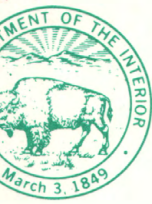
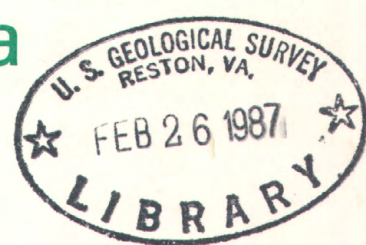


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# Water Resources Data Texas Water Year 1985



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-85-2  
Prepared in cooperation with the State of Texas  
and with other agencies



# CALENDAR FOR WATER YEAR 1985

1984

O C T O B E R							N O V E M B E R							D E C E M B E R						
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1985

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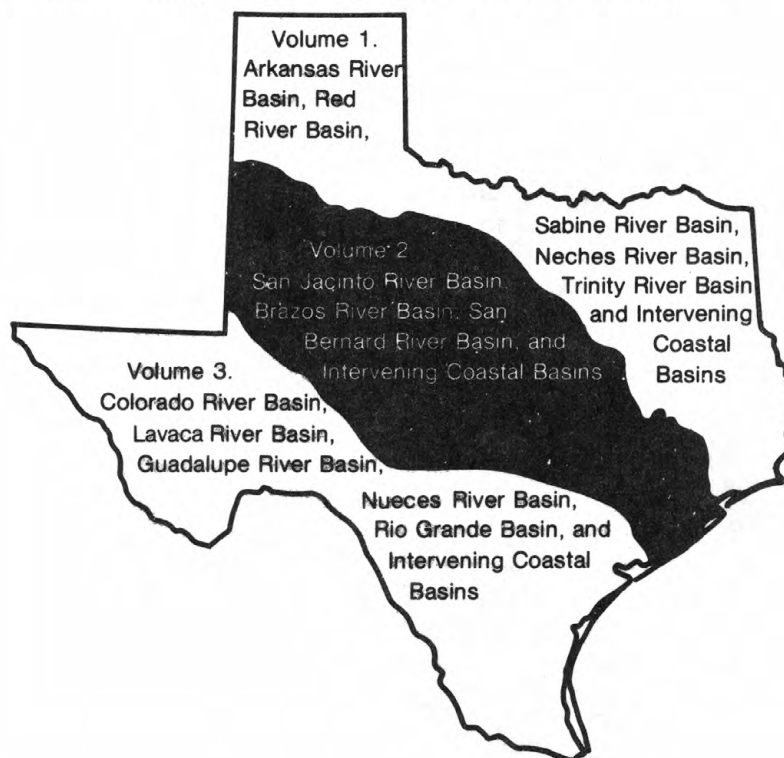




# Water Resources Data Texas Water Year 1985

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

by H.D. Buckner, E.R. Carrillo, and H.J. Davidson



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-85-2  
Prepared in cooperation with the State of Texas  
and with other agencies



UNITED STATES DEPARTMENT OF THE INTERIOR

William P. Clark, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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District Chief, Water Resources Division  
U.S. Geological Survey  
300 East 8th Street  
Austin, Texas 78701

1986



## Preface

This volume of the annual hydrologic data report of Texas is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. Records of streamflow and quality-of-water data required to provide the hydrologic information needed by State, local and Federal agencies, and the private sector for developing and managing land and water resources in Texas are contained in 3 volumes:

- 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

This report is the culmination of a concerted effort by dedicated personnel of the Texas District, U.S. Geological Survey, who collected, compiled, analyzed, verified, and organized the data, typed, edited, and assembled the report, and who assured that the information contained here is accurate, complete, and adheres to Geological Survey policy and established guidelines.

This report was prepared in cooperation with the State of Texas and other agencies under the supervision of C. W. Boning, District Chief.







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# WATER RESOURCES DATA - TEXAS, 1985

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

### INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with Federal, State, and City agencies, obtains a large amount of data pertaining to the water resources of Texas each water year. Such data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in three volumes of this report series entitled "Water Resources Data - Texas."

This report series includes records of stage, discharge, and water quality of streams and canals; stage, contents, and water quality of lakes and reservoirs. Volume 2 contains records for water discharge at 112 gaging stations; stage only at 9 gaging station; stage and contents at 24 lakes and reservoirs; and water quality at 72 gaging stations. Also included are data for 39 partial-record stations. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Texas.

This series of annual reports for Texas began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report was changed to its present format, with data on quantities and quality of surface water contained in each of three volumes.

Prior to introduction of this series and for several water years concurrent with it, water resources data for Texas were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 7 and 8." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Geological Survey reports have 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 volume is identified as "U.S. Geological Survey Water Data Report TX-85-2." For archiving and general distribution, the reports for the 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or may be purchased on microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including the current prices, for ordering specific reports may be obtained from the Office Chief at the address given on the back of the title page or by telephone (512) 482-5571.



## COOPERATION

Federal agencies that assisted the Geological Survey in the collection of data in this report in the form of funds or services in 1985 are:

Corps of Engineers, U.S. Army.

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

National Park Service.

U.S. Bureau of Reclamation.

Organizations that assisted in the collection of data in this report through joint-funding agreements through the Texas Water Development Board or through direct joint-funding agreements with the Geological Survey are:

Texas Water Development Board, C. E. Nemir, Executive Administrator; the cities of Abilene, Alice, Arlington, Austin, Cleburne, Clyde, Corpus Christi, Dallas, El Paso, Gainesville, Garland, Georgetown, Graham, Houston, Lubbock, Nacogdoches, Runaway Bay, 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; Brown County Water Improvement District No. 1; Coastal Industrial Water Authority; Colorado River Municipal Water District; Dallas County; Dallas Public Works Department; Dallas/Fort Worth Airport; Dallas Utilities Water Department; Edwards Underground Water District; Franklin County Water District; Galveston County; Greenbelt Municipal and Industrial Water Authority; Guadalupe-Blanco River Authority; Harris County Flood Control District; Harris-Galveston Coastal Subsidence District; Lavaca-Navidad River Authority; Lower Colorado River Authority; Lower Neches Valley Authority; MacKenzie Municipal Water Authority; North Central Texas Municipal Water Authority; Northeast Texas Municipal Water District; Orange County; Pecos River Commission; Red Bluff Water Power Control District; Reeves County Water Improvement District No. 1; Sabine River Authority of Texas; Sabine River Compact Administration; 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 Parks and Wildlife, Titus County Fresh Water Supply District No. 1; Trinity River Authority; 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, runoff, and streamflow characterize the usual hydrologic conditions in Texas. In the eastern part of the State, streams generally are deep with wide alluvial flood plains, and streamflow is perennial. In the western part of the State, streams generally flow through arroyos, and streamflow principally is ephemeral.

The major weather development in Texas during the 1985 water year was the ending of a severe, year-long drought. Intense rainstorms throughout most of the State in October, followed by substantial rainfall in November and December virtually ended the drought that had persisted over most of the State for the past year. By the end of December, streamflow was normal throughout the State. Unusual weather features for the year included an uncommonly warm winter, record-breaking snowfall across South Texas in January, and the absence of tropical storms in the State during the summer of 1985. The year was moderately wet with precipitation more than normal in almost all parts of the State.

Conservation storage in 71 selected reservoirs throughout the State, with a combined conservation capacity of 31,987,890 acre-feet, decreased from 66 percent at the end of September 1984, to 75 percent at the end of September 1985. Records from these 71 reservoirs indicate that contents increased in 59, decreased in 11, and remained the same in 1.

Dissolved-solids concentrations in most streams in the State are inversely related to streamflow. During years when precipitation and runoff are deficient, streamflow commonly is much more mineralized than during years when precipitation and runoff are normal or excessive. However, for streams where discharge is controlled by reservoirs, the mineralization of the water may remain relatively constant, despite large fluctuations in precipitation and runoff.

The area for which water data are presented in volume 2 extends from the New Mexico border in northwestern Texas, southeastward across the central part of the State, to the northeastern Texas Gulf Coast. Normal annual precipitation ranges from less than 17 inches in the westernmost part of the area, to nearly 50 inches along the Gulf Coast. Annual runoff ranges from less than 1.0 inch in the west to more than 15 inches in places along the Gulf Coast. The location of selected streamflow and water-quality stations in the area of Texas covered by volume 2 is shown in figure 1.

### Streamflow

At the beginning of the 1985 water year, streamflow was deficient throughout the area as the result of a prolonged drought that had persisted through most of the 1984 water year. In October however, intense rains throughout the area resulted in a return to normal streamflow conditions. During June through July, streamflow was below normal in the middle and upper part of the San Jacinto River basin. For the upper one-half of the Brazos River basin, streamflow remained normal through August, but decreased to below normal by early September. Streamflow in the lower one-half of the Brazos River basin was near normal throughout the year except for short periods in October, January, and March when streamflow was above normal.

Streamflow at the hydrologic index station North Bosque River near Clifton was in the normal range for the entire water year. A comparison of streamflow for the 1985 water year with streamflow for the period of record at five selected stations (fig. 1) for which data are included in volume 2 is presented in the following table:

Station no. and name	Discharge during 1985 water year (cubic feet per second)			Discharge during period of record (cubic feet per second)		
	Max.	Min.	Avg.	Max.	Min.	Avg.
08080500 Double Mountain Fork Brazos River near Aspermont, Tex. <u>1/</u>	9,400	0.20	177	91,400	0	159 (1925-34, 1941-85)
08082500 Brazos River at Seymour Tex.	8,700	.00	341	95,400	0	371 (1925-85)
08095000 North Bosque R. nr Clifton Tex. <u>2/</u>	4,500	.09	64.9	92,800	0	153 (1968-85)
08111000 Navasota River near Bryan Tex.	24,900	7.0	806	38,200	0	585 (1961-85)
08114000 Brazos River at Richmond Tex.	36,400	411	6,540	123,000	35	7,138 (1941-85)

1/ National Stream Quality Accounting Network site.

2/ Hydrologic index station.

