0	1410	7.9	29.5	--	7.9
26...	1132	10	1410	7.9	29.0	--	7.6
26...	1134	19	1410	7.4	28.5	--	4.6

DATE	OXYGEN, DISSOLVED (PERCENT SATURATION)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN							
23...	88	.19	--	--	.070	40	10
23...	87	--	--	--	--	--	--
23...	87	.04	--	--	.040	40	10
MAY							
06...	106	.01	1.3	1.3	.020	20	10
06...	97	--	--	--	--	--	--
06...	54	.02	.71	.73	.030	30	10
AUG							
26...	103	.00	.59	.59	.020	20	10
26...	99	--	--	--	--	--	--
26...	59	.00	.96	.96	.120	20	10

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315203097222601 WHITNEY LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 23,80		MAY 6,80		AUG 26,80	
TIME	1016		1041		1011	
TOTAL CELLS/ML	33000		1300		340000	
DIVERSITY: DIVISION	1.1		1.1		0.1	
.CLASS	1.1		1.1		0.1	
..ORDER	1.1		1.1		0.1	
...FAMILY	1.2		2.0		0.7	
....GENUS	1.6		3.1		1.7	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....GOLENKINIA	--	-	13	1	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	630	2	90	7	*	0
....CHLORELLA	5100#	15	13	1	--	-
....KIRCHNERIELLA	1600	5	--	-	--	-
....OOCYSTIS	810	2	270#	21	--	-
....SELENASTRUM	--	-	90	7	*	0
....TETRAEDRON	--	-	39	3	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	540	2	240#	19	--	-
....SCENEDESMUS	720	2	210#	16	*	0
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	--	-	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
....EUASTRUM	--	-	--	-	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	1300	4	26	2	*	0
..PENNALES						
...NITZSCHIACEAE						
....NITZSCHIA	--	-	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	90	7	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	64	5	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	2500	1
....ANACYSTIS	23000#	68	120	9	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	20000	6
....ANABAENOPSIS	--	-	--	-	24000	7
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	150000#	45
....OSCILLATORIA	--	-	--	-	140000#	40

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

WHITNEY LAKE NEAR WHITNEY, TX--Continued

320401097291301 WHITNEY LAKE SITE P11

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 23,80		MAY 6,80		AUG 26,80	
TIME	1351		1401		1441	
TOTAL CELLS/ML	12000		8300		800000	
DIVERSITY: DIVISION	0.9		1.2		0.1	
.CLASS	0.9		1.2		0.1	
..ORDER	0.0		1.3		0.2	
...FAMILY	0.0		1.9		0.4	
....GENUS	0.0		2.9		1.3	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	3000#	25	720	9	*	0
....CHLORELLA	3700#	31	170	2	--	-
....CHODATELLA	--	-	220	3	--	-
....KIRCHNERIELLA	480	4	220	3	--	-
....OOCYSTIS	760	6	55	1	--	-
....SELENASTRUM	--	-	880	11	*	0
....TETRAEDRON	95	1	330	4	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	440	5	--	-
....SCENEDESMUS	760	6	1900#	23	*	0
....TETRASTRUM	380	3	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	670	6	220	3	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	1100	10	280	3	--	-
....MELOSIRA	--	-	--	-	*	0
..PENNALES						
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	*	0
...NAVICULACEAE						
....NAVICULA	190	2	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	190	2	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE	95	1	--	-	--	-
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	*	0
...CRYPTOMONADACEAE						
....CRYPTOMONAS	290	2	55	1	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	--	-	2800#	34	12000	2
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	24000	3
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	220000#	28
....OSCILLATORIA	--	-	--	-	530000#	66
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	290	2	--	-	*	0

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

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX

LOCATION.--Lat 31°52'00", long 97°22'00", Hill County, Hydrologic Unit 12060202, immediately below Whitney Dam, 3.4 mi (5.5 km) upstream from gaging station near Whitney, 4.0 mi (6.4 km) upstream from Iron Creek, and 7.4 mi (11.9 km) southwest of Whitney.

DRAINAGE AREA.--26,190 mi² (67,830 km²), of which 9,240 mi² (23,930 km²) probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: October 1947 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1947 to current year.
WATER TEMPERATURES: October 1947 to current year.

REMARKS.--Records of discharge are given for gaging station 08093100. No appreciable inflow between dam and gaging station except during periods of heavy local rains. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,620 micromhos Aug. 24, 1978; minimum daily, 203 micromhos May 23, 1952.
WATER TEMPERATURES: Maximum daily, 33.5°C July 3, 1973; minimum daily, 0.0°C Jan. 28, 29, 1948.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,490 micromhos Sept. 24; minimum daily, 1,230 micromhos Oct. 2.
WATER TEMPERATURES: Maximum daily, 28.5°C Sept. 19, 22; minimum daily, 8.0°C on several days during February and March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 31...	0810	79	1260	21.5	230	120	67	16	160
NOV 27...	0825	62	1270	15.5	250	140	72	17	160
JAN 31...	0830	39	1290	10.0	250	140	74	17	160
MAR 31...	0818	20	1320	12.0	250	130	73	17	160
APR 30...	0820	33	1310	18.0	250	130	74	17	160
MAY 31...	0805	49	1320	18.0	240	110	68	16	180
JUL 31...	0810	186	1310	22.0	270	140	77	18	170
AUG 24...	0805	342	1370	23.0	250	130	72	18	170
SEP 30...	0815	158	1470	26.5	260	150	70	20	200

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 31...	4.6	5.6	140	0	110	260	.2	5.4	693
NOV 27...	4.4	5.3	140	0	110	260	.3	5.4	699
JAN 31...	4.4	5.3	140	0	130	270	.3	5.0	731
MAR 31...	4.4	5.4	150	0	130	260	.2	3.9	723
APR 30...	4.4	5.4	150	0	120	260	.2	3.6	714
MAY 31...	5.1	5.5	150	0	130	250	.3	3.7	727
JUL 31...	4.5	5.7	160	0	110	280	.3	6.3	746
AUG 24...	4.6	6.2	150	0	110	290	.3	5.5	746
SEP 30...	5.4	6.3	130	0	130	340	.4	6.2	837

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	17401	1250	687	32300	250	11700	120	5700	240
NOV.	1979	14175	1270	697	26700	250	9650	120	4720	240
DEC.	1979	31576	1280	704	60000	260	21700	120	10600	240
JAN.	1980	24475	1290	707	46700	260	16900	130	8280	250
FEB.	1980	1257	1300	714	2420	260	880	130	430	250
MAR.	1980	865	1310	723	1690	260	614	130	300	250
APR.	1980	1156	1300	717	2240	260	813	130	397	250
MAY	1980	2297	1310	722	4480	260	1630	130	796	250
JUNE	1980	15634	1320	726	30700	260	11100	130	5450	250
JULY	1980	27732	1310	721	54000	260	19600	130	9580	250
AUG.	1980	25053	1340	738	49900	270	18200	130	8900	250
SEPT	1980	18822	1420	786	40000	290	14600	140	7170	270
TOTAL		180443	**	**	351000	**	127000	**	62300	**
WTD. AVG.		493	1310	721	**	260	**	130	**	250

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1240	1260	1270	1280	1300	1300	1290	1310	1320	1310	1310	1350
2	1230	1260	1280	1280	1310	1310	1310	1320	1320	1310	1310	1390
3	1250	1260	1280	1280	1300	1310	1310	1320	1320	1310	1310	1400
4	1240	1260	1280	1280	1300	1310	1310	1310	1310	1310	1310	1410
5	1250	1260	1280	1290	1300	1310	1310	1310	1320	1310	1310	1410
6	1240	1260	1280	1290	1300	1310	1310	1310	1320	1310	1310	1410
7	1240	1260	1280	1280	1300	1310	1310	1300	1320	1310	1310	1390
8	1250	1260	1280	1280	1270	1310	1310	1310	1320	1300	1310	1410
9	1240	1260	1280	1280	1280	1310	1310	1310	1320	1310	1310	1410
10	1240	1260	1280	1280	1300	1310	1310	1310	1320	1300	1310	1420
11	1250	1260	1290	1290	1300	1410	1310	1320	1310	1310	1310	1420
12	1250	1260	1290	1280	1300	1310	1310	1310	1320	1310	1320	1410
13	1250	1260	1290	1280	1300	1310	1280	1320	1320	1310	1310	1420
14	1250	1260	1280	1290	1300	1310	1310	1310	1320	1310	1320	1420
15	1260	1260	1280	1290	1300	1310	1310	1300	1320	1310	1320	1430
16	1260	1260	1280	1290	1300	1310	1300	1320	1320	1310	1310	1430
17	1260	1270	1280	1290	1300	1310	1310	1320	1320	1310	1310	1430
18	1250	1270	1280	1290	1300	1310	1310	1320	1320	1310	1330	1440
19	1250	1270	1290	1290	1300	1310	1310	1320	1320	1310	1320	1440
20	1260	1270	1290	1290	1300	1310	1310	1320	1320	1310	1380	1430
21	1260	1270	1280	1280	1300	1310	1310	1320	1320	1310	1340	1420
22	1250	1270	1280	1280	1300	1310	1310	1320	1320	1310	1360	1410
23	1250	1270	1240	1290	1320	1320	1310	1310	1320	1310	1370	1450
24	1260	1270	1280	1290	1300	1320	1290	1320	1320	1310	1370	1490
25	1260	1270	1280	1290	1300	1310	1300	1320	1320	1310	1360	1450
26	1260	1270	1280	1290	1300	1310	1310	1320	1320	1310	1370	1460
27	1260	1270	1280	1290	1300	1310	1310	1310	1320	1310	1380	1460
28	1260	1270	1280	1280	1300	1310	1310	1320	1320	1310	1350	1460
29	1260	1280	1280	1280	1300	1310	1310	1320	1320	1310	1380	1470
30	1260	1280	1280	1290	---	1320	1310	1320	1320	1310	1360	1470
31	1260	---	1280	1290	---	1320	---	1320	---	1310	1350	---
MEAN	1250	1270	1280	1290	1300	1310	1310	1320	1320	1310	1330	1430

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

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

08093100 BRAZOS RIVER NEAR AQUILLA, TX

LOCATION.--Lat 31°48'44", long 97°17'51", Bosque County, Hydrologic Unit 12060202, on right bank at downstream side of bridge on Farm Road 2114, 2.0 mi (3.2 km) downstream from Tener Creek, 4.9 mi (7.9 km) downstream from Iron Creek, 5.4 mi (8.7 km) southwest of Aguilla, 9.0 mi (14.5 km) downstream from Whitney Dam, and at mile 434.0 (698.3 km).

DRAINAGE AREA.--27,244 mi² (70,560 km²), of which 9,570 mi² (24,790 km²) probably is noncontributing.

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1974, published as Brazos River near Whitney.

REVISED RECORDS.--WRD TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 404.29 ft (123.228 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 1 1948, nonrecording gage at site 13.9 mi (22.4 km) upstream at datum 27.77 ft (8.464 m) higher. Oct. 1, 1948, to Feb. 12, 1975, at site 5.6 mi (9.0 km) upstream at datum 13.10 ft (3.993 m) higher.

REMARKS.--Records good. Most of flow is released from storage in Lake Whitney (station 08092500). Brazos River at Whitney Dam (station 08092600) uses the discharge record at this station for publication of water-quality records. Several observations of water temperature were made at this site during the year.

AVERAGE DISCHARGE.--13 years (water years 1939-51) prior to regulation by Lake Whitney, 1,802 ft³/s (51.03 m³/s), 1,306,000 acre-ft/yr (1.61 km³/yr); 29 years (water-years 1952-80) regulated, unadjusted, 1,398 ft³/s (39.59 m³/s), 1,013,00 acre-ft/yr (1.25 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft³/s (2,030 m³/s) May 18, 1949, gage height, 31.03 ft (9.458 m), site and datum in use from Oct. 1, 1948, to Feb. 12, 1975; minimum daily, 0.4 ft³/s (0.011 m³/s) May 9, 1953. Maximum discharge since construction of Whitney Dam in 1951, 58,200 ft³/s (1,650 m³/s) May 28, 1957, gage height, 27.34 ft (8.333 m), site and datum in use from Oct. 1, 1948, to Feb. 12, 1975.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1853, 45 ft (13.7 m) May 9, 1922, at site and datum in use Oct. 1, 1948, to Feb. 12, 1975, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,470 ft³/s (155 m³/s) Sept. 18 at 2145 hours, gage height, 13.37 ft (4.075 m); minimum daily, 18 ft³/s (0.51 m³/s) Mar. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448	47	1100	325	31	41	20	34	30	953	67	648
2	686	40	37	37	35	29	20	33	101	1540	652	771
3	800	40	396	51	38	32	24	33	410	1180	396	731
4	733	116	54	765	38	37	22	32	708	1550	139	1010
5	702	863	31	253	39	36	21	32	290	1280	339	702
6	1280	52	30	151	52	36	22	71	421	1380	742	576
7	1320	167	365	633	59	39	23	330	661	1400	690	246
8	1430	72	56	938	72	32	22	108	314	1330	541	48
9	635	91	32	905	84	29	20	69	44	1250	797	41
10	51	320	165	50	44	31	20	46	34	942	473	515
11	152	47	369	140	35	29	22	39	1930	976	517	933
12	733	149	1940	784	42	34	35	39	302	1080	589	903
13	507	700	2360	530	49	28	200	44	50	1010	693	1490
14	52	2870	1460	914	49	25	72	40	193	926	664	1820
15	38	521	1460	1460	51	26	43	368	489	904	884	2060
16	1010	420	814	1380	40	26	35	250	523	820	1090	1090
17	2360	58	1960	1290	33	29	33	89	507	893	852	1100
18	774	32	1870	1640	38	22	34	71	839	891	1260	1630
19	497	35	940	905	49	22	53	62	522	808	1140	849
20	1100	292	720	1830	51	22	34	56	62	792	1210	81
21	1070	40	1150	2410	44	20	33	53	51	850	1500	64
22	582	1110	1150	2420	39	19	33	49	46	894	1390	91
23	67	1260	1250	2130	35	19	34	47	382	762	1580	160
24	36	780	1210	1800	32	19	33	45	880	553	982	184
25	35	230	987	526	33	18	64	44	664	708	704	191
26	51	705	1450	48	31	19	46	40	1250	468	1320	183
27	42	57	1130	34	33	36	35	38	1020	144	976	176
28	36	285	2040	31	39	44	35	36	852	199	583	167
29	36	2000	2020	32	42	25	35	35	1080	450	623	179
30	58	776	1560	32	---	21	33	32	979	487	810	183
31	80	---	1470	31	---	20	---	32	---	312	850	---
TOTAL	17401	14175	31576	24475	1257	865	1156	2297	15634	27732	25053	18822
MEAN	561	473	1019	790	43.3	27.9	38.5	74.1	521	895	808	627
MAX	2360	2870	2360	2420	84	44	200	368	1930	1550	1580	2060
MIN	35	32	30	31	31	18	20	32	30	144	67	41
AC-FT	34510	28120	62630	48550	2490	1720	2290	4560	31010	55010	49690	37330

CAL YR 1979 TOTAL 497650 MEAN 1363 MAX 15700 MIN 24 AC-FT 987100
WTR YR 1980 TOTAL 180443 MEAN 493 MAX 2870 MIN 18 AC-FT 357900

08093250 HACKBERRY CREEK AT HILLBORO, TX

LOCATION.--Lat 32°00'20", long 97°08'59", Hill County, Hydrologic Unit 12060202, at downstream side of highway embankment near right end of bridge on State Highway 22, 0.1 mi (0.2 km) upstream from Little Hackberry Creek and 1.2 mi (1.9 km) west of county courthouse in Hillsboro.

DRAINAGE AREA.--57.9 mi² (150 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 546.00 ft (166.421 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No known diversions above station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,780 ft³/s (107 m³/s) Apr. 25, 1980, gage height, 15.49 ft (4.721 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1936, 18.3 ft (5.58 m) September 1936, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 800 ft³/s (22.7 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Apr. 3	0300	978	27.6	13.17	4.014	May 7	0815	928	26.3	13.08	3.987
Apr. 25	0500	*3,780	107	15.49	4.721	May 15	0630	3,410	96.6	15.31	4.666

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.65	.00	3.7	3.4	.94	4.5	35	1.8	.00	.00	.00
2	.01	.02	.01	2.8	3.5	.01	45	42	1.3	.00	.00	.00
3	.01	.02	.01	2.0	1.1	.01	278	24	.35	.00	.00	.00
4	.01	.01	.01	1.5	.18	.02	30	19	.13	.00	.00	.00
5	.01	.01	.01	1.1	.12	.01	22	16	.04	.00	.00	.00
6	.01	.01	.01	.86	.02	.01	21	14	.01	.00	.00	.00
7	.01	.00	.01	.58	.01	.01	19	379	.00	.00	.00	.00
8	.02	.29	.01	.44	44	.01	17	149	.00	.00	.00	.08
9	.02	.18	.00	.44	77	.01	15	44	.00	.00	.00	.00
10	.02	.01	.01	.64	42	.01	14	27	.01	.00	.00	.00
11	.02	.01	.01	.88	32	2.1	24	21	.01	.00	.00	.00
12	.01	.01	.29	.27	21	20	50	21	.00	.00	.00	.00
13	.00	.01	.29	.18	16	5.2	220	21	.00	.00	.00	.00
14	.00	.01	.01	.18	13	.27	119	65	.00	.00	.00	.00
15	5.8	.01	.00	.24	12	.02	37	2370	.00	.00	.00	.00
16	3.9	.01	.00	.65	12	13	24	991	.00	.00	.00	.00
17	.02	.02	.00	.61	8.8	18	21	101	.00	.00	.00	.00
18	.00	.10	.00	.39	9.0	3.9	17	55	.00	.00	.00	.00
19	.00	.18	.00	.72	9.0	2.2	16	39	.00	.00	.00	.00
20	.00	.65	.00	94	8.3	2.0	14	30	.00	.00	.00	.00
21	.00	.44	1.1	28	6.3	.47	12	25	.00	.00	.00	.00
22	.02	.93	3.9	250	4.9	.10	11	21	.00	.00	.00	.00
23	.01	.29	38	85	4.4	.75	9.6	19	.00	.00	.00	.00
24	.00	.05	21	29	1.3	3.2	9.6	18	.00	.00	.00	.00
25	.00	.02	8.4	18	.32	3.3	1270	17	.00	.00	.00	.00
26	.00	.01	5.1	11	.07	1.4	74	27	.00	.00	.00	.00
27	.00	.01	3.5	8.0	.11	17	42	28	.00	.00	.00	.00
28	.00	.01	8.3	7.0	.36	34	32	23	.00	.00	.00	.00
29	.00	.01	11	7.5	.89	16	32	20	.00	.00	.00	1.5
30	11	.00	8.2	7.5	---	9.1	37	14	.00	.00	.00	1.5
31	6.5	---	5.5	5.7	---	5.8	---	4.9	---	.00	.00	---
TOTAL	27.41	3.98	114.68	568.88	331.08	158.85	2536.7	4679.9	3.65	.00	.00	3.08
MEAN	.88	.13	3.70	18.4	11.4	5.12	84.6	151	.12	.000	.000	.10
MAX	11	.93	38	250	77	34	1270	2370	1.8	.00	.00	1.5
MIN	.00	.00	.00	.18	.01	.01	4.5	4.9	.00	.00	.00	.00
AC-FT	54	7.9	227	1130	657	315	5030	9280	7.2	.00	.00	6.1

WTR YR 1979 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1980 TOTAL 8428.21 MEAN 23.0 MAX 2370 MIN .00 AC-FT 16720

08093250 HACKBERRY CREEK AT HILLSBORO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 25...	1000	.01	880	8.1	14.5	9.0	89	4.7	140	0	49
NOV 29...	1030	.01	1900	8.2	7.0	11.1	92	4.1	330	0	120
DEC 11...	1335	.01	2040	8.2	19.0	9.3	102	1.6	380	56	140
JAN 17...	1010	1.5	1060	8.0	9.5	11.4	100	2.7	300	170	110
FEB 13...	0915	17	836	8.1	4.0	12.5	96	2.3	290	120	110
MAR 06...	1140	.02	740	8.1	11.5	11.6	107	1.7	230	77	86
APR 09...	1140	16	570	7.9	16.5	10.6	108	1.7	220	60	81
MAY 14...	0930	19	683	8.1	20.0	7.9	88	1.8	240	62	91
JUN 04...	1120	.10	622	8.3	28.5	9.9	127	2.8	200	75	74

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 25...	3.8	130	4.8	6.1	200	0	200	52	.7	2.7	543
NOV 29...	7.2	310	7.4	6.9	410	0	490	120	1.0	6.3	1260
DEC 11...	8.4	360	8.0	5.6	400	0	580	150	1.0	6.4	1450
JAN 17...	5.5	110	2.8	6.2	160	0	330	45	.6	1.4	688
FEB 13...	4.3	59	1.5	4.1	210	0	210	27	.7	6.3	525
MAR 06...	4.3	68	1.9	3.1	190	0	170	34	.4	.4	460
APR 09...	3.2	29	.9	3.5	190	0	100	17	.5	4.1	332
MAY 14...	3.6	39	1.1	3.9	220	0	120	19	.6	8.6	394
JUN 04...	3.2	45	1.4	2.9	150	0	140	23	.6	6.0	369

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT 25...	.03	.02	.05	.07	1.1	1.2	.150	12	3	.10
NOV 29...	.05	.01	.06	.01	.88	.89	.120	13	7	.00
DEC 11...	.07	.01	.08	.03	1.1	1.1	.970	12	2	.00
JAN 17...	.00	.02	.02	.02	1.2	1.2	.040	7.2	1	.10
FEB 13...	5.3	.19	5.5	.27	.93	1.2	.230	8.2	0	.10
MAR 06...	.58	.01	.59	.04	.63	.67	.050	6.3	0	.00
APR 09...	.34	.01	.35	.08	1.0	1.1	.070	5.9	0	.10
MAY 14...	.86	.04	.90	.12	.87	.99	.040	5.4	1	.00
JUN 04...	.09	.00	.09	.00	1.1	1.1	.060	6.6	2	.00

08093260 HACKBERRY CREEK BELOW HILLSBORO, TX
(Low-flow partial-record station)

LOCATION.--Lat 31°59'43", long 97°08'38", Hill County, Hydrologic Unit 12060202, at abandoned steel truss bridge on county road, 0.7 mi (1.1 km) downstream from Little Hackberry Creek, 0.8 mi (1.3 km) downstream from State Highway 22, and 1.4 mi (2.3 km) southwest of county courthouse in Hillsboro.

DRAINAGE AREA.--86.8 mi² (224.7 km²).

PERIOD OF RECORD.--Periodic discharge measurements and chemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 25...	1350	1.0	1820	9.0	18.0	7.9	85	58	110	0	31
NOV 29...	1300	.43	1810	9.4	8.5	16.9	144	72	120	0	37
DEC 11...	1455	1.0	1920	9.4	15.0	12.1	122	47	120	--	36
JAN 17...	1210	1.5	1760	8.9	14.0	10.0	98	43	130	0	42
FEB 13...	1100	16	860	8.0	7.5	12.2	102	4.5	260	54	97
MAR 06...	1300	4.2	1160	8.3	10.0	--	--	--	260	9	93
APR 09...	1245	18	783	8.4	19.0	14.4	155	6.1	240	59	90
MAY 14...	1210	21	705	8.2	21.5	8.2	93	4.4	250	57	92
JUN 04...	1330	3.6	925	8.5	27.0	8.3	104	13	210	6	79
JUL 17...	1100	.68	2300	9.4	29.5	7.7	103	36	89	0	27
AUG 21...	1200	.52	2220	9.3	28.5	17.5	230	31	91	0	25
SEP 10...	1145	.64	1870	9.6	29.5	10.4	137	47	70	0	19

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 25...	6.8	390	17	12	470	55	330	95	1.8	.3	1150
NOV 29...	6.1	370	15	10	390	79	350	100	1.9	11	1160
DEC 11...	6.3	400	16	10	--	--	360	100	2.0	15	--
JAN 17...	6.5	350	13	11	450	34	370	87	1.7	18	1140
FEB 13...	4.2	79	2.1	6.5	250	0	190	31	.7	7.5	539
MAR 06...	5.6	160	4.4	5.9	300	0	280	54	.7	5.7	753
APR 09...	4.0	71	2.0	4.3	210	6	170	32	.7	5.2	487
MAY 14...	3.8	51	1.4	4.0	230	0	140	24	.7	9.1	438
JUN 04...	4.1	110	3.3	4.8	250	2	190	43	.7	7.6	564
JUL 17...	5.2	500	23	13	380	160	400	140	2.1	8.8	1440
AUG 21...	6.9	490	22	15	460	140	380	130	1.8	12	1430
SEP 10...	5.5	410	21	12	320	150	270	120	1.6	7.2	1150

08093260 HACKBERRY CREEK BELOW HILLSBORO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT										
25...	.40	2.4	2.8	.35	2.0	2.3	4.900	51	3	.20
NOV										
29...	.30	3.8	4.1	.55	16	17	.300	53	35	.20
DEC										
11...	.00	2.9	2.9	1.8	11	13	.010	42	0	.20
JAN										
17...	.02	.31	.33	8.0	8.0	16	5.100	35	4	.40
FEB										
13...	3.8	.14	3.9	1.9	1.6	3.5	.760	9.7	3	.10
MAR										
06...	.57	.05	.62	3.0	9.0	12	1.900	18	3	.20
APR										
09...	.54	.06	.60	.38	2.5	2.9	.420	18	4	.10
MAY										
14...	.82	.05	.87	.34	1.8	2.1	.240	7.7	2	.00
JUN										
04...	.11	.13	.24	.20	1.6	1.8	.730	15	0	.10
JUL										
17...	.01	.01	.02	.00	--	--	--	110	2	.20
AUG										
21...	.00	.11	.01	.19	14	14	5.200	75	5	.50
SEP										
10...	.00	.02	.00	.12	26	26	6.800	120	6	.00

08093360 AQUILLA CREEK ABOVE AQUILLA, TX

LOCATION.--Lat 31°53'42", long 97°12'21", Hill County, Hydrologic Unit 12060202, on downstream side of highway embankment near left end of bridge on Farm Road 310, 0.2 mi (0.3 km) downstream from Aquilla Dam on Aquilla Creek, 0.5 mi (0.8 km) downstream from Hackberry Creek, 3.2 mi (5.1 km) northeast of Aquilla, and 3.5 mi (5.6 km) upstream from Cobb Creek.

DRAINAGE AREA.--255 mi^2 (660 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 478.71 ft (145.911 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water-discharge records fair. Records furnished by the city of Hillsboro show that 832 acre-ft (1.03 hm^3) of sewage effluent was discharged into a tributary above gage during year. Flow is affected at times by storage in, or pumpage from the earthfill borrow areas within the Aquilla Lake to be formed when Aquilla Dam (now under construction) is completed 0.2 mi (0.3 km) upstream.

EXTREMES FOR PERIOD OR RECORD.--Maximum discharge, 4,750 ft^3/s (135 m^3/s) May 15, 1980, at 2145 hours, gage height, 20.78 ft (6.334 m); no flow for many days in 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,750 ft^3/s (135 m^3/s) May 15 at 2145 hours, gage height, 20.78 ft (6.334 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.2	.06	3.4	16	8.9	12	44	14	.00	.00	.00
2	.21	.90	.09	1.9	11	8.0	11	57	9.8	.00	.00	.00
3	.55	.55	.08	1.8	9.3	5.7	600	52	9.1	.00	.00	.00
4	.00	.34	.10	1.7	7.9	4.9	180	45	6.7	.00	.00	.00
5	.76	.28	.17	1.4	6.7	5.1	57	39	5.5	.00	.00	.00
6	.21	.14	.30	.96	6.0	4.5	37	37	3.9	.00	.00	.00
7	.07	.07	.53	1.8	5.0	4.7	31	800	2.3	.00	.00	.00
8	.21	.00	.40	1.8	30	8.6	24	650	1.9	.00	.00	12
9	.14	.00	.36	1.6	200	7.0	17	210	1.8	.00	.00	79
10	.48	.00	.37	1.5	150	5.0	12	95	1.7	.00	.00	46
11	.69	.00	.39	1.5	90	4.3	150	23	1.6	.00	.00	9.5
12	.62	.00	.63	1.4	55	45	500	46	1.6	.00	.00	1.0
13	.62	.00	.87	1.4	39	25	1500	45	1.4	.00	.00	.21
14	.69	.00	.79	1.3	32	12	800	51	1.3	.00	.00	.00
15	.69	.00	.73	1.2	29	6.9	200	2250	1.2	.00	.00	.00
16	.83	.00	.65	1.6	25	5.7	70	3520	1.1	.00	.00	.00
17	5.4	.21	.61	1.7	22	26	45	431	.55	.00	.00	.00
18	15	.49	.51	1.7	20	20	40	119	.34	.00	.00	.00
19	1.9	.45	.34	1.7	19	11	35	225	.21	.00	.00	.00
20	1.3	.42	.40	22	17	7.3	29	90	.14	.00	.00	.00
21	1.0	.65	.43	43	15	6.3	25	28	.07	.00	.00	.00
22	.83	.60	1.5	800	13	4.9	23	29	.00	.00	.00	.00
23	.62	.61	65	750	11	4.7	20	34	.00	.00	.00	.00
24	.41	.72	60	100	9.8	5.6	19	43	.00	.00	.00	.00
25	.14	.76	34	45	7.7	6.7	1790	36	.00	.00	.00	.00
26	.00	.60	22	39	6.2	8.2	673	33	.00	.00	.00	1.4
27	.00	.50	9.0	36	5.6	50	30	33	.00	.00	.00	2.1
28	.00	.39	4.3	23	5.9	75	35	34	.00	.00	.00	1.5
29	.00	.22	15	27	6.4	41	43	31	.00	.00	.00	1.5
30	12	.10	12	30	---	30	41	29	.00	.00	.00	4.9
31	2.8	---	6.7	23	---	21	---	20	---	.00	.00	---
TOTAL	48.17	10.20	238.31	1969.36	870.5	479.0	7049	9179	66.21	.00	.00	159.11
MEAN	1.55	.34	7.69	63.5	30.0	15.5	235	296	2.21	.000	.000	5.30
MAX	15	1.2	65	800	200	75	1790	3520	14	.00	.00	79
MIN	.00	.00	.06	.96	5.0	4.3	11	20	.00	.00	.00	.00
AC-FT	96	20	473	3910	1730	950	13980	18210	131	.00	.00	316

WTR YR 1980 TOTAL 20068.86 MEAN 54.8 MAX 3520 MIN .00 AC-FT 39810

08093360 AQUILLA CREEK ABOVE AQUILLA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1979 to September 1980.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1979 to September 1980.
WATER TEMPERATURES: October 1979 to September 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,840 micromhos Mar. 16; minimum daily, 159 micromhos Jan. 22.
WATER TEMPERATURES: Maximum daily, 30.0°C Oct. 16; minimum daily, 3.0°C Dec. 30, Jan. 30, and Feb. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 30...	1430	.90	880	7.8	17.5	2	64	8.0	86	5.2	140	0
NOV 29...	1550	.21	1060	8.2	10.5	40	3.3	13.5	121	4.1	170	0
DEC 12...	1220	.76	1140	8.0	9.0	50	9.6	10.4	90	3.4	190	0
JAN 17...	1530	1.7	1080	8.0	10.5	40	5.0	14.9	134	6.6	260	30
FEB 13...	1310	34	676	7.8	5.0	40	54	12.5	98	5.2	220	62
MAR 06...	1640	4.6	870	7.8	10.0	20	36	10.5	94	4.4	260	74
APR 09...	1550	20	700	8.2	19.0	20	23	9.4	101	4.4	250	76
MAY 14...	1520	52	565	7.8	22.0	30	66	7.6	87	2.6	200	48
JUN 04...	1445	7.6	870	7.9	26.5	15	33	7.7	96	2.7	310	84
JUL 17...	1400	.01	1530	7.9	30.0	30	4.6	15.6	208	2.6	400	220
SEP 22...	1030	.01	555	7.8	25.0	45	14	6.6	80	1.1	130	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 30...	53	2.9	130	4.7	4.8	280	0	160	43	.6	8.5	541
NOV 29...	62	4.3	170	5.6	6.7	370	0	170	47	.9	4.8	648
DEC 12...	66	4.9	200	6.4	7.0	400	0	190	54	1.0	5.1	725
JAN 17...	95	5.5	140	3.8	7.6	280	0	250	43	.7	7.9	688
FEB 13...	81	3.8	52	1.5	5.5	190	0	140	22	.6	8.0	407
MAR 06...	94	4.9	86	2.3	4.3	220	0	180	42	.5	1.6	522
APR 09...	93	3.9	55	1.5	5.0	210	0	140	26	.6	7.8	435
MAY 14...	72	3.9	38	1.2	4.0	180	0	110	21	.5	9.5	348
JUN 04...	110	7.5	53	1.3	4.3	270	0	160	38	.5	10	516
JUL 17...	140	13	160	3.5	6.7	220	0	450	110	.9	9.1	998
SEP 22...	47	2.8	67	2.6	4.4	200	0	79	24	.7	9.1	333

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT 30...	1350	168	.61	.060	.67	.280	1.8	2.1	.490	22	0	.00
NOV 29...	9	5	.07	.030	.10	.300	1.4	1.7	.680	15	4	.10
DEC 12...	10	2	.27	.010	.28	.080	2.2	2.3	.250	22	2	.10
JAN 17...	13	8	.03	.100	.13	.530	1.7	2.2	.360	11	1	.10
FEB 13...	98	19	4.0	.240	4.2	.700	1.4	2.1	.330	11	1	.00
MAR 06...	71	19	2.7	.080	2.8	.280	1.4	1.7	.320	12	0	.10
APR 09...	59	13	.50	.040	.54	.080	1.5	1.6	.240	11	0	.10
MAY 14...	108	1	1.0	.090	1.1	.250	.95	1.2	.150	9.4	0	.10
JUN 04...	11	3	.83	.070	.90	.180	.92	1.1	.160	10	3	.00
JUL 17...	4	1	.00	.010	.01	.040	1.5	1.5	.060	8.5	2	.10
SEP 22...	3	0	.00	.000	.00	.110	.88	.99	.140	9.0	3	.00

08093360 AQUILLA CREEK ABOVE AQUILLA, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	48.17	736	448	58	31	4.0	140	18	210
NOV.	1979	10.20	982	609	17	43	1.2	180	5.1	220
DEC.	1979	238.31	540	325	209	22	14	100	66	180
JAN.	1980	1969.36	267	158	838	10	54	51	272	100
FEB.	1980	870.5	833	510	1200	35	83	160	370	220
MAR.	1980	479.0	804	494	639	34	45	150	196	210
APR.	1980	7049	418	247	4710	16	301	80	1530	160
MAY	1980	9179	414	245	6070	16	388	79	1970	160
JUNE	1980	66.21	872	535	96	37	6.7	160	29	230
JULY	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
AUG.	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT	1980	159.11	497	296	127	19	8.3	95	41	180
TOTAL		20068.86	**	**	14000	**	905	**	4490	**
WTD. AVG.		55	433	258	**	17	**	83	**	160

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1100	942	964	864	324	980	649	852			---
2	862	842	932	938	845	662	1040	629	850			---
3	926	1100	934	924	864	668	375	654	845			---
4	---	1140	934	904	822	672	490	655	870			---
5	942	876	936	902	867	750	537	650	876			---
6	908	1100	910	892	847	834	782	643	880			---
7	906	858	912	1040	817	839	768	447	881			---
8	910	---	872	950	781	870	673	442	911			650
9	902	---	900	896	803	1040	700	484	885			462
10	946	---	938	872	813	1250	721	512	900			454
11	916	---	1000	896	851	1380	577	601	914			499
12	938	---	1140	878	645	1040	520	610	935			513
13	926	---	975	902	676	950	396	659	877			550
14	944	---	944	900	1040	1210	402	565	935			---
15	910	---	948	850	1020	1550	456	425	951			---
16	916	---	910	1030	1110	1840	568	320	954			---
17	776	982	912	1080	1110	1000	621	387	987			---
18	555	882	908	1030	1100	891	623	476	956			---
19	860	876	906	1050	696	886	627	520	954			---
20	1100	884	904	314	740	887	640	565	909			---
21	975	980	896	300	852	890	656	600	956			---
22	952	1000	800	159	864	886	669	644	---			---
23	966	1010	334	175	859	830	654	684	---			---
24	910	1010	350	450	856	800	680	730	---			---
25	940	1010	575	675	861	788	322	723	---			---
26	---	894	700	832	840	775	427	727	---			600
27	---	1010	832	818	856	600	450	731	---			518
28	---	916	840	934	787	510	498	760	---			725
29	---	1060	900	850	325	640	605	789	---			892
30	640	994	908	584	---	750	678	818	---			865
31	1090	---	912	775	---	865	---	847	---			---
MEAN	905	977	865	799	842	899	605	611	908			612

08093360 AQUILLA CREEK ABOVE AQUILLA, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

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

08093500 AQUILLA CREEK NEAR AQUILLA, TX

LOCATION.--Lat 31°50'40", long 97°12'04", Hill County, Hydrologic Unit 12060202, on downstream side of highway embankment near left end of bridge on Farm Road 1304, 1.0 mi (1.6 km) southeast of Aquilla, 1.2 mi (1.9 km) downstream from Cobb Creek, and 18.2 mi (29.3 km) upstream from mouth.

DRAINAGE AREA.--308 mi^2 (798 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1938 to current year. Records of daily discharge for December 1924 to August 1925, published in WSP 608, are unreliable.

REVISED RECORDS.--WSP 1712: 1944(M), 1957-58. WDR TX-76-2: Drainage area. See PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 451.48 ft (137.611 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water-discharge records fair. Flow is affected at times by discharge from flood-detention pools of ten floodwater-retarding structures with combined detention capacity of 5,750 acre-ft (7.09 hm^3). These structures control runoff from 18.6 mi^2 (48.2 km^2) in the Aquilla and Hackberry Creeks drainage basins. Flow also affected at times by construction activities at the Aquilla Dam located 4.7 mi (7.6 km) upstream on Aquilla Creek.

AVERAGE DISCHARGE.--41 years (water years 1940-80), 120 ft^3/s (3.398 m^3/s), 5.29 in/yr (134 mm/yr), 86,940 acre-ft/yr (107 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft^3/s (1,140 m^3/s) May 10, 1968 gage height, 30.32 ft (9.242 m), from rating curve extended above 25,900 ft^3/s (733 m^3/s) on basis of slope-area measurement of 74,200 ft^3/s (2,100 m^3/s), adjusted to gage site; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 31, 1887, reached a stage of 34 ft (10.4 m), from information by local resident. Flood of Sept. 27, 1936, was the highest since 1887 and reached a stage of 33 ft (10.1 m), from floodmark; discharge 84,500 ft^3/s (2,390 m^3/s), by slope-area measurement at site 9 mi (14 km) downstream, and 74,200 ft^3/s (2,100 m^3/s), adjusted to gage site.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,750 ft^3/s (248 m^3/s) May 16 at 0015 hours, gage height, 26.60 ft (8.108 m), no other peak above base of 4,500 ft^3/s (127 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	3.7	.66	5.8	20	15	18	46	9.1	.28	.03	.00
2	.03	1.2	.60	4.3	17	11	16	54	6.6	.25	.01	.00
3	.03	.66	.54	3.6	15	8.8	819	53	6.1	.19	.00	.00
4	.02	.49	.49	3.0	13	8.9	288	47	4.8	.15	.00	.00
5	.01	.54	.44	2.7	11	8.9	89	37	3.9	.14	.00	.00
6	.00	.49	.44	2.1	10	7.8	52	45	3.4	.14	.00	.00
7	.00	.39	.54	1.6	9.3	7.8	41	905	2.8	.13	.00	.00
8	.00	.44	.78	2.6	34	9.5	31	816	2.3	.12	.00	4.7
9	.00	.49	.66	1.9	197	9.4	23	358	2.1	.09	.00	63
10	.00	.49	.54	1.8	241	8.2	19	161	2.1	.08	.00	29
11	.00	.54	.66	1.9	174	7.6	134	90	1.7	.07	.00	3.9
12	.00	.54	1.0	1.8	139	73	422	65	1.7	.05	.00	.79
13	.00	.54	1.7	1.3	63	31	2140	62	1.4	.04	.00	.20
14	.00	.54	2.0	1.4	39	18	1270	84	1.2	.04	.00	.14
15	.01	.44	1.7	1.4	34	12	376	3850	1.0	.04	.00	.09
16	.04	.35	1.4	1.5	32	11	110	6180	.98	.03	.00	.05
17	.92	.44	1.2	1.9	26	25	57	1160	.81	.03	.00	.01
18	6.6	1.0	1.2	1.7	22	24	52	345	.65	.03	.00	.00
19	1.2	1.1	1.0	1.6	21	15	44	371	.58	.04	.00	.00
20	.54	.92	.85	62	19	12	35	155	.54	.09	.00	.00
21	.54	1.0	1.1	64	17	11	29	55	.72	.08	.00	.00
22	.49	1.2	3.9	1010	15	9.3	25	57	.88	.10	.00	.00
23	.39	1.2	88	1010	14	9.0	23	52	.83	.09	.00	.00
24	.44	1.1	86	160	13	9.0	21	46	.69	.09	.00	.00
25	.31	1.2	36	79	11	9.5	1720	33	.56	.07	.00	.00
26	.24	1.3	22	65	9.5	11	996	30	.48	.09	.00	.40
27	.21	1.1	11	48	9.0	43	93	30	.39	.10	.00	1.0
28	.18	.85	6.4	33	9.0	111	31	34	.34	.06	.00	.35
29	.16	.85	21	33	9.1	63	41	25	.28	.04	.00	.23
30	9.5	.66	15	40	---	40	44	21	.28	.04	.00	1.0
31	36	---	8.6	30	---	24	---	15	---	.04	.00	---
TOTAL	57.89	25.76	317.40	2677.9	1242.9	663.7	9059	15282	59.21	2.83	.04	104.86
MEAN	1.87	.86	10.2	86.4	42.9	21.4	302	493	1.97	.091	.001	3.50
MAX	36	3.7	88	1010	241	111	2140	6180	9.1	.28	.03	63
MIN	.00	.35	.44	1.3	9.0	7.6	16	15	.28	.03	.00	.00
AC-FT	115	51	630	5310	2470	1320	17970	30310	117	5.6	.08	208

CAL YR 1979	TOTAL	45289.33	MEAN	124	MAX	4240	MIN	.00	AC-FT	89830
WTR YR 1980	TOTAL	29493.49	MEAN	80.6	MAX	6180	MIN	.00	AC-FT	58500

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1965 to June 1966, October 1967 to current year. Chemical and biochemical analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1965 to June 1966, October 1967 to current year.
WATER TEMPERATURES: October 1965 to June 1966, October 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,080 micromhos Dec. 31, 1975; minimum daily, 182 micromhos Oct. 31, 1974.
WATER TEMPERATURES: Maximum daily, 31.0°C July 3, 1980; minimum daily, 0.0°C Jan. 8, 1976, Jan. 10, 1977.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,270 micromhos Oct. 15; minimum daily, 313 micromhos May 16.
WATER TEMPERATURES: Maximum daily, 31.0°C July 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 30...	1230	2.2	1100	7.7	18.0	5.4	59	3.4	240	0
NOV 11...	1600	.35	1230	--	14.0	--	--	--	220	0
DEC 12...	0930	.78	1100	7.8	10.0	8.1	72	1.9	280	0
JAN 26...	0840	71	488	--	8.0	--	--	--	180	56
FEB 13...	1445	58	616	8.0	6.0	11.4	92	3.6	230	84
APR 10...	0930	18	720	8.1	16.0	12.1	122	2.5	250	65
JUN 04...	1600	5.5	842	8.0	27.0	7.6	95	1.1	300	91
JUL 29...	1235	.04	858	--	33.0	--	--	--	250	91
SEP 22...	1145	.01	530	7.4	27.0	6.2	78	.8	130	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 30...	85	7.0	150	4.2	6.1	380	0	200	55	.6
NOV 11...	78	6.3	200	5.9	6.7	430	0	200	60	1.0
DEC 12...	100	8.5	140	3.6	5.6	380	0	210	47	.7
JAN 26...	67	2.9	27	.9	4.6	150	0	86	12	.5
FEB 13...	87	3.5	40	1.1	4.6	180	0	120	31	.5
APR 10...	92	3.9	48	1.3	4.6	220	0	150	25	.6
JUN 04...	110	7.1	49	1.2	4.0	260	0	160	35	.5
JUL 29...	79	12	81	2.2	3.8	190	0	180	64	.6
SEP 22...	46	4.2	61	2.3	4.5	180	0	80	23	.7

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 30...	11	702	.03	.01	.04	.00	1.1	1.1	.100
NOV 11...	10	774	--	--	--	--	--	--	--
DEC 12...	4.4	704	.67	.06	.73	.02	.97	.99	.020
JAN 26...	9.1	283	--	--	--	--	--	--	--
FEB 13...	7.4	383	3.7	.15	3.8	.43	1.1	1.5	.230
APR 10...	6.7	439	--	--	--	--	--	1.1	.170
JUN 04...	9.7	503	1.3	.02	1.3	.00	.62	.62	.080
JUL 29...	7.8	522	--	--	--	--	--	--	--
SEP 22...	8.3	316	.03	.01	.04	.03	1.1	1.1	.080

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	57.89	896	555	87	42	6.6	180	28	290
NOV.	1979	25.76	1130	715	50	55	3.8	230	16	320
DEC.	1979	317.40	730	446	382	33	29	140	123	260
JAN.	1980	2677.9	409	243	1760	18	127	79	570	170
FEB.	1980	1242.9	556	335	1120	25	82	110	363	210
MAR.	1980	663.7	757	463	830	35	62	150	267	260
APR.	1980	9059	409	243	5940	18	430	79	1930	170
MAY	1980	15282	404	240	9900	17	716	78	3210	170
JUNE	1980	59.21	845	520	83	39	6.3	170	27	280
JULY	1980	2.83	939	583	4.5	44	0.3	190	1.4	300
AUG.	1980	0.04	839	517	0.06	39	0.00	170	0.02	280
SEPT	1980	104.86	407	242	69	18	5.0	78	22	170
TOTAL		29493.49	**	**	20200	**	1470	**	6550	**
WTD. AVG.		81	426	254	**	18	**	82	**	170

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	996	1080	870	550	673	813	672	747	986	832	---
2	1210	1090	1080	878	590	706	818	644	741	979	861	---
3	1190	1150	1070	882	640	750	514	620	823	971	---	---
4	1220	1180	1080	860	700	771	494	609	810	972	---	---
5	1230	1210	1080	854	740	789	522	633	779	979	---	---
6	---	1220	1090	820	780	800	587	681	849	970	---	---
7	---	1240	1090	762	800	774	613	390	872	972	---	---
8	---	1230	1100	830	650	797	657	393	888	967	---	827
9	---	1220	1140	870	490	823	675	436	903	957	---	325
10	---	1230	1120	850	450	832	708	491	879	950	---	498
11	---	1200	1160	858	500	851	630	561	900	953	---	415
12	---	1190	1150	840	550	693	495	610	916	946	---	439
13	---	1230	1170	860	616	881	335	651	939	942	---	464
14	---	1220	1220	880	620	852	386	584	959	934	---	484
15	1270	1240	1180	864	625	784	460	475	956	931	---	497
16	1250	1250	1190	828	630	765	541	313	942	918	---	507
17	1170	1210	1180	850	640	826	601	367	956	919	---	517
18	850	1230	1200	918	655	895	656	483	948	910	---	---
19	900	1200	1190	940	665	837	646	521	959	906	---	---
20	1000	1180	1190	494	670	840	647	546	947	901	---	---
21	980	1170	1200	475	680	792	652	595	958	889	---	---
22	1050	1160	1150	354	690	784	660	660	974	884	---	---
23	1100	1150	650	396	700	783	677	682	982	881	---	---
24	1130	1140	680	446	710	802	660	696	987	885	---	---
25	1140	1110	746	498	715	822	320	699	997	877	---	---
26	1150	1050	748	488	725	819	379	718	1010	874	---	528
27	1170	1060	762	542	735	750	540	725	1000	879	---	554
28	1190	1080	772	574	740	640	515	735	1000	874	---	697
29	1220	1070	646	592	750	745	563	673	989	872	---	647
30	1100	1070	760	412	---	778	625	669	993	867	---	518
31	824	---	864	544	---	800	---	686	---	867	---	---
MEAN	1120	1170	1020	714	655	789	580	588	920	923	847	528

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	16.5	9.0	6.0		8.0	15.0	18.0	25.0	29.0	30.0	---
2	---	16.0	8.0	8.0		6.0	17.0	19.0	24.0	29.0	26.0	---
3	---	15.0	9.0	8.0		10.0	16.0	19.0	27.0	31.0	---	---
4	---	16.0	7.0	6.0		13.0	17.0	21.0	25.0	28.0	---	---
5	---	15.0	7.0	5.0		12.0	16.0	19.0	26.0	27.0	---	---
6	---	15.0	9.0	9.0		10.0	18.0	19.0	25.0	29.0	---	---
7	---	14.5	9.0	8.0		12.0	17.0	19.0	26.0	28.0	---	---
8	---	14.5	8.0	5.0		14.0	16.0	20.0	26.0	28.0	---	25.0
9	---	16.0	8.0	4.0		13.0	16.0	18.0	24.0	30.0	---	25.0
10	---	14.0	9.0	7.0		15.0	16.0	19.0	25.0	30.0	---	24.0
11	---	14.0	13.0	7.0		14.0	18.0	20.0	24.0	28.0	---	24.0
12	---	12.0	9.0	7.0		17.0	14.0	21.0	23.0	29.0	---	25.0
13	---	12.0	7.0	6.0		16.0	9.0	22.0	24.0	27.0	---	24.0
14	---	12.0	7.0	6.0		15.0	8.0	21.0	23.0	29.0	---	26.0
15	---	11.0	8.0	10.0		13.0	10.0	19.0	25.0	28.0	---	24.0
16	---	10.0	7.0	12.0		16.0	14.0	19.0	28.0	30.0	---	26.0
17	---	12.0	4.0	9.0		15.0	15.0	21.0	26.0	27.0	---	24.0
18	---	14.0	4.0	8.0		12.0	16.0	22.0	26.0	28.0	---	---
19	---	16.0	4.0	11.0		14.0	16.0	22.0	27.0	27.0	---	---
20	---	17.0	7.0	12.0		15.0	17.0	21.0	27.0	28.0	---	---
21	---	17.0	10.0	10.0		13.0	17.0	21.0	26.0	28.0	---	---
22	---	12.0	11.0	7.0		13.0	18.0	20.0	28.0	29.0	---	---
23	18.5	11.0	12.0	6.0		16.0	20.0	20.0	26.0	27.0	---	---
24	19.0	10.0	10.0	6.0		16.0	19.0	21.0	29.0	26.0	---	---
25	18.5	11.0	10.0	7.0		13.0	17.0	23.0	29.0	28.0	---	---
26	19.5	12.0	9.0	8.0		12.0	17.0	24.0	27.0	28.0	---	23.0
27	20.0	14.0	11.0	7.0		14.0	16.0	25.0	28.0	27.0	---	21.0
28	22.0	11.0	10.0	6.0		13.0	15.0	25.0	27.0	27.0	---	20.0
29	21.0	10.0	9.0	5.0		16.0	17.0	24.0	30.0	27.0	---	19.5
30	19.0	6.0	8.0	5.0		17.0	17.0	25.0	29.0	27.0	---	19.0
31	16.0	---	7.0	4.0		14.0	---	24.0	---	26.0	---	---
MEAN	19.5	13.0	8.5	7.5		13.5	16.0	21.0	26.0	28.0	28.0	23.5

08094800 NORTH BOSQUE RIVER AT HICO, TX

LOCATION.--Lat 31°58'41", long 98°02'04", Hamilton County, Hydrologic Unit 1206020204, on left bank at downstream side of bridge on U.S. Highway 281 near south boundary of Hico, 2.6 mi (4.2 km) downstream from Gilmore Creek, 5.0 mi (8.0 km) upstream from Honey Creek, and 92.4 mi (148.7 km) upstream from mouth.

DRAINAGE AREA.--359 mi² (930 km²).

PERIOD OF RECORD.--January 1962 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 982.46 ft (299.454 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for Nov. 14 to Mar. 2, which are fair. Flow is affected at times by discharge from flood-detention pools of 40 floodwater-retarding structures with combined detention capacity of 65,720 acre-ft (81.0 hm³). These structures control runoff from 202 mi² (523 km²) in North Bosque River and Green Creek drainage basins. Records furnished by the city of Stephenville show that during the year 1,200 acre-ft (1.48 hm³) of sewage effluent was discharged into river above station.

AVERAGE DISCHARGE.--18 years (water years 1963-80), 43.6 ft³/s (1.235 m³/s), 31,590 acre-ft/yr (39.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,900 ft³/s (564 m³/s) Apr. 30, 1977, gage height, 22.27 ft (6.788 m), from rating curve extended above 9,000 ft³/s (255 m³/s); no flow at times in 1962-65, 1967-68, 1971, 1974, 1976, and 1978-80.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 27.6 ft (8.41 m) May 23, 1952, from flood-marks, discharge 87,800 ft³/s (2,490 m³/s) by contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,260 ft³/s (64.0 m³/s) May 15 at 0030 hours, gage height, 8.42 ft (2.566 m), no peak above base of 2,500 ft³/s (70.8 m³/s); no flow July 2 to Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.69	2.3	1.7	4.9	4.1	3.9	3.4	3.4	4.8	.03	.00	.00
2	.69	1.7	1.7	4.1	3.7	5.7	3.0	4.6	4.2	.00	.00	.00
3	.69	1.3	1.9	4.1	3.7	3.2	3.2	4.2	3.9	.00	.00	.00
4	.69	1.2	1.7	4.4	4.9	3.2	3.2	4.3	3.7	.00	.00	.00
5	.69	1.2	1.9	4.4	4.9	3.2	3.2	4.0	3.4	.00	.00	.00
6	.69	1.2	1.9	4.6	5.2	3.2	3.2	4.7	3.2	.00	.00	.00
7	.62	1.3	1.9	4.1	4.9	3.4	3.2	166	3.1	.00	.00	.00
8	.56	1.4	1.9	6.0	5.5	3.4	3.0	33	2.6	.00	.00	.00
9	.56	1.5	1.9	4.9	8.0	3.4	3.0	72	2.9	.00	.00	.00
10	.56	1.5	1.7	4.1	6.4	3.4	2.9	20	2.7	.00	.00	.00
11	.56	1.5	1.9	3.0	5.5	3.4	2.8	9.4	2.1	.00	.00	.00
12	.56	1.5	2.0	3.0	5.2	3.7	3.1	6.6	2.0	.00	.00	.00
13	.56	1.5	5.2	3.0	4.9	3.6	5.4	6.9	1.9	.00	.00	.00
14	.56	1.5	4.1	3.8	6.0	3.4	14	30	1.9	.00	.00	.00
15	.62	1.7	3.4	3.7	5.5	3.4	8.6	660	1.6	.00	.00	.00
16	.83	1.5	3.0	10	5.2	3.4	6.9	460	1.5	.00	.00	.00
17	.83	1.7	2.8	1.9	4.7	3.4	5.6	150	1.4	.00	.00	.00
18	1.1	1.5	2.8	1.8	4.1	3.4	7.4	83	1.2	.00	.00	.00
19	1.3	1.5	2.8	2.0	4.4	3.4	8.0	57	.93	.00	.00	.00
20	1.3	1.4	2.8	3.0	4.1	3.6	7.5	41	.66	.00	.00	.00
21	1.3	1.7	3.0	9.2	4.1	3.7	8.5	39	1.0	.00	.00	.00
22	1.1	1.9	3.4	49	4.1	3.7	12	34	.75	.00	.00	.00
23	.83	1.7	8.6	48	4.1	3.7	12	22	.57	.00	.00	.00
24	.76	1.7	21	6.4	3.9	3.7	13	17	.66	.00	.00	.00
25	.76	1.7	6.4	3.7	3.9	3.9	42	13	.62	.00	.00	.00
26	.76	1.7	4.4	3.0	4.7	5.0	23	10	.49	.00	.00	.00
27	.91	1.7	3.7	2.6	3.9	8.7	7.1	8.9	.30	.00	.00	.00
28	.69	1.7	6.9	2.6	3.4	17	4.1	8.0	.18	.00	.00	.00
29	.69	1.7	25	3.2	3.4	14	3.6	7.3	.15	.00	.00	2.9
30	2.1	1.7	12	3.2	---	5.8	3.2	6.4	.08	.00	.00	13
31	1.7	---	6.4	3.4	---	3.8	---	5.6	---	.00	.00	---
TOTAL	26.26	47.1	149.8	215.1	136.4	143.7	229.1	1991.3	54.49	.03	.00	15.90
MEAN	.85	1.57	4.83	6.94	4.70	4.64	7.64	64.2	1.82	.001	.000	.53
MAX	2.1	2.3	25	49	8.0	17	42	660	4.8	.03	.00	13
MIN	.56	1.2	1.7	1.8	3.4	3.2	2.8	3.4	.08	.00	.00	.00
AC-FT	52	93	297	427	271	285	454	3950	108	.06	.00	32

CAL YR 1979 TOTAL 14895.54 MEAN 40.8 MAX 3500 MIN .56 AC-FT 29550
WTR YR 1980 TOTAL 3009.18 MEAN 8.22 MAX 660 MIN .00 AC-FT 5970

08095000 NORTH BOSQUE RIVER NEAR CLIFTON, TX

LOCATION.--Lat 31°47'09", long 97°34'04", Bosque County, Hydrologic Unit 12060204, near right bank on downstream side of bridge on Farm Road 219, 0.5 mi (0.8 km) northeast of Clifton, 2.5 mi (4.0 km) downstream from Meridian Creek, and 42.0 mi (67.6 km) upstream from mouth.

DRAINAGE AREA.--968 mi² (2,507 km²).

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 788: 1924-26, 1928, 1930. WSP 1058: 1945(M). WSP 1512: 1924(M), 1927, 1928(M), 1929, 1930(M), 1931-33, 1934(M), 1935-37, 1939. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 605.43 ft (184.535 m) National Geodetic Vertical Datum of 1929. Prior to Oct, 1, 1955, and from Apr. 23, 1957, to Mar. 26, 1958, nonrecording gage at site 1.1 mi (1.8 km) upstream at datum 17.02 ft (5.188 m) higher; Oct. 1, 1955, to Apr. 22, 1957, and Mar. 27, 1958, to Sept. 30, 1959, water-stage recorder (destroyed by floods of Apr. 27, 1957, and Oct. 4, 1959); and Oct. 1, 1959, to Jan. 1, 1961, nonrecording gage at present site and datum.

REMARKS.--Records good. The city of Clifton diverted 87 acre-ft (107,000 m³) from the river above the station for municipal use and returned about 279 acre-ft (344,000 m³) of sewage effluent below station and pumpage from wells. The city of Meridian discharged sewage effluent into the river at about mile 56 (90 km, amount unknown). For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08094800. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--44 years (water years 1924-67) unregulated, 195 ft³/s (5.522 m³/s), 141,300 acre-ft/yr (174 hm³/yr); 13 years (water years 1968-80) regulated, 190 ft³/s (5.381 m³/s), 137,700 acre-ft/yr (170 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,800 ft³/s (2,630 m³/s) Oct. 4, 1959, gage height, 34.88 ft (10.631 m), from rating curve extended above 34,000 ft³/s (963 m³/s) on basis of contracted-opening measurement of 92,800 ft³/s (2,630 m³/s); no flow at times.
Maximum stage since at least 1854, that of Oct. 4, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 9, 1922, reached a stage of about 32 ft (9.8 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,860 ft³/s (52.7 m³/s) May 15 at 1500 hours, gage height, 6.81 ft (2.076 m), no peak above base of 8,300 ft³/s (235 m³/s); minimum daily, 0.48 ft³/s (0.014 m³/s) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	20	9.9	44	35	21	28	15	31	7.9	2.9	.79
2	11	22	9.9	35	33	19	25	14	26	7.0	2.7	.79
3	10	19	9.9	31	33	18	27	13	23	7.4	2.3	.85
4	9.9	15	9.8	28	32	18	23	13	20	7.2	2.2	.85
5	10	13	9.9	26	31	18	21	13	18	6.3	1.8	.82
6	9.9	12	10	25	29	18	20	14	17	5.2	1.6	.79
7	9.5	12	11	24	29	19	19	92	16	4.2	1.4	.88
8	9.0	12	11	23	30	20	19	293	15	3.7	1.3	.95
9	8.3	11	10	22	36	19	17	225	15	3.7	1.4	115
10	8.6	11	10	21	38	18	17	202	14	3.3	1.5	24
11	9.1	10	9.9	22	35	18	16	115	13	3.0	1.4	2.7
12	9.1	10	12	22	34	22	18	76	12	2.6	1.3	1.7
13	9.5	10	12	21	35	20	34	62	11	2.6	1.2	1.4
14	10	10	12	21	33	18	44	63	10	2.5	.95	1.1
15	10	10	12	21	32	18	34	667	9.8	2.2	.78	.84
16	14	9.7	16	21	29	18	32	1020	9.4	2.0	.87	.64
17	21	9.4	15	21	27	18	33	600	8.8	1.9	.90	.60
18	27	9.4	13	21	26	17	29	355	8.8	1.5	.85	.64
19	19	9.8	12	22	25	18	25	239	8.7	1.3	.75	.64
20	16	9.9	12	86	25	17	22	181	8.4	.96	.76	.64
21	13	9.7	12	54	23	16	20	146	184	.93	.48	.64
22	13	9.2	13	78	22	16	20	117	39	.96	.55	.64
23	11	8.2	30	263	21	16	19	109	18	.93	.65	.68
24	11	8.4	69	139	20	14	20	91	16	.88	.78	.85
25	10	9.0	43	86	20	14	190	75	13	.91	.86	57
26	10	9.3	42	61	20	15	42	63	11	.97	.90	349
27	9.8	9.7	39	56	20	19	25	54	9.3	1.2	.84	49
28	10	9.7	37	48	19	29	36	46	8.7	2.3	1.1	54
29	9.5	9.9	40	42	20	31	23	41	8.6	3.7	1.1	21
30	15	9.6	57	39	---	26	18	39	8.8	3.2	.96	94
31	16	---	52	37	---	28	---	34	---	3.0	.89	---
TOTAL	370.2	337.9	661.3	1460	812	596	916	5087	611.3	95.44	37.97	783.43
MEAN	11.9	11.3	21.3	47.1	28.0	19.2	30.5	164	20.4	3.08	1.22	26.1
MAX	27	22	69	263	38	31	190	1020	184	7.9	2.9	349
MIN	8.3	8.2	9.8	21	19	14	16	13	8.4	.88	.48	.60
AC-FT	734	670	1310	2900	1610	1180	1820	10090	1210	189	75	1550

CAL YR 1979 TOTAL 69516.90 MEAN 190 MAX 14700 MIN 2.5 AC-FT 137900
WTR YR 1980 TOTAL 11768.54 MEAN 32.2 MAX 1020 MIN .48 AC-FT 23340

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX

LOCATION.--Lat 31°40'10", long 97°28'09", Bosque County, Hydrologic Unit 12060204, on right bank at downstream side of bridge on Farm Road 56, about 0.8 mi (1.3 km) downstream from Thompson Hollow, 0.8 mi (1.3 km) north of intersection of State Highway 6 and Farm Road 56 in Valley Mills, and 28.0 mi (45.1 km) upstream from mouth.

DRAINAGE AREA.--1,146 mi² (2,968 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 524.55 ft (159.883 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 29, 1959, nonrecording gage at same site and datum.

REMARKS.--Records poor. Flow is affected at times by discharge from the flood-detention pools of 42 floodwater-retarding structures with a combined detention capacity of 66,800 acre-ft (82.4 hm³). These structures control runoff from 207 mi² (536 km²). Several small diversions above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years (water years 1960-67) unregulated, 263 ft³/s (7.448 m³/s), 190,500 acre-ft/yr (235 hm³/yr); 13 years (water years 1968-80) regulated, 232 ft³/s (6.570 m³/s), 168,100 acre-ft/yr (207 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft³/s (3,030 m³/s) Oct. 4, 1959, gage height, 40.22 ft (12.259 m), from floodmark, from rating curve extended above 28,200 ft³/s (799 m³/s) on basis of slope-area measurement of 107,000 ft³/s (3,030 m³/s); no flow Oct. 5-12, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1868, 43 ft (13.1 m) in May 1908. Floods in September 1936 and April 1945 reached a stage of about 38 ft (11.6 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,000 ft³/s (56.6 m³/s), May 15, gage height, 9.7 ft (2.96 m), no peak above base of 8,500 ft³/s (241 m³/s); minimum, 1.6 ft³/s (0.045 m³/s) Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	39	18	40	56	30	45	42	54	7.6	6.6	4.4
2	21	38	19	29	52	30	40	39	50	7.1	6.0	3.9
3	20	39	20	25	47	28	39	36	45	6.6	5.8	3.7
4	19	33	21	23	44	28	36	35	41	6.6	5.2	3.8
5	20	29	22	21	40	28	31	35	38	6.2	5.2	3.8
6	20	27	24	21	40	27	30	37	35	5.7	5.8	3.7
7	20	25	24	20	37	27	29	97	33	5.7	6.2	3.7
8	19	25	24	20	43	27	27	227	32	5.2	5.8	4.2
9	18	25	24	20	46	27	26	210	31	5.2	4.8	118
10	17	24	25	20	42	27	25	210	30	5.0	4.6	50
11	18	23	25	20	38	27	24	175	29	4.6	4.2	15
12	18	22	25	20	37	31	26	159	28	4.6	4.6	4.0
13	19	23	25	19	36	30	41	150	26	4.6	4.6	3.0
14	20	24	26	20	33	27	68	140	24	4.6	4.3	2.4
15	22	23	27	19	33	26	60	514	23	4.6	3.3	2.0
16	64	23	32	19	32	28	48	1240	22	4.6	3.7	1.8
17	44	22	42	20	30	30	45	908	22	5.1	3.3	1.7
18	41	22	35	20	29	26	43	465	21	3.7	3.1	1.7
19	37	23	31	20	29	26	38	330	20	3.7	3.3	1.7
20	31	24	27	86	29	28	35	250	19	4.1	3.7	1.7
21	26	23	27	91	29	26	32	197	197	4.1	3.7	1.7
22	26	22	29	92	30	25	31	165	65	4.1	3.7	1.7
23	23	21	37	323	30	25	30	142	33	4.5	3.7	1.7
24	21	20	71	168	30	25	29	123	25	4.0	3.3	1.6
25	20	20	41	115	30	24	148	109	23	3.3	2.5	25
26	20	21	37	92	30	25	100	95	18	3.6	2.9	350
27	20	21	35	83	29	32	56	85	15	7.3	2.9	180
28	20	20	34	76	28	50	58	77	13	13	5.2	52
29	20	20	35	69	28	55	54	69	11	7.5	8.4	54
30	25	20	39	64	---	45	46	65	10	10	6.2	22
31	40	---	40	61	---	41	---	58	---	8.3	4.6	---
TOTAL	771	741	941	1736	1037	931	1340	6484	1033	174.8	141.2	923.9
MEAN	24.9	24.7	30.4	56.0	35.8	30.0	44.7	209	34.4	5.64	4.55	30.8
MAX	64	39	71	323	56	55	148	1240	197	13	8.4	350
MIN	17	20	18	19	28	24	24	35	10	3.3	2.5	1.6
AC-FT	1530	1470	1870	3440	2060	1850	2660	12860	2050	347	280	1830

CAL YR 1979 TOTAL 86679.3 MEAN 237 MAX 18500 MIN 8.4 AC-FT 171900
WTR YR 1980 TOTAL 16253.9 MEAN 44.4 MAX 1240 MIN 1.6 AC-FT 32240

NOTE.--No gage-height record Dec. 22 to Mar. 7, May 7-29.