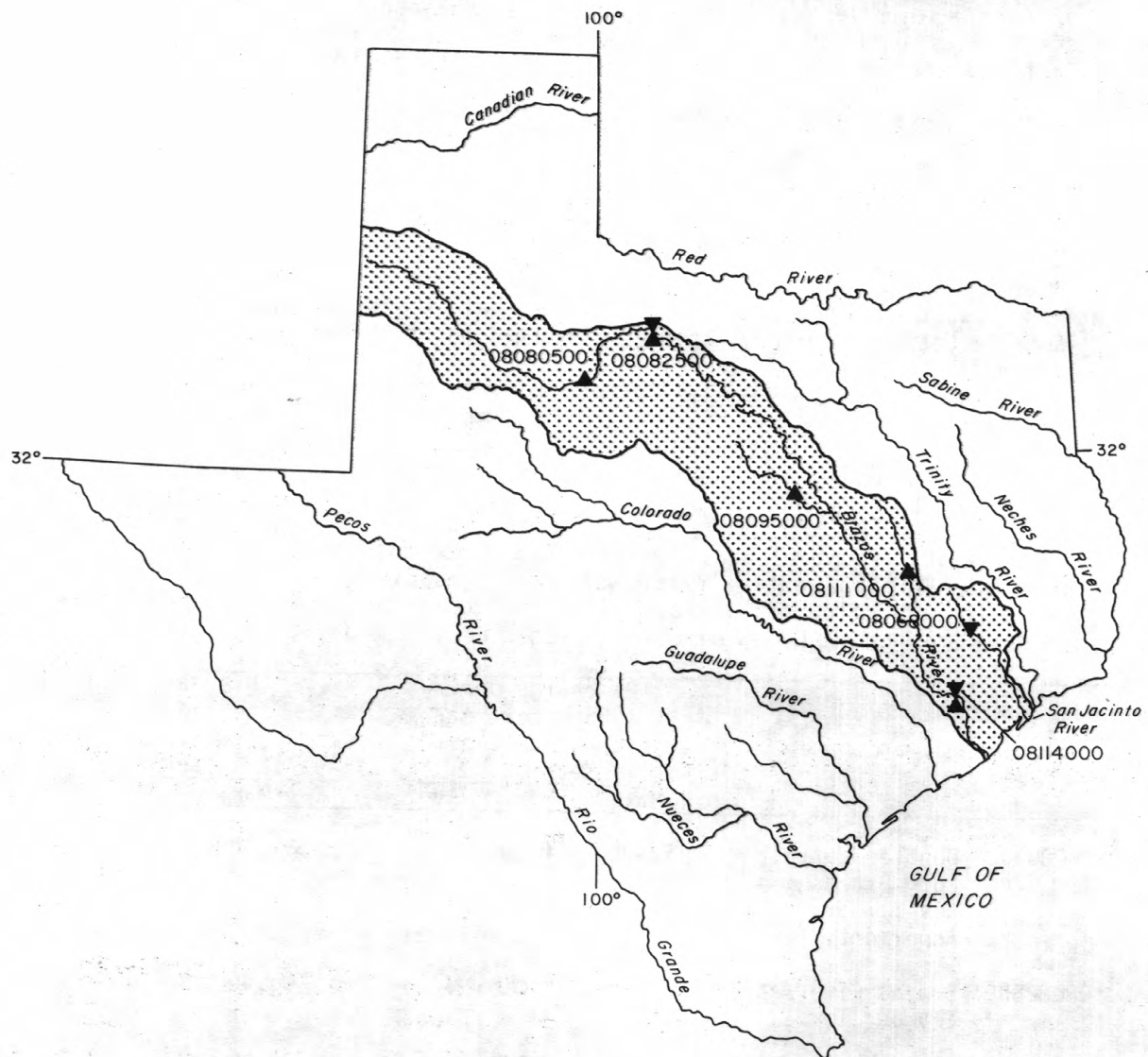


Figure 1.--Area of Texas covered by volume 2 and location of selected streamflow and water-quality stations in volume 2.



Streamflow was variable at the other three hydrologic index stations in the State. Streamflow during the 1985 water year at Neches River near Rockland was excessive (within the highest 25 percent of record) during October through November and February through March, deficient (within the lowest 25 percent of record) during June, and near normal during the remainder of the year. The North Concho River near Carlsbad had excessive streamflow during December through March, deficient streamflow during May and June, and near normal streamflow during the remainder of the year. For the Guadalupe River near Spring Branch, streamflow was excessive during January, March, April, June, and July and near normal during the remainder of the year. Monthly mean discharges at the four hydrologic index stations in the State are plotted against the median of the long-term monthly means in figure 2.

Conservation storage in 21 selected reservoirs in this area (volume 2) of the State, with a total combined conservation capacity of 3,936,670 acre-feet, increased from 68 percent at the end of September 1984, to 85 percent at the end of September 1985. Records from the 21 reservoirs indicate that contents increased in 19 and decreased in 2 during the 1985 water year.

#### Water-Quality

Records of discharge-weighted-average concentrations of dissolved solids for the 1985 water year are compared with those for the 1981-85 water years for selected long-term daily or continuous-record stations in the San Jacinto and Brazos River basins in the following table:

Station no. and name	Mean discharge (cubic feet per second)		Discharge-weighted-average concentration of dissolved solids (milligrams per liter)	
	1985	1981-85	1985	1981-85
<u>San Jacinto River basin</u>				
08068000 West Fork San Jacinto River near Conroe, Tex.	569	483	113	99
<u>Brazos River basin</u>				
08082500 Brazos River at Seymour, Tex.	341	301	3,250	3,050
08114000 Brazos River at Richmond, Tex.	6,540	5,257	321	377

## WATER RESOURCES DATA FOR TEXAS, 1985

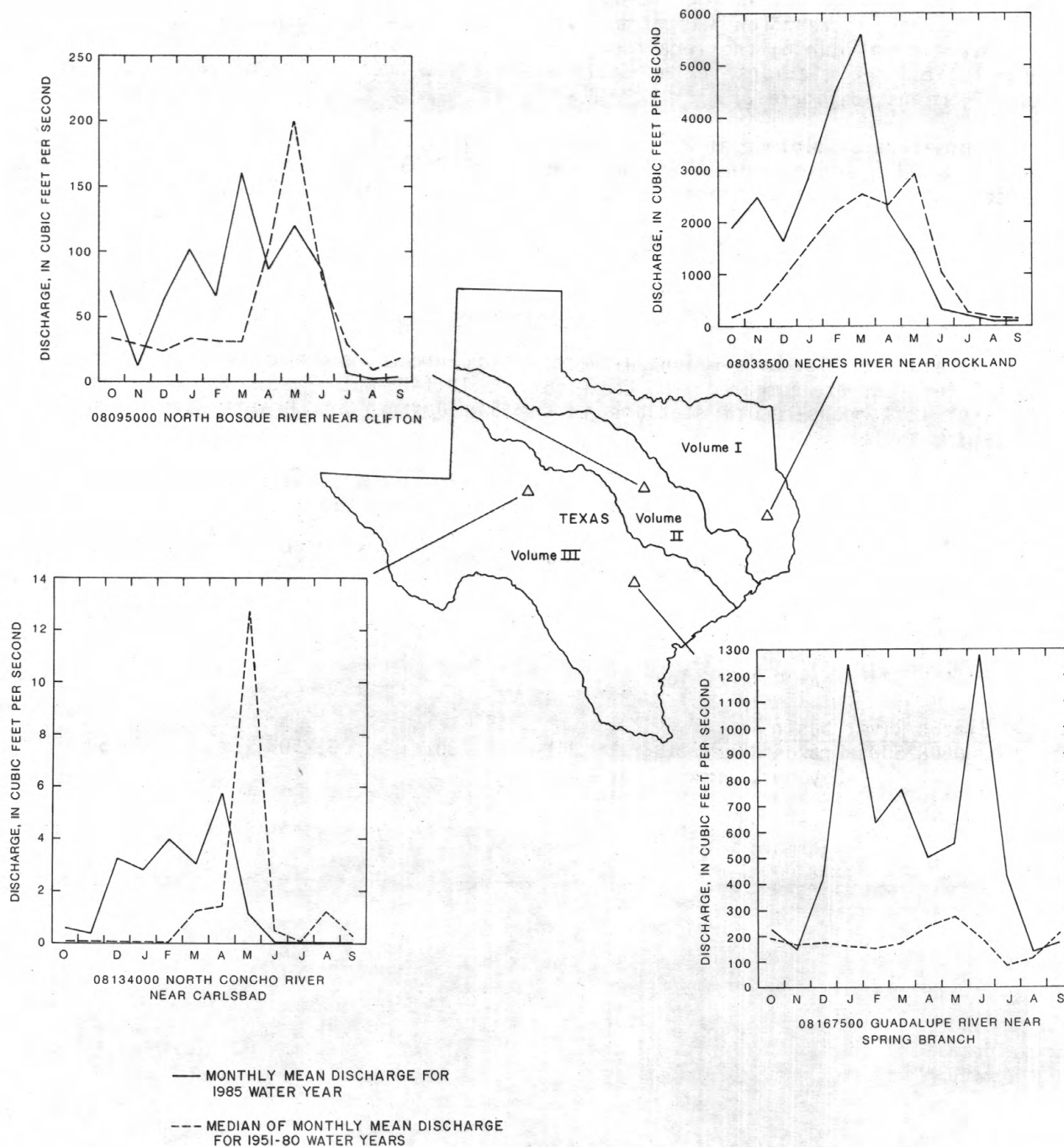


Figure 2.--Comparison of monthly mean discharge at four long-term hydrologic index gaging stations during the 1985 water year with median of the monthly mean discharge for 1951-80 water years.

### SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

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

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

### EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1985 water year that began October 1, 1984, and ended September 30, 1985. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

#### Station Identification Numbers

Each data station in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indef



### Downstream Order Numbering

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 mainstream station are listed before that station. A station on a tributary that enters between two mainstream 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 with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 08057000, which appears just to the left of the station name, includes the two-digit Part number "08" plus the six-digit downstream-order number "057000." The Part number designates the major river basin; for example, Part "08" is the Western Gulf of Mexico basin.

### Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report.

### Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. 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 determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

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

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

#### Data presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for those stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record, if the median differs from the average given by more than 10 percent.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is



given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error. Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the offices whose addresses are given on the back of the title page of this report to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage partial-record 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. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

### Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

### Accuracy of the Records

The accuracy of streamflow records 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 measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft<sup>3</sup>/s; to the nearest tenth between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to 3 significant figures for more than 1,000 ft<sup>3</sup>/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

### Other Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the Texas District. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the offices whose addresses are given on the back of the title page of this report.

### Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

### Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications.

A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin. A careful distinction needs to be made between "continuing records", as used in this report, and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently.

#### Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

#### On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory.

Procedures for on site measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the Texas Office of the Central Regional Office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

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



of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the Virginia Office of the Mid-Atlantic District whose address is given on the back of the title page of this report.

### Water Temperature

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

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the Virginia Office of the Mid-Atlantic District.

### Sediment

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

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

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

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

### Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI,

Book 5, Chap. C1. Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

### Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

## Remark Codes

The following remark codes may appear with the water-quality data in this report:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

## ACCESS TO WATSTORE DATA

The National Water Data STorage and Retrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the District office (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist  
U.S. Geological Survey  
437 National Center  
Reston, Virginia 22092



## DEFINITION OF TERMS

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

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

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

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

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Bacteria are microscopic unicellular organisms, typically spherical, rod-like, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while 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 24 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine 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 that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine 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 plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

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

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

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

Bottom material: See Bed material.

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

Cubic-foot-per-second day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 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 green pigments in plants.

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

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

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

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

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

Cubic feet per second per square mile [ $(\text{ft}^3/\text{s})/\text{mi}^2$ ] 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.

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  $\mu$ m 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.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

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

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

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 point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate  $\cdot +(\text{CaCO}_3)$ .

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

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 eight-digit number.



Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram ( $\mu\text{g/g}$ ) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

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

Milligrams per liter (MG/L,  $\text{mg/L}$ ) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in  $\text{mg/L}$  and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) 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.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Organism is any living entity.

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 meter ( $\text{m}^2$ ), acre, or hectare. 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 milliliter (mL) or liter (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.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

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 a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

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

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter 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 living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth ( $1 \times 10^{-12}$ ) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields  $3.7 \times 10^{10}$  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 per milliliter (cells/mL) of sample.