08095300 MIDDLE BOSQUE RIVER NEAR MCGREGOR, TX

LOCATION.--Lat 31°31'33", long 97°21'56", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on county road, 1,100 ft (335 m) downstream from Pecan Creek, 5.2 mi (8.4 km) northeast of McGregor, and 7.4 mi (11.9 km) upstream from mouth.

DRAINAGE AREA.--182 mi² (471 km²).

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 530.51 ft (161.699 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records good. No diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 87.5 ft³/s (2.478 m³/s), 63,390 acre-ft/yr (78.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,300 ft³/s (943 m³/s) Oct. 31, 1974, gage height, 24.62 ft (7.504 m); no flow at times in 1960-64, 1967, 1971, and 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Historical flood information begins with a flood in 1889, which reached a stage of 28.5 ft (8.69 m). A flood in 1957 reached a stage of 28.2 ft (8.60 m); and floods in 1913 and 1942 or 1943 reached a stage of about 28 ft (8.5 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,620 ft³/s (272 m³/s) May 15 at 2215 hours, gage height, 11.66 ft (3.554 m), no other peak above base of 8,000 ft³/s (227 m³/s); minimum, 0.06 ft³/s (0.002 m³/s) part or all of each day Sept. 18, 22-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.6	1.4	17	31	51	42	50	64	3.5	.37	.11
2	2.6	1.9	1.4	17	30	38	40	49	59	3.1	.37	.11
3	2.2	1.6	1.4	17	30	35	40	45	52	2.4	.29	.11
4	1.9	1.5	1.4	17	30	35	36	41	46	1.8	.29	.11
5	1.7	1.5	1.4	17	29	32	32	38	44	1.6	.29	.11
6	1.5	1.4	1.4	17	27	29	32	37	37	1.5	.29	.11
7	1.5	1.4	1.4	16	26	29	32	1310	37	1.5	.29	.14
8	1.4	1.4	1.4	15	98	29	30	584	34	1.2	.29	.16
9	1.3	1.4	1.4	15	107	26	26	295	33	1.2	.29	.16
10	1.1	1.4	1.4	15	98	26	24	188	33	1.1	.29	.16
11	1.0	1.4	1.4	15	89	26	24	151	31	.97	.29	.16
12	.99	1.4	1.8	15	80	26	28	193	28	.88	.29	.16
13	.99	1.4	2.4	15	74	24	165	191	24	.85	.22	.11
14	.99	1.4	2.3	15	70	20	142	154	21	.66	.22	.11
15	1.3	1.4	2.2	15	67	19	82	2180	19	.66	.22	.11
16	1.8	1.4	2.0	15	60	19	67	1280	18	.64	.22	.11
17	1.7	1.4	1.8	15	55	20	67	441	15	.56	.22	.11
18	1.6	1.4	1.8	15	55	17	62	327	14	.56	.22	.08
19	1.4	1.4	1.6	15	55	16	60	271	13	.56	.22	.08
20	1.3	1.5	1.6	20	51	16	57	228	12	.56	.20	.08
21	1.1	1.6	2.4	21	48	16	54	199	23	.56	.16	.08
22	1.6	1.6	5.9	325	44	14	51	173	31	.56	.16	.06
23	1.3	1.5	16	109	43	14	48	150	18	.56	.16	.06
24	1.2	1.4	21	57	40	14	46	125	14	.46	.16	.06
25	1.1	1.4	10	50	36	14	156	105	10	.46	.14	.06
26	1.0	1.4	7.2	46	34	14	69	96	8.1	.46	.11	.11
27	1.0	1.4	6.4	39	33	89	57	88	6.7	.46	.11	.37
28	.99	1.4	7.6	35	33	119	51	131	5.6	.44	.11	.22
29	.98	1.4	28	35	34	59	48	87	4.7	.37	.11	.22
30	2.2	1.4	14	35	---	50	44	78	4.2	.37	.11	.29
31	4.0	---	14	33	---	44	---	69	---	.37	.11	---
TOTAL	47.54	44.7	165.4	1103	1507	980	1712	9354	759.3	30.87	6.82	3.92
MEAN	1.53	1.49	5.34	35.6	52.0	31.6	57.1	302	25.3	1.00	.22	.13
MAX	4.0	2.6	28	325	107	119	165	2180	64	3.5	.37	.37
MIN	.98	1.4	1.4	15	26	14	24	37	4.2	.37	.11	.06
AC-FT	94	89	328	2190	2990	1940	3400	18550	1510	61	14	7.8

CAL YR 1979 TOTAL 43625.74 MEAN 120 MAX 3290 MIN .98 AC-FT 86530
WTR YR 1980 TOTAL 15714.55 MEAN 42.9 MAX 2180 MIN .06 AC-FT 31170

08095400 HOG CREEK NEAR CRAWFORD, TX

LOCATION.--Lat 31°33'20", long 97°21'22", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on Farm Road 185, 5.6 mi (9.0 km) east of Crawford, and 9.8 mi (15.8 km) upstream from South Bosque River.

DRAINAGE AREA.--78.2 mi^2 (203 km^2).

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

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 560.54 ft (170.853 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow is affected at times by discharge from flood-detention pool of two floodwater-retarding structure with detention capacity of 9,600 acre-ft (11.9 hm^3). These structure controls runoff from 42.0 mi^2 (108.8 km^2) in the Hog Creek drainage basin. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 36.3 ft^3/s (1.028 m^3/s), 26,300 acre-ft/yr (32.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft^3/s (436 m^3/s) Oct. 4, 1959, gage height, 14.31 ft (4.362 m); no flow at times in 1959, 1963-64, 1971, and 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 17.5 ft (5.33 m) Sept. 26, 1936. Flood in April or May 1957 reached a stage of 15.7 ft (4.79 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,080 ft^3/s (30.6 m^3/s). May 15 at 2130 hours, gage height, 4.81 ft (1.466 m); minimum, 0.02 ft^3/s (0.001 m^3/s) Sept. 21-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	.58	.72	1.0	5.4	8.7	10	28	35	2.3	.21	.10
2	.69	.50	.90	1.1	5.4	7.1	10	12	30	1.8	.21	.09
3	.66	.49	.82	1.1	5.4	7.4	9.0	10	18	1.5	.21	.09
4	.62	.48	.75	1.1	4.9	7.7	7.8	10	15	1.3	.21	.09
5	.62	.46	.74	1.1	4.8	7.3	7.8	9.7	13	1.3	.20	.09
6	.62	.42	.59	1.2	4.5	6.9	7.4	9.3	13	1.1	.20	.09
7	.62	.40	.59	1.1	4.7	6.9	7.2	57	28	1.0	.19	.10
8	.60	.40	.57	1.3	13	6.7	6.4	52	31	.91	.19	.10
9	.54	.44	.59	1.4	22	6.6	5.8	77	26	.79	.16	.11
10	.46	.40	.60	1.5	19	6.4	5.9	59	19	.73	.16	.11
11	.56	.39	.74	1.3	17	6.7	5.9	34	15	.68	.17	.10
12	.55	.40	1.1	1.1	16	6.8	8.1	32	12	.62	.17	.08
13	.44	.41	.96	1.2	14	6.3	32	28	9.5	.59	.16	.08
14	.58	.46	.64	1.3	14	5.9	21	25	8.4	.57	.16	.07
15	.74	.46	.58	1.3	13	6.0	19	272	7.4	.55	.16	.06
16	.85	.41	.52	1.3	11	6.3	17	217	6.5	.49	.16	.04
17	.62	.44	.49	1.3	10	5.4	15	101	5.8	.47	.16	.04
18	.55	.47	.49	1.3	11	4.9	14	69	5.4	.40	.15	.03
19	.49	.49	.49	1.6	11	4.8	13	55	4.3	.40	.14	.03
20	.45	.49	.40	2.1	9.8	4.8	12	46	4.0	.40	.13	.03
21	.44	.57	.56	1.6	9.1	4.6	12	41	17	.40	.12	.03
22	.48	.55	1.8	53	8.6	4.6	11	37	83	.40	.12	.02
23	.44	.56	8.0	15	8.5	5.0	10	44	60	.38	.12	.02
24	.38	.57	3.9	9.9	8.2	4.6	10	49	38	.33	.12	.03
25	.39	.69	1.0	7.9	7.8	4.8	21	46	21	.33	.12	.04
26	.40	.67	.80	8.0	7.5	4.8	12	44	12	.32	.12	.07
27	.46	.66	.73	7.1	7.6	19	11	43	7.6	.31	.11	.11
28	.59	.61	1.4	6.9	7.5	15	11	43	5.2	.33	.12	.09
29	.71	.62	2.2	6.6	7.9	13	9.9	40	3.8	.31	.12	.13
30	1.3	.71	1.3	6.4	---	11	9.7	38	2.9	.26	.11	.14
31	1.3	---	1.1	5.8	---	11	---	36	---	.24	.10	---
TOTAL	18.97	15.20	36.07	153.9	288.6	227.0	351.9	1664.0	556.8	21.51	4.78	2.21
MEAN	.61	.51	1.16	4.96	9.95	7.32	11.7	53.7	18.6	.69	.15	.074
MAX	1.3	.71	8.0	53	22	19	32	272	83	2.3	.21	.14
MIN	.38	.39	.40	1.0	4.5	4.6	5.8	9.3	2.9	.24	.10	.02
AC-FT	38	30	72	305	572	450	698	3300	1100	43	9.5	4.4

CAL YR 1979 TOTAL 14729.67 MEAN 40.4 MAX 901 MIN .38 AC-FT 29220
WTR YR 1980 TOTAL 3340.94 MEAN 9.13 MAX 272 MIN .02 AC-FT 6630

08095550 WACO LAKE NEAR WACO, TX

LOCATION.--Lat 31°34'46", long 97°11'51", McLennan County, Hydrologic Unit 12060203, in intake structure at Waco Dam on Bosque River, at northwest edge of city limits of Waco, and 4.6 mi (7.4 km) upstream from mouth.

DRAINAGE AREA.--1,652 mi² (4,279 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Feburary 1965 to current year. Prior to October 1970, published as Waco Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The lake is formed by a rolled earthfill dam 24,618 ft (7,504 m) long, including spillway. The lake was built for flood control and water conservation. From Oct. 1, 1964, to Feb. 26, 1965, the lake was operated as a detention basin only. On Feb. 26, 1965, old Lake Waco was breached and deliberate impoundment began. The spillway is controlled by fourteen 40.0- by 35.0-foot (12.2 by 10.7 m) tainter gates. The outlet works consists of three gate-controlled outlets, 6.7 by 20.0 ft (2.0 by 6.1 m), opening into a 20.0-foot-diameter 6.1 m) concrete conduit and two 54-inch (1,370 mm) concrete pipes. Low-flow releases are made through two 54-inch (1,370 mm) butterfly values. Flow into two wet wells is controlled by four 5.0- by 6.0-foot (1.5 by 1.8 m) slide gates that are used to release water downstream for the city of Waco municipal water supply. Capacity table No. 2C is based on a sedimentation survey completed in December 1970. Flow is affected at times by discharge from the flood-detention pools of 44 floodwater-retarding structures with a combined detention capacity of 76,460 acre-ft (94.3 hm³). These structures control runoff from 248 mi² (642 km²) in the Bosque River and Hog Creek drainage basins. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	510.0	-
Design flood	505.0	824,400
Top of gates	500.0	722,500
Crest of spillway	465.0	229,900
Top of conservation pool	455.0	149,200
Lowest gated outlet (invert)	400.0	560

COOPERATION.--Records were furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 292,100 acre-ft (360 hm³) May 15, 1968, elevation, 470.86 ft (143.518 m); minimum since initial filling, 92,880 acre-ft (115 hm³) Oct. 25, 1978, elevation, 446.28 ft (136.026 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 174,900 acre-ft (216 hm³) May 14 at 1600 hours, elevation, 458.45 ft (139.736 m); minimum, 123,700 acre-ft (153 hm³) Sept. 25 at 0300 hours, elevation, 451.34 ft (137.568 m).

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

450.0	114,900	456.0	156,500
452.0	128,100	458.0	171,500
454.0	142,000	460.0	187,100

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147400	144500	142100	147000	150100	149000	149900	149400	150000	147700	137700	128500
2	147200	144400	142000	147200	149600	148900	148900	149600	149800	147500	137400	128300
3	147000	144400	142000	147200	149300	149000	149000	149700	149800	147200	137000	128000
4	146800	144200	141900	147200	149300	149100	149100	149800	149800	147000	136500	127800
5	146600	144200	141900	147200	149300	149200	149200	150000	149800	146700	136200	127500
6	146400	144100	141800	147400	149500	149200	149300	150400	149700	146300	135800	127200
7	146200	143900	141700	147300	149600	149400	149600	156300	149800	146000	135600	127200
8	145900	143900	141700	147400	152500	149600	149600	158100	149900	145700	135400	127200
9	145700	143900	141700	147400	154100	149600	149500	158000	150100	145400	135100	127100
10	145400	143700	141600	147500	154900	149800	149400	156000	150100	145000	134900	127100
11	145200	143600	141600	147500	154800	149900	149400	153600	150100	144700	134700	127000
12	145100	143400	141600	147500	153600	150100	150100	152100	149900	144400	134400	126800
13	144900	143400	141600	147500	152500	150100	152100	152900	149800	144000	134200	126500
14	144800	143200	141600	147500	151200	150100	152800	153600	149600	143700	133900	126200
15	145100	143200	141500	147600	150300	150100	152700	165800	149600	143300	133600	126000
16	145200	143100	141500	147700	149600	150100	151600	174500	149400	142900	133100	125800
17	145200	143000	141400	147700	149000	150300	150600	173100	149300	142600	132900	125500
18	145100	143200	141300	147700	149000	150300	149900	169300	149100	142400	132700	125300
19	145000	143100	141300	147900	149300	150300	149500	165400	149000	142000	132400	125100
20	144900	143200	141300	148100	149400	150300	149300	160900	148900	141600	132100	124900
21	144800	143200	142000	148800	149700	150200	149400	156600	149200	141300	131800	124600
22	144900	143000	142900	151500	149900	150200	149500	152100	149600	141000	131600	124300
23	144800	142900	144700	152200	149900	150300	149600	149200	149600	140800	131300	124100
24	144700	142700	144900	152500	150200	150300	149700	149200	149600	140400	131100	123900
25	144500	142700	145100	151900	150300	150400	153100	149700	149400	140000	130900	124200
26	144400	142700	145200	150900	150300	150600	152500	150100	149300	139800	130500	125500
27	144200	142600	145300	149800	150300	152100	151400	150600	149000	139400	130200	125900
28	144200	142400	146200	149600	149800	153000	150300	150900	148800	139100	130000	126000
29	144000	142300	146600	149800	149300	153300	149700	151100	148500	138800	129600	126400
30	144800	142200	146700	150000	---	153500	149300	150900	148200	138400	129200	126400
31	144700	---	146900	150100	---	152600	---	150400	---	138100	128900	---
MAX	147400	144500	146900	152500	154900	153500	153100	174500	150100	147700	137700	128500
MIN	144000	142200	141300	147000	149000	148900	148900	149200	148200	138100	128900	123900
(†)	454.37	454.03	454.68	455.12	455.02	455.47	455.01	455.17	454.86	453.44	452.11	451.75
(‡)	-2900	-2500	+4700	+3200	-800	+3300	-3300	+1100	-2200	-10100	-9200	-2500
(††)	2420	2000	2140	2080	2000	2220	2230	2270	3360	4610	4000	3220

CAL YR 1979 MAX 190800 MIN 96090 †† 26710 ‡ -50920
WTR YR 1980 MAX 174500 MIN 123900 †† 32550 ‡ -21200

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use by city of Waco.

08095550 WACO LAKE NEAR WACO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
APR 15...	1730	369	19.5	160	25	56	4.0	15	.5
AUG 18...	1645	322	29.5	120	10	34	8.4	32	1.3

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
APR 15...	2.8	160	0	35	18	.7	6.5	217
AUG 18...	6.9	130	0	35	45	.3	11	237

08095600 BOSQUE RIVER NEAR WACO, TX

LOCATION.--Lat 31°36'04", long 97°11'36", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on Farm Road 1637, 1.8 mi (2.9 km) downstream from Waco Lake Dam, 2.8 mi (4.5 km) upstream from mouth, and 4.7 mi (7.6 km) northwest of courthouse in Waco.

DRAINAGE AREA.--1,656 mi^2 (4,289 km^2).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 365.44 ft (111.386 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 21, 1960, nonrecording gage, and from Jan. 21 to Aug. 20, 1960, nonrecording gage below 11.38 ft (3.469 m) and water-stage recorder above. All gages at same site and datum. Dec. 30, 1959, to Aug. 29, 1967, auxiliary water-stage recorder 2.7 mi (4.3 km) downstream at datum 4.66 ft (1.420 m) lower. Since Aug. 30, 1967, auxiliary water-stage recorder 0.7 mi (1.1 km) downstream at datum 4.66 ft (1.420 m) lower.

REMARKS.--Records good above 2,000 ft^3/s (56.6 m^3/s) and fair below. Backwater from the Brazos River. Discharges below 2,000 ft^3/s (56.6 m^3/s) for the year is record of releases furnished by Corps of Engineers from Waco Lake. Flow is regulated by Waco Lake (see station 08095550). Records furnished by the city of Waco show that 32,550 acre-ft (40.1 hm^3) was diverted for municipal use above station.

COOPERATION.--Records of releases furnished by the Corps of Engineers and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--21 years, 427 ft^3/s (12.09 m^3/s), 309,400 acre-ft/yr (381 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,000 ft^3/s (1,950 m^3/s) Oct. 4, 1959, gage height, 39.8 ft (12.13 m), from floodmark, from rating curve extended above 51,000 ft^3/s (1,440 m^3/s) on basis of computation of peak flow through gates at old Lake Waco; no flow at times in 1963-64, 1966-67, 1970, and 1972-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 44.5 ft (13.56 m) Sept. 27, 1936, discharge 96,000 ft^3/s (2,720 m^3/s), from information by local resident. Maximum stage may be the result of backwater from the Brazos River because the discharges on Apr. 22, 1945, 140,000 ft^3/s (3,960 m^3/s), and Apr. 20, 1957, 103,000 ft^3/s (2,920 m^3/s), exceeded the discharge corresponding to the maximum stage. The discharges for the 1936, 1945, and 1957 floods were obtained from rating curve for tainter gates at old Lake Waco.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,940 ft^3/s (83.3 m^3/s) May 18; maximum gage height, 11.46 ft (3.493 m) May 15 (backwater from Brazos Lake); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	67	206	1100	100	300	.00	.00	.00
2	.00	.00	.00	.00	200	56	447	.00	113	.00	.00	.00
3	.00	.00	.00	.00	200	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	71	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	356	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	900	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	1350	.00	.00	.00	.00
11	.00	.00	.00	.00	376	.00	.00	1650	.00	.00	.00	.00
12	.00	.00	.00	.00	860	.00	.00	1350	.00	.00	.00	.00
13	.00	.00	.00	.00	860	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	860	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	679	.00	356	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	389	.00	600	607	.00	.00	.00	.00
17	.00	.00	.00	.00	300	.00	600	2330	.00	.00	.00	.00
18	.00	.00	.00	.00	119	.00	431	2940	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	300	2880	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	112	2880	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	2880	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	2900	.00	.00	.00	.00
23	.00	.00	.00	169	.00	.00	.00	1580	.00	.00	.00	.00
24	.00	.00	.00	216	.00	.00	.00	242	.00	.00	.00	.00
25	.00	.00	.00	451	.00	.00	206	.00	.00	.00	.00	.00
26	.00	.00	.00	550	.00	.00	600	.00	.00	.00	.00	.00
27	.00	.00	.00	550	100	.00	600	.00	.00	.00	.00	.00
28	.00	.00	.00	212	300	.00	600	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	300	.00	412	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	300	188	.00	.00	.00	.00
31	.00	---	.00	.00	---	630	---	300	---	.00	.00	---
TOTAL	.00	.00	.00	2148.00	5681.00	892.00	6664.00	25433.00	413.00	.00	.00	.00
MEAN	.000	.000	.000	69.3	196	28.8	222	820	13.8	.000	.000	.000
MAX	.00	.00	.00	550	860	630	1100	2940	300	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	4260	11270	1770	13220	50450	819	.00	.00	.00

CAL YR 1979	TOTAL	163040.00	MEAN 447	MAX 5800	MIN .00	AC-FT	323400
WTR YR 1980	TOTAL	41231.00	MEAN 113	MAX 2940	MIN .00	AC-FT	81780

08096500 BRAZOS RIVER AT WACO, TX

LOCATION.--Lat 31°32'06", long 97°04'22", McLennan County, Hydrologic Unit 12060202, on left bank 2.2 mi (3.5 km) downstream from bridge on La Salle Avenue and at mile 400.7 (644.7 km).

DRAINAGE AREA.--29,573 mi² (76,594 km²), approximately, of which 9,566 mi² (24,780 km²) probably is noncontributing.

PERIOD OF RECORD.--September 1898 to current year (January 1912 to September 1914 monthly records only, published in WSP 1312).

REVISED RECORDS.--WSP 850 and 878: 1899-1900, 1907-9 (monthly and yearly summaries only). WSP 1512: 1901-5, 1910, 1915, 1925-26(M), 1927-29. WSP 1922: 1957. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 349.34 ft (106.479 m) National Geodetic Vertical Datum of 1929. Sept. 14, 1898, to Mar. 28, 1918, May 6, 1922, to Feb. 12, 1925, nonrecording gage, and May 28, 1918, to May 5, 1922, Feb. 13, 1925, to Aug. 14, 1969, water-stage recorder. Prior to Aug. 14, 1969, at site 3.9 mi (6.3 km) upstream at datum 7.46 ft (2.274 m) higher.

REMARKS.--Records fair. Flow is largely regulated by Whitney and Waco Lakes (stations 08092500 and 08095550). Combined capacity of 18 reservoirs above station, 4,135,000 acre-ft (5.10 km³), of which 2,194,000 acre-ft (2.71 km³) is flood-control storage in Whitney and Waco Lakes. Records furnished by city of Waco show that during year they diverted 32,550 acre-ft (40.1 hm³) for municipal use above station; records furnished by the Brazos River Authority show that during year they returned 22,450 acre-ft (27.7 hm³) of treated sewage effluent above station. Many other smalls diversions above station for municipal supply, irrigation, and oilfield operation will not appreciably affect flow. Several observations of water temperature were made during the year. National Weather Service gage-height telemeter at station. Flow is affected at times by discharge from flood-detention pools of ten floodwater-retarding structures with combined detention capacity of 5,750 acre-ft (7.09 hm³). These structures control runoff from 18.6 mi² (48.2 km²) in the Aquilla and Hackberry Creeks drainage basins.

AVERAGE DISCHARGE.--42 years (water years 1899-1940) unregulated, 2,560 ft³/s (72.50 m³/s), 1,855,000 acre-ft/yr (2.29 km³/yr); 40 years (water years 1940-80) regulated, 2,238 ft³/s (63.38 m³/s), 1,621,000 acre-ft/yr (2.00 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft³/s (6,970 m³/s) Sept. 27, 1936, gage height, 40.90 ft (12.466 m), at former site and datum, levee on left bank was overtopped and broken by flood; no flow Aug. 20, 21, 1918, and probably for several days in August 1923.
Maximum stage since at least 1847, that of Sept. 27, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage for 1847-98, 34.63 ft (10.555 m) May 28, 1885, from floodmark at site 3.9 mi (6.3 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,000 ft³/s (340 m³/s) May 15 at 2000 hours, gage height, 14.71 ft (4.484 m); minimum daily, 97 ft³/s (2.758 m³/s) Mar. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	944	179	1260	1430	412	346	1310	652	469	719	209	600
2	431	157	318	533	556	199	755	465	310	804	186	610
3	643	146	221	324	595	164	445	457	253	1230	676	605
4	579	138	319	473	552	139	566	451	497	1140	340	676
5	555	492	217	685	372	122	353	445	681	1170	186	699
6	657	270	143	359	337	129	299	448	301	1120	460	539
7	835	157	133	522	327	129	300	1330	488	1220	810	458
8	1000	194	274	1060	1020	130	272	2020	599	1160	539	318
9	1100	177	193	1170	1310	127	276	1990	285	1100	657	170
10	297	225	146	658	1150	134	292	2070	166	846	620	173
11	184	225	270	363	872	125	319	2360	151	810	534	588
12	356	151	289	523	1370	156	617	2250	1680	804	460	622
13	615	245	1750	1070	1260	145	2240	637	253	996	610	676
14	272	1630	1720	687	1200	137	3360	395	148	774	657	1070
15	332	723	1120	1580	1050	127	1340	3870	226	856	599	1100
16	253	480	1090	1610	747	158	1210	9880	409	789	861	1140
17	1030	420	1230	1450	670	133	1140	7450	421	769	909	729
18	1560	248	1620	1690	537	119	959	3950	400	794	926	652
19	483	158	1230	1600	282	133	787	3710	759	861	1020	1130
20	520	209	679	1410	225	145	627	3560	190	759	1070	297
21	830	261	914	2490	229	97	447	3230	153	769	1070	202
22	909	171	1560	5420	214	116	432	3090	125	784	1320	184
23	276	985	1910	6580	210	141	424	2260	114	779	1210	174
24	179	860	2090	3530	208	108	421	643	396	629	1190	188
25	161	627	1380	1560	188	139	2880	306	671	620	761	268
26	153	406	1000	1490	176	122	4110	273	652	600	818	276
27	146	476	1410	1120	231	544	1710	260	1270	540	980	249
28	142	179	1100	862	436	448	1270	256	469	400	707	325
29	140	817	2270	506	448	309	981	244	835	300	465	293
30	430	928	1880	436	---	226	824	368	867	450	774	234
31	193	---	1610	438	---	757	---	478	---	497	622	---
TOTAL	16205	12334	31346	43629	17184	6004	30966	59798	14238	25089	22246	15245
MEAN	523	411	1011	1407	593	194	1032	1929	475	809	718	508
MAX	1560	1630	2270	6580	1370	757	4110	9880	1680	1230	1320	1140
MIN	140	138	133	324	176	97	272	244	114	300	186	170
AC-FT	32140	24460	62170	86540	34080	11910	61420	118600	28240	49760	44120	30240

CAL YR 1979 TOTAL 746073 MEAN 2044 MAX 19300 MIN 133 AC-FT 1480000
WTR YR 1980 TOTAL 294284 MEAN 804 MAX 9880 MIN 97 AC-FT 583700

08098290 BRAZOS RIVER NEAR HIGHBANK, TX
(National stream-quality accounting network)

LOCATION.--Lat 31°08'02", long 96°49'29", Falls County, Hydrologic Unit 12070101, near right bank 45 ft (14 m) downstream from bridge on Farm Road 413, 1.4 mi (2.3 km) downstream from Highbank Slough and Spring Branch, 2.6 mi (4.2 km) south of Highbank, and at mile 346.6 (557.7 km).

DRAINAGE AREA.--30,436 mi² (78,829 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 279.29 ft (85.128 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Many diversions for municipal supply, irrigation, and industrial use above gage (amount unknown). Flow is affected by 20 upstream reservoirs with a combined capacity of 4,181,000 acre-ft (5.16 km³). During the year, Texas Power and Light Co. diverted 967 acre-ft (1.19 hm³) to Tradinghouse Reservoir above this station. Flow is affected at times by discharge from flood-detention pools of 70 floodwater-retarding structures with combined detention capacity of 82,610 acre-ft (102 hm³). These structures control runoff from 233 mi² (603 km²) in the Aquilla, Tehuacana, and Castleman Creeks drainage basins and Cow Bayou drainage basin (corrected). National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--15 years, 2,562 ft³/s (72.56 m³/s), 1,856,000 acre-ft/yr (2.29 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,900 ft³/s (1,640 m³/s) May 11, 1968, gage height, 21.88 ft (6.669 m); minimum daily, 41 ft³/s (1.16 m³/s) July 12, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1909, 42 ft (12.8 m) in December 1913 and 40 ft (12.2 m) in September 1936, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,000 ft³/s (651 m³/s) May 16 at 1500 hours, gage height, 14.08 ft (4.292 m); minimum daily, 156 ft³/s (4.42 m³/s) June 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	482	1150	2050	651	558	1090	1240	683	927	564	690
2	1080	280	1240	1690	602	610	1830	1080	680	793	434	684
3	712	244	769	975	589	468	1470	790	594	863	205	650
4	636	192	428	715	704	308	747	690	347	1270	530	654
5	705	174	399	564	724	307	1020	630	473	1200	490	697
6	726	210	448	795	632	259	758	579	794	1270	341	788
7	606	506	337	823	484	247	644	720	606	1230	321	681
8	888	277	259	563	587	242	661	1970	460	1350	844	585
9	1020	202	241	765	3510	238	620	2730	730	1320	696	481
10	1110	220	412	1290	4570	241	518	2380	610	1300	692	324
11	643	199	325	1160	4010	232	495	2370	312	1050	756	215
12	354	274	290	763	2220	253	493	2540	240	954	641	307
13	265	233	521	521	1680	244	907	8020	1300	951	558	705
14	531	186	1690	875	1440	277	4330	7080	567	1150	639	742
15	541	1210	1920	914	1340	246	4680	4060	275	947	710	1290
16	578	1030	1460	1330	1200	231	2470	19200	196	993	674	1520
17	533	629	1380	1620	978	227	1920	20000	376	946	899	1670
18	742	536	1370	1530	826	269	1570	13700	469	872	996	1000
19	1450	421	1800	1680	783	234	1320	9870	475	904	1010	850
20	688	324	1500	1760	651	214	1050	8010	723	993	1130	1570
21	555	273	1040	1480	462	218	928	5980	556	903	1190	708
22	820	333	1470	2750	366	224	692	4810	264	909	1200	321
23	981	297	2370	7480	345	184	611	4060	180	868	1440	232
24	593	715	5250	7340	331	193	564	2690	156	900	1350	251
25	324	1020	4100	3440	318	228	700	1310	222	750	1350	364
26	242	825	2950	2070	305	204	4500	803	670	633	899	408
27	202	544	1850	1780	288	284	5030	684	696	713	836	427
28	186	704	1950	1410	277	1550	2580	600	1250	495	1050	406
29	171	410	2520	1230	429	1920	1970	514	638	362	802	432
30	231	598	3090	906	---	1460	1520	484	811	278	542	400
31	712	---	2710	749	---	985	---	471	---	461	705	---
TOTAL	19985	13548	47239	53018	31302	13415	47688	130065	16353	28555	24494	20052
MEAN	645	452	1524	1710	1079	433	1590	4196	545	921	790	668
MAX	1450	1210	5250	7480	4570	1920	5030	20000	1300	1350	1440	1670
MIN	171	174	241	521	277	184	493	471	156	278	205	215
AC-FT	39640	26870	93700	105200	62090	26610	94590	258000	32440	56640	48580	39770

CAL YR 1979 TOTAL 1110353 MEAN 3042 MAX 37900 MIN 171 AC-FT 2202000
WTR YR 1980 TOTAL 445714 MEAN 1218 MAX 20000 MIN 156 AC-FT 884100

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1967 to current year. Pesticide analyses: October 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1967 to current year.
WATER TEMPERATURES: November 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (1967-1979): Maximum daily, 3,000 micromhos Aug. 24, 1978; minimum daily, 267 micromhos July 31,1971, May 25, 1975, and Apr. 29, 1976.
WATER TEMPERATURES (1967-78): Maximum daily, 35.5°C July 15, 16, 1978; minimum daily, 1.0°C Jan. 9, 1968.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 16...	1410	543	1100	7.4	23.0	140	7.0	82	.5	9000	1600
NOV 13...	1400	220	1280	7.8	13.5	1.1	14.1	134	1.0	K1	K1
DEC 18...	1125	1550	1290	7.6	5.0	10	12.9	100	1.0	50	20
JAN 22...	1015	2610	1190	7.7	10.5	37	10.2	92	1.4	4500	5000
FEB 20...	1000	543	569	7.4	12.5	28	11.6	109	1.4	K14	20
MAR 13...	1100	242	778	7.6	16.0	20	9.6	97	1.6	K11	33
APR 09...	1500	552	607	7.8	22.0	22	10.7	123	1.0	K16	K7
MAY 14...	1200	7150	282	7.2	20.0	1000	6.5	72	4.4	31000	35000
JUN 12...	1430	231	725	7.8	29.0	3.2	10.6	138	1.2	59	66
JUL 09...	1320	1610	1300	7.6	--	24	6.9	92	1.2	63	21
AUG 14...	1400	673	1340	8.0	30.5	3.0	.8	111	.4	--	--
SEP 09...	1405	421	1290	7.5	28.0	3.5	7.0	89	.9	20	400

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 16...	230	120	68	15	130	3.7	5.5	140	0	110	190
NOV 13...	270	89	80	17	130	3.4	4.5	220	0	110	190
DEC 18...	260	140	76	17	160	4.3	5.7	150	0	120	240
JAN 22...	250	140	74	17	150	4.1	5.6	140	0	120	240
FEB 20...	200	51	68	7.1	40	1.2	--	180	0	63	48
MAR 13...	230	59	71	13	77	2.2	4.1	210	0	100	79
APR 09...	210	42	69	8.2	43	1.3	3.6	200	0	69	46
MAY 14...	110	23	41	3.0	12	.5	5.0	100	0	23	22
JUN 12...	220	220	70	10	61	1.8	4.0	200	0	75	78
JUL 09...	240	130	70	17	160	4.5	5.6	140	0	120	260
AUG 14...	260	140	71	19	160	4.4	7.4	150	0	120	260
SEP 09...	250	130	72	18	170	4.6	6.6	150	0	120	280

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)
OCT 16...	.4	5.7	613	<597	.85	.63	.420	.430	.98	.43
NOV 13...	.4	3.3	664	645	.43	.38	.090	.050	.66	.49
DEC 18...	.3	5.1	718	699	.18	.18	.080	.080	2.9	1.2
JAN 22...	.3	4.0	687	681	.40	.18	.070	.060	.23	.33
FEB 20...	.3	9.7	325	331	1.3	1.3	.200	.150	.65	.56
MAR 13...	.3	1.1	441	454	1.1	1.2	.130	.130	.70	.57
APR 09...	.5	.3	355	342	.90	.82	.130	.180	1.5	.68
MAY 14...	.3	9.1	185	128	1.8	1.7	.000	.170	--	--
JUN 12...	.3	8.8	419	308	.26	.28	.060	.080	1.0	.78
JUL 09...	.5	6.0	768	708	.27	.25	.090	.090	.87	1.3
AUG 14...	.3	5.7	729	719	.29	.28	.030	.030	2.2	1.7
SEP 09...	.3	5.3	773	746	.22	.16	.040	.060	1.1	.94

DATE	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 16...	1.4	.86	.240	.130	--	11	.1	102	150	100
NOV 13...	.75	.54	.070	.060	7.7	--	--	27	16	57
DEC 18...	3.0	1.3	.060	.060	10	--	--	34	142	94
JAN 22...	.30	.39	.290	.290	6.3	--	--	162	1140	79
FEB 20...	.85	.71	.110	.080	--	9.3	.4	24	35	95
MAR 13...	.83	.70	.060	.050	5.2	--	--	26	17	31
APR 09...	1.6	.86	.110	.060	6.2	--	--	315	469	5
MAY 14...	--	--	--	--	23	--	--	1460	28200	87
JUN 12...	1.1	.86	.160	.070	--	7.6	.5	11	6.9	84
JUL 09...	.96	1.4	.160	.090	11	--	--	104	452	95
AUG 14...	2.2	1.7	.190	.150	--	11	.2	16	29	99
SEP 09...	1.1	1.0	.200	.160	4.8	--	--	16	18	97

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT 16...	1410	3	1	2	400	300	100	1	0	<1	0
NOV 13...	1400	--	--	--	--	--	--	--	--	--	--
FEB 20...	1000	--	--	--	200	100	70	1	0	<1	0
MAR 13...	1100	--	--	--	--	--	--	--	--	--	--
JUN 12...	1430	4	0	4	100	10	90	0	--	<1	20
JUL 09...	1320	--	--	--	--	--	--	--	--	--	--
AUG 14...	1400	2	0	3	100	0	100	1	--	<1	0

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT 16...	0	0	3	0	<3	10	8	2	5900	5900	20
NOV 13...	--	--	--	--	--	--	--	--	--	--	--
FEB 20...	0	0	3	0	<3	14	13	1	470	460	<10
MAR 13...	--	--	--	--	--	--	--	--	--	--	--
JUN 12...	20	0	0	--	<3	4	3	1	110	--	<10
JUL 09...	--	--	--	--	--	--	--	--	--	--	--
AUG 14...	0	0	0	--	<3	10	10	0	230	--	<10

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
OCT 16...	10	10	0	160	150	6	.6	.4	.2	11	11
NOV 13...	--	--	--	--	--	--	--	--	--	--	--
FEB 20...	8	0	9	40	30	10	.2	.0	.2	5	5
MAR 13...	--	--	--	--	--	--	--	--	--	--	--
JUN 12...	1	1	0	40	20	20	1.4	1.2	.2	6	4
JUL 09...	--	--	--	--	--	--	--	--	--	--	--
AUG 14...	4	4	0	20	10	10	1.6	1.6	.0	5	2

DATE	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 16...	0	0	0	0	0	0	0	0	0	5
NOV 13...	--	--	--	--	0	--	--	--	--	--
FEB 20...	0	1	0	1	2	2	0	30	30	<3
MAR 13...	--	--	--	--	0	--	--	--	--	--
JUN 12...	2	1	0	1	0	0	0	20	--	<3
JUL 09...	--	--	--	--	0	--	--	--	--	--
AUG 14...	3	0	0	0	1	1	0	40	--	<3

DATE	TIME	PCB TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)
FEB 20...	1000	.00	0	.00	.00	.0	.0	0	.00	.0
JUN 12...	1430	.00	0	.00	.00	.0	.0	0	.00	.0

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)
FEB 20...	.00	.1	.00	.0	.02	.00	.0	.00	.00	.0
JUN 12...	.00	.0	<.01	.0	.01	.00	.0	.00	.00	.0

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)
FEB 20...	.00	.00	.0	.00	.0	.00	.0	.00	.00	.0
JUN 12...	.00	.00	.0	.00	.0	.00	.0	.00	.00	.0

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
FEB 20...	.00	.00	.00	.01	0	0	.00	.04	.00	.00
JUN 12...	.00	.00	.00	.00	0	0	.00	.02	.00	.00

DATE	LENGTH OF EXPOSURE (DAYS)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	CHLOR-B PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	BIOMASS CHLOROPHYLL RATIO PERIPHYTON (UNITS)
OCT 16...	29	3.86	4.49	19.1	3.53	33.0
NOV 13...	28	.860	1.02	3.78	1.39	42.3
MAR 13...	22	42.5	48.1	91.2	.000	61.4

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 13,79		MAR 13,80		MAY 14,80		JUN 12,80	
TIME	1400		1100		1200		1430	
TOTAL CELLS/ML	120		570		8700		1700	
DIVERSITY: DIVISION	0.5		1.1		1.2		1.1	
.CLASS	0.5		1.1		1.2		1.1	
..ORDER	0.5		1.7		1.2		1.3	
...FAMILY	1.2		2.9		1.7		1.4	
....GENUS	1.2		3.0		2.5		1.5	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	1100	13	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	39	2
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	20	4	--	-	--	-
....CHLORELLA	--	-	5	1	--	-	39	2
....DICTYOSPHAERIUM	--	-	--	-	290	3	--	-
....OOCYSTIS	--	-	--	-	1100	13	52	3
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	--	-	290	3	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	13	1
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	--	-	96#	17	72	1	39	2
....MELOSIRA	--	-	--	-	140	2	--	-
....STEPHANODISCUS	--	-	--	-	140	2	--	-
..PENNALES								
...CYMBELLACEAE								
....AMPHORA	--	-	--	-	--	-	--	-
....CYMBELLA	--	-	--	-	--	-	--	-
...DIATOMACEAE								
....DIATOMA	--	-	20	4	--	-	--	-
...FRAGILARIACEAE								
....FRAGILARIA	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	20	4	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	61	11	--	-	--	-
...NAVICULACEAE								
....NAVICULA	26#	22	51	9	72	1	26	1
...NITZSCHIACEAE								
....NITZSCHIA	77#	67	180#	31	72	1	220	13
...SURIRELLACEAE								
....SURIRELLA	--	-	15	3	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	20	4	--	-	13	1
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	--	-	13	1
..HORMOGONALES								
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	1800#	21	--	-
....OSCILLATORIA	--	-	--	-	3500#	40	1300#	74
....SCHIZOTHRIX	--	-	76	13	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	13	11	10	2	--	-	--	-

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

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JUL 9,80	AUG 14,80	SEP 9,80
TIME	1320	1400	1405
TOTAL CELLS/ML	1800	100	120
DIVERSITY: DIVISION	0.8	0.0	0.9
.CLASS	0.8	0.0	0.9
..ORDER	1.2	0.0	1.7
...FAMILY	1.2	1.5	2.1
....GENUS	1.2	1.8	2.1

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	--	-
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	13	11
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	--	-
....CHLORELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	51#	44
...SCENEDESMACEAE						
....SCENEDESMUS	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	13	1	--	-	13	11
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	39	2	--	-	13	11
....MELOSIRA	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-
..PENNALES						
...CYMBELLACEAE						
....AMPHORA	--	-	13	13	--	-
....CYMBELLA	--	-	13	13	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....FRAGILARIA	13	1	--	-	--	-
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	52#	50	--	-
...NITZSCHIACEAE						
....NITZSCHIA	360#	20	26#	25	26#	22
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	77	4	--	-	--	-
..HORMOGONALES						
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	--	-
....OSCILLATORIA	1300#	72	--	-	--	-
....SCHIZOTHRIX	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-

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

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	912	---	1060	---	463	---	---	603			
2	---	803	1210	---	820	543	---	418	582			
3	---	875	---	---	---	---	---	437	551			
4	---	996	1260	---	1080	---	---	---	508			
5	---	1030	1270	---	---	657	---	508	584			
6	---	1080	1260	---	653	---	---	555	500			
7	1290	1060	---	---	---	---	---	563	548			
8	---	1110	---	---	---	---	---	---	750			
9	1250	1050	1230	---	---	---	---	586	527			
10	1260	---	1140	---	371	753	---	517	444			
11	1250	1090	---	---	---	724	---	454	633			
12	---	---	---	---	249	638	---	409	---			
13	1290	1160	---	---	---	770	---	---	---			
14	1100	---	---	---	---	---	---	282	---			
15	---	1170	---	---	---	---	---	---	1100			
16	---	1090	1190	---	---	---	---	---	1120			
17	1050	---	---	---	---	---	---	---	---			
18	---	---	1260	---	---	---	---	250	1130			
19	---	---	1240	1260	---	764	---	---	---			
20	---	1220	1270	---	---	769	---	349	1110			
21	1230	---	---	1230	---	---	---	---	1120			
22	1180	---	1220	---	---	---	426	390	1140			
23	1100	---	1080	---	---	793	543	---	1120			
24	1210	---	---	---	---	---	---	---	---			
25	---	---	667	662	---	---	426	---	---			
26	---	1170	---	850	---	---	---	472	1120			
27	1240	1200	---	993	---	---	---	502	---			
28	---	1170	---	---	463	---	---	---	1220			
29	1350	---	---	---	---	---	---	586	---			
30	1210	---	---	779	---	---	---	481	---			
31	1040	---	972	---	---	---	---	---	---			
MEAN	1200	1070	1160	976	606	687	465	456	821			

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	10.5	---	10.5	---	---	---			
2		---	8.0	---	6.5	10.5	---	26.0	---			
3		---	---	---	---	---	---	24.5	---			
4		---	8.0	---	10.0	---	---	---	---			
5		---	9.0	---	---	14.0	---	22.0	---			
6		---	9.5	---	14.0	---	---	27.5	---			
7		---	---	---	---	---	---	29.0	---			
8		---	---	---	---	---	---	---	---			
9		---	13.5	---	---	---	---	23.0	---			
10		---	12.5	---	5.5	20.5	---	24.0	---			
11		---	---	---	---	18.5	---	24.0	---			
12		---	---	---	16.0	21.0	---	24.5	---			
13		---	---	---	---	18.5	---	---	---			
14		---	---	---	---	---	---	25.0	---			
15		---	---	---	---	---	---	---	---			
16		---	12.0	---	---	---	---	---	---			
17		---	---	---	---	---	---	---	---			
18		---	7.5	---	---	---	---	25.5	---			
19		---	8.5	15.0	---	16.0	---	---	---			
20		---	11.5	---	---	20.0	---	---	---			
21		---	---	12.5	---	---	---	---	---			
22		---	15.0	---	---	---	24.5	---	---			
23		---	14.0	---	---	20.5	---	---	---			
24		---	---	---	---	---	---	---	---			
25		---	15.0	10.5	---	---	---	---	---			
26		15.5	---	12.5	---	---	---	29.5	---			
27		14.0	---	9.5	---	---	---	29.0	---			
28		13.5	---	---	19.0	---	---	---	33.5			
29		---	---	---	---	---	---	30.0	---			
30		---	12.0	12.0	---	---	---	29.5	---			
31		---	---	---	---	---	---	---	---			
MEAN		14.5	11.0	12.0	12.0	17.0	24.5	26.0	33.5			

08098300 LITTLE POND CREEK AT BURLINGTON, TX

LOCATION.--Lat 31°01'35", long 96°59'17", Milam County, Hydrologic Unit 12070101, on left bank downstream from bridge on U.S. Highway 77, 1.0 mi (1.6 km) north of Burlington, 2.5 mi (4.0 km) downstream from Keys Creek, and 12.6 mi (20.3 km) upstream from mouth.

DRAINAGE AREA.--23.0 mi² (59.6 km²).

PERIOD OF RECORD.--October 1962 to current year.
Water-quality records: Sediment records: January 1966 to September 1975.

REVISED RECORDS.--WSP 2122: 1965. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 388.51 ft (118.418 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 13.5 ft³/s (0.382 m³/s), 7.97 in/yr (202 mm/yr), 9,780 acre-ft/yr (12.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,570 ft³/s (243 m³/s) May 24, 1975, gage height, 16.90 ft (5.151 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1938, 17.5 ft (5.33 m) in 1950, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,240 ft³/s (91.8 m³/s) May 13 at 2100 hours, gage height, 14.70 ft (4.481 m), no other peak above base of 700 ft³/s (19.8 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.59	.14	.01	.11	1.2	.00	.00	.00	.00
2	.00	.00	.00	.25	.13	.01	.07	1.5	.00	.00	.00	.00
3	.00	.00	.00	.17	.08	.01	.06	.51	.00	.00	.00	.00
4	.00	.00	.00	.10	.08	.01	.04	.24	.00	.00	.00	.00
5	.00	.00	.00	.06	.08	.00	.01	.11	.00	.00	.00	.00
6	.00	.00	.00	.06	.08	.00	.01	.08	.00	.00	.00	.00
7	.00	.00	.00	.02	.07	.00	.00	.07	.00	.00	.00	.00
8	.00	.00	.00	.01	34	.00	.00	24	.00	.00	.00	.00
9	.00	.00	.00	.01	132	.00	.00	11	.00	.00	.00	.00
10	.00	.00	.00	.01	23	.00	.00	2.0	.00	.00	.00	.00
11	.00	.00	.00	.01	4.9	.00	.00	.80	.00	.00	.00	.00
12	.00	.00	.00	.01	2.3	.00	.00	.44	.00	.00	.00	.00
13	.00	.00	.00	.01	1.3	.00	196	568	.00	.00	.00	.00
14	.00	.00	.00	.01	.85	.00	30	406	.00	.00	.00	.00
15	.00	.00	.00	.00	.67	.00	3.3	128	.00	.00	.00	.00
16	.00	.00	.00	.00	1.5	.00	1.0	244	.00	.00	.00	.00
17	.00	.00	.00	.00	1.8	.00	.49	17	.00	.00	.00	.00
18	.00	.00	.00	.00	.74	.00	.24	3.4	.00	.00	.00	.00
19	.00	.00	.00	.00	.53	.00	.13	18	.00	.00	.00	.00
20	.00	.00	.00	.07	.34	.00	.07	3.6	.00	.00	.00	.00
21	.00	.00	.00	1.6	.23	.00	.03	.98	.00	.00	.00	.00
22	.00	.00	.00	99	.18	.00	.02	.38	.00	.00	.00	.00
23	.00	.00	11	22	.10	.00	.01	.20	.00	.00	.00	.00
24	.00	.00	28	3.2	.07	.00	.00	.07	.00	.00	.00	.00
25	.00	.00	3.0	1.1	.04	.00	1.3	.03	.00	.00	.00	.00
26	.00	.00	.84	.61	.02	.00	2.1	.01	.00	.00	.00	.00
27	.00	.00	.34	.33	.01	29	.52	.01	.00	.00	.00	.00
28	.00	.00	.22	.19	.01	42	.24	.00	.00	.00	.00	.00
29	.00	.00	25	.14	.01	3.5	.12	.00	.00	.00	.00	.00
30	.00	.00	5.8	.14	---	.78	.07	.00	.00	.00	.00	.00
31	.00	---	1.5	.14	---	.24	---	.00	---	.00	.00	---
TOTAL	.00	.00	75.70	129.84	205.26	75.56	235.94	1431.63	.00	.00	.00	.00
MEAN	.000	.000	2.44	4.19	7.08	2.44	7.86	46.2	.000	.000	.000	.000
MAX	.00	.00	28	99	132	42	196	568	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.11	.18	.31	.11	.34	2.01	.000	.000	.000	.000
IN.	.00	.00	.12	.21	.33	.12	.38	2.32	.00	.00	.00	.00
AC-FT	.00	.00	150	258	407	150	468	2840	.00	.00	.00	.00

CAL YR 1979 TOTAL 9517.66 MEAN 26.1 MAX 1450 MIN .00 CFSM 1.14 IN 15.39 AC-FT 18880
WTR YR 1980 TOTAL 2153.93 MEAN 5.89 MAX 568 MIN .00 CFSM .26 IN 3.48 AC-FT 4270

08099000 LEON RESERVOIR NEAR RANGER, TX

LOCATION.--Lat 32°21'46", long 98°40'32", Eastland County, Hydrologic Unit 12070201, at outlet works near left end of dam on Leon River, 7.4 mi (11.9 km) south of Ranger, 8.7 mi (14.0 km) southeast of Eastland, and 274.1 mi (441.1 km) upstream from mouth.

DRAINAGE AREA.--259 mi² (671 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1955 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The reservoir is formed by a rolled earthfill dam 3,700 ft (1,130 m) long. Storage began in April 1954 and dam was completed in June 1954. The emergency spillway is a 1,200-foot-wide (366 m) cut through natural ground near the left end of dam. The service spillway is an uncontrolled circular concrete drop inlet designed for a maximum discharge of 5,000 ft³/s (142 m³/s) through an 11-foot-diameter (3 m) concrete conduit. The dam is the property of Eastland County Water Supply District and was built to impound water for municipal use by the cities of Ranger, Olden, and Eastland. The capacity table is based on a survey made in 1952. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	1,398.0	-
Crest of spillway	1,382.0	40,210
Crest of spillway (top of conservation pool)	1,375.0	27,290
Lowest gated outlet (invert for water supply)	1,335.0	869

COOPERATION.--The capacity curve, reservoir elevations, and diversion records were furnished by the Eastland County Water Supply District.

EXTREMES (at 1000) FOR PERIOD OF RECORD.--Maximum contents observed, 40,640 acre-ft (50.1 hm³) June 13, 1967, elevation, 1,382.2 ft (421.29 m); minimum observed since first appreciable storage, 15,880 acre-ft (19.6 hm³) Jan. 11-21, Feb. 5-7, Apr. 29, 30, 1956, elevation, 1,366.2 ft (416.42 m).

EXTREMES (at 1000) FOR CURRENT YEAR.--Maximum contents observed, 23,980 acre-ft (29.6 hm³) Oct. 1, 2, elevation, 1,372.8 ft (418.43 m); minimum, 17,640 acre-ft (21.8 hm³) Sept. 24-28, elevation, 1,367.8 ft (416.91 m).

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

1,367.0	16,740
1,370.0	20,240
1,373.0	24,260

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 1000

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23980	22850	22450	22180	22450	22180	21910	21510	22050	21380	19510	18330
2	23980	22850	22310	22180	22450	22180	21910	21510	22050	21260	19510	18330
3	23840	22850	22310	22180	22450	22180	21910	21510	21910	21260	19510	18210
4	23840	22850	22310	22180	22310	22180	21910	21510	21910	21130	19390	18210
5	23840	22720	22310	22050	22310	22180	21910	21510	21910	21130	19390	18210
6	23700	22720	22310	22050	22310	22180	21910	21510	21910	21000	19270	18210
7	23700	22720	22310	22050	22310	22180	21910	21510	21910	21000	19270	18210
8	23700	22720	22310	22050	22310	22180	21910	21510	21780	21000	19150	18210
9	23560	22720	22310	22050	22310	22180	21910	21640	21780	20880	19150	18210
10	23560	22720	22310	22050	22310	22180	21780	21780	21780	20880	19150	18090
11	23560	22720	22310	22050	22310	22180	21780	21780	21780	20750	19150	18090
12	23410	22720	22310	22050	22310	22180	21780	21780	21780	20750	19030	18090
13	23410	22720	22310	22050	22310	22180	21780	21910	21780	20620	19030	17980
14	23410	22580	22310	22180	22310	22180	21780	21910	21780	20620	18910	17980
15	23410	22580	22310	22180	22310	22180	21780	21910	21780	20490	18910	17980
16	23270	22580	22310	22180	22310	22050	21780	22050	21640	20490	18910	17980
17	23270	22580	22180	22180	22310	22050	21780	22050	21640	20370	18910	17860
18	23270	22450	22180	22180	22310	22050	21780	22050	21640	20370	18800	17860
19	23130	22450	22180	22180	22310	22050	21780	22050	21640	20240	18800	17860
20	23130	22450	22180	22180	22310	22050	21780	22050	21640	20240	18800	17860
21	23130	22450	22180	22310	22310	22050	21640	22050	21640	20120	18680	17750
22	23130	22450	22180	22450	22180	22050	21640	22050	21640	20120	18680	17750
23	22990	22450	22180	22450	22180	22050	21640	22050	21510	20000	18680	17750
24	22990	22450	22180	22450	22180	21910	21640	22050	21510	20000	18560	17640
25	22990	22450	22180	22450	22180	21910	21640	22050	21510	19880	18560	17640
26	22990	22450	22180	22450	22180	21910	21640	22050	21510	19880	18560	17640
27	22990	22450	22180	22450	22180	21910	21510	22050	21510	19760	18450	17640
28	22850	22450	22180	22450	22180	21910	21510	22050	21510	19760	18450	17640
29	22850	22450	22180	22450	22180	21910	21510	22050	21510	19760	18450	18090
30	22850	22450	22180	22450	---	21910	21510	22050	21380	19640	18450	18090
31	22850	---	22180	22450	---	21910	---	22050	---	19640	18450	---
MAX	23980	22850	22450	22450	22450	22180	21910	22050	22050	21380	19510	18330
MIN	22850	22450	22180	22050	22180	21910	21510	21510	21380	19640	18450	17640
(†)	1372.0	1371.7	1371.5	1371.7	1371.5	1371.3	1371.0	1371.4	1370.9	1369.5	1368.5	1368.2
(‡)	-1130	-400	-270	+270	-270	-270	-400	+540	-670	-1470	-1190	-360
(††)	193	144	147	139	139	169	197	171	282	363	292	223

CAL YR 1979 MAX 29940 MIN 17640 ‡ +4320 †† 2130
WTR YR 1980 MAX 23980 MIN 17640 ‡ -5890 †† 2460

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use.

08099000 LEON RESERVOIR NEAR RANGER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
OCT 23...	1440	609	22.0	170	50	48	11	49	1.7

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT 23...	8.1	140	0	43	91	.3	3.0	322

08099100 LEON RIVER NEAR DE LEON, TX

LOCATION.--Lat 32°10'25", long 98°31'58", Comanche County, Hydrologic Unit 12070201, on left bank at downstream end of bridge on State Highway 16, 1.5 mi (2.4 km) upstream from Flat Creek, 4.4 mi (7.1 km) northeast of De Leon, 6 mi (10 km) downstream from Hog Creek, and 250.1 mi (402.4 km) upstream from mouth.

DRAINAGE AREA.--479 mi^2 (1,241 km^2).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,209.93 ft (368.787 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow partly regulated by Leon Reservoir (station 08099000). Numerous diversions above station for municipal, steam powerplant operation, and other uses. Recording rain gage was discontinued May 31, 1978. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 43.3 ft^3/s (1.226 m^3/s), 31,370 acre-ft/yr (38.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,540 ft^3/s (214 m^3/s) Jan. 21, 1968, gage height, 15.50 ft (4.724 m); no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 19.3 ft (5.88 m) occurred in May 1908 at a point 2,000 ft (610 m) downstream from present gage site and is the highest since that time, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 562 ft^3/s (15.9 m^3/s) May 8 at 1430 hours, gage height, 6.77 ft (2.063 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.28	.30	.68	.49	.00	.00	.00
2	.00	.00	.00	.00	.00	.18	.34	10	.34	.00	.00	.00
3	.00	.00	.00	.00	.00	.32	.30	8.3	.20	.00	.00	.00
4	.00	.00	.00	.00	.00	.48	.21	1.6	.09	.00	.00	.00
5	.00	.00	.00	.00	.00	.37	.24	.69	.03	.00	.00	.00
6	.00	.00	.00	.00	.00	.28	.35	1.7	.01	.00	.00	.00
7	.00	.00	.00	.00	.01	.35	.44	103	.00	.00	.00	.00
8	.00	.00	.00	.00	.37	.32	.35	393	.00	.00	.00	.00
9	.00	.00	.00	.00	1.1	.24	.38	108	.00	.00	.00	.00
10	.00	.00	.00	.00	.21	.28	.64	22	.00	.00	.00	.00
11	.00	.00	.00	.00	.28	.32	.90	8.9	.00	.00	.00	.00
12	.00	.00	.00	.00	.18	.42	2.1	39	.00	.00	.00	.00
13	.00	.00	.00	.00	.09	.32	4.5	47	.00	.00	.00	.00
14	.00	.00	.00	.00	.08	.28	3.7	14	.00	.00	.00	.00
15	.00	.00	.00	.00	.16	.42	2.4	36	.00	.00	.00	.00
16	.00	.00	.00	.00	.19	.60	1.6	82	.00	.00	.00	.00
17	.00	.00	.00	.00	.16	.68	1.3	24	.00	.00	.00	.00
18	.00	.00	.00	.00	.31	.54	.86	9.8	.00	.00	.00	.00
19	.00	.00	.00	.00	.51	.54	.77	4.9	.00	.00	.00	.00
20	.00	.00	.00	.00	.61	.68	.73	2.8	.00	.00	.00	.00
21	.00	.00	.00	.00	.53	.60	.68	2.4	.00	.00	.00	.00
22	.00	.00	.00	11	.47	.60	.80	1.6	.00	.00	.00	.00
23	.00	.00	.00	2.3	.42	.48	.77	1.2	.00	.00	.00	.00
24	.00	.00	.00	.08	.42	.24	1.5	.66	.00	.00	.00	.00
25	.00	.00	.00	.01	.37	.18	17	.50	.00	.00	.00	.00
26	.00	.00	.00	.00	.43	.37	2.9	.42	.00	.00	.00	.00
27	.00	.00	.00	.00	.35	.97	1.1	.34	.00	.00	.00	.00
28	.00	.00	.00	.00	.44	14	.76	2.7	.00	.00	.00	.00
29	.00	.00	.00	.00	.48	4.1	.72	2.2	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.97	.71	.58	.00	.00	.00	.00
31	.00	---	.00	.00	---	.54	---	.60	---	.00	.00	---
TOTAL	.00	.00	.00	13.39	8.17	30.95	49.35	930.57	1.16	.00	.00	.00
MEAN	.000	.000	.000	.43	.28	1.00	1.65	30.0	.039	.000	.000	.000
MAX	.00	.00	.00	11	1.1	14	17	393	.49	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.18	.21	.34	.00	.00	.00	.00
AC-FT	.00	.00	.00	27	16	61	98	1850	2.3	.00	.00	.00

CAL YR 1979	TOTAL	7493.10	MEAN	20.5	MAX	1100	MIN	.00	AC-FT 14860
WTR YR 1980	TOTAL	1033.59	MEAN	2.82	MAX	393	MIN	.00	AC-FT 2050

08099300 SABANA RIVER NEAR DE LEON, TX

LOCATION.--Lat 32°06'50", long 98°36'19", Comanche County, Hydrologic Unit 12070201, on left bank at downstream end of bridge on Farm Road 587, 0.6 mi (1.0 km) downstream from Spring Branch, 4.0 mi (6.4 km) west of De Leon, 4.2 mi (6.8 km) upstream from Turkey Creek, and 12.2 mi (19.6 km) upstream from mouth.

DRAINAGE AREA.--264 mi² (684 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,209.59 ft (368.683 m) National Geodetic Vertical Datum of 1929 (levels by State Department of Highways and Public Transportation). Prior to Nov. 22, 1960, nonrecording gage at present site and datum.

REMARKS.--Records good. Flow is affected by Nabors Lake (capacity unknown) on Spring Branch. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 30.0 ft³/s (0.850 m³/s), 1.54 in/yr (39 mm/yr), 21,740 acre-ft/yr (26.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s (306 m³/s) June 12, 1967, gage height, 22.05 ft (6.721 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 24 ft (7.3 m) in May 1908, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 354 ft³/s (10.0 m³/s) May 16 at 0230 hours, gage height, 6.75 ft (2.057 m), no peak above base of 1,500 ft³/s (42.5 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.49	.71	.60	.32	.32	1.6	.00	.00	.00
2	.00	.00	.00	.49	.71	.60	.32	.32	1.4	.00	.00	.00
3	.00	.00	.00	.49	.60	.83	.32	.32	1.1	.00	.00	.00
4	.00	.00	.00	.49	.60	.98	.26	.32	1.0	.00	.00	.00
5	.00	.00	.00	.49	.60	.94	.20	.32	.63	.00	.00	.00
6	.00	.00	.00	.47	.49	.79	.24	.32	.20	.00	.00	.00
7	.00	.00	.00	.40	.49	.78	.35	.32	.05	.00	.00	.00
8	.00	.00	.00	.40	1.5	.84	.32	.32	.02	.00	.00	.00
9	.00	.00	.00	.38	1.7	.84	.32	.32	.63	.00	.00	.00
10	.00	.00	.00	.32	1.1	.84	.43	.32	.18	.00	.00	.00
11	.00	.00	.00	.30	.98	.84	.39	.32	.15	.00	.00	.00
12	.00	.00	.00	.22	.84	.96	.43	98	.15	.00	.00	.00
13	.00	.00	.00	.20	.84	.93	1.4	85	.08	.00	.00	.00
14	.00	.00	.00	.20	.71	.86	1.1	19	.03	.00	.00	.00
15	.00	.00	.11	.20	.71	1.1	.71	43	.01	.00	.00	.00
16	.00	.00	.15	.22	.71	1.1	.60	183	.00	.00	.00	.00
17	.00	.00	.14	.25	.71	1.1	.20	39	.00	.00	.00	.00
18	.00	.00	.08	.20	.71	.98	.20	15	.00	.00	.00	.00
19	.00	.00	.08	.20	.71	.98	.20	9.7	.00	.00	.00	.00
20	.00	.00	.08	.26	.68	1.1	.26	4.9	.00	.00	.00	.00
21	.00	.00	.10	.40	.68	.98	.26	3.4	.00	.00	.00	.00
22	.00	.00	.18	9.2	.71	.98	.32	19	.00	.00	.00	.00
23	.00	.00	.97	2.4	.71	1.2	.40	11	.00	.00	.00	.00
24	.00	.00	1.0	.98	.71	1.1	.49	5.6	.00	.00	.00	1.7
25	.00	.00	.42	.84	.68	.98	.49	3.0	.00	.00	.00	4.8
26	.00	.00	.26	.71	.60	1.1	.40	2.5	.00	.00	.00	.00
27	.00	.00	.26	.71	.60	1.5	.40	2.1	.00	.00	.00	.00
28	.00	.00	.87	.71	.60	8.8	.40	2.5	.00	.00	.00	.00
29	.00	.00	1.5	.71	.60	.59	.40	2.2	.00	.00	.00	15
30	.00	.00	.63	.84	---	.36	.40	2.0	.00	.00	.00	15
31	.00	---	.49	.84	---	.32	---	2.0	---	.00	.00	---
TOTAL	.00	.00	7.32	25.01	21.99	35.90	12.53	555.42	7.23	.00	.00	36.50
MEAN	.000	.000	.24	.81	.76	1.16	.42	17.9	.24	.000	.000	1.22
MAX	.00	.00	1.5	9.2	1.7	8.8	1.4	183	1.6	.00	.00	15
MIN	.00	.00	.00	.20	.49	.32	.20	.32	.00	.00	.00	.00
CFSM	.000	.000	.001	.003	.003	.004	.002	.07	.001	.000	.000	.005
IN.	.00	.00	.00	.00	.00	.01	.00	.08	.00	.00	.00	.01
AC-FT	.00	.00	15	50	44	71	25	1100	14	.00	.00	72

CAL YR 1979	TOTAL	5977.33	MEAN	16.4	MAX	1180	MIN	.00	CFSM	.06	IN	.84	AC-FT	11860
WTR YR 1980	TOTAL	701.90	MEAN	1.92	MAX	183	MIN	.00	CFSM	.007	IN	.10	AC-FT	1390

08099400 PROCTOR LAKE NEAR PROCTOR, TX

LOCATION.--Lat 31°58'07", long 98°29'09", Comanche County, Hydrologic Unit 12070201, in intake structure at Proctor Lake on Leon River, 2.0 mi (3.2 km) upstream from U.S. Highways 67 and 377, 3.5 mi (5.6 km) west of Proctor, and 228.1 mi (367.0 km) upstream from mouth.

DRAINAGE AREA.--1,259 mi² (3,261 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1963 to current year. Prior to October 1970, published as Proctor Reservoir.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 28, 1963, nonrecording gage at same site and datum. Corps of Engineers gage-height telemeter at station.

REMARKS.--The lake is formed by a reinforced concrete gated structure and rolled earthfill section, total length 13,460 ft (4,103 m). The lake was operated as a detention basin from Jan. 30 to July 5, 1963. The gates were closed July 6, 1963, but lake was operated to elevation 1,156.0 ft (352.35 m) until construction was completed. Deliberate impoundment began Sept. 30, 1963. The spillway is a gated concrete gravity structure located on the left bank, with an ogee weir section and stilling basin. The spillway is controlled by eleven 40.0- by 35.0-foot (12.2 by 10.7 m) tainter gates. The spillway was designed to discharge 431,800 ft³/s (12,200 m³/s) at an elevation of 1,201.0 ft (366.06 m). The lake is operated for flood control and water conservation. One major reservoir partly regulates the inflow (see station 08099000). Inflow is affected at times by discharge from the flood-detention pools of 22 floodwater-retarding structures with a combined detention capacity of 38,690 acre-ft (47.7 hm³). These structures control runoff from 154 mi² (399 km²) in the Leon River and Rush Creek drainage basins. The capacity table is based on a survey made in 1946. Borrow is not included in capacity totals. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	1,206.0	-
Design flood	1,201.0	433,000
Top of gates	1,197.0	374,200
Crest of spillway (top of conservation pool)	1,162.0	59,400
Lowest gated outlet (invert)	1,128.0	68

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,500 acre-ft (170 hm³) Jan. 26, 1968, elevation, 1,174.84 ft (358.091 m); minimum since first filling of lake, 23,050 acre-ft (28.4 hm³) Jan. 9, 1979, elevation, 1,151.35 ft (350.931 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 60,040 acre-ft (74.0 hm³) May 20 at 2300 hours, elevation, 1,162.14 ft (354.220 m); minimum, 40,400 acre-ft (49.8 hm³) Sept. 24, elevation, 1,157.34 ft (352.757 m).

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

1,156.0	35,840	1,162.0	59,390
1,158.0	42,790	1,164.0	69,060
1,160.0	50,620		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50460	47420	46010	46130	46010	45510	44510	43310	59120	57430	50620	43870
2	50330	47380	45890	46130	46010	45350	44480	43280	59210	57300	50420	43720
3	50210	47300	45890	46130	46050	45320	44480	43310	59120	57160	50210	43460
4	50000	47220	45850	46010	46090	45320	44400	43240	59070	56980	49960	43280
5	49920	47180	45820	45970	46010	45240	44290	43160	58890	56800	49550	42980
6	49840	47060	45580	45930	45850	45200	44250	44100	58700	56670	49390	42790
7	49630	47060	45540	46010	46130	45240	44290	45050	58750	56440	49180	42610
8	49470	47060	45540	46010	46440	45200	44210	49960	58700	56310	49020	42610
9	49390	47060	45470	45930	46280	45160	44020	51420	58660	56130	48900	42650
10	49230	46980	45510	45930	46130	45160	43910	51750	58660	55860	48700	42650
11	49100	46830	45580	45930	46130	45120	44020	51880	58520	55600	48540	42610
12	49020	46830	45700	45850	46050	45120	44290	52220	58430	55380	48420	42460
13	48980	46790	45660	45820	46050	45050	44170	52730	58250	55110	48180	42350
14	48700	46750	45660	45820	46050	44930	44170	53800	58060.	54850	47940	42240
15	48660	46710	45660	45740	46130	44860	44100	56670	57930	54540	47700	42100
16	48780	46670	45620	45820	46050	44860	44020	58750	57790	54320	47500	41910
17	48740	46670	45470	45820	46970	44820	43980	59300	57570	54110	47220	41730
18	48500	46630	45470	45660	45930	44740	43950	59670	57430	53850	46980	41520
19	48500	46520	45430	45820	45890	44670	43840	59620	57390	53590	46790	41330
20	48340	46550	45430	45930	45930	44670	43800	59670	57480	53400	46550	41150
21	48300	46710	45510	46200	45930	44590	43680	59760	58610	53460	46400	40940
22	48340	46520	45850	46400	45970	44480	43650	59720	58610	53280	46130	40830
23	48220	46400	45970	46280	46010	44590	43570	59720	58520	53110	45930	40720
24	48100	46360	46010	46240	45890	44440	43540	59720	58340	52730	45700	40620
25	47940	46360	45890	46240	45780	44360	43720	59720	58250	52560	45430	40720
26	47740	46280	45850	46320	45700	44320	43720	59720	58160	52390	45160	40760
27	47620	46280	45850	46160	45700	44590	43570	59720	58060	52220	44890	40900
28	47540	46280	46280	46160	45660	44890	43500	59620	57980	52010	44700	41010
29	47460	46090	46200	46130	45890	44890	43460	59580	57700	51670	44550	41120
30	47620	46010	46200	46200	---	44670	43420	59480	57520	51420	44290	41260
31	47540	---	46130	46050	---	44510	---	59390	---	51120	44060	---
MAX	50460	47420	46280	46400	46970	45510	44510	59760	59210	57430	50620	43870
MIN	47460	46010	45430	45660	45660	44320	43420	43160	57390	51120	44060	40620
(†)	1159.24	1158.85	1588.88	1158.86	1158.82	1158.46	1158.17	1162.00	1161.59	1160.12	1158.34	1157.58
(‡)	-3000	-1530	+120	-80	-160	-1380	-1090	+15970	-1870	-6400	-7060	-2800

CAL YR 1979 MAX 58570 MIN 23050 ‡ -22850
WTR YR 1980 MAX 59760 MIN 40620 ‡ -9280

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

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1964 to current year.

315814098291201 PROCTOR LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
JAN										
22...	1145	1.0	803	8.3	9.5	.90	10.4	95	210	85
22...	1147	10.0	803	8.3	9.5	--	10.4	95	--	--
22...	1149	20.0	803	8.3	9.5	--	10.4	95	--	--
22...	1151	28.0	803	8.3	9.5	--	10.3	94	210	85
MAY										
04...	0935	1.0	840	7.6	21.0	.70	8.8	101	220	94
04...	0936	1.2	--	--	--	--	--	--	--	--
04...	0937	10.0	840	7.6	20.5	--	8.6	98	--	--
04...	0939	15.0	850	6.7	19.0	--	2.5	28	--	--
04...	0941	20.0	850	6.6	18.5	--	1.7	19	--	--
04...	0943	29.0	856	6.5	18.0	--	1.2	13	230	100
AUG										
25...	1700	1.0	709	8.4	30.5	.64	12.1	164	180	80
25...	1701	1.1	--	--	--	--	--	--	--	--
25...	1702	5.0	720	8.0	29.0	--	9.6	128	--	--
25...	1704	10.0	740	7.1	28.0	--	2.1	27	--	--
25...	1706	15.0	740	7.0	28.0	--	.9	12	--	--
25...	1708	20.0	740	7.0	27.5	--	.1	1	--	--
25...	1710	28.0	743	7.0	27.5	--	.4	5	200	81

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
22...	52	19	74	2.2	9.2	150	0	55	140
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	52	19	72	2.2	9.1	150	0	57	140
MAY									
04...	54	20	79	2.3	9.7	150	0	62	160
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	58	21	78	2.2	9.6	160	0	61	160
AUG									
25...	40	19	70	2.3	9.8	120	0	49	150
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	49	19	71	2.2	7.9	140	0	47	140

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
22...	.3	2.3	426	.04	.54	.58	.020	<10	<1
22...	--	--	--	.04	.52	.56	.030	60	0
22...	--	--	--	--	--	--	--	--	--
22...	--	2.2	425	.04	.54	.58	.020	<10	5
MAY									
04...	.4	.6	460	.01	1.3	1.3	.050	<10	<1
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	.01	1.2	1.2	.050	10	0
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	.01	1.2	1.2	.060	70	40
04...	--	1.9	469	.01	1.8	1.8	.090	140	350
AUG									
25...	.4	2.2	400	.00	1.3	1.3	.050	<10	3
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	.00	1.3	1.3	.060	20	10
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	.00	1.6	1.6	.070	10	90
25...	--	--	--	--	--	--	--	--	--
25...	--	2.9	410	.00	1.7	1.7	.090	440	690

PROCTOR LAKE NEAR PROCTOR, TX--Continued

315823098282801 PROCTOR LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
22...	1210	1.0	803	8.3	9.5	10.2	93
22...	1212	10.0	803	8.3	9.5	10.2	93
22...	1214	20.0	803	8.3	9.5	10.2	93
22...	1216	28.0	803	8.3	9.5	10.1	92
MAY							
04...	1000	1.0	840	7.6	21.0	8.9	102
04...	1002	10.0	840	7.6	20.5	8.6	98
04...	1004	20.0	850	6.6	18.5	2.3	25
04...	1006	26.0	850	6.6	18.5	1.5	16
AUG							
25...	1730	1.0	709	8.2	30.5	10.1	138
25...	1732	10.0	720	7.6	28.0	5.2	68
25...	1734	15.0	735	7.3	27.5	4.2	55
25...	1736	24.0	740	7.1	27.5	1.4	18

315832098302301 PROCTOR LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
22...	1100	1.0	813	8.2	10.0	9.9	91
22...	1102	10.0	813	8.2	10.0	9.8	90
22...	1104	15.0	813	8.2	10.0	9.8	90
MAY							
04...	0905	1.0	850	7.5	21.0	8.4	97
04...	0907	10.0	850	7.5	21.0	8.2	94
04...	0909	13.0	860	6.6	19.5	2.5	28
AUG							
25...	1620	1.0	716	8.2	32.0	9.7	135
25...	1622	10.0	735	7.4	29.5	4.7	64
25...	1624	14.0	740	6.9	29.0	1.4	19

315837098314201 PROCTOR LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)
JAN							
22...	1120	1.0	800	8.3	9.0	.20	10.3
22...	1122	4.0	800	8.3	9.0	--	10.2
MAY							
04...	0915	1.0	875	7.4	21.5	.20	7.4
04...	0917	4.0	875	7.4	21.0	--	7.2
AUG							
25...	1634	1.0	750	8.2	32.5	.27	9.3
25...	1636	5.0	750	7.7	30.5	--	6.1

PROCTOR LAKE NEAR PROCTOR, TX--Continued

315837098314201 PROCTOR LAKE SITE CC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN							
22...	93	.01	--	--	.050	30	10
22...	92	.01	--	--	.050	40	0
MAY							
04...	86	.00	1.0	1.0	.070	10	0
04...	83	.01	1.1	1.1	.080	0	0
AUG							
25...	129	.00	1.4	1.4	.100	20	10
25...	82	.00	1.5	1.5	.110	30	10

315943098273101 PROCTOR LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)
JAN							
22...	1230	1.0	803	8.3	9.5	.60	10.3
22...	1232	9.0	803	8.3	9.5	--	10.3
MAY							
04...	1015	1.0	850	7.5	20.5	.70	8.3
04...	1017	7.0	850	7.4	20.0	--	7.3
AUG							
25...	1750	1.0	724	8.3	31.0	.73	9.8
25...	1752	9.0	740	7.7	29.0	--	6.6

DATE	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN							
22...	94	.04	--	--	.030	40	0
22...	94	.04	--	--	.030	70	0
MAY							
04...	94	.01	.99	1.0	.040	10	0
04...	83	.14	1.1	1.2	.050	20	0
AUG							
25...	134	.00	1.3	1.3	.050	0	0
25...	88	.00	1.4	1.4	.060	10	10

315924098285501 PROCTOR LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
JAN									
22...	1251	1.0	812	8.4	10.0	.50	10.1	93	210
22...	1253	10.0	812	8.4	10.0	--	10.1	93	--
22...	1255	14.0	812	8.4	10.0	--	10.0	92	210
MAY									
04...	1025	1.0	850	7.5	21.0	--	8.7	100	230
04...	1027	10.0	850	7.4	20.5	--	7.7	88	--
04...	1029	15.0	850	6.9	19.0	--	4.6	51	--
04...	1031	21.0	850	6.6	18.5	--	1.9	21	230
AUG									
25...	1808	1.0	724	8.3	31.5	.61	10.4	142	180
25...	1810	5.0	724	8.3	31.0	--	10.2	140	--
25...	1812	10.0	744	7.1	28.5	--	1.7	22	--
25...	1814	18.0	748	7.0	27.5	--	.3	4	190

PROCTOR LAKE NEAR PROCTOR, TX--Continued

315924098285501 PROCTOR LAKE SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
22...	85	52	19	72	2.2	8.9	150	0	57
22...	--	--	--	--	--	--	--	--	--
22...	88	53	19	71	2.1	9.2	150	0	57
MAY									
04...	110	56	22	80	2.3	9.7	150	0	62
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	98	57	21	82	2.4	9.6	160	0	58
AUG									
25...	82	41	19	73	2.4	9.4	120	0	49
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	74	48	18	70	2.2	9.7	140	0	46

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
22...	150	2.2	435	--	--	--	--	<10	2
22...	--	--	--	--	--	--	--	--	--
22...	150	2.2	435	--	--	--	--	<10	2
MAY									
04...	160	.6	464	.01	1.1	1.1	.060	<10	<1
04...	--	--	--	.01	1.1	1.1	.060	10	0
04...	--	--	--	--	--	--	--	--	--
04...	150	1.4	458	.01	1.2	1.2	.070	20	40
AUG									
25...	150	2.4	403	.00	--	--	.060	<10	2
25...	--	--	--	.00	1.2	1.2	.060	10	0
25...	--	--	--	.00	1.3	1.3	.070	10	10
25...	150	2.6	417	.00	1.5	1.5	.070	110	310

320040098293501 PROCTOR LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
22...	1340	1.0	827	8.3	10.0	.40	10.0	92	210
22...	1341	.6	--	--	--	--	--	--	--
22...	1342	8.0	827	8.3	10.0	--	9.9	91	210
MAY									
04...	1055	1.0	860	7.4	21.5	.30	8.2	95	220
04...	1056	.6	--	--	--	--	--	--	--
04...	1057	7.0	860	6.9	20.5	--	5.7	65	210
AUG									
25...	1839	.6	--	--	--	--	--	--	--
25...	1840	1.0	741	8.2	30.5	.34	8.7	118	180
25...	1842	5.0	741	8.1	30.5	--	7.9	107	--
25...	1844	8.0	784	7.2	29.5	--	3.4	46	190

PROCTOR LAKE NEAR PROCTOR, TX--Continued

320040098293501 PROCTOR LAKE SITE FC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)
JAN									
22...	79	53	19	80	2.4	8.8	160	0	60
22...	--	--	--	--	--	--	--	--	--
22...	76	55	17	78	2.4	8.8	160	0	57
MAY									
04...	100	53	21	82	2.4	9.7	140	0	62
04...	--	--	--	--	--	--	--	--	--
04...	100	53	20	79	2.3	9.7	140	0	61
AUG									
25...	--	--	--	--	--	--	--	--	--
25...	86	44	18	74	2.4	9.7	120	0	50
25...	--	--	--	--	--	--	--	--	--
25...	90	44	19	77	2.4	10	120	0	50

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
22...	150	2.1	452	.01	.62	.63	.070	20	2
22...	--	--	--	--	--	--	--	--	--
22...	140	2.2	437	.00	.60	.60	.070	<10	4
MAY									
04...	160	.7	457	.01	1.4	1.4	.120	<10	1
04...	--	--	--	--	--	--	--	--	--
04...	160	.8	453	.01	1.5	1.5	.110	<10	20
AUG									
25...	--	--	--	--	--	--	--	--	--
25...	160	2.6	417	.00	1.4	1.4	.210	<10	<1
25...	--	--	--	--	--	--	--	--	--
25...	160	3.0	422	.00	1.7	1.7	.290	<10	20

PROCTOR LAKE NEAR PROCTOR, TX--Continued

315814098291201 PROCTOR LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 22,80		MAY 4,80		AUG 25,80	
TIME	1146		0936		1701	
TOTAL CELLS/ML	140000		85000		740000	
DIVERSITY: DIVISION	1.0		1.2		0.1	
.CLASS	1.0		1.2		0.1	
..ORDER	0.0		1.9		0.3	
...FAMILY	0.0		2.4		0.5	
....GENUS	0.0		2.9		1.5	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	--	-	--	-	*	0
...COELASTRACEAE						
....COELASTRUM	--	-	3000	4	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	5600	4	1800	2	*	0
....CHLORELLA	9000	6	*	0	--	-
....CHODATELLA	1200	1	1800	2	--	-
....DICTYOSPHAERIUM	--	-	--	-	*	0
....KIRCHNERIELLA	20000	14	--	-	--	-
....OOCYSTIS	2000	1	*	0	--	-
....TETRAEDRON	--	-	1200	1	--	-
....TREUBARIA	--	-	*	0	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	4900	3	3600	4	--	-
....SCENEDESMUS	3400	2	8200	10	*	0
....TETRASTRUM	4600	3	1800	2	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	*	0	--	-
....CHLOROGONIUM	--	-	--	-	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	600	1	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	*	0	1200	1	--	-
....MELOSIRA	--	-	*	0	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	2100	2	--	-
...NITZSCHIACEAE						
....NITZSCHIA	*	0	450	1	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE	*	0	--	-	--	-
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	910	1	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	20000	14	15000#	17	9100	1
....ANACYSTIS	68000#	49	4100	5	20000	3
....COCCOCHLORIS	--	-	600	1	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	1100	1	--	-
....ANABAENOPSIS	--	-	--	-	27000	4
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	340000#	45
....OSCILLATORIA	--	-	37000#	43	340000#	46
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	--	-	*	0	*	0

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

PROCTOR LAKE NEAR PROCTOR, TX--Continued

320040098293501 PROCTOR LAKE SITE FC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 22,80		MAY 4,80		AUG 25,80	
TIME	1341		1056		1839	
TOTAL CELLS/ML	83000		360000		850000	
DIVERSITY: DIVISION	1.3		0.5		0.2	
.CLASS	1.3		0.5		0.2	
..ORDER	1.3		0.5		0.6	
...FAMILY	1.6		1.0		0.8	
....GENUS	3.0		1.1		1.7	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	5000	1	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	*	0	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	15000#	18	3000	1	*	0
....CHLORELLA	12000	14	*	0	--	-
....CHODATELLA	1300	2	*	0	--	-
....DICTYOSPHAERIUM	2600	3	--	-	*	0
....GLOEOACTINIUM	1300	2	--	-	--	-
....KIRCHNERIELLA	5800	7	--	-	*	0
....OOCYSTIS	--	-	*	0	--	-
....SELENASTRUM	--	-	4100	1	*	0
....TETRAEDRON	650	1	*	0	*	0
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	1800	1	*	0
....CRUCIGENIA	970	1	*	0	*	0
....SCENEDESMUS	3200	4	7300	2	*	0
....TETRASTRUM	--	-	1800	1	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	*	0	*	0
....CHLOROGONIUM	--	-	*	0	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	*	0	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	650	1	*	0	*	0
....MELOSIRA	1300	2	--	-	*	0
..PENNALES						
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	*	0
...NITZSCHIACEAE						
....NITZSCHIA	1300	2	*	0	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	10000	13	--	-	--	-
....ANACYSTIS	26000#	31	*	0	78000	9
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	300000#	83	--	-
....ANABAENOPSIS	--	-	--	-	23000	3
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	380000#	45
....OSCILLATORIA	--	-	27000	8	350000#	41
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	650	1	*	0	--	-
....PHACUS	*	0	--	-	--	-
....TRACHELOMONAS	--	-	*	0	*	0

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

08099500 LEON RIVER NEAR HASSE, TX

LOCATION.--Lat 31°57'28", long 98°27'32", Comanche County, Hydrologic Unit 12070201, on left bank at downstream side of bridge on U.S. Highways 67 and 377, 500 ft (150 m) upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 0.3 mi (0.5 km) upstream from Walnut Creek, 2.0 mi (3.2 km) downstream from Proctor Lake, 2.1 mi (3.4 km) northeast of Hasse, and 225.2 mi (362.4 km) upstream from mouth.

DRAINAGE AREA.--1,261 mi^2 (3,266 km^2).

PERIOD OF RECORD.--January 1939 to current year.

REVISED RECORDS.--WSP 1342: 1952. WSP 1392: 1952. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,115.01 ft (339.855 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Proctor Lake (station 08099400) since October 1963. Numerous diversions above station for municipal, steam powerplant operation, and other uses. National Weather Service rain gage and gage-height telemeters at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years (water years 1940-63) prior to completion of Proctor Lake, 151 ft^3/s (4.276 m^3/s), 109,400 acre-ft/yr (135 hm^3/yr); 17 years (water years 1964-80) regulated, 92.4 ft^3/s (2.617 m^3/s), 66,940 acre-ft/yr (82.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,500 ft^3/s (1,090 m^3/s) May 24, 1952, gage height, 21.49 ft (6.550 m); maximum gage height, 21.72 ft (6.620 m) Oct. 4, 1959; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1858, occurred in May 1908, from information by local resident. At site about 2.5 mi (4.0 km) upstream, flood of May 1908 was 9.1 ft (2.77 m) higher than that of May 24, 1952, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 325 ft^3/s (9.20 m^3/s) Dec. 6 at 1700 hours, gage height, 4.87 ft (1.484 m); minimum daily, 0.71 ft^3/s (0.020 m^3/s) June 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	3.3	2.2	2.0	2.3	1.9	2.3	4.0	1.5	9.0	113	51
2	13	4.7	2.3	2.1	2.6	1.8	2.4	4.2	1.6	7.3	48	51
3	13	4.4	2.4	2.1	2.3	1.8	1.6	3.6	1.2	8.1	44	51
4	15	3.1	2.3	1.9	2.6	1.9	1.1	4.6	.83	7.8	47	51
5	19	3.3	2.2	2.0	2.8	1.6	.80	4.8	.71	7.8	110	90
6	14	2.9	104	2.1	2.8	1.7	.79	6.4	.83	9.3	46	56
7	14	3.1	9.4	1.9	3.1	1.9	.72	21	1.1	21	44	57
8	14	3.0	3.0	1.8	3.9	1.9	.78	46	.72	30	41	46
9	15	2.7	2.9	1.7	3.6	1.8	1.0	7.5	.99	28	32	28
10	17	2.8	2.9	1.9	3.1	1.9	1.4	4.0	3.1	34	33	16
11	16	3.0	3.0	1.7	2.8	1.7	1.3	3.1	3.5	91	33	12
12	14	3.2	3.6	1.8	2.6	1.8	2.1	3.3	2.7	35	34	13
13	9.7	3.3	3.7	1.9	2.1	1.6	6.9	3.0	2.0	33	44	27
14	9.8	2.8	3.4	1.8	1.7	1.3	4.4	5.2	1.4	36	50	27
15	9.8	2.9	2.7	1.9	2.3	1.4	2.8	18	1.3	41	41	31
16	9.7	1.9	2.6	2.0	2.5	1.5	2.8	13	13	40	40	39
17	9.7	2.0	2.5	1.9	2.5	1.4	2.5	4.7	32	37	44	42
18	9.9	2.1	2.8	1.8	2.6	1.3	1.8	3.2	20	66	44	42
19	10	2.0	2.3	1.8	2.5	1.5	1.5	2.7	18	34	43	42
20	9.7	2.3	2.2	2.6	2.3	1.6	.98	2.6	19	34	50	42
21	9.9	2.2	2.1	2.4	2.2	1.8	.87	2.8	27	39	54	42
22	10	1.7	2.4	9.2	1.9	2.5	.87	2.3	3.7	43	44	39
23	8.5	2.4	3.7	3.8	2.2	2.9	.87	2.3	2.8	40	51	37
24	8.3	2.3	2.5	2.9	2.5	2.4	.87	2.7	2.3	35	73	33
25	27	2.1	2.0	2.9	2.3	2.5	.84	2.2	1.4	32	69	24
26	85	2.1	2.1	3.0	2.2	3.5	1.3	2.0	1.2	32	57	16
27	8.0	2.0	2.1	2.9	2.2	3.9	3.4	1.4	2.3	33	112	14
28	7.3	1.9	4.1	2.9	1.9	4.5	2.4	1.5	13	39	48	3.2
29	7.1	2.2	2.9	3.0	1.9	2.8	2.0	2.0	14	78	53	3.8
30	6.4	2.3	1.6	3.0	---	2.6	2.1	2.4	14	37	50	2.4
31	5.1	---	2.1	2.7	---	3.0	---	1.8	---	36	51	---
TOTAL	439.9	80.0	190.0	77.4	72.3	65.7	55.49	188.3	207.18	1053.3	1643	1028.4
MEAN	14.2	2.67	6.13	2.50	2.49	2.12	1.85	6.07	6.91	34.0	53.0	34.3
MAX	85	4.7	104	9.2	3.9	4.5	6.9	46	32	91	113	90
MIN	5.1	1.7	1.6	1.7	1.7	1.3	.72	1.4	.71	7.3	32	2.4
AC-FT	873	159	377	154	143	130	110	373	411	2090	3260	2040

CAL YR 1979 TOTAL 3325.02 MEAN 9.11 MAX 312 MIN .46 AC-FT 6600
WTR YR 1980 TOTAL 5100.97 MEAN 13.9 MAX 113 MIN .71 AC-FT 10120

08100000 LEON RIVER NEAR HAMILTON, TX

LOCATION.--Lat 31°47'19", long 98°07'16", Hamilton County, Hydrologic Unit 12070201, on downstream side of bridge on U.S. Highway 281, 2.2 mi (3.5 km) upstream from Mesquite Creek, 3.6 mi (5.8 km) downstream from Bear Creek, 5.9 mi (9.5 km) north of Hamilton, and 172.9 mi (278.3 km) upstream from mouth.

DRAINAGE AREA.--1,891 mi² (4,898 km²).

PERIOD OF RECORD.--January 1925 to September 1931, September 1960 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 955.38 ft (291.200 m) National Geodetic Vertical Datum of 1929. Jan. 7, 1925, to Sept. 30, 1931, nonrecording gage 1.4 mi (2.3 km) downstream at datum 1.87 ft (0.570 m) higher. Sept. 1 to Nov. 22, 1960, nonrecording gage at same site and at 5.00-foot (1.524 m) higher datum. Nov. 22, 1960, to Sept. 30, 1972, recording gage at same site and at 5.00-foot (1.524 m) higher datum.

REMARKS.--Records fair. Since 1960, at least 10 percent of drainage area is regulated by Proctor Lake (station 08099400) and by other smaller reservoirs. Numerous diversions above station for irrigation, municipal supply, and industrial uses. Flow is affected at times by discharge from the flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 11,610 acre-ft (14.3 hm³). These structures control runoff from 43.9 mi² (113.7 km²) in the (northeast tributaries) drainage basin. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years (water years 1926-31) unregulated, 130 ft³/s (3.682 m³/s), 94,180 acre-ft/yr (116 hm³/yr); 20 years (water years 1961-80) regulated, 146 ft³/s (4.135 m³/s), 105,800 acre-ft/yr (130 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,600 ft³/s (527 m³/s) Sept. 9, 1962, gage height, 31.93 ft (9.732 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1858, 38.4 ft (11.70 m) in May 1908 and December 1913; flood in September 1911 reached a stage of 37.0 ft (11.28 m), all at present site and datum, from information by local residents. The flood in October 1959 reached a stage of 34.1 ft (10.39 m), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,590 ft³/s (158 m³/s) May 8 at 0700 hours, gage height, 25.12 ft (7.657 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	4.9	.28	4.5	2.8	1.4	2.6	.40	14	2.1	.13	5.6
2	.00	3.3	.28	5.5	2.8	1.1	2.6	.40	13	1.8	.03	3.8
3	.00	2.5	.24	5.0	2.7	.92	2.6	.36	13	1.6	.00	3.8
4	.00	2.3	.28	3.9	2.6	1.1	1.9	.28	12	1.4	23	1.9
5	.00	2.1	.24	3.6	2.5	1.2	1.5	.28	12	1.3	6.6	.52
6	.00	1.7	.24	3.3	2.4	1.4	1.1	108	10	1.1	4.4	.24
7	.00	1.1	.21	3.1	2.3	1.3	1.1	798	9.3	.92	28	8.5
8	.00	.85	34	3.2	2.6	1.6	.80	4110	8.2	.88	22	32
9	.00	.51	38	3.4	2.9	1.2	.77	1880	7.3	.78	5.9	45
10	.00	.58	10	3.6	3.3	1.0	.52	259	6.3	.60	3.8	37
11	.00	.89	7.1	3.6	3.3	.87	.45	123	5.9	.40	3.6	17
12	.00	.89	5.4	3.8	3.4	.90	.36	116	5.1	.40	4.0	8.3
13	.00	.81	4.2	3.9	3.3	.66	.40	165	4.8	6.1	4.7	3.3
14	.00	.54	4.2	5.9	3.5	.46	.40	108	4.3	14	2.1	1.8
15	.00	.38	4.4	5.5	3.3	.43	.32	218	3.9	5.5	.66	.55
16	.00	.36	4.0	3.8	2.9	.60	.36	684	3.3	4.4	.24	.55
17	.00	.34	4.0	3.5	2.3	.58	.74	395	3.1	3.1	.04	3.3
18	.00	.27	4.4	3.5	2.4	.45	2.8	146	2.8	4.8	.01	1.2
19	.00	.18	4.4	3.5	2.5	.36	2.4	101	2.4	4.2	.00	.19
20	.00	.15	4.2	4.1	2.3	.75	2.0	75	10	3.8	.00	.00
21	.00	.15	4.0	3.8	1.9	1.1	2.4	67	111	8.2	.00	1.8
22	.00	.15	4.7	6.9	1.9	.83	1.2	57	49	4.5	.00	2.3
23	.00	.15	6.1	13	1.7	.78	.92	49	44	2.2	.00	5.8
24	.00	.18	8.2	12	2.1	.74	.83	41	15	1.1	.00	4.5
25	.00	.45	5.8	8.8	4.8	.74	1.1	36	8.4	1.2	.00	8.6
26	.00	.52	5.1	7.4	2.7	.81	1.1	29	5.7	3.3	.00	17
27	.00	.45	4.4	5.3	2.1	.99	.66	25	4.6	2.6	.00	22
28	38	.32	5.8	4.1	1.7	1.1	.66	21	3.7	1.8	.00	23
29	13	.32	6.2	3.7	1.5	.92	.52	19	3.0	1.6	30	6.1
30	7.0	.28	5.3	3.4	---	.79	.45	16	2.5	1.4	25	23
31	5.4	---	4.7	3.0	---	1.2	---	15	---	.42	6.6	---
TOTAL	63.40	27.62	190.37	151.6	76.5	28.28	35.56	9662.72	397.6	87.50	170.81	288.65
MEAN	2.05	.92	6.14	4.89	2.64	.91	1.19	312	13.3	2.82	5.51	9.62
MAX	38	4.9	38	13	4.8	1.6	2.8	4110	111	14	30	45
MIN	.00	.15	.21	3.0	1.5	.36	.32	.28	2.4	.40	.00	.00
AC-FT	126	55	378	301	152	56	71	19170	789	174	339	573

CAL YR 1979 TOTAL 15872.24 MEAN 43.5 MAX 2330 MIN .00 AC-FT 31480
WTR YR 1980 TOTAL 11180.61 MEAN 30.5 MAX 4110 MIN .00 AC-FT 22180

08100500 LEON RIVER AT GATESVILLE, TX

LOCATION.--Lat 31°25'58", long 97°45'42", Coryell County, Hydrologic Unit 12070201, on right bank at upstream side of county road bridge, 800 ft (240 m) downstream from U.S. Highway 84 bridge in Gatesville, 0.3 mi (0.5 km) downstream from Dodds Creek, 5.2 mi (8.4 km) upstream from Cottonwood Creek, and 99.0 mi (159.3 km) upstream from mouth.

DRAINAGE AREA.--2,342 mi² (6,066 km²).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 723.85 ft (220.629 m) National Geodetic Vertical Datum of 1929. Oct. 1 1950, to Feb. 8, 1951, nonrecording gage; Feb. 9, 1951, to Jan. 21, 1969, water-stage recorder; all at site 800 ft (240 m) upstream at same datum.

REMARKS.--Records good. Some upstream regulation by Proctor Lake (08099400) and other smaller reservoirs. Flow at times slightly affected by discharge from 18 floodwater-retarding structures, having a combined detention capacity of 12,600 acre-ft (15.5 hm³). These structures control runoff from 47.0 mi² (121.7 km²) in the northeast tributaries and Pecan Creek drainage basins. Numerous diversions above station for irrigation, municipal supply, and oilfield operaion. The city of Hamilton reported that 578 acre-ft (713,000 m³) was diverted above station during the water year for municipal use and 383 acre-ft (472,000 m³) was returned to the Leon River as sewage effluent. The city of Gatesville reported that 313 acre-ft (386,000 m³) of sewage effluent was discharged into the Leon River below station during the water year. The city of Gatesville obtains all their municipal water from ground-water wells. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 247 ft³/s (6.995 m³/s), 179,000 acre-ft/yr (221 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,200 ft³/s (1,450 m³/s) Oct. 4, 1959, gage height, 34.14 ft (10.406 m), from rating curve extended above 41,000 ft³/s (1,160 m³/s); no flow at times in 1951-52, 1954-55, all 1971, all 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, about 35 ft (10.7 m) in May 1908, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,130 ft³/s (117 m³/s) May 8 at 1400 hours, gage height, 18.39 ft (5.605 m); minimum daily, 0.41 ft³/s (0.012 m³/s) Aug. 22-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	6.3	6.0	13	16	16	17	15	69	4.7	.82	.69
2	1.4	3.2	5.8	14	15	14	14	12	58	4.0	.82	.62
3	1.3	2.9	6.0	13	14	15	13	9.3	51	3.6	.69	.62
4	1.2	3.1	6.2	11	14	16	11	8.9	46	3.3	.82	.55
5	1.3	6.7	6.2	10	13	14	9.8	8.3	40	3.0	.89	.55
6	1.3	5.8	6.1	10	12	13	9.4	64	35	2.7	.96	.48
7	1.5	4.6	5.6	9.3	12	12	9.4	2900	30	2.5	.89	1.6
8	1.5	4.2	5.8	9.0	27	12	10	3420	26	2.2	.76	1.3
9	1.6	4.3	5.8	9.6	37	11	10	3480	31	2.1	.76	1.9
10	1.7	4.3	5.6	9.7	27	11	9.2	3750	29	1.8	.82	1.2
11	1.9	3.8	6.7	9.7	22	11	9.0	1150	25	1.7	.89	.89
12	1.9	3.3	50	9.6	21	10	10	373	25	1.5	.96	.69
13	1.9	3.1	34	9.3	20	10	38	279	19	1.3	1.0	.55
14	1.9	3.1	22	9.0	19	10	31	307	16	1.2	.96	.48
15	36	3.1	18	9.0	18	9.3	16	641	15	1.1	.82	.48
16	67	3.1	14	9.0	21	9.4	13	809	13	1.0	.62	.48
17	3.9	3.1	12	8.5	21	9.7	12	728	11	.89	.62	.55
18	2.7	3.1	10	8.2	21	9.3	10	705	9.5	.83	.69	.62
19	2.6	3.1	9.4	8.5	21	9.0	9.3	367	8.4	.67	.62	.62
20	2.6	3.3	8.2	9.3	22	9.0	9.0	257	9.6	.55	.62	.62
21	2.6	4.0	8.6	12	22	9.0	8.6	213	220	.60	.55	.55
22	3.2	4.5	11	131	22	9.0	8.6	187	179	.62	.41	.62
23	3.2	4.6	24	41	23	9.1	11	171	146	.62	.41	.62
24	3.1	4.6	23	52	23	9.3	9.7	153	61	.69	.41	.62
25	3.1	5.1	17	62	22	9.3	10	137	61	.69	.41	3.0
26	3.2	5.4	16	35	21	9.3	27	121	39	.76	.55	2.5
27	3.3	5.8	16	26	19	39	19	107	20	.96	.55	1.7
28	3.1	5.8	15	24	19	31	24	93	11	1.2	.55	1.2
29	3.1	5.8	44	23	18	18	25	84	7.5	1.2	.62	1.9
30	24	5.8	18	21	---	16	21	77	5.8	1.1	.69	2.6
31	15	---	15	18	---	19	---	77	---	.89	.69	---
TOTAL	203.6	128.9	451.0	643.7	582	408.7	434.0	20703.5	1316.8	49.97	21.87	30.80
MEAN	6.57	4.30	14.5	20.8	20.1	13.2	14.5	668	43.9	1.61	.71	1.03
MAX	67	6.7	50	131	37	39	38	3750	220	4.7	1.0	3.0
MIN	1.2	2.9	5.6	8.2	12	9.0	8.6	8.3	5.8	.55	.41	.48
AC-FT	404	256	895	1280	1150	811	861	41070	2610	99	43	61

CAL YR 1979 TOTAL 53454.20 MEAN 146 MAX 4180 MIN 1.2 AC-FT 106000
WTR YR 1980 TOTAL 24974.84 MEAN 68.2 MAX 3750 MIN .41 AC-FT 49540

08101000 COWHOUSE CREEK AT PIDCOKE, TX

LOCATION.--Lat 31°17'05", long 97°53'05", Coryell County, Hydrologic Unit 12070202, on left bank 125 ft (38 m) downstream from bridge on Farm Road 116, 0.1 mi (0.2 km) downstream from Beehouse Creek, 0.6 mi (1.0 km) northeast of Pidcoke, 4.9 mi (7.9 km) upstream from Table Rock Creek, and 34.6 mi (55.7 km) upstream from mouth.

DRAINAGE AREA.--455 mi² (1,178 km²).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1712: 1955. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 736.71 ft (224.549 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No known diversion above station. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--30 years, 88.6 ft³/s (2.509 m³/s), 2.64 in/yr (67 mm/yr), 64,190 acre-ft/yr (79.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,200 ft³/s (1,870 m³/s) Oct. 4, 1959, gage height, 40.1 ft (12.22 m), from floodmark, from rating curve extended above 30,000 ft³/s (850 m³/s) on basis of slope-area measurement of 55,800 ft³/s (1,580 m³/s); no flow at times.
Maximum stage since at least 1882, that of Oct. 4, 1959, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 8	1130	4,660	132	12.50	3.810
Sept. 8	2145	*4,770	135	12.66	3.859

Minimum discharge, no flow July 11 to Sept. 7,

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	3.2	3.2	4.2	3.3	2.6	4.3	3.2	12	.75	.00	.00
2	1.5	4.6	3.3	3.9	3.3	2.4	4.1	5.0	11	.55	.00	.00
3	1.3	4.4	3.3	3.9	3.1	2.5	3.8	7.4	10	.43	.00	.00
4	1.2	3.9	3.3	3.7	3.1	2.6	3.4	5.6	9.6	.32	.00	.00
5	1.1	3.5	3.4	3.7	3.1	2.6	3.1	5.0	8.9	.26	.00	.00
6	1.2	3.2	3.3	3.6	3.0	2.3	3.0	5.0	8.6	.21	.00	.00
7	1.2	3.0	3.3	3.6	3.0	2.5	3.0	1060	8.1	.17	.00	.00
8	1.1	3.3	3.3	3.5	5.0	2.6	3.0	1750	8.6	.14	.00	403
9	1.1	3.1	3.4	3.6	5.4	2.5	2.7	565	9.6	.10	.00	173
10	.97	2.8	3.5	3.7	5.0	2.6	2.7	143	9.3	.07	.00	14
11	.97	2.8	3.7	3.7	4.9	2.7	2.8	80	13	.05	.00	2.5
12	1.0	2.8	4.0	3.5	4.6	3.0	3.1	58	10	.02	.00	1.2
13	1.1	2.8	4.1	3.5	4.4	2.7	5.6	69	8.2	.00	.00	.67
14	1.2	2.7	4.1	3.7	4.2	2.4	6.7	80	6.9	.00	.00	.42
15	1.2	2.7	3.8	3.7	4.0	2.6	5.7	219	6.0	.00	.00	.27
16	1.3	2.7	3.7	3.8	3.8	3.3	4.9	429	5.2	.00	.00	.20
17	1.4	2.8	3.7	3.6	3.5	3.0	4.3	174	4.6	.00	.00	.15
18	1.4	2.8	3.8	3.6	3.3	2.5	3.9	95	3.9	.00	.00	.12
19	1.3	3.0	3.9	3.7	3.3	2.5	3.7	69	3.5	.00	.00	.09
20	1.3	3.1	4.8	30	3.1	2.5	3.6	48	3.0	.00	.00	.09
21	1.2	3.3	6.7	17	3.1	2.2	3.4	58	15	.00	.00	.08
22	1.2	3.0	7.4	13	2.9	2.2	3.3	70	7.3	.00	.00	.08
23	1.1	3.1	6.0	13	2.9	2.3	3.2	43	5.4	.00	.00	.07
24	1.1	3.2	5.3	13	2.9	2.1	3.4	35	3.7	.00	.00	.07
25	1.2	3.3	5.7	7.7	2.8	2.1	3.9	26	2.8	.00	.00	5.3
26	1.3	3.3	5.1	6.0	2.6	2.4	3.4	21	2.2	.00	.00	17
27	1.4	3.3	4.6	4.9	2.6	5.4	3.1	18	1.8	.00	.00	3.3
28	1.4	3.1	5.6	4.5	2.6	6.8	3.1	16	1.5	.00	.00	2.6
29	1.4	3.1	6.1	4.2	2.7	5.3	3.0	15	1.2	.00	.00	1.7
30	4.2	3.1	5.0	4.0	---	4.2	3.0	13	.99	.00	.00	6.7
31	3.9	---	4.6	3.5	---	4.2	---	13	---	.00	.00	---
TOTAL	43.94	95.0	135.0	191.0	101.5	91.6	110.2	5198.2	201.89	3.07	.00	632.61
MEAN	1.42	3.17	4.35	6.16	3.50	2.95	3.67	168	6.73	.099	.000	21.1
MAX	4.2	4.6	7.4	30	5.4	6.8	6.7	1750	15	.75	.00	403
MIN	.97	2.7	3.2	3.5	2.6	2.1	2.7	3.2	.99	.00	.00	.00
CFSM	.003	.007	.01	.01	.008	.006	.008	.37	.02	.000	.000	.05
IN.	.00	.01	.01	.02	.01	.01	.01	.42	.02	.00	.00	.05
AC-FT	87	188	268	379	201	182	219	10310	400	6.1	.00	1250

CAL YR 1979 TOTAL 30092.13 MEAN 82.4 MAX 3940 MIN .04 CFSM ...6 IN 2.46 AC-FT 59690
WTR YR 1980 TOTAL 6804.01 MEAN 18.6 MAX 1750 MIN .00 CFSM .04 IN .56 AC-FT 13500

08102000 BELTON LAKE NEAR BELTON, TX

LOCATION.--Lat 31°06'22", long 97°28'28", Bell County, Hydrologic Unit 12070201, in intake structure at Belton Dam on Leon River, 1.6 mi (2.6 km) upstream from bridge on State Highway 317, 3.5 mi (5.6 km) north of Belton, 8.9 mi (14.3 km) upstream from Nolan Creek, and 16.7 mi (26.9 km) upstream from mouth.

DRAINAGE AREA.--3,531 mi² (9,145 km²).

PERIOD OF RECORD.--March 1954 to current year. Prior to October 1970, published as Belton Reservoir.
Water-quality records: Chemical and biochemical analyses: October 1961 to September 1979.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Feb. 20, 1955, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,524 ft (1,684 m) long, including a 1,300-foot (396 m) uncontrolled broad-crested spillway in a saddle near left end of dam and a 418-foot-long (127 m) dike. Deliberate impoundment began Mar. 8, 1954, and the dam was completed in December 1954. The lake was built for flood control and conservation storage. The controlled outlet works consist of a 22.0-foot-diameter (6.7 m) conduit that is controlled by three 7.0- by 22.0-foot (2.1 by 6.7 m) broome-type gates. The service outlet consists of a 36- by 36-inch (914 by 914 mm) gated outlet that discharges into the flood-control conduit. Beginning January 1976, the capacity table is based on a sedimentation survey made in 1966. There are many small diversions upstream for irrigation, municipal supply, and oilfield operations. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08100500. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	662.0	-
Design flood	656.9	-
Crest of spillway	631.0	1,086,000
Top of conservation pool	594.0	442,000
Service outlet (invert)	540.0	51,240
Lowest gated outlet (invert)	483.0	0

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 870,300 acre-ft (1,070 hm³) June 6, 1957, elevation, 620.45 ft (189.113 m); minimum since initial filling, 113,400 acre-ft (140 hm³) Dec. 16, 1956, elevation, 553.06 ft (168.573 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 525,400 acre-ft (648 hm³) May 18 at 1200 hours, elevation, 600.36 ft (182.990 m); minimum, 395,800 acre-ft (488 hm³) Sept. 29, elevation, 590.14 ft (179.875 m).

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

590.0	394,200	598.0	493,600
592.0	417,600	600.0	520,500
594.0	442,000	602.0	548,100
596.0	467,300		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	434700	427700	421700	424800	425800	431100	435200	444200	466000	437900	413900	401100
2	434300	427600	421600	425200	425800	430900	435700	444500	463300	437300	413000	400900
3	434100	427400	421600	425200	425800	430800	435900	444600	460500	436500	412300	400600
4	433600	427100	421200	424800	425800	431000	435600	444800	457800	435800	411700	400200
5	433000	426900	421000	424500	425800	430700	435200	445200	455000	435200	411200	400000
6	432700	426600	420700	424400	425700	430700	435400	446700	452000	434200	411100	399600
7	432200	426300	420400	424500	426200	430700	435900	454900	449500	433300	410900	399700
8	431900	426200	420300	424400	428600	430700	435800	470600	447200	432700	410400	399900
9	431600	426200	420000	424200	429600	430700	435700	477900	444600	431900	410000	401000
10	431100	425600	420000	424400	429700	430800	435200	480900	442500	431100	409900	400800
11	430800	425200	420300	424400	429900	430900	435800	480000	442000	430300	409600	400700
12	430400	425000	420600	424000	430200	431100	437000	479300	441700	429400	409200	400200
13	430200	424700	420600	423900	430300	430900	438500	481500	441500	428600	408900	400000
14	429800	424500	420600	423600	430300	430900	439300	483600	441200	427500	408500	399700
15	429800	424400	420100	423600	431300	430900	439500	505300	441400	426600	408000	399400
16	429700	424100	420100	423900	430800	431400	439800	518600	441200	425900	407700	398900
17	429700	424000	419800	423700	430800	430900	440000	523800	440600	425200	407500	398700
18	429600	424200	419400	423700	430700	430900	440000	524600	440400	424500	407100	398500
19	429200	424000	419300	423900	430900	430300	440000	522600	440400	423700	406800	398100
20	428800	423700	419300	424000	430900	430800	440100	519100	440700	422700	406400	397700
21	428700	424600	420700	424100	431000	430800	440100	515500	441100	422100	405900	397100
22	429000	424100	421000	425600	431100	430500	440200	511000	441200	421300	405600	396800
23	428700	424100	423300	425700	431100	431000	440100	506000	441400	420600	405200	396600
24	428300	423500	423300	425900	431100	430800	440200	500900	441200	419700	405100	396400
25	428100	423400	423300	426200	431100	431000	442900	496600	441200	418900	404300	396200
26	427600	422700	423300	426400	431100	431000	442600	491300	441100	418200	404100	396200
27	427500	423000	423300	426200	431000	433800	442500	486000	440600	418000	403600	396300
28	427100	422400	424500	426400	431000	434600	442600	480800	440200	416400	403100	396400
29	426500	421900	425000	426400	431000	434900	443200	475100	440100	415800	402700	397000
30	428500	421800	425200	426500	---	435100	443500	471200	439100	415000	402100	397100
31	428200	---	425000	426200	---	434800	---	468600	---	414500	401600	---
MAX	434700	427700	425200	426500	431300	435100	443500	524600	466000	437900	413900	401100
MIN	426500	421800	419300	423600	425700	430300	435200	444200	439100	414500	401600	396200
(†)	592.88	592.35	592.61	592.71	593.11	593.42	594.12	596.10	593.77	591.74	590.64	590.25
(‡)	-7000	-6400	+3200	+1200	+4800	+3800	+8700	+25100	-29500	-24600	-12900	-4500
(††)	2460	2090	1850	1790	1780	2030	2170	2260	3320	4380	4250	3010

CAL YR 1979 MAX 560700 MIN 318700 ‡ +105900 †† 30920
WTR YR 1980 MAX 524600 MIN 396200 ‡ -38100 †† 31390

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use by Bell County Water Control and Improvement District.

08102500 LEON RIVER NEAR BELTON, TX

LOCATION.--Lat 31°04'12", long 97°26'28", Bell County, Hydrologic Unit 12070201, on left bank 1,400 ft (427 m) upstream from bridge on Farm Road 817, 2,000 ft (610 m) upstream from concrete dam, 1.0 mi (1.6 km) upstream from bridge on Interstate Highway 35 and U.S. Highway 81, 1.6 mi (2.6 km) northeast of Belton, 3.2 mi (5.1 km) downstream from Belton Dam, 5.2 mi (8.4 km) upstream from Nolan Creek, and 13.1 mi (21.1 km) upstream from mouth.

DRAINAGE AREA.--3,542 mi² (9,174 km²).

PERIOD OF RECORD.--October 1923 to current year.

REVISED RECORDS.--WSP 1442: 1925(M), 1935(M), 1936, 1938(M), 1941-42(M), 1944-45(M). WSP 1712: 1937(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 476.68 ft (145.292 m) National Geodetic Vertical Datum of 1929. Prior to May 21, 1931, nonrecording gage.

REMARKS.--Records good. The city of Temple reported that during the year 9,350 acre-ft (11.5 hm³) was diverted from pool at gage for municipal use and 2,390 acre-ft (2.95 hm³) of treated sewage effluent was returned to Little Elm Creek. The Brazos River Authority reported that 4,240 acre-ft (5.23 hm³) of treated sewage effluent was returned to the Leon River below station from their Temple-Belton plant. Flow regulated by Belton Lake (station 08102000) since Mar. 8, 1954. Corps of Engineers gage-height telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years (water years 1924-53) unregulated, 659 ft³/s (18.66 m³/s), 477,400 acre-ft/yr (589 hm³/yr); 27 years (water years 1954-80) regulated, 539 ft³/s (15.26 m³/s), 390,500 acre-ft/yr (481 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,500 ft³/s (1,600 m³/s) Apr. 22, 1945, gage height, 24.41 ft (7.440 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1913 reached a stage of 25 ft (7.6 m), and flood in September 1921 reached a stage of 21 ft (6.4 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,680 ft³/s (133 m³/s) May 10 at 2400 hours, gage height, 7.47 ft (2.277 m); no flow May 4-7 and Aug. 16-19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	23	22	26	28	30	9.7	2.5	1620	219	74	6.3
2	19	22	21	26	28	31	9.1	2.6	1620	251	74	6.0
3	22	23	19	25	29	28	10	.05	1620	260	73	8.0
4	25	23	18	24	27	31	9.5	.00	1620	261	79	9.3
5	26	23	19	26	28	31	9.0	.00	1620	254	76	9.2
6	18	22	18	26	28	29	9.6	.00	1620	254	77	10
7	19	22	19	26	27	30	8.8	.00	1620	254	43	17
8	18	21	20	30	39	31	8.3	.05	1620	261	7.8	19
9	20	19	19	23	32	32	7.5	1010	1630	254	4.5	22
10	25	19	19	26	27	31	6.8	3330	1330	248	7.5	17
11	24	20	20	27	27	23	8.7	4680	276	248	6.3	16
12	23	17	20	30	28	14	10	3060	29	229	1.8	14
13	20	18	20	31	28	12	11	1500	31	196	.56	14
14	20	17	19	30	29	12	9.0	53	33	196	.58	12
15	21	17	21	32	30	13	7.6	49	31	196	.26	9.8
16	20	19	22	23	31	13	6.2	46	32	201	.00	10
17	19	23	23	29	30	13	3.7	38	28	201	.00	9.8
18	19	26	23	30	26	11	2.6	1810	30	206	.00	8.2
19	18	26	22	21	26	11	1.9	3050	33	206	.00	8.6
20	19	26	22	29	27	11	1.2	3050	33	206	.87	16
21	20	26	25	29	26	9.6	.62	3040	42	206	11	16
22	23	26	32	33	27	9.0	.30	3170	31	212	8.6	9.6
23	26	25	38	28	28	10	.17	3320	26	206	7.1	5.0
24	26	25	27	29	28	9.5	.08	3310	24	206	6.7	1.1
25	22	25	28	29	29	8.9	1.3	3310	21	207	6.2	.03
26	21	24	26	29	30	9.5	1.8	3310	16	208	5.8	2.6
27	22	23	23	30	29	16	2.1	3300	17	211	6.0	7.0
28	20	22	28	29	29	13	1.6	3290	18	215	5.7	11
29	20	22	30	29	31	11	.52	3290	337	226	5.7	12
30	26	22	27	30	---	11	2.3	2330	335	136	9.9	16
31	23	---	26	28	---	11	---	1630	---	79	7.2	---
TOTAL	661	666	716	863	832	555.5	160.99	54981.20	17343	6713	606.07	322.53
MEAN	21.3	22.2	23.1	27.8	28.7	17.9	5.37	1774	578	217	19.6	10.8
MAX	26	26	38	33	39	32	11	4680	1630	261	79	22
MIN	17	17	18	21	26	8.9	.08	.00	16	79	.00	.03
AC-FT	1310	1320	1420	1710	1650	1100	319	109100	34400	13320	1200	640

CAL YR 1979 TOTAL 134287.00 MEAN 368 MAX 5260 MIN 11 AC-FT 266400
WTR YR 1980 TOTAL 84420.29 MEAN 231 MAX 4680 MIN .00 AC-FT 167400

08102600 NOLAN CREEK AT BELTON, TX

LOCATION.--Lat 31°03'06", long 97°27'25", Bell County, Hydrologic Unit 12070201, on left bank 43 ft (13 m) downstream from northbound service road of Interstate Highway 35, 0.5 mi (0.8 km) southeast of the courthouse at Belton, and 3.1 mi (5.0 km) upstream from mouth.

DRAINAGE AREA.--112 mi^2 (290 km^2).

PERIOD OF RECORD.--January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 480.84 ft (146.560 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Low flow is sustained by sewage effluent from Fort Hood military installation and by the cities of Killeen, Nolanville, and Harker Heights. Records indicate that 13,900 acre-ft (17.1 hm^3) of treated sewage effluent was returned to the stream above station during the current year. Flow is affected at times by discharge from the flood-detention pools of 13 floodwater-retarding structures with a combined detention capacity of 15,430 acre-ft (19.0 hm^3). These structures control runoff from 47.4 mi^2 (122.8 km^2). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years, 79.8 ft^3/s (2.260 m^3/s), 57,820 acre-ft (71.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,100 ft^3/s (1,020 m^3/s) Oct. 31, 1974, gage height, 26.90 ft (8.199 m); minimum, 6.8 ft^3/s (0.19 m^3/s) July 22, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 26.90 ft (8.199 m) Oct. 31, 1974. Floods in December 1913, September 1921, May 1957, and May 1965 reached a stage of 24.5 ft (7.47 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,200 ft^3/s (119 m^3/s) May 13 at 1615 hours, gage height, 14.14 ft (4.310 m); minimum daily, 8.6 ft^3/s (0.244 m^3/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	22	20	30	25	29	33	169	50	28	15	9.9
2	23	20	21	28	25	27	36	75	53	26	16	11
3	25	19	21	26	26	29	33	39	50	26	15	10
4	24	19	21	25	24	30	33	41	48	25	16	9.4
5	21	19	20	24	23	28	29	135	48	23	16	8.6
6	20	18	20	24	22	27	29	74	48	23	17	18
7	19	17	19	24	26	28	30	216	45	22	17	128
8	19	17	19	24	250	28	36	266	43	24	17	71
9	20	20	20	24	131	27	28	145	63	34	16	187
10	18	18	21	23	83	28	27	91	48	40	16	45
11	18	18	23	23	56	27	28	76	39	40	16	15
12	18	18	32	21	45	57	38	121	39	40	16	11
13	18	19	52	21	39	31	190	1200	36	41	15	11
14	18	18	26	22	37	25	80	410	36	40	14	11
15	18	18	23	22	35	25	49	1120	37	40	13	11
16	50	18	22	22	47	29	41	847	34	36	13	11
17	20	18	22	23	37	31	37	297	35	34	12	10
18	18	22	21	21	33	25	34	188	35	28	13	10
19	18	21	22	22	34	24	32	198	35	24	14	14
20	18	21	22	55	31	25	31	130	33	19	12	11
21	19	58	29	77	30	24	29	133	263	22	13	11
22	61	34	162	161	28	26	30	107	54	30	11	11
23	27	22	132	62	27	27	30	95	42	23	12	11
24	19	21	80	36	28	29	31	87	36	26	11	9.8
25	18	22	36	30	27	30	267	82	36	19	11	11
26	18	23	26	28	28	32	67	79	33	19	11	11
27	18	22	23	26	26	259	43	75	31	20	15	49
28	17	20	63	26	28	105	37	69	32	20	30	46
29	18	21	131	25	29	54	33	67	30	19	15	27
30	88	21	41	26	---	42	34	63	28	17	10	70
31	60	---	33	25	---	36	---	58	---	18	10	---
TOTAL	791	644	1223	1026	1280	1244	1475	6753	1440	846	448	869.7
MEAN	25.5	21.5	39.5	33.1	44.1	40.1	49.2	218	48.0	27.3	14.5	29.0
MAX	88	58	162	161	250	259	267	1200	263	41	30	187
MIN	17	17	19	21	22	24	27	39	28	17	10	8.6
AC-FT	1570	1280	2430	2040	2540	2470	2930	13390	2860	1680	889	1730

CAL YR 1979	TOTAL	32975.0	MEAN 90.3	MAX 1510	MIN 17	AC-FT	65410	
WTR YR 1980	TOTAL	18039.7	MEAN 49.3	MAX 1200	MIN 8.6	AC-FT	35780	

08103800 LAMPASAS RIVER NEAR KEMPNER, TX

LOCATION.--Lat 31°04'54", long 98°00'59", Lampasas County, Hydrologic Unit 12070203, on left bank 800 ft (240 m) upstream from centerline of U.S. Highway 190, 0.6 mi (1.0 km) upstream from Mesquite Creek, 0.8 mi (1.3 km) west of Kempner, 0.9 mi (1.4 km) downstream from Sulphur Creek, and 72.3 mi (116.4 km) upstream from mouth.

DRAINAGE AREA.--818 mi^2 (2,119 km^2).

PERIOD OF RECORD.--October 1962 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 828.38 ft (252.490 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 4, 1967, at site 800 ft (240 m) downstream.

REMARKS.--Records good. At times, flow is affected by discharge from the flood-detention pools of 13 floodwater-retarding structures with a combined detention capacity of 38,570 acre-ft (47.6 hm^3). These structures control runoff from 131 mi^2 (339 km^2) in the Sulphur and Bennett Creeks drainage basins. There are many small diversions above the station for irrigation and municipal supply. Records furnished by the city of Lampasas show that 502 acre-ft (0.619 hm^3) of sewage effluent was returned to Sulphur Creek above this station.

AVERAGE DISCHARGE.--18 years, 135 ft^3/s (3.823 m^3/s), 97,800 acre-ft/yr (121 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,000 ft^3/s (2,010 m^3/s) May 16, 1965, gage height, 32.98 ft (10.052 m); minimum daily, 1.4 ft^3/s (0.040 m^3/s) July 17, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1871 occurred in September 1873 (stage about 45 ft or 13.7 m). Flood of May 13, 1957, reached a stage of 37 ft (11.3 m), and flood of Oct. 4, 1959, reached a stage of 34 ft (10.4 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,720 ft^3/s (162 m^3/s) May 8 at 0645 hours, gage height, 9.77 ft (2.978 m), no other peak above base of 4,000 ft^3/s (113 m^3/s); minimum daily, 9.0 ft^3/s (0.25 m^3/s) July 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	23	24	35	26	20	30	29	76	23	12	10
2	18	21	24	32	27	18	28	28	74	22	11	9.6
3	17	21	24	33	28	18	27	28	69	20	10	11
4	17	21	24	34	27	19	25	29	64	20	11	11
5	19	21	24	34	23	19	24	29	62	18	12	19
6	19	20	27	34	20	19	24	41	59	16	9.8	16
7	19	19	27	34	19	19	24	153	57	18	9.6	23
8	19	19	28	34	73	19	22	2110	55	16	11	26
9	19	19	26	34	46	19	21	517	64	9.0	10	37
10	18	19	26	34	33	19	22	156	64	13	11	30
11	18	19	27	34	31	19	21	105	62	14	13	25
12	19	18	31	33	30	27	23	97	59	14	14	22
13	19	19	33	32	27	22	31	96	52	15	12	22
14	20	19	30	32	26	19	33	110	48	16	10	22
15	21	19	28	32	25	19	31	1150	46	13	10	21
16	21	21	28	32	22	19	30	982	46	11	10	19
17	21	21	27	32	22	21	27	347	44	11	10	20
18	21	22	27	32	22	21	25	219	42	13	17	21
19	21	23	27	32	22	21	23	227	42	13	13	18
20	20	24	28	32	22	21	23	170	42	11	12	18
21	21	25	29	32	20	21	22	211	43	11	12	18
22	19	25	32	41	21	20	22	184	42	11	12	18
23	19	24	44	43	21	19	22	156	46	12	12	16
24	19	22	44	36	20	19	26	143	41	11	11	15
25	20	23	37	35	21	19	41	129	32	12	11	19
26	21	24	36	35	19	19	44	117	36	11	11	19
27	21	24	35	34	19	36	32	108	30	12	10	27
28	21	24	37	33	19	41	29	99	29	11	11	24
29	21	24	47	32	21	33	26	94	26	11	11	21
30	27	24	40	30	---	32	24	88	24	14	12	19
31	33	---	37	28	---	31	---	83	---	12	12	---
TOTAL	627	647	958	1040	752	688	802	8035	1476	434.0	353.4	596.6
MEAN	20.2	21.6	30.9	33.5	25.9	22.2	26.7	259	49.2	14.0	11.4	19.9
MAX	33	25	47	43	73	41	44	2110	76	23	17	37
MIN	17	18	24	28	19	18	21	28	24	9.0	9.6	9.6
AC-FT	1240	1280	1900	2060	1490	1360	1590	15940	2930	861	701	1180

CAL YR 1979	TOTAL	36057.0	MEAN 98.8	MAX 2910	MIN 16	AC-FT	71520
WTR YR 1980	TOTAL	16409.0	MEAN 44.8	MAX 2110	MIN 9.0	AC-FT	32550

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX
(Hydrologic bench-mark station)

LOCATION.--Lat 30°54'41", long 98°02'12", Burnet County, Hydrologic Unit 12070203, on upstream side of bridge on Ranch Road 963, 6 mi (10 km) above confluence with North Fork Rocky Creek, 7 mi (11 km) west of Briggs, and 12.9 mi (20.8 km) above mouth.

DRAINAGE AREA.--33.3 mi^2 (86.2 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1963 to current year.

REVISED RECORDS.--WRD TX-74-1: 1972-73(P). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is 955.8 ft (291.33 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Three recording rain gages located in watershed, one at station and two above station.

AVERAGE DISCHARGE.--17 years, 11.7 ft^3/s (0.331 m^3/s), 4.77 in/yr (121 mm/yr), 8,480 acre-ft/yr (10.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft^3/s (884 m^3/s) June 19, 1976, gage height, 22.70 ft (6.919 m), from rating curve extended above 1,000 ft^3/s (28.3 m^3/s) on basis of slope-area measurements of 3,580 and 8,510 ft^3/s (101 and 241 m^3/s) and conveyance-slope study; no flow for many days each year for 1963-74 and 1976-80.
Maximum stage since at least 1904, 22.70 ft (6.919 m) June 19, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft^3/s (28.3 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 13	1345	*10,200	289	14.72	4.487
May 15	1315	2,490	70.5	8.01	2.441

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.24	.46	36	17	1.1	.00	.00
2	.00	.00	.00	.00	.00	.01	.46	5.9	16	.96	.00	.00
3	.00	.00	.00	.00	.00	.00	.40	2.4	14	.82	.00	.00
4	.00	.00	.00	.00	.00	.00	.26	1.9	13	.65	.00	.00
5	.00	.00	.00	.00	.00	.00	.26	1.8	12	.59	.00	.00
6	.00	.00	.00	.00	.00	.00	.26	1.5	11	.50	.00	.00
7	.00	.00	.00	.00	.00	.00	.26	24	11	.43	.00	.00
8	.00	.00	.00	.00	.88	.00	.21	42	10	.32	.00	.00
9	.00	.00	.00	.00	1.9	.00	.18	16	16	.22	.00	.00
10	.00	.00	.00	.00	1.4	.00	.14	12	14	.12	.00	.00
11	.00	.00	.00	.00	1.0	.00	.14	11	11	.04	.00	.00
12	.00	.00	.00	.00	.77	.00	.22	19	9.6	.00	.00	.00
13	.00	.00	.00	.00	.64	.00	3.4	749	8.6	.00	.00	.00
14	.00	.00	.00	.00	.54	.00	2.4	83	7.4	.00	.00	.00
15	.00	.00	.00	.00	.42	.00	1.4	454	6.7	.00	.00	.00
16	.00	.00	.00	.00	.63	.00	1.0	133	6.2	.00	.00	.00
17	.00	.00	.00	.00	.71	.00	.76	69	4.8	.00	.00	.00
18	.00	.00	.00	.00	.71	.00	.58	56	4.4	.00	.00	.00
19	.00	.00	.00	.00	.71	.00	.52	96	4.4	.00	.00	.00
20	.00	.00	.00	.00	.64	.00	.52	53	3.5	.00	.00	.00
21	.00	.00	.00	.00	.50	.00	.44	66	3.3	.00	.00	.00
22	.00	.00	.00	.29	.39	.00	.37	45	3.3	.00	.00	.00
23	.00	.00	.00	.49	.31	.00	.32	39	3.1	.00	.00	.00
24	.00	.00	.00	.40	.31	.00	.50	35	2.8	.00	.00	.00
25	.00	.00	.00	.46	.31	.00	1.5	31	2.3	.00	.00	.00
26	.00	.00	.00	.36	.30	.00	1.2	28	2.2	.00	.00	.00
27	.00	.00	.00	.21	.23	1.2	.86	27	1.6	.00	.00	.00
28	.00	.00	.00	.14	.20	1.8	.64	26	1.5	.00	.00	.00
29	.00	.00	.00	.12	.19	1.1	.52	24	1.3	.00	.00	.00
30	.00	.00	.00	.10	---	.68	.46	21	1.2	.00	.00	.00
31	.00	---	.00	.06	---	.49	---	19	---	.00	.00	---
TOTAL	.00	.00	.00	2.63	13.69	5.52	20.64	2227.5	223.2	5.75	.00	.00
MEAN	.000	.000	.000	.085	.47	.18	.69	71.9	7.44	.19	.000	.000
MAX	.00	.00	.00	.49	1.9	1.8	3.4	749	17	1.1	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.14	1.5	1.2	.00	.00	.00
CFSM	.000	.000	.000	.003	.01	.005	.02	2.16	.22	.006	.000	.000
IN.	.00	.00	.00	.00	.02	.01	.02	2.49	.25	.01	.00	.00
AC-FT	.00	.00	.00	5.2	27	11	41	4420	443	11	.00	.00

CAL YR 1979	TOTAL	5196.60	MEAN 14.2	MAX 940	MIN .00	AC-FT	10310	
WTR YR 1980	TOTAL	2498.93	MEAN 6.83	MAX 749	MIN .00	AC-FT	4960	

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1961 to January 1964. Chemical, biochemical, and pesticide analyses: January 1968 to current year. Sediment records: February 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT											
23...	--	.00	--	--	--	--	--	--	--	--	--
NOV											
14...	--	.00	--	--	--	--	--	--	--	--	--
DEC											
05...	--	.00	--	--	--	--	--	--	--	--	--
MAY											
01...	0800	.44	--	--	20.0	--	--	--	--	--	--
13...	1730	454	182	7.2	18.0	8.4	92	29000	18000	25000	81
JUN											
11...	1530	10	466	7.6	27.0	7.4	95	75	33	80	240
JUL											
09...	0800	.26	454	7.5	26.0	4.8	61	780	44	2400	220
AUG											
13...	0935	.00	--	--	--	--	--	--	--	--	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT										
23...	--	--	--	--	--	--	--	--	--	--
NOV										
14...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	--	--	--	--	--	--	--	--	--	--
MAY										
01...	--	--	--	--	--	--	--	--	--	--
13...	10	23	5.6	1.8	.1	2.6	88	0	6.8	2.2
JUN										
11...	240	53	25	10	.3	1.3	260	0	17	9.9
JUL										
09...	20	47	25	9.0	.3	1.6	240	0	20	13
AUG										
13...	--	--	--	--	--	--	--	--	--	--

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT										
23...	--	--	--	--	--	--	--	--	--	--
NOV										
14...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	--	--	--	--	--	--	--	--	--	--
MAY										
01...	--	--	--	--	--	--	--	--	12	.01
13...	.2	9.1	105	96	.16	.19	.140	.080	578	709
JUN										
11...	.4	9.8	250	255	.08	.08	.020	.010	--	--
JUL										
09...	.7	13	259	250	.11	.09	.010	.010	13	.01
AUG										
13...	--	--	--	--	--	--	--	--	--	--

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS-PENDED TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, SUS-PENDED RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM SUS-PENDED RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)
MAY										
13...	1730	1	0	1	0	0	20	0	0	11

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
MAY 13...	0	0	1	<3	4	<10	2800	2700	69

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)
MAY 13...	7	<10	130	130	4	.4	.0	.4	0

DATE	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
MAY 13...	0	0	0	0	0	20	20	3	.00

DATE	TIME	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM DISSOLVED, EXTRACTION (UG/L)
MAY 13...	1730	<1.0	4.8	<1.5	7.0	2.8	8.2	2.6	7.8	.06	.30

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
MAY									
13...	1730	.00	.00	.00	.0	.00	.00	.00	.00

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
MAY									
13...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
13...	.00	.00	.00	.00	0	.00	.00	.00	.00

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE, WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
MAY					
01...	0800	.44	20.0	12	.01
13...	1730	454	18.0	578	709
JUL					
09...	0800	.26	26.0	13	.01

08104000 LAMPASAS RIVER AT YOUNGSPORT, TX

LOCATION.--Lat 30°57'26", long 97°42'30", Bell County, Hydrologic Unit 12070203, on left bank 600 ft (180 m) downstream from county road low-water crossing, 2,000 ft (610 m) downstream from bridge on county road, 0.7 mi (1.1 km) east of Youngsport, 4.5 mi (7.2 km) downstream from Rocky Creek, and 40.8 mi (65.6 km) above mouth.