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

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

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

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

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

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

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

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

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

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

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

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the stream-bed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

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).

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

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft<sup>3</sup>/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

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 mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.



Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance 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 microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). 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 substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

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 multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

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

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

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

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45  $\mu$ m membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are 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 is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45  $\mu$ m 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.

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.....	<u>Hexagenia</u>
Species.....	<u>Hexagenia limbata</u>

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

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

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

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

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

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is 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 are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1985, is called the "1985 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

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.

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



## PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting 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) pertains to 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, 604 South Pickett St., Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for 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 method*, 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. 44 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-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 p.
- 3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3 Chapter A10. 1984. 59 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-A13. *Computations of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13, 1983. 53 p.
- 3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 p.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 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.
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## SAN JACINTO RIVER BASIN

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 upstream from centerline of dam, and 7.4 mi west of Conroe.

DRAINAGE AREA.--445 mi<sup>2</sup>.

## 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 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 made for cooling purposes at the Gulf State Utilities generating plant on Lewis Creek Reservoir near Conroe. During the current year, 2,370 acre-ft was diverted to Lewis Creek Reservoir for that purpose. A spillway with five 40- by 30-foot 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 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, 512,000 acre-ft May 22, 1983 (elevation, 204.66 ft); minimum since normal operating level was reached, 360,400 acre-ft Nov. 22, 1980 (elevation, 197.46 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 446,500 acre-ft Feb. 25 at 0300 hours (elevation, 201.76 ft); minimum, 391,700 acre-ft Sept. 28 (elevation, 199.10 ft).

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

199.0	389,700	201.0	451,600
200.0	409,600	202.0	430,300

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	403700	434100	430900	432200	431100	443100	434500	431500	425500	421400	417700	403500
2	403300	433700	431300	432000	430300	442900	432600	431100	425100	421000	417100	403100
3	402700	432800	430300	431300	429800	439400	431300	430500	424700	423900	416900	401700
4	402500	432200	432600	432000	430900	438200	431300	429600	424100	424100	416200	401100
5	402500	430900	433500	432600	430500	435000	432000	429000	423900	423900	416000	401500
6	402500	430100	434300	432200	430700	433000	431100	429000	423900	423500	415400	400900
7	403500	429600	431300	432400	430500	432200	431800	428800	423700	423000	415000	401100
8	404100	429600	431300	431800	430300	431800	431300	429200	423200	423000	414600	400900
9	403700	429800	431100	431500	430500	431300	430900	429000	422400	422600	413800	400500
10	404700	429800	431100	431800	438800	431300	430900	428600	421600	422400	413100	401700
11	404700	429400	430700	431300	441100	431800	430900	428200	423200	422600	412700	402100
12	405100	429000	430700	432000	442200	431800	431100	428000	423200	422200	411900	401700
13	407600	428600	432000	430100	440300	432000	431500	428200	421800	421600	411300	401300
14	409000	428200	432800	430300	437500	432400	431500	428800	421000	421200	411900	400900
15	409400	428600	434100	429800	434100	431300	431100	428200	420800	421000	411700	400300
16	411300	430500	436000	433700	432400	431800	431100	428200	419700	420600	410900	399100
17	410700	431300	436000	434300	432000	430700	430500	428200	419300	420600	410500	398700
18	410700	434300	436000	435800	431500	429800	430100	427800	424900	422400	410100	397900
19	413600	434500	435000	434500	431300	429800	429800	427200	424700	422000	409400	397500
20	415400	433500	432800	433200	431100	436000	431100	427000	424100	422000	409000	397500
21	428600	432000	432600	431800	431100	433000	431500	428000	424300	421600	408600	396900
22	435800	430900	432000	430900	431100	435600	432000	428400	424300	421400	407600	396300
23	436200	430500	431100	430700	442400	434500	432200	429000	424300	420800	407000	396500
24	437700	430300	432400	430700	446300	432800	431800	428800	424100	420600	407800	395100
25	443500	430900	430900	431100	445200	431500	430900	428200	423900	420000	407600	395100
26	444100	432400	430900	430900	443500	431500	431800	427600	423700	419700	406900	394100
27	442600	433200	430700	436700	440900	441600	431300	427200	424100	419500	405900	392500
28	439400	432800	431100	434500	440900	439900	431100	426800	423700	418900	405300	392100
29	437500	432600	431300	432400	---	438200	430900	426300	422800	418500	404900	395700
30	436200	431800	431800	432000	---	437700	431100	426100	422000	418100	404500	394100
31	433700	---	433500	432000	---	435600	---	425900	---	417900	404100	---
MAX	444100	434500	436000	436700	446300	443100	434500	431500	425500	424100	417700	403500
MIN	402500	428200	430300	429800	429800	429800	429800	419300	417900	417900	404100	392100
(†)	201.16	201.07	201.15	201.08	201.50	201.25	201.04	200.79	200.60	200.40	199.72	199.22
(‡)	+29200	-1900	+1700	-1500	+8900	-5300	-4500	-5200	-3900	-4100	-13800	-10000
CAL YR 1984	MAX	445000	MIN	402500	(†)	+7000						
WTR YR 1985	MAX	446300	MIN	392100	(‡)	-10400						

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



SAN JACINTO RIVER BASIN  
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 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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)	
FEB										
25...	1105	1.00	225	8.2	11.5	1.00	10.1	92	86	
25...	1107	10.0	225	8.2	11.5	--	9.8	89	--	
25...	1109	20.0	225	8.2	11.5	--	9.7	88	--	
25...	1111	30.0	225	8.1	11.0	--	9.7	87	--	
25...	1113	40.0	225	7.9	10.5	--	9.3	83	--	
25...	1115	50.0	225	7.8	9.5	--	9.0	78	--	
25...	1117	57.0	230	7.8	9.5	--	8.5	74	87	
MAY										
28...	1058	1.00	225	7.8	26.0	.97	6.3	78	82	
28...	1100	10.0	225	7.5	25.0	--	5.1	62	--	
28...	1102	20.0	225	7.3	24.5	--	2.8	34	--	
28...	1104	30.0	225	7.1	23.5	--	.4	5	--	
28...	1106	40.0	230	7.1	21.0	--	.0	0	--	
28...	1108	54.0	250	7.2	18.5	--	.0	0	90	
AUG										
26...	1200	1.00	240	8.7	31.5	.52	5.6	76	93	
26...	1202	10.0	240	8.6	30.0	--	5.0	66	--	
26...	1204	20.0	240	7.9	29.5	--	3.1	41	--	
26...	1206	30.0	245	7.3	28.5	--	.0	0	--	
26...	1208	40.0	260	7.1	24.0	--	.0	0	--	
26...	1210	52.0	285	6.9	21.0	--	.0	0	95	
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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB										
25...	12	31	2.2	13	.6	3.2	75	10	21	
25...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
25...	10	31	2.3	13	.6	3.2	77	10	21	
MAY										
28...	8	29	2.3	12	.6	3.2	74	11	20	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	0	32	2.4	12	.6	3.1	90	6.7	19	--
AUG										
26...	11	33	2.5	13	.6	3.3	82	8.1	22	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	0	34	2.4	12	.6	3.4	112	4.3	20	--

## SAN JACINTO RIVER BASIN

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## LAKE CONROE NEAR CONROE, TX--Continued

302127095335501 LAKE CONROE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

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)
FEB									
25...	.10	7.3	130	<.10	.60	--	.010	13	20
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	<.10	.80	--	.010	30	90
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	8.3	140	.10	.70	.80	.020	24	70
MAY									
28...	.10	7.1	130	<.10	.60	--	.030	12	6
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	<.10	.50	--	.020	40	20
28...	--	--	--	<.10	.50	--	.030	90	240
28...	--	--	--	--	--	--	--	--	--
28...	--	12	150	<.10	1.3	--	.350	1900	3600
AUG									
26...	.20	9.2	140	<.10	.70	--	.020	5	5
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	<.10	.90	--	.020	30	120
26...	--	--	--	<.10	.80	--	.030	200	840
26...	--	--	--	--	--	--	--	--	--
26...	--	14	160	<.10	3.4	--	.580	2700	4200

302132095333701 LAKE CONROE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
25...	1134	1.00	225	8.2	12.0	.84	9.8	90
25...	1136	10.0	225	8.2	11.5	--	9.7	88
25...	1138	20.0	225	8.1	11.5	--	9.6	88
25...	1140	30.0	225	8.0	11.0	--	9.4	85
25...	1142	40.0	225	7.9	10.5	--	9.2	82
25...	1144	50.0	230	7.7	9.5	--	9.8	85
MAY								
28...	1126	1.00	225	8.0	26.0	.92	6.4	79
28...	1128	10.0	225	7.5	25.0	--	4.6	56
28...	1130	20.0	225	7.3	24.5	--	2.8	34
28...	1132	30.0	225	7.1	23.5	--	.6	7
28...	1134	40.0	230	7.1	20.5	--	.0	0
28...	1136	50.0	235	7.1	19.5	--	.0	0
AUG								
26...	1232	1.00	240	8.7	31.5	.60	7.3	99
26...	1234	10.0	240	8.6	30.5	--	6.0	80
26...	1236	20.0	240	7.8	29.5	--	3.0	39
26...	1238	30.0	245	7.3	28.5	--	.0	0
26...	1240	46.0	275	7.0	23.0	--	.0	0

SAN JACINTO RIVER BASIN  
LAKE CONROE NEAR CONROE, TX--Continued

302245095365301 LAKE CONROE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
25...	1030	1.00	220	7.9	13.0	.47	8.8	83
25...	1032	10.0	220	7.8	12.0	--	8.5	78
25...	1034	20.0	225	7.5	11.0	--	8.3	75
25...	1036	31.0	225	7.2	10.5	--	7.8	69
MAY								
28...	1036	1.00	230	8.0	26.5	.74	6.0	75
28...	1038	10.0	230	7.7	26.0	--	4.0	50
28...	1040	20.0	230	7.2	25.0	--	1.6	19
28...	1042	30.0	235	7.1	25.0	--	1.1	13
AUG								
26...	1140	1.00	245	8.3	30.5	.58	5.6	75
26...	1142	10.0	245	7.9	30.0	--	4.1	54
26...	1144	20.0	245	7.7	30.0	--	2.6	34
26...	1146	27.0	250	7.2	29.5	--	1.4	18

302323095341201 LAKE CONROE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
25...	1230	1.00	225	8.2	12.0	1.12	9.9	91
25...	1232	10.0	225	8.2	11.0	--	10.0	90
25...	1234	20.0	225	8.1	11.0	--	10.0	90
25...	1236	30.0	225	8.1	10.5	--	10.0	89
25...	1238	40.0	225	8.0	10.5	--	10.0	89
25...	1240	51.0	225	8.0	10.5	--	10.3	92
MAY								
28...	1220	1.00	225	8.0	26.0	.75	6.4	79
28...	1222	10.0	225	7.9	26.0	--	6.1	76
28...	1224	20.0	225	7.5	25.5	--	4.5	55
28...	1226	30.0	225	7.2	24.0	--	3.0	36
28...	1228	40.0	230	7.1	22.5	--	.3	3
28...	1230	56.0	235	7.2	20.5	--	.0	0
AUG								
26...	1330	1.00	245	8.6	31.0	.70	6.2	83
26...	1332	10.0	245	8.4	29.5	--	5.1	67
26...	1334	20.0	245	8.1	29.5	--	3.1	41
26...	1336	30.0	245	7.5	28.5	--	1.5	19
26...	1338	40.0	275	7.0	24.0	--	.0	0
26...	1340	50.0	285	7.0	23.0	--	.0	0



## SAN JACINTO RIVER BASIN

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## LAKE CONROE NEAR CONROE, TX--Continued

302320095334001 LAKE CONROE SITE CL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
25...	1215	1.00	225	8.2	12.0	1.02	10.0	92
25...	1217	10.0	225	8.1	11.0	--	10.1	91
25...	1219	20.0	225	8.1	11.0	--	10.1	91
25...	1221	30.0	225	8.1	11.0	--	10.4	94
25...	1223	44.0	225	8.1	11.0	--	10.4	94
MAY								
28...	1200	1.00	225	7.9	26.0	.89	6.4	79
28...	1202	10.0	225	7.9	26.0	--	6.1	76
28...	1204	20.0	225	7.7	25.5	--	5.1	63
28...	1206	30.0	225	7.1	24.0	--	1.1	13
28...	1208	43.0	230	7.1	21.5	--	.0	0
AUG								
26...	1316	1.00	245	8.7	31.0	.61	7.3	98
26...	1318	10.0	245	8.5	29.5	--	6.3	82
26...	1320	20.0	245	8.3	29.5	--	5.3	69
26...	1322	30.0	250	7.9	29.0	--	2.8	36
26...	1324	43.0	275	7.0	24.0	--	.0	0

302448095374101 LAKE CONROE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
25...	1254	1.00	215	8.2	14.5	.58	9.6	94
25...	1256	10.0	220	8.1	12.0	--	9.8	90
25...	1258	20.0	220	8.1	11.5	--	9.9	90
25...	1300	28.0	220	8.0	11.5	--	9.9	90
MAY								
28...	1248	1.00	225	8.2	27.5	.73	7.2	92
28...	1250	10.0	225	8.1	26.5	--	6.7	84
28...	1252	20.0	225	7.8	26.0	--	6.0	74
28...	1254	26.0	225	7.2	25.5	--	1.1	14
AUG								
26...	1400	1.00	245	8.7	32.0	.56	6.9	94
26...	1402	10.0	245	8.2	30.0	--	5.2	69
26...	1404	20.0	250	7.7	30.0	--	3.3	44
26...	1406	27.0	250	7.3	29.5	--	2.5	33

SAN JACINTO RIVER BASIN  
LAKE CONROE NEAR CONROE, TX--Continued

302607095360901 LAKE CONROE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
25...	1315	1.00	210	8.2	14.5	.56	9.6	94
25...	1317	10.0	215	8.1	12.5	--	9.4	88
25...	1319	20.0	215	8.0	12.0	--	9.3	86
25...	1321	30.0	225	7.9	10.5	--	9.4	84
25...	1323	41.0	225	7.9	10.5	--	10.1	90
MAY								
28...	1308	1.00	225	8.2	27.0	.64	7.0	88
28...	1310	10.0	225	8.1	26.5	--	6.5	81
28...	1312	20.0	225	8.0	26.5	--	6.1	76
28...	1314	30.0	225	7.6	26.0	--	4.5	56
28...	1316	41.0	235	7.2	23.0	--	.0	0
AUG								
26...	1420	1.00	240	8.7	31.5	.51	6.7	91
26...	1422	10.0	245	8.2	29.5	--	4.7	61
26...	1424	20.0	245	7.8	29.0	--	2.5	32
26...	1426	30.0	260	7.2	27.5	--	.0	0
26...	1428	40.0	285	7.0	26.0	--	.0	0

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
FEB									
25...	79	12	28	2.1	13	.7	3.1	67	13
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	84	13	30	2.3	13	.6	3.2	72	11
MAY									
28...	82	10	29	2.3	12	.6	3.2	72	11
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	87	3	31	2.4	12	.6	3.1	84	9.4
AUG									
26...	90	8	32	2.4	13	.6	3.3	82	8.3
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	92	0	33	2.4	12	.6	3.4	108	5.7

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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB								
25...	20	7.5	130	<.10	.70	.020	56	2
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	20	7.7	130	<.10	.80	.030	29	20
MAY								
28...	20	7.2	130	<.10	.60	.030	5	7
28...	--	--	--	--	--	--	--	--
28...	--	--	--	<.10	.40	.020	20	90
28...	--	--	--	--	--	--	--	--
28...	20	9.1	140	<.10	.80	.080	180	2600
AUG								
26...	23	9.5	140	<.10	.90	.030	6	10
26...	--	--	--	--	--	--	--	--
26...	--	--	--	<.10	.80	.030	40	200
26...	--	--	--	--	--	--	--	--
26...	20	12	160	<.10	2.5	.310	1200	3900

SAN JACINTO RIVER BASIN  
LAKE CONROE NEAR CONROE, TX--Continued

302714095372201 LAKE CONROE SITE FC  
WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
25...	1340	1.00	195	7.9	15.0	.26	8.5	84
25...	1342	10.0	215	7.9	13.0	--	8.9	84
25...	1344	24.0	225	8.0	12.0	--	9.4	87
MAY								
28...	1330	1.00	225	8.2	27.0	.91	6.9	87
28...	1332	10.0	225	8.0	27.0	--	6.0	76
28...	1334	23.0	235	7.2	25.5	--	.9	11
AUG								
26...	1448	1.00	240	8.6	31.5	.51	7.5	102
26...	1450	10.0	245	7.6	30.0	--	3.1	41
26...	1452	23.0	250	7.5	30.0	--	3.0	40

303129095360501 LAKE CONROE SITE GC  
WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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)
FEB									
25...	1410	1.00	125	7.2	16.0	.10	6.6	67	45
25...	1412	10.0	125	7.2	15.5	--	6.4	64	--
25...	1414	20.0	125	7.3	14.5	--	6.5	63	--
25...	1416	32.0	125	7.6	14.5	--	7.3	71	48
MAY									
28...	1400	1.00	235	7.9	27.5	.50	6.6	84	82
28...	1402	10.0	235	7.5	27.0	--	5.2	66	--
28...	1404	20.0	235	7.5	27.0	--	5.2	66	--
28...	1406	31.0	235	7.5	27.0	--	5.2	66	83
AUG									
26...	1514	1.00	250	8.7	31.5	.38	7.9	107	91
26...	1516	10.0	250	7.7	30.0	--	3.6	48	--
26...	1518	20.0	255	7.6	30.0	--	3.6	48	--
26...	1520	29.0	255	7.6	30.0	--	3.6	48	91

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB									
25...	11	16	1.3	7.4	.5	2.9	34	17	13
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	9	17	1.3	7.0	.5	2.8	39	16	13
MAY									
28...	10	29	2.4	14	.7	3.3	72	11	24
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	12	29	2.5	15	.8	3.4	71	12	24
AUG									
26...	9	32	2.6	14	.7	3.5	82	8.6	24
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	9	32	2.6	14	.7	3.5	82	8.8	24



SAN JACINTO RIVER BASIN  
LAKE CONROE NEAR CONROE, TX--Continued

303129095360501 LAKE CONROE SITE GC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)
FEB								
25...	8.5	87	.20	1.8	2.0	.120	150	21
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	8.6	89	.20	1.4	1.6	.140	150	30
MAY								
28...	8.5	140	<.10	.90	--	.070	5	3
28...	--	--	<.10	.80	--	.090	30	10
28...	--	--	--	--	--	--	--	--
28...	9.3	140	<.10	1.3	--	.170	8	99
AUG								
26...	10	140	<.10	1.2	--	.050	8	2
26...	--	--	<.10	.90	--	.050	20	20
26...	--	--	--	--	--	--	--	--
26...	11	150	<.10	2.2	--	.080	13	59

## SAN JACINTO RIVER BASIN

37

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 downstream from centerline of dam on West Fork San Jacinto River, 770 ft downstream from service outlet tower, 3.0 mi upstream from State Highway 105, and 7.4 mi west of Conroe.

DRAINAGE AREA.--445 mi<sup>2</sup>.

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

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

REMARKS.--No estimated daily discharges. 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.--12 years, 12.4 ft<sup>3</sup>/s (8,980 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 339 ft<sup>3</sup>/s Feb. 19-25, 1974; no controlled releases for many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 152 ft<sup>3</sup>/s Sept. 28; maximum gage height, 9.64 ft Feb. 24 at 2100 hours to Feb. 25 at 0930 hours (result of backwater from taintor gate releases); no controlled releases for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	75
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	75
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	36	75
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	75
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	78	75
10	.00	.00	.00	.00	.00	.00	.00	.00	49	.00	78	75
11	.00	.00	.00	.00	.00	.00	.00	.00	81	.00	78	75
12	.00	.00	.00	.00	.00	.00	.00	.00	84	.00	76	76
13	.00	.00	.00	.00	.00	.00	.00	.00	84	.00	76	76
14	.00	.00	.00	.00	.00	.00	.00	.00	84	.00	76	76
15	.00	.00	.00	.00	.00	.00	.00	.00	84	.00	76	76
16	.00	.00	.00	.00	.00	.00	.00	.00	84	.00	76	76
17	.00	.00	.00	.00	.00	.00	.00	.00	84	.00	76	76
18	.00	.00	.00	.00	.00	.00	.00	.00	77	.00	76	76
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	75	76
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	76
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	76
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	76
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	76
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	99
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	148
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	147
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	151
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76	152
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	75	151
30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	75	53
31	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	75	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	711.00	.00	1862.00	2642
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	23.7	.000	60.1	88.1
MAX	.00	.00	.00	.00	.00	.00	.00	.00	84	.00	78	152
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	53
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	1410	.00	3690	5240
CAL YR 1984	TOTAL	0.00	MEAN	.000	MAX	.00	MIN	.00	AC-FT	0		
WTR YR 1985	TOTAL	5215.00	MEAN	14.3	MAX	152	MIN	.00	AC-FT	10340		

## SAN JACINTO RIVER MAIN STEM

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 downstream from Lake Conroe Dam, and 5.9 mi west of Conroe.

DRAINAGE AREA.--451 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 27-31, Nov. 12 to Dec. 7, Mar. 1-20, and Apr. 1-13. Records poor. Discharge is outflow from Lake Conroe, but floodflows may include local runoff. Discharge is estimated during periods of backwater.