DRAINAGE AREA.--1,240 mi² (3,212 km²).

PERIOD OF RECORD.--February 1924 to September 1980 (discontinued).

REVISED RECORDS.--WSP 788: 1926, 1928, 1931. WSP 1632: 1957. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 630.88 ft (192.29 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Mar. 14, 1931, nonrecording gage, and Mar. 14, 1931, to Mar. 11, 1965, water-stage recorder at site 1,000 ft (305 m) upstream at datum 2.58 ft (0.786 m) higher. Sept. 10-30, 1980, nonrecording gage at present site and datum.

REMARKS.--Records good except those for period Aug. 22 to Sept. 30, which are fair. Many small diversions above station for irrigation and municipal supply. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08103800. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--56 years, 274 ft³/s (7.760 m³/s), 198,500 acre-ft/yr (245 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,900 ft³/s (2,490 m³/s) May 17, 1965, gage height, 37.7 ft (11.49 m), from floodmarks, from rating curve extended above 40,000 ft³/s (1,130 m³/s) on basis of maximum discharge of May 13, 1957, measured at highway bridge 22 mi (35 km) downstream; no flow at times in 1925, 1934, 1950-52, 1954, 1956, 1963-67, 1971, and 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1873, 45.2 ft (13.78 m) Sept. 8, 1873, from information by local residents at time the former gage was established 1,000 ft (305 m) upstream, adjusted to present site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,800 ft³/s (164 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 13	1600	*17,400	493	18.16	5.535
May 15	2215	13,200	374	15.10	4.602

Minimum daily discharge, 8.1 ft³/s (0.23 m³/s) Aug. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	44	27	32	28	30	44	196	218	40	11	8.2
2	26	36	27	30	28	29	44	258	211	36	11	8.2
3	25	30	27	29	27	28	43	126	205	34	10	8.2
4	24	29	27	28	26	27	44	94	198	31	10	8.2
5	23	29	27	28	25	26	36	106	192	29	8.8	12
6	23	28	27	28	25	27	35	106	188	27	8.1	23
7	23	28	27	28	25	27	36	195	185	27	9.9	20
8	23	27	27	28	35	27	37	1700	182	25	10	19
9	23	34	27	28	80	28	35	1140	176	24	9.7	24
10	22	27	27	28	72	28	33	505	173	23	10	26
11	22	27	27	28	48	28	31	358	167	20	11	27
12	22	27	29	28	42	28	35	337	162	18	11	20
13	22	27	31	27	39	31	57	4900	147	17	12	16
14	23	27	32	27	37	32	82	1350	131	17	13	15
15	23	27	32	27	35	29	67	3410	120	17	12	14
16	23	28	30	26	36	29	57	3550	109	17	10	13
17	24	28	29	26	37	30	51	1180	103	15	9.5	13
18	24	28	28	26	34	29	48	869	94	14	9.2	12
19	24	29	27	27	32	28	46	938	88	13	8.4	12
20	24	29	27	29	31	28	44	770	82	12	9.1	11
21	23	31	30	29	30	28	45	765	90	12	12	10
22	23	34	42	37	29	28	43	702	85	12	9.5	10
23	23	33	49	46	28	28	42	596	80	12	9.5	10
24	22	32	55	44	28	28	43	537	74	12	9.5	10
25	22	30	43	38	28	28	133	495	67	12	9.5	10
26	22	30	35	33	28	28	87	445	59	12	9.1	10
27	22	28	33	32	28	48	92	387	54	12	9.1	14
28	22	28	39	31	28	85	70	343	51	11	9.1	24
29	23	27	44	30	29	72	62	310	45	11	9.1	24
30	27	27	42	30	---	50	59	278	42	12	8.6	23
31	47	---	35	29	---	46	---	243	---	11	8.6	---
TOTAL	746	889	1009	937	998	1038	1581	27189	3778	585	307.3	454.8
MEAN	24.1	29.6	32.5	30.2	34.4	33.5	52.7	877	126	18.9	9.91	15.2
MAX	47	44	55	46	80	85	133	4900	218	40	13	27
MIN	22	27	27	26	25	26	31	94	42	11	8.1	8.2
AC-FT	1480	1760	2000	1860	1980	2060	3140	53930	7490	1160	610	902

CAL YR 1979	TOTAL	92664.0	MEAN 254	MAX 3000	MIN 22	AC-FT	183800	
WTR YR 1980	TOTAL	39512.1	MEAN 108	MAX 4900	MIN 8.1	AC-FT	78370	

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX

LOCATION.--Lat 31°01'20", long 97°31'57", Bell County, Hydrologic Unit 12070203, in intake structure at Stillhouse Hollow Dam on Lampasas River, 5 mi (8 km) southwest of Belton, and 16.0 mi (25.7 km) upstream from mouth.

DRAINAGE AREA.--1,313 mi² (3,401 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1966 to current year. Prior to October 1970, published as Stillhouse Hollow Reservoir.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--The lake is formed by a rolled earthfill dam 15,624 ft (4,762 m) long, including a 1,650-foot (503 m) spillway and 5,894-foot (1,796 m) dike. The lake was operated as a temporary detention basin from Sept. 2, 1966, to Feb. 19, 1968. Deliberate impoundment began Feb. 19, 1968. The lake was built for flood control and water conservation. The spillway is an uncontrolled broad-crested weir 1,650 ft (503 m) long located near right end of dam. The flood-control outlet consists of a 12.0-foot-diameter (3.7 m) conduit controlled by two 5.67- by 12.0-foot (1.7 by 3.7 m) slide gates at an invert elevation of 515.0 ft (156.97 m). The capacity curve is based on maps prepared by Brazos River Authority in 1937 and supplemented by contour maps prepared by the Corps of Engineers in 1958. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08103800. Corps of Engineers gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	698.0	-
Design flood	693.2	1,013,300
Crest of spillway	666.0	630,400
Top of conservation pool	622.0	235,700
Lowest gated outlet (invert)	515.0	775

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 347,100 acre-ft (428 hm³) May 2, 3, 1977, elevation, 637.26 ft (194.237 m); minimum since conservation storage was reached on Apr. 12, 1969, 183,300 acre-ft (226 hm³) Nov. 5, 1978, elevation, 613.13 ft (186.882 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 282,000 acre-ft (348 hm³) May 18 at 1600 hours, elevation, 628.78 ft (191.652 m); minimum, 205,300 acre-ft (253 hm³) Sept. 27, elevation, 617.06 ft (188.080 m).

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

616.0	199,200	624.0	248,800
618.0	210,900	626.0	262,300
620.0	223,100	628.0	276,400
622.0	235,700	630.0	290,800

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235300	233600	232300	234800	236000	236000	236800	239300	250600	225900	210000	205800
2	235100	233500	232200	234800	236100	235900	236300	239700	248800	225300	209900	205600
3	234900	233500	232200	234900	236000	235900	235600	239900	247100	224900	209500	205600
4	234700	233300	232200	234900	236000	235800	235000	240200	245500	224200	209100	205500
5	234700	233300	232200	234900	236000	235900	235000	240400	244000	223700	208800	205300
6	234500	233100	232200	234900	236100	236000	235000	238900	242000	223200	208600	205700
7	234400	233100	232100	234900	236200	235900	235100	238300	240200	222800	208500	205900
8	234400	233100	232100	234900	237000	236000	235100	240900	238500	222300	208400	206100
9	234100	233100	232100	234900	237100	236000	235100	242300	236800	221600	208400	206400
10	234000	232900	232200	235000	237100	236200	235100	242100	236200	221200	208200	206400
11	233800	232800	232400	235000	236700	236300	235100	241500	236400	220700	208100	206400
12	233800	232800	232600	235000	235700	236300	235700	241100	236600	220200	208100	206300
13	233700	232600	232500	235000	235300	236200	235900	256400	236800	219500	208000	206300
14	233600	232600	232500	234900	235300	236200	236000	260600	236900	218900	207800	206300
15	234000	232600	232500	235000	235700	236300	236000	268500	237100	218300	207800	206300
16	234000	232500	232400	235000	235800	236300	236000	277500	237100	217700	207600	206100
17	234000	232600	232400	235100	235800	236400	236100	280700	237200	217100	207600	206000
18	234000	232600	232400	235200	235800	236300	236200	281700	236800	216500	207400	206000
19	234000	232800	232400	235300	235900	236200	236200	280700	236000	216000	207300	206000
20	234000	233100	232400	235400	235900	236300	236200	279200	235400	215300	207300	205800
21	234000	233100	233100	235600	236000	236300	236200	277600	234900	214700	207100	205700
22	233800	233000	233100	235900	236000	236300	236300	275500	234000	214200	207100	205600
23	233700	232800	233700	235900	236100	236700	236300	272600	233100	213600	207000	205500
24	233500	232900	233900	236000	236100	236400	236500	269800	232100	213100	207000	205400
25	233400	232800	233900	236000	236100	236400	237600	266900	231200	212500	206800	205400
26	233300	232800	234000	236000	236000	236500	237600	263700	230200	212000	206700	205400
27	233300	232700	234000	236000	236100	237500	237600	260600	229000	211500	206600	205600
28	233200	232600	234200	236000	236200	237600	237600	257900	228200	211100	206400	205600
29	233100	232400	234700	236000	236200	237800	237700	255500	227100	210900	206200	205700
30	233900	232400	234700	236000	---	237800	238000	254200	226300	210600	206100	205600
31	233600	---	234700	236000	---	237400	---	252300	---	210400	206000	---
MAX	235300	233600	234700	236000	237100	237800	238000	281700	250600	225900	210000	206400
MIN	233100	232400	232100	234800	235300	235800	235000	238300	226300	210400	206000	205300
(†)	621.67	621.48	621.85	622.05	622.08	622.32	622.36	624.53	620.52	617.95	617.19	617.11
(‡)	-1700	-1200	+2300	+1300	+100	+1200	+600	+14300	-26000	-15900	-4300	-500
(††)	26	20	12	15	19	21	12	25	36	48	48	30

CAL YR 1979 MAX 286300 MIN 188900 ‡ -45900 †† 279
WTR YR 1980 MAX 281700 MIN 205300 ‡ -29700 †† 306

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use by Comanche Hills Utility District.

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
MAR 19...	1515	512	14.0	190	30	43	19	30	1.0
SEP 08...	1500	470	22.0	160	25	36	18	29	1.0

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
MAR 19...	3.1	190	0	22	57	.2	6.7	275
SEP 08...	3.2	170	0	20	56	.3	6.4	253

08104100 LAMPASAS RIVER NEAR BELTON, TX

LOCATION.--Lat 31°00'06", long 97°29'32", Bell County, Hydrologic Unit 12070203, on left bank 22 ft (7 m) upstream from upstream bridge of three bridges on Interstate Highway 35 and U.S. Highway 81, 3.5 mi (5.6 km) downstream from Stillhouse Hollow Dam, 4.1 mi (6.6 km) southwest of Belton, and 12.7 mi (20.4 km) upstream from mouth.

DRAINAGE AREA.--1,321 mi² (3,421 km²).

PERIOD OF RECORD.--February 1963 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 476.58 ft (145.262 m), State Department of Highways and Public Transportation datum.

REMARKS.--Records good. Many small diversions above station for irrigation and municipal supply. Since Sept. 2, 1966, flow largely regulated by Stillhouse Hollow Lake (station 08104050). Corps of Engineers telemeter located at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years (water years 1967-80) regulated, 241 ft³/s (6.825 m³/s), 174,600 acre-ft/yr (215 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,900 ft³/s (2,210 m³/s) May 17, 1965, gage height, 43.58 ft (13.283 m); no flow Aug. 9, 10, 12-15, Sept. 5, 6, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1877, 45 ft (13.7 m) September 1921, from information by local residents. Flood of May 1957 reached a stage of 44.4 ft (13.53 m), discharge, 83,500 ft³/s (2,360 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,980 ft³/s (113 m³/s) May 13 at 1500 hours, gage height, 14.72 ft (4.487 m); minimum daily, 4.9 ft³/s (0.14 m³/s) Aug. 13 to Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	9.5	8.8	10	12	389	14	1060	204	49	4.9
2	11	11	9.5	8.8	10	12	389	12	1060	204	49	4.9
3	11	10	9.5	8.8	10	12	389	12	1060	211	49	4.9
4	11	10	9.5	8.8	10	12	202	12	1060	234	49	4.9
5	11	10	9.5	8.8	10	12	13	238	1060	236	49	4.9
6	11	10	9.5	8.8	10	12	12	782	1050	236	49	6.0
7	11	10	9.5	8.8	10	12	11	789	1050	236	30	10
8	11	10	9.5	8.8	17	12	10	791	1050	236	5.9	7.3
9	12	10	9.5	8.8	14	12	10	790	1040	236	5.4	6.7
10	11	10	9.5	8.8	13	12	10	790	525	236	5.4	6.4
11	12	10	9.5	8.8	218	12	10	790	19	234	5.4	6.0
12	12	10	10	8.8	569	12	11	794	18	234	5.3	5.9
13	12	10	11	8.8	298	11	12	829	17	234	4.9	5.9
14	12	10	10	8.8	14	11	11	31	15	234	4.9	5.9
15	12	9.5	9.5	8.8	13	11	11	28	15	234	4.9	5.9
16	13	9.5	9.4	8.8	12	11	11	30	14	234	4.9	5.9
17	13	9.5	8.8	8.8	12	10	11	28	14	232	4.9	5.9
18	13	10	8.8	8.8	12	10	11	537	199	230	4.9	5.9
19	13	11	8.8	8.8	12	10	11	1770	548	230	4.9	7.5
20	13	10	8.8	8.8	12	10	11	1760	519	230	4.9	6.1
21	13	12	9.7	8.8	12	10	11	1760	529	230	4.9	5.9
22	11	10	13	12	12	10	11	1880	527	230	4.9	5.9
23	11	10	14	11	12	10	11	2120	527	230	4.9	5.9
24	11	10	10	11	12	10	11	2110	527	230	4.9	5.9
25	11	10	8.8	11	12	10	14	2100	527	230	4.9	5.9
26	11	10	8.8	11	12	10	11	2100	522	230	4.9	5.9
27	11	10	8.8	11	12	16	11	2090	515	230	4.9	5.9
28	11	10	11	11	12	13	11	1830	515	126	4.9	5.4
29	11	9.5	11	11	12	12	11	1410	500	87	4.9	5.4
30	14	9.5	9.5	11	---	11	11	1200	410	50	4.9	5.7
31	11	---	8.8	10	---	195	---	1060	---	47	4.9	---
TOTAL	362	302.5	303.0	294.8	1394	535	1658	30487	16492	6515	444.5	179.6
MEAN	11.7	10.1	9.77	9.51	48.1	17.3	55.3	983	550	210	14.3	5.99
MAX	14	12	14	12	569	195	389	2120	1060	236	49	10
MIN	11	9.5	8.8	8.8	10	10	10	12	14	47	4.9	4.9
AC-FT	718	600	601	585	2760	1060	3290	60470	32710	12920	882	356

CAL YR 1979	TOTAL	80639.3	MEAN 221	MAX 2040	MIN 5.9	AC-FT	159900
WTR YR 1980	TOTAL	58967.4	MEAN 161	MAX 2120	MIN 4.9	AC-FT	117000

08104500 LITTLE RIVER NEAR LITTLE RIVER, TX

LOCATION.--Lat 30°57'59", long 97°20'45", Bell County, Hydrologic Unit 12070204, on right bank 25 ft (8 m) downstream from State Highway 95, 2.4 mi (3.9 km) southeast of Little River, 5 mi (8 km) downstream from confluence of Leon and Lampasas Rivers, and 95.8 mi (154.2 km), upstream from mouth.

DRAINAGE AREA.--5,228 mi^2 (13,541 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to May 1929, August 1962 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 400.11 ft (121.954 m) National Geodetic Vertical Datum of 1929. Oct. 5, 1923, to May 27, 1929, nonrecording gage on railroad bridge 0.5 mi (0.8 km) upstream at same datum.

REMARKS.--Water-discharge records good. Many small diversions for irrigation and municipal supply affect very low flows. Flow regulated by Belton Lake (station 08102000) on Leon River beginning Mar. 8, 1954, and by Stillhouse Hollow Lake (station 08104050) on the Lampasas River beginning Sept. 2, 1966. Corps of Engineers gage-height telemeter at station. For statement regarding regulation by Soil Conservation Service flood-water-retarding structures, see station 08102600.

AVERAGE DISCHARGE.--5 years (water years 1924-28) unregulated, 709 ft^3/s (20.08 m^3/s), 513,700 acre-ft/yr (633 hm^3/yr); 18 years (water years 1963-80) regulated, 916 ft^3/s (25.94 m^3/s), 663,600 acre-ft/yr (818 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,600 ft^3/s (2,250 m^3/s) May 17, 1965, gage height, 42.85 ft (13.061 m): minimum daily, 8.2 ft^3/s (0.23 m^3/s) Aug. 6, 19, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 46.8 ft (14.26 m) in September 1921, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,500 ft^3/s (581 m^3/s) May 14 at 0130 hours, gage height, 37.50 ft (11.430 m); minimum daily, 57 ft^3/s (1.61 m^3/s) Sept. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	116	95	126	119	231	455	330	2900	670	184	65
2	120	106	96	125	121	146	479	325	2880	560	176	64
3	119	104	98	122	122	138	473	160	2860	482	174	65
4	112	103	98	114	121	136	425	133	2850	544	175	63
5	113	104	99	115	121	133	140	158	2840	547	177	62
6	119	102	99	116	118	126	118	905	2830	544	173	63
7	113	100	98	117	119	129	117	1080	2810	540	174	139
8	111	100	100	114	387	128	143	1350	2800	543	113	170
9	109	100	101	115	440	126	120	1670	2810	545	86	145
10	107	95	103	114	276	126	108	3730	2360	549	81	321
11	109	93	105	117	198	122	104	5400	707	550	84	103
12	109	93	111	114	677	129	109	4810	250	547	83	85
13	110	94	154	113	640	127	277	6780	215	548	77	78
14	108	92	118	115	188	108	294	8450	201	534	73	75
15	109	92	105	115	160	106	160	1730	192	527	73	72
16	146	90	103	117	175	110	135	2730	187	520	69	71
17	118	94	103	114	170	114	122	999	180	516	69	70
18	108	105	102	119	154	106	114	1640	175	512	69	68
19	107	108	102	113	151	98	106	5410	684	507	69	89
20	105	99	105	134	146	101	102	5210	673	501	67	74
21	101	119	105	139	144	97	99	5120	929	499	66	75
22	119	139	319	237	139	96	96	5220	721	509	73	73
23	129	102	302	233	137	98	94	5640	686	505	73	67
24	105	101	347	145	135	101	94	5620	674	500	71	60
25	106	105	146	137	133	102	419	5590	659	498	67	57
26	108	103	128	132	130	106	209	5550	650	498	65	57
27	108	101	122	126	130	373	127	5520	628	497	63	68
28	105	97	123	125	131	600	111	5330	618	469	72	135
29	105	95	374	124	132	189	107	4770	617	350	72	93
30	146	93	166	126	---	147	104	3950	612	327	63	128
31	221	---	137	123	---	145	---	2920	---	182	68	---
TOTAL	3630	3045	4364	3996	5814	4594	5561	108230	38198	15620	2999	2755
MEAN	117	102	141	129	200	148	185	3491	1273	504	96.7	91.8
MAX	221	139	374	237	677	600	479	8450	2900	670	184	321
MIN	101	90	95	113	118	96	94	133	175	182	63	57
AC-FT	7200	6040	8660	7930	11530	9110	11030	214700	75770	30980	5950	5460

CAL YR 1979 TOTAL 346678 MEAN 950 MAX 10500 MIN 90 AC-FT 687600
WTR YR 1980 TOTAL 198806 MEAN 543 MAX 8450 MIN 57 AC-FT 394300

08104500 LITTLE RIVER NEAR LITTLE RIVER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1964 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to September 1973; October 1979 to September 1980.
WATER TEMPERATURE: October 1964 to September 1973; October 1979 to September 1980

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,140 micromhos Oct. 28, 1964; minimum daily, 245 micromhos May 16, 1965.
WATER TEMPERATURES: Maximum, 38.0°C July 7, 1969, Sept. 15, 1972; minimum, 3.0°C Jan. 10, 1973.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 610 micromhos Mar. 26; minimum daily, 315 micromhos Sept. 10.
WATER TEMPERATURES: Minimum daily, 6.0°C Jan. 31, Feb. 6.

WATER QUALITY DATA. WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 03...	1435	109	556	24.0	230	26	71	13	27
NOV 20...	1010	102	554	17.0	220	11	65	13	26
JAN 27...	1130	112	564	10.0	240	36	75	13	26
MAR 19...	1320	96	584	15.5	240	36	75	13	29
APR 30...	1300	105	545	20.0	220	17	69	12	24
MAY 23...	1730	5240	438	28.0	170	19	47	12	22
JUN 11...	1140	862	438	19.0	180	23	55	10	20
JUL 23...	1130	507	474	22.0	180	23	50	13	25
AUG 21...	1700	74	558	31.0	210	12	62	13	35

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 03...	.8	3.5	250	0	32	36	.4	9.7	316
NOV 20...	.8	3.8	250	0	31	34	.4	6.8	303
JAN 27...	.7	3.3	250	0	47	30	.4	7.3	325
MAR 19...	.8	3.5	250	0	36	34	.6	5.7	320
APR 30...	.7	2.8	250	0	32	29	.5	7.7	300
MAY 23...	.7	3.3	180	0	23	36	.5	6.8	239
JUN 11...	.7	3.0	190	0	28	36	.3	8.0	254
JUL 23...	.8	3.1	190	0	24	45	.3	8.2	262
AUG 21...	1.1	4.4	240	0	31	45	.5	9.2	318

08104500 LITTLE RIVER NEAR LITTLE RIVER, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	3630	551	301	2950	37	366	30	296	220
NOV.	1979	3045	556	304	2500	38	310	31	252	220
DEC.	1979	4364	506	276	3250	34	400	27	317	200
JAN.	1980	3996	540	295	3180	37	394	29	318	220
FEB.	1980	5814	485	264	4150	32	509	25	399	190
MAR.	1980	4594	535	292	3620	36	449	29	361	210
APR.	1980	5561	518	283	4240	35	523	28	415	210
MAY	1980	108230	417	227	66200	27	7960	20	5910	170
JUNE	1980	38198	442	240	24800	29	2990	22	2260	180
JULY	1980	15620	495	270	11400	33	1390	26	1090	200
AUG.	1980	2999	555	303	2450	38	305	31	247	220
SEPT	1980	2755	487	265	1970	33	242	25	190	200
TOTAL		198806	**	**	131000	**	15800	**	12100	**
WTD. AVG.		543	448	243	**	30	**	22	**	180

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	547	510	577	546	570	530	534	385	425	480	547	565
2	553	517	579	543	565	567	525	388	427	479	550	563
3	556	523	587	554	566	556	531	395	428	511	552	561
4	559	529	585	563	564	555	540	399	426	508	549	562
5	562	532	583	570	567	567	556	438	420	506	545	566
6	559	536	581	573	570	566	571	400	429	473	546	565
7	569	540	579	580	572	595	567	402	432	462	542	490
8	560	545	580	566	436	566	545	401	435	464	550	486
9	557	555	577	583	400	556	558	425	410	472	556	500
10	566	560	580	580	433	564	566	405	420	511	560	315
11	568	569	577	576	556	562	570	400	438	510	563	330
12	570	580	575	573	350	559	565	401	453	464	567	410
13	571	576	555	568	377	590	531	347	469	512	568	473
14	568	579	560	572	500	585	465	330	484	507	563	500
15	553	582	564	569	562	590	470	400	499	509	556	510
16	551	579	556	575	561	580	480	385	514	511	560	527
17	559	578	558	567	563	570	495	450	530	508	561	520
18	526	576	563	569	565	585	510	441	545	474	563	510
19	522	566	577	570	564	596	520	440	510	464	561	516
20	540	560	578	577	562	595	529	436	515	463	562	512
21	557	563	576	583	564	590	531	440	496	507	561	525
22	555	565	400	410	567	529	535	439	490	470	560	540
23	578	555	415	390	564	555	531	430	500	508	562	555
24	573	548	385	449	561	588	530	438	513	509	563	562
25	553	540	416	499	560	595	440	442	474	510	560	553
26	534	550	485	510	561	610	463	447	480	518	561	544
27	561	563	506	545	530	500	500	450	477	507	562	538
28	562	572	505	567	500	403	510	456	476	512	556	525
29	537	576	448	570	485	465	525	445	478	509	558	505
30	524	579	474	569	---	500	545	435	477	515	560	497
31	500	---	510	572	---	532	---	429	---	545	561	---
MEAN	553	557	535	550	527	558	525	417	469	497	558	511

08104500 LITTLE RIVER NEAR LITTLE RIVER, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	7.0	15.0	9.0	9.0	19.0	19.0	---	29.0	---	33.0
2	---	---	10.0	16.0	9.0	8.0	20.0	19.0	---	30.0	---	31.0
3	25.0	---	10.0	11.0	10.0	10.0	19.0	20.0	---	29.0	---	32.0
4	24.0	---	10.0	11.0	11.0	11.0	18.0	20.0	---	30.0	---	---
5	23.0	---	---	12.0	---	13.0	18.0	20.0	---	30.0	---	---
6	20.0	---	11.0	13.0	6.0	14.0	19.0	19.0	---	31.0	---	---
7	19.0	---	12.0	10.0	---	14.0	19.0	20.0	---	31.0	---	30.0
8	24.0	---	12.0	10.0	---	13.0	20.0	19.0	---	30.0	---	31.0
9	23.0	19.0	13.0	11.0	---	18.0	20.0	19.0	---	30.0	---	29.0
10	21.0	15.0	12.0	12.0	11.0	17.0	21.0	19.0	---	31.0	---	30.0
11	17.0	14.0	15.0	13.0	12.0	18.0	21.0	23.0	---	31.0	28.0	31.0
12	22.0	13.0	10.0	10.0	12.0	20.0	20.0	25.0	---	30.0	29.0	31.0
13	21.0	13.0	11.0	12.0	11.0	19.0	19.0	22.0	---	30.0	30.0	30.0
14	20.0	14.0	12.0	13.0	12.0	20.0	19.0	25.0	---	29.0	30.0	32.0
15	21.0	13.0	10.0	13.0	10.0	19.0	20.0	27.0	---	30.0	31.0	31.0
16	23.0	13.0	11.0	12.0	10.0	16.0	21.0	25.0	---	31.0	33.0	31.0
17	24.0	---	7.0	13.0	11.0	17.0	20.0	---	---	29.0	32.0	32.0
18	23.0	16.0	9.0	12.0	11.0	18.0	20.0	26.0	35.0	30.0	32.0	32.0
19	26.0	18.0	12.0	12.0	12.0	19.0	20.0	27.0	---	29.0	30.0	31.0
20	24.0	20.0	13.0	12.0	14.0	20.0	20.0	26.0	---	30.0	32.0	33.0
21	24.0	19.0	13.0	13.0	13.0	21.0	20.0	25.0	29.0	29.0	31.0	31.0
22	23.0	18.0	14.0	11.0	12.0	20.0	19.0	26.0	27.0	31.0	30.0	30.0
23	19.0	19.0	14.0	12.0	11.0	22.0	20.0	28.0	30.0	30.0	33.0	30.0
24	19.0	17.0	15.0	11.0	12.0	21.0	18.0	28.0	30.0	29.0	35.0	29.0
25	20.0	18.0	15.0	10.0	13.0	---	18.0	---	31.0	30.0	35.0	28.0
26	18.0	15.0	13.0	11.0	13.0	19.0	19.0	---	30.0	29.0	36.0	28.0
27	18.0	11.0	13.0	10.0	13.0	19.0	20.0	---	30.0	31.0	35.0	29.0
28	20.0	13.0	13.0	7.0	14.0	20.0	20.0	---	30.0	30.0	33.0	28.0
29	21.0	11.0	14.0	8.0	11.0	20.0	20.0	---	30.0	29.0	34.0	28.0
30	20.0	9.0	13.0	7.0	---	19.0	20.0	---	30.0	---	35.0	31.0
31	---	---	13.0	6.0	---	20.0	---	---	---	---	34.0	---
MEAN	21.5	15.0	12.0	11.5	11.5	17.0	19.5	23.0	30.0	30.0	32.5	30.5

08104650 LAKE GEORGETOWN NEAR GEORGETOWN, TX

LOCATION.--Lat 30°40'03", long 97°42'38", Williamson County, Hydrologic Unit 12070205, at North San Gabriel Dam, on North Fork San Gabriel River, 2.5 mi (4.0 km) upstream from Middle Fork San Gabriel River, 3.7 mi (6.0 km) northwest of Georgetown, and 4.4 mi (7.1 km) upstream from confluence with South Fork San Gabriel River.

DRAINAGE AREA.--247 mi² (640 km²).

PERIOD OF RECORD.--March to September 1980.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to May 13, 1980, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam, 6,700 ft (2,042 m) long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Mar. 3, 1980. The emergency spillway is an ungated broadcrested weir 1,000 ft (305 m) long, located near right end of dam. The spillway for normal flood releases ia a gated, 11-foot diameter (3.4 m) conduit, controlled by two 5- by 11-foot (2 by 3 m) slide gates, located near the center of dam. The invert for the floodgate is 720.0 ft (219.5 m). A low-flow outlet, consisting of four 3- by 4-foot (0.9 by 1.2 m) gates is located near the center of dam. These gates are inverts of 735.0, 749.0, 763.0, and 777.0 ft (224.0, 228.3, 232.6, and 236.8 m). Figures given herein represent total contents. Data regarding dam and lake are given in the following table.

	Elevation (feet)	Capacity (acre-feet)
Top of dam	861.0	246,700
Design flood	856.2	221,200
Crest of emergency spillway	834.0	130,800
Top of conservation pool	791.0	37,080
Lowest gated outlet (invert of 11-foot conduit)	720.0	0

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents during period March to September 1980, 24,090 acre-ft (29.7 hm³) Sept. 11, 1980, elevation, 779.29 ft (237.528 m); minimum, 466 acre-ft (0.575 hm³) Mar. 4, 1980, elevation, 724.46 ft (220.815 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents during period March to September, 24,090 acre-ft (29.7 hm³) Sept. 11, 1980, elevation, 779.29 ft (237.528 m); minimum, 466 acre-ft (0.575 hm³) Mar. 4, 1980, elevation, 724.46 ft (220.815 m).

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

724.0	0	756.0	7,640
732.0	1,130	764.0	12,080
740.0	2,410	772.0	17,800
748.0	4,480	780.0	24,760

CONTENTS, IN ACRE-FEET, MARCH TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	1100	1560	22150	23990	23160	22360
2						---	1110	1660	22310	23990	23120	22330
3						466	1120	1700	22430	23990	23100	22320
4						597	1140	1750	22550	23980	23080	22300
5						619	1150	1800	22660	23960	23050	22280
6						637	1160	1840	22770	23960	23040	22320
7						658	1170	1910	22860	23950	23020	22330
8						676	1180	2510	22950	23920	22990	22340
9						698	1180	2840	23080	23920	22970	24010
10						718	1200	3000	23180	23920	22970	24060
11						735	1210	3090	23300	23900	22960	24090
12						752	1230	3160	23390	23880	22930	24090
13						763	1250	10960	23470	23860	22890	24080
14						772	1270	12630	23520	23830	22860	24060
15						781	1290	14420	23580	23810	22840	24060
16						797	1300	16330	23610	23810	22810	24030
17						814	1310	16970	23660	23770	22790	24030
18						827	1330	17460	23730	23750	22770	24030
19						836	1330	18240	23770	23730	22740	24020
20						846	1340	18700	23800	23720	22730	24010
21						855	1360	19270	23860	23690	22680	23990
22						865	1370	19700	23900	23670	22670	23960
23						874	1380	20030	23940	23300	22630	23930
24						883	1400	20300	23960	23310	22610	23920
25						901	1410	20560	23960	23300	22580	23920
26						921	1440	20800	23990	23300	22570	23920
27						954	1450	20980	24010	23270	22540	23940
28						997	1470	21400	24010	23250	22470	23960
29						1030	1480	21620	24010	23230	22450	23960
30						1060	1500	21810	24000	23210	22420	23930
31						1080	---	21970	---	23180	22400	---
MAX						---	1500	21970	24010	23990	23160	24090
MIN						---	1100	1560	22150	23180	22400	22280

08104700 NORTH FORK SAN GABRIEL RIVER NEAR GEORGETOWN, TX

LOCATION.--Lat 30°39'42", long 97°42'40", Williamson County, Hydrologic Unit 12070205, on left bank 1.5 mi (2.4 km) upstream from Middle Fork San Gabriel River, 2.7 mi (4.3 km) upstream from Interstate Highway 35, 2.7 mi (4.3 km) northwest of Georgetown, and 3.4 mi (5.5 km) upstream from mouth.

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

PERIOD OF RECORD.--June 1968 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 689.06 ft (210.025 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Beginning on Mar. 3, 1980, flow was largely regulated by Lake Georgetown (08104650) located about 1 mi (2 km) upstream from gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years (water years 1969-79) unregulated, 88.1 ft^3/s (2.495 m^3/s), 63,830 acre-ft/yr (78.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft^3/s (991 m^3/s) Sept. 17, 1974, gage height, 26.20 ft (7.986 m); no flow July 23-25, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 39.5 ft (12.04 m) in September 1921. Flood in April 1957 reached a stage of 34.5 ft (10.52 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft^3/s (54.4 m^3/s) July 23 at 1200 hours, gage height, 7.85 ft (2.393 m); minimum daily, 0.07 ft^3/s (0.002 m^3/s) June 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.6	2.9	5.9	3.3	6.8	.69	.17	.80	.42	1.4	5.7
2	3.3	4.2	3.0	5.7	2.5	5.4	.67	.17	.73	.44	.98	5.8
3	2.8	4.2	3.0	5.4	2.1	4.9	.74	.17	.65	.49	.78	5.9
4	2.5	3.3	3.1	5.1	1.9	1.9	.66	.17	.61	.56	.69	3.9
5	2.3	3.0	3.3	4.6	2.0	1.7	.54	.13	.62	.67	.79	4.1
6	2.1	2.8	3.3	4.5	2.0	1.7	.59	.13	.65	.69	.88	4.5
7	2.1	2.8	2.9	4.5	2.1	1.1	.51	.50	.69	.79	.89	4.3
8	2.1	2.8	2.8	4.2	14	.69	.44	.59	.75	.75	3.7	4.5
9	1.9	2.8	2.8	4.1	14	.59	.43	.30	.93	.54	10	5.7
10	1.7	2.8	3.0	3.8	16	.59	.45	.23	.84	.41	5.8	4.3
11	1.9	2.5	3.9	4.3	16	.50	.44	.23	.69	.47	6.1	4.0
12	.80	2.3	5.5	3.7	15	.51	.93	.50	.69	.55	5.7	3.6
13	1.9	2.4	7.2	3.7	14	.43	.87	2.9	.69	.59	5.7	3.6
14	1.9	2.5	4.6	3.9	12	.43	.53	.98	.59	.44	5.6	3.6
15	1.9	2.5	4.2	3.9	10	.36	.43	1.4	.59	.47	5.3	3.8
16	2.1	2.5	3.8	3.9	11	.39	.39	1.1	.59	.56	5.3	3.9
17	1.9	2.6	3.2	3.9	9.6	.38	.36	.92	.57	.49	5.3	3.9
18	1.9	4.4	3.1	2.0	9.4	.36	.34	.71	.58	.46	5.3	3.9
19	1.9	5.2	2.6	1.1	8.9	.35	.36	1.4	.59	.54	5.3	4.5
20	1.9	3.9	2.1	2.5	7.9	.30	.34	.84	.59	.59	5.3	4.2
21	1.9	5.4	2.8	1.9	7.5	.30	.30	.78	.73	.57	5.3	4.2
22	2.1	4.6	6.5	3.8	7.5	.34	.28	.67	.69	.54	5.3	4.2
23	1.9	3.8	7.3	2.8	7.0	.36	.24	.69	.65	387	5.3	4.2
24	1.7	3.6	7.5	2.8	7.0	.45	.25	.65	.51	14	5.7	4.2
25	1.9	3.6	5.9	2.8	6.7	.43	.38	.70	.07	6.6	5.7	4.2
26	1.9	3.6	5.2	2.9	6.0	4.5	.19	.92	.17	4.2	5.7	4.7
27	1.9	3.6	4.5	3.0	6.0	1.6	.19	.88	.42	2.9	5.3	5.1
28	2.1	3.5	6.3	3.1	5.8	.94	.19	.76	.51	2.1	5.3	5.6
29	2.1	3.0	10	3.3	5.5	.69	.17	.75	.49	1.3	5.3	5.3
30	4.9	2.8	7.6	3.3	---	.69	.17	.78	.45	2.6	5.5	5.3
31	6.5	---	6.8	3.3	---	.69	---	.80	---	2.5	5.7	---
TOTAL	71.20	101.6	140.7	113.7	232.7	40.37	13.07	21.92	18.13	435.23	140.91	134.7
MEAN	2.30	3.39	4.54	3.67	8.02	1.30	.44	.71	.60	14.0	4.55	4.49
MAX	6.5	5.4	10	5.9	16	6.8	.93	2.9	.93	387	10	5.9
MIN	.80	2.3	2.1	1.1	1.9	.30	.17	.13	.07	.41	.69	3.6
AC-FT	141	202	279	226	462	80	26	43	36	863	279	267

CAL YR 1979	TOTAL	39447.30	MEAN	108	MAX	1170	MIN	.80	AC-FT 78240
WTR YR 1980	TOTAL	1464.23	MEAN	4.00	MAX	387	MIN	.07	AC-FT 2900

08104900 SOUTH FORK SAN GABRIEL RIVER AT GEORGETOWN, TX

LOCATION.--Lat 30°37'32", long 97°41'27", Williamson County, Hydrologic Unit 12070205, on right bank at downstream side of downstream bridge of two bridges on Interstate Highway 35, 1.1 mi (1.8 km) southwest of the courthouse at Georgetown, and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--133 mi² (345 km²).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1948, 1962-67, December 1967 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 687.72 ft (209.617 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years (water years 1969-80), 43.8 ft³/s (1.240 m³/s), 4.47 in/yr (114 mm/yr), 31,730 acre-ft/yr (39.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft³/s (572 m³/s) Oct. 31, 1974, gage height, 16.61 ft (5.063 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, about 41 ft (12.5 m) Apr. 24, 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,980 ft³/s (84.4 m³/s) May 13 at 2115 hours, gage height, 7.83 ft (2.387 m), no other peak above base of 2,000 ft³/s (56.6 m³/s); no flow Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	5.9	.38	6.6	4.7	3.9	14	12	43	4.2	.05	.02
2	1.5	1.1	.31	5.2	4.9	5.5	14	29	36	7.0	.05	.02
3	.97	.23	.29	2.9	5.1	5.1	14	18	32	6.4	.05	.02
4	.96	1.8	.31	2.3	2.9	3.7	15	18	28	9.9	.05	.02
5	.76	.87	.32	2.4	.63	3.5	14	15	26	11	.05	.02
6	.68	.33	.31	1.8	1.1	2.9	14	13	21	9.1	.05	.02
7	.67	.12	.59	5.4	5.4	4.2	14	20	22	7.5	.04	.03
8	.94	.07	2.9	2.9	19	4.3	14	124	24	.54	.04	.00
9	.50	.08	2.9	2.7	23	6.6	14	79	18	.21	.04	.99
10	.18	.13	.66	3.5	11	5.9	14	36	22	.21	.04	52
11	.14	.34	.63	4.8	6.4	2.7	14	28	27	.37	.04	20
12	.13	.47	1.0	4.6	3.6	4.2	14	28	20	.43	.04	1.5
13	.11	.62	7.4	5.8	2.9	2.9	14	535	17	.27	.04	.71
14	.10	.54	2.4	5.5	2.3	7.3	14	266	27	3.4	.04	.34
15	.13	.44	.93	4.4	2.0	5.7	14	88	52	.47	.04	.59
16	.18	.38	5.1	3.9	8.1	7.8	14	148	32	.24	.04	.71
17	.13	.51	2.9	4.2	9.6	7.3	14	88	23	.18	.04	.24
18	.08	5.1	.87	4.5	7.3	5.7	13	68	21	.17	.03	.17
19	.07	2.6	.74	4.3	5.7	6.3	14	88	48	.13	.03	15
20	.07	1.3	.74	8.8	5.1	5.7	14	84	18	.13	.03	3.4
21	.06	2.3	.89	7.3	6.2	5.3	14	75	16	.11	.03	1.2
22	.06	2.4	8.9	8.6	4.5	6.4	14	81	17	.10	.03	.54
23	.09	2.0	6.3	8.0	3.1	7.4	14	59	22	.07	.03	.50
24	.06	1.9	7.2	5.2	7.2	6.5	14	56	21	.07	.03	.54
25	.06	2.1	6.3	5.1	2.8	6.1	17	59	17	.06	.03	.61
26	.04	1.8	5.8	5.6	1.6	5.9	16	53	11	.06	.03	2.8
27	.03	.83	4.0	6.9	2.2	35	15	46	13	.05	.03	8.6
28	.05	.55	4.9	6.0	3.2	56	14	44	9.7	.05	.03	28
29	.05	.54	9.8	4.2	4.3	26	14	42	12	.05	.02	13
30	.25	.40	8.2	5.4	---	18	12	64	10	.05	.02	4.5
31	.25	---	5.9	5.0	---	17	---	45	---	.05	.02	---
TOTAL	12.20	37.75	99.87	153.8	165.83	290.8	424	2409	705.7	62.57	1.13	156.09
MEAN	.39	1.26	3.22	4.96	5.72	9.38	14.1	77.7	23.5	2.02	.036	5.20
MAX	2.9	5.9	9.8	8.8	23	56	17	535	52	11	.05	52
MIN	.03	.07	.29	1.8	.63	2.7	12	12	9.7	.05	.02	.00
CFSM	.003	.009	.02	.04	.04	.07	.11	.58	.18	.02	.000	.04
IN.	.00	.01	.03	.04	.05	.08	.12	.67	.20	.02	.00	.04
AC-FT	24	75	198	305	329	577	841	4780	1400	124	2.2	310

CAL YR 1979 TOTAL 24330.21 MEAN 66.7 MAX 1200 MIN .01 CFSM .50 IN 6.81 AC-FT 48260
WTR YR 1980 TOTAL 4518.74 MEAN 12.3 MAX 535 MIN .00 CFSM .09 IN 1.26 AC-FT 8960

08105100 BERRY CREEK NEAR GEORGETOWN, TX

LOCATION.--Lat 30°41'28", long 97°39'21", Williamson County, Hydrologic Unit 12070205, on right bank at upstream side of upstream service road on Interstate Highway 35, 2.9 mi (4.7 km) north of the county courthouse at Georgetown, and 63.2 mi (100.2 km) upstream from mouth.

DRAINAGE AREA.--83.1 mi² (215.2 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1967 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 659.97 ft (201.159 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. No regulation or diversion.

AVERAGE DISCHARGE.--13 years, 27.9 ft³/s (0.790 m³/s), 4.56 in/yr (116 mm/yr), 20,210 acre-ft/yr (24.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft³/s (439 m³/s) Oct. 31, 1974, gage height, 19.33 ft (5.892 m); no flow at times in 1967, 1971-72, and 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1921 occurred September 1921, 25 ft (7.6 m), from information by State Department of Highways and Public Transportation and local residents. Discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,800 ft³/s (334 m³/s) May 13 at 2030 hours, gage height, 18.24 ft (5.560 m), no other peak above base of 1,000 ft³/s (28.3 m³/s); minimum daily, 0.46 ft³/s (0.013 m³/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	2.3	2.4	1.3	1.2	3.6	8.5	9.1	18	3.7	1.1	.51
2	4.8	2.2	2.2	1.3	1.2	3.5	8.5	32	16	3.5	1.0	.59
3	4.7	2.2	2.2	1.3	1.2	3.5	8.5	14	15	3.3	1.1	.67
4	4.8	2.1	2.2	1.3	1.2	3.5	8.8	10	14	3.3	1.1	.66
5	4.8	2.0	2.1	1.3	1.2	3.5	9.2	9.6	14	3.3	1.1	.55
6	4.8	2.0	2.3	1.3	1.2	3.5	9.5	9.6	13	3.1	1.1	.64
7	4.8	2.1	2.4	1.4	1.2	3.5	9.6	13	13	2.8	1.1	.80
8	4.6	1.9	2.2	1.5	2.0	3.5	9.6	68	12	2.6	1.1	.82
9	4.6	2.0	2.2	1.5	15	3.5	9.6	62	12	2.6	1.0	1.9
10	4.9	2.2	2.1	1.5	6.1	3.5	9.6	26	12	2.5	.91	1.2
11	5.0	2.2	2.1	1.6	2.9	3.5	9.6	19	11	2.3	1.1	.85
12	4.8	2.1	2.3	1.6	2.7	3.5	9.3	16	11	2.2	1.1	.75
13	4.8	2.1	2.5	1.6	2.7	3.5	10	2050	10	2.2	.88	.69
14	4.8	2.3	2.4	1.6	2.7	3.5	14	373	9.3	2.0	.88	.60
15	4.8	2.7	2.4	1.6	2.7	3.5	16	135	8.8	1.8	.82	.57
16	4.6	2.7	2.2	1.6	3.1	3.5	12	251	8.7	1.6	.82	.56
17	4.6	2.7	2.2	1.6	3.2	3.5	11	73	8.0	1.6	.82	.51
18	4.6	2.6	2.2	1.6	3.2	3.5	11	52	7.4	1.7	.87	.50
19	4.3	2.5	2.1	1.6	3.2	3.5	10	116	6.7	1.4	.80	.80
20	3.7	2.4	2.1	1.6	3.2	3.5	9.6	62	5.8	1.4	.68	.66
21	3.4	2.5	2.1	1.6	3.4	3.5	9.2	50	5.2	1.3	.62	.56
22	3.3	2.4	2.2	1.6	3.5	3.5	9.0	46	5.1	1.4	.63	.50
23	3.5	2.2	2.1	1.3	3.4	3.4	8.8	39	4.6	1.3	.62	.46
24	3.3	2.1	1.8	1.3	3.2	3.2	8.5	35	4.3	1.2	.56	.51
25	3.3	2.1	1.7	1.3	3.2	3.2	8.7	31	3.9	1.3	.57	.51
26	3.3	1.9	1.7	1.3	3.2	3.0	8.7	28	4.2	1.2	.57	.51
27	2.9	2.0	1.6	1.2	3.2	37	10	25	4.1	1.3	.56	.68
28	2.8	2.5	1.7	1.2	3.2	59	10	23	4.1	1.2	.51	1.0
29	2.7	2.7	1.9	1.2	3.6	16	9.8	21	3.9	1.2	.57	.88
30	2.7	2.2	1.6	1.2	---	9.2	9.6	21	3.9	1.2	.56	.82
31	2.4	---	1.5	1.2	---	8.5	---	19	---	1.1	.51	---
TOTAL	127.2	67.9	64.7	44.1	91.0	219.6	296.2	3738.3	269.0	62.6	25.66	21.26
MEAN	4.10	2.26	2.09	1.42	3.14	7.08	9.87	121	8.97	2.02	.83	.71
MAX	5.0	2.7	2.5	1.6	15	59	16	2050	18	3.7	1.1	1.9
MIN	2.4	1.9	1.5	1.2	1.2	3.0	8.5	9.1	3.9	1.1	.51	.46
CFSM	.05	.03	.03	.02	.04	.09	.12	1.46	.11	.02	.01	.009
IN.	.06	.03	.03	.02	.04	.10	.13	1.67	.12	.03	.01	.01
AC-FT	252	135	128	87	180	436	588	7410	534	124	51	42

CAL YR 1979	TOTAL	19786.47	MEAN 54.2	MAX 1300	MIN .97	CFSM .65	IN 8.86	AC-FT 39250				
WTR YR 1980	TOTAL	5027.52	MEAN 13.7	MAX 2050	MIN .46	CFSM .17	IN 2.25	AC-FT 9970				

08105100 BERRY CREEK NEAR GEORGETOWN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Sediment records: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT					
02...	1130	4.8	21.5	123	1.6
NOV					
13...	1405	2.1	--	78	.45
DEC					
31...	1150	1.4	11.0	60	.23
FEB					
07...	1325	1.2	11.0	26	.09

08105300 SAN GABRIEL RIVER NEAR WEIR, TX

LOCATION.--Lat 30°38'45", long 97°35'06", Williamson County, Hydrologic Unit 12070205, on left bank at downstream side of State Highway 29 bridge, 0.5 mi (0.8 km) upstream from Manske Branch, 4.7 mi (7.6 km) east of Georgetown, and 54.8 mi (88.2 km) upstream from mouth.

DRAINAGE AREA.--563 mi² (1,458 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 582.04 ft (177.406 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow regulated to some extent since March 1980 by Lake Georgetown. During the current year, the city of Georgetown released 1,174 acre-ft (1.45 hm³) of sewage effluent into the river 6.5 mi (10.5 km) above this station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,100 ft³/s (513 m³/s) Apr. 15, 1977, gage height, 14.90 ft (4.542 m); minimum daily, 0.45 ft³/s (0.013 m³/s) Aug. 22, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,400 ft³/s (351 m³/s) May 13 at 2300 hours, gage height, 13.14 ft (4.005 m); minimum daily, 10 ft³/s (0.28 m³/s) July 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	33	30	38	33	64	53	47	76	25	12	13
2	38	29	30	39	35	46	55	73	72	21	12	13
3	38	27	29	38	35	46	51	62	66	20	12	13
4	36	27	29	34	34	44	48	52	64	20	11	13
5	36	27	29	33	32	40	46	51	62	21	11	13
6	36	26	28	34	30	40	47	48	59	21	12	13
7	36	27	27	33	30	39	49	66	56	20	12	18
8	34	28	26	33	95	38	49	160	56	18	13	19
9	34	29	29	32	157	37	44	212	56	17	13	44
10	32	28	30	30	89	36	42	100	55	16	14	23
11	32	29	28	30	67	36	42	81	56	14	19	23
12	31	29	29	29	55	35	61	79	55	13	18	17
13	30	29	44	29	50	33	76	1840	54	14	17	15
14	30	30	42	42	48	34	66	1760	54	13	17	15
15	30	30	38	34	46	33	61	488	51	11	15	15
16	29	30	36	28	60	35	53	918	53	12	15	14
17	28	31	36	27	54	35	51	362	50	12	15	14
18	27	33	34	27	52	31	49	286	48	11	15	14
19	27	39	35	27	51	30	48	361	48	11	15	209
20	26	33	35	29	49	32	48	228	43	10	15	18
21	25	35	34	34	48	31	48	175	46	10	15	16
22	26	33	46	42	49	30	44	204	43	11	15	15
23	26	32	55	38	48	32	44	150	41	149	15	14
24	25	32	52	33	47	33	44	139	36	23	15	15
25	26	33	43	32	49	35	57	126	34	15	15	15
26	26	32	40	33	46	33	54	108	32	14	14	16
27	27	31	39	34	45	244	59	99	29	13	13	19
28	26	29	42	33	46	229	54	92	27	12	14	29
29	27	29	61	33	50	96	47	89	28	12	14	23
30	31	29	46	33	---	66	46	87	27	13	14	20
31	32	---	41	33	---	58	---	79	---	13	14	---
TOTAL	946	909	1143	1024	1530	1651	1536	8622	1477	605	441	718
MEAN	30.5	30.3	36.9	33.0	52.8	53.3	51.2	278	49.2	19.5	14.2	23.9
MAX	39	39	61	42	157	244	76	1840	76	149	19	209
MIN	25	26	26	27	30	30	42	47	27	10	11	13
AC-FT	1880	1800	2270	2030	3030	3270	3050	17100	2930	1200	875	1420

CAL YR 1979	TOTAL 116214	MEAN 318	MAX 3760	MIN 25	AC-FT 230500			
WTR YR 1980	TOTAL 20602	MEAN 56.3	MAX 1840	MIN 10	AC-FT 40860			

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1976 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: December 1976 to current year.

INSTRUMENTATION.--Water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum values are not shown, mean value is estimated.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum daily, 35.0°C July 24, 1977; minimum daily, 2.5°C Jan. 22, 1978, Jan. 2, 1979.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Minimum daily, 5.0°C Feb. 1, 10-11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT												
17...	1410	26	540	7.8	24.0	5	--	15.4	186	.1	240	19
NOV												
14...	1600	26	600	8.1	12.5	5	.70	17.2	161	1.0	260	35
DEC												
19...	1310	33	603	7.9	8.0	5	.40	14.2	121	.5	270	24
JAN												
21...	1200	36	597	7.5	13.0	5	.70	7.5	72	1.2	270	37
FEB												
19...	1015	48	519	7.5	11.0	20	2.5	10.0	93	2.1	230	32
MAR												
13...	1715	32	525	8.0	21.0	10	4.3	14.0	157	3.2	220	13
APR												
09...	1030	44	515	7.3	18.5	0	1.5	6.7	71	1.5	--	--
MAY												
15...	1515	432	358	7.4	20.5	30	36	8.4	95	1.7	170	20
JUN												
11...	1830	63	419	7.9	27.0	5	23	13.5	171	.7	180	18
JUL												
10...	1525	18	401	7.8	30.0	5	25	13.3	177	1.8	170	18
AUG												
13...	1220	19	490	7.3	28.0	5	33	4.8	62	3.4	200	19
SEP												
10...	1020	22	434	7.5	24.0	25	140	5.4	64	1.8	180	18

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT												
17...	70	16	16	.4	1.6	270	0	19	23	.2	7.0	286
NOV												
14...	78	17	17	.5	1.6	280	0	19	25	.2	5.1	301
DEC												
19...	79	18	17	.5	1.4	300	0	21	27	.2	2.7	314
JAN												
21...	82	17	17	.4	1.8	290	0	21	29	.2	6.2	317
FEB												
19...	67	15	16	.5	1.3	240	0	27	26	.3	1.8	273
MAR												
13...	66	13	17	.5	1.5	250	0	24	24	.2	3.9	273
APR												
09...	--	13	16	--	1.4	250	0	26	22	.3	.2	--
MAY												
15...	57	6.1	6.4	.2	2.5	180	0	17	8.1	.2	12	198
JUN												
11...	53	12	13	.4	1.1	200	0	20	18	.2	9.3	225
JUL												
10...	45	15	16	.5	2.1	190	0	18	23	.3	10	223
AUG												
13...	50	18	22	.7	2.3	220	0	20	31	.2	4.9	257
SEP												
10...	53	12	15	.5	2.6	200	0	20	23	.2	8.4	233

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT 17...	--	--	1.9	.180	2.1	.000	.55	.55	.110	2.3	2	.10
NOV 14...	4	0	2.5	.120	2.6	.010	.71	.72	.190	8.4	0	.00
DEC 19...	1	0	2.3	.210	2.5	.020	.76	.78	.190	16	0	.10
JAN 21...	0	0	2.1	.340	2.4	.350	.06	.41	.410	8.5	2	.10
FEB 19...	4	4	1.1	.050	1.1	.030	.53	.56	.150	4.6	2	.00
MAR 13...	0	0	1.3	.110	1.4	.260	.74	1.0	.120	6.1	1	.00
APR 09...	9	1	1.2	.120	1.3	.360	.74	1.1	.200	5.3	1	.10
MAY 15...	50	86	.79	.020	.81	.180	.55	.73	.100	8.7	0	.00
JUN 11...	4	3	.64	.030	.67	.030	.46	.49	.060	9.2	1	.00
JUL 10...	13	3	.04	.020	.06	.060	1.2	1.3	.030	5.4	1	.00
AUG 13...	117	90	.26	.050	.31	.070	.83	.90	.070	8.4	2	.10
SEP 10...	186	4	.65	.090	.74	.290	1.0	1.3	.370	13	3	.00

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 17...	1410	1	40	<1	0	0	<10
FEB 19...	1015	1	50	<1	0	1	<10
JUN 11...	1830	1	40	<1	0	1	<10
AUG 13...	1220	2	50	<1	0	0	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 17...	0	5	.1	0	0	<3
FEB 19...	1	20	.4	0	5	5
JUN 11...	0	2	.2	0	0	<3
AUG 13...	0	2	.0	0	0	3

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1				---	---	---	11.5	6.5	9.0	13.0	8.0	10.5
2				---	---	---	11.5	6.5	9.0	13.0	9.0	11.0
3				---	---	---	11.0	7.5	9.0	11.5	10.5	11.0
4				---	---	---	13.0	7.0	10.0	12.5	7.5	10.0
5				---	---	---	14.0	10.0	11.5	11.0	8.0	9.5
6				---	---	---	14.0	10.5	12.5	14.5	8.0	11.0
7				---	---	---	14.0	9.0	11.5	12.0	10.0	11.0
8				---	---	---	14.0	9.5	11.5	11.0	8.5	9.5
9				---	---	---	13.5	9.5	11.5	11.5	10.0	10.5
10				---	---	---	13.5	10.5	12.0	11.5	10.5	11.0
11				---	---	---	16.5	13.5	15.0	13.0	10.5	12.0
12				---	---	---	16.0	11.0	13.0	13.5	10.0	11.5
13				---	---	---	11.0	10.0	10.5	14.5	10.0	12.0
14				19.5	13.0	15.0	12.0	10.0	10.5	15.5	10.5	12.5
15				15.0	10.0	12.0	14.0	10.0	11.5	17.0	13.0	15.0
16				14.5	10.5	12.5	12.5	9.5	11.0	18.0	15.5	16.5
17				15.0	11.5	13.0	10.0	7.0	8.0	16.5	14.5	15.5
18				17.5	13.5	15.5	11.0	5.5	8.0	18.0	12.5	15.0
19				20.0	16.0	18.0	11.0	6.5	9.0	16.0	15.0	15.5
20				21.0	18.5	19.5	14.0	8.5	11.0	15.5	14.0	15.0
21				20.0	16.5	18.5	14.5	12.0	13.5	14.0	12.5	13.0
22				16.0	12.5	14.0	16.5	14.5	15.5	13.5	10.5	12.0
23				15.0	10.0	12.5	16.5	14.5	16.0	13.5	9.5	11.0
24				12.5	11.0	11.5	16.0	13.0	14.5	13.5	9.0	11.0
25				15.0	10.0	12.0	15.5	11.0	13.0	12.5	9.5	11.0
26				16.0	11.0	13.0	16.0	11.5	13.0	15.0	10.0	12.0
27				17.0	12.0	15.0	16.0	12.5	14.0	11.5	9.5	10.5
28				15.0	12.0	13.5	14.5	13.5	14.0	9.5	8.5	9.0
29				12.5	9.0	11.0	16.0	13.0	14.0	8.0	7.0	7.5
30				11.5	7.0	9.5	13.5	11.0	12.0	8.0	7.0	7.5
31				---	---	---	13.5	10.0	11.5	7.5	6.0	6.5
MONTH				21.0	7.0	14.0	16.5	5.5	12.0	18.0	6.0	11.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.0	5.0	6.5	19.5	12.5	15.0						
2	8.5	6.5	7.5	14.0	8.0	10.5						
3	13.0	5.5	9.0	13.5	7.5	10.0						
4	12.0	8.0	10.0	19.0	10.0	13.5						
5	14.0	10.5	12.0	18.0	13.0	15.5						
6	15.5	10.0	12.5	20.0	12.5	15.0						
7	13.5	11.0	11.5	20.0	16.0	17.5						
8	11.5	10.0	11.0	20.5	17.5	18.5						
9	10.0	6.0	7.5	21.0	---	---						
10	8.0	5.0	6.5	22.5	17.5	19.5						
11	9.0	5.0	7.0	22.5	17.5	19.0						
12	10.5	7.0	8.5	23.5	18.5	19.5						
13	12.5	8.5	10.5	23.5	17.0	20.0						
14	13.5	11.5	12.5	22.0	16.0	18.0						
15	19.5	13.5	16.0	19.5	15.5	16.5						
16	16.5	10.5	13.0	20.5	17.0	19.0						
17	11.5	7.5	9.5	20.5	14.0	17.0						
18	13.5	7.5	10.0	20.5	15.5	17.5						
19	17.5	10.0	13.0	18.0	18.0	18.0						
20	20.0	12.5	15.5	21.0	18.0	20.0						
21	20.5	15.0	17.5	22.0	15.0	18.0						
22	21.0	15.0	17.5	21.0	15.0	17.5						
23	20.5	15.5	17.5	20.5	16.0	18.5						
24	20.0	15.0	17.0	21.5	15.5	17.5						
25	19.5	13.5	16.0	21.0	16.0	18.5						
26	17.5	13.0	15.0	20.0	16.5	18.5						
27	19.0	12.5	15.0	24.0	19.0	20.5						
28	20.5	14.0	16.0	23.5	17.5	19.5						
29	21.5	16.0	18.0	26.5	20.0	23.0						
30	---	---	---	25.5	13.5	20.5						
31	---	---	---	27.0	16.0	22.0						
MONTH	21.5	5.0	12.5	27.0	7.5	18.0						

08105600 GRANGER LAKE NEAR GRANGER, TX

LOCATION.--Lat 30°41'34", long 97°19'34", Williamson County, Hydrologic Unit 12070205, at Granger Dam on San Gabriel River, 1.5 mi (2.4 km) south of Friendship, 2.2 mi (3.5 km) upstream from Willis Creek, 7.1 mi (11.4 km) east of Granger, and at mile 31.9 (51.3 km).

DRAINAGE AREA.--730 mi² (1,891 km²).

PERIOD OF RECORD.--January to September 1980.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 27, 1980, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam, 16,320 ft (4,974 m) long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Jan. 21, 1980. The emergency spillway is an ungated ogee weir, 950 ft (290 m) long, located near right end of dam. The spillway for normal flood releases is a gated 18-foot-diameter (5.5 m) conduit, controlled by two 8- by 18-foot (2 by 5 m) slide gates, located near the center of dam. The invert for the floodgate is 457.0 ft (139.3 m). A low-flow outlet, consisting of three 3- by 4-foot (0.9 by 1.2 m) gated openings, invert elevations of 486.0, 494.0, and 502.0 ft (148.13, 150.57, and 153.01 m). Figures given herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	555.0	674,500
Designed flood	550.3	580,000
Crest of emergency spillway	528.0	244,200
Top of conservation pool	504.0	65,510
Lowest gated outlet (invert of 18 foot conduit)	457.0	0

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 37.300 acre-ft (46.0 hm³) June 22, 1980, elevation, 495.90 ft (151.150 m); minimum, 615 acre-ft (0.758 hm³) Jan. 21, 1980, elevation 462.60 ft (141.000 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents during period January to September, 37,300 acre-ft (46.0 hm³) June 22, 1980, elevation, 495.90 ft (151.150 m); minimum, 615 acre-ft (0.758 hm³) Jan. 21, 1980, elevation, 462.60 ft (141.000 m).

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

462.0	551	482.0	11,580
467.0	1,360	487.0	18,800
472.0	2,990	492.0	27,900
477.0	6,110	497.0	40,410

CONTENTS, IN ACRE-FEET, JANUARY TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	2610	9170	15410	19520	36280	36920	34990	33320
2				---	2730	9320	15560	19670	36280	36870	34920	33250
3				---	2860	9440	15600	19780	36440	36790	34810	33150
4				---	2990	9550	15700	19860	36520	36740	34660	33100
5				---	3120	9680	15750	19980	36570	36680	34580	33030
6				---	3210	9790	15850	20030	36680	36630	34530	33080
7				---	3320	9990	16040	20200	36680	36550	34480	33300
8				---	3720	10160	16190	20530	36840	36520	34400	33470
9				---	4740	10260	16190	21130	36950	36440	34330	33500
10				---	5310	10390	16260	21400	36900	36390	34300	33600
11				---	5620	10510	16340	21590	36920	36310	34300	33720
12				---	5860	10640	16530	21920	36950	36230	34200	33720
13				---	6070	10760	17360	22640	37030	36090	34200	33670
14				---	6160	10810	17610	28580	37060	36040	34120	33650
15				---	6500	10890	17790	29790	37060	35960	34070	33620
16				---	6830	11120	17870	31370	37060	35880	34050	33550
17				---	6990	11280	17980	32180	37060	35800	34000	33500
18				---	7260	11320	18070	32540	37090	35720	34000	33450
19				---	7460	11320	18170	33050	37090	35650	33950	33750
20				---	7670	11400	18250	33670	37090	35570	33870	34000
21				615	7800	11450	18320	34120	37250	35520	33820	34050
22				1040	7900	11540	18400	34510	37300	35440	33770	34000
23				1360	8000	11670	18480	34760	37300	35380	33720	34000
24				1520	8250	11790	18560	35050	37280	35540	33620	33970
25				1640	8420	11930	18960	35360	37250	35490	33600	34000
26				1700	8530	12060	19080	35440	37200	35440	33520	34000
27				1930	8640	13500	19180	35650	37200	35310	33470	34020
28				2080	8750	14540	19260	35780	37060	35230	33400	34180
29				2220	8940	14910	19340	35880	36980	35230	33470	34250
30				2370	---	15120	19390	36070	36950	35150	33450	34330
31				2490	---	15270	---	36150	---	35070	33400	---
MAX				---	8940	15270	19390	36150	37300	36920	34990	34330
MIN				---	2610	9170	15410	19520	36280	35070	33400	33030

08105700 SAN GABRIEL RIVER AT LANEPORT, TX

LOCATION.--L t 30°41'40", long 97°16'43", Williamson County, Hydrologic Unit 12070205, on right bank 22 ft (7 m) downstream from county bridge, 0.2 mi (0.3 km) north of Laneport, 3.4 mi (5.5 km) downstream from Willis Creek, 7.5 mi (12.1 km) northwest of Thrall, and 26.2 mi (42.2 km) upstream from mouth.