AVERAGE DISCHARGE.--13 years (water years 1973-85), 242 ft<sup>3</sup>/s (175,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,780 ft<sup>3</sup>/s May 22, 1983 (gage height, 35.50 ft); no flow for many days.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,810 ft<sup>3</sup>/s Feb. 25 at 0900 hours (gage height, 29.03 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	971	412	1390	309	2040	600	1.5	.00	.00	.00	76
2	.00	713	197	1040	29	1970	600	1.5	.00	.00	.00	76
3	.00	735	103	353	6.5	1970	300	1.2	.00	.60	.00	76
4	.00	689	291	17	38	1940	1.6	.30	.00	.60	.00	75
5	.00	472	641	92	147	1540	2.5	.00	.00	.32	.00	75
6	.00	179	659	187	12	978	2.0	.00	.00	.32	.00	76
7	.00	8.2	583	189	1.3	539	2.0	.00	.00	.32	13	75
8	.00	.00	203	187	1.3	439	2.0	.00	.00	.00	73	75
9	.00	.00	191	186	.92	223	1.6	.00	.00	.00	77	75
10	.00	2.1	190	195	53	9.4	1.3	.00	20	.00	78	75
11	.00	2.0	168	196	980	1.3	1.3	.00	81	.00	78	78
12	.00	1.3	13	201	1680	1.6	1.6	.00	84	.00	77	77
13	.00	1.3	1.6	100	1710	1.6	20	.00	84	.00	77	76
14	.00	1.3	102	7.1	1720	273	2.0	.00	84	.00	77	76
15	.00	1.3	329	1.3	1630	519	2.0	.00	84	.00	77	76
16	.00	2.0	541	71	1000	318	1.6	.00	84	.00	76	76
17	.00	2.5	773	538	473	193	1.6	.00	84	.00	76	76
18	.00	291	895	1120	337	15	1.6	.00	84	.00	75	76
19	.00	604	892	1370	233	.60	1.3	.00	29	.00	75	76
20	.00	606	886	745	160	254	1.3	.00	.92	.00	76	76
21	41	606	645	571	9.9	774	102	1.5	.60	.00	78	76
22	1040	544	433	415	1.3	707	8.8	1.2	.60	.00	76	76
23	1650	144	313	119	709	774	93	.90	.32	.00	76	76
24	1520	4.0	208	7.5	2110	798	262	.90	.32	.00	77	107
25	1750	2.0	116	1.3	2620	521	139	.90	.00	.00	79	148
26	1840	1.6	5.3	1.3	1690	32	80	.60	.00	.00	76	148
27	2230	252	1.6	385	2060	584	155	.60	.00	.00	76	151
28	2240	554	1.6	1250	2070	1160	168	.60	.00	.00	76	152
29	2240	636	1.6	1210	---	1230	25	.32	.00	.00	76	155
30	2240	647	2.0	650	---	1200	1.5	.00	.00	.00	76	96
31	1850	---	515	552	---	900	---	.00	---	.00	76	---
TOTAL	18641.00	8672.60	10312.7	13347.5	21791.22	21905.50	2581.6	12.02	720.76	2.16	1847.00	2702
MEAN	601	289	333	431	778	707	86.1	.39	24.0	.070	59.6	90.1
MAX	2240	971	895	1390	2620	2040	600	1.5	84	.60	79	155
MIN	.00	.00	1.6	1.3	.92	.60	1.3	.00	.00	.00	.00	75
AC-FT	36970	17200	20460	26470	43220	43450	5120	24	1430	4.3	3660	5360
CAL YR 1984	TOTAL	81522.36	MEAN	223	MAX	2240	MIN	.00	AC-FT	161700		
WTR YR 1985	TOTAL	102536.06	MEAN	281	MAX	2620	MIN	.00	AC-FT	203400		



## SAN JACINTO RIVER BASIN

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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 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)
NOV 27...	1035	188	335	7.3	16.0	40	38	9.8	99	3.5	130
FEB 28...	1025	2060	220	7.4	13.0	35	6.6	10.8	101	1.5	87
MAR 20...	1130	329	208	7.2	15.5	50	32	10.2	103	2.2	69
JUN 18...	1125	84	232	7.4	27.5	10	3.2	7.9	100	1.8	87

DATE	TIME	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	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 FIELD (MG/L AS CAC03)	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)
NOV 27...	21	47	3.3	18	.7	3.0	110	11	32	.20	12	
FEB 28...	12	31	2.3	12	.6	2.9	75	11	19	.10	7.2	
MAR 20...	12	24	2.3	12	.7	3.1	58	11	20	.10	7.2	
JUN 18...	10	31	2.4	13	.6	3.4	77	11	21	.10	7.7	

DATE	TIME	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, SUS- PENDED (MG/L)	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)
NOV 27...	190	68	11	<.010	.20	<.010	--	.80	.080	6.6	
FEB 28...	130	17	8	<.010	<.10	.040	.56	.60	.010	6.7	
MAR 20...	110	44	4	<.010	<.10	.090	1.0	1.1	.070	10	
JUN 18...	140	8	1	<.010	<.10	.020	.48	.50	.050	7.9	

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 27...	1035	<1	140	<1	<10	1	44
FEB 28...	1025	<1	100	<1	<10	<1	16

DATE	TIME	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 27...	6	82	<.1	<1	1	8	
FEB 28...	<1	<1	<.1	<1	<1	<3	

## SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	DI- ELDRIN TOTAL (UG/L)
NOV 27...	1035	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01

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)	METHYL TRI- THION, TOTAL (UG/L)
NOV 27...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PER- THANE TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 27...	<.01	<.01	<.1	<.1	<.01	<.01	<.01	<.01	.01

## SAN JACINTO RIVER BASIN

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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 southwest of Conroe.

DRAINAGE AREA.--291 mi<sup>2</sup>.

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

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 11...	1755	8.4	178	--	40	14	13	1.9	16
DEC 13...	1511	27	300	18.0	97	31	34	3.0	21
FEB 07...	1525	72	394	7.0	130	41	44	3.8	28
MAR 25...	1557	152	243	20.0	85	21	30	2.5	16
MAY 24...	1430	12	372	25.0	110	31	38	3.8	30
JUL 09...	0915	8.6	311	26.0	100	18	36	3.0	21
AUG 15...	1030	2.7	223	26.5	53	14	17	2.5	21

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 11...	1	1.8	26	8.4	32	<.10	16	100
DEC 13...	1	3.1	66	10	43	.10	18	170
FEB 07...	1	2.8	85	13	61	.10	17	220
MAR 25...	.8	3.0	64	17	29	<.10	13	150
MAY 24...	1	2.6	80	9.0	64	.10	19	210
JUL 09...	.9	3.8	84	12	39	.20	16	180
AUG 15...	1	2.2	39	5.0	43	<.10	21	140



## SAN JACINTO RIVER MAIN STEM

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 upstream from Missouri Pacific Railroad Co. bridge, 3.5 mi downstream from Lake Creek, 4.2 mi south of Conroe, and at mile 79.

DRAINAGE AREA.--828 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929. May 7, 1924, to Sept. 30, 1927, nonrecording gage at railroad bridge 285 ft downstream at datum 30.10 ft higher. July 13, 1939, to Sept. 30, 1963, water-stage recorder at datum 5.0 ft higher.

REMARKS.--Records good except those for estimated daily discharges, Oct. 30 to Nov. 1, Nov. 4, 8, 9, and Sept. 15-23, which are fair. Flow has been regulated since Jan. 9, 1973, by Lake Conroe (station 08067600), capacity 532,000 acre-ft, 14.5 mi upstream. No other large diversions above station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--36 years (water years 1925-27, 1940-72) prior to regulation by Lake Conroe, 477 ft<sup>3</sup>/s (345,600 acre-ft/yr); 13 years (water years 1973-85) regulated, 567 ft<sup>3</sup>/s (410,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110,000 ft<sup>3</sup>/s Nov. 25, 1940 (gage height, 30.85 ft), present datum, from rating curve extended above 43,000 ft<sup>3</sup>/s on basis of velocity-area studies; no flow June 14, 1956, and 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, present site and datum, from information by Missouri Pacific Railroad Co., discharge 101,000 ft<sup>3</sup>/s, from rating curve as explained above.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,170 ft<sup>3</sup>/s Oct. 25 at 2100 hours (gage height, 19.42 ft); minimum daily, 19 ft<sup>3</sup>/s Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	1660	912	1520	652	3480	847	70	28	40	25	91
2	20	1420	460	1540	357	3420	776	64	27	37	27	90
3	20	1420	349	1130	200	3670	716	60	26	42	31	89
4	19	1280	1120	758	167	3670	367	53	26	105	29	88
5	20	1120	1790	625	342	2480	161	49	24	57	26	88
6	22	766	1360	745	213	1480	126	45	24	60	25	89
7	21	402	957	582	151	884	106	43	24	59	24	91
8	30	237	678	435	136	693	94	41	23	41	52	96
9	44	189	615	372	126	569	84	45	23	37	87	102
10	83	160	488	355	150	271	76	43	23	34	89	93
11	43	157	393	340	1470	224	72	53	58	36	90	110
12	76	128	245	339	2730	201	70	41	102	36	91	112
13	57	115	160	299	3980	190	68	39	95	32	92	97
14	201	108	205	146	3860	313	147	38	90	30	93	93
15	132	105	525	121	2430	921	195	41	90	29	93	90
16	79	176	911	128	1540	585	333	38	89	28	94	90
17	75	168	1470	708	808	436	191	39	88	28	93	87
18	86	325	1530	1480	625	279	104	37	110	34	92	87
19	191	880	1420	2540	441	175	79	33	456	37	91	85
20	302	1170	1340	2270	405	716	70	33	244	33	90	85
21	964	1030	1040	1310	207	1690	149	47	270	37	102	87
22	1380	843	643	688	157	1810	178	48	279	28	94	86
23	2850	487	551	454	948	1940	166	55	135	26	95	85
24	5330	204	384	183	3370	1470	414	41	94	25	94	87
25	5560	156	336	143	4490	961	378	36	103	24	111	150
26	5020	144	148	126	5400	368	203	35	101	24	97	157
27	4890	241	115	528	3760	522	315	34	99	25	95	156
28	4090	677	106	2040	2830	1810	292	33	68	24	93	150
29	2990	904	101	2530	---	2930	201	31	53	23	92	171
30	2400	1060	96	2120	---	2620	85	30	44	26	91	219
31	2220	---	223	1180	---	1560	---	28	---	25	91	---
TOTAL	39235	17732	20671	27735	41945	42338	7063	1323	2916	1122	2389	3201
MEAN	1266	591	667	895	1498	1366	235	42.7	97.2	36.2	77.1	107
MAX	5560	1660	1790	2540	5400	3670	847	70	456	105	111	219
MIN	19	105	96	121	126	175	68	28	23	23	24	85
AC-FT	77820	35170	41000	55010	83200	83980	14010	2620	5780	2230	4740	6350

CAL YR 1984 TOTAL 162230 MEAN 443 MAX 5560 MIN 18 AC-FT 321800  
WTR YR 1985 TOTAL 207670 MEAN 569 MAX 5560 MIN 19 AC-FT 411900

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. Pesticide analyses: October 1975 to September 1982. 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.

INSTRUMENTATION.--Beginning October 1980 specific conductance and temperature are recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. 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, 848 microsiemens June 29, 1985; minimum daily, 52 microsiemens May 12, 1972.

WATER TEMPERATURES: Maximum daily, 37.0°C June 26, 1984; minimum daily, 0.0°C Dec. 22, 1963, Jan. 31, 1968.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 848 microsiemens June 29; minimum daily, 95 microsiemens Dec. 4. Feb. 23.

WATER TEMPERATURES: Maximum daily, 33.5°C July 27.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 24..	1540	5770	145	7.1	19.0	70	38	7.3	79	2.4	2100
NOV 27..	1345	195	223	6.7	15.5	70	43	9.0	90	2.8	K2
JAN 15...	1245	121	329	6.6	9.0	50	17	11.8	101	1.3	K1
FEB 11...	1525	1610	196	7.2	10.5	100	57	10.2	90	3.3	3900
MAR 20...	1415	893	175	6.6	17.0	100	110	9.2	96	3.7	--
MAY 22...	1350	47	304	7.6	25.0	35	16	7.0	85	5.2	900
JUN 20...	1300	207	159	6.3	22.0	100	71	7.2	82	3.6	3900
JUL 30...	1125	26	355	7.3	27.5	25	8.0	8.0	101	4.0	230
AUG 26...	1015	98	254	7.3	27.0	25	14	6.5	81	3.8	600
SEP 18...	0950	8.9	241	7.6	25.5	20	13	7.7	93	2.2	--

DATE	STREP- TOCOC- CI 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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 24...	1200	52	6	18	1.7	7.0	.4	3.4	46	13	11
NOV 27...	230	68	15	23	2.5	17	.9	2.9	53	10	29
JAN 15...	K3	100	23	36	3.2	27	1	2.6	80	11	48
FEB 11...	4500	63	15	22	2.0	14	.8	2.4	48	16	25
MAR 20...	--	54	13	18	2.2	14	.9	2.4	41	12	23
MAY 22...	170	87	16	29	3.4	29	1	3.1	71	12	46
JUN 20...	850	40	10	13	1.8	14	1	2.5	30	10	22
JUL 30...	250	69	0	22	3.3	39	2	3.9	75	13	48
AUG 26...	150	83	3	29	2.6	18	.9	3.5	80	8.7	26
SEP 18...	--	82	7	28	3.0	16	.8	3.1	75	7.6	27

## SAN JACINTO RIVER MAIN STEM

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

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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 CONSTITUENTS, 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, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT 24...	.10	9.9	--	92	69	13	--	<.010	<.10	--	.040
NOV 27...	.10	15	143	130	36	14	.18	.020	.20	.17	.250
JAN 15...	.10	19	212	200	25	12	--	<.010	.10	.13	.420
FEB 11...	<.10	8.5	--	120	120	20	.16	.040	.20	--	.140
MAR 20...	<.10	9.8	--	110	196	18	--	.020	<.10	--	.080
MAY 22...	.10	19	183	190	16	12	.29	.110	.40	.39	.650
JUN 20...	<.10	10	--	91	113	17	.17	.030	.20	--	.230
JUL 30...	.20	24	199	200	13	11	.30	.200	.50	.55	1.30
AUG 26...	.20	12	--	150	28	3	.15	.050	.20	--	.370
SEP 18...	.10	12	--	140	25	7	.17	.030	.20	--	.140

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (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)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (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 24...	--	.86	.90	.180	--	--	8.8	--	--	--
NOV 27...	.230	.65	.90	.150	.060	.050	9.0	60	32	94
JAN 15...	.420	.48	.90	.120	.060	.040	6.9	13	4.2	92
FEB 11...	--	1.1	1.2	.140	--	--	12	--	--	--
MAR 20...	--	1.1	1.2	.140	--	--	14	--	--	--
MAY 22...	.720	.75	1.4	.420	.300	.280	4.8	17	2.2	96
JUN 20...	--	.87	1.1	.200	--	--	13	--	--	--
JUL 30...	1.40	.80	2.1	.530	.380	.330	4.3	4	.28	96
AUG 26...	--	.73	1.1	.410	--	--	6.5	--	--	--
SEP 18...	--	.56	.70	.090	--	--	5.4	--	--	--

DATE	TIME	ARSENIC, DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 27...	1345	<1	94	<.5	<1	4	<3	1	130	6
JAN 15...	1245	<1	110	<.5	<1	2	<3	2	100	3
MAY 22...	1350	<1	100	<.5	<1	<1	<3	1	30	11
JUL 30...	1125	2	73	<.5	1	<1	<3	1	25	<1

DATE	LITHIUM, DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY, DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 27...	4	70	<.1	<10	3	<1	<1	96	<6	10
JAN 15...	8	86	<.1	<10	<1	<1	<1	130	<6	9
MAY 22...	7	85	<.1	<10	2	<1	<1	160	<6	11
JUL 30...	11	14	<.1	<10	<1	<1	<1	200	<6	13

## SAN JACINTO RIVER MAIN STEM

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

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	39235	150	84	8950	16	1700	5.8	617	48
NOV.	1984	17732	204	114	5460	24	1170	7.2	346	61
DEC.	1984	20671	246	137	7620	32	1780	8.0	449	71
JAN.	1985	27735	207	115	8640	25	1860	7.3	545	62
FEB.	1985	41945	189	106	12000	22	2470	6.9	782	58
MAR.	1985	42338	208	116	13300	25	2840	7.3	839	63
APR.	1985	7063	260	144	2740	34	653	8.3	159	74
MAY	1985	1323	312	171	611	45	161	8.9	32	84
JUNE	1985	2916	303	164	1290	48	379	7.4	58	76
JULY	1985	1122	511	270	817	98	297	7.9	24	110
AUG.	1985	2389	244	136	874	31	201	8.1	52	71
SEPT	1985	3201	260	144	1240	34	293	8.4	72	74
TOTAL		207670	**	**	63500	**	13800	**	3980	**
WTD.AVG.		569	203	113	**	25	**	7.1	**	61

## SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	311	304	307	---	---	178	279	269	273	---	---	205
2	319	296	311	---	---	182	279	232	250	---	---	170
3	321	302	316	---	---	183	279	237	265	---	---	200
4	304	288	299	---	---	187	399	95	182	---	---	221
5	309	280	297	---	---	185	165	134	149	---	---	243
6	304	275	295	---	---	186	206	168	192	259	249	253
7	318	294	311	---	---	188	233	208	221	277	258	269
8	313	220	287	---	---	189	294	234	268	278	267	270
9	258	191	225	190	189	190	297	244	272	277	273	275
10	215	140	171	198	190	192	243	236	240	280	274	278
11	257	216	242	213	199	207	257	243	250	---	---	280
12	253	162	197	226	213	220	263	252	257	284	279	281
13	273	168	244	237	227	231	298	278	286	316	283	296
14	258	136	166	257	233	246	333	254	286	347	319	331
15	234	165	204	262	252	258	373	249	297	356	317	323
16	273	235	248	254	249	252	---	---	285	326	271	305
17	---	---	260	255	250	252	269	253	260	259	215	231
18	---	---	251	---	---	233	269	253	265	---	---	217
19	---	---	235	---	---	218	257	244	248	---	---	192
20	---	---	205	---	---	174	259	246	252	---	---	194
21	---	---	195	---	---	179	263	251	258	---	---	206
22	---	---	170	---	---	187	277	260	266	---	---	220
23	---	---	152	---	---	201	279	272	277	---	---	233
24	---	---	140	---	---	236	287	270	275	---	---	242
25	---	---	125	---	---	252	366	287	336	---	---	251
26	---	---	129	---	---	269	379	342	353	---	---	264
27	---	---	137	---	---	223	359	349	356	---	---	241
28	---	---	150	---	---	254	359	352	355	---	---	196
29	---	---	163	281	274	279	369	356	360	---	---	159
30	---	---	175	287	243	271	379	252	343	---	---	165
31	---	---	180	---	---	---	277	255	261	---	---	181
MONTH	321	136	219	287	189	217	399	95	272	356	215	238



## SAN JACINTO RIVER MAIN STEM

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

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	197	192	185	190	226	215	221	302	273	292
2	---	---	218	206	192	202	238	226	231	308	272	291
3	---	---	236	203	190	197	244	239	242	299	250	274
4	---	---	250	195	189	191	295	240	266	288	259	270
5	---	---	229	213	196	205	308	296	303	276	261	270
6	---	---	233	222	213	217	310	304	306	283	263	272
7	---	---	245	230	222	226	315	301	310	277	266	274
8	---	---	257	255	230	235	315	312	313	275	228	263
9	---	---	270	259	245	255	328	298	313	266	223	251
10	---	---	260	287	257	274	325	312	319	275	247	263
11	---	---	223	298	284	291	314	290	308	247	177	212
12	221	191	203	313	299	305	313	292	307	327	262	292
13	190	176	180	321	308	315	315	296	310	405	341	367
14	183	175	177	347	236	309	300	219	269	473	353	402
15	206	184	197	248	238	241	363	229	293	460	353	413
16	213	206	210	262	247	252	456	286	342	413	285	352
17	221	213	217	269	256	263	284	266	276	301	268	285
18	229	220	224	300	269	281	282	268	275	338	293	312
19	236	229	232	328	303	319	283	270	279	426	335	372
20	244	234	238	329	143	216	284	266	278	449	399	430
21	282	247	269	215	167	194	273	217	243	472	368	430
22	295	283	290	218	197	207	244	212	228	358	222	312
23	297	95	216	221	208	217	265	243	256	342	237	296
24	194	150	171	208	203	206	303	252	283	320	259	293
25	194	171	184	217	209	213	276	249	258	337	317	327
26	170	157	161	240	216	229	292	240	269	329	315	324
27	185	160	174	247	226	240	250	229	236	349	319	333
28	193	185	189	241	178	203	232	222	229	358	309	343
29	---	---	---	181	170	174	256	220	233	358	334	344
30	---	---	---	203	182	194	298	258	284	361	342	354
31	---	---	---	215	204	211	---	---	---	362	338	353
MONTH	297	95	220	347	143	235	456	212	276	473	177	318

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	374	356	362	810	780	792	298	279	289	269	267	268
2	359	354	356	799	752	780	287	217	275	271	268	269
3	364	335	356	753	695	714	272	244	265	273	264	269
4	362	330	349	688	467	574	274	261	267	273	266	270
5	353	323	344	471	448	464	289	274	281	273	269	271
6	356	329	346	447	439	443	298	277	291	277	269	273
7	341	326	333	437	417	424	291	279	286	278	271	276
8	348	329	337	460	425	438	358	234	290	270	255	262
9	346	329	339	521	462	495	280	223	232	266	238	254
10	341	329	337	545	522	537	232	226	228	268	258	265
11	433	246	319	545	532	539	230	222	225	264	216	254
12	245	218	234	532	524	528	225	217	222	261	202	237
13	245	234	242	524	515	520	226	223	224	274	245	263
14	241	217	231	515	487	500	228	221	224	275	270	272
15	258	242	249	486	458	471	228	205	219	274	261	269
16	259	247	255	458	441	449	226	204	220	276	268	272
17	260	248	252	459	440	450	230	219	227	277	260	271
18	252	198	236	491	457	470	230	227	229	275	247	258
19	193	151	164	510	492	505	230	221	228	255	247	252
20	216	169	193	524	508	514	236	229	232	264	249	257
21	344	205	267	541	507	532	230	197	219	266	261	263
22	277	246	257	514	392	477	274	218	245	266	260	264
23	323	277	299	453	387	421	290	265	276	266	248	260
24	308	299	304	452	425	435	279	256	263	268	246	258
25	343	302	326	564	440	506	255	235	245	265	247	258
26	680	359	481	566	541	560	259	247	254	261	243	254
27	733	673	701	538	471	499	270	256	262	262	256	259
28	782	734	761	468	423	450	263	252	258	263	258	261
29	848	779	811	419	363	390	265	255	260	262	229	254
30	837	805	816	358	304	340	268	244	260	248	211	231
31	---	---	---	315	293	304	270	267	268	---	---	---
MONTH	848	151	362	810	293	501	358	197	250	278	202	261