DRAINAGE AREA.--738 mi² (1,911 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD TX-74-1: 1965(M), 1966(P), 1967(M), 1968, 1969(P), 1973(P). WDR TX-76-2: **Drainage area.**

GAGE.--Water-stage recorder. Datum of gage is 412.60 ft (125.760 m) National Geodetic Vertical **Datum of 1929.**

REMARKS.--Water-discharge records good. Flow partly regulated by Granger Lake since Jan. 21, **1980.**

AVERAGE DISCHARGE.--14 years (water years 1966-79) unregulated, 289 ft³/s (8.184 m³/s), 209,400 **acre-ft/yr (258** hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft³/s (884 m³/s) Oct. 31, 1974, gage **height, 30.80 ft** (9.388 m); minimum daily, 0.28 ft³/s (0.008 m³/s) Aug. 25-28, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1910, occurred September 1921, 39.6 ft (12.07 m); **April 1957,** 34.6 ft (10.55 m); and October 195?, 33.8 ft (10.30 m); from floodmarks at present site and datum. **Discharge not** determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 132 ft³/s (3.738 m³/s) Apr. 25, gage height, 6.24 ft (1.902 m); minimum daily, 1.2 ft³/s (0.034 m³/s) Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	54	42	55	1.9	4.6	1.5	15	15	12	9.2	8.1
2	48	52	42	52	1.9	3.6	17	12	15	12	9.2	8.1
3	46	46	43	51	1.9	2.9	34	11	15	13	8.8	8.1
4	44	47	43	49	1.9	2.7	28	11	15	13	8.8	8.1
5	42	46	44	45	1.9	2.6	28	10	14	12	9.2	8.0
6	41	45	43	46	3.1	2.6	28	10	14	13	9.5	9.7
7	41	44	43	43	2.7	2.6	28	11	14	13	9.5	23
8	41	52	42	42	5.7	2.6	28	15	14	13	9.9	12
9	41	44	42	44	9.9	2.6	27	12	14	13	10	11
10	41	40	46	43	5.3	2.3	25	11	14	13	9.6	10
11	40	39	49	44	2.4	2.2	13	8.1	14	13	9.6	9.9
12	40	42	47	42	2.0	2.2	20	12	14	12	9.6	9.6
13	40	42	52	42	1.9	2.3	24	18	14	12	9.5	9.6
14	40	41	60	42	1.9	2.4	17	19	14	11	9.1	9.6
15	40	41	53	59	1.9	2.4	16	38	14	11	8.8	9.6
16	48	41	47	50	3.7	2.4	15	26	14	11	8.8	9.6
17	54	41	45	44	3.9	2.4	15	20	14	11	8.8	9.3
18	48	43	46	43	2.5	2.4	15	17	13	10	8.8	9.6
19	46	47	44	42	2.1	2.4	14	15	13	10	8.8	13
20	42	55	43	51	2.1	2.6	12	5.4	13	9.4	8.8	10
21	39	53	42	44	1.9	2.5	12	3.8	15	8.8	8.8	9.9
22	38	55	45	12	1.9	2.2	12	3.2	15	8.7	8.8	10
23	37	53	65	6.8	1.7	2.6	12	14	14	8.8	8.8	8.8
24	37	48	101	3.0	1.5	2.7	13	15	14	8.8	8.7	2.0
25	38	51	68	2.1	1.5	2.6	45	15	13	9.4	8.5	1.2
26	38	49	56	1.9	1.5	2.5	15	15	13	9.6	8.5	6.4
27	38	48	51	1.9	1.5	14	12	15	13	9.6	8.5	8.2
28	38	45	51	1.9	1.7	11	12	15	13	9.2	8.3	8.8
29	38	42	93	2.0	2.2	3.7	11	15	13	9.6	9.5	8.3
30	43	42	84	2.1	---	2.1	11	15	13	9.6	8.7	9.3
31	55	---	61	2.1	---	1.7	---	15	---	9.2	8.4	---
TOTAL	1310	1388	1633	1008.8	76.0	100.4	560.5	437.5	417	338.7	279.8	278.8
MEAN	42.3	46.3	52.7	32.5	2.62	3.24	18.7	14.1	13.9	10.9	9.03	9.29
MAX	55	55	101	59	9.9	14	45	38	15	13	10	23
MIN	37	39	42	1.9	1.5	1.7	1.5	3.2	13	8.7	8.3	1.2
AC-FT	2600	2750	3240	2000	151	199	1110	868	827	672	555	553

CAL YR 1979 TOTAL 150837.9 MEAN 413 MAX 3660 MIN 4.6 AC-FT 299200
WTR YR 1980 TOTAL 7828.5 MEAN 21.4 MAX 101 MIN 1.2 AC-FT 15530

08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: July 1972 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: December 1976 to current year.

INSTRUMENTATION.--Water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum values are not shown, mean value is estimated.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum daily, 37.5°C July 9, 1978; minimum daily, 1.5°C Jan. 28, 1978.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum daily, 35.0°C June 27; minimum daily, 7.5°C Dec. 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 17...	1250	54	640	7.3	23.5	5	--	8.2	98	.2	220	54
NOV 14...	1400	39	720	7.5	12.5	5	12	10.0	93	1.0	250	49
DEC 19...	1040	45	685	7.6	7.5	5	4.9	11.8	98	.1	280	45
JAN 21...	1450	55	641	7.6	13.5	5	10	9.4	91	1.0	250	47
FEB 19...	1230	2.4	697	7.4	13.0	15	9.5	12.6	122	1.2	280	95
MAR 13...	1530	2.4	752	7.3	20.0	5	20	9.6	105	1.3	280	54
APR 09...	1135	27	544	7.5	17.5	5	33	9.4	98	2.6	200	34
MAY 15...	1320	56	418	7.3	19.0	20	200	7.4	81	3.9	160	36
JUN 11...	1950	14	508	7.2	26.0	15	21	5.8	72	.5	200	28
JUL 10...	1325	13	467	7.3	29.5	15	27	6.3	83	.9	190	27
AUG 13...	1405	10	505	7.4	28.0	5	48	6.4	82	1.4	200	19
SEP 10...	0835	10	456	7.3	24.5	10	45	5.2	63	.5	180	20

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 17...	69	11	37	1.1	1.9	200	0	55	42	.4	7.8	323
NOV 14...	77	15	24	.7	1.8	250	0	32	34	.2	6.9	314
DEC 19...	87	16	25	.6	1.8	290	0	34	39	.3	5.1	351
JAN 21...	78	14	27	.7	1.8	250	0	42	43	.3	4.6	334
FEB 19...	87	14	40	1.1	2.1	220	0	78	54	.3	7.3	391
MAR 13...	89	15	33	.9	2.1	280	0	70	50	.3	8.2	406
APR 09...	61	11	26	.8	3.1	200	0	43	38	.3	.2	281
MAY 15...	53	6.4	20	.7	3.7	150	0	43	24	.3	10	234
JUN 11...	65	9.1	20	.6	3.5	210	0	29	27	.1	8.6	266
JUL 10...	61	9.3	19	.6	4.2	200	0	26	25	.4	9.8	253
AUG 13...	64	9.7	20	.6	4.4	220	0	25	28	.3	11	271
SEP 10...	56	8.8	17	.6	4.3	190	0	31	27	.3	11	249

08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT 17...	--	--	2.8	.120	2.9	.000	.55	.55	.020	2.7	2	.00
NOV 14...	24	0	3.6	.040	3.6	.030	.47	.50	.010	3.5	0	.00
DEC 19...	6	6	1.8	.080	1.9	.010	.80	.81	.070	8.0	0	.10
JAN 21...	24	10	3.4	.100	3.5	.070	.13	.20	.100	3.1	2	.00
FEB 19...	14	7	1.4	.010	1.4	.000	.64	.64	.020	3.8	0	.00
MAR 13...	31	6	4.4	.030	4.4	.020	.77	.79	--	14	1	.00
APR 09...	57	14	1.1	.050	1.1	.150	1.1	1.2	.070	9.6	2	.10
MAY 15...	352	19	.93	.070	1.0	.300	1.4	1.7	.240	15	0	.00
JUN 11...	36	10	.88	.020	.90	.090	.72	.81	.040	3.8	4	.00
JUL 10...	48	1	.69	.020	.71	.110	.80	.91	.020	11	0	--
AUG 13...	108	86	.36	.010	.37	.270	.51	.78	.030	7.2	0	.00
SEP 10...	112	6	.65	.020	.67	.070	.80	.87	.060	8.4	3	.00

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 17...	1250	2	60	<1	0	0	<10
FEB 19...	1230	1	70	<1	0	0	<10
JUN 11...	1950	4	60	<1	0	1	10
AUG 13...	1405	6	60	<1	0	0	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 17...	0	4	.1	1	0	9
FEB 19...	0	10	.4	2	0	<3
JUN 11...	0	30	.2	1	0	<3
AUG 13...	0	10	.2	0	0	<3

08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	27.5	25.5	26.5	19.5	19.0	19.5	11.0	9.5	10.0	11.0	10.5	11.0
2	27.0	25.5	26.5	19.0	18.0	18.5	11.0	9.5	10.0	11.5	10.5	11.0
3	27.0	25.0	26.0	18.5	17.5	18.0	11.0	9.5	10.5	11.5	10.0	11.0
4	25.5	23.5	25.0	18.0	17.0	17.5	11.0	10.0	10.5	10.5	9.5	10.0
5	23.5	22.5	23.0	18.0	17.0	17.5	12.5	10.5	11.5	10.5	9.5	10.0
6	24.5	22.5	23.5	18.0	17.0	17.5	13.0	11.5	12.0	12.0	9.5	10.5
7	25.0	23.0	24.0	16.5	16.0	16.5	12.0	10.5	11.5	11.5	10.5	11.5
8	26.0	23.5	25.0	18.0	16.0	17.0	12.5	11.0	11.5	10.5	10.0	10.5
9	26.0	24.0	25.0	19.0	17.5	18.5	12.5	11.0	11.5	11.0	10.5	11.0
10	24.0	21.5	23.0	18.0	16.0	17.5	13.0	11.5	12.5	12.5	11.0	11.5
11	23.5	21.0	22.0	16.0	15.0	15.5	15.0	13.5	14.0	13.5	12.5	12.5
12	24.5	22.5	23.5	15.5	14.5	15.0	15.0	12.5	14.0	12.5	11.0	12.0
13	25.0	23.5	24.5	15.0	14.0	14.5	12.0	11.0	11.5	12.5	11.0	11.5
14	24.5	23.5	24.0	14.5	13.5	14.0	11.0	11.0	11.0	13.5	11.5	12.5
15	24.5	23.0	23.5	14.5	13.0	13.5	11.5	11.0	11.0	15.0	13.0	14.0
16	25.5	24.0	24.5	15.0	13.0	14.0	12.0	10.5	11.0	16.0	15.0	15.5
17	26.5	25.0	25.5	15.0	13.5	14.0	10.5	8.0	9.5	15.5	14.5	15.5
18	26.5	25.5	26.0	16.0	14.0	15.5	9.0	7.5	8.0	15.5	14.0	15.0
19	26.5	25.0	26.0	18.0	16.0	17.0	10.5	8.5	9.5	16.0	15.5	16.0
20	27.0	25.5	26.0	20.0	18.0	19.0	12.0	10.0	11.0	16.0	15.5	16.0
21	27.0	26.0	26.5	20.0	18.5	19.5	13.5	11.5	12.5	15.5	13.5	14.5
22	26.0	24.0	25.5	18.0	15.0	16.5	15.0	13.5	14.5	13.5	12.0	13.0
23	23.5	21.0	22.5	14.5	13.5	14.0	15.5	14.5	15.0	13.0	11.0	12.0
24	21.5	20.0	20.5	14.5	13.5	14.0	14.0	13.5	14.0	13.0	11.0	12.0
25	21.5	19.5	20.5	14.0	13.5	13.5	14.0	12.5	13.0	13.5	12.0	12.5
26	21.5	19.5	20.5	14.5	13.5	14.0	13.5	13.0	13.5	14.5	12.0	13.0
27	22.5	20.0	21.0	16.0	13.5	15.0	14.5	13.0	14.0	13.0	11.5	12.0
28	23.0	21.0	22.0	15.0	12.5	14.0	14.5	13.5	14.0	11.5	11.0	11.5
29	23.5	21.5	22.5	12.5	11.0	11.5	13.5	13.0	13.5	11.0	10.5	10.5
30	23.0	21.0	22.5	11.0	10.0	10.5	13.0	11.5	12.0	10.5	10.0	10.5
31	21.0	19.5	20.0	---	---	---	12.0	11.0	11.5	10.0	9.0	9.5
MONTH	27.5	19.5	24.0	20.0	10.0	16.0	15.5	7.5	12.0	16.0	9.0	12.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.5	8.0	9.5	18.0	13.5	15.5	23.0	20.0	21.5	21.5	20.5	21.0
2	10.5	9.5	10.0	14.0	11.0	12.5	22.5	21.5	22.0	22.5	20.5	21.5
3	13.0	9.5	11.0	14.5	11.0	13.0	22.5	21.0	22.0	23.0	21.0	22.0
4	12.5	10.5	11.5	18.0	14.0	15.5	22.5	19.5	21.0	23.0	21.5	22.5
5	15.5	12.5	13.5	18.0	15.5	16.5	23.0	19.5	21.0	23.5	22.0	22.5
6	14.5	12.0	13.5	18.5	14.5	16.5	22.5	19.5	21.0	24.5	22.0	23.0
7	14.0	13.5	14.0	20.0	18.0	19.0	25.5	21.0	23.0	24.5	22.0	23.5
8	14.0	12.5	13.5	20.5	19.0	19.5	24.5	22.0	23.5	24.5	21.5	23.0
9	12.0	9.5	11.0	20.0	17.5	19.0	23.5	20.0	22.0	23.0	20.5	22.0
10	10.5	9.0	10.0	22.0	18.5	20.0	23.5	20.0	22.0	22.5	21.0	21.5
11	11.5	10.0	10.5	21.0	19.5	20.0	23.0	22.0	22.5	24.0	22.5	23.0
12	12.5	11.0	11.5	22.5	20.0	21.0	22.5	18.5	20.5	28.0	23.0	25.0
13	14.0	11.5	13.0	22.0	19.0	20.5	18.5	15.5	17.0	28.0	26.0	27.0
14	16.0	14.0	15.0	20.0	18.5	19.0	17.5	15.0	16.0	25.5	25.0	25.0
15	19.5	16.0	17.5	20.5	17.5	19.0	19.0	16.0	17.5	25.5	24.5	25.0
16	18.0	12.5	14.5	21.0	20.0	20.5	21.0	18.0	19.5	26.5	24.5	25.0
17	13.0	10.5	12.0	21.5	19.5	20.5	22.0	20.0	21.0	29.0	25.0	27.0
18	14.0	11.5	13.0	20.5	17.0	18.5	21.5	19.5	21.0	29.5	27.0	28.5
19	17.0	13.0	15.0	19.0	17.5	18.5	22.0	19.5	21.0	30.5	28.0	29.0
20	18.5	15.5	17.0	22.5	18.5	20.0	22.5	19.5	21.0	31.5	27.5	29.5
21	19.5	16.5	18.0	22.5	18.5	20.5	22.0	20.0	21.0	31.5	28.0	29.5
22	19.5	16.5	18.0	21.0	18.5	20.0	22.0	20.0	21.0	29.5	27.0	28.5
23	20.0	17.0	18.5	21.5	20.0	20.5	22.0	20.5	21.0	30.0	26.5	28.0
24	19.5	16.5	18.0	22.5	19.0	20.5	22.5	20.5	21.5	32.5	27.5	29.5
25	19.0	16.0	17.5	20.5	19.0	19.5	22.0	19.0	21.0	33.0	29.5	30.5
26	17.0	15.0	16.5	19.5	18.5	19.0	21.5	19.5	20.5	34.0	29.5	31.5
27	18.0	14.5	16.5	19.5	18.5	19.0	21.5	19.5	20.5	34.0	30.0	31.5
28	19.0	15.5	17.5	22.0	18.0	20.0	21.5	19.0	20.5	32.0	29.5	31.0
29	20.5	18.0	19.0	24.0	21.0	22.5	22.5	20.0	21.0	31.5	30.0	31.0
30	---	---	---	23.5	19.5	21.5	22.0	20.5	21.0	31.5	30.0	31.0
31	---	---	---	21.0	20.0	20.5	---	---	---	31.5	29.5	30.5
MONTH	20.5	8.0	14.5	24.0	11.0	19.0	25.5	15.0	21.0	34.0	20.5	26.5

08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	31.5	29.5	30.5	34.5	29.0	32.5	---	---	---	32.0	30.0	30.5
2	31.5	29.5	30.5	34.5	31.5	33.0	---	---	---	31.5	30.0	31.0
3	31.5	29.0	30.5	34.0	31.5	33.0	---	---	---	31.5	29.0	30.5
4	32.0	30.0	31.0	34.0	31.5	32.5	---	---	---	31.5	29.5	30.5
5	32.5	30.0	31.0	33.5	24.0	32.0	---	---	---	31.5	29.5	30.5
6	31.5	30.0	31.0	33.5	31.5	32.5	---	---	---	30.5	29.0	30.0
7	32.0	21.0	30.5	33.5	31.5	32.5	---	---	---	29.5	28.5	29.0
8	31.5	28.5	31.0	33.5	31.0	32.0	---	---	---	29.0	28.0	28.5
9	31.0	21.0	29.5	33.5	23.5	31.5	---	---	---	29.5	28.0	28.5
10	31.0	27.5	29.5	33.5	31.5	32.5	---	---	---	30.5	28.5	29.5
11	30.5	27.0	29.5	34.0	31.5	32.5	31.0	21.0	30.0	31.0	29.0	30.0
12	31.5	26.5	29.5	33.5	31.5	32.5	31.5	21.0	29.5	31.0	28.5	30.0
13	31.5	27.5	29.5	33.5	31.5	32.5	32.0	30.0	30.5	31.0	28.5	29.5
14	31.5	21.0	29.5	33.5	31.5	32.5	32.0	30.0	31.0	31.0	29.0	30.0
15	32.0	29.5	30.5	33.5	31.5	32.5	32.0	30.5	31.0	31.0	29.0	30.0
16	32.5	30.0	31.0	33.5	31.0	32.0	32.0	30.0	31.0	30.0	29.0	29.5
17	32.5	30.0	31.5	32.5	24.5	31.0	31.0	30.0	30.5	31.5	29.0	30.0
18	33.0	28.5	31.5	---	---	---	31.5	29.5	30.5	31.5	21.0	30.0
19	33.5	31.0	32.0	---	---	---	32.0	29.5	30.5	30.5	28.5	29.5
20	34.0	31.5	32.5	---	---	---	32.5	30.0	31.0	30.5	29.0	29.5
21	32.5	21.0	31.0	---	---	---	32.5	30.0	31.0	31.0	29.0	30.0
22	33.0	22.5	31.0	---	---	---	32.0	30.5	31.0	31.5	29.5	30.0
23	33.5	24.0	32.0	---	---	---	32.5	30.5	31.5	31.0	29.5	30.0
24	34.0	31.5	32.5	---	---	---	32.5	21.0	31.5	31.0	21.0	29.0
25	34.5	31.5	33.0	---	---	---	32.0	30.5	31.5	31.5	28.5	29.5
26	34.5	31.5	33.0	---	---	---	32.0	21.0	30.5	29.0	27.5	28.0
27	35.0	23.5	32.0	---	---	---	32.0	21.0	30.5	27.5	27.0	27.0
28	34.0	32.0	33.0	---	---	---	32.0	30.0	31.0	28.5	27.0	27.5
29	34.0	31.5	32.5	---	---	---	31.5	30.0	31.0	27.5	26.5	27.0
30	34.0	31.5	32.5	---	---	---	31.5	29.5	30.5	26.0	25.0	25.5
31	---	---	---	---	---	---	31.5	30.0	30.5	---	---	---
MONTH	35.0	21.0	31.0	34.5	23.5	32.5	32.5	21.0	31.0	32.0	21.0	29.5

08106300 BRUSHY CREEK NEAR ROCKDALE, TX

LOCATION.--Lat 30°41'38", long 97°04'40", Mill County, Hydrologic Unit 12070205, on right bank 46 ft (14 m) downstream from bridge on Farm Road 908, 2.8 mi (4.5 km) upstream from mouth, and 5.3 mi (8.5 km) northwest of Rockdale.

DRAINAGE AREA.--505 mi² (1,308 km²).

PERIOD OF RECORD.--July 1967 to September 1980 (discontinued).

REVISED RECORDS.--WRD TX-73-1: 1972. WDR TX-/6-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 325.56 ft (99.231 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 5, 1970, water-stage recorder at site 104 ft (32 m) downstream at datum 5.0 ft (1.52 m) higher. Feb. 5 to Sept. 30, 1970, nonrecording gage at site 46 ft (14 m) upstream at present datum. Sept. 4, 1970, to Oct 4, 1978, water-stage recorder at site 102 ft (31 m) upstream at present datum. Since Oct. 10, 1974, auxiliary water-stage recorder on the San Gabriel River at Farm Road 487, 4.0 mi (6.4 m) downstream at datum 13.97 ft (4.258 m) lower.

REMARKS.--Records good. Flow is affected at times by the discharge from the flood-detention pools of 46 flood-water-retarding structures with a combined detention capacity of 46,140 acre-ft (56.9 hm³). These structures control runoff from 144 mi² (373 km²). In 1970, the channel was rectified in the vicinity of the gage. Backwater occurs at times from the San Gabriel River. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 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) July 27, 1979, gage height, 28.39 ft (8.653 m); maximum gage height, 31.09 ft (9.476 m) Jan. 20, 1968, prior to channel rectification, present datum, from floodmark; minimum daily discharge, 0.04 ft³/s (0.001 m³/s) Sept. 4, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1903, 54.5 ft (16.61 m), present datum, in September 1921, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,890 ft³/s (195 m³/s) Mar. 28 at 1500 hours, gage height, 24.48 ft (7.462 m); minimum daily, 1.2 ft³/s (0.034 m³/s) Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	33	8.5	24	16	162	206	43	60	9.6	4.4	3.2
2	3.8	15	8.3	12	15	146	155	188	55	9.2	4.0	2.5
3	4.0	11	8.0	10	13	42	132	90	51	9.2	3.0	2.1
4	4.4	8.9	8.3	10	12	24	125	57	48	9.6	2.0	2.3
5	3.8	8.1	9.0	10	12	21	97	50	44	8.8	1.7	2.0
6	3.6	7.9	9.4	10	11	18	82	45	40	8.0	1.5	1.5
7	4.0	7.6	9.9	10	11	16	62	41	38	7.6	1.2	2.9
8	4.2	7.8	11	10	15	16	275	88	35	8.8	1.6	4.5
9	4.0	8.0	11	10	384	16	220	557	33	8.8	1.8	6.2
10	4.2	7.7	10	10	608	15	57	376	32	9.2	2.2	6.0
11	4.0	7.2	10	10	172	14	40	193	37	8.8	2.8	4.6
12	3.4	7.2	12	10	93	14	36	419	36	8.4	3.8	5.5
13	3.8	7.2	14	10	58	13	191	1580	33	8.0	5.1	5.3
14	3.4	7.4	25	9.7	45	12	467	3430	30	7.2	5.7	3.9
15	3.4	7.8	19	9.5	38	10	172	5220	27	6.9	6.0	2.9
16	3.2	8.0	14	9.6	123	10	106	3370	25	6.3	7.2	2.6
17	2.7	8.2	12	9.8	252	10	74	1600	23	6.3	6.6	2.1
18	5.1	8.0	11	13	108	9.6	55	521	21	5.7	6.6	2.1
19	6.7	8.0	11	18	67	10	45	351	19	5.7	7.2	2.5
20	5.4	8.0	11	277	51	8.8	37	331	18	5.7	7.2	2.2
21	5.1	8.7	10	293	44	8.0	34	263	17	6.0	8.4	2.2
22	4.4	8.8	11	474	36	7.6	31	208	21	4.6	9.6	2.4
23	4.2	12	16	554	31	7.2	28	173	20	4.4	10	1.9
24	4.2	12	27	122	30	6.9	27	150	18	4.2	9.6	1.8
25	4.3	11	51	54	30	7.2	170	129	16	4.6	8.4	1.8
26	5.4	9.6	30	35	24	7.6	585	111	14	4.6	9.2	1.8
27	5.7	10	17	26	21	655	164	100	12	4.6	12	1.8
28	5.7	11	15	20	18	5290	94	90	11	4.4	8.8	2.6
29	6.2	9.7	93	17	19	2210	63	79	10	4.6	7.6	2.7
30	13	9.2	136	16	---	625	48	71	9.2	4.9	5.5	10
31	51	---	71	16	---	296	---	66	---	5.1	4.1	---
TOTAL	190.3	294.0	709.4	2119.6	2357	9707.9	3878	19990	853.2	209.8	174.8	95.9
MEAN	6.14	9.80	22.9	68.4	81.3	313	129	645	28.4	6.77	5.64	3.20
MAX	51	33	136	554	608	5290	585	5220	60	9.6	12	10
MIN	2.7	7.2	8.0	9.5	11	6.9	27	41	9.2	4.2	1.2	1.5
AC-FT	377	583	1410	4200	4680	19260	7690	39650	1690	416	347	190

CAL YR 1979	TOTAL	110695.4	MEAN 303	MAX 7000	MIN 2.7	AC-FT	219600	
WTR YR 1980	TOTAL	40579.9	MEAN 111	MAX 5290	MIN 1.2	AC-FT	80490	

08106500 LITTLE RIVER AT CAMERON, TX

LOCATION.--Lat 30°49'53", long 96°57'01", Milam County, Hydrologic Unit 12070204, on right bank at site of old McCowan Bridge, 2,020 ft (616 m) upstream from bridge on U.S. Highway 77, 1.1 mi (1.8 km) upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2 mi (3 km) southeast of Cameron, and 33.6 mi (54.1 km) upstream from mouth.

DRAINAGE AREA.--7,065 mi² (18,298 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1916 to current year.

REVISED RECORDS.--WSP 718: 1918-20, 1922. WSP 1512: 1918-20(M), 1921, 1922(M), 1924(M), 1926, 1929-30, 1934, 1935(M), 1936, 1940(M), 1941, 1944-45(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 281.89 ft (85.920 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Nov. 2, 1916, to Sept. 30, 1922, nonrecording gage at site 1.8 mi (2.9 km) upstream at different datum. Oct. 1, 1922, to Apr. 8, 1926, nonrecording gage at McCowan Bridge 30 ft (9 m) downstream at same datum. Apr. 9, 1926, to Oct. 9, 1933, nonrecording gage at bridge on U.S. Highway 77, 2,020 ft (616 m) downstream at 1.58 ft (0.482 m) lower datum.

REMARKS.--Water-discharge records good. Many small diversions for irrigation and municipal supply affect very low flows. Since 1954, at least 10 percent of the drainage area has been regulated by reservoirs. Some regulation by Belton Lake (station 08102000) on Leon River beginning Mar. 8, 1954, and by Stillhouse Hollow Lake (station 08104050) on Lampasas River beginning Sept. 2, 1966. Records of the Aluminum Co. of America indicate that they diverted 4,630 acre-ft (5.71 hm³) from river above gage during the current year for use at their Rockdale plant. The city of Cameron diverted 1,350 acre-ft (1.66 hm³) and returned 862 acre-ft (1.06 hm³) of treated effluent above the station. Flow is affected at times by discharge from the flood-detention pools of 65 floodwater-retarding structures with a combined detention capacity of 68,500 acre-ft (84.5 hm³). These structures control runoff from 209 mi² (541 km²) in the Nolan, Donahoe, and Brushy Creeks drainage basins. National Weather Service gage-height telemeter located at station.

AVERAGE DISCHARGE.--36 years (water years 1918-53) unregulated, 1,807 ft³/s (51.17 m³/s), 1,309,000 acre-ft/yr (1.61 km³/yr); 27 years (water years 1954-80) regulated, 1,651 ft³/s (46.76 m³/s), 1,196,000 acre-ft/yr (1.47 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 647,000 ft³/s (18,300 m³/s) Sept. 10, 1921, gage height, 53.2 ft (16.22 m), present datum, from floodmark, from rating curve extended above 110,000 ft³/s (3,120 m³/s) on basis of slope-area measurement of 647,000 ft³/s (18,300 m³/s); no flow July 12-27, 1956.
Maximum stage since 1852, that of Sept. 10, 1921.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1852 reached about the same stage as that of Sept. 10, 1921. Flood in December 1913 reached a stage of 49.0 ft (14.94 m). Stages based on information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,200 ft³/s (430 m³/s) May 15 at 1200 hours, gage height, 29.52 ft (8.998 m); minimum daily, 57 ft³/s (1.61 m³/s) Sept. 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215	343	190	353	207	599	554	233	2760	621	259	82
2	208	256	191	301	206	767	644	493	2670	639	214	76
3	206	201	192	274	200	433	729	686	2640	606	208	76
4	191	182	195	255	199	271	742	391	2620	522	201	76
5	191	178	197	243	198	235	701	301	2600	522	198	74
6	170	173	199	233	196	216	473	376	2580	542	198	74
7	178	166	197	227	191	203	336	808	2560	542	198	85
8	181	165	196	222	287	196	344	1160	2540	542	198	112
9	178	171	195	219	1440	192	658	2050	2520	539	187	196
10	171	181	194	218	1970	189	401	2270	2530	533	140	185
11	169	157	199	220	844	185	298	3120	2150	533	118	252
12	170	151	224	218	526	183	257	5200	936	533	117	204
13	177	150	233	216	794	177	400	6440	505	533	113	137
14	204	153	251	213	789	181	1230	9430	400	530	108	117
15	207	153	287	212	427	158	882	14700	352	528	100	102
16	209	155	237	227	494	147	518	10600	325	522	93	71
17	183	151	213	223	683	146	389	6330	303	516	92	69
18	222	153	203	214	472	146	322	2540	286	514	92	66
19	189	169	201	214	378	146	278	2100	270	505	90	161
20	183	208	202	468	337	149	252	4660	508	500	85	113
21	201	219	202	935	284	163	234	4900	686	500	83	85
22	187	221	208	1170	261	163	222	4720	875	497	82	79
23	150	257	353	1640	241	158	212	4760	807	494	80	73
24	174	246	558	655	226	156	205	5050	718	494	82	73
25	169	221	754	367	222	158	338	5050	705	492	82	65
26	154	216	397	293	214	164	1090	5000	686	486	82	61
27	153	216	296	251	227	368	745	5030	670	486	80	57
28	153	212	265	228	227	4770	393	5030	646	486	80	57
29	153	203	406	220	228	5190	292	4730	633	483	85	79
30	182	194	723	218	---	1500	245	4340	627	379	82	150
31	233	---	496	213	---	758	---	3560	---	352	87	---
TOTAL	5711	5821	8854	11160	12968	18467	14384	126058	39108	15971	3914	3107
MEAN	184	194	286	360	447	596	479	4066	1304	515	126	104
MAX	233	343	754	1640	1970	5190	1230	14700	2760	639	259	252
MIN	150	150	190	212	191	146	205	233	270	352	80	57
AC-FT	11330	11550	17560	22140	25720	36630	28530	250000	77570	31680	7760	6160

CAL YR 1979	TOTAL	803930	MEAN	2203	MAX	40800	MIN 150	AC-FT	1595000	
WTR YR 1980	TOTAL	265523	MEAN	725	MAX	14700	MIN 57	AC-FT	526700	

08106500 LITTLE RIVER AT CAMERON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1959 to September 1974. Chemical and biochemical analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1959 to current year.
WATER TEMPERATURES: October 1959 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,280 micromhos Sept. 25, 26, 1963; minimum daily, 154 micromhos Sept. 13, 1974.
WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 6, 1964, Aug. 1, 1969; minimum daily, 3.0 °C Jan. 3, 14, 15, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 785 micromhos Mar. 21; minimum daily, 240 micromhos May 15.
WATER TEMPERATURES: Maximum daily, 28.0°C on several days during June, August and September; minimum daily, 5.0°C Feb. 10, 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 17...	0910	181	690	7.5	22.0	22	8.4	97	1.6	160	88
NOV 14...	1020	155	720	7.7	11.0	14	10.5	95	1.9	62	38
DEC 18...	1525	201	742	7.7	7.0	4.1	13.5	112	1.1	740	220
JAN 23...	1030	2070	400	7.5	9.5	530	9.0	78	4.6	24000	46000
FEB 19...	1600	368	668	7.5	12.0	60	10.4	98	2.6	920	550
MAR 12...	1415	183	781	7.6	19.0	40	8.7	96	1.2	120	59
APR 10...	0930	408	605	7.4	17.5	58	9.6	100	2.5	10000	4500
MAY 15...	0900	15200	240	7.2	18.0	950	6.6	71	3.0	14000	29000
JUN 12...	1015	1040	519	7.5	21.5	110	7.8	88	1.1	6700	440
JUL 10...	0900	533	525	7.8	26.0	58	7.3	90	1.5	180	180
AUG 14...	1030	103	689	7.5	28.0	25	7.0	90	1.4	--	15000
SEP 09...	1020	227	701	7.8	25.0	56	6.7	81	.0	1300	880

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 17...	280	57	82	18	42	1.1	3.0	270	0	56	42
NOV 14...	270	33	82	16	43	1.1	2.9	290	0	50	44
DEC 18...	280	43	86	16	50	1.3	3.4	290	0	55	50
JAN 23...	130	34	43	6.1	25	.9	4.6	120	0	49	27
FEB 19...	240	72	78	12	43	1.2	--	210	0	68	52
MAR 12...	280	60	88	15	52	1.3	3.3	270	0	68	59
APR 10...	230	50	72	12	37	1.1	3.5	220	0	53	49
MAY 15...	100	20	35	3.1	7.2	.3	4.0	98	0	19	7.4
JUN 12...	190	30	58	12	26	.8	3.5	200	0	31	40
JUL 10...	200	25	55	14	28	.9	3.0	200	0	29	42
AUG 14...	240	23	70	17	44	1.2	3.9	270	0	52	55
SEP 09...	250	20	72	17	50	1.4	4.5	280	0	58	57

08106500 LITTLE RIVER AT CAMERON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)
OCT 17...	.3	9.6	403	396	2.2	2.3	.060	.050	1.2	.68
NOV 14...	.3	8.8	418	402	2.8	2.7	.130	.100	.44	.90
DEC 18...	.4	5.6	420	419	2.2	2.2	.090	.090	.91	.83
JAN 23...	.3	9.1	299	225	3.2	2.0	.160	.150	2.1	1.2
FEB 19...	.3	11	397	379	2.5	2.5	.240	.240	.96	.60
MAR 12...	.3	5.3	440	435	2.5	2.5	.150	.170	.85	.79
APR 10...	.4	.2	362	340	.88	.91	.140	.160	3.9	1.1
MAY 15...	.2	10	162	142	.04	1.8	.000	.000	16	--
JUN 12...	.3	8.0	290	277	.68	.68	.100	.150	.73	.48
JUL 10...	.5	8.5	302	287	.99	1.0	.080	.480	.91	.43
AUG 14...	.3	10	383	386	1.2	1.2	.080	.100	1.0	1.0
SEP 09...	.4	10	477	414	2.0	1.7	.090	.090	1.0	.83

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 17...	1.3	.73	.420	.240	--	12	.3	58	28	92
NOV 14...	.57	1.0	.460	.230	9.1	--	--	164	69	56
DEC 18...	1.0	.92	.590	.560	9.6	--	--	11	6.0	100
JAN 23...	2.3	1.3	1.100	.320	28	--	--	1490	8330	97
FEB 19...	1.2	.84	.370	.260	--	8.5	2.2	101	100	97
MAR 12...	1.0	.96	.420	.290	9.4	--	--	67	33	99
APR 10...	4.0	1.3	.350	.320	20	--	--	951	1050	100
MAY 15...	16	--	--	--	18	--	--	1250	51300	86
JUN 12...	.83	.63	.230	.040	--	4.0	1.6	348	977	97
JUL 10...	.99	.91	.220	.200	4.7	--	--	228	328	91
AUG 14...	1.1	1.1	.230	.140	--	11	.2	91	25	75
SEP 09...	1.1	.92	.500	.360	8.1	--	--	97	59	100

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT 17...	0910	4	1	3	200	100	90	0	0	<1	0
NOV 14...	1020	--	--	--	--	--	--	--	--	--	--
FEB 19...	1600	--	--	--	200	100	70	2	1	<1	20
MAR 12...	1415	--	--	--	--	--	--	--	--	--	--
JUN 12...	1015	3	1	2	100	40	60	1	--	<1	0
JUL 10...	0900	--	--	--	--	--	--	--	--	--	--
AUG 14...	1030	5	0	5	200	100	80	0	--	<1	0

08106500 LITTLE RIVER AT CAMERON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT 17...	0	0	0	0	<3	4	4	0	780	770	<10
NOV 14...	--	--	--	--	--	--	--	--	--	--	--
FEB 19...	20	0	3	0	<3	10	9	1	1900	1900	10
MAR 12...	--	--	--	--	--	--	--	--	--	--	--
JUN 12...	0	10	1	--	<3	10	7	3	4100	4000	60
JUL 10...	--	--	--	--	--	--	--	--	--	--	--
AUG 14...	0	0	1	--	<3	17	17	0	520	--	<10

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
OCT 17...	5	5	0	60	60	2	.3	.3	.0	6	6
NOV 14...	--	--	--	--	--	--	--	--	--	--	--
FEB 19...	5	0	8	90	80	10	.4	.3	.1	15	10
MAR 12...	--	--	--	--	--	--	--	--	--	--	--
JUN 12...	11	9	2	200	200	4	1.1	1.1	.0	9	4
JUL 10...	--	--	--	--	--	--	--	--	--	--	--
AUG 14...	8	8	0	20	20	4	.7	.7	.0	6	2

DATE	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 17...	0	1	0	1	0	0	0	0	0	<3
NOV 14...	--	--	--	--	0	--	--	--	--	--
FEB 19...	5	1	0	1	1	1	0	30	30	<3
MAR 12...	--	--	--	--	0	--	--	--	--	--
JUN 12...	5	0	0	0	0	0	0	50	--	<3
JUL 10...	--	--	--	--	0	--	--	--	--	--
AUG 14...	4	1	0	1	0	0	0	70	--	<3

DATE	LENGTH OF EXPOSURE (DAYS)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	CHLOR-B PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	BIOMASS CHLOROPHYLL RATIO PERIPHYTON (UNITS)
NOV 14...	28	9.92	11.1	16.2	1.11	72.8
MAR 12...	22	13.0	14.3	19.3	2.03	67.4

08106500 LITTLE RIVER AT CAMERON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	NOV 14,79 1020		MAR 12,80 1415		MAY 15,80 0900		JUN 12,80 1015	
TOTAL CELLS/ML	920		1300		430		130	
DIVERSITY: DIVISION	1.6		1.1		1.0		1.3	
.CLASS	1.6		1.1		1.0		1.3	
..ORDER	2.4		1.9		1.5		2.0	
...FAMILY	2.4		2.5		1.9		2.7	
....GENUS	2.6		2.5		1.9		2.7	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	26#	20
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	58	4	140#	33	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	13	10
....SELENASTRUM	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	47	4	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	--	-
....SCENEDESMUS	130	14	--	-	--	-	26#	20
..TETRASPORALES								
...PALMELLACEAE								
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	13	10
....CHLAMYDOMONAS	350#	38	58	4	--	-	--	-
..ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	--	-	72#	17	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	150#	17	350#	27	--	-	26#	20
..PENNALES								
...ACHNANTHACEAE								
....COCCONEIS	--	-	12	1	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	12	1	140#	33	--	-
...NAVICULACEAE								
....GYROSIGMA	--	-	--	-	--	-	--	-
....NAVICULA	--	-	160	12	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	26	3	430#	33	72#	17	13	10
...SURIRELLACEAE								
....SURIRELLA	--	-	12	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	13	1	--	-	--	-	13	10
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	64	7	--	-	--	-	--	-
....COCCOCHLORIS	90	10	--	-	--	-	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....LYNGBYA	77	8	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	13	1	180	13	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-

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

08106500 LITTLE RIVER AT CAMERON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JUL 10,80	AUG 14,80	SEP 9,80
TIME	0900	1030	1020
TOTAL CELLS/ML	210	2200	850
DIVERSITY: DIVISION	1.2	1.7	1.6
.CLASS	1.2	1.7	1.6
..ORDER	1.5	2.6	1.6
...FAMILY	1.5	3.1	2.2
....GENUS	1.5	3.5	2.2

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	100	5	--	-
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	64	3	13	2
....KIRCHNERIELLA	--	-	64	3	--	-
....OOCYSTIS	--	-	64	3	--	-
....SELENASTRUM	--	-	--	-	13	2
....TETRAEDRON	--	-	26	1	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	--	-
....CRUCIGENIA	--	-	52	2	--	-
....SCENEDESMUS	130#	63	210	9	90	11
..TETRASPORALES						
...PALMELLACEAE						
....SPHAEROCYSTIS	--	-	100	5	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	120	5	--	-
....CHLAMYDOMONAS	13	6	280	13	--	-
..ZYGNEMATALES						
...DESMIDIACEAE						
....CLOSTERIUM	--	-	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	--	-	130	6	--	-
..PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	--	-	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....GYROSIGMA	--	-	--	-	13	2
....NAVICULA	39#	19	39	2	39	5
...NITZSCHIACEAE						
....NITZSCHIA	--	-	340#	15	300#	35
...SURIRELLACEAE						
....SURIRELLA	--	-	13	1	26	3
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	13	1	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	77	4	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	26	13	500#	23	320#	38
....COCCOCHLORIS	--	-	--	-	--	-
..HORMOGONALES						
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	39	5
....TRACHELOMONAS	--	-	13	1	--	-

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

BRAZOS RIVER BASIN

08106500 LITTLE RIVER AT CAMERON, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	5711	682	382	5890	48	744	50	773	260
NOV.	1979	5821	688	386	6060	49	767	51	799	260
DEC.	1979	8854	670	375	8960	47	1130	49	1170	260
JAN.	1980	11160	587	327	9850	41	1230	41	1240	230
FEB.	1980	12968	620	346	12100	43	1520	44	1540	240
MAR.	1980	18467	478	264	13200	33	1630	31	1570	190
APR.	1980	14384	565	313	12200	39	1520	38	1490	220
MAY	1980	126058	404	221	75300	27	9170	24	8310	160
JUNE	1980	39108	490	270	28500	33	3520	32	3330	190
JULY	1980	15971	522	288	12400	36	1540	34	1470	200
AUG.	1980	3914	640	358	3780	45	475	46	486	250
SEPT	1980	3107	635	355	2980	45	374	46	382	240
TOTAL		265523	**	**	191000	**	23600	**	22600	**
WTD. AVG.		725	483	267	**	33	**	31	**	190

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	655	674	704	677	722	625	492	570	471	563	524	751
2	670	669	706	649	742	498	525	603	465	564	548	740
3	672	656	707	654	756	540	568	563	456	560	565	737
4	672	663	706	636	758	581	573	586	461	533	575	734
5	671	659	709	643	764	630	584	543	460	530	589	732
6	672	642	708	654	771	642	598	555	458	529	614	731
7	675	667	713	667	770	645	635	518	457	528	611	732
8	674	650	720	680	750	677	670	543	451	525	610	705
9	678	655	719	688	600	711	538	532	453	524	609	692
10	686	670	721	694	525	735	611	422	456	521	605	654
11	689	675	720	696	517	753	652	477	457	520	611	611
12	690	686	717	699	499	757	665	410	508	519	641	608
13	697	690	700	702	527	767	697	373	522	520	651	598
14	692	697	714	708	544	765	450	382	577	518	660	576
15	688	720	733	710	570	763	489	240	605	516	662	586
16	685	698	725	704	619	770	557	334	645	515	653	631
17	690	705	721	706	630	781	575	348	672	514	697	630
18	683	707	722	704	647	772	588	435	690	515	701	618
19	677	710	729	711	657	767	607	496	689	513	709	565
20	685	706	724	650	701	777	634	449	650	512	721	491
21	683	701	716	518	710	785	661	450	594	511	725	422
22	687	697	709	497	717	782	689	452	560	507	729	520
23	692	705	701	400	724	771	711	451	554	510	744	584
24	706	696	650	482	729	783	720	450	533	508	742	614
25	683	700	577	604	734	779	680	449	547	507	734	670
26	664	701	585	644	742	778	496	448	556	509	739	653
27	684	697	620	632	735	625	503	449	562	508	735	655
28	687	704	714	652	733	380	558	440	565	507	738	668
29	690	708	569	624	775	350	591	446	564	504	732	667
30	695	735	605	661	---	442	566	440	564	508	738	668
31	675	---	629	692	---	459	---	438	---	520	761	---
MEAN	682	688	690	646	678	674	596	461	540	521	667	641

08106500 LITTLE RIVER AT CAMERON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

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

08109000 BRAZOS RIVER NEAR BRYAN, TX

LOCATION.--Lat 30°36'52", long 96°29'10", Brazos-Burleson County line, Hydrologic Unit 12070101, on left bank 2.4 mi (3.9 km) downstream from Little Brazos River, 5 mi (8 km) downstream from Texas and New Orleans Railroad Co. bridge, 9 mi (14 km) southwest of Bryan, and at mile 281.1 (452.3 km).

DRAINAGE AREA.--39,515 mi² (102,344 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--August 1899 to December 1902, February 1918 to January 1926, June 1926 to current year. Monthly figures only for some periods, published in WSP 1312. Prior to September 1925, published as "near College Station".

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 192.33 ft (58.622 m) National Geodetic Vertical Datum of 1929. Aug. 1, 1899, to Dec. 31, 1902, and Feb. 23, 1918, to Sept. 17, 1925, nonrecording gage at site 7.5 mi (12.1 km) downstream at different datum. Sept. 11, 1925, to Oct. 24, 1932, nonrecording gage at site 3,000 ft (910 m) upstream at present datum.

REMARKS.--Records fair. Flow is partly regulated by four upstream reservoirs with a combined capacity of 4,447,600 acre-ft (5.48 km³), of which 3,200,800 acre-ft (3.95 km³) is for flood control. Many small diversions above station for irrigation, municipal and industrial uses, and oilfield operation. Flow is affected at times by discharge from the flood-detention pools of 135 floodwater-retarding structures with a combined detention capacity of 151,100 acre-ft (186 hm³). These structures control runoff from 442 mi² (1,145 km²). Since 1941, at least 10 percent of drainage area is regulated by upstream reservoirs.

AVERAGE DISCHARGE.--24 years (water years 1900-1902. 1919-25, 1927-40) unregulated, 5,652 ft³/s (160.1 m³/s), 4,095,000 acre-ft/yr (5.05 km³/yr); 40 years (water years 1941-80) regulated, 4,986 ft³/s (141.2 m³/s), 3,612,000 acre-ft/yr (4.45 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 54 ft (16.5 m) Sept. 12, 1921, present site and datum (discharge not determined); minimum daily, 89 ft³/s (2.52 m³/s) Aug. 24, 1934.
Maximum stage since at least 1854, that of Sept. 12, 1921.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 5, 1913, reached a stage of 51 ft (15.5 m), present site and datum, from information by Texas and New Orleans Railroad Co. at their bridge 5 mi (8 km) upstream and from comparison of maximum stages reached by floods in 1913 and 1921 at gage near College Station. Flood in 1854 reached about the same stage as flood of Dec. 5, 1913.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,800 ft³/s (986 m³/s) May 17 at 0600 hours, gage height, 20.11 ft (6.130 m); minimum daily, 335 ft³/s (9.49 m³/s) Sept. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1480	970	692	3710	1190	846	2100	1990	4940	1460	826	701
2	1450	1110	1390	2810	1080	1170	1620	1630	4090	1660	954	861
3	1380	880	1420	2340	1020	1670	2250	1550	3950	1650	864	784
4	1200	656	1350	1630	963	1340	2270	1600	3820	1580	675	752
5	866	548	884	1210	976	978	1630	1200	3620	1760	538	752
6	946	490	720	1020	999	828	1550	970	3560	1830	847	751
7	973	455	728	1020	974	768	1390	900	3780	1920	682	831
8	908	589	693	1180	916	720	1030	1150	3810	1880	592	949
9	987	703	597	963	1740	685	880	2520	3520	1930	709	810
10	1200	531	542	915	7610	674	1110	4900	3700	1930	1010	763
11	1350	484	572	1420	8390	661	963	4840	3710	1920	867	695
12	1300	515	695	1490	5700	658	812	5730	3160	1800	879	562
13	843	484	665	1130	3860	657	873	9960	1920	1580	829	548
14	629	508	726	877	3170	618	1870	20800	1760	1540	776	619
15	617	474	1540	837	2960	643	5860	27100	1670	1610	712	790
16	921	709	2340	1280	2920	666	5800	27800	1170	1650	797	965
17	1100	1640	1890	1310	2610	609	3390	33800	956	1590	843	1290
18	984	1020	1730	1850	2380	568	2520	27400	914	1580	838	1470
19	859	880	1570	1820	1940	584	1960	17600	1060	1500	994	1260
20	1640	812	2070	3360	1660	621	1650	15000	1100	1510	1020	1020
21	1420	794	1960	4210	1410	547	1340	15000	1340	1540	1100	1240
22	956	697	1520	6540	1130	561	1190	12500	1740	1560	1150	1230
23	956	632	1550	8340	981	581	991	10800	1530	1540	1180	656
24	1240	691	3000	10600	908	565	832	9950	1400	1510	1320	440
25	1180	769	6240	8030	845	525	998	9020	1210	1500	1340	353
26	769	1350	5310	4530	803	539	1110	7740	1150	1450	1370	335
27	578	1250	3840	2860	781	2310	4350	7100	1260	1340	1180	401
28	495	1070	2630	2520	775	4850	5690	7000	1530	1320	946	420
29	460	930	3040	2030	769	9080	3160	6900	1750	1350	1060	396
30	490	878	3590	1800	---	7130	2380	6330	1770	1110	1070	515
31	733	---	4570	1450	---	3410	---	5780	---	910	884	---
TOTAL	30910	23519	60064	85082	61460	46062	63569	306560	70890	49010	28852	23159
MEAN	997	784	1938	2745	2119	1486	2119	9889	2363	1581	931	772
MAX	1640	1640	6240	10600	8390	9080	5860	33800	4940	1930	1370	1470
MIN	460	455	542	837	769	525	812	900	914	910	538	335
AC-FT	61310	46650	119100	168800	121900	91360	126100	608100	140600	97210	57230	45940

CAL YR 1979 TOTAL 2494396 MEAN 6834 MAX 57500 MIN 455 AC-FT 4948000
WTR YR 1980 TOTAL 849137 MEAN 2320 MAX 33800 MIN 335 AC-FT 1684000

08109500 BRAZOS RIVER NEAR COLLEGE STATION, TX

LOCATION.--Lat 30°32'33", long 96°25'21", Brazos County, Hydrologic Unit 12070101, at bridge on Farm Road 60, 6.5 mi (10.5 km) south of College Station, 9 mi (14 km) downstream from gaging station near Bryan, and at mile 271.9 (437.6 km).

DRAINAGE AREA.--39,599 mi^2 (102,561 km^2), of which 9,566 mi^2 (24,776 km^2) probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: August 1961 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: August 1961 to current year.
WATER TEMPERATURES: August 1961 to current year.

REMARKS.--Sampling at this site began in September 1966. From August 1961 to September 1965, samples were collected at State Highway 21 near Bryan 17 mi (27 km) upstream and, from October 1965 to September 1966, at the gaging station near Bryan 9 mi (14 km) upstream. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (1961-71, 1972-80): Maximum daily, 2,810 micromhos Aug. 27, 1978; minimum daily, 235 micromhos Feb. 14, 1977.
WATER TEMPERATURES: Maximum daily, 34.5°C June 16, 1971; minimum daily, 2.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,310 micromhos Aug. 26, Sept. 19, 22; minimum daily, 302 micromhos May 16.
WATER TEMPERATURES: Maximum daily, 33.0°C on several days during July; minimum daily, 6.0°C Feb. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT										
31...	1435	691	917	8.0	21.0	250	57	72	16	93
NOV										
27...	1630	1280	1100	--	17.0	280	87	79	19	120
DEC										
31...	1840	4750	786	--	10.5	210	76	65	11	84
FEB										
22...	0715	1280	637	--	15.5	220	57	72	9.9	45
MAR										
31...	1655	3790	524	--	19.0	170	51	57	7.6	38
APR										
30...	1925	2500	412	--	22.0	150	34	50	5.9	25
MAY										
19...	1938	17600	336	--	23.5	130	18	46	4.4	14
JUL										
31...	1955	921	908	--	32.0	230	66	64	17	95
SEP										
23...	0711	914	1310	--	27.5	250	120	70	18	170

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
31...	2.6	4.7	230	0	90	130	.1	6.7	526
NOV									
27...	3.1	5.5	230	0	110	180	.4	5.5	633
DEC									
31...	2.5	5.2	160	0	86	120	.3	8.6	459
FEB									
22...	1.3	4.0	200	0	76	54	.4	9.8	370
MAR									
31...	1.3	5.2	150	0	61	45	.6	9.8	298
APR									
30...	.9	4.1	140	0	48	25	.3	8.2	236
MAY									
19...	.5	4.5	140	0	28	18	.4	13	197
JUL									
31...	2.7	4.4	200	0	81	150	.3	7.5	518
SEP									
23...	4.7	6.1	160	0	110	280	.4	7.1	740

08109500 BRAZOS RIVER NEAR COLLEGE STATION, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	31140	1080	608	51100	170	14100	110	9050	270
NOV.	1979	24441	973	545	36000	140	9510	96	6300	250
DEC.	1979	60065	898	503	81500	130	21200	88	14200	230
JAN.	1980	85152	767	427	98200	100	24000	73	16900	210
FEB.	1980	61460	592	327	54300	73	12100	55	9140	170
MAR.	1980	46062	581	321	40000	72	8910	54	6730	170
APR.	1980	63569	519	286	49100	60	10400	48	8160	150
MAY	1980	306420	386	211	175000	41	34000	35	28600	120
JUNE	1980	70111	594	329	62200	73	13800	55	10500	170
JULY	1980	49010	1020	576	76200	160	20500	100	13400	260
AUG.	1980	28848	1190	670	52200	190	15100	120	9370	290
SEPT	1980	23159	1240	701	43800	210	12900	130	7900	300
TOTAL		849437	**	**	820000	**	196000	**	140000	**
WTD. AVG.		2321	642	357	**	86	**	61	**	180

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1110	950	1090	849	846	806	526	394	469	989	890	1290
2	1120	976	1040	799	825	802	540	424	495	970	881	1260
3	1140	927	1160	924	820	775	553	466	500	988	1030	1290
4	1130	840	1170	989	830	753	599	516	512	944	1080	1280
5	1110	755	1150	977	844	664	671	566	505	1000	1050	1280
6	1070	859	1120	973	854	671	674	570	496	1080	958	1290
7	1120	834	1080	970	862	714	640	578	504	1070	1130	1260
8	1110	857	1070	960	851	748	618	600	506	1060	1090	1180
9	1090	897	1080	1000	748	742	643	563	510	1070	1050	1200
10	1140	969	1050	984	650	759	666	516	501	1090	1080	1210
11	1150	974	1030	980	482	776	680	496	503	1080	1150	1200
12	1170	965	948	1070	393	780	660	497	495	1090	1120	1140
13	1140	952	1010	1060	402	795	648	417	519	1050	1170	1130
14	1100	956	990	1050	428	809	639	367	569	1040	1200	1160
15	1060	950	975	1030	538	813	570	322	686	1030	1190	1190
16	1010	947	1100	1000	547	825	508	302	707	1060	1180	1200
17	1110	1020	1140	1030	560	828	456	345	737	1030	1200	1220
18	1120	1110	1130	1090	546	830	450	332	756	1040	1250	1260
19	919	1040	1160	1040	582	836	464	347	780	1020	1230	1310
20	930	1020	1180	859	607	830	480	350	876	1040	1240	1300
21	1040	704	1190	705	620	820	507	388	862	1030	1250	1240
22	1060	893	1180	442	649	812	542	419	855	1040	1280	1310
23	1070	986	1150	768	680	811	569	430	841	1020	1290	1290
24	1090	1000	950	640	714	798	597	431	750	1010	1290	1250
25	1060	995	731	600	746	815	542	435	736	1000	1300	1230
26	1130	1000	633	582	768	820	541	449	725	1010	1310	1220
27	1050	1090	631	609	782	464	475	454	713	979	1300	1170
28	1060	1070	566	757	794	360	350	456	886	959	1280	1200
29	1000	1080	625	718	800	410	389	448	867	967	1260	1230
30	962	1090	768	900	---	472	413	463	976	940	1270	1080
31	918	---	785	887	---	530	---	464	---	908	1280	---
MEAN	1070	957	996	879	682	731	554	445	661	1020	1170	1230

08109500 BRAZOS RIVER NEAR COLLEGE STATION, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.0	---	10.5	10.5	8.5	12.0	20.0	22.0	25.0	32.5	31.5	30.0
2	27.5	18.0	10.5	11.0	7.0	10.0	---	25.0	26.5	33.0	31.5	31.0
3	27.5	18.0	10.5	10.0	9.0	11.0	21.5	25.5	26.5	32.5	31.0	30.5
4	25.5	18.5	11.0	10.0	10.0	15.0	21.0	27.0	27.5	33.0	29.5	31.0
5	24.0	18.0	---	11.0	11.0	15.0	20.5	26.0	27.5	31.5	28.5	31.0
6	25.0	18.0	13.0	12.0	13.0	16.5	19.5	27.0	28.0	32.5	31.0	27.5
7	26.0	17.5	12.0	10.0	12.5	17.0	22.5	29.0	27.0	32.5	31.0	27.0
8	26.5	18.0	13.5	10.0	11.0	18.0	22.0	25.5	26.5	32.0	31.0	26.5
9	23.5	18.0	13.5	11.0	7.5	19.0	22.0	26.0	---	31.5	30.5	---
10	22.0	16.0	---	12.0	7.0	20.5	21.0	24.5	25.0	33.0	28.0	30.0
11	---	16.0	16.5	13.0	6.0	19.5	22.5	24.0	26.0	33.0	30.0	30.0
12	23.5	14.0	12.0	12.5	6.5	22.0	---	23.5	25.5	33.0	30.0	30.5
13	25.0	14.0	10.0	12.5	8.5	---	13.0	21.0	26.5	33.0	30.0	31.0
14	24.5	14.0	---	14.0	10.0	17.0	14.5	22.0	27.5	32.0	30.0	---
15	23.0	---	11.0	16.0	13.0	18.5	15.5	25.0	28.5	32.5	29.5	31.0
16	25.0	15.5	11.0	---	9.0	19.0	17.0	22.0	29.5	32.0	30.0	31.0
17	25.5	14.5	8.0	16.5	8.0	17.0	19.0	23.0	30.5	32.0	30.0	31.5
18	25.0	15.0	7.5	15.5	9.0	18.0	20.0	24.0	31.0	32.0	30.5	31.0
19	26.0	19.0	9.5	15.5	14.0	16.0	21.5	25.0	31.5	31.5	31.0	30.5
20	25.5	20.5	11.0	16.0	15.0	20.0	23.0	26.0	31.0	31.5	31.0	29.0
21	26.5	17.0	12.5	14.0	18.0	20.0	24.0	25.0	31.0	31.5	32.0	29.0
22	23.0	13.5	14.5	11.5	19.0	20.0	24.0	24.5	31.0	31.0	31.0	30.0
23	21.5	13.0	14.5	10.5	19.5	20.5	24.0	24.5	31.5	31.5	32.0	31.5
24	20.5	13.0	14.0	---	19.0	19.0	25.0	25.0	31.5	32.0	31.5	31.0
25	21.0	14.5	13.0	10.5	16.5	17.5	24.0	24.5	32.0	31.5	30.5	29.5
26	21.0	14.5	13.0	11.0	15.5	16.5	22.0	25.0	---	31.5	30.5	27.0
27	22.5	16.0	13.0	10.5	17.0	15.0	21.0	25.0	32.5	31.5	30.0	26.5
28	22.0	12.0	13.5	10.0	18.0	17.0	21.0	25.0	32.0	29.5	30.0	---
29	---	---	12.0	9.0	20.0	18.0	22.5	25.5	31.5	30.5	29.5	28.0
30	21.0	12.0	11.5	8.5	---	19.0	22.0	25.0	32.0	32.0	30.5	24.0
31	21.0	---	10.5	7.0	---	19.0	---	26.0	---	32.0	31.0	---
MEAN	24.0	16.0	12.0	12.0	12.5	17.5	21.0	25.0	29.0	32.0	30.5	29.5

08109700 MIDDLE YEGUA CREEK NEAR DIME BOX, TX

LOCATION.--Lat 30°20'21", long 96°54'16", Lee County, Hydrologic Unit 12070102, on right bank 25 ft (8 m) upstream from centerline of State Highway 21, 4.5 mi (7.2 km) upstream from West Yegua Creek, 5.0 mi (8.0 km) southwest of Dime Box, and 17.5 mi (28.2 km) upstream from mouth.

DRAINAGE AREA.--236 mi² (611 km²).

PERIOD OF RECORD.--August 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 295.4 ft (90.04 m) State Department of Highways and Public Transportation datum. June 30 to July 21, 1970, nonrecording gage at same site and datum.

REMARKS.--Records fair. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--18 years, 53.7 ft³/s (1.521 m³/s), 3.09 in/yr (78 mm/yr), 38,910 acre-ft/yr (48.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft³/s (323 m³/s) May 24, 1975, gage height, 15.16 ft (4.621 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1851, 16 ft (4.9 m) in December 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 12	1200	*2,310	65.4	11.55	3.520
May 16	1800	1,800	51.0	11.11	3.386

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	20	14	11	527	14	12	.33	.00	.00
2	.00	.00	.00	12	13	23	146	16	11	.33	.00	.00
3	.00	.00	.00	9.4	13	24	56	20	10	.24	.00	.00
4	.00	.00	.00	6.7	13	17	37	19	9.1	.17	.00	.00
5	.00	.00	.00	5.4	12	13	29	16	14	.12	.00	.00
6	.00	.00	.00	4.5	12	12	24	13	13	.09	.00	.00
7	.00	.00	.00	3.3	11	11	24	11	9.2	.03	.00	.00
8	.00	.00	.00	1.5	8.7	9.7	29	9.7	7.2	.01	.00	.00
9	.00	.00	.00	1.6	13	9.1	40	12	6.0	.00	.00	.00
10	.00	.00	.00	2.3	26	8.9	35	17	6.2	.00	.00	.00
11	.00	.00	.00	2.1	44	8.0	27	18	6.0	.00	.00	.00
12	.00	.00	.00	1.7	44	8.0	23	15	5.1	.00	.00	.00
13	.00	.00	.00	1.1	28	8.0	23	68	4.8	.00	.00	.00
14	.00	.00	.00	1.3	19	8.0	25	272	4.2	.00	.00	.00
15	.00	.00	.00	1.4	16	8.3	37	399	3.4	.00	.00	.00
16	.00	.00	.00	1.0	16	10	34	1040	3.0	.00	.00	.00
17	.00	.00	.00	1.3	29	9.4	26	1390	2.7	.00	.00	.00
18	.00	.00	1.5	1.4	57	8.7	19	1220	2.7	.00	.00	.00
19	.00	.00	2.8	2.5	47	8.1	16	1030	2.1	.00	.00	.00
20	.00	.00	2.4	7.2	31	8.1	14	668	1.5	.00	.00	.00
21	.00	.00	2.3	45	26	7.4	12	317	1.7	.00	.00	.00
22	.00	.00	1.4	136	20	7.1	11	100	1.2	.00	.00	.00
23	.00	.00	.95	148	18	7.2	10	54	2.7	.00	.00	.00
24	.00	.00	.71	146	15	7.2	9.4	36	1.6	.00	.00	.00
25	.00	.00	.84	162	12	7.4	17	28	2.3	.00	.00	.00
26	.00	.00	1.4	144	11	9.2	41	23	1.9	.00	.00	.00
27	.00	.00	5.3	55	9.1	38	45	20	1.5	.00	.00	.00
28	.00	.00	6.4	28	9.1	220	32	18	1.1	.00	.00	.00
29	.00	.00	21	21	9.1	1560	20	17	.71	.00	.00	.00
30	.73	.00	28	18	---	1750	15	15	.46	.00	.00	.00
31	.04	---	31	17	---	1300	---	13	---	.00	.00	---
TOTAL	.77	.00	106.00	1007.7	596.0	5136.8	1403.4	6908.7	148.37	1.32	.00	.00
MEAN	.025	.000	3.42	32.5	20.6	166	46.8	223	4.95	.043	.000	.000
MAX	.73	.00	31	162	57	1750	527	1390	14	.33	.00	.00
MIN	.00	.00	.00	1.0	8.7	7.1	9.4	9.7	.46	.00	.00	.00
CFSM	.000	.000	.01	.14	.09	.70	.20	.95	.02	.000	.000	.000
IN.	.00	.00	.02	.16	.09	.81	.22	1.09	.02	.00	.00	.00
AC-FT	1.5	.00	210	2000	1180	10190	2780	13700	294	2.6	.00	.00

CAL YR 1979 TOTAL 22109.41 MEAN 60.6 MAX 1820 MIN .00 CFSM .26 IN 3.49 AC-FT 43850
WTR YR 1980 TOTAL 15309.06 MEAN 41.8 MAX 1750 MIN .00 CFSM .18 IN 2.41 AC-FT 30370

08109800 EAST YEGUA CREEK NEAR DIME BOX, TX

LOCATION.--Lat 30°24'26", long 96°49'02", Burleson County, Hydrologic Unit 12070102, on left bank 49 ft (15 m) upstream from centerline of State Highway 21, 0.8 mi (1.3 km) downstream from Buffalo Creek, 3.5 mi (5.6 km) north of Dime Box, and 12.2 mi (19.6 km) upstream from mouth.

DRAINAGE AREA.--244 mi² (632 km²).

PERIOD OF RECORD.--August 1962 to current year.
Water-quality records: Sediment records: June 1966 to September 1975.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 284.00 ft (86.56 m) State Department of Highways and Public Transportation datum. Nov. 6 to Dec. 10, 1970, nonrecording gage at present site and datum.

REMARKS.--Records good. Diversions above station for irrigation. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 59.9 ft³/s (1.696 m³/s), 43,400 acre-ft/yr (53.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s (396 m³/s) May 24, 1975, gage height, 13.91 ft (4.240 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1886, 17 ft (5.2 m) in 1899 and 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 22	2200	1,390	39.4	9.73	2.966
Mar. 28	1630	*4,310	122	11.54	3.517
May 15	2000	2,000	56.6	10.28	3.133

Minimum discharge, no flow July 10 to Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	11	5.5	17	19	24	81	17	7.8	.17	.00	.00
2	.33	5.7	5.8	11	18	60	55	29	5.9	.08	.00	.00
3	.29	2.8	5.9	8.0	18	39	46	39	4.8	.08	.00	.00
4	.28	1.9	5.8	5.0	18	24	43	28	4.1	.06	.00	.00
5	.33	1.4	5.0	3.8	16	20	33	21	3.7	.04	.00	.42
6	.41	1.1	4.7	6.1	15	18	26	22	3.4	.03	.00	1.1
7	.56	1.2	4.7	10	14	16	24	27	2.9	.03	.00	9.9
8	.55	1.5	4.9	7.4	15	16	22	25	2.8	.02	.00	5.0
9	.49	1.8	5.0	5.6	29	15	20	25	2.6	.02	.00	1.3
10	.46	1.8	7.6	5.0	77	15	18	30	2.6	.00	.00	.46
11	.31	1.8	8.6	4.9	176	14	17	26	2.5	.00	.00	.10
12	.23	1.9	9.6	5.2	152	15	17	29	2.9	.00	.00	.07
13	1.3	1.7	10	5.1	44	14	24	183	3.3	.00	.00	.07
14	2.1	1.7	8.9	4.9	29	14	34	1280	2.6	.00	.00	.07
15	1.5	1.7	8.5	4.9	24	15	39	1870	2.0	.00	.00	.08
16	1.2	1.6	8.4	4.9	40	16	28	1630	1.7	.00	.00	.07
17	.99	1.5	7.2	6.1	82	16	21	1120	1.4	.00	.00	.06
18	.84	2.1	6.1	9.9	133	14	18	531	1.2	.00	.00	.10
19	.66	3.2	5.8	10	60	13	15	274	1.1	.00	.00	.08
20	.51	4.1	5.6	21	35	13	14	123	.87	.00	.00	.10
21	.58	6.3	6.2	140	29	12	13	72	1.1	.00	.00	.24
22	1.1	5.5	6.8	887	26	12	12	37	1.3	.00	.00	.18
23	1.1	5.0	7.5	1130	23	12	12	25	1.1	.00	.00	.11
24	.95	4.9	7.1	1020	19	12	12	20	.86	.00	.00	.09
25	.84	4.7	5.8	505	16	12	25	17	.68	.00	.00	.10
26	.69	4.5	6.7	90	14	13	46	16	.69	.00	.00	.39
27	.50	4.6	5.6	35	13	374	44	14	.69	.00	.00	.31
28	.42	4.3	5.3	27	12	2790	26	12	.40	.00	.00	.32
29	.34	3.8	31	23	14	2120	18	10	.29	.00	.00	.39
30	.89	4.1	50	22	---	983	14	9.0	.27	.00	.00	.89
31	2.3	---	37	22	---	274	---	8.5	---	.00	.00	---
TOTAL	23.44	99.2	302.6	4056.8	1180	7005	817	7569.5	67.55	.53	.00	22.00
MEAN	.76	3.31	9.76	131	40.7	226	27.2	244	2.25	.017	.000	.73
MAX	2.3	11	50	1130	176	2790	81	1870	7.8	.17	.00	9.9
MIN	.23	1.1	4.7	3.8	12	12	12	8.5	.27	.00	.00	.00
AC-FT	46	197	600	8050	2340	13890	1620	15010	134	1.1	.00	44

CAL YR 1979 TOTAL 36667.68 MEAN 100 MAX 2040 MIN .23 AC-FT 72730
WTR YR 1980 TOTAL 21143.62 MEAN 57.8 MAX 2790 MIN .00 AC-FT 41940

08109900 SOMERVILLE LAKE NEAR SOMERVILLE, TX

LOCATION.--Lat 30°19'20", long 96°31'32", Burleson County, Hydrologic Unit 12070102, in intake structure of Somerville Dam on Yegua Creek, at the southwest edge of the city limits of Somerville, and 20.0 mi (32.2 km) upstream from mouth.