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

## TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	22.0	16.5	19.0	---	---	---	17.5	13.5	15.0	---	---	---
2	22.0	16.5	19.0	---	---	---	22.0	14.5	16.5	---	---	---
3	24.0	18.5	20.5	---	---	---	20.0	18.0	19.0	---	---	---
4	24.0	20.0	22.0	---	---	---	19.0	12.0	14.5	---	---	---
5	26.0	22.0	23.5	---	---	---	14.5	13.0	14.0	14.0	12.0	13.0
6	27.5	24.0	25.5	---	---	---	17.0	13.5	15.0	14.0	12.0	13.0
7	26.5	24.0	25.0	---	---	---	16.0	14.0	15.0	14.0	12.5	13.5
8	26.0	24.0	25.0	---	---	---	15.5	13.5	14.0	15.5	13.0	14.5
9	24.0	23.0	23.5	---	---	19.0	17.5	15.0	16.0	16.0	14.0	15.0
10	25.0	22.0	23.5	19.0	19.0	19.0	19.0	15.0	17.0	14.0	13.0	13.5
11	25.0	23.0	24.0	21.0	18.5	20.0	18.5	17.0	18.0	---	---	---
12	25.5	23.0	24.5	21.5	20.0	21.0	19.0	17.0	18.0	12.5	11.0	11.5
13	25.0	23.0	24.0	21.5	17.5	20.0	---	---	19.5	11.0	10.5	11.0
14	23.5	22.0	22.5	18.0	15.5	17.0	22.5	19.0	20.5	11.5	10.0	11.0
15	25.5	22.5	24.0	17.0	15.0	16.0	19.0	18.0	18.5	14.0	9.5	13.0
16	25.5	24.5	24.5	16.5	14.5	15.5	---	---	---	14.5	13.0	13.5
17	---	---	---	18.0	15.5	17.0	---	---	---	13.5	12.0	12.5
18	---	---	---	---	---	17.5	---	---	---	14.0	11.5	12.5
19	---	---	---	---	---	---	---	---	---	14.0	12.0	13.5
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	14.5	14.0	14.5	---	---	---	---	---	---
30	---	---	---	14.5	13.5	14.0	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	27.5	16.5	23.0	21.5	13.5	17.5	22.5	12.0	16.5	16.0	9.5	13.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	20.5	17.5	19.0	28.5	24.5	26.0
2	---	---	---	---	---	---	21.0	18.0	19.5	26.5	23.5	25.0
3	---	---	---	---	---	---	21.0	18.0	19.5	26.5	22.5	24.5
4	---	---	---	---	---	---	22.0	18.5	20.5	26.5	21.5	24.5
5	---	---	---	---	---	---	24.0	21.0	22.0	27.0	22.5	25.0
6	---	---	---	---	---	---	23.5	19.0	21.5	27.0	23.0	25.0
7	---	---	---	---	---	---	23.5	21.5	22.5	28.0	22.5	25.5
8	---	---	---	---	---	---	23.0	19.5	21.0	26.5	24.0	25.0
9	---	---	---	---	---	---	22.0	17.5	19.5	27.0	22.0	24.5
10	---	---	---	---	---	---	21.0	17.5	19.0	27.5	24.0	25.5
11	---	---	---	---	---	---	20.0	18.0	19.0	27.5	24.0	26.0
12	15.5	12.5	14.0	---	---	---	22.5	18.5	20.5	28.5	25.0	26.5
13	12.5	11.5	12.0	---	---	---	23.5	19.5	21.5	28.0	26.0	27.0
14	12.0	11.0	11.5	---	---	---	23.5	19.5	21.5	28.0	25.0	26.5
15	12.5	11.0	11.5	---	---	---	24.0	19.5	21.5	26.5	23.5	25.0
16	12.5	10.5	11.5	---	---	---	24.0	20.0	22.0	28.5	23.0	25.5
17	14.0	11.0	12.5	---	---	---	25.0	21.5	23.5	28.0	25.5	26.5
18	14.0	11.5	13.0	19.5	15.0	18.5	26.0	22.0	24.0	25.5	22.5	24.0
19	16.0	12.5	13.5	18.0	16.5	17.5	25.0	22.0	23.5	25.5	22.5	24.0
20	15.0	12.5	14.0	19.0	17.5	18.0	23.5	21.5	22.5	26.5	23.0	25.0
21	---	---	15.0	18.5	17.0	17.5	22.5	20.5	21.5	27.0	23.5	25.5
22	---	---	---	18.5	17.0	18.0	23.0	21.0	22.0	26.0	23.5	24.5
23	---	---	---	18.0	17.0	17.5	23.5	22.5	23.0	26.0	22.0	24.0
24	---	---	---	19.5	17.5	18.5	24.0	21.0	22.5	26.5	22.0	24.5
25	---	---	---	19.5	17.0	18.5	23.0	21.0	22.0	27.0	22.0	24.5
26	---	---	---	21.0	18.0	19.5	23.5	21.5	22.5	27.5	22.5	25.5
27	---	---	---	20.5	20.0	20.0	24.0	22.5	23.0	27.0	22.5	25.0
28	---	---	---	20.5	19.0	19.5	24.5	22.5	23.5	27.0	23.0	25.0
29	---	---	---	21.5	20.5	21.0	25.5	23.0	24.0	28.5	23.0	26.0
30	---	---	---	21.5	19.5	21.0	27.0	23.5	25.0	30.0	25.0	27.5
31	---	---	---	20.0	18.5	19.5	---	---	---	30.5	26.0	28.0
MONTH	16.0	10.5	13.0	21.5	15.0	19.0	27.0	17.5	22.0	30.5	21.5	25.5

## SAN JACINTO RIVER MAIN STEM

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	31.5	26.5	29.0	29.5	24.5	27.0	32.0	27.0	29.5	31.0	27.5	29.0
2	30.0	26.5	28.0	29.5	25.5	27.5	32.5	26.5	29.0	31.0	27.5	29.0
3	30.0	26.0	28.0	28.0	24.5	26.0	31.5	26.0	28.5	30.0	27.5	28.5
4	30.0	26.5	28.0	24.5	23.0	23.5	32.5	27.0	29.5	30.0	27.0	28.5
5	29.0	26.5	27.5	27.0	22.5	24.5	32.5	27.0	29.5	28.5	27.0	27.5
6	29.0	26.0	27.5	29.0	24.0	26.5	32.5	27.5	30.0	29.5	26.5	28.0
7	30.0	25.0	27.5	29.5	25.5	27.5	33.0	27.5	30.0	29.0	27.0	28.0
8	31.5	26.5	28.5	29.0	26.0	28.0	31.0	27.0	29.0	29.5	26.0	27.5
9	31.0	26.5	29.0	31.0	26.0	28.5	31.5	27.5	29.5	28.0	26.0	27.0
10	30.0	26.5	28.5	31.5	27.0	29.0	31.5	27.0	29.5	27.5	26.0	27.0
11	29.5	26.0	28.0	30.0	26.5	28.5	31.5	27.5	29.5	27.0	25.5	26.0
12	28.5	25.0	27.0	31.0	26.0	28.5	31.0	28.0	29.5	27.5	25.0	26.0
13	28.0	24.0	26.0	31.0	26.5	29.0	30.0	27.5	28.5	28.5	25.5	27.0
14	29.0	24.0	26.0	30.0	26.0	28.0	29.5	27.0	28.0	28.5	26.0	27.0
15	29.5	25.0	27.0	31.0	26.0	28.5	29.5	27.0	28.0	28.0	25.5	27.0
16	30.5	25.5	28.0	31.5	26.5	29.0	30.0	26.5	28.5	28.0	25.0	26.5
17	30.0	27.0	28.5	31.5	26.5	29.0	31.0	27.5	29.5	27.5	25.0	26.0
18	28.5	24.5	26.5	30.0	26.5	28.5	31.5	27.5	29.5	28.5	25.5	27.0
19	24.0	23.0	23.0	29.0	26.0	27.5	32.0	28.0	30.0	28.0	25.5	26.5
20	26.0	22.0	24.0	28.5	26.0	27.5	32.5	28.5	30.0	28.0	25.0	26.5
21	25.5	23.5	24.5	31.0	25.5	28.0	31.5	27.5	29.5	27.5	24.5	26.0
22	26.5	24.0	25.5	32.0	26.5	29.5	32.0	28.0	30.0	28.0	24.5	26.5
23	28.0	25.0	26.5	32.5	27.5	30.0	32.0	28.0	30.0	27.5	25.0	26.5
24	29.0	25.0	27.0	32.5	27.5	30.0	30.0	28.0	29.0	27.5	24.5	26.0
25	29.5	25.5	27.5	31.5	27.5	29.5	31.0	27.0	29.0	28.0	25.5	26.5
26	29.0	25.5	27.5	33.0	27.5	30.0	30.0	26.5	28.5	26.5	24.5	25.5
27	30.0	25.5	27.5	33.5	27.5	30.0	30.0	26.5	28.0	25.0	23.0	24.0
28	28.5	25.5	27.0	32.5	28.0	30.0	30.0	27.0	28.0	24.5	23.5	24.0
29	28.5	23.5	26.5	32.0	28.5	30.0	28.5	26.5	27.5	25.0	24.0	24.5
30	28.5	23.5	26.5	31.0	27.0	28.5	29.5	26.0	27.5	23.5	21.0	22.5
31	---	---	---	32.0	26.0	29.0	31.0	27.0	29.0	---	---	---
MONTH	31.5	22.0	27.0	33.5	22.5	28.5	33.0	26.0	29.0	31.0	21.0	26.5

## SAN JACINTO RIVER MAIN STEM

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08068090 WEST FORK SAN JACINTO RIVER ABOVE LAKE HOUSTON NEAR PORTER, TX

LOCATION.--Lat 30°05'09", long 95°17'59", Montgomery County, Hydrologic Unit 12040101, on left bank, 4.4 mi southwest of Porter, 5.0 mi upstream from Spring Creek and 6.2 mi northwest of Humble.

DRAINAGE AREA.--962 mi<sup>2</sup>.

PERIOD OF RECORD.--Occasional low-flow measurements, at site 1.7 mi downstream, water years 1968-72, 1974-75. February to March 1984 (discharge measurements only). May 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 33 ft above National Geodetic Vertical datum of 1929, from topographic map (and levels).

REMARKS.--Estimated daily discharges for period May to September 1984: May 1 and May 28 to June 3. Estimated discharges for the current year: Jan. 27 to Feb. 10 and Feb. 28 to Mar 10. Records good except those of estimated daily discharge, which are poor. Considerable regulation during high flow periods by Lake Conroe, capacity 532,000 acre-ft 34.3 mi upstream. During periods of low base flow from tributaries entering Lake Houston, occasional releases are necessary from Lake Conroe to maintain water levels in lake Houston, that has several large diversions. There are no large diversions upstream from station. There is only minor sewage effluent from the city of Conroe and other small communities upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft<sup>3</sup>/s Oct. 26, 1984, gage height 23.89 ft, from rating curve extended above 4,800 ft<sup>3</sup>/s on basis of velocity-area study; minimum daily, 26 ft<sup>3</sup>/s Sept. 18, 1984.