DRAINAGE AREA.--1,007 mi² (2,608 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1966 to current year. Prior to October 1970, published as Somerville Reservoir.

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

REMARKS.--The lake is formed by a rolled earthfill dam 20,210 ft (6,160 m) long, with a 4,715-foot-long (1,437 m) dike and a 1,250-foot-long (381 m) uncontrolled spillway. Deliberate impoundment began Jan. 3, 1967, and the dam was completed Oct. 27, 1967. The emergency spillway is an uncontrolled ogee weir 1,250 ft (381 m) wide located near right end of dam. The low-flow outlet consists of one 10.0-foot-diameter (3.0 m) conduit that is controlled by two 5.0- by 10.0-foot (1.5 by 3.0 m) tractor-type gates. Capacity table is based on Geological Survey topographic maps dated 1959. The lake was designed for flood control and water conservation. Corps of Engineers gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	280.0	-
Design flood	274.5	1,028,800
Crest of spillway	258.0	507,500
Top of conservation pool	238.0	160,100
Lowest gated outlet (invert of 10-foot conduit)	206.0	200

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 311,000 acre-ft (383 hm³) June 9, 1979, elevation, 248.55 ft (75.758 m); minimum, 98,070 acre-ft (121 hm³) Sept. 7, 1978, elevation, 231.80 ft (70.653 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 192,900 acre-ft (238 hm³) May 21 at 0600 hours, elevation, 240.70 ft (73.365 m); minimum, 113,900 acre-ft (140 hm³) Sept. 25 at 1800 hours, elevation, 233.55 ft (71.186 m).

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

233.0	108,800	239.0	171,800
235.0	127,900	241.0	196,800
237.0	148,900		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155500	150800	149400	155300	160400	160300	181500	160500	166100	142700	125700	116900
2	155300	150400	149300	155300	160700	160100	181300	160700	163600	141700	125300	116700
3	155200	150200	149200	155600	160700	160300	180300	160900	161000	140600	124700	116200
4	155100	150000	149300	155500	160800	160600	178500	160900	159900	139900	124300	115800
5	154200	150000	149300	155200	161000	160400	176300	160800	159800	139000	123900	115100
6	154100	149700	149100	155700	161000	160600	174500	160800	159500	138200	123800	115900
7	153900	149400	149000	155500	160700	160700	172600	161000	159400	137400	123500	116400
8	153900	149700	148900	155500	161500	160700	170100	160900	159300	136900	123400	117000
9	153700	149400	148900	155500	163300	160800	167700	160900	159500	136500	122800	116900
10	153500	149300	148900	155500	163900	160800	165300	160900	159300	136100	122700	116600
11	153100	149000	149100	155600	163500	161000	163600	160800	159200	135700	122500	116700
12	152800	148900	151500	155200	162400	161000	161600	161100	158900	135200	122500	116500
13	152400	148800	151400	155200	160800	160800	160600	162500	158500	134500	122300	116200
14	152200	148600	151200	155300	160100	160800	159300	164600	158300	133900	122000	116200
15	152300	148500	151300	155300	160300	160800	159300	167700	158300	133500	121900	115900
16	152300	148400	151200	155800	160900	161100	159400	175400	157900	133100	121700	115800
17	152200	148400	151100	156000	161300	161100	159500	184000	157800	132600	121500	115600
18	152100	148400	151000	156000	161300	160900	159500	188800	157300	132100	121300	115400
19	151900	148400	150900	156100	161000	161100	159500	192200	156000	131200	121100	115300
20	151900	148600	150900	157300	160600	161100	159500	192700	155000	130400	120900	115000
21	151800	150700	151100	159400	160100	161000	159400	192200	154100	129800	120700	115100
22	151300	150800	151100	165300	160300	160900	159400	190400	153000	129300	120400	114600
23	151100	150600	151900	169400	160500	161000	159300	187900	152400	128800	120200	114500
24	150900	150600	151700	172000	160700	161000	159200	185900	150900	128500	119900	114300
25	150600	150400	151700	171600	160100	161300	160500	183400	149600	128000	119600	114400
26	150400	150300	151700	171000	160500	161500	160700	181200	148500	127700	119100	114800
27	150300	150200	151700	169800	160600	164500	160700	178700	147300	127300	118600	114700
28	150200	150000	152500	167500	160500	167400	160600	176300	146200	127000	118200	114600
29	150000	150000	154900	165800	160600	170900	160700	173800	145100	126800	117800	114700
30	151100	149600	155200	163900	---	176800	160700	171500	143700	126500	117400	115000
31	150900	---	155200	161700	---	180100	---	168800	---	126200	117100	---
MAX	155500	150800	155200	172000	163900	180100	181500	192700	166100	142700	125700	117000
MIN	150000	148400	148900	155200	160100	160100	159200	160500	143700	126200	117100	114300
(†)	237.18	237.06	237.57	238.14	238.04	239.41	238.05	238.75	236.52	234.86	233.92	233.67
(‡)	-4700	-1300	+5600	+6500	-1100	+19500	-19400	+8100	-25100	-17500	-9100	-2100
(††)	184	149	153	157	154	148	164	181	220	286	291	189

CAL YR 1979 MAX 310500 MIN 127100 ‡ -34600 †† 2,000
WTR YR 1980 MAX 192700 MIN 114300 ‡ -40600 †† 2,280

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use by city of Brenham.

08109900 SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1969 to current year.

301908096313101 SOMERVILLE LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
30...	1320	1.0	318	7.6	11.0	1.00	10.0	91	90
30...	1322	10.0	318	7.6	11.0	--	10.0	91	--
30...	1324	20.0	318	7.6	11.0	--	9.9	90	--
30...	1326	31.0	318	7.5	11.0	--	9.8	89	89
MAY									
21...	1122	1.0	364	7.9	24.0	.91	8.2	98	110
21...	1124	10.0	364	7.4	23.0	--	7.7	90	--
21...	1126	20.0	364	7.0	23.0	--	6.4	74	--
21...	1128	30.0	362	6.8	22.5	--	3.8	44	110
AUG									
29...	0920	1.0	428	7.1	28.5	.61	5.5	70	110
29...	0922	10.0	428	6.9	28.5	--	4.6	58	--
29...	0924	20.0	428	6.9	28.5	--	4.6	58	--
29...	0926	25.0	428	6.9	28.5	--	4.6	58	110

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
30...	44	26	6.2	23	1.1	5.4	47	52	33
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	42	26	5.9	22	1.0	5.4	47	53	33
MAY									
21...	62	30	7.3	25	1.1	5.7	43	64	38
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	62	30	7.3	26	1.1	5.8	43	62	38
AUG									
29...	63	32	8.1	32	1.3	7.1	50	71	54
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	64	32	8.2	34	1.4	7.1	50	70	54

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN									
30...	.1	9.6	183	.00	.60	.60	.030	<10	<1
30...	--	--	--	.01	.61	.62	.040	20	10
30...	--	--	--	--	--	--	--	--	--
30...	--	9.5	183	.01	.62	.63	.040	<10	5
MAY									
21...	.1	7.1	203	.03	.86	.89	.030	<10	4
21...	--	--	--	.02	2.7	2.7	.040	40	20
21...	--	--	--	--	--	--	--	--	--
21...	--	8.2	203	.06	.96	1.0	.040	<10	140
AUG									
29...	.2	11	245	.00	1.1	1.1	.070	<10	1
29...	--	--	--	.00	1.1	1.1	.080	10	10
29...	--	--	--	--	--	--	--	--	--
29...	--	11	246	.00	1.3	1.3	.070	<10	30

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301940096315801 SOMERVILLE LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
30...	1340	1.0	318	7.6	11.0	9.8	89
30...	1342	10.0	318	7.6	11.0	9.7	88
30...	1344	20.0	318	7.6	11.0	9.7	88
30...	1346	29.0	318	7.5	11.0	9.6	87
MAY							
21...	1149	1.0	364	7.9	24.5	8.6	102
21...	1151	10.0	364	7.5	23.5	7.9	93
21...	1153	22.0	364	6.9	23.0	5.6	65
AUG							
29...	0945	1.0	428	7.4	29.0	6.8	87
29...	0947	10.0	428	7.1	28.5	5.6	71
29...	0949	13.0	428	7.1	28.5	5.6	71

302026096341501 SOMERVILLE LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
30...	1400	1.0	306	7.6	10.5	9.9	89
30...	1402	10.0	306	7.6	10.5	9.9	89
30...	1404	15.0	306	7.5	10.5	9.7	87
MAY							
21...	1204	1.0	347	8.3	26.0	9.6	119
21...	1206	10.0	357	8.1	24.5	9.0	107
21...	1208	15.0	340	6.8	23.5	5.1	60
AUG							
29...	1005	1.0	432	7.9	30.0	6.8	88
29...	1007	8.0	432	7.5	30.0	5.9	77

301805096332501 SOMERVILLE LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
30...	1520	1.0	320	7.7	10.5	10.2	92
30...	1522	12.0	320	7.7	10.5	10.2	92
MAY							
21...	1341	1.0	363	8.4	26.0	10.1	125
21...	1343	14.0	363	7.0	23.5	6.2	73
AUG							
29...	1215	1.0	432	7.5	29.5	6.6	85
29...	1217	8.0	432	6.8	28.5	3.2	41

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301847096334601 SOMERVILLE LAKE SITE DR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
30...	1420	1.0	321	7.6	11.0	9.6	87
30...	1422	10.0	321	7.5	11.0	9.5	86
30...	1424	24.0	321	7.5	11.0	9.5	86
MAY							
21...	1234	1.0	368	8.4	26.0	9.9	122
21...	1236	10.0	368	7.3	23.5	7.3	86
21...	1238	20.0	368	6.8	22.5	5.2	60
21...	1240	26.0	368	6.7	22.5	3.5	41
AUG							
29...	1045	1.0	432	7.7	29.5	6.9	88
29...	1047	10.0	432	6.9	29.0	4.0	51
29...	1049	19.0	432	6.8	29.0	2.6	33

301904096335601 SOMERVILLE LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
30...	1410	1.0	328	7.6	11.0	.70	9.7	88	93
30...	1412	10.0	328	7.5	11.0	--	9.6	87	--
30...	1414	20.0	328	7.5	11.0	--	9.6	87	--
30...	1416	25.0	328	7.5	11.0	--	9.5	86	93
MAY									
21...	1217	1.0	354	8.4	26.5	.82	9.7	121	99
21...	1219	10.0	368	7.2	23.5	--	7.0	82	--
21...	1221	20.0	368	6.8	23.0	--	4.6	53	--
21...	1223	28.0	368	6.7	22.5	--	2.9	34	110
AUG									
29...	1020	1.0	432	7.8	29.5	.61	6.8	87	120
29...	1022	5.0	432	7.4	29.0	--	5.8	74	--
29...	1024	10.0	432	7.2	29.0	--	5.3	68	--
29...	1026	20.0	432	7.0	29.0	--	4.6	59	--
29...	1028	25.0	432	7.0	29.0	--	4.6	59	120

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
30...	49	27	6.3	25	1.1	5.4	44	57	35
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	49	27	6.2	25	1.1	5.3	44	55	35
MAY									
21...	58	28	7.0	25	1.1	5.6	41	61	37
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	61	30	7.4	26	1.1	5.9	44	63	39
AUG									
29...	72	35	8.6	33	1.3	7.1	51	73	57
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	65	33	8.2	33	1.3	7.1	51	70	54

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301904096335601 SOMERVILLE LAKE SITE DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN								
30...	9.8	192	.00	.83	.83	.050	20	1
30...	--	--	.01	.73	.74	.050	40	10
30...	--	--	--	--	--	--	--	--
30...	9.8	190	.01	.83	.84	.070	20	10
MAY								
21...	7.1	195	.01	1.7	1.7	.030	110	30
21...	--	--	--	--	--	--	--	--
21...	--	--	.02	.78	.80	.040	190	50
21...	9.2	208	.03	1.4	1.4	.070	360	260
AUG								
29...	11	255	.00	1.1	1.1	.070	<10	3
29...	--	--	--	--	--	--	--	--
29...	--	--	.00	1.1	1.1	.080	10	10
29...	--	--	--	--	--	--	--	--
29...	11	247	.00	1.3	1.3	.090	<10	80

301817096364101 SOMERVILLE LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
30...	1440	1.0	323	7.4	10.5	9.4	85
30...	1442	10.0	323	7.4	10.5	9.4	85
30...	1444	17.0	323	7.3	10.5	9.3	84
MAY							
21...	1325	1.0	377	8.8	26.5	11.6	145
21...	1327	10.0	377	8.5	24.5	10.0	119
21...	1329	21.0	422	6.6	23.0	2.8	33
AUG							
29...	1100	1.0	432	7.8	29.5	6.9	90
29...	1102	5.0	432	7.4	29.5	6.0	77
29...	1104	10.0	432	7.1	29.5	4.6	59
29...	1106	15.0	432	7.0	29.5	4.5	58
29...	1108	19.0	432	7.0	29.5	4.5	58

301754096380801 SOMERVILLE LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
JAN									
30...	1455	1.0	283	7.0	10.0	.20	8.6	77	78
30...	1457	14.0	317	6.9	9.5	--	8.5	75	85
MAY									
21...	1259	1.0	319	7.9	27.5	.24	9.4	119	87
21...	1301	10.0	293	6.6	25.0	--	5.0	60	--
21...	1303	14.0	293	6.6	24.5	--	4.8	57	84
AUG									
29...	1130	1.0	452	7.5	30.0	.24	6.0	78	120
29...	1132	5.0	452	7.0	29.5	--	3.8	49	--
29...	1134	9.0	452	7.0	29.5	--	3.5	45	120

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301754096380801 SOMERVILLE LAKE SITE FC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
30...	48	22	5.5	21	1.0	5.8	30	57	33
30...	57	23	6.7	24	1.1	6.6	28	66	33
MAY									
21...	51	24	6.6	23	1.1	6.2	36	53	35
21...	--	--	--	--	--	--	--	--	--
21...	46	23	6.4	21	1.0	6.8	38	49	31
AUG									
29...	68	34	8.6	35	1.4	7.4	52	76	58
29...	--	--	--	--	--	--	--	--	--
29...	67	34	8.6	34	1.4	7.4	53	75	57

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN								
30...	11	173	.11	.87	.98	.120	180	40
30...	13	190	.08	.92	1.0	.150	350	80
MAY								
21...	11	181	.02	1.5	1.5	.170	410	50
21...	--	--	--	--	--	--	--	--
21...	15	176	.05	1.2	1.3	.110	1100	220
AUG								
29...	10	261	.00	1.4	1.4	.140	20	10
29...	--	--	.00	1.5	1.5	.140	10	20
29...	10	258	.00	1.5	1.5	.150	10	200

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301908096313101 SOMERVILLE LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 30,80		MAY 21,80		AUG 29,80	
TIME	1321		1123		0921	
TOTAL CELLS/ML	380000		52000		410000	
DIVERSITY: DIVISION	0.3		1.2		0.4	
.CLASS	0.3		1.2		0.4	
..ORDER	0.3		1.4		1.1	
...FAMILY	0.3		1.7		1.7	
....GENUS	1.0		2.6		2.2	

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	--	-	*	0	--	-
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	*	0
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	*	0
....MICRACTINIUM	--	-	430	1	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	3000	1	640	1	3800	1
....CHLORELLA	3900	1	--	-	--	-
....CHODATELLA	*	0	--	-	--	-
....DICTYOSPHAERIUM	--	-	1400	3	*	0
....FRANCEIA	--	-	*	0	--	-
....KIRCHNERIELLA	*	0	2000	4	*	0
....OOCYSTIS	*	0	540	1	*	0
....SELENASTRUM	--	-	--	-	*	0
....TETRAEDRON	*	0	320	1	*	0
....TREUBARIA	*	0	--	-	--	-
...SCENEDESMACEAE						
....SCENEDESMUS	*	0	3000	6	6300	2
....TETRASTRUM	*	0	430	1	*	0
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	430	1	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	*	0	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	2400	1	2000	4	*	0
....MELOSIRA	--	-	1300	2	--	-
....STEPHANODISCUS	--	-	*	0	--	-
..PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	--	-	--	-	*	0
...CYMBELLACEAE						
....CYMBELLA	--	-	*	0	--	-
...FRAGILARIACEAE						
....SYNEDRA	*	0	--	-	*	0
...NITZSCHIACEAE						
....NITZSCHIA	*	0	*	0	5300	1
...SURIRELLACEAE						
....SURIRELLA	--	-	*	0	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	750	1	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	65000#	17	10000#	20	48000	12
....ANACYSTIS	300000#	78	26000#	50	25000	6
....COCCOCHLORIS	--	-	320	1	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	34000	8
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	33000	8
....OSCILLATORIA	--	-	1100	2	240000#	58
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	6300	2
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	*	0
....PHACUS	--	-	*	0	--	-
....TRACHELOMONAS	*	0	*	0	*	0

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

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301754096380801 SOMERVILLE LAKE SITE FC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 30,80		MAY 21,80		AUG 29,80	
TIME	1456		1300		1131	
TOTAL CELLS/ML	9700		36000		710000	
DIVERSITY: DIVISION	1.3		1.2		0.2	
.CLASS	1.3		1.2		0.2	
..ORDER	1.5		1.7		0.9	
...FAMILY	1.8		2.0		1.6	
....GENUS	2.4		2.6		2.3	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	--	-	210	1	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	670	7	1100	3	*	0
....CHLORELLA	470	5	--	-	--	-
....CHODATELLA	*	0	--	-	--	-
....DICTYOSPHAERIUM	620	6	1300	4	--	-
....KIRCHNERIELLA	67	1	--	-	--	-
....OOCYSTIS	110	1	--	-	*	0
....SELENASTRUM	--	-	--	-	*	0
....TETRAEDRON	--	-	--	-	*	0
....TREUBARIA	*	0	--	-	*	0
....WESTELLA	--	-	--	-	*	0
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	1700	5	--	-
....CRUCIGENIA	89	1	--	-	--	-
....SCENEDESMUS	490	5	1300	4	*	0
....TETRASTRUM	330	3	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	16000#	45	--	-
....CHLAMYDOMONAS	*	0	1500	4	*	0
...PHACOTACEAE						
....PTEROMONAS	--	-	210	1	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	290	3	210	1	*	0
....MELOSIRA	*	0	--	-	*	0
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	210	1	--	-
....COCCONEIS	--	-	--	-	*	0
...NAVICULACEAE						
....NAVICULA	*	0	--	-	*	0
...NITZSCHIACEAE						
....NITZSCHIA	580	6	210	1	5000	1
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	5700#	58	3400	9	25000	4
....ANACYSTIS	--	-	7400#	21	83000	12
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	160	2	--	-	12000	2
....ANABAENOPSIS	--	-	--	-	150000#	21
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	110000#	15
....OSCILLATORIA	--	-	--	-	310000#	44
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	*	0	420	1	*	0
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	630	2	*	0

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

08110000 YEGUA CREEK NEAR SOMERVILLE, TX

LOCATION.--Lat 30°19'18", long 96°30'26", Burleson County, Hydrologic Unit 12070102, on left bank 40 ft (12 m) downstream from bridge on State Highway 36, 860 ft (262 m) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.0 mi (1.6 km) downstream from Somerville Lake, 2.0 mi (3.2 km) south of Somerville, 5.0 mi (8.0 km) upstream from Davidson Creek, and 18.4 mi (29.6 km) upstream from mouth.

DRAINAGE AREA.--1,009 mi^2 (2,613 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year.

REVISED RECORDS.--WSP 1512: 1926(M), 1929, 1935. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 199.21 ft (60.719 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 30, 1934, nonrecording gage at railway bridge 860 ft (262 m) upstream at datum 34.30 ft (10.455 m) higher. Jan. 30, 1934, to Nov. 30, 1970, water-stage recorder at highway bridge 100 ft (30 m) upstream at same datum.

REMARKS.--Water-discharge records good above 1.0 ft^3/s (0.028 m^3/s) and fair below. Flow regulated by Somerville Lake (station 08109900) since Feb. 3, 1966. Corps of Engineers gage-height telemeter located at station.

AVERAGE DISCHARGE.--41 years (water years 1925-65) unregulated, 290 ft^3/s (8.312 m^3/s), 210,100 acre-ft/yr (259 hm^3/yr); 15 years (water years 1966-80) regulated, 314 ft^3/s (8.892 m^3/s), 227,500 acre-ft/yr (281 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,800 ft^3/s (1,610 m^3/s) July 1, 1940, gage height, 19.27 ft (5.873 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 22 ft (6.7 m) Dec. 5, 1913, present site and datum, from information by Gulf, Colorado, and Santa Fe Railway Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,380 ft^3/s (39.1 m^3/s) May 21 at 1500 hours, gage height, 7.47 ft (2.277 m); minimum daily, 0.64 ft^3/s (0.018 m^3/s) June 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	2.8	2.3	3.2	754	3.2	959	3.8	1340	495	57	5.6
2	1.0	2.9	2.3	3.1	71	3.3	1020	3.8	1320	492	56	30
3	1.2	3.0	2.3	3.4	7.6	3.8	1120	3.8	1310	462	56	82
4	1.4	2.9	2.3	3.4	5.2	4.4	1140	3.9	1010	325	56	84
5	1.4	2.8	2.5	3.3	5.0	4.4	1120	3.9	72	306	56	54
6	1.6	2.7	2.6	3.4	5.4	4.2	1120	3.9	4.2	290	56	7.3
7	1.7	2.5	2.5	3.3	5.4	4.2	1120	4.0	1.6	261	37	5.4
8	1.8	2.6	2.4	3.3	5.7	4.4	1150	4.0	1.0	199	9.6	5.9
9	1.8	2.8	2.4	3.2	13	4.4	1240	4.0	.90	90	7.9	5.7
10	1.9	2.9	2.3	3.2	9.2	4.4	1270	4.1	.80	97	7.3	5.6
11	2.0	3.0	2.3	3.2	197	4.4	1220	4.1	.76	96	7.1	5.6
12	2.0	2.9	6.3	3.2	737	4.6	1030	4.2	.72	92	7.3	5.6
13	2.1	3.1	4.6	3.2	759	4.1	1010	4.3	.68	92	7.1	5.6
14	2.0	3.1	2.8	3.2	677	3.7	406	4.4	.64	92	6.9	5.5
15	1.8	3.1	2.3	3.4	254	3.6	12	4.4	.64	89	6.4	5.1
16	2.3	3.1	2.2	3.4	207	3.6	4.2	7.3	.64	89	6.6	5.5
17	2.5	3.4	2.1	3.5	199	3.4	4.0	35	.68	89	6.6	5.9
18	2.5	3.5	2.1	3.6	195	2.4	3.9	160	122	101	6.7	6.0
19	2.6	3.4	2.2	3.5	286	1.9	3.8	530	474	249	6.7	6.2
20	2.9	3.3	2.2	3.6	530	2.1	3.7	1260	501	277	6.9	5.9
21	3.1	4.5	2.2	5.1	436	2.5	3.7	1350	511	249	6.4	5.5
22	3.3	3.9	2.2	16	49	2.2	3.7	1370	514	146	7.4	5.8
23	3.4	3.0	2.4	8.2	3.9	1.9	3.8	1370	513	137	7.4	5.6
24	3.4	2.7	2.8	300	2.2	1.7	3.8	1370	511	133	54	5.6
25	3.4	2.4	2.5	953	1.6	1.5	3.9	1370	508	97	91	5.6
26	3.4	2.4	2.2	1110	1.9	1.5	3.9	1370	508	70	87	5.7
27	3.2	2.3	2.1	997	2.2	20	3.8	1370	504	70	94	5.6
28	3.2	2.1	2.3	953	2.6	20	3.8	1370	504	70	92	5.9
29	3.3	2.1	11	938	2.9	8.6	3.8	1360	504	68	91	5.9
30	3.7	2.2	5.6	927	---	6.0	3.8	1360	504	59	58	6.9
31	3.4	---	3.8	922	---	400	---	1340	---	57	7.6	---
TOTAL	74.12	87.4	92.1	7195.9	5424.8	540.4	14994.6	17052.9	11243.26	5439	1062.9	400.5
MEAN	2.39	2.91	2.97	232	187	17.4	500	550	375	175	34.3	13.4
MAX	3.7	4.5	11	1110	759	400	1270	1370	1340	495	94	84
MIN	.82	2.1	2.1	3.1	1.6	1.5	3.7	3.8	.64	57	6.4	5.1
AC-FT	147	173	183	14270	10760	1070	29740	33820	22300	10790	2110	794

CAL YR 1979 TOTAL 183867.34 MEAN 504 MAX 2200 MIN .52 AC-FT 364700
WTR YR 1980 TOTAL 63607.88 MEAN 174 MAX 1370 MIN .64 AC-FT 126200

08110000 YEGUA CREEK NEAR SOMERVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: September 1961 to September 1967, October 1968 to current year. Water temperatures: September 1961 to September 1967.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 16...	1145	2.6	482	24.0	140	87	41	8.1	35
NOV 27...	1245	2.1	508	15.0	140	95	42	8.4	38
JAN 15...	1057	3.2	648	11.5	190	140	58	11	48
FEB 22...	1315	23	458	16.0	120	76	36	7.4	30
APR 08...	1107	1124	343	18.5	100	60	29	7.0	24
MAY 19...	1512	52	377	23.0	110	67	32	7.3	27
JUN 23...	1351	529	395	30.0	110	73	32	7.6	30
AUG 06...	0940	56	424	29.0	120	65	40	4.7	17
SEP 18...	1245	6.1	481	30.0	140	81	39	9.4	38

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 16...	1.3	6.9	59	0	84	63	.2	11	278
NOV 27...	1.4	6.6	54	0	98	66	.2	11	297
JAN 15...	1.5	7.4	56	0	110	98	.2	11	371
FEB 22...	1.2	5.7	54	0	78	62	.1	10	256
APR 08...	1.0	5.6	50	0	56	40	.1	8.8	195
MAY 19...	1.1	6.0	52	0	66	45	.4	8.0	217
JUN 23...	1.2	6.4	47	0	70	52	.4	6.5	228
AUG 06...	.7	3.3	66	0	52	31	.3	8.7	190
SEP 18...	1.4	7.4	67	0	77	66	.3	12	282

08110100 DAVIDSON CREEK NEAR LYONS, TX

LOCATION.--Lat 30°25'10", long 96°32'24", Burleson County, Hydrologic Unit 12070102, on left bank 83 ft (25 m) downstream from Farm Road 60, 1.2 mi (1.9 km) downstream from Berry Creek, 2.8 mi (4.5 km) northeast of Lyons, and 10.7 mi (17.2 km) upstream from mouth.

DRAINAGE AREA.--195 mi^2 (505 km^2).

PERIOD OF RECORD.--October 1962 to current year.
Water-quality records: Sediment records: June 1966 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 220.26 ft (67.135 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. During year, the city of Cadwell discharged 283 acre-ft (349,000 m^3) of sewage effluent into creek above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 69.3 ft^3/s (1.963 m^3/s), 4.83 in/yr (123 mm/yr), 50,210 acre-ft/yr (61.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,200 ft^3/s (657 m^3/s) June 24, 1968, gage height, 18.67 ft (5.691 m); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902, that of June 24, 1968. Flood in 1947 reached a stage of 17 ft (5.2 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft^3/s (42.5 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 23	0430	3,950	112	15.50	4.724
Mar. 28	1400	3,980	113	15.51	4.727
May 14	2130	*4,910	139	15.81	4.819

Minimum discharge, no flow July 5 to Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	4.6	1.1	35	19	8.5	80	68	11	.10	.00	.00
2	.80	6.3	1.1	20	17	10	303	220	10	.07	.00	.00
3	.71	4.0	1.1	14	14	9.3	151	71	8.5	.06	.00	.00
4	.71	2.0	1.1	10	14	9.2	66	38	7.6	.03	.00	.00
5	.62	1.2	1.1	8.3	14	8.6	47	30	6.7	.00	.00	.00
6	.39	1.1	1.0	6.9	14	8.8	35	51	5.9	.00	.00	.00
7	.39	.79	1.0	5.8	13	6.0	32	38	5.2	.00	.00	.00
8	.46	.60	.99	5.0	14	8.4	28	27	5.1	.00	.00	.00
9	.46	.46	.71	4.8	246	8.4	24	23	4.9	.00	.00	.00
10	.54	.36	.79	4.7	293	8.6	21	22	4.3	.00	.00	.00
11	.62	.26	1.1	4.4	124	8.8	18	21	3.8	.00	.00	.00
12	.54	.22	17	3.9	73	10	16	20	4.0	.00	.00	.00
13	.54	.21	19	3.6	38	8.0	21	276	3.4	.00	.00	.00
14	.46	.24	5.2	3.6	26	6.5	33	2580	2.6	.00	.00	.00
15	.32	.21	4.3	3.7	20	4.8	54	2810	2.1	.00	.00	.00
16	.32	.21	5.0	4.4	270	4.0	38	1810	2.2	.00	.00	.00
17	.26	.21	3.6	4.2	441	3.0	29	2170	2.0	.00	.00	.00
18	.26	.21	3.4	8.6	175	2.4	23	606	1.4	.00	.00	.00
19	.26	.23	3.0	7.1	80	2.7	17	243	1.2	.00	.00	.00
20	.23	.46	2.4	37	48	3.1	14	186	1.2	.00	.00	.00
21	.12	68	2.1	600	34	2.9	12	90	1.5	.00	.00	.00
22	.29	154	1.7	1460	25	2.3	10	57	1.4	.00	.00	.00
23	.32	27	2.1	2960	19	2.0	11	39	1.2	.00	.00	.00
24	.32	7.2	12	1190	14	2.6	11	30	.74	.00	.00	.00
25	.32	3.2	21	480	11	2.4	26	24	.81	.00	.00	.00
26	.32	1.7	8.8	114	8.7	1.9	167	22	.59	.00	.00	.00
27	.32	1.2	6.2	59	7.2	327	108	17	.44	.00	.00	.00
28	.32	1.0	6.2	37	6.1	2630	43	15	.30	.00	.00	.00
29	.26	1.0	423	29	6.1	1960	26	16	.12	.00	.00	.00
30	.48	1.1	262	24	---	1130	18	16	.12	.00	.00	.76
31	1.8	---	77	21	---	242	---	12	---	.00	.00	---
TOTAL	14.66	289.27	896.09	7169.0	2084.1	6442.2	1482	11648	100.32	.26	.00	.76
MEAN	.47	9.64	28.9	231	71.9	208	49.4	376	3.34	.008	.000	.025
MAX	1.8	154	423	2960	441	2630	303	2810	11	.10	.00	.76
MIN	.12	.21	.71	3.6	6.1	1.9	10	12	.12	.00	.00	.00
CFSM	.002	.05	.15	1.19	.37	1.07	.25	1.93	.02	.000	.000	.000
IN.	.00	.06	.17	1.37	.40	1.23	.28	2.22	.02	.00	.00	.00
AC-FT	29	574	1780	14220	4130	12780	2940	23100	199	.5	.00	1.5

CAL YR 1979 TOTAL 52531.71 MEAN 144 MAX 4550 MIN .12 CFSM .74 IN 10.02 AC-FT 104200
WTR YR 1980 TOTAL 30126.66 MEAN 82.3 MAX 2960 MIN .00 CFSM .42 IN 5.75 AC-FT 59760

08110200 BRAZOS RIVER AT WASHINGTON, TX

LOCATION.--Lat 30°21'40", long 96°09'18", Washington County, Hydrologic Unit 12070101, near right bank beneath floor of bridge on State Highway 105, 2.4 mi (3.9 km) upstream from Navasota River, 2.5 mi (4.0 km) north of Washington, and at mile 228.8 (368.1 km).

DRAINAGE AREA.--41,192 mi² (106,687 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--November 1965 to current year. Gage heights collected in this vicinity since 1915 are contained in reports of the National Weather Service.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 140.13 ft (42.712 m) National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder 1.8 mi (2.9 km) downstream at same datum.

REMARKS.--Records fair. Backwater at times from Navasota River. Many diversions above station for irrigation, municipal, industrial, and oilfield operations. At times, flow is affected by five upstream reservoirs with a combined capacity of 4,955,000 acre-ft (6.11 km³). Flow is also affected at times by discharge from the flood-dentention pools of 137 floodwater-retarding structures with a combined detention capacity of 151,600 acre-ft (187 hm³). These structures control runoff from 442 mi² (1,145 km²) above station. Several observations of water temperature were made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--14 years, 5,286 ft³/s (149.7 m³/s), 3,830,000 acre-ft/yr (4.72 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 82,500 ft³/s (2,340 m³/s) Jan. 24, 1968, gage height, 33.60 ft (10.241 m); maximum gage height, 36.74 ft (11.198 m) Apr. 28, 1966 (backwater from Navasota River); minimum discharge, 170 ft³/s (4.81 m³/s) Oct. 22, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1856, 62.0 ft (18.90 m) Dec. 6, 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 43,000 ft³/s (1,220 m³/s) May 17 at 2300 hours, gage height, 25.14 ft (7.663 m); minimum, 303 ft³/s (8.58 m³/s) Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1640	756	816	5000	2680	753	5290	3300	11000	2240	907	888
2	1740	986	635	3960	2050	763	4040	3320	9850	1910	793	659
3	1710	1140	1170	3060	1150	1170	3960	2600	8690	2110	942	812
4	1590	903	1330	2540	1070	1670	4850	2220	8360	1950	885	810
5	1350	682	1380	1840	1060	1280	4380	2090	7430	1710	774	774
6	973	576	859	1430	1100	839	3610	1630	6010	1950	723	723
7	1030	509	659	1190	1050	696	3740	1390	5800	1980	905	669
8	1070	477	624	1180	992	640	3500	1290	6010	2060	752	758
9	964	551	625	1340	1640	576	3130	1760	5890	1910	704	856
10	1060	686	545	1220	3970	528	3160	4460	5400	1900	814	749
11	1310	544	493	1150	9030	552	3860	7460	5540	1880	1090	718
12	1500	474	1470	1690	9270	574	3700	6690	5410	1850	922	674
13	1350	473	1390	1810	7260	518	3050	9530	4390	1690	915	559
14	879	460	741	1430	5250	469	3060	17700	2820	1520	870	567
15	688	483	608	1130	4180	455	5570	30100	2460	1460	831	584
16	641	477	1380	1130	3440	497	9520	32900	2290	1560	767	684
17	914	685	2370	1530	4010	492	7050	40400	1590	1570	825	868
18	1130	1680	2150	1640	3510	440	5160	39000	1200	1510	845	1330
19	1030	1070	2020	2160	2720	429	4410	27600	1120	1570	856	1580
20	904	868	1910	2220	2130	464	3270	19700	1650	1680	1040	1300
21	1840	1110	2430	5560	2030	619	2250	18600	1750	1710	1100	930
22	1520	2240	2370	8350	1700	434	1750	16600	1900	1720	1180	1190
23	956	1310	1900	11800	1260	433	1300	13700	2400	1660	1260	1020
24	944	667	2110	12100	1240	415	1000	11900	2050	1590	1310	461
25	1250	545	4610	12200	1070	389	1070	11400	1800	1580	1550	410
26	1190	617	7580	10100	935	385	1590	10800	1560	1530	1790	343
27	823	1190	6250	6570	847	1930	1800	9970	1480	1470	1760	325
28	635	1160	4680	4710	752	11000	6760	10100	1730	1330	1500	318
29	534	959	4320	4020	757	10800	6710	10500	2010	1300	1150	350
30	549	818	4990	3470	---	13600	3920	11300	2370	1390	1230	394
31	651	---	5020	3100	---	9240	---	11400	---	1100	1310	---
TOTAL	34365	25096	69435	120630	78153	63050	116460	391410	121960	52390	32300	22303
MEAN	1109	837	2240	3891	2695	2034	3882	12630	4065	1690	1042	743
MAX	1840	2240	7580	12200	9270	13600	9520	40400	11000	2240	1790	1580
MIN	534	460	493	1130	752	385	1000	1290	1120	1100	704	318
AC-FT	68160	49780	137700	239300	155000	125100	231000	776400	241900	103900	64070	44240

CAL YR 1979 TOTAL 2972366 MEAN 8143 MAX 56700 MIN 460 AC-FT 5896000
WTR YR 1980 TOTAL 1127552 MEAN 3081 MAX 40400 MIN 318 AC-FT 2236000

08110300 LAKE MEXIA NEAR MEXIA, TX

LOCATION.--Lat 31°38'37", long 96°34'43", Limestone County, Hydrologic Unit 12070103, 550 ft (168 m) downstream from Cedar Creek, 610 ft (186 m) upstream from spillway of dam on Navasota River, 1.0 mi (1.6 km) upstream from Echo Dam, 1.6 mi (2.6 km) upstream from Jacks Creek, 6 mi (10 km) southwest of Mexia, and 180.0 mi (289.6 km) upstream from mouth.

DRAINAGE AREA.--196 mi² (508 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 420.0 ft (128.02 m) National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by an earthfill dam, 1,645 ft (501 m) long, including a 520-foot (158 m) uncontrolled concrete ogee-type spillway near the center of dam. The dam was completed and deliberate impoundment of water began June 5, 1961. The Bistone Municipal Water Supply District reported a diversion of 2,160 acre-ft (2.66 hm³) for municipal use during the current year. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	42.3	-
Crest of spillway	28.3	9,400
Lowest gated outlet (invert)	2.1	531

COOPERATION.--Capacity table was computed from data furnished by Fowler and Grafe, Inc., Consulting Engineers, Dallas. Data was based on a preconstruction survey in 1958 and was not adjusted for borrow in the lake area. Diversions from lake for municipal use were furnished by the Bistone Municipal Water Supply District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 22,460 acre-ft (27.7 hm³) May 11, 1979, gage height, 35.36 ft (10.778 m); minimum, 3,730 acre-ft (4.60 hm³) Jan. 15, 1964, gage height, 21.40 ft (6.523 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 13,700 acre-ft (16.9 hm³) May 16 at 1700 hours, gage height, 31.06 ft (9.467 m); minimum, 5,540 acre-ft (6.83 hm³) Sept. 29, gage height, 24.71 ft (7.532 m).

Capacity table (gage height, in feet, and total contents, in acre-feet)

24.0	5,020	28.0	8,970
26.0	6,650	31.0	13,620
		32.0	15,410

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9060	9300	8860	9570	9460	9280	9560	9540	9340	8230	6980	6040
2	9030	9300	8840	9580	9460	9240	9540	9510	9300	8190	6930	6020
3	9010	9270	8830	9500	9460	9200	9510	9500	9270	8130	6870	5990
4	8960	9240	8820	9480	9440	9240	9470	9480	9240	8090	6830	5960
5	8910	9230	8810	9460	9460	9230	9460	9470	9210	8060	6810	5930
6	8880	9210	8790	9470	9440	9200	9440	9530	9180	8010	6800	5900
7	8870	9180	8780	9440	9470	9230	9580	10040	9160	7970	6770	5900
8	8830	9170	8770	9430	10850	9210	9430	10090	9130	7920	6740	5960
9	8820	9170	8740	9410	11120	9210	9410	9890	9100	7880	6690	5960
10	8760	9130	8740	9440	10240	9210	9360	9690	9060	7830	6660	5930
11	8730	9110	8870	9410	9830	9180	9440	9600	9030	7780	6640	5900
12	8710	9100	9710	9380	9690	9260	9430	12070	8980	7730	6610	5880
13	8680	9070	9640	9370	9600	9180	10610	11010	8930	7690	6580	5850
14	8660	9060	9570	9360	9580	9160	10330	10610	8890	7660	6540	5830
15	8630	9040	9530	9360	9580	9140	9800	12220	8840	7610	6510	5800
16	8830	9030	9480	9370	9500	9170	9640	13390	8820	7570	6480	5770
17	8840	9010	9430	9370	9470	9130	9570	10710	8790	7530	6450	5750
18	8820	9000	9410	9340	9460	9080	9530	9840	8760	7500	6430	5690
19	8790	8980	9400	9360	9470	9080	9510	9670	8720	7450	6390	5720
20	8780	8980	9400	9410	9470	9070	9480	9600	8680	7410	6360	5690
21	8760	9070	9440	9500	9460	9060	9470	9560	8670	7390	6340	5660
22	8810	9010	10210	11620	9440	9010	9440	9530	8630	7360	6300	5640
23	8780	8980	10880	10830	9430	9080	9430	9510	8610	7320	6280	5630
24	8760	8980	10870	9860	9430	9010	9410	9500	8560	7280	6250	5600
25	8730	8970	9890	9670	9380	9000	9830	9500	8520	7240	6210	5580
26	8690	8940	9660	9580	9370	9000	10360	9480	8480	7210	6190	5580
27	8690	8940	9570	9530	9360	9370	9770	9470	8430	7160	6150	5560
28	8680	8920	9660	9530	9340	10110	9610	9430	8370	7140	6120	5550
29	8630	8880	10110	9510	9410	9870	9570	9410	8330	7100	6130	5580
30	8940	8870	9830	9510	---	9690	9530	9380	8280	7070	6100	5560
31	9260	---	9640	9470	---	9600	---	9370	---	7020	6070	---
MAX	9260	9300	10880	11620	11120	10110	10610	13390	9340	8230	6980	6040
MIN	8630	8870	8740	9340	9340	9000	9360	9370	8280	7020	6070	5550
(†)	28.20	27.92	28.47	28.35	28.31	28.44	28.39	28.28	27.45	26.35	25.35	24.73
(‡)	+180	-390	+770	-170	-60	+190	-70	-160	-1090	-1260	-950	-510
(††)	140	139	164	153	166	153	153	168	206	234	249	236

CAL YR 1979 MAX 15970 MIN 6530 ‡ +4160 †† 1980
WTR YR 1980 MAX 13390 MIN 5550 ‡ -3520 †† 2160

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Diversions, in acre-feet, for municipal use by Bistone Municipal Water Supply District.

08110300 LAKE MEXIA NEAR MEXIA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
DEC 18...	1400	278	9.0	110	1	38	3.2	12	.5
MAY 28...	1100	258	25.0	86	19	27	4.4	11	.5
AUG 20...	0835	226	28.0	89	0	31	2.8	9.3	.4

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
DEC 18...	4.5	130	0	16	13	.2	4.1	155
MAY 28...	4.2	81	0	28	20	.1	14	149
AUG 20...	5.3	110	0	14	19	.3	2.6	138

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX

LOCATION.--Lat 31°34'27", long 96°31'14", Limestone County, Hydrologic Unit 12070103, in city of Groesbeck water supply pumping plant, 1.2 mi (1.9 km) downstream from Springfield Lake, 3.7 mi (6.0 km) north of Groesbeck, and 161.4 mi (259.7 km) upstream from mouth.

DRAINAGE AREA.--239 mi^2 (619 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1975 to May 1978 (periodic gage-height and low-flow measurements only), June 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 396.65 ft (120.899 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow is partly regulated by Lake Mexia (station 08110300) 7.4 mi (11.9 km) upstream, capacity 9,400 acre-ft (11.6 hm^3), and Springfield Lake 1.2 mi (1.9 km) upstream, approximate capacity 3,100 acre-ft (3.81 hm^3). Several diversions above station for irrigation, municipal supply, and oilfield operation (total amount unknown). The city of Groesbeck diverted 521 acre-ft (642,000 m^3) for municipal use from pool at gage during the water year and returned 19.0 acre-ft (23,400 m^3) of washwater and 138 acre-ft (170,000 m^3) of sewage effluent below station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,200 ft^3/s (770 m^3/s) May 11, 1979, gage height, 15.06 ft (4.590 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1910, 26 ft (7.925 m) in 1910 and 1944, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,390 ft^3/s (209 m^3/s) May 16, gage height, 9.53 ft (2.905 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	16	1.6	101	21	11	72	42	4.4	.07	.00	.00
2	.29	11	1.6	71	16	2.6	54	34	3.3	.05	.00	.00
3	.33	7.7	1.4	66	14	1.1	45	25	2.6	.03	.01	.00
4	.68	5.4	1.4	41	9.7	1.7	31	20	2.4	.02	.00	.00
5	.71	4.0	1.4	30	9.9	4.1	21	15	2.1	.00	.00	.00
6	.67	5.0	2.2	22	7.9	2.2	15	11	2.1	.00	.00	.00
7	.60	2.7	1.5	22	5.3	2.1	13	14	2.1	.00	.00	.00
8	.60	2.0	1.4	16	297	3.7	17	56	1.9	.03	.00	.00
9	.66	5.7	1.5	13	1730	2.7	10	280	2.1	.01	.00	.00
10	.26	3.5	1.4	10	1470	2.9	6.8	202	2.1	.00	.00	.02
11	.17	2.0	1.5	13	543	2.5	6.4	101	1.6	.00	.00	.07
12	.19	1.6	6.7	9.2	198	7.2	10	853	1.4	.00	.00	.10
13	.22	1.6	61	6.9	103	7.5	130	3980	1.1	.00	.00	.09
14	.19	1.5	75	6.4	72	2.5	1020	1940	1.2	.00	.01	.10
15	.53	1.4	64	5.6	64	1.9	662	1910	1.2	.00	.00	.05
16	.69	1.4	51	6.8	58	2.1	192	6310	1.1	.00	.00	.02
17	.33	1.4	30	6.9	34	9.8	102	5300	1.1	.00	.00	.00
18	.38	1.6	21	5.3	23	2.3	68	977	.81	.00	.00	.00
19	.40	1.6	16	4.8	20	2.0	45	238	.81	.00	.00	.00
20	.38	1.4	13	8.2	16	6.3	33	105	.69	.00	.00	.00
21	.35	4.6	11	11	15	2.5	24	72	.94	.08	.00	.00
22	2.3	4.6	128	382	12	1.7	17	53	.94	.86	.00	.00
23	.72	2.0	714	2390	9.7	2.5	13	37	1.1	.30	.00	.00
24	.51	1.4	1570	1020	10	5.4	9.5	27	.94	.14	.00	.00
25	.50	2.0	979	254	6.6	2.3	17	21	.69	.00	.00	.00
26	.49	1.9	260	122	3.6	1.9	233	16	.39	.00	.00	.00
27	.57	2.6	110	77	3.2	6.9	471	13	.39	.00	.00	.00
28	.62	2.9	76	50	3.1	90	166	9.6	.24	.00	.00	.01
29	.67	4.3	243	39	4.4	335	81	7.3	.24	.00	.00	.11
30	5.5	1.9	389	31	---	213	55	6.2	.24	.00	.00	.40
31	22	---	207	27	---	103	---	5.3	---	.00	.00	---
TOTAL	42.75	106.7	5041.6	4868.1	4779.4	842.4	3639.7	22680.4	42.22	1.59	.02	.97
MEAN	1.38	3.56	163	157	165	27.2	121	732	1.41	.051	.001	.032
MAX	22	16	1570	2390	1730	335	1020	6310	4.4	.86	.01	.40
MIN	.17	1.4	1.4	4.8	3.1	1.1	6.4	5.3	.24	.00	.00	.00
AC-FT	85	212	10000	9660	9480	1670	7220	44990	84	3.2	.04	1.9

CAL YR 1979	TOTAL	75216.14	MEAN 206	MAX 17300	MIN .00	AC-FT 149200
WTR YR 1980	TOTAL	42045.85	MEAN 115	MAX 6310	MIN .00	AC-FT 83400

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: November 1967 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1967 to current year.
WATER TEMPERATURES: November 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,590 micromhos Oct. 8, 9, 1969; minimum daily, 71 micromhos June 4, 1973.
WATER TEMPERATURES: Maximum daily, 38.0°C on several days during July 1974, May 28, 1978; minimum daily, 1.5°C Jan. 10, 1973.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 490 micromhos Dec. 6, June 30, Aug. 14; minimum daily, 148 micromhos May 18.
WATER TEMPERATURES: Maximum daily, 32.0°C July 6, 7, 21, 22; minimum daily, 7.0°C Jan. 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT										
29...	1630	.54	427	7.8	19.5	190	8	70	3.4	16
DEC										
18...	1300	18	401	--	6.5	130	8	46	4.0	26
JAN										
22...	1705	834	253	--	9.0	97	7	34	3.0	11
MAR										
05...	1015	360	297	--	6.0	130	12	46	2.8	11
APR										
15...	1515	503	285	--	17.5	100	10	35	3.1	14
MAY										
28...	0940	10	233	7.6	26.0	100	1	36	2.4	6.3
JUL										
08...	0940	.03	449	--	--	210	10	80	3.6	10

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
29...	.5	3.2	220	0	8.4	23	.1	15	248
DEC									
18...	1.0	4.4	150	0	7.2	47	.2	5.6	214
JAN									
22...	.5	5.1	110	0	13	16	.2	5.8	142
MAR									
05...	.4	3.7	140	0	13	12	.3	8.8	167
APR									
15...	.6	4.2	110	0	22	17	.2	4.4	154
MAY									
28...	.3	3.6	120	0	5.3	7.1	.3	14	134
JUL									
08...	.3	2.3	250	0	9.8	17	.2	3.2	249

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	42.75	406	229	26	34	4.0	23	2.6	150
NOV.	1979	106.7	418	237	68	37	11	23	6.6	150
DEC.	1979	5041.6	303	169	2310	17	227	18	248	120
JAN.	1980	4868.1	270	150	1980	11	149	17	221	110
FEB.	1980	4779.4	232	129	1660	7.5	97	15	191	94
MAR.	1980	842.4	337	189	430	21	48	20	45	130
APR.	1980	3639.7	318	178	1750	18	179	19	187	120
MAY	1980	22680.4	220	122	7490	7.4	455	14	858	89
JUNE	1980	42.22	341	191	22	22	2.6	20	2.3	130
JULY	1980	1.59	468	266	1.1	48	0.2	25	0.1	160
AUG.	1980	0.02	483	275	0.01	52	0.00	25	0.00	170
SEPT	1980	0.97	455	259	0.7	45	0.1	24	0.06	160
TOTAL		42045.85	**	**	15700	**	1170	**	1760	**
WTD. AVG.		115	249	139	**	10	**	16	**	99

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	319	423	452	242	233	313	300	341	276	459	---	---
2	321	424	455	318	234	338	319	282	280	444	---	---
3	322	416	468	263	278	311	305	302	304	432	475	---
4	326	400	458	241	250	281	330	317	325	437	---	---
5	327	396	461	258	251	313	301	286	315	430	---	---
6	330	394	490	331	252	307	317	303	310	453	---	---
7	336	391	465	358	257	298	360	310	319	450	---	---
8	352	431	457	360	266	340	337	297	327	446	---	---
9	339	391	478	266	284	354	324	275	331	448	---	---
10	351	398	473	272	182	335	329	295	341	---	---	480
11	356	397	480	277	188	388	334	355	342	---	---	473
12	360	398	487	285	193	375	400	286	341	---	---	447
13	400	400	478	295	207	368	377	325	351	---	---	449
14	373	404	466	298	202	377	340	349	356	---	490	451
15	370	408	393	303	193	370	287	199	368	---	---	450
16	377	404	397	311	277	379	295	160	421	---	---	447
17	373	411	415	347	307	381	329	169	384	---	---	---
18	400	417	402	326	209	395	306	148	439	---	---	---
19	382	419	389	329	230	406	309	150	386	---	---	---
20	384	415	404	347	275	379	365	165	394	---	---	---
21	387	425	407	368	300	378	325	176	407	424	---	---
22	398	434	471	290	334	381	311	184	400	479	---	---
23	407	432	368	279	250	399	372	198	447	463	---	---
24	409	437	292	261	260	390	339	227	406	464	---	---
25	410	439	256	194	271	443	314	244	414	---	---	---
26	413	444	253	290	282	422	318	221	418	---	---	---
27	412	445	263	225	279	399	332	234	415	---	---	---
28	416	448	270	207	274	380	269	263	425	---	---	453
29	424	450	280	216	295	340	262	243	432	---	---	454
30	425	453	247	220	---	324	306	257	490	---	---	457
31	422	---	276	230	---	292	---	260	---	---	---	---
MEAN	375	418	398	284	252	360	324	252	372	448	483	456

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	---	13.0	13.0	10.0	16.0	19.0	23.0	28.0	30.0		---
2	25.0	---	14.0	13.0	9.0	15.0	20.0	23.0	27.0	30.0		---
3	24.0	---	14.0	15.0	9.0	11.0	22.0	23.0	27.0	30.0		---
4	24.0	19.0	14.0	13.0	8.0	14.0	20.0	24.0	28.0	30.0		---
5	23.0	20.0	15.0	13.0	8.0	15.0	19.0	24.0	27.0	31.0		---
6	24.0	20.0	15.0	14.0	9.0	20.0	20.0	24.0	28.0	32.0		---
7	24.0	18.0	15.0	12.0	10.0	20.0	20.0	25.0	28.0	32.0		---
8	25.0	19.0	14.0	12.0	9.0	18.0	20.0	25.0	29.0	32.0		---
9	24.0	21.0	15.0	13.0	8.0	17.0	18.0	22.0	29.0	31.0		---
10	24.0	20.0	14.0	16.0	8.0	18.0	19.0	24.0	28.0	---		---
11	23.0	18.0	18.0	16.0	10.0	19.0	20.0	25.0	27.0	---		27.0
12	23.0	18.0	16.0	14.0	11.0	18.0	20.0	25.0	27.0	---		26.0
13	24.0	18.0	14.0	14.0	11.0	19.0	17.0	25.0	27.0	---		28.0
14	24.0	16.0	14.0	14.0	14.0	20.0	17.0	24.0	27.0	---		28.0
15	23.0	20.0	15.0	15.0	16.0	18.0	16.0	24.0	27.0	---		28.0
16	24.0	16.0	13.0	17.0	13.0	20.0	18.0	23.0	28.0	---		28.0
17	23.0	17.0	13.0	17.0	14.0	18.0	18.0	---	29.0	---		---
18	24.0	20.0	12.0	17.0	13.0	16.0	20.0	---	29.0	---		---
19	26.0	20.0	13.0	16.0	14.0	---	20.0	23.0	29.0	---		---
20	24.0	21.0	16.0	17.0	14.0	20.0	20.0	25.0	29.0	---		---
21	25.0	21.0	16.0	17.0	18.0	18.0	20.0	25.0	29.0	32.0		---
22	24.0	18.0	18.0	14.0	17.0	18.0	22.0	25.0	29.0	32.0		---
23	23.0	16.0	18.0	15.0	18.0	20.0	21.0	25.0	29.0	31.0		---
24	22.0	16.0	16.0	14.0	17.0	18.0	23.0	26.0	29.0	30.0		---
25	22.0	17.0	16.0	14.0	16.0	18.0	22.0	27.0	29.0	---		---
26	22.0	17.0	18.0	15.0	15.0	18.0	20.0	26.0	29.0	---		---
27	22.0	19.0	16.0	12.0	14.0	18.0	20.0	28.0	29.0	---		---
28	23.0	18.0	18.0	12.0	16.0	18.0	20.0	28.0	30.0	---		27.0
29	---	16.0	18.0	12.0	18.0	20.0	20.0	28.0	30.0	---		26.0
30	23.0	17.0	15.0	12.0	---	19.0	22.0	28.0	29.0	---		26.0
31	20.0	---	14.0	7.0	---	19.0	---	27.0	---	---		---
MEAN	23.5	18.5	15.0	14.0	12.5	18.0	20.0	25.0	28.5	31.0		27.0

08110430 BIG CREEK NEAR FREESTONE, TX

LOCATION.--Lat 31°30'25", long 96°19'31", Limestone County, Hydrologic Unit 12070103, on left bank at downstream side of bridge on State Highway 164, 5.1 mi (8.2 km) southwest of Freestone, and 8.2 mi (13.2 km) upstream from mouth.

DRAINAGE AREA.--57.1 mi^2 (147.9 km^2).

PERIOD OF RECORD.--July 1975 to June 1978 (periodic gage-height and low-flow measurements only), July 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 362.94 ft (110.624 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year. Brazos River Authority gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,990 ft^3/s (56.4 m^3/s) May 30, 1979, gage height, 13.99 ft (4.264 m); no flow Sept 23-26, 1978, and Aug. 4-8, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1950, 19 ft (5.8 m) in April 1957, from information by local residents.

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

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 9	2100	1,040	29.5	12.94	3.944
Apr. 14	1130	718	20.3	12.37	3.770
May 16	1800	*1,050	29.7	12.96	3.950

Minimum discharge, no flow Aug. 4-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	30	1.0	38	19	7.3	16	8.5	3.9	.08	.02	.04
2	.91	9.4	1.2	24	16	6.9	12	8.4	3.3	.06	.02	.04
3	.84	5.3	1.0	21	14	6.9	11	8.0	2.7	.06	.01	.04
4	.64	3.6	1.1	35	14	6.4	10	6.8	2.4	.08	.00	.06
5	.46	2.6	1.2	23	14	6.5	8.2	6.1	2.0	.05	.00	.06
6	.41	2.0	1.4	17	12	6.2	6.8	6.0	1.8	.04	.00	.07
7	.38	1.6	1.5	14	12	5.8	6.4	6.4	1.6	.04	.00	.08
8	.34	1.4	1.8	13	107	5.8	6.4	138	1.4	.03	.00	.09
9	.28	1.1	2.1	11	705	6.0	5.5	238	1.3	.03	.01	.07
10	.23	.88	2.2	10	851	5.8	5.0	81	1.2	.03	.01	.09
11	.23	1.1	2.1	10	374	5.5	4.7	35	1.1	.03	.01	.08
12	.22	1.0	3.5	11	115	9.0	16	42	.94	.03	.02	.07
13	.21	.92	19	10	53	21	180	238	.81	.03	.02	.07
14	.18	.81	16	9.0	39	11	624	634	.67	.03	.02	.07
15	.20	.71	7.6	8.2	32	6.1	355	1010	.60	.03	.02	.06
16	.21	.59	4.9	8.3	27	4.8	93	993	.70	.04	.02	.05
17	.21	.56	3.5	8.3	22	4.9	43	797	1.0	.04	.02	.05
18	.26	.68	2.9	8.1	17	4.6	29	335	.84	.03	.02	.05
19	.33	1.4	2.8	5.6	16	3.9	21	96	.59	.03	.02	.05
20	.32	2.0	2.8	31	15	3.5	16	51	.45	.03	.02	.05
21	.30	8.3	3.1	65	14	3.4	14	33	.38	.06	.03	.05
22	.31	15	166	244	13	3.1	12	24	.55	.05	.02	.04
23	.42	5.2	332	420	12	5.0	10	18	.60	.02	.02	.04
24	1.3	2.4	268	260	9.9	6.4	9.3	14	.45	.01	.03	.05
25	1.0	1.7	234	62	8.9	5.5	50	12	.33	.01	.04	.05
26	.71	1.4	56	36	8.2	4.5	67	9.9	.26	.01	.04	.06
27	.59	1.2	29	26	7.3	29	31	8.3	.19	.01	.03	.05
28	.43	1.4	23	20	6.9	188	18	7.0	.13	.01	.03	.04
29	.32	1.3	136	19	7.1	132	12	6.1	.11	.01	.05	.04
30	1.3	1.2	209	22	---	42	9.8	5.3	.09	.01	.07	.06
31	25	---	78	21	---	23	---	4.6	---	.01	.05	---
TOTAL	39.64	106.75	1613.7	1510.5	2561.3	579.8	1702.1	4880.4	32.39	1.03	.67	1.72
MEAN	1.28	3.56	52.1	48.7	88.3	18.7	56.7	157	1.08	.033	.022	.057
MAX	25	30	332	420	851	188	624	1010	3.9	.08	.07	.09
MIN	.18	.56	1.0	5.6	6.9	3.1	4.7	4.6	.09	.01	.00	.04
AC-FT	79	212	3200	3000	5080	1150	3380	9680	64	2.0	1.3	3.4

CAL YR 1979 TOTAL 21424.56 MEAN 58.7 MAX 1740 MIN .04 AC-FT 42500
WTR YR 1980 TOTAL 13030.00 MEAN 35.6 MAX 1010 MIN .00 AC-FT 25840

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX

LOCATION.--Lat 31°19'30", long 96°19'08", Leon County, Hydrologic Unit 12070103, in left end bypass pier of Sterling C. Robertson Dam on the Navasota River, 7.5 mi (12.1 km) northwest of Marquez, and 124 mi (200 km) upstream from mouth.

DRAINAGE AREA.--675 mi² (1,748 km²).

WATER-DISCHARGE RECORDS

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

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

REMARK.--The lake is formed by a rolled earthfill dam 11,395 ft (3,473 m) long, including the spillway. The lake was built for water conservation. Deliberate impoundment began on Oct. 16, 1978. The emergency spillway is an uncontrolled broad-crested weir 3,000 ft (914 m) long located near left end of dam. The spillway for normal flood releases is a gated concrete gravity structure with an ogee weir section and stilling basin located near center of dam. It is controlled by five 40- by 28-foot (12 by 9 m) tainter gates. There are two 4- by 8-foot (1 by 2 m) slide gates, located one each in the two center piers of the service spillway that discharge into the stilling basin. These gates can also be opened during extreme floods. A low-flow outlet, consisting of a 10-inch-diameter (0.25 m) cast iron pipe, is located in the left end of the pier. In addition, there are two 36-inch (0.91 m, outside diameter) steel cylinder pipes located in the right end pier for water supply releases. The lowest invert from low flow and for water supply releases is at elevation 325.50 ft (99.212 m). The city of Mexia released 138 acre-ft (170,000 m³) of sewage effluent into stream above lake during the year. Figures given herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	380.0	-
Design flood	370.0	334,735
Crest of emergency spillway	369.6	327,760
Top of gates	365.0	253,905
Concrete gated spillway	363.0	225,440
Top of conservation pool	337.0	21,125
Lowest gated outlet (invert)	322.0	265

COOPERATION.--Records of daily lake elevations are obtained in cooperation with the Brazos River Authority. Area and capacity tables were furnished by the Brazos River Authority and are based on Geological Survey topographic maps.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 241,100 acre-ft (297 hm³) May 30, 1979, elevation, 364.12 ft (110.984 m); minimum, 10,740 acre-ft (13.2 hm³) Nov. 30, 1978, elevation, 332.63 ft (101.386 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 234,100 acre-ft (289 hm³) Feb. 10, elevation, 363.62 ft (110.831 m); minimum, 196,600 acre-ft (242 hm³) Sept. 29, elevation, 360.80 ft (109.972 m).

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

360.0	186,600
362.0	212,000
364.0	239,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223300	220500	217600	224500	224900	224600	225000	225400	224000	217600	208200	200100
2	222900	220300	217600	225400	225000	224100	225200	225200	224000	217400	207600	200700
3	223400	220100	217500	225400	225200	223400	226000	225000	223700	216700	207100	200500
4	222400	219300	217400	224900	224900	224400	225300	225000	223300	216600	207000	200200
5	221800	219700	217600	224200	225300	224100	224900	224900	223300	216400	206700	200000
6	221800	219700	217200	224500	225200	223700	225200	225300	223200	216200	206600	199700
7	221400	219300	217200	224500	225400	224200	225400	225200	223200	215900	206400	200400
8	221100	218700	217100	224400	228500	224400	225200	225600	223300	215600	206200	200500
9	221800	220100	217000	224200	233400	224100	224900	225000	223200	215100	205900	200400
10	220600	219100	216700	224500	234000	224200	224200	225700	222900	215100	205700	200200
11	220300	218600	218300	225000	230700	224200	225700	225300	222600	214700	205500	199800
12	220300	218600	218700	224200	225700	224500	227000	226000	222200	214300	205100	199700
13	220300	218200	218500	224400	224800	224400	227400	228800	221800	214000	205000	199400
14	219800	218200	218600	224200	224800	224100	228000	232100	221400	213500	204500	199400
15	220100	218100	218300	224600	225200	224100	228400	227000	221300	213200	204400	199100
16	220300	217900	219500	224800	225400	224400	226100	224900	221000	212900	204000	198700
17	220100	217800	218200	224800	224800	224400	225900	227000	221000	212800	203600	198700
18	219800	217900	218100	224500	224500	224000	225600	226400	220700	212100	203600	198100
19	219500	218200	218100	224800	225000	224000	225600	225700	220500	212000	203200	198200
20	219300	218300	218200	224900	225200	224200	225600	225000	220500	211700	203200	197900
21	219400	220100	218300	225200	225200	223800	225600	225400	220300	211700	202900	197400
22	219800	219400	220900	227300	225000	223400	225400	225000	220200	211500	202800	197600
23	219100	218900	224200	229600	225300	224400	225400	225000	219500	211200	202700	197300
24	219000	218900	226100	230200	225400	224000	225600	225000	219500	211000	202400	197200
25	218700	218900	226100	227000	224900	224000	226800	225200	219400	210500	201900	197700
26	218300	218300	224800	225700	224400	224000	226000	225200	219100	210100	201800	197200
27	218200	219400	224500	224600	224500	225900	225700	225200	218900	209700	201400	196900
28	218300	218900	226000	225000	224500	226000	225700	224800	218300	209500	201100	196900
29	217900	218200	226100	225000	224800	226000	225300	224500	218200	209300	200900	197100
30	220100	217800	226000	226600	---	225400	225400	224500	217900	209000	200500	196700
31	220700	---	225000	225600	---	224600	---	224200	---	208800	200100	---
MAX	223400	220500	226100	230200	234000	226000	228400	232100	224000	217600	208200	200700
MIN	217900	217800	216700	224200	224400	223400	224200	224200	217900	208800	200100	196700
(†)	362.65	362.43	362.97	363.01	362.95	362.94	363.00	362.91	362.44	361.75	361.08	360.81
(‡)	-2700	2900	+7200	+600	-800	-200	+800	-1200	-6300	-9100	-8700	-3400

CAL YR 1979 MAX 240000 MIN 16640 ‡ 211400
WTR YR 1980 MAX 234000 MIN 196700 ‡ -26700

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

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1979 to September 1980.

311937096194601 LAKE LIMESTONE SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
25...	1026	1.0	220	7.6	11.0	9.8	91
25...	1028	10.0	220	7.6	11.0	9.8	91
25...	1030	20.0	220	7.6	11.0	9.8	91
25...	1032	33.0	220	7.5	11.0	9.7	90
MAY							
08...	1242	1.0	253	7.6	21.5	7.2	82
08...	1244	10.0	253	7.6	21.5	7.2	82
08...	1246	20.0	253	7.6	21.0	7.2	81
08...	1250	34.0	253	7.0	19.5	4.5	49
AUG							
28...	1100	1.0	278	7.0	29.0	5.6	72
28...	1102	10.0	278	6.9	28.5	4.5	57
28...	1104	20.0	278	6.6	28.0	1.7	21
28...	1106	26.0	278	6.5	28.0	.7	9

311941096191401 LAKE LIMESTONE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
JAN										
25...	1000	1.0	220	7.6	11.0	1.00	9.9	92	69	0
25...	1002	10.0	220	7.6	11.0	--	9.8	91	--	--
25...	1004	20.0	220	7.5	11.0	--	9.8	91	--	--
25...	1006	30.0	220	7.5	11.0	--	9.8	91	--	--
25...	1008	40.0	220	7.5	11.0	--	9.8	91	--	--
25...	1010	50.0	220	7.3	11.0	--	9.5	88	69	0
MAY										
08...	1255	1.0	253	7.7	21.5	1.19	7.3	83	80	8
08...	1257	10.0	253	7.7	21.5	--	7.3	83	--	--
08...	1259	20.0	253	7.7	21.5	--	7.3	83	--	--
08...	1301	30.0	253	7.6	21.5	--	7.3	83	--	--
08...	1303	40.0	260	6.9	18.0	--	.8	9	--	--
08...	1305	51.0	269	7.0	17.0	--	.5	5	86	4
AUG										
28...	1115	1.0	278	7.1	29.0	1.22	5.7	73	86	4
28...	1117	10.0	278	7.1	28.0	--	5.3	66	--	--
28...	1119	20.0	278	6.9	27.5	--	3.8	48	--	--
28...	1121	25.0	278	6.8	27.5	--	2.3	29	--	--
28...	1123	30.0	292	6.7	26.0	--	.0	0	--	--
28...	1125	40.0	360	6.7	20.0	--	.0	0	--	--
28...	1127	50.0	386	6.7	19.5	--	.0	0	130	0

LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

311941096191401 **LAKE LIMESTONE** SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN									
25...	21	4.1	13	.7	4.8	70	11	19	.1
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	21	4.0	12	.6	4.7	69	12	18	--
MAY									
08...	24	4.8	16	.8	4.8	72	14	23	.2
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	26	5.2	16	.8	4.8	82	14	25	--
AUG									
28...	26	5.1	18	.8	5.8	82	15	28	.2
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	39	7.2	19	.7	5.3	156	3.6	20	--

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN									
25...	3.7	119	.26	--	.38	.64	.010	<10	2
25...	--	--	--	--	--	--	--	--	--
25...	--	--	.29	--	.32	.61	.010	30	0
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	3.6	117	.26	--	.34	.60	.040	10	20
MAY									
08...	.6	131	.02	--	.79	.81	.030	<10	30
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	.05	--	.89	.94	.030	10	230
08...	--	--	.11	--	3.2	3.3	.080	20	1200
08...	3.1	146	.04	--	1.4	1.4	.080	110	2200
AUG									
28...	2.4	150	.00	--	.94	.94	.060	<10	10
28...	--	--	2.4	.030	--	--	--	--	--
28...	--	--	.00	--	.67	.67	.030	30	100
28...	--	--	--	--	--	--	--	--	--
28...	--	--	.00	--	1.2	1.2	.050	160	3200
28...	--	--	--	--	--	--	.000	--	--
28...	9.7	222	.00	--	5.9	5.9	.950	14000	11000

LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312458096205101 LAKE LIMESTONE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS (MG/L AS CACO3)
JAN									
25...	1050	1.0	236	7.4	11.0	1.10	9.2	85	75
25...	1052	10.0	236	7.4	11.0	--	9.2	85	--
25...	1054	20.0	236	7.4	11.0	--	9.1	84	--
25...	1056	30.0	236	7.4	11.0	--	9.0	83	--
25...	1058	40.0	236	7.4	11.0	--	9.0	83	78
MAY									
08...	1445	1.0	267	7.6	22.0	.46	6.2	71	83
08...	1447	10.0	267	7.5	22.0	--	6.2	71	--
08...	1449	20.0	263	6.8	19.5	--	1.3	14	--
08...	1451	30.0	263	6.8	19.0	--	.5	5	83
AUG									
28...	1245	1.0	285	7.1	29.5	.85	5.7	73	88
28...	1247	10.0	285	7.1	29.0	--	5.2	67	--
28...	1249	20.0	285	7.1	29.0	--	5.2	67	--
28...	1251	25.0	285	7.1	29.0	--	5.0	64	--
28...	1253	30.0	312	6.6	27.5	--	.0	0	--
28...	1255	40.0	382	6.6	23.5	--	.0	0	130

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
25...	3	23	4.2	14	.7	4.8	72	12	20
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	6	24	4.4	15	.7	4.8	72	12	21
MAY									
08...	10	25	4.9	17	.8	4.9	72	16	27
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	8	25	5.0	16	.8	4.8	75	15	27
AUG									
28...	6	27	5.0	18	.8	5.9	82	14	27
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	0	40	7.1	19	.7	5.5	156	3.9	22

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN								
25...	3.1	125	.17	.44	.61	.030	20	30
25...	--	--	--	--	--	--	--	--
25...	--	--	.18	.52	.70	.020	50	30
25...	--	--	--	--	--	--	--	--
25...	3.4	128	.17	.32	.49	.050	20	40
MAY								
08...	1.2	139	.01	.70	.71	.020	<10	8
08...	--	--	.03	1.5	1.5	.050	20	60
08...	--	--	.06	1.1	1.2	.070	20	380
08...	1.9	140	.04	.90	.94	.050	10	580
AUG								
28...	2.7	149	.00	.74	.74	.060	<10	90
28...	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--
28...	--	--	.00	.82	.82	.050	--	--
28...	--	--	.00	1.9	1.9	.240	2800	3100
28...	8.8	223	.06	8.5	8.6	1.900	14000	9300

LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312625096205901 LAKE LIMESTONE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
25...	1130	1.0	243	7.1	11.5	7.9	73
25...	1132	10.0	243	7.1	11.0	7.9	73
25...	1135	20.0	243	7.2	11.0	8.0	74
MAY							
08...	1505	1.0	273	7.6	22.5	6.6	77
08...	1507	10.0	273	7.6	22.5	6.4	74
08...	1510	22.0	268	6.9	20.0	1.2	13
AUG							
28...	1330	1.0	289	7.7	31.0	7.7	101
28...	1332	10.0	289	7.2	29.5	5.1	65
28...	1334	20.0	300	6.6	29.5	1.0	13

312622096224201 LAKE LIMESTONE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JAN							
25...	1200	1.0	280	7.4	11.5	8.7	81
25...	1202	10.0	280	7.4	11.5	8.5	79
25...	1205	20.0	280	7.3	11.5	8.3	78
MAY							
08...	1523	1.0	294	7.4	22.0	5.8	67
08...	1525	10.0	294	7.4	22.0	5.4	62
08...	1527	20.0	294	7.2	22.0	4.4	51
08...	1529	25.0	294	7.2	21.5	4.2	48
AUG							
28...	1345	1.0	305	7.7	30.5	7.6	100
28...	1347	10.0	305	7.0	29.5	5.2	67
28...	1349	15.0	307	6.9	29.5	4.1	53
28...	1351	24.0	309	6.9	29.5	3.2	41

312726096240001 LAKE LIMESTONE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
JAN									
25...	1210	1.0	216	7.4	10.5	.20	8.8	80	76
25...	1212	10.0	216	7.4	10.5	--	8.5	78	--
25...	1214	17.0	216	7.4	10.5	--	8.5	78	76
MAY									
08...	1540	1.0	316	7.6	23.0	.40	6.3	74	100
08...	1542	9.0	316	7.5	23.0	--	6.1	72	98
AUG									
28...	1410	1.0	312	7.1	31.5	.55	7.0	92	96
28...	1412	10.0	312	6.8	29.5	--	3.1	40	--
28...	1414	15.0	332	6.6	29.5	--	.0	0	--
28...	1416	20.0	343	6.5	29.0	--	.0	0	110

LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312726096240001 LAKE LIMESTONE SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
25...	1	26	2.7	10	.5	5.0	75	16	11
25...	--	--	--	--	--	--	--	--	--
25...	0	26	2.6	9.9	.5	5.0	75	15	11
MAY									
08...	18	32	4.9	22	1.0	4.4	82	21	32
08...	16	31	4.9	21	.9	4.7	82	21	35
AUG									
28...	0	30	5.1	20	.9	6.4	98	15	29
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	0	36	5.7	21	.9	6.5	115	12	30

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN								
25...	8.8	125	.31	.88	1.2	.180	100	30
25...	--	--	.31	.59	.90	.160	120	30
25...	8.7	124	.31	.72	1.0	.180	90	30
MAY								
08...	3.8	170	.01	1.3	1.3	.120	340	190
08...	3.4	170	.01	1.2	1.2	.120	10	70
AUG								
28...	3.1	168	.00	1.0	1.0	.060	<10	20
28...	--	--	.00	1.2	1.2	.080	60	220
28...	--	--	.00	1.6	1.6	.150	180	730
28...	5.7	189	.00	1.9	1.9	.320	2200	1300

LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

311941096191401 LAKE LIMESTONE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 25,80		MAY 8,80		AUG 28,80	
TIME	1001		1256		1116	
TOTAL CELLS/ML	6900		15000		280000	
DIVERSITY: DIVISION	0.9		1.5		0.1	
.CLASS	0.9		1.5		0.1	
..ORDER	1.4		1.9		0.3	
...FAMILY	2.1		2.7		0.7	
....GENUS	3.4		3.0		1.1	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....GOLENKINIA	--	-	*	0	--	-
....MICRACTINIUM	--	-	140	1	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	790	11	460	3	*	0
....CHLORELLA	1300#	19	*	0	--	-
....DICTYOSPHAERIUM	--	-	250	2	*	0
....KIRCHNERIELLA	430	6	--	-	--	-
....OOCYSTIS	310	5	460	3	*	0
....SELENASTRUM	--	-	250	2	--	-
....TETRAEDRON	39	1	*	0	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	310	5	140	1	--	-
....SCENEDESMUS	790	11	2200	14	1700	1
....TETRASTRUM	710	10	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	110	1	--	-
....CHLAMYDOMONAS	470	7	500	3	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
....EUASTRUM	--	-	*	0	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	980	14	210	1	--	-
....MELOSIRA	200	3	1300	9	--	-
..PENNALES						
...FRAGILARIACEAE						
....SYNEDRA	120	2	*	0	--	-
...NITZSCHIACEAE						
....NITZSCHIA	280	4	*	0	--	-
.CHRYSOPHYCEAE						
..CHRYSOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	180	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	39	1	110	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	--	-	640	4	8600	3
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	1700	11	5400	2
....ANABAENOPSIS	--	-	--	-	2400	1
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	8300	3
....OSCILLATORIA	--	-	6400#	41	240000#	85
....PHORMIDIUM	--	-	--	-	3400	1
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	11000	4
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	*	0
....TRACHELOMONAS	79	1	*	0	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	*	0	--	-

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

LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312726096240001 LAKE LIMESTONE SITE EC

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JAN 25,80		MAY 8,80		AUG 28,80	
TIME	1211		1541		1411	
TOTAL CELLS/ML	15000		86000		240000	
DIVERSITY: DIVISION	1.1		1.0		0.3	
.CLASS	1.1		1.1		0.3	
..ORDER	1.5		1.4		1.2	
...FAMILY	1.7		1.9		1.5	
....GENUS	2.3		2.3		2.3	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	6300#	42	2900	3	2900	1
....CHLORELLA	130	1	--	-	--	-
....CHODATELLA	--	-	*	0	--	-
....CLOSTERIOPSIS	--	-	--	-	*	0
....DICTYOSPHAERIUM	--	-	3200	4	--	-
....KIRCHNERIELLA	630	4	--	-	--	-
....SELENASTRUM	--	-	*	0	*	0
....TETRAEDRON	--	-	*	0	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	1200	1	--	-
....CRUCIGENIA	--	-	*	0	1800	1
....SCENEDESMUS	500	3	9100	11	3300	1
....TETRASTRUM	--	-	1800	2	*	0
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	*	0
....CHLAMYDOMONAS	250	2	*	0	1200	1
....CHLOROGONIUM	--	-	--	-	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	4400#	29	*	0	*	0
....MELOSIRA	1800	12	600	1	*	0
..PENNALES						
...FRAGILARIACEAE						
....SYNEDRA	--	-	450	1	--	-
...NAVICULACEAE						
....NAVICULA	130	1	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	630	4	*	0	*	0
.CHRYSOPHYCEAE						
..CHRYSOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	760	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	*	0	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	*	0	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	17000	7
....ANACYSTIS	--	-	2600	3	52000#	22
....COCCOCHLORIS	--	-	2900	3	--	-
....GOMPHOSPHAERIA	--	-	--	-	2400	1
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	53000#	62	2700	1
....ANABAENOPSIS	--	-	--	-	5900	2
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	28000	12
....OSCILLATORIA	--	-	4200	5	120000#	50
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	130	1	*	0	--	-
....TRACHELOMONAS	250	2	450	1	*	0

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

08110500 NAVASOTA RIVER NEAR EASTERLY, TX

LOCATION.--Lat 31°10'12", long 96°17'51", Leon-Robertson County line, Hydrologic Unit 12070103, at left downstream end of bridge on U.S. Highway 79, 1.0 mi (1.6 km) upstream from Missouri Pacific Railroad Co. bridge, 7 mi (11 km) northeast of Easterly, and 105.7 mi (170.1 km) upstream from mouth.

DRAINAGE AREA.--968 mi² (2,507 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1924 to current year.

REVISED RECORDS.--WSP 898: 1924, 1926-27, 1928(M), 1929-30, 1931(M). WSP 1512: 1932(M), 1936. WDR TX-76-2: Drainage area. WDR TX-78-2: 1974(M), 1977.

GAGE.--Water-stage recorder. Datum of gage is 271.46 ft (82.741 m) National Geodetic Vertical Datum of 1929. Prior to June 11, 1932, nonrecording gage at railroad bridge 1.0 mi (1.6 km) downstream at 19.86-foot (6.053 m) higher datum. June 11, 1932, to Sept. 30, 1978, water-stage recorder 46 ft (14 m) upstream at 5.00-foot (1.524 m) higher datum.

REMARKS.--Water-discharge records fair. Flow is largely regulated by Lakes Mexia and Limestone (stations 08110300 and 08110470). Numerous diversions above station for irrigation, municipal supply, and oilfield operation. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--36 years (water years 1925-60) unregulated, 406 ft³/s (11.50 m³/s), 5.70 in/yr (145 mm/yr), 294,100 acre-ft/yr (363 hm³/yr); 20 years (water years 1961-80) regulated, 470 ft³/s (13.31 m³/s), 6.59 in/yr (167 mm/yr), 340,500 acre-ft/yr (420 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,300 ft³/s (1,710 m³/s) May 2, 1944, gage height, 27.13 ft (8.269 m) no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1845, 29 ft (8.8 m) June 1899, from information by local residents, discharge, 90,000 ft³/s (2,550 m³/s), from rating curve extended above 60,000 ft³/s (1,700 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,900 ft³/s (337 m³/s) May 15 2000 hours, gage height, 22.00 ft (6.706 m); minimum daily, 0.19 ft³/s (0.005 m³/s) Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	56	15	801	135	46	397	44	22	4.2	.82	2.5
2	16	29	14	344	120	88	111	296	22	4.4	.82	3.2
3	12	19	14	101	114	39	63	77	21	4.4	.82	4.7
4	10	17	14	82	107	27	37	29	20	4.4	.82	3.7
5	9.9	15	15	326	97	24	34	24	19	4.7	.76	3.1
6	10	13	15	194	94	25	27	22	19	4.9	.70	3.3
7	8.9	12	15	74	91	23	27	22	18	5.1	.59	5.8
8	9.1	12	15	68	186	24	24	28	16	5.0	.49	9.0
9	10	13	14	64	999	23	72	390	16	4.7	.33	7.7
10	9.3	13	14	63	2100	22	343	282	17	4.6	.24	3.6
11	9.6	15	15	64	3570	22	705	70	16	4.6	.19	2.8
12	9.8	12	20	65	4140	28	959	411	15	3.8	7.9	8.0
13	9.8	11	39	61	3830	48	1360	852	15	2.6	1.9	8.3
14	9.8	11	37	60	1840	40	2090	2710	12	1.7	1.4	3.9
15	12	11	36	62	258	26	2160	8580	10	1.2	1.3	3.5
16	16	12	30	117	89	23	1760	10900	9.8	.82	1.7	3.6
17	32	13	23	143	184	24	1450	8720	9.0	.70	1.9	3.4
18	42	13	27	105	67	32	582	8110	9.0	.70	1.9	3.2
19	35	13	17	79	58	23	76	7000	7.9	.70	1.7	4.9
20	16	15	16	93	54	20	53	2920	7.9	.64	1.5	5.0
21	12	31	15	486	46	19	43	723	7.7	.64	1.4	2.8
22	11	58	15	818	43	20	37	93	7.7	.64	1.3	1.9
23	11	57	28	1320	42	17	33	58	7.7	.64	1.5	1.5
24	12	42	195	1770	40	24	31	45	7.9	.64	1.8	1.3
25	9.9	30	1050	2210	149	25	46	38	7.2	.70	1.9	1.1
26	9.3	24	1760	2630	44	26	327	33	6.5	.76	2.2	1.3
27	9.4	20	1720	1920	32	56	541	28	5.8	.82	2.2	3.4
28	8.7	19	583	437	31	482	281	26	5.4	.82	1.8	2.0
29	9.2	19	394	140	33	829	250	26	4.7	.82	2.3	2.0
30	18	18	739	142	---	889	157	24	4.4	.82	2.5	4.2
31	74	---	881	135	---	511	---	22	---	.82	2.6	---
TOTAL	491.7	643	7785	14974	18593	3525	14076	52603	366.6	71.98	49.28	114.7
MEAN	15.9	21.4	251	483	641	114	469	1697	12.2	2.32	1.59	3.82
MAX	74	58	1760	2630	4140	889	2160	10900	22	5.1	7.9	9.0
MIN	8.7	11	14	60	31	17	24	22	4.4	.64	.19	1.1
AC-FT	975	1280	15440	29700	36880	6990	27920	104300	727	143	98	228

CAL YR 1979 TOTAL 176265.70 MEAN 483 MAX 24900 MIN 5.6 AC-FT 349600
WTR YR 1980 TOTAL 113293.26 MEAN 310 MAX 10900 MIN .19 AC-FT 224700

08110500 NAVASOTA RIVER NEAR EASTERLY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year. Sediment records: October 1968 to September 1973.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 29...	1247	9.3	448	20.0	92	34	24	7.8	43
DEC 17...	1627	21	563	6.0	130	82	34	12	54
JAN 21...	1450	544	279	9.0	88	23	26	5.7	18
MAR 04...	1330	28	572	6.5	150	84	39	12	49
MAY 27...	1610	28	542	29.0	150	78	39	12	50
JUL 07...	1900	5.1	572	31.0	140	63	37	11	59
AUG 21...	0807	1.4	735	27.5	160	71	43	13	81

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 29...	2.0	4.7	71	0	51	63	.2	15	244
DEC 17...	2.0	5.1	64	0	76	94	.2	15	322
JAN 21...	.8	5.0	80	0	24	27	.2	5.3	151
MAR 04...	1.8	4.3	76	0	90	81	.1	12	325
MAY 27...	1.8	5.0	84	0	71	77	.4	16	312
JUL 07...	2.2	4.8	91	0	67	90	.2	13	327
AUG 21...	2.8	4.0	110	0	99	110	.2	13	417

08111000 NAVASOTA RIVER NEAR BRYAN, TX

LOCATION.--Lat 30°52'10", long 96°11'32", Brazos-Madison County line, Hydrologic Unit 12070103, on right bank at upstream side of bridge on U.S. Highway 190, 2.5 mi (4.9 km) upstream from Shepard Creek, 17 mi (27 km) northeast of Bryan, and 68.4 mi (110.1 km) upstream from mouth.

DRAINAGE AREA.--1,454 mi^2 (3,766 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1951 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 224.64 ft (68.470 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow is largely regulated by Lakes Mexia and Limestone (stations 08110300 and 08110470). There are numerous diversions above station for irrigation, municipal, and oilfield operation.

AVERAGE DISCHARGE.--9 years (water years 1952-60) unregulated, 437 ft^3/s (12.38 m^3/s), 316,600 acre-ft/yr (390 hm^3/yr); 20 years (water years 1961-80) regulated, 622 ft^3/s (17.62 m^3/s), 450,600 acre-ft/yr (556 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,200 ft^3/s (1,080 m^3/s) Apr. 29, 1966, gage height, 16.57 ft (5.951 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1840, 19.5 ft (5.94 m) in June 1899, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,800 ft^3/s (334 m^3/s) May 17 at 1800 hours, gage height, 14.38 ft (4.383 m); minimum daily, 1.9 ft^3/s (0.054 m^3/s) Aug. 28-30, Sept. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	184	64	1060	358	114	1130	281	95	15	5.0	2.0
2	54	230	59	1090	251	127	853	180	87	14	4.8	2.0
3	50	153	56	996	200	161	486	159	79	13	4.6	2.2
4	46	100	53	510	177	172	227	247	70	12	4.1	2.1
5	40	73	51	201	163	138	150	142	63	11	3.6	1.9
6	37	59	53	169	152	116	125	89	58	11	3.3	1.9
7	33	52	54	304	139	108	114	73	54	11	3.3	2.5
8	32	47	54	200	136	104	108	72	51	11	4.5	4.8
9	31	45	54	122	294	104	103	106	48	10	6.2	18
10	30	44	55	102	1000	104	94	207	45	9.6	5.8	26
11	30	44	59	96	1370	103	85	396	44	9.3	5.0	30
12	30	44	65	94	1760	101	78	283	45	9.2	4.8	25
13	29	43	77	92	2370	101	129	618	42	8.8	4.6	19
14	30	39	121	88	3370	105	371	1840	37	8.5	5.0	12
15	30	36	155	84	4250	123	915	2450	34	8.0	4.9	9.3
16	29	35	139	82	3890	114	1490	3840	32	7.8	4.9	8.5
17	36	35	115	129	2210	100	1960	10700	29	7.4	5.5	8.9
18	69	35	98	229	1000	96	2090	11000	28	6.9	5.2	8.4
19	76	38	83	207	500	97	1820	9870	26	6.4	4.4	7.9
20	85	40	78	154	283	96	1190	8820	26	5.9	4.1	7.8
21	66	56	74	155	216	94	449	7040	25	5.7	4.2	7.6
22	51	97	73	779	190	88	203	5570	25	5.8	3.8	7.6
23	44	199	78	1980	171	84	134	4040	24	5.7	3.4	8.0
24	40	212	94	1670	155	101	104	2290	24	5.6	2.9	8.6
25	35	159	143	1640	142	121	259	965	25	5.3	2.6	8.7
26	32	121	367	1790	156	134	381	364	24	5.1	2.3	7.7
27	30	102	737	1970	197	233	322	220	21	5.1	2.1	6.5
28	29	91	1150	2190	138	1470	462	167	19	5.1	1.9	5.9
29	28	80	1550	2310	113	1210	546	135	18	5.1	1.9	5.6
30	35	70	1490	1650	---	1170	347	117	16	4.9	1.9	6.4
31	82	---	1130	727	---	1190	---	106	---	4.7	2.0	---
TOTAL	1328	2563	8429	22870	25351	8179	16725	72387	1214	253.9	122.6	272.8
MEAN	42.8	85.4	272	738	874	264	558	2335	40.5	8.19	3.95	9.09
MAX	85	230	1550	2310	4250	1470	2090	11000	95	15	6.2	30
MIN	28	35	51	82	113	84	78	72	16	4.7	1.9	1.9
AC-FT	2630	5080	16720	45360	50280	16220	33170	143600	2410	504	243	541

CAL YR 1979 TOTAL 336198.0 MEAN 921 MAX 29000 MIN 22 AC-FT 666800
WTR YR 1980 TOTAL 159695.3 MEAN 436 MAX 11000 MIN 1.9 AC-FT 316800

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1958 to current year. Sediment records: October 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1958 to current year.
WATER TEMPERATURES: October 1958 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1975 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,190 micromhos Feb. 8, 1964; minimum daily, 55 micromhos Sept. 17, 1964.
WATER TEMPERATURES (1958-79): Maximum daily, 33.0°C July 14, 17, 1978; minimum daily, 1.0°C Jan. 13, 1962.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 438 mg/L Feb. 15, 1978; minimum daily mean, 10 mg/L Sept. 5, 6, 1977.
SEDIMENT LOADS: Maximum daily, 9400 tons June 1, 1979; minimum daily, 0.03 tons Aug. 23-25, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 688 micromhos Mar. 25; minimum daily, 161 micromhos May 14.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 263 mg/L Jan. 22; minimum daily mean, 17 mg/L June 8.
SEDIMENT LOADS: Maximum daily, 1,940 tons May 17; minimum daily, 0.15 tons Aug. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 16...	1005	29	420	6.9	21.0	50	35	7.1	80	.0
DEC 17...	1520	113	498	6.7	6.0	40	16	11.0	87	1.1
JAN 16...	1340	77	460	--	11.5	--	--	--	--	--
FEB 21...	0910	219	385	6.7	13.0	100	30	9.4	90	1.8
MAR 28...	1645	1700	--	--	18.5	--	--	--	--	--
APR 10...	1345	91	540	7.0	19.0	40	32	9.9	108	1.8
MAY 20...	1615	8250	225	7.4	24.0	--	--	--	--	--
JUN 13...	0830	42	576	6.9	25.5	100	75	5.7	70	1.0
25...	1420	24	570	--	30.5	--	--	--	--	--
AUG 15...	1015	5.1	570	7.0	28.5	10	22	4.9	63	1.8

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
OCT 16...	98	49	26	7.9	32	1.4	4.4	59	0	53
DEC 17...	120	91	30	11	42	1.7	6.1	36	0	85
JAN 16...	110	66	30	9.1	35	1.4	4.3	56	0	50
FEB 21...	100	63	28	8.3	30	1.3	4.6	50	0	57
MAR 28...	--	--	--	--	--	--	--	--	--	--
APR 10...	140	88	36	12	45	1.7	4.6	62	0	80
MAY 20...	68	10	19	4.9	15	.8	5.2	70	0	21
JUN 13...	140	85	38	12	48	1.7	4.6	72	0	82
25...	140	75	38	12	53	1.9	4.5	84	0	79
AUG 15...	140	61	36	11	54	2.0	4.4	90	0	59

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
OCT										
16...	52	.2	16	221	64	7	.02	.020	.04	.040
DEC										
17...	69	.1	19	280	18	11	.12	.040	.16	.010
JAN										
16...	65	.1	16	237	--	--	--	--	--	--
FEB										
21...	47	.2	11	211	62	12	.07	.000	.07	.010
MAR										
28...	--	--	--	--	--	--	--	--	--	--
APR										
10...	78	.2	.1	286	64	8	.11	.000	.11	.060
MAY										
20...	24	.4	6.2	130	--	--	--	--	--	--
JUN										
13...	79	.5	18	318	88	16	.17	.010	.18	.060
25...	100	.7	17	346	--	--	--	--	--	--
AUG										
15...	86	.3	12	307	133	90	.00	.000	.00	.000

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT									
16...	.59	.63	.050	5.1	9	.00	--	--	--
DEC									
17...	.31	.32	.040	7.4	0	.00	--	--	--
JAN									
16...	--	--	--	--	--	--	--	--	--
FEB									
21...	.70	.71	.060	8.5	0	.00	--	--	--
MAR									
28...	--	--	--	--	--	--	178	817	98
APR									
10...	.88	.94	.070	8.7	0	.10	--	--	--
MAY									
20...	--	--	--	--	--	--	--	--	--
JUN									
13...	.81	.87	.100	9.8	2	.00	--	--	--
25...	--	--	--	--	--	--	--	--	--
AUG									
15...	.65	.65	.060	9.5	0	.00	--	--	--

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
OCT							
16...	1005	1	90	<1	0	1	190
FEB							
21...	0910	0	90	2	0	0	100
JUN							
13...	0830	1	100	<1	0	2	50
AUG							
15...	1015	1	100	<1	0	0	20

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
OCT						
16...	0	70	.1	0	0	5
FEB						
21...	0	120	.2	0	0	8
JUN						
13...	0	100	.0	0	0	<3
AUG						
15...	0	120	.0	0	0	<3

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM
MAR 28...	1645	1700	18.5	178	817	80	82

DATE	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
MAR 28...	85	87	92	99	100	100	100

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	1328	385	215	771	52	185	49	175	100
NOV.	1979	2563	362	203	1400	48	331	46	321	95
DEC.	1979	8429	311	174	3970	40	914	40	920	82
JAN.	1980	22870	285	160	9870	36	2200	38	2320	76
FEB.	1980	25351	289	162	11100	37	2510	38	2600	77
MAR.	1980	8179	437	243	5370	62	1380	53	1180	110
APR.	1980	16725	326	182	8230	42	1900	42	1910	86
MAY	1980	72387	222	125	24400	26	5170	30	5880	60
JUNE	1980	1214	546	303	994	82	268	65	212	140
JULY	1980	253.9	618	342	235	97	66	71	49	150
AUG.	1980	122.6	569	316	104	86	29	67	22	140
SEPT	1980	272.8	465	259	191	66	49	57	42	120
TOTAL		159695.3	**	**	66700	**	15000	**	15600	**
WTD. AVG.		436	276	155	**	35	**	36	**	73

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	391	340	461	316	342	436	350	376	485	585	626	547
2	393	305	448	281	380	482	332	336	497	588	625	545
3	396	310	450	269	444	520	328	351	520	591	623	544
4	395	317	447	289	485	565	350	414	514	594	622	546
5	397	321	423	305	501	607	365	333	519	614	618	550
6	400	326	416	324	519	555	419	358	524	611	611	556
7	403	331	407	415	509	499	463	382	543	612	614	558
8	401	335	389	293	508	497	487	414	552	613	604	545
9	404	340	387	307	480	540	516	478	559	615	606	530
10	408	346	388	321	352	578	527	462	563	616	597	514
11	411	351	393	354	329	580	546	326	566	624	585	475
12	413	355	410	392	280	584	579	318	570	628	588	491
13	415	360	415	417	258	595	594	253	568	625	577	489
14	412	365	402	430	236	600	538	161	567	632	565	450
15	416	369	387	442	233	609	300	175	561	635	553	406
16	420	373	435	464	238	644	296	166	562	637	539	405
17	397	374	474	469	255	667	285	187	574	648	540	403
18	365	377	498	493	306	670	260	207	581	642	530	407
19	350	386	505	543	363	673	276	220	583	644	525	412
20	333	383	511	527	348	644	300	226	585	643	519	416
21	345	371	513	511	396	655	329	230	586	645	514	417
22	360	360	519	287	436	661	365	236	584	643	516	416
23	367	346	515	257	482	643	401	250	576	636	518	425
24	376	395	500	265	511	633	433	280	580	634	523	432
25	390	410	454	298	527	688	448	300	570	635	527	435
26	396	420	400	285	546	612	400	325	573	593	532	439
27	405	429	269	256	608	428	341	353	577	594	535	442
28	420	410	248	244	550	232	392	385	582	632	536	445
29	425	396	235	246	437	380	322	423	585	630	540	446
30	410	427	264	261	---	427	324	456	590	634	545	440
31	365	---	300	292	---	384	---	473	---	631	549	---
MEAN	393	364	415	350	409	558	396	318	560	623	565	471

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

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

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	59	60	9.6	184	125	62	64	36	6.2
2	54	60	8.7	230	102	63	59	31	4.9
3	50	60	8.1	153	90	37	56	30	4.5
4	46	60	7.5	100	75	20	53	27	3.9
5	40	60	6.5	73	82	16	51	27	3.7
6	37	60	6.0	59	82	13	53	25	3.6
7	33	58	5.2	52	82	12	54	24	3.5
8	32	62	5.4	47	83	11	54	22	3.2
9	31	65	5.4	45	82	10	54	20	2.9
10	30	62	5.0	44	75	8.9	55	21	3.1
11	30	61	4.9	44	62	7.4	59	25	4.0
12	30	60	4.9	44	56	6.7	65	35	6.1
13	29	58	4.5	43	55	6.4	77	57	12
14	30	57	4.6	39	53	5.6	121	82	27
15	30	55	4.5	36	51	5.0	155	78	33
16	29	55	4.3	35	47	4.4	139	45	17
17	36	57	5.5	35	43	4.1	115	36	11
18	69	55	10	35	40	3.8	98	40	11
19	76	57	12	38	37	3.8	83	46	10
20	85	62	14	40	37	4.0	78	45	9.5
21	66	62	11	56	42	6.4	74	43	8.6
22	51	55	7.6	97	66	17	73	43	8.5
23	44	52	6.2	199	98	53	78	57	12
24	40	52	5.6	212	77	44	94	100	25
25	35	50	4.7	159	42	18	143	150	58
26	32	50	4.3	121	32	10	367	146	145
27	30	48	3.9	102	46	13	737	107	213
28	29	50	3.9	91	55	14	1150	76	236
29	28	51	3.9	80	50	11	1550	57	239
30	35	55	5.2	70	43	8.1	1490	37	149
31	82	97	21	---	---	---	1130	36	110
TOTAL	1328	---	213.9	2563	---	498.6	8429	---	1384.2

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	1060	36	103	358	32	31	114	41	13
2	1090	30	88	251	35	24	127	45	15
3	996	32	86	200	36	19	161	60	26
4	510	72	99	177	36	17	172	57	26
5	201	126	68	163	35	15	138	52	19
6	169	157	72	152	40	16	116	51	16
7	304	147	121	139	35	13	108	50	15
8	200	126	68	136	38	14	104	48	13
9	122	107	35	294	81	84	104	48	13
10	102	85	23	1000	107	280	104	48	13
11	96	55	14	1370	67	248	103	47	13
12	94	37	9.4	1760	55	261	101	48	13
13	92	22	5.5	2370	40	256	101	48	13
14	88	22	5.2	3370	37	337	105	52	15
15	84	27	6.1	4250	32	367	123	57	19
16	82	28	6.2	3890	32	336	114	53	16
17	129	67	23	2210	36	215	100	52	14
18	229	83	51	1000	37	100	96	52	13
19	207	90	50	500	42	57	97	50	13
20	154	52	22	283	45	34	96	43	11
21	155	52	22	216	45	26	94	38	9.6
22	779	263	664	190	45	23	88	30	7.1
23	1980	160	838	171	43	20	84	28	6.4
24	1670	52	234	155	48	20	101	28	7.6
25	1640	50	221	142	42	16	121	28	9.1
26	1790	45	217	156	41	17	134	28	10
27	1970	45	239	197	41	22	233	71	73
28	2190	40	237	138	42	16	1470	176	703
29	2310	35	218	113	42	13	1210	115	376
30	1650	30	134	---	---	---	1170	93	294
31	727	37	73	---	---	---	1190	90	289
TOTAL	22870	---	4052.4	25351	---	2897	8179	---	2093.8

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	1130	87	265	281	145	110	95	55	14
2	853	77	177	180	125	61	87	50	12
3	486	72	94	159	132	57	79	45	9.6
4	227	63	39	247	147	98	70	40	7.6
5	150	53	21	142	127	49	63	35	6.0
6	125	45	15	89	112	27	58	30	4.7
7	114	40	12	73	100	20	54	23	3.4
8	108	35	10	72	90	17	51	17	2.3
9	103	34	9.5	106	77	22	48	25	3.2
10	94	35	8.9	207	70	39	45	27	3.3
11	85	33	7.6	396	65	69	44	30	3.6
12	78	35	7.4	283	62	47	45	28	3.4
13	129	73	25	618	129	232	42	26	2.9
14	371	132	132	1840	151	750	37	23	2.3
15	915	128	316	2450	92	609	34	25	2.3
16	1490	118	475	3840	73	757	32	42	3.6
17	1960	88	466	10700	67	1940	29	65	5.1
18	2090	55	310	11000	35	1040	28	82	6.2
19	1820	50	246	9870	30	799	26	92	6.5
20	1190	52	167	8820	47	1120	26	97	6.8
21	449	50	61	7040	57	1080	25	106	7.2
22	203	41	22	5570	55	827	25	112	7.6
23	134	45	16	4040	50	545	24	115	7.5
24	104	40	11	2290	48	297	24	112	7.3
25	259	70	63	965	48	125	25	111	7.5
26	381	138	142	364	53	52	24	110	7.1
27	322	143	124	220	57	34	21	106	6.0
28	462	122	152	167	55	25	19	103	5.3
29	546	115	170	135	57	21	18	100	4.9
30	347	133	125	117	57	18	16	97	4.2
31	---	---	---	106	58	17	---	---	---
TOTAL	16725	---	3689.4	72387	---	10904	1214	---	173.4

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	15	93	3.8	5.0	45	.61	2.0	30	.16
2	14	71	2.7	4.8	45	.58	2.0	32	.17
3	13	85	3.0	4.6	45	.56	2.2	33	.20
4	12	82	2.7	4.1	45	.50	2.1	35	.20
5	11	77	2.3	3.6	50	.49	1.9	32	.16
6	11	75	2.2	3.3	66	.59	1.9	42	.22
7	11	71	2.1	3.3	67	.60	2.5	57	.38
8	11	68	2.0	4.5	65	.79	4.8	83	1.1
9	10	67	1.8	6.2	62	1.0	18	103	5.0
10	9.6	62	1.6	5.8	57	.89	26	107	7.5
11	9.3	61	1.5	5.0	55	.74	30	105	8.5
12	9.2	60	1.5	4.8	51	.66	25	91	6.1
13	8.8	58	1.4	4.6	48	.60	19	82	4.2
14	8.5	55	1.3	5.0	47	.63	12	70	2.3
15	8.0	53	1.1	4.9	42	.56	9.3	60	1.5
16	7.8	51	1.1	4.9	38	.50	8.5	55	1.3
17	7.4	51	1.0	5.5	31	.46	8.9	55	1.3
18	6.9	55	1.0	5.2	25	.35	8.4	57	1.3
19	6.4	55	.95	4.4	23	.27	7.9	61	1.3
20	5.9	52	.83	4.1	25	.28	7.8	62	1.3
21	5.7	51	.78	4.2	27	.31	7.6	62	1.3
22	5.8	50	.78	3.8	32	.33	7.6	61	1.3
23	5.7	50	.77	3.4	35	.32	8.0	57	1.2
24	5.6	50	.76	2.9	35	.27	8.6	55	1.3
25	5.3	49	.70	2.6	33	.23	8.7	50	1.2
26	5.1	50	.69	2.3	33	.20	7.7	47	.98
27	5.1	50	.69	2.1	33	.19	6.5	42	.74
28	5.1	47	.65	1.9	33	.17	5.9	36	.57
29	5.1	45	.62	1.9	31	.16	5.6	30	.45
30	4.9	45	.60	1.9	30	.15	6.4	25	.43
31	4.7	45	.57	2.0	30	.16	---	---	---
TOTAL	253.9	---	43.49	122.6	---	14.15	272.8	---	53.66

08111010 NAVASOTA RIVER NEAR COLLEGE STATION, TX

LOCATION.--Lat 30°36'26", long 96°10'53", Grimes County, Hydrologic Unit 12070103, on left bank at downstream side of bridge on State Highway 30, 0.5 mi (0.8 km) downstream from Wickson Creek, 9.8 mi (15.8 km) east of the post office in College Station, and 35.2 mi (56.6 km) upstream from mouth.

DRAINAGE AREA.--1,809 mi² (4,685 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 178.00 ft (54.254 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Since 1961, flow regulated to some extent by upstream reservoirs. Numerous diversions above station for irrigation, municipal, and oilfield operation. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s (748 m³/s) June 2, 1979, gage height, 22.13 ft (6.745 m); minimum daily, 0.07 ft³/s (0.002 m³/s) Aug. 31, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 41 ft (12 m) ± 3 ft (1 m) in 1899. Flood of 1913 reached a stage of about 36 ft (11 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,100 ft³/s (371 m³/s) May 19 at 0400 hours, gage height, 19.94 ft (6.078 m); minimum daily, 0.53 ft³/s (0.015 m³/s) Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	96	77	1770	1960	156	2900	612	162	22	5.5	.94
2	80	171	67	1400	1220	146	2130	494	142	21	3.6	.65
3	71	233	62	1210	575	140	1410	341	126	20	2.9	.79
4	62	218	58	1330	354	148	880	200	114	19	1.9	.79
5	56	154	55	1010	274	177	508	247	105	18	1.4	.79
6	52	109	51	775	237	170	345	238	94	17	.94	.65
7	47	83	49	445	215	142	204	141	86	16	.79	.53
8	42	69	50	271	208	126	162	99	78	16	2.5	4.7
9	38	60	51	370	733	120	141	86	72	15	1.9	9.9
10	34	53	51	235	1360	116	128	85	68	15	1.1	.79
11	33	50	65	180	1390	115	119	140	64	15	1.1	.79
12	33	48	628	153	1500	117	109	317	60	15	2.5	12
13	33	47	734	132	1570	120	283	495	59	14	4.4	24
14	32	47	406	120	1700	123	682	1380	59	13	4.0	26
15	31	46	227	116	1940	140	617	2580	56	13	4.0	22
16	31	46	196	114	2600	155	812	3990	52	12	4.0	17
17	32	44	171	223	3890	132	1140	5100	47	12	4.4	13
18	32	42	141	280	4320	123	1460	8050	44	11	4.4	11
19	37	42	117	269	3620	115	1740	12700	42	11	4.4	9.2
20	69	42	100	320	2070	108	1970	11100	38	10	4.0	9.2
21	80	205	90	512	1000	104	2050	10200	36	9.5	3.6	8.8
22	83	1260	86	1340	462	100	1600	8730	35	9.5	3.6	8.5
23	71	1220	160	3580	299	97	724	7490	34	8.5	2.9	7.5
24	57	516	366	4690	235	118	272	6280	32	7.8	2.5	7.1
25	48	319	279	4130	200	164	243	5100	30	7.1	2.5	6.2
26	42	240	203	3250	174	272	809	3820	29	7.1	2.2	6.2
27	37	168	301	2300	162	914	848	2230	29	7.1	1.6	7.1
28	33	127	579	1910	206	4080	611	1010	28	7.1	4.4	8.2
29	32	104	1520	1860	193	3400	534	466	26	6.2	1.6	8.5
30	34	87	1990	1960	---	2900	610	282	24	6.2	1.1	21
31	68	---	1930	2120	---	2440	---	197	---	5.1	1.1	---
TOTAL	1525	5946	10860	38375	34667	17278	26041	94200	1871	386.2	86.83	253.82
MEAN	49.2	198	350	1238	1195	557	868	3039	62.4	12.5	2.80	8.46
MAX	95	1260	1990	4690	4320	4080	2900	12700	162	22	5.5	26
MIN	31	42	49	114	162	97	109	85	24	5.1	.79	.53
AC-FT	3020	11790	21540	76120	68760	34270	51650	186800	3710	766	172	503

CAL YR 1979 TOTAL 443966.00 MEAN 1216 MAX 23200 MIN 29 AC-FT 880600
WTR YR 1980 TOTAL 231489.85 MEAN 632 MAX 12700 MIN .53 AC-FT 459200

08111500 BRAZOS RIVER NEAR HEMPSTEAD, TX

LOCATION.--Lat 30°07'35", long 96°11'05", Washington-Waller County line, Hydrologic Unit 12070101, at downstream side of bridge on U.S. Highway 290, 6,000 ft (1,830 m) upstream from Texas and New Orleans Railroad Co. bridge, 6.5 mi (10.5 km) northwest of Hempstead, 10.5 mi (16.9 km) upstream from Caney Creek, and at mile 193.8 (311.8 km).

DRAINAGE AREA.--43,880 mi² (113,649 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--October 1938 to current year. Gage-height records collected in this vicinity at intermittent periods since 1903 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1512: 1941. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 117.90 ft (35.936 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 1, 1940, nonrecording gage at railroad bridge 6,000 ft (1,830 m) downstream at datum 5.80 ft (1.768 m) lower. Nov. 1, 1940, to Sept. 30, 1963, nonrecording gage at site 1,500 ft (457 m) downstream at present datum. Oct. 1, 1964, to July 31, 1974, water-stage recorder 1,500 ft (457 m) downstream at present datum.

REMARKS.--Records good. There are many small diversions above station for irrigation, municipal and industrial uses, and oilfield operations. At times, flow is affected by reservoirs on the Brazos River above Waco and by reservoirs on the Lampasas and Little Rivers above Cameron. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08110200. Several observations of water temperature were made during the year. Brazos River Authority gage-height telemeters at station.

AVERAGE DISCHARGE.--42 years, 6,660 ft³/s (188.6 m³/s), 4,825,000 acre-ft/yr (5.95 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft³/s (4,050 m³/s) May 2, 1957, gage height, 44.21 ft (13.475 m), at site 1,500 ft (457 m) downstream; minimum daily, 137 ft³/s (3.88 m³/s) Nov. 6, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 56.1 ft (17.10 m) Dec. 8, 1913, at site 1,500 ft (457 m) downstream at present datum, from information by Texas and New Orleans Railroad Co., obtained at bridge 6,000 ft (1,830 m) downstream. Flood of July 4, 1899, reached a stage of 53.6 ft (16.34 m), at site 1,500 ft (457 m) downstream at present datum, from information by Texas and New Orleans Railroad Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,700 ft³/s (1,150 m³/s) May 18, gage height, 24.22 ft (7.382 m); minimum daily, 583 ft³/s (16.5 m³/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2500	1190	1270	6590	5140	1470	12100	3850	8250	2360	1180	1200
2	2160	1300	1170	6620	4740	1460	9190	4170	7360	2190	1020	996
3	2070	1470	1060	5580	4070	1500	7410	3730	6310	2080	953	889
4	1960	1560	1450	4640	3430	1870	6580	3070	5840	2180	1020	995
5	1840	1420	1590	3830	2840	2110	6150	2750	5550	2050	961	1010
6	1620	1250	1440	3050	2320	1810	5250	2340	4620	1940	830	1000
7	1420	1120	1110	2570	2040	1570	4400	1910	4070	2120	738	958
8	1420	1020	964	2210	1900	1440	3920	1720	4030	2130	893	961
9	1420	949	931	1990	2750	1350	3300	1600	4410	2180	802	1100
10	1330	976	908	1760	5910	1270	2890	2070	4240	2080	716	1160
11	1420	1050	846	1510	9320	1220	2780	3920	3830	2070	829	1050
12	1580	945	1160	1470	11200	1210	2840	5180	3860	2070	1010	966
13	1690	878	4170	1700	9680	1180	2590	5460	3640	2040	926	858
14	1520	872	3340	1630	7740	1170	2530	10900	2880	1980	915	756
15	1220	850	2900	1340	6380	1150	2880	27000	2080	1860	884	725
16	1050	862	2830	1140	5950	1170	5010	38600	2070	1800	838	797
17	1050	873	3170	1460	7190	1090	6790	38600	1750	1850	790	911
18	1280	1200	2940	1700	7210	1110	5320	39800	1410	1800	841	1120
19	1420	1730	2380	1770	7020	1110	4040	36500	1210	1770	869	1460
20	1330	1490	2070	2870	6800	1090	3550	26600	1310	1810	904	1590
21	1340	1280	2030	5120	6590	1100	3360	23600	1630	1820	1030	1360
22	1900	1990	2260	10700	5870	1140	3310	23500	1720	1810	1080	1180
23	1630	2710	2070	13400	4390	1110	3260	21700	2010	1780	1160	1390
24	1350	2210	1900	14000	3090	1070	3200	19900	2160	1710	1240	1240
25	1370	2180	2430	16600	2350	1050	2900	18600	2020	1660	1300	856
26	1570	2150	5000	15200	1940	1040	2470	17100	1850	1630	1470	687
27	1450	1960	6230	11900	1700	1310	2420	15100	1710	1560	1550	623
28	1170	1980	4960	9090	1570	7400	3220	14000	1660	1510	1560	587
29	1030	1690	4100	7680	1500	12800	6240	12700	1880	1400	1370	583
30	1010	1410	4910	6490	---	16800	5220	11100	2060	1400	1220	680
31	1230	---	5270	5640	---	16300	---	9440	---	1370	1320	---
TOTAL	46350	42565	78859	171250	142630	88470	135120	446510	97420	58010	32219	29688
MEAN	1495	1419	2544	5524	4918	2854	4504	14400	3247	1871	1039	990
MAX	2500	2710	6230	16600	11200	16800	12100	39800	8250	2360	1560	1590
MIN	1010	850	846	1140	1500	1040	2420	1600	1210	1370	716	583
AC-FT	91940	84430	156400	339700	282900	175500	268000	885700	193200	115100	63910	58890

CAL YR 1979 TOTAL 3599194 MEAN 9861 MAX 77900 MIN 846 AC-FT 7139000
WTR YR 1980 TOTAL 1369091 MEAN 3741 MAX 39800 MIN 583 AC-FT 2716000

08111700 MILL CREEK NEAR BELLVILLE, TX

LOCATION.--Lat 29°52'51", long 96°12'18", Austin County, Hydrologic Unit 12070104, on left bank at upstream side of abandoned bridge pier about 5 ft (2 m) downstream from State Highway 36, 5.0 mi (8.0 km) southeast of Bellville, 6.0 mi (9.7 km) upstream from Brazos River, and 9.0 mi (14.5 km) upstream from mouth.

DRAINAGE AREA.--376 mi² (974 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1963 to current year.

REVISED RECORDS.--WSP 2122: 1965(P). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 122.82 ft (37.436 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. During the year, the city of Bellville discharged about 281 acre-ft (346,000 m³) of sewage effluent into a tributary of Mill Creek above gage.

AVERAGE DISCHARGE.--17 years, 252 ft³/s (7.137 m³/s), 9.10 in/yr (231 mm/yr), 182,600 acre-ft/yr (225 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,400 ft³/s (1,260 m³/s) June 13, 1973, gage height, 17.95 ft (5.471 m); minimum daily, 0.08 ft³/s (0.002 m³/s) July 22, 23, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1899, 22.8 ft (6.95 m) in 1940, from information by local residents and the State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,500 ft³/s (156 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 22	1600	7,600	215	13.67	4.167
May 19	2200	*9,770	277	14.57	4.441

Minimum daily discharge, 2.9 ft³/s (0.082 m³/s) Aug. 28 (result of upstream regulation).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	93	34	114	111	116	102	55	34	9.3	8.3	4.1
2	32	44	34	85	106	113	96	50	32	8.8	7.0	4.0
3	30	32	35	120	114	86	98	46	31	8.9	6.4	4.4
4	28	27	35	89	110	83	93	42	30	8.7	6.1	4.5
5	24	25	36	72	109	84	82	38	29	8.3	6.1	4.1
6	24	24	38	65	107	78	77	37	28	8.1	6.5	6.7
7	24	24	37	62	100	76	81	45	28	7.7	6.7	17
8	24	25	35	60	300	81	85	50	26	7.7	6.4	14
9	23	27	35	57	959	83	79	45	32	7.4	6.0	17
10	22	26	34	59	790	77	74	40	190	7.1	6.2	13
11	21	24	40	67	468	72	74	37	108	7.0	6.4	9.9
12	22	24	233	62	207	71	77	35	46	6.7	5.8	7.9
13	22	23	683	57	164	65	90	35	31	6.5	5.7	6.3
14	21	23	372	55	140	56	107	55	26	6.3	5.5	5.9
15	22	22	119	55	133	52	116	699	23	6.0	5.4	6.0
16	22	23	85	57	238	60	90	2200	21	5.7	5.8	5.8
17	22	24	70	75	503	66	76	871	20	5.6	5.5	5.5
18	22	26	62	358	298	65	70	406	19	5.4	5.5	5.3
19	21	28	59	162	188	60	66	3950	18	5.3	5.0	5.0
20	20	38	59	310	162	73	64	6460	16	5.2	4.7	4.9
21	20	47	59	2410	148	84	56	1080	17	5.4	4.4	5.0
22	19	105	63	6440	132	69	50	307	19	5.5	4.2	4.8
23	18	151	70	4750	117	63	46	185	16	5.9	4.1	4.9
24	17	67	80	1380	105	63	45	122	15	5.4	4.1	4.5
25	18	53	86	314	93	59	145	95	13	5.1	3.9	4.2
26	19	46	70	211	82	68	227	78	12	5.0	3.9	4.2
27	20	43	61	164	75	163	96	67	12	5.0	3.6	5.0
28	19	39	56	142	80	671	75	57	11	5.5	2.9	6.6
29	20	35	333	132	82	429	64	49	10	5.4	5.1	6.8
30	79	35	503	130	---	175	59	43	9.8	13	5.2	13
31	337	---	199	128	---	121	---	38	---	12	4.4	---
TOTAL	1067	1223	3715	18242	6221	3482	2560	17317	922.8	214.9	166.8	210.3
MEAN	34.4	40.8	120	588	215	112	85.3	559	30.8	6.93	5.38	7.01
MAX	337	151	683	6440	959	671	227	6460	190	13	8.3	17
MIN	17	22	34	55	75	52	45	35	9.8	5.0	2.9	4.0
CFSM	.09	.11	.32	1.56	.57	.30	.23	1.49	.08	.02	.01	.02
IN.	.11	.12	.37	1.80	.62	.34	.25	1.71	.09	.02	.02	.02
AC-FT	2120	2430	7370	36180	12340	6910	5080	34350	1830	426	331	417

CAL YR 1979 TOTAL 220106.0 MEAN 603 MAX 21000 MIN 11 CFSM 1.60 IN 21.78 AC-FT 436600
WTR YR 1980 TOTAL 55341.8 MEAN 151 MAX 6460 MIN 2.9 CFSM .40 IN 5.48 AC-FT 109800

08111700 MILL CREEK NEAR BELLVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year. Sediment records: October 1966 to September 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
FEB 13...	1445	155	579	11.0	220	11	80	4.0	34
MAR 26...	1455	72	628	17.0	220	7	81	4.4	36
JUN 17...	1500	20	553	31.0	200	6	74	4.4	32
JUL 30...	1145	21	496	28.5	170	18	59	4.5	32
SEP 10...	1005	13	409	27.0	140	29	51	3.9	24

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
FEB 13...	1.0	3.4	250	0	15	56	.3	16	332
MAR 26...	1.1	2.2	260	0	12	58	.3	17	339
JUN 17...	1.0	3.4	240	0	18	52	.3	21	323
JUL 30...	1.1	2.9	180	0	7.8	60	.2	28	283
SEP 10...	.9	2.8	140	0	9.4	50	.2	22	232

08114000 BRAZOS RIVER AT RICHMOND, TX

LOCATION.--Lat 29°34'56", long 95°45'27", Fort Bend County, Hydrologic Unit 12070104, on right bank at downstream side of downstream bridge on U.S. Highway 59 in Richmond, 925 ft (282 m) downstream from Texas and New Orleans Railroad Co. bridge, and at mile 92.0 (148.0 km).

DRAINAGE AREA.--45,007 mi² (116,568 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1903 to June 1906 and October 1922 to current year. Published as "at Rosenberg" October 1922 to September 1931 and equivalent except for diversion by Richmond Irrigation Co.'s canal. June to November 1901 and June to September 1902 in U.S. Department of Agriculture, Office of Experiment Stations, Bulletin Nos. 119 and 133. Gage-height records collected in this vicinity since 1914 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1392: 1933. WSP 1632: 1958. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 37.94 ft (11.564 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1922, various types of nonrecording gages at railroad bridge 925 ft (282 m) upstream at different datums. Oct. 1, 1922, to Sept. 30, 1931, nonrecording chain gage at Rosenberg 7.6 mi (12.2 km) upstream at datum about 7 ft (2.1 m) higher; Oct. 1, 1931, to Sept. 30, 1975, water-stage recorder at present site at datum 3.00 ft (0.914 m) higher.

REMARKS.--Water-discharge records good. Considerable water diverted above station for irrigation and municipal supply. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08110200. National Weather Service gage-height telemeters at station.

AVERAGE DISCHARGE.--20 years (water years 1904-5, 1923-40) unregulated, 7,209 ft³/s (204.2 m³/s), 5,223,000 acre-ft/yr (6.44 km³/yr); 40 years (water years 1941-80) regulated, 7,373 ft³/s (208.8 m³/s), 5,342,000 acre-ft/yr (6.59 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft³/s (3,480 m³/s) June 6, 1929, gage height, 43.6 ft (13.29 m), from floodmarks, present site and datum; minimum daily, 35 ft³/s (0.99 m³/s) Aug. 23, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 51.2 ft (15.61 m) Dec. 10, 1913, present datum, from floodmarks on right bank 1,000 ft (305 m) upstream from gage. From information by Texas and New Orleans Railroad Co., stages of other floods at railroad bridge, present datum, are as follows: May 1884, 46.7 ft (14.23 m); June 13, 1885, 47.7 ft (14.54 m); July 1899, 48.6 ft (14.81 m); May 2, 1915, 46.3 ft (14.11 m); May 9, 1922, 43.9 ft (13.38 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45,500 ft³/s (1,290 m³/s) May 20 at 1000 hours, gage height, 24.10 ft (7.346 m); minimum daily, 745 ft³/s (21.1 m³/s) Aug. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3660	2210	1970	5950	7130	2120	17100	5980	11500	1690	1620	1110
2	3420	1770	1700	6340	6440	2060	13700	5030	10100	1780	1520	1140
3	3050	1340	1520	7330	5980	1990	11000	4410	8880	1920	1360	1180
4	2680	1250	1410	7220	5520	1950	9080	4550	7720	1810	1140	1060
5	2500	1340	1290	6090	4850	1950	7770	3990	6750	1710	1000	939
6	2350	1410	1480	5180	4250	2200	7180	3290	6330	1770	1110	1160
7	2220	1400	1690	4340	3680	2400	6550	2900	5760	1690	1230	1330
8	2010	1350	1660	3620	3290	2220	5630	2540	4770	1570	1150	1270
9	1770	1370	1390	3130	4590	2000	4920	2280	4520	1660	1030	1250
10	1720	1260	1200	2780	6230	1870	4360	1960	4780	1720	1050	1250
11	1690	1170	1200	2560	7450	1750	3660	1820	5240	1780	1060	1240
12	1600	1120	1810	2320	10000	1580	3310	2300	4710	1670	838	1270
13	1550	1160	3720	2050	12200	1500	3280	4170	4340	1640	745	1200
14	1710	1110	4320	1960	11400	1480	3260	5050	4270	1640	966	1100
15	1820	1040	5680	2050	9550	1450	3110	9970	3910	1600	996	1030
16	1720	939	4540	1990	7900	1410	3020	29100	3140	1530	1000	934
17	1430	872	3800	1770	7180	1400	3490	38600	2420	1440	969	879
18	1160	877	3570	1640	7820	1430	5950	40300	2270	1330	915	864
19	1190	897	3700	2020	8170	1350	6520	42300	1840	1360	864	929
20	1430	1090	3400	2440	7830	1390	5130	44200	1490	1340	927	1090
21	1590	1710	2900	6110	7610	1350	4150	33800	1260	1300	967	1410
22	1570	2120	2580	13300	7360	1180	3680	26100	1290	1340	993	1700
23	1530	2010	2550	19900	6980	1180	3430	24900	1520	1380	1080	1600
24	1930	2520	2780	19100	6030	1210	3360	23100	1610	1420	1140	1410
25	1880	3080	2610	17000	4650	1230	3280	21000	1920	1480	1190	1460
26	1600	2730	2430	17800	3580	1250	3380	19600	2080	1560	1230	1490
27	1550	2560	3170	16400	2930	1500	3200	18200	1870	1610	1110	1220
28	1680	2450	5690	13600	2530	1900	2610	16700	1680	1600	1150	1030
29	1620	2260	6500	11200	2270	4860	2530	15500	1510	1860	1370	908
30	1310	2200	5960	9540	---	13000	4210	14400	1490	1790	1480	834
31	1570	---	5820	8210	---	17200	---	13100	---	1680	1280	---
TOTAL	58510	48615	94040	224940	185400	81360	161850	481140	120970	49670	34480	35287
MEAN	1887	1621	3034	7256	6393	2625	5395	15520	4032	1602	1112	1176
MAX	3660	3080	6500	19900	12200	17200	17100	44200	11500	1920	1620	1700
MIN	1160	872	1200	1640	2270	1180	2530	1820	1260	1300	745	834
AC-FT	116100	96430	186500	446200	367700	161400	321000	954300	239900	98520	68390	69990

CAL YR 1979 TOTAL 4227655 MEAN 11580 MAX 86100 MIN 872 AC-FT 8386000
WTR YR 1980 TOTAL 1576262 MEAN 4307 MAX 44200 MIN 745 AC-FT 3127000

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1945 to current year. Chemical and biochemical analyses: January 1968 to curent year. Pesticide analyses: February 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1945 to current year.
WATER TEMPERATURES: November 1950 to current year.
SUSPENDED-SEDIMENT DISCHARGE: January 1966 to current year.

REMARKS.--Mean monthly and annual conentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,600 micromhos Sept. 4, 1978; minimum daily, 187 micromhos Aug. 31, 1947.
WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 5, 1951; minimum daily, 1.0°C Jan. 8, 1970.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 13,500 mg/L Apr. 4, 1979; minimum daily mean, 8 mg/L Nov. 29, 1967, and Sept. 20, 1980.
SEDIMENT LOADS: Maximum daily, 1,860,000 tons Apr. 4, 1979; minimum daily, 15 tons Apr. 8-10, 1967.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,210 micromhos Sept. 30; minimum daily, 225 micromhos May 18.
WATER TEMPERATURES: Maximum daily, 30.0°C on many days during July, August, and September.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,700 mg/L May 17; minimum daily mean, 8 mg/L Sept. 20.
SEDIMENT LOADS: Maximum daily, 594,000 tons May 17; minimum daily, 23 tons Sept. 18, 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT										
09...	0500	1800	975	7.6	23.0	--	--	--	--	--
DEC										
08...	0620	1720	916	--	13.0	--	--	--	--	--
30...	0800	6010	--	--	11.0	--	--	--	--	--
JAN										
10...	1310	2770	620	8.0	12.0	30	74	11.0	102	1.5
FEB										
14...	0500	11500	--	--	9.0	--	--	--	--	--
20...	0500	7910	394	--	13.0	--	--	--	--	--
MAR										
12...	0835	1590	680	8.4	20.0	20	12	10.1	110	6.1
14...	0500	1480	692	--	14.0	--	--	--	--	--
31...	0500	16000	--	--	17.0	--	--	--	--	--
APR										
13...	0730	3270	517	--	16.0	--	--	--	--	--
MAY										
14...	0950	5010	615	8.2	25.0	5	85	7.7	92	2.3
16...	1345	30700	--	--	21.0	--	--	--	--	--
20...	0645	45300	--	--	22.0	--	--	--	--	--
JUN										
18...	1645	2260	461	--	28.0	--	--	--	--	--
JUL										
15...	1630	1630	940	8.3	32.0	10	33	7.6	103	3.1
SEP										
10...	1015	1[illegible]0	1060	8.1	27.5	8	31	7.5	95	1.1

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
OCT									
09...	240	82	69	16	110	3.1	5.6	190	0
DEC									
08...	260	75	79	16	91	2.4	4.8	230	0
30...	--	--	--	--	--	--	--	--	--
JAN									
10...	160	45	50	8.6	60	2.1	5.3	140	0
FEB									
14...	--	--	--	--	--	--	--	--	--
20...	130	32	43	5.6	28	1.1	4.5	120	0
MAR									
12...	190	35	55	13	57	1.8	4.0	190	0
14...	200	47	60	13	58	1.8	4.1	190	0
31...	--	--	--	--	--	--	--	--	--
APR									
13...	170	51	52	8.8	39	1.3	4.8	140	0
MAY									
14...	200	34	65	9.4	42	1.3	3.8	200	2
16...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
JUN									
18...	160	24	44	11	31	1.1	3.6	160	0
JUL									
15...	230	81	65	16	110	3.2	5.7	180	0
SEP									
10...	220	76	62	16	120	3.5	5.6	170	0

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)
OCT									
09...	94	160	.3	8.6	557	--	--	--	--
DEC									
08...	90	140	.2	8.4	543	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
JAN									
10...	65	88	.2	9.1	355	128	27	.58	.040
FEB									
14...	--	--	--	--	--	--	--	--	--
20...	43	34	.2	9.8	227	--	--	--	--
MAR									
12...	73	72	.3	1.1	369	27	17	.00	.010
14...	71	73	.3	4.7	378	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
APR									
13...	58	48	.2	10	290	--	--	--	--
MAY									
14...	64	47	.4	9.6	342	470	130	1.5	.010
16...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
JUN									
18...	38	43	.3	9.2	259	--	--	--	--
JUL									
15...	86	160	.5	8.1	540	81	3	.01	.000
SEP									
10...	93	200	.3	9.1	588	48	4	.05	.010

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT									
09...	--	--	--	--	--	--	--	--	--
DEC									
08...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	1020	16600	97
JAN									
10...	.62	.040	1.2	1.2	.150	--	--	--	--
FEB									
14...	--	--	--	--	--	--	1330	41300	78
20...	--	--	--	--	--	--	--	--	--
MAR									
12...	.01	.040	.00	.01	.110	9.1	--	--	--
14...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	2470	107000	80
APR									
13...	--	--	--	--	--	--	--	--	--
MAY									
14...	1.5	.040	1.2	1.2	.360	14	--	--	--
16...	--	--	--	--	--	--	5990	497000	80
20...	--	--	--	--	--	--	3880	475000	78
JUN									
18...	--	--	--	--	--	--	--	--	--
JUL									
15...	.01	.000	.99	.99	.110	8.3	--	--	--
SEP									
10...	.06	.040	.83	.87	.160	5.3	--	--	--

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY							
14...	0950	5	100	<1	0	2	<10
JUL							
15...	1630	4	200	<1	10	1	<10
SEP							
10...	1015	4	200	1	20	2	30

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY						
14...	41	<1	.0	1	0	<3
JUL						
15...	13	<1	.0	1	0	<3
SEP						
10...	1	5	.0	0	0	5

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)
MAR										
12...	0835	.00	0	.00	.00	.0	.0	0	.00	.0
JUL										
15...	1630	.00	0	.00	.00	.0	.0	0	.00	.2

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)
MAR										
12...	.00	.0	.00	.0	.00	.00	.0	.00	.00	.0
JUL										
15...	.00	.8	.00	.0	.00	.00	.0	.00	.00	.0

DATE	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)
MAR										
12...	.00	.00	.0	.00	.0	.00	.0	.00	.00	.0
JUL										
15...	.00	.00	.0	.00	.0	.00	.0	.00	.00	.0

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR										
12...	.00	.00	.00	.00	0	0	.00	.04	.00	.00
JUL										
15...	.00	.00	.00	.00	0	0	.00	.00	.00	.00

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE, WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM
DEC							
30...	0800	6010	11.0	1020	16600	71	72
FEB							
14...	0500	11500	9.0	1330	41300	57	61
MAR							
31...	0500	16000	17.0	2470	107000	51	51
MAY							
16...	1345	30700	21.0	5990	497000	42	47
20...	0645	45300	22.0	3880	475000	38	45

DATE	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
DEC							
30...	78	83	89	97	99	100	--
FEB							
14...	62	69	74	78	94	99	100
MAR							
31...	57	69	70	80	95	99	100
MAY							
16...	54	63	71	80	93	99	100
20...	51	56	67	78	94	99	100

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	58510	906	500	79000	130	20600	85	13500	230
NOV.	1979	48615	750	414	54300	99	13000	70	9210	200
DEC.	1979	94040	702	387	98200	91	23100	66	16600	190
JAN.	1980	224940	485	267	162000	55	33200	45	27200	140
FEB.	1980	185400	420	231	116000	45	22300	39	19300	130
MAR.	1980	81360	603	332	72900	73	16100	56	12300	170
APR.	1980	161850	425	234	102000	45	19800	39	17100	130
MAY	1980	481140	318	175	227000	31	40900	29	37800	99
JUNE	1980	120970	452	249	81200	49	16200	42	13600	140
JULY	1980	49670	857	473	63400	120	16100	81	10800	230
AUG.	1980	34480	995	550	51200	150	13900	94	8770	250
SEPT	1980	35287	1100	610	58100	170	16500	100	10000	270
TOTAL		1576262	**	**	1165000	**	252000	**	196000	**
WTD. AVG.		4307	497	274	**	59	**	46	**	140

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	650	720	433	503	396	583	338	554	381	679	929	1200
2	684	702	562	549	430	610	373	494	391	635	920	1180
3	709	695	699	510	465	650	422	333	401	610	901	1190
4	733	730	775	547	457	692	334	376	409	609	948	1170
5	785	767	816	579	496	698	353	389	412	675	936	1150
6	841	849	834	586	485	701	382	382	408	700	924	1010
7	900	932	925	580	474	715	332	393	418	744	912	1070
8	961	901	916	562	463	735	419	417	436	813	857	975
9	975	880	949	596	430	745	456	410	447	823	883	924
10	965	840	954	610	345	733	466	426	450	805	890	1040
11	995	820	974	627	389	725	490	412	443	860	883	1090
12	993	813	931	644	501	714	515	442	427	875	843	1100
13	990	806	800	663	439	700	517	508	412	891	859	1030
14	1010	841	720	707	506	692	527	566	456	967	866	1090
15	1030	835	675	759	422	701	520	483	450	958	908	1100
16	995	820	528	777	380	710	516	350	453	990	936	1150
17	1020	810	505	802	356	717	538	254	456	985	930	1170
18	1030	790	389	863	365	721	480	225	460	987	926	1120
19	1050	773	406	855	379	740	430	270	461	968	990	1090
20	1040	796	475	867	394	748	460	281	486	957	1030	1070
21	1020	773	550	663	404	752	516	261	501	955	985	1100
22	1030	740	603	440	390	766	527	293	510	952	1060	1140
23	1070	750	839	381	375	753	483	296	533	950	1070	1080
24	1030	729	879	438	368	783	458	320	601	942	1090	992
25	1020	860	913	408	375	797	449	330	683	970	1120	1120
26	1040	740	964	353	400	765	435	340	736	939	1140	1100
27	1030	783	984	450	423	737	427	347	678	921	1150	1180
28	920	600	800	513	458	667	433	354	715	884	1180	1190
29	848	478	720	428	512	621	451	357	771	905	1180	1200
30	870	450	709	368	---	500	500	369	766	938	1180	1210
31	840	---	612	367	---	386	---	373	---	949	1190	---
MEAN	938	767	737	580	423	695	452	374	505	866	988	1110

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	---	14.0	10.0	9.0	16.0	17.0	20.0	26.0	29.0	30.0	---
2	23.0	21.0	10.0	10.0	---	---	---	21.0	26.0	29.0	30.0	30.0
3	23.0	19.0	10.0	---	9.0	---	19.0	21.0	26.0	29.0	30.0	30.0
4	23.0	---	10.0	10.0	8.0	12.0	18.0	21.0	26.0	29.0	30.0	30.0
5	---	22.0	12.0	9.0	9.0	13.0	19.0	21.0	26.0	---	30.0	30.0
6	23.0	---	12.0	11.0	---	13.0	19.0	21.0	26.0	29.0	30.0	29.0
7	---	20.0	12.0	13.0	---	17.0	19.0	21.0	28.0	29.0	30.0	26.0
8	23.0	---	13.0	11.0	14.0	18.0	19.0	21.0	28.0	29.0	30.0	29.0
9	23.0	---	13.0	12.0	14.0	17.0	---	21.0	28.0	29.0	30.0	28.0
10	22.0	---	13.0	---	8.0	17.0	18.0	21.0	28.0	29.0	30.0	28.0
11	21.0	---	15.0	13.0	7.0	---	19.0	21.0	27.0	29.0	30.0	28.0
12	---	20.0	13.0	---	8.0	17.0	19.0	21.0	28.0	---	30.0	28.0
13	23.0	20.0	---	12.0	9.0	17.0	16.0	21.0	28.0	30.0	30.0	28.0
14	---	17.0	---	13.0	9.0	14.0	13.0	21.0	28.0	29.0	30.0	28.0
15	23.0	---	12.0	17.0	10.0	14.0	---	21.0	28.0	30.0	30.0	28.0
16	23.0	---	11.0	17.0	---	---	17.0	21.0	---	30.0	30.0	28.0
17	23.0	---	4.0	17.0	8.0	---	17.0	21.0	28.0	30.0	---	28.0
18	23.0	17.0	8.0	17.0	---	15.0	---	21.0	28.0	30.0	30.0	28.0
19	---	17.0	---	16.0	10.0	17.0	---	21.0	22.0	30.0	30.0	28.0
20	---	17.0	---	17.0	13.0	---	---	22.0	28.0	30.0	30.0	28.0
21	26.0	17.0	13.0	17.0	14.0	16.0	19.0	23.0	28.0	30.0	30.0	---
22	26.0	---	14.0	---	---	16.0	19.0	24.0	28.0	30.0	30.0	28.0
23	---	---	16.0	12.0	---	17.0	---	24.0	28.0	30.0	30.0	28.0
24	20.0	---	14.0	11.0	14.0	17.0	20.0	24.0	28.0	30.0	30.0	28.0
25	---	17.0	18.0	12.0	14.0	17.0	21.0	26.0	28.0	30.0	30.0	28.0
26	---	---	13.0	12.0	14.0	---	---	26.0	28.0	30.0	30.0	28.0
27	20.0	17.0	14.0	---	13.0	17.0	26.0	26.0	29.0	30.0	30.0	28.0
28	---	17.0	14.0	11.0	13.0	16.0	20.0	26.0	29.0	30.0	30.0	28.0
29	22.0	16.0	---	12.0	17.0	16.0	20.0	26.0	29.0	29.0	---	28.0
30	22.0	---	11.0	12.0	---	16.0	---	26.0	29.0	30.0	30.0	---
31	---	---	---	---	---	16.0	---	26.0	---	30.0	---	---
MEAN	22.5	18.5	12.5	13.0	11.0	16.0	19.0	22.5	27.5	29.5	30.0	28.5

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	3660	127	1260	2210	162	967	1970	110	585
2	3420	105	970	1770	145	693	1700	85	390
3	3050	84	692	1340	80	289	1520	67	275
4	2680	47	340	1250	80	270	1410	50	190
5	2500	35	236	1340	72	260	1290	40	139
6	2350	35	222	1410	50	190	1480	29	116
7	2220	30	180	1400	39	147	1690	30	137
8	2010	30	163	1350	36	131	1660	28	125
9	1770	30	143	1370	35	129	1390	18	68
10	1720	27	125	1260	30	102	1200	14	45
11	1690	17	78	1170	22	69	1200	14	45
12	1600	17	73	1120	20	60	1810	186	1190
13	1550	18	75	1160	20	63	3720	1240	12700
14	1710	17	78	1110	23	69	4320	1670	19500
15	1820	20	98	1040	23	65	5680	650	9970
16	1720	17	79	939	23	58	4540	700	8580
17	1430	20	77	872	20	47	3800	450	4620
18	1160	15	47	877	20	47	3570	270	2600
19	1190	17	55	897	15	36	3700	260	2600
20	1430	20	77	1090	18	53	3400	220	2020
21	1590	20	86	1710	34	157	2900	162	1270
22	1570	22	93	2120	55	315	2580	110	766
23	1530	20	83	2010	77	418	2550	95	654
24	1930	30	156	2520	85	578	2780	120	901
25	1880	25	127	3080	127	1060	2610	112	789
26	1600	27	117	2730	102	752	2430	82	538
27	1550	25	105	2560	130	899	3170	128	1170
28	1680	25	113	2450	125	827	5690	778	12800
29	1620	17	74	2260	162	989	6500	1670	29300
30	1310	35	124	2200	152	903	5960	950	15300
31	1570	85	360	---	---	---	5820	820	12900
TOTAL	58510	---	6506	48615	---	10643	94040	---	142283

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	5950	660	10600	7130	450	8660	2120	97	555
2	6340	550	9410	6440	300	5220	2060	95	528
3	7330	620	12300	5980	270	4360	1990	95	510
4	7220	650	12700	5520	250	3730	1950	101	532
5	6090	570	9370	4850	200	2620	1950	67	353
6	5180	400	5590	4250	150	1720	2200	78	463
7	4340	310	3630	3680	170	1690	2400	94	609
8	3620	260	2540	3290	170	1510	2220	71	426
9	3130	190	1610	4590	640	8920	2000	55	297
10	2780	140	1050	6230	1000	16800	1870	48	242
11	2560	110	760	7450	600	12100	1750	40	189
12	2320	105	658	10000	800	21600	1580	42	179
13	2050	79	437	12200	1300	42800	1500	42	170
14	1960	70	370	11400	1260	38800	1480	36	144
15	2050	68	376	9550	1100	28400	1450	30	117
16	1990	72	387	7900	850	18100	1410	30	114
17	1770	59	282	7180	600	11600	1400	30	113
18	1640	58	257	7820	520	11000	1430	32	124
19	2020	46	251	8170	500	11000	1350	42	153
20	2440	150	988	7830	420	8880	1390	20	75
21	6110	1080	20600	7610	400	8220	1350	24	87
22	13300	2650	92900	7360	370	7350	1180	24	76
23	19900	1770	95100	6980	270	5090	1180	56	178
24	19100	1770	91300	6030	290	4720	1210	42	137
25	17000	1800	82600	4650	240	3010	1230	24	80
26	17800	2070	99500	3580	160	1550	1250	38	128
27	16400	1770	78400	2930	135	1070	1500	70	283
28	13600	1470	54000	2530	115	786	1900	145	744
29	11200	1150	34800	2270	102	625	4860	470	7920
30	9540	760	19600	---	---	---	13000	2200	80100
31	8210	550	12200	---	---	---	17200	2340	109000
TOTAL	224940	---	754566	185400	---	291931	81360	---	204626

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	17100	2150	99300	5980	520	8400	11500	630	19600
2	13700	2000	74000	5030	750	10200	10100	600	16400
3	11000	1250	37100	4410	800	9530	8880	550	13200
4	9080	850	20800	4550	700	8600	7720	520	10800
5	7770	600	12600	3990	620	6680	6750	500	9110
6	7180	500	9690	3290	600	5330	6330	400	6840
7	6550	500	8840	2900	420	3290	5760	350	5440
8	5630	400	6080	2540	350	2400	4770	367	4730
9	4920	300	3990	2280	250	1540	4520	375	4580
10	4360	255	3000	1960	150	794	4780	420	5420
11	3660	225	2220	1820	120	590	5240	405	5730
12	3310	210	1880	2300	109	677	4710	437	5560
13	3280	185	1640	4170	260	2930	4340	415	4860
14	3260	150	1320	5050	520	7090	4270	230	2650
15	3110	137	1150	9970	1530	51000	3910	187	1970
16	3020	130	1060	29100	5530	452000	3140	165	1400
17	3490	220	2070	38600	5700	594000	2420	157	1030
18	5950	814	13600	40300	4100	446000	2270	132	809
19	6520	1630	28600	42300	4600	525000	1840	110	546
20	5130	1460	20200	44200	3400	406000	1490	90	362
21	4150	870	9750	33800	2250	205000	1260	62	211
22	3680	550	5460	26100	1900	134000	1290	52	181
23	3430	360	3330	24900	1800	121000	1520	52	213
24	3360	250	2270	23100	1500	93600	1610	60	261
25	3280	200	1770	21000	1350	76500	1920	82	425
26	3380	200	1830	19600	1200	63500	2080	100	562
27	3200	200	1730	18200	1150	56500	1870	85	429
28	2610	200	1410	16700	1000	45100	1680	77	349
29	2530	220	1500	15500	820	34300	1510	72	294
30	4210	300	3410	14400	950	36900	1490	82	330
31	---	---	---	13100	950	33600	---	---	---
TOTAL	161850	---	381600	481140	---	3442051	120970	---	124292

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	1690	75	342	1620	34	149	1110	35	105
2	1780	75	360	1520	28	115	1140	31	95
3	1920	84	435	1360	34	125	1180	34	108
4	1810	95	464	1140	24	74	1060	32	92
5	1710	98	452	1000	17	46	939	16	41
6	1770	92	440	1110	24	72	1160	197	617
7	1690	105	479	1230	22	73	1330	277	995
8	1570	95	403	1150	24	75	1270	90	309
9	1660	82	368	1030	22	61	1250	62	209
10	1720	84	390	1050	50	142	1250	62	209
11	1780	82	394	1060	17	49	1240	25	84
12	1670	81	365	838	17	38	1270	28	96
13	1640	80	354	745	25	50	1200	25	81
14	1640	78	345	966	90	235	1100	18	53
15	1600	72	311	996	42	113	1030	14	39
16	1530	63	260	1000	31	84	934	14	35
17	1440	56	218	969	32	84	879	12	28
18	1330	57	205	915	60	148	864	10	23
19	1360	50	184	864	92	215	929	11	28
20	1340	62	224	927	28	70	1090	8	24
21	1300	38	133	967	38	99	1410	12	46
22	1340	48	174	993	22	59	1700	20	92
23	1380	40	149	1080	14	41	1600	25	108
24	1420	44	169	1140	26	80	1410	20	76
25	1480	33	132	1190	18	58	1460	19	75
26	1560	44	185	1230	16	53	1490	20	80
27	1610	42	183	1110	18	54	1220	21	69
28	1600	78	337	1150	18	56	1030	15	42
29	1860	74	372	1370	50	185	908	10	25
30	1790	68	329	1480	62	248	834	10	23
31	1680	76	345	1280	40	138	---	---	---
TOTAL	49670	---	9501	34480	---	3089	35287	---	3907

08115000 BIG CREEK NEAR NEEDVILLE, TX

LOCATION.--Lat 29°28'35", long 95°48'45", Fort Bend County, Hydrologic Unit 12070104, near center of stream at downstream side of bridge on State Highway 36, 1.5 mi (2.4 km) downstream from Coon Creek, 5.5 mi (8.8 km) north of Needville, and 10.5 mi (16.9 km) upstream from Fairchild Creek, and 33.0 mi (53.1 km) upstream from mouth.

DRAINAGE AREA.--42.8 mi² (110.9 km²).

PERIOD OF RECORD.--May 1947 to June 1950, March 1952 to current year.

REVISED RECORDS.--WSP 1148: 1947. WSP 1712: 1957-58, 1959(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 59.39 ft (18.102 m) National Geodetic Vertical Datum of 1929. Prior to June 30, 1950, and May 29, 1959, to Mar. 29, 1960, nonrecording gage at 10.00 ft (3.048 m) higher datum. March 1952 to May 28, 1959, and Mar. 30, 1960, to Sept. 30, 1967, water-stage recorder at 10.00 ft (3.048 m) higher datum.

REMARKS.--Records good except those for July and August, which are poor. Channel rectification was completed in April 1955. No diversion above station. Low flow supplemented by drainage from irrigated fields. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years (water years 1948-49, 1953-80), 33.9 ft³/s (0.960 m³/s), 24,560 acre-ft/yr (30.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s (295 m³/s) June 26, 1960, gage height, 23.81 ft (7.257 m); maximum gage height, 24.03 ft (7.324 m) Oct. 31, 1959; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1913, 24.4 ft (7.44 m) in August 1945 before channel rectification, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 12	1730	1,800	51.0	18.80	5.730
Jan. 22	1330	*1,950	55.2	19.11	5.825

Minimum daily discharge, 0.52 ft³/s (0.015 m³/s) Feb. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	.80	1.1	4.9	1.5	.65	9.4	50	2.9	4.4	12	.94
2	2.4	.65	1.2	2.3	1.4	.57	5.0	64	2.8	3.8	8.0	.78
3	1.9	.71	1.3	57	1.3	.61	2.5	11	2.8	3.2	6.0	.63
4	1.4	.73	1.2	17	1.1	.76	1.8	6.6	2.6	3.0	5.0	.68
5	1.1	.78	1.3	6.5	1.0	.86	1.3	4.3	2.6	3.0	4.5	.81
6	.92	.75	1.3	3.6	.92	.79	.98	3.3	2.5	3.0	4.0	4.3
7	.87	.66	1.4	2.3	1.0	.76	.91	2.7	2.5	3.0	4.0	14
8	.85	.75	1.4	1.5	45	.89	.90	2.8	3.9	3.5	10	23
9	.82	.86	1.4	1.3	107	.67	.82	3.5	4.0	4.0	20	5.7
10	.80	.69	1.5	1.1	32	.85	.68	3.4	4.1	4.0	10	2.4
11	.79	.89	1.5	.96	13	.76	.76	2.6	3.9	4.0	5.0	1.6
12	.78	.80	702	.85	6.6	.77	.84	2.2	3.8	4.0	2.5	1.8
13	.80	.78	482	.75	3.5	.71	1.2	5.3	3.8	5.0	2.0	1.0
14	.82	.80	124	.90	2.6	.71	1.1	39	3.8	5.0	2.0	.79
15	.80	.89	48	.80	3.2	.83	1.3	7.7	4.3	5.5	40	.72
16	.78	.86	22	.85	2.4	1.0	.77	6.8	4.9	6.4	25	1.1
17	.76	.88	12	.85	2.5	1.8	.75	8.1	5.2	7.5	15	.96
18	.75	.94	7.0	.90	1.9	1.6	.98	4.9	5.0	6.6	8.0	.91
19	.75	.98	4.0	.85	1.4	.99	.91	212	4.0	6.0	4.0	2.0
20	.80	1.2	2.7	103	1.3	.90	.86	72	3.9	5.7	2.1	2.8
21	.85	1.1	2.0	747	1.1	.83	.85	19	3.7	5.6	1.2	2.8
22	.81	1.5	1.7	1100	.90	.86	.85	8.0	3.5	5.2	1.1	3.0
23	.80	1.2	5.2	234	.73	1.1	.88	4.1	3.5	4.0	.92	3.1
24	.82	1.1	18	77	.65	1.1	.91	2.5	3.3	4.0	.69	2.1
25	.85	.88	4.8	33	.57	.96	.98	2.1	3.4	4.1	.72	2.3
26	.85	.92	2.5	16	.57	1.2	1.1	1.7	3.5	4.1	.80	4.1
27	.85	.90	1.7	9.3	.58	8.8	1.1	1.4	3.2	4.1	.72	17
28	.81	.87	1.2	5.4	.55	38	1.1	1.4	3.1	4.3	1.2	18
29	.80	.90	103	3.2	.52	198	1.0	1.9	3.2	5.8	5.4	6.1
30	.80	1.1	23	2.3	---	101	1.7	3.7	3.7	10	15	51
31	.91	---	9.7	1.8	---	24	---	3.9	---	15	2.2	---
TOTAL	31.34	26.87	1591.1	2437.21	236.79	393.33	44.23	561.9	107.4	156.8	219.05	176.42
MEAN	1.01	.90	51.3	78.6	8.17	12.7	1.47	18.1	3.58	5.06	7.07	5.88
MAX	3.3	1.5	702	1100	107	198	9.4	212	5.2	15	40	51
MIN	.75	.65	1.1	.75	.52	.57	.68	1.4	2.5	3.0	.69	.63
AC-FT	62	53	3160	4830	470	780	88	1110	213	311	434	350

CAL YR 1979 TOTAL 28719.16 MEAN 78.7 MAX 5580 MIN .65 AC-FT 56960
WTR YR 1980 TOTAL 5982.44 MEAN 16.3 MAX 1100 MIN .52 AC-FT 11870

08116650 BRAZOS RIVER NEAR ROSHARON, TX
(National stream-quality accounting network)

LOCATION.--Lat 29°20'58", long 95°34'56", Fort Bend-Brazoria County, Hydrologic Unit 12070104, on right bank at downstream side of bridge on Farm Road 1462, 2.0 mi (3.2 km) downstream from Big Creek, 2.1 mi (3.4 km) upstream from Cow Creek, and 7.3 mi (11.7 km) west of Rosharon and at mile 56.7 (91.2 km).

DRAINAGE AREA.--45,339 mi² (117,428 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1967 to September 1980 (discontinued).

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--Water-discharge records good. Water diverted above station for irrigation, industrial, and municipal supply materially affects low flow. For statement regarding regulation by Soil Conservation Service flood-water-retarding structures, see station 08110200.

AVERAGE DISCHARGE.--13 years (water years 1968-80), 7,715 ft³/s (218.5 m³/s), 5,590,000 acre-ft/yr (6.89 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,900 ft³/s (2,260 m³/s), May 14, 1968, elevation, 50.74 ft (15.466 m); minimum daily, 40 ft³/s (1.13 m³/s) Apr. 7-10, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1884, 56.4 ft (17.19 m) about Dec. 11, 1913, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,500 ft³/s (1,260 m³/s) May 20, elevation, 37.47 ft (11.421'm); minimum daily, 322 ft³/s (9.12 m³/s) July 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3580	1810	2310	5840	7470	2200	16800	3950	10500	560	1170	1210
2	3290	2220	2080	5920	6610	2030	14800	4950	9010	691	1130	1040
3	3060	1740	1840	6560	6040	1970	11400	4210	7840	756	1040	1120
4	2700	1400	1680	7220	5580	1960	9070	3730	6890	850	897	1120
5	2430	1340	1560	6720	5010	1930	7500	3560	5930	747	764	1020
6	2320	1410	1490	5780	4350	1920	6630	2920	5270	689	683	1300
7	2230	1440	1710	4940	3830	2160	6190	2370	4930	717	886	1840
8	2070	1420	1870	4160	3380	2330	5420	2110	4260	633	1230	2180
9	1660	1400	1760	3570	4030	2140	4620	2140	3710	553	1480	2010
10	1490	1340	1510	3140	5880	1960	4040	1860	3690	632	1320	1770
11	1460	1250	1370	2850	6530	1860	3400	1580	3910	678	1170	1620
12	1460	1170	1430	2620	8080	1740	2820	1390	4010	736	871	1540
13	1340	1150	3710	2370	10800	1590	2760	2090	3450	624	635	1530
14	1360	1170	4800	2140	11800	1350	2860	3600	3210	591	583	1440
15	1420	1120	5290	2090	10600	1250	2730	4480	3050	592	818	1340
16	1540	1060	5410	2150	8770	1210	2550	18800	2640	575	860	1270
17	1410	959	4340	2050	7530	1230	2470	35300	1960	491	823	1130
18	1180	919	3840	1860	7350	1210	3350	39000	1470	403	781	1130
19	1120	916	3730	1730	8010	1150	5280	41100	1270	322	735	1000
20	1230	925	3760	2300	7960	1100	5080	43800	882	331	741	1050
21	1440	1120	3330	5080	7680	1120	3900	39000	658	364	827	1200
22	1590	1780	2810	14600	7400	998	3250	29400	417	376	887	1500
23	1520	2110	2540	25600	7060	889	2800	25600	439	430	882	1730
24	1550	2020	2610	24900	6520	895	2690	24000	646	453	959	1640
25	1900	2750	2680	20200	5440	901	2660	21800	735	709	1020	1540
26	1770	3030	2470	18900	4210	1030	2730	19800	1010	536	1060	1720
27	1550	2700	2390	18700	3320	1330	2720	18100	1050	698	1130	1830
28	1540	2570	3670	15800	2770	1920	2410	16300	877	906	1050	1740
29	1660	2390	6050	12600	2420	2640	1980	14700	705	1350	1120	1390
30	1650	2280	6360	10200	---	8450	2010	13500	558	1490	1350	1430
31	1610	---	5770	8620	---	14000	---	12100	---	1310	1400	---
TOTAL	56130	48909	96170	251210	186430	68463	146920	457240	94977	20793	30302	43380
MEAN	1811	1630	3102	8104	6429	2208	4897	14750	3166	671	977	1446
MAX	3580	3030	6360	25600	11800	14000	16800	43800	10500	1490	1480	2180
MIN	1120	916	1370	1730	2420	889	1980	1390	417	322	583	1000
AC-FT	111300	97010	190800	498300	369800	135800	291400	906900	188400	41240	60100	86040

CAL YR 1979 TOTAL 4264929 MEAN 11680 MAX 76100 MIN 916 AC-FT 8459000
WTR YR 1980 TOTAL 1500924 MEAN 4101 MAX 43800 MIN 322 AC-FT 2977000

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1967 to September 1980 (discontinued). Pesticide analyses: February 1968 to September 1980 (discontinued). Sediment records: October 1974 to September 1980 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to September 1980 (discontinued).
WATER TEMPERATURES: October 1967 to September 1980 (discontinued).

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (1968-80): Maximum daily, 4,430 micromhos Aug. 8, 1971; minimum daily, 203 micromhos Oct. 26, 1970.
WATER TEMPERATURES: Maximum daily, 31.0°C on several days during summer months; minimum daily, 4.0°C Jan. 12, 13, 1973, Jan. 22, 23, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,220 micromhos Sept. 3; minimum daily, 275 micromhos May 20.
WATER TEMPERATURES: Maximum daily, 31.0°C July 2, 3, 7, 9, 15; minimum daily, 9.0°C on several days during December and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
30...	1205	1560	920	7.5	24.5	10	12	6.9	82	5.0	K6	K1
DEC												
04...	1105	1680	710	7.2	12.0	--	36	11.2	102	1.9	650	64
19...	1025	3700	370	7.8	9.5	--	240	11.5	99	3.0	2100	680
JAN												
30...	1130	10200	377	8.0	12.5	--	210	9.2	86	2.5	880	1200
FEB												
13...	1505	11200	510	8.2	9.0	--	89	10.5	90	3.3	3500	3900
MAR												
11...	1425	1850	740	8.4	20.5	--	4.3	10.0	110	5.2	K18	34
APR												
16...	1715	2510	520	8.5	19.5	--	78	9.8	104	1.9	240	40
MAY												
13...	1745	2350	580	8.3	27.0	--	96	8.0	99	3.4	92	92
JUN												
04...	1450	6800	460	8.1	--	--	180	7.4	92	1.3	160	100
JUL												
22...	1030	354	940	8.1	29.0	--	31	7.2	92	1.5	170	100
AUG												
06...	1330	677	980	8.1	28.0	--	25	7.8	99	2.2	K8	K1
SEP												
09...	1630	1920	880	8.0	27.5	25	160	7.2	91	2.0	4900	1200

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT											
30...	250	62	69	19	89	2.4	4.5	230	0	87	130
DEC											
04...	220	54	66	13	66	1.9	5.6	200	0	67	90
19...	110	28	34	6.0	31	1.3	4.9	100	0	31	43
JAN											
30...	110	39	36	5.8	30	1.2	4.4	91	0	40	43
FEB											
13...	160	35	51	7.5	35	1.2	4.1	150	0	42	45
MAR											
11...	210	36	62	13	60	1.8	3.9	210	0	78	78
APR											
16...	160	43	50	8.7	36	1.2	4.6	140	2	62	51
MAY											
13...	200	40	64	9.8	38	1.2	4.5	190	2	53	48
JUN											
04...	150	31	46	8.7	25	.9	4.1	170	0	39	37
JUL											
22...	240	79	66	18	100	2.8	5.3	200	0	77	150
AUG											
06...	260	71	73	19	96	2.6	5.6	230	0	78	160
SEP											
09...	190	57	54	13	100	3.2	5.3	160	0	76	150

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT											
30...	.3	6.0	523	518	33	13	.00	.01	.050	.000	.83
DEC											
04...	.2	10	418	417	--	--	.46	.13	.100	.030	.81
19...	.2	9.2	230	210	--	--	.56	.27	.130	.060	1.9
JAN											
30...	.2	9.7	222	219	--	--	1.2	1.2	.100	.070	1.7
FEB											
13...	.2	10	276	271	--	--	.59	.47	.090	.070	1.0
MAR											
11...	.3	1.9	414	401	--	--	.01	.02	.040	.000	.96
APR											
16...	.3	.2	308	285	--	--	.34	.37	.040	.000	.63
MAY											
13...	.3	10	340	324	--	--	.74	.56	.000	.000	1.5
JUN											
04...	.3	8.6	252	242	--	--	.37	.24	.010	.030	.80
JUL											
22...	.5	10	542	525	--	--	.01	.00	.000	.020	.76
AUG											
06...	.4	10	556	556	--	--	.00	.00	.000	.020	.74
SEP											
09...	.3	9.3	529	488	220	4	.21	.17	.050	.060	1.2

DATE	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT											
30...	.49	.88	.49	.810	.030	17	--	--	22	93	98
DEC											
04...	--	.91	--	.210	.040	8.6	--	--	88	399	98
19...	1.1	2.0	1.2	.300	.170	--	7.4	3.2	384	3840	89
JAN											
30...	.49	1.8	.56	.590	.080	22	--	--	1360	37500	75
FEB											
13...	.45	1.1	.52	.400	.080	14	--	--	1180	35700	7100
MAR											
11...	.35	1.0	.35	.150	.020	--	5.9	3.1	48	240	91
APR											
16...	.58	.67	.58	.190	.060	7.7	--	--	150	1020	93
MAY											
13...	.88	1.5	.88	.210	.060	7.4	--	--	243	1540	86
JUN											
04...	1.8	.81	1.8	.260	.040	--	8.2	2.2	622	11400	80
JUL											
22...	.38	.76	.40	.090	.040	10	--	--	36	34	98
AUG											
06...	.63	.74	.65	.080	.030	6.4	--	--	85	155	90
SEP											
09...	1.2	1.2	1.3	.300	.180	--	6.5	2.9	272	1410	98

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
DEC											
04...	1105	--	--	--	--	--	--	--	--	--	--
19...	1025	5	1	4	400	300	90	5	0	100	10
FEB											
13...	1505	--	--	--	--	--	--	--	--	--	--
MAR											
11...	1425	2	1	1	200	0	200	3	1	2	0
MAY											
13...	1745	--	--	--	--	--	--	--	--	--	--
JUN											
04...	1450	5	3	2	200	100	100	2	0	3	10
AUG											
06...	1330	--	--	--	--	--	--	--	--	--	--
SEP											
09...	1630	8	0	8	200	100	100	4	--	<1	30

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
19...	10	0	3	0	6	6	6	0	5700	5600	60
FEB											
13...	--	--	--	--	--	--	--	--	--	--	--
MAR											
11...	0	0	0	0	<3	4	3	1	620	610	<10
MAY											
13...	--	--	--	--	--	--	--	--	--	--	--
JUN											
04...	10	0	5	--	<3	28	22	6	8400	--	<10
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	30	0	4	--	<3	11	7	4	5600	5600	40

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
19...	68	51	17	260	260	4	1.9	1.9	.0	6	4
FEB											
13...	--	--	--	--	--	--	--	--	--	--	--
MAR											
11...	38	1	37	80	80	3	.1	.1	.0	6	5
MAY											
13...	--	--	--	--	--	--	--	--	--	--	--
JUN											
04...	25	19	6	300	--	<1	.1	.0	.1	13	12
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	42	40	2	190	190	1	.7	.4	.3	21	16

DATE	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
DEC										
04...	--	--	--	--	0	--	--	--	--	--
19...	2	0	0	0	0	0	0	50	50	4
FEB										
13...	--	--	--	--	0	--	--	--	--	--
MAR										
11...	1	1	0	1	0	0	0	80	80	<3
MAY										
13...	--	--	--	--	0	--	--	--	--	--
JUN										
04...	1	0	0	0	0	0	0	80	80	4
AUG										
06...	--	--	--	--	0	--	--	--	--	--
SEP										
09...	5	0	0	0	0	0	0	90	--	<3

DATE	TIME	PCB TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	P,P' DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	P,P' DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)
DEC												
04...	1105	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.5
FEB												
13...	1505	ND	--	ND	--	ND	--	ND	--	--	ND	--

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)
DEC 04...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 13...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)
DEC 04...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 13...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL TRITHION, TOTAL (UG/L)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	PARATHION, TOTAL (UG/L)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC 04...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 13...	ND	--	ND	--	ND	--	ND	--	--	--	--

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	DEC 4,79		MAR 11,80		MAY 13,80		JUN 4,80	
TIME	1105		1425		1745		1450	
TOTAL CELLS/ML	7500		45000		12000		2000	
DIVERSITY: DIVISION	1.6		1.1		1.7		1.1	
.CLASS	1.6		1.1		1.7		1.2	
..ORDER	0.0		1.3		2.0		1.5	
...FAMILY	0.0		1.5		2.3		2.5	
....GENUS	0.0		1.7		3.0		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	--	-	--	-	--	-	--	-
...CHLOROCOCCACEAE								
....CHLOROCOCCUM	190	3	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	360#	18
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	260	2	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	1000	14	1200	3	260	2	150	8
....CHLORELLA	1000	14	--	-	--	-	--	-
....CHODATELLA	190	3	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	2200	5	260	2	28	1
....KIRCHNERIELLA	130	2	--	-	130	1	--	-
....OOCYSTIS	65	1	--	-	64	1	120	6
....TREUBARIA	--	-	310	1	--	-	--	-
....WESTELLA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	320	3	--	-
....CRUCIGENIA	--	-	--	-	1300	11	220	11
....SCENEDESMUS	390	5	1900	4	770	6	300#	15
....TETRASTRUM	--	-	3700	8	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	28	1
....CHLAMYDOMONAS	1100	15	930	2	380	3	83	4
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	1700#	23	32000#	71	4300#	35	300#	15
....MELOSIRA	--	-	--	-	710	6	140	7
....STEPHANODISCUS	--	-	--	-	--	-	120	6
..PENNALES								
...NAVICULACEAE								
....NAVICULA	--	-	--	-	--	-	14	1
...NITZSCHIACEAE								
....NITZSCHIA	260	3	930	2	260	2	14	1
...SURIRELLACEAE								
....SURIRELLA	130	2	--	-	--	-	--	-
.XANTHOPHYCEAE								
..HETEROCOCCALES								
...CHLOROTHECIACEAE								
....OPHIOCYTIUM	--	-	--	-	--	-	14	1
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE	130	2	--	-	--	-	--	-
..CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	310	1	190	2	14	1
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	2600#	21	--	-
....ANACYSTIS	--	-	1200	3	260	2	--	-
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	--	-	--	-
....SCHIZOTHRIX	450	6	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	310	1	64	1	14	1
....PHACUS	--	-	--	-	--	-	28	1
....TRACHELOMONAS	650	9	--	-	--	-	14	1
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	64	1	--	-

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

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JUL 22,80	AUG 6,80	SEP 9,80
TIME	1030	1330	1630
TOTAL CELLS/ML	19000	10000	6900
DIVERSITY: DIVISION	1.4	1.2	1.2
.CLASS	1.4	1.2	1.2
..ORDER	2.3	2.1	1.7
...FAMILY	2.5	2.1	1.8
....GENUS	3.1	2.4	1.8

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	--	-	--	-	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	360	2	94	1	--	-
....CHLORELLA	--	-	--	-	--	-
....CHODATELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	94	1	--	-
....KIRCHNERIELLA	--	-	--	-	--	-
....OOCYSTIS	790	4	--	-	--	-
....TREUBARIA	--	-	--	-	--	-
....WESTELLA	290	1	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-
....SCENEDESMUS	1000	5	--	-	220	3
....TETRASTRUM	290	1	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	*	0	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	2100	11	1500	14	2100#	30
....MELOSIRA	140	1	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-
..PENNALES						
...NAVICULACEAE						
....NAVICULA	210	1	--	-	180	3
...NITZSCHIACEAE						
....NITZSCHIA	4400#	23	2500#	24	1400#	21
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
.XANTHOPHYCEAE						
..HETEROCOCCALES						
...CHLOROTHECIACEAE						
....OPHIOCYTIUM	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE	--	-	--	-	--	-
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	140	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	2300	12	3000#	29	3000#	43
....ANACYSTIS	2600	14	610	6	--	-
....GOMPHOSPHAERIA	1100	6	--	-	--	-
..HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	3400#	18	2500#	24	--	-
....SCHIZOTHRIX	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-
....PHACUS	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	--	-	--	-

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

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	56130	889	490	74300	130	19100	78	11800	240
NOV.	1979	48909	806	445	58800	110	14200	71	9380	220
DEC.	1979	96170	708	391	101000	92	23800	62	16200	200
JAN.	1980	251210	495	274	186000	55	37000	44	29900	150
FEB.	1980	186430	433	240	121000	45	22600	39	19400	140
MAR.	1980	68463	637	352	65100	77	14300	56	10400	190
APR.	1980	146920	436	241	95800	46	18100	39	15400	140
MAY	1980	457240	342	190	234000	33	41100	31	37700	110
JUNE	1980	94977	466	258	66200	50	12800	42	10700	150
JULY	1980	20793	868	479	26900	120	6760	76	4290	230
AUG.	1980	30302	1000	551	45100	150	12200	88	7160	260
SEPT	1980	43380	1080	595	69700	170	19600	94	11100	270
TOTAL		1500924	**	**	1144000	**	241000	**	183000	**
WTD. AVG.		4101	510	282	**	60	**	45	**	150

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	601	881	442	604	386	542	338	503	375	799	938	1190
2	638	880	448	509	420	590	396	567	398	785	945	1210
3	679	841	521	545	442	627	362	566	415	776	959	1220
4	707	736	675	486	465	669	334	436	431	699	967	1190
5	738	731	771	577	483	681	338	411	444	690	972	1200
6	788	717	819	582	512	680	362	407	450	699	980	1130
7	834	848	845	590	504	679	390	414	452	698	984	997
8	880	896	911	593	525	696	421	474	462	802	946	935
9	939	941	939	577	500	726	439	478	484	811	923	962
10	945	905	949	613	479	740	462	480	496	857	883	930
11	955	909	969	644	362	739	477	513	501	837	928	1000
12	963	884	979	651	416	730	495	550	498	863	943	1060
13	975	860	650	669	489	733	519	563	484	903	935	1120
14	989	844	592	684	505	716	536	582	468	897	924	1100
15	1010	848	541	720	459	711	540	595	506	933	899	1080
16	1030	876	661	770	427	716	527	500	517	972	871	1090
17	1020	878	547	797	392	708	530	368	522	968	935	1100
18	1020	880	512	807	379	716	548	293	538	975	973	1160
19	1040	860	404	874	389	724	553	287	543	996	985	1170
20	1050	823	412	850	397	749	609	275	560	1000	953	1110
21	1020	810	419	746	405	761	619	282	580	992	1040	1090
22	1000	760	587	490	413	766	540	289	570	961	1010	1070
23	1020	782	720	384	392	774	545	307	623	964	1000	1120
24	1040	731	808	378	377	777	513	312	590	938	1080	1110
25	1050	766	860	398	388	788	478	329	595	956	1070	1020
26	1060	739	902	443	403	789	471	343	658	962	1020	1100
27	1020	868	954	429	431	769	466	354	724	968	1090	1090
28	1010	798	984	576	458	757	450	358	723	943	1150	1090
29	1040	748	989	522	489	698	462	359	710	827	1160	1080
30	944	544	964	413	---	581	477	364	757	900	1170	1070
31	803	---	695	375	---	450	---	379	---	929	1170	---
MEAN	929	819	725	590	437	703	473	417	536	881	994	1090

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	19.0	10.0	11.0	10.0	16.0	18.0	22.0	27.0	30.0	29.0	29.0
2	26.0	18.0	11.0	12.0	10.0	10.0	19.0	23.0	27.0	31.0	30.0	29.0
3	26.0	17.0	11.0	13.0	9.0	10.0	20.0	23.0	27.0	31.0	30.0	29.0
4	26.0	17.0	11.0	11.0	9.0	12.0	20.0	24.0	27.0	30.0	30.0	29.0
5	23.0	17.0	12.0	11.0	11.0	15.0	20.0	24.0	27.0	30.0	30.0	28.0
6	23.0	19.0	13.0	11.0	11.0	15.0	20.0	24.0	28.0	30.0	29.0	27.0
7	24.0	17.0	13.0	13.0	12.0	18.0	20.0	25.0	29.0	31.0	29.0	28.0
8	25.0	17.0	13.0	12.0	13.0	18.0	20.0	26.0	29.0	30.0	28.0	27.0
9	25.0	19.0	13.0	12.0	13.0	18.0	20.0	23.0	30.0	31.0	29.0	27.0
10	23.0	18.0	13.0	12.0	9.0	19.0	20.0	24.0	27.0	30.0	28.0	27.0
11	21.0	16.0	15.0	14.0	9.0	20.0	22.0	25.0	27.0	30.0	28.0	28.0
12	22.0	16.0	17.0	14.0	9.0	20.0	22.0	26.0	28.0	30.0	28.0	28.0
13	23.0	15.0	14.0	13.0	9.0	20.0	18.0	26.0	27.0	30.0	29.0	28.0
14	23.0	14.0	12.0	14.0	10.0	18.0	15.0	25.0	27.0	30.0	29.0	29.0
15	23.0	14.0	12.0	16.0	11.0	17.0	16.0	25.0	28.0	31.0	29.0	29.0
16	23.0	14.0	11.0	17.0	11.0	19.0	18.0	24.0	29.0	30.0	29.0	29.0
17	24.0	15.0	10.0	18.0	9.0	20.0	20.0	22.0	29.0	30.0	29.0	30.0
18	24.0	17.0	19.0	17.0	9.0	16.0	20.0	22.0	29.0	30.0	29.0	29.0
19	24.0	18.0	9.0	17.0	10.0	17.0	20.0	22.0	29.0	30.0	29.0	29.0
20	25.0	20.0	10.0	17.0	13.0	19.0	20.0	22.0	29.0	30.0	29.0	29.0
21	26.0	22.0	11.0	18.0	14.0	17.0	20.0	24.0	29.0	29.0	29.0	28.0
22	26.0	18.0	13.0	18.0	14.0	17.0	20.0	24.0	28.0	29.0	30.0	29.0
23	22.0	15.0	15.0	13.0	15.0	19.0	22.0	25.0	29.0	29.0	30.0	29.0
24	20.0	14.0	15.0	13.0	16.0	18.0	22.0	25.0	30.0	29.0	30.0	29.0
25	19.0	14.0	14.0	13.0	16.0	18.0	22.0	26.0	30.0	30.0	30.0	29.0
26	20.0	14.0	14.0	13.0	15.0	18.0	22.0	27.0	30.0	30.0	30.0	29.0
27	20.0	15.0	15.0	12.0	15.0	18.0	21.0	27.0	30.0	30.0	29.0	27.0
28	21.0	15.0	15.0	12.0	16.0	18.0	20.0	27.0	30.0	29.0	28.0	27.0
29	22.0	13.0	14.0	13.0	17.0	19.0	21.0	27.0	30.0	27.0	29.0	27.0
30	23.0	11.0	13.0	13.0	---	18.0	22.0	27.0	30.0	29.0	27.0	27.0
31	20.0	---	12.0	12.0	---	18.0	---	27.0	---	29.0	28.0	---
MEAN	23.0	16.5	13.0	13.5	12.0	17.5	20.0	24.5	28.5	30.0	29.0	28.5

SAN BERNARD RIVER BASIN

08117500 SAN BERNARD RIVER NEAR BOLING, TX

LOCATION.--Lat 29°18'47", long 95°53'36", Wharton-Fort Bend County line, Hydrologic Unit 12090401, near left bank at downstream side of pile bent of bridge on Farm Road 442, 2.5 mi (4.0 km) downstream from Snake Creek, and 4.5 mi (7.2 km) northeast of Boling.

DRAINAGE AREA.--727 mi² (1,883 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1954 to current year.

REVISED RECORDS.--WSP 1712: 1958. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 30.81 ft (9.391 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Part of low flow is drainage from areas irrigated with diversions from Colorado River. Diversions above station for irrigation and other uses. Several observations of water temperature were made during the current year.

AVERAGE DISCHARGE.--26 years, 500 ft³/s (14.16 m³/s), 362,200 acre-ft/yr (447 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s (600 m³/s) June 28, 1960, gage height, 42.41 ft (12.927 m); minimum daily, 2.4 ft³/s (0.068 m³/s) Nov. 27-30, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 43.5 ft (13.26 m) in 1913 (probably December). Flood in September 1938 reached a stage of 43.3 ft (13.20 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,540 ft³/s (185 m³/s) Jan. 22 at 2200 hours, gage height, 25.62 ft (7.809 m), no other peak above base of 3,000 ft³/s (85.0 m³/s); minimum daily, 18 ft³/s (0.51 m³/s) Dec. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	648	84	37	443	285	54	463	64	96	56	204	142
2	469	248	34	312	211	51	397	74	85	56	184	150
3	370	269	32	273	166	48	305	102	79	57	180	151
4	299	277	29	270	136	53	206	164	77	57	168	153
5	259	324	27	295	117	56	127	173	73	54	118	151
6	245	308	25	242	108	53	85	154	70	53	81	154
7	230	229	23	228	98	50	64	146	61	58	60	172
8	223	154	21	204	95	46	50	132	53	67	59	265
9	200	97	20	163	392	43	39	137	51	76	75	567
10	200	62	19	123	753	41	34	178	57	76	82	1280
11	222	44	18	93	999	40	31	175	67	79	86	1530
12	234	37	302	73	1380	39	30	113	65	85	85	1610
13	246	35	2570	60	1580	38	29	91	67	108	71	1300
14	246	33	2310	52	1210	35	26	90	66	147	57	652
15	241	32	1990	45	852	34	26	86	59	177	51	365
16	224	30	1670	42	578	36	26	100	48	209	46	242
17	190	28	1140	39	406	38	25	176	46	264	64	164
18	163	27	720	38	298	38	24	382	43	306	91	102
19	158	25	481	36	237	35	24	626	49	314	90	78
20	168	24	320	156	208	33	29	1050	57	313	91	65
21	174	23	208	4370	183	30	26	1330	61	288	92	74
22	149	21	144	6110	159	28	21	1360	59	263	95	81
23	107	20	108	5820	134	27	21	1260	59	266	87	92
24	77	63	91	4930	117	27	24	1050	68	288	78	112
25	66	125	84	4800	100	26	28	768	71	289	73	136
26	59	135	92	4280	89	26	23	512	75	253	76	164
27	48	120	84	3110	76	27	23	347	74	260	88	218
28	45	95	71	1570	66	38	26	238	70	257	85	276
29	44	70	225	832	58	250	37	161	71	270	92	347
30	43	49	403	567	---	668	57	134	65	257	110	453
31	43	---	538	400	---	557	---	114	---	239	124	---
TOTAL	6090	3088	13836	39976	11091	2565	2326	11487	1942	5542	2943	11246
MEAN	196	103	446	1290	382	82.7	77.5	371	64.7	179	94.9	375
MAX	648	324	2570	6110	1580	668	463	1360	96	314	204	1610
MIN	43	20	18	36	58	26	21	64	43	53	46	65
AC-FT	12080	6130	27440	79290	22000	5090	4610	22780	3850	10990	5840	22310

CAL YR 1979	TOTAL	366846	MEAN	1005	MAX	15800	MIN 18	AC-FT 727600
WTR YR 1980	TOTAL	112132	MEAN	306	MAX	6110	MIN 18	AC-FT 222400

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: February to September 1978.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1978 to Current year.
WATER TEMPERATURES: February 1978 to Current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equation developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 980 micromhos Apr. 13, 1978; minimum daily, 64 micromhos May 25, 1979
WATER TEMPERATURES (1978-1979): Maximum daily, 30.0°C Sept. 21,22, 1978; minimum daily, 3.5°C Jan. 5.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 888 micromhos Apr. 22; minimum daily, 97 micromhos Jan. 25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 29...	1515	44	640	8.0	21.0	5	12	7.0	78	1.0	62	32
NOV 29...	1445	66	360	7.3	12.5	--	14	9.7	88	.6	100	92
DEC 18...	1515	675	154	7.4	8.0	--	100	11.8	98	2.7	880	620
JAN 29...	1505	761	152	7.5	13.5	--	76	8.6	82	2.3	1700	550
FEB 13...	1000	1630	130	7.3	9.0	--	95	10.8	93	3.1	5100	2900
MAR 12...	1120	39	640	8.0	21.0	--	30	7.6	84	1.0	82	48
APR 16...	1330	25	640	8.3	19.5	--	27	8.6	91	.9	200	110
MAY 14...	1405	89	530	7.8	24.5	--	60	6.9	82	1.4	210	180
JUN 05...	1145	71	480	7.7	28.0	--	31	6.5	82	.6	120	150
JUL 16...	0920	202	585	7.9	28.0	--	38	6.4	80	1.7	78	96
AUG 06...	0945	83	574	8.0	27.5	--	20	6.5	81	1.8	72	84
SEP 10...	1445	1330	260	7.5	26.0	76	88	5.7	70	2.6	2500	550

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 29...	200	15	57	15	46	1.4	4.1	230	0	20	73
NOV 29...	110	18	31	7.5	25	1.0	5.2	110	0	22	38
DEC 18...	50	0	14	3.6	8.2	.5	4.9	63	0	13	10
JAN 29...	47	4	14	3.0	8.5	.5	3.7	53	0	8.9	13
FEB 13...	34	9	10	2.2	8.0	.6	2.5	30	0	8.9	11
MAR 12...	190	17	56	12	50	1.6	3.2	210	0	24	81
APR 16...	200	19	60	12	49	1.5	3.8	220	0	25	80
MAY 14...	160	39	45	12	32	1.1	5.4	150	0	33	57
JUN 05...	160	28	45	11	29	1.0	3.7	170	0	23	48
JUL 16...	200	30	52	17	38	1.2	3.2	200	0	22	61
AUG 06...	200	26	49	18	37	1.1	5.6	210	0	19	66
SEP 10...	81	7	22	6.3	15	.7	5.8	90	0	6.1	27

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT 29...	.3	23	382	352	29	13	.13	.09	.050	.000	.82
NOV 29...	.2	13	221	197	--	--	.42	.10	.100	.080	.81
DEC 18...	.1	9.4	121	98	--	--	1.1	.73	.110	.010	1.4
JAN 29...	.1	11	113	91	--	--	.62	.62	.060	.060	1.2
FEB 13...	.1	6.6	77	65	--	--	.22	.20	.060	.060	1.3
MAR 12...	.2	12	362	343	--	--	.18	.21	.060	.080	.56
APR 16...	.2	.2	371	341	--	--	.52	.60	.100	.100	.84
MAY 14...	.3	12	291	271	--	--	1.1	.73	.060	.060	1.3
JUN 05...	.3	15	271	255	--	--	.58	.39	.030	.040	.68
JUL 16...	.6	20	336	317	--	--	.22	.19	.020	.020	1.4
AUG 06...	.5	23	343	321	--	--	.27	.21	.110	.000	.89
SEP 10...	.2	23	185	150	100	0	.45	.43	.010	.030	1.4

DATE	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 29...	.86	.87	.86	.130	.070	21	--	--	21	2.5	100
NOV 29...	.67	.91	.75	.120	.070	10	--	--	17	3.0	99
DEC 18...	1.5	1.5	1.5	.260	.160	--	11	3.1	106	193	99
JAN 29...	.92	1.3	.98	.200	.100	17	--	--	105	216	98
FEB 13...	.61	1.4	.67	.170	.050	13	--	--	121	533	97
MAR 12...	.29	.62	.37	.120	.050	--	4.0	.6	31	3.3	99
APR 16...	.57	.94	.67	.130	.070	7.7	--	--	43	2.9	99
MAY 14...	1.2	1.4	1.3	.170	.130	11	--	--	88	21	100
JUN 05...	.26	.71	.30	.170	.120	--	9.4	--	30	5.8	98
JUL 16...	1.1	1.4	1.1	.190	.110	11	--	--	96	52	98
AUG 06...	1.0	1.0	1.0	.160	.090	11	--	--	44	9.9	100
SEP 10...	1.1	1.4	1.1	.320	.220	--	12	2.9	161	578	92

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
NOV 29...	1445	--	--	--	--	--	--	--	--	--	--
DEC 18...	1515	2	0	2	200	200	50	1	0	4	0
FEB 13...	1000	--	--	--	--	--	--	--	--	--	--
MAR 12...	1120	2	1	1	200	0	200	1	0	2	0
MAY 14...	1405	--	--	--	--	--	--	--	--	--	--
JUN 05...	1145	4	1	3	200	100	100	1	0	2	0
AUG 06...	0945	--	--	--	--	--	--	--	--	--	--
SEP 10...	1445	5	0	5	100	30	70	10	--	<1	10

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUSPENDED RECOV. (UC/L AS CR)	CHROMIUM, DISSOLVED (UC/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
NOV 29...	--	--	--	--	--	--	--	--	--	--	--
DEC 18...	0	0	0	0	<3	2	2	0	3500	3400	110
FEB 13...	--	--	--	--	--	--	--	--	--	--	--
MAR 12...	0	0	0	0	<3	4	3	1	1400	1400	20
MAY 14...	--	--	--	--	--	--	--	--	--	--	--
JUN 05...	0	0	0	0	4	6	0	11	1300	1300	30
AUG 06...	--	--	--	--	--	--	--	--	--	--	--
SEP 10...	10	0	2	--	<3	14	10	4	5700	5600	140

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
NOV 29...	--	--	--	--	--	--	--	--	--	--	--
DEC 18...	21	15	6	60	50	6	.1	.1	.0	5	5
FEB 13...	--	--	--	--	--	--	--	--	--	--	--
MAR 12...	33	9	24	70	40	30	.1	.1	.0	5	5
MAY 14...	--	--	--	--	--	--	--	--	--	--	--
JUN 05...	17	10	7	70	50	20	.1	.0	.1	3	0
AUG 06...	--	--	--	--	--	--	--	--	--	--	--
SEP 10...	28	19	9	150	140	7	.6	.3	.3	7	6

DATE	NICKEL, DISSOLVED (UC/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 29...	--	--	--	--	0	--	--	--	--	--
DEC 18...	0	0	0	0	0	0	0	40	40	<3
FEB 13...	--	--	--	--	3	--	--	--	--	--
MAR 12...	0	0	0	0	0	0	0	10	7	<3
MAY 14...	--	--	--	--	0	--	--	--	--	--
JUN 05...	4	0	0	0	0	0	0	60	60	5
AUG 06...	--	--	--	--	0	--	--	--	--	--
SEP 10...	1	0	0	0	0	0	0	70	--	<3

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 29,79	MAR 12,80	MAY 14,80	JUN 5,80
TIME	1445	1120	1405	1145
TOTAL CELLS/ML	200	52	770	51
DIVERSITY: DIVISION	1.4	0.8	1.5	0.0
.CLASS	1.4	0.8	1.5	0.0
..ORDER	1.9	0.8	2.1	1.0
...FAMILY	2.0	1.5	2.2	1.0
....GENUS	2.0	1.5	2.8	1.0

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...OOCYSTACEAE								
....ANKISTRODESMUS	5	2	--	-	--	-	--	-
....KIRCHNERIELLA	5	2	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	14	2	--	-
....TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	10	5	--	-	69	9	--	-
....TETRASTRUM	--	-	--	-	55	7	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLOROGONIUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	100#	50	--	-	27	4	26#	50
..PENNALES								
...NAVICULACEAE								
....NAVICULA	--	-	13#	25	14	2	--	-
...NITZSCHIACEAE								
....HANTZSCHIA	--	-	--	-	--	-	--	-
....NITZSCHIA	30	15	26#	50	41	5	26#	50
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....COCCOCHLORIS	--	-	--	-	120#	16	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	320#	41	--	-
....OSCILLATORIA	--	-	--	-	69	9	--	-
....SCHIZOTHRIX	45#	22	--	-	--	-	--	-
...RIVULARIACEAE								
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	13#	25	14	2	--	-
....PHACUS	5	2	--	-	14	2	--	-
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	14	2	--	-

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

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JUL 16,80	AUG 6,80	SEP 10,80
TIME	0920	0945	1445
TOTAL CELLS/ML	400	77	430
DIVERSITY: DIVISION	1.2	0.0	1.5
.CLASS	1.2	0.0	1.5
..ORDER	1.5	0.0	1.6
...FAMILY	1.7	0.0	1.9
....GENUS	1.7	0.0	2.6

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	110#	27
....KIRCHNERIELLA	--	-	--	-	57	13
....OOCYSTIS	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	14	3
...SCENEDESMACEAE						
....SCENEDESMUS	26	6	--	-	29	7
....TETRASTRUM	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLOROGONIUM	13	3	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	26	6	--	-	14	3
..PENNALES						
...NAVICULACEAE						
....NAVICULA	13	3	--	-	--	-
...NITZSCHIACEAE						
....HANTZSCHIA	--	-	--	-	14	3
....NITZSCHIA	64#	16	77#	100	86#	20
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....COCCOCHLORIS	--	-	--	-	--	-
..HORMOGONALES						
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	--	-
....OSCILLATORIA	260#	65	--	-	--	-
....SCHIZOTHRIX	--	-	--	-	--	-
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	100#	23
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-
....PHACUS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	--	-	--	-

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

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	6090	357	197	3240	36	594	20	333	120
NOV.	1979	3088	367	202	1690	38	314	20	170	120
DEC.	1979	13836	203	113	4230	18	670	13	502	67
JAN.	1980	39976	131	74	7940	11	1140	9.4	1020	44
FEB.	1980	11091	193	107	3210	17	505	13	384	63
MAR.	1980	2565	445	244	1690	51	352	21	146	140
APR.	1980	2326	362	199	1250	40	249	18	115	120
MAY	1980	11487	254	141	4360	24	744	16	484	83
JUNE	1980	1942	538	295	1550	62	323	25	133	170
JULY	1980	5542	566	310	4640	66	987	26	388	180
AUG.	1980	2943	611	334	2650	74	586	26	209	200
SEPT	1980	11246	351	194	5900	35	1060	20	618	110
TOTAL		112132	**	**	42300	**	7520	**	4500	**
WTD. AVG.		306	253	140	**	25	**	15	**	82

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	197	590	415	210	220	525	206	740	425	594	550	595
2	212	372	500	205	245	572	210	591	427	599	560	594
3	227	376	540	217	282	606	217	556	435	611	564	575
4	250	365	580	225	382	617	256	524	448	615	562	550
5	275	220	578	210	384	665	294	471	461	623	564	535
6	299	231	600	220	385	640	333	462	470	626	575	525
7	312	247	650	215	404	616	378	461	483	621	600	510
8	331	305	686	220	415	625	415	479	510	620	637	489
9	350	358	696	224	360	637	450	485	543	605	635	374
10	369	362	715	259	205	648	495	500	555	600	633	264
11	385	400	737	304	167	652	534	498	570	596	632	270
12	397	455	500	350	117	656	535	497	586	594	635	290
13	400	496	175	400	110	669	560	497	596	598	648	300
14	430	530	169	437	125	666	583	494	565	562	660	320
15	458	567	150	478	138	662	615	499	529	563	672	340
16	438	600	144	511	160	657	646	480	535	577	680	350
17	442	637	175	550	177	680	733	410	544	579	665	362
18	446	641	195	565	214	700	745	318	560	560	630	383
19	460	675	210	590	240	674	750	248	575	564	640	394
20	473	700	215	520	265	701	690	213	590	570	635	400
21	475	737	220	144	274	720	785	190	606	564	627	395
22	460	740	255	126	308	737	888	165	621	572	620	398
23	486	746	300	110	368	750	840	158	619	570	632	425
24	571	670	356	99	375	760	790	157	591	567	638	450
25	573	400	398	97	385	767	795	175	597	566	646	466
26	575	359	439	115	390	764	775	188	585	568	640	442
27	593	356	440	128	409	780	752	201	570	550	637	435
28	611	344	441	141	436	798	749	250	561	530	640	432
29	600	385	360	155	474	500	780	300	563	511	627	423
30	595	413	300	175	---	245	807	347	575	539	630	417
31	585	---	217	200	---	232	---	426	---	540	600	---
MEAN	428	476	399	271	290	643	587	386	543	579	623	423

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

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

Because the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than continuous stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage of those events. The data collected for special reasons are called measurements at miscellaneous sites.

Streamflow data collected at partial-record stations where water-quality data other than observations of water temperature are not obtained are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations; the second is a table of annual maximum stage and (or) discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low and high flows are given in a third table. Discharge measurements and water-quality data collected at partial-record stations are presented in downstream order in the section of this report entitled "Gaging-station records."

Low-flow partial-record stations

Measurements of streamflow at low-flow partial-record stations that are not published in the gaging-station section are given in the following table. Most of the measurements of low flow were made during periods when streamflow was sustained primarily by groundwater discharge. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will indicate the low-flow potential of the stream. The years listed in the column headed "Period of record" identifies the water years in which measurements were made at the same or at practically the same site.

Discharge measurements made at low-flow partial-record stations during water year 1980

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (ft /s)
		Brazos River basin				
08080900	White River below falls near Crosbyton, Tex.	Lat 33°39'57", long 101°09'35", Crosby County, at bridge on U.S. Highway 82 and 4.5 mi east of Crosbyton.	(a)	1951-80	10-31-79 1-23-80 4-16-80 8-19-80	0.63 1.26 1.00 .01
08082950	Elm Creek near Proffitt, Tex.	Lat 33°11'00", long 98°53'40", Young County, at bridge on U.S. Highway 380 in Proffitt community, 1,000 ft west of Farm Road 578, 5.5 mi upstream from mouth, and about 9 mi west of Newcastle.	275	1968-80	10-15-79 11-27-79 1- 3-80 2-12-80 3-25-80 5- 6-80 6-17-80 7-29-80 9- 7-80	0 0 0 0 0 0 0 0 0
08111600	Piney Creek near Bellville, Tex.	Lat 29°57'06", long 96°10'20", Austin County, at bridge on county road and about 5.1 mi east of Bellville.	30.7	1948, 1955, 1958, 1964-80	1-10-80 7-29-80	9.8 1.4
08111650	West Fork Mill Creek near Industry, Tex.	Lat 29°58'55", long 96°30'00", Austin County, at bridge on Farm Road 109 and about 0.6 mi north of Industry.	75.3	1964-80	1- 9-80 7-29-80	6.8 0

a Not applicable.

Crest-stage partial-record stations

The following table contains annual maximum stage and (or) discharge at partial-record stations operated primarily for the purpose of defining the flooding characteristics of the streams. At stations where discharge is given, or is footnoted "to be determined", a stage-discharge relation has been, or will be, defined by discharge measurements obtained by current meter or by indirect procedures. Water-stage recorders are located at these flood-hydrograph stations to facilitate complete hydrograph definition. At stations where only the maximum stage is given (discharge column is dashed), data are generally collected for use in stage-frequency studies of flood-profile definition. Gages at these stations usually consist of a device that will register the peak stage occuring between inspections of the gage. The years used in the column "Period of record" identify the years in which the annual maximum has been determined.

Annual maximum stage and (or) discharge during water year 1980

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		San Jacinto River basin					
08068700	Cypress Creek at Sharp Road near Hockley, Tex.	Lat 29°55'15", long 95°50'24", Harris County, at bridge on Sharp Road and 7.4 mi south of Hockley.	80.7	1976-78*, 1979-80	1-23-80	65.53	-
08072400	Buffalo Bayou near Clodine, Tex.	Lat 29°43'06", long 95°43'53", Fort Bend County, on private road to Cinco Ranch, 2.8 mi west of Clodine, and 9.0 mi upstream from Barker Reservoir discharge structure.	84.2	1974-80	9-20-79 1-21-80	98.70 97.84	a3,290 2,440
08072700	South Mayde Creek near Addicks, Tex.	Lat 29°48'03", long 95°41'33", Harris County, at bridge on Groeschke Road, 3.2 mi west of Addicks, and 4.6 mi upstream from Langham Creek.	32.3	1974-80	1-22-80	106.55	807
08072800	Langham Creek near Addicks, Tex.	Lat 29°50'08", long 95°37'32", Harris County, at bridge on Clay Road, 3.6 mi north of Addicks, and 4.4 mi upstream from mouth.	48.9	1974-80	1-22-80	100.88	941
08073630	Bettina Street Ditch at Houston, Tex.	Lat 29°46'32", long 95°32'23", Harris County, at intersection of Bettina Street ditch and Kimberly Street in west Houston.	1.37	1979-80	3-29-80	80.91	470
08074200	Brickhouse Gully at Clarblak Street, Houston, Tex.	Lat 29°49'53", long 95°31'42", Harris County, at bridge on Clarblak Street in northwest Houston.	2.56	1965-80	3-29-80	87.73	282
08074760	Brays Bayou at Alief Road, Alief, Tex.	Lat 29°42'39", long 95°35'13", Harris County, at bridge on High Star Street in Alief.	14.1	1977-80	9-19-79 1-22-80 9- 6-80	17.15 10.95 11.21	a3,120 920 772
08074780	Keegans Bayou at Keegan Road near Houston, Tex.	Lat 29°39'55", long 95°35'42", Harris County, at bridge on Keegan Road and about 16 mi southwest of Houston.	7.47	1965-71, 1975-80	1-22-80	74.10	330
08074810	Brays Bayou at Gessner Drive, Houston, Tex.	Lat 29°40'21", long 95°31'41", Harris County, at bridge on Gessner Drive in southwest Houston and 0.10 mi below mouth of Keegans Bayou.	53.2	1977-80	1-22-80	53.22	4,370
08074850	Bintliff Ditch at Bissonnet Street, Houston, Tex.	Lat 29°41'16", long 95°30'20", Harris County, at bridge on Bissonnet Street in southwest Houston.	4.38	1968-80	1-22-80	61.50	1,030
08074910	Hummingbird Street Ditch at Mullins Street, Houston, Tex.	Lat 29°39'44", long 95°29'11", Harris County, at intersection of Hummingbird Street ditch and Mullins Street in southwest Houston.	.32	1979-80	1-22-80 9- 6-80	57.35 57.36	98 67
08075470	Sims Bayou at Martin Luther King Boulevard, Houston, Tex.	Lat 29°38'42", long 95°20'13", Harris County, at bridge on Martin Luther King Boulevard in south Houston.	48.4	1978-80	1-22-80	34.10	-
08075550	Berry Bayou at Gilpin Street, Houston, Tex.	Lat 29°38'32", long 95°13'22", Harris County, at bridge on Gilpin Street in southeast Houston.	2.56	1965-80	10-30-79	35.39	394
08075780	Greens Bayou at Cutten Road near Houston, Tex.	Lat 29°56'56", long 95°31'10", Harris County, at bridge on Cutten Road and about 16.5 mi northwest of Houston.	8.06	1965-80	3-27-80	110.64	409
08076200	Halls Bayou at Deertrail Street near Houston, Tex.	Lat 29°54'07", long 95°25'21", Harris County, at bridge on Deertrail Street, 0.6 mi west of U.S. Highway 75, and about 11 mi northwest of Houston.	8.99	1965-80	3-29-80	83.15	649
		Clear Creek basin					
08077600	Clear Creek near Friendswood, Tex.	Lat 29°31'02", long 95°10'42", Galveston County, at bridge on Farm Road 528 and 1.5 mi southeast of Friendswood.	-	1966-80	1-22-80	15.35	-
		Highland Bayou basin					
08077780	Highland Bayou near Texas City, Tex.	Lat 29°19'54", long 94°56'42", Galveston County, at bridge on State Highway 6, 0.4 mi southwest of U.S. Highway 75, 1.5 mi from mouth, and about 3 mi southwest of Texas City.	-	1974-80	8- 9-80	4.07	-

* Operated as a continuous-record station.
a Revised.

Annual maximum stage and (or) discharge during water year 1980--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Elevation (feet)	Discharge (ft^3/s)
		Brazos River basin					
08093370	Aquilla Creek below Farm Road 310 near Aquilla, Tex.	Lat 31°53'22", long 97°12'04", Hill County, on left bank 0.8 mi downstream from Farm Road 310, 2.8 mi upstream from Cobb Creek, 2.9 mi northeast of Aquilla, and 4.0 mi upstream from gaging station Aquilla Creek near Aquilla at Farm Road 1304, 08093500 (discontinued).	-	1976-79	a5-29-79	b497.31	-
08093530	Aquilla Creek at abandoned Missouri-Kansas-Texas Railroad bridge near Aquilla, Tex.	Lat 31°48'59", long 97°11'35", Hill County, on right bank at downstream side of abandoned Missouri-Kansas-Texas Railroad bridge, 0.8 mi downstream from Alligator Creek, 2.5 mi downstream from gaging station Aquilla Creek near Aquilla at Farm Road 1304 (08093500), 2.5 mi upstream from Farm Road 2114, and 2.8 mi southeast of Aquilla.	-	1976-80	5-29-79 5-16-80	b463.72 465.48	-
08093540	Aquilla Creek at Farm Road 2114 near Aquilla, Tex.	Lat 31°47'23", long 97°11'13", McLennan County, on right bank at downstream side of bridge on Farm Road 2114, 2.1 mi upstream from Snake Creek, 3.3 mi downstream from Alligator Creek, and 4.6 mi southeast of Aquilla.	-	1976-80	5-30-79 5-16-80	bc449.5 449.83	-
08093560	Aquilla Creek at Farm Road 1858 near Ross, Tex.	Lat 31°43'33", long 97°12'39", McLennan County, on right bank at downstream side of bridge on Farm Road 1858, 0.9 mi downstream from Patten Branch, 1.6 mi upstream from Dry Creek, 3.4 mi west of Ross, and 4.4 mi upstream from Farm Road 933.	-	1976-80	5-30-79 5-16-80	bc449.5 417.43	-
08093580	Aquilla Creek at Farm Road 933 near Ross, Tex.	Lat 31°41'06", long 97°11'02", McLennan County, on left bank at downstream side of bridge on Farm Road 933, 1.5 mi downstream from Elm Creek, 2.5 mi southwest of Ross, 2.6 mi upstream from mouth (Brazos River), and 2.8 mi downstream from Dry Creek.	-	1976-80	5-13-79 5-16-80	b393.63 391.06	-

a Discontinued 9-30-79.
b Not previously published.
c Estimated; intakes were silted.

INDEX

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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