EXTREMES FOR PERIOD MAY TO SEPTEMBER, 1984.--Maximum discharge, 1,650 ft<sup>3</sup>/s (estimated) May 28 at time unknown, gage height about 15.6 ft; minimum daily, 26 ft<sup>3</sup>/s Sept. 18.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,300 ft<sup>3</sup>/s Oct. 26 at 0200 hours (gage height, 23.89 ft, from rating curve extended above 4,800 ft<sup>3</sup>/s on basis of velocity-area study); minimum daily, 30 ft<sup>3</sup>/s Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	2100	1080	1470	800	3800	1230	140	50	55	38	102
2	32	1810	628	1690	500	3800	1060	114	50	49	35	101
3	31	1720	380	1360	300	4000	1000	101	46	50	56	101
4	31	1520	841	960	250	4000	760	100	46	90	49	99
5	30	1300	2500	801	400	3400	280	90	45	99	41	97
6	31	1030	1870	833	500	2200	210	81	45	69	37	99
7	32	620	1240	702	300	1200	177	76	41	71	36	103
8	32	320	934	531	230	900	151	76	44	63	41	106
9	65	239	737	442	200	700	137	79	44	56	62	124
10	115	190	609	437	300	500	126	80	40	51	94	123
11	83	158	461	412	2800	252	118	86	43	49	97	119
12	71	140	377	396	3120	223	116	87	132	50	97	159
13	88	126	228	387	4050	198	113	72	126	50	97	136
14	262	110	189	254	4630	239	223	69	113	48	100	119
15	320	102	440	195	3380	1000	250	65	111	47	100	113
16	136	254	821	155	2180	942	352	66	109	52	99	106
17	80	447	1350	634	1250	641	346	64	107	43	102	103
18	76	337	1560	1270	863	459	194	67	160	54	101	104
19	129	913	1420	2180	612	248	142	65	437	65	98	101
20	407	1240	1400	2490	506	1920	132	63	582	64	95	100
21	958	1260	1200	1240	350	2940	169	72	276	70	99	100
22	1390	1020	769	962	210	2540	287	94	358	55	120	104
23	2020	730	650	672	589	2500	201	89	226	46	108	102
24	4340	334	460	351	3170	2100	348	112	134	43	107	105
25	6790	176	399	232	4770	1470	498	79	111	42	121	114
26	8490	160	250	205	5990	715	369	66	115	41	150	175
27	5430	152	170	700	5370	428	435	60	115	41	113	173
28	4800	466	152	2000	4000	1670	388	59	105	41	105	174
29	3580	870	146	2600	---	2940	341	57	81	37	102	240
30	2710	1020	155	2400	---	3160	186	53	66	37	102	317
31	2450	---	322	1400	---	2170	---	53	---	39	102	---
TOTAL	45041	20864	23738	30361	51620	53255	10339	2435	3958	1667	2704	3819
MEAN	1453	695	766	979	1844	1718	345	78.5	132	53.8	87.2	127
MAX	8490	2100	2500	2600	5990	4000	1230	140	582	99	150	317
MIN	30	102	146	155	200	198	113	53	40	37	35	97
AC-FT	89340	41380	47080	60220	102400	105600	20510	4830	7850	3310	5360	7570
WTR YR 1985	TOTAL	249801	MEAN	684	MAX	8490	MIN	30	AC-FT	495500		



## SAN JACINTO RIVER MAIN STEM

08068090 WEST FORK SAN JACINTO RIVER ABOVE LAKE HOUSTON NEAR PORTER, TX

LOCATION.--Lat 30°05'09", long 95°17'59", Montgomery County, Hydrologic Unit 12040101, on left bank 4.4 mi southwest of Porter, 5.0 mi upstream from Spring Creek, and 6.2 mi northwest of Humble.

DRAINAGE AREA.--5 mi<sup>2</sup>.

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: February 1984 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
OCT 24...	1330	4760	140	7.3	19.5	250	86	7.6	82	3.2	2900	4200	
FEB 13...	1120	4000	193	7.2	9.5	100	84	--	--	--	3100	96	
JUN 19-21	0600	523	200	--	--	80	110	--	--	6.7	--	--	
AUG 21...	1115	227	182	7.1	26.5	100	69	7.1	88	2.8	2200	340	
AUG 27...	1215	115	268	7.6	300	50	38	7.8	67800	5.5	96	K12	
DATE	TIME	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)	ALKA- LINITY FIELD (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 24...	52	7	18	1.8	7.7	.5	4.1	45	14	12	.10	10	
FEB 13...	63	14	22	2.0	12	.7	3.0	49	14	19	.10	8.0	
JUN 19-21	50	10	17	1.9	19	1	2.7	40	14	29	.10	8.9	
AUG 21...	42	6	14	1.8	17	1	2.4	36	13	26	.10	9.0	
AUG 27...	69	5	23	2.8	28	2	4.1	64	14	36	.20	12	
DATE	TIME	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)	
OCT 24...	95	327	44	.08	.020	.10	.060	.04	.10	.280	12		
FEB 13...	110	187	25	.03	.070	.10	.180	.72	.90	.120	14		
JUN 19-21	120	312	42	.26	.040	.30	.130	1.5	1.6	.330	16		
AUG 21...	100	60	6	.27	.030	.30	.110	.89	1.0	.230	14		
AUG 27...	160	43	16	.36	.040	.40	.150	.75	.90	.270	8.9		
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)						
AUG 27...	1215	3	100	1	<10	10	49						
DATE	TIME	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)						
AUG 27...	<1	7	<.1	<1	<1	24							
DATE	TIME	AME- TRYNE TOTAL	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	
AUG 27...	1215	<.10	<.10	<.10	<2.0	<.1	<.1	<.10	<2.0	<2.0	<.10	<.1	

## 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 upstream side of bridge on Riley-Fussel Road, 1.1 mi northeast of Spring, 2.7 mi downstream from Missouri Pacific Railroad bridge, 3.6 mi downstream from former station 08068500 at Interstate Highway 45, 6.9 mi upstream from Cypress Creek, and 9.9 mi upstream from mouth.

DRAINAGE AREA.--419 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1939 to current year. Prior to 1975, published as "near Spring".

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 62.17 ft above 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 upstream at different datum. Oct. 2, 1965, to Feb. 19, 1976, water-stage recorder at former site at datum 10.93 ft higher; unadjusted for land-surface subsidence.

REMARKS.--Estimated daily discharges: Oct. 1-11, Apr. 24 to June 6, July 26 to Aug. 2, Aug. 6-30, Sept. 2-9 and Sept. 15-29. Records good except those for periods of no gage-height record, which are poor. No diversion above station.

AVERAGE DISCHARGE.--46 years, 220 ft<sup>3</sup>/s, 7.13 in/yr, 159,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,700 ft<sup>3</sup>/s Nov. 25, 1940 gage height, 33.60 ft, former site and datum, from graph based on gage readings; minimum, 1.1 ft<sup>3</sup>/s Oct. 23, 24, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1879, 34.3 ft, former site and datum, May 30, 1929, from floodmarks identified by local residents, discharge, 48,300 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 26	0200	*5,520	*17.78	Mar. 21	1300	3,170	13.60

Minimum daily discharge, 14 ft<sup>3</sup>/s (estimated) Oct. 3, 4, Sept. 23-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	91	72	158	187	1300	156	75	33	44	19	23
2	15	348	62	238	143	1740	138	60	31	40	19	19
3	14	333	51	318	117	1830	118	50	29	47	36	18
4	14	372	72	281	102	1480	100	47	28	110	34	17
5	15	295	430	301	102	585	90	45	27	85	20	16
6	22	161	778	234	109	293	86	45	26	81	19	16
7	15	102	992	145	98	202	82	46	25	62	19	17
8	17	77	663	108	92	157	77	47	25	57	20	19
9	34	66	276	92	84	135	75	48	25	60	19	22
10	66	57	182	89	397	121	73	50	25	67	19	31
11	41	51	130	78	1840	111	72	48	25	48	18	53
12	38	55	103	74	2280	104	70	46	66	44	18	49
13	36	52	89	73	2150	99	74	44	69	39	18	45
14	187	48	80	79	1540	142	89	43	36	35	20	26
15	122	47	75	74	529	185	90	42	29	33	19	22
16	134	438	114	87	262	342	138	42	27	30	18	21
17	79	177	115	185	181	366	99	41	28	39	17	19
18	67	191	101	301	150	281	77	41	125	35	17	18
19	178	186	118	356	130	187	67	40	556	38	20	17
20	271	126	101	251	120	1550	71	40	713	32	21	16
21	253	102	86	142	109	2960	170	45	511	29	21	16
22	210	78	76	104	113	2280	182	70	248	27	19	15
23	253	62	71	88	210	1860	156	65	128	26	18	14
24	338	53	64	80	1130	986	135	58	176	23	18	14
25	3320	51	61	72	1780	340	120	52	156	22	17	14
26	4170	52	58	69	1510	214	180	48	114	21	17	25
27	1260	58	56	103	1000	165	200	45	154	21	16	19
28	620	75	54	304	667	160	160	42	105	20	16	17
29	318	79	56	505	---	244	120	39	65	20	16	74
30	180	89	63	502	---	358	90	37	52	20	16	206
31	124	---	114	318	---	210	---	35	---	19	26	---
TOTAL	12426	3972	5363	5809	17132	20987	3355	1476	3657	1274	610	898
MEAN	401	132	173	187	612	677	112	47.6	122	41.1	19.7	29.9
MAX	4170	438	992	505	2280	2960	200	75	713	110	36	206
MIN	14	47	51	69	84	99	67	35	25	19	16	14
CFSM	.96	.32	.41	.45	1.46	1.62	.27	.11	.29	.10	.05	.07
IN.	1.10	.35	.48	.52	1.52	1.86	.30	.13	.32	.11	.05	.08
AC-FT	24650	7880	10640	11520	33980	41630	6650	2930	7250	2530	1210	1780
CAL YR 1984	TOTAL	51982	MEAN 142	MAX 4170	MIN 14	CFSM .34	IN 4.62	AC-FT	103100			
WTR YR 1985	TOTAL	76959	MEAN 211	MAX 4170	MIN 14	CFSM .50	IN 6.83	AC-FT	152600			

SAN JACINTO RIVER BASIN  
08068520 SPRING CREEK AT SPRING, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: August 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 25...	0915	2780	56	7.6	17.0	250	1600	7.2	74	4.2	6100	8400
FEB 11...	1410	1530	96	6.7	12.0	300	220	9.6	88	5.2	5200	6200
JUN 20...	0945	715	144	6.9	23.5	150	150	8.2	96	3.8	3000	3400
AUG 26...	1110	3.2	680	7.4	28.0	25	19	8.1	119	7.5	210	140

DATE	TIME	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)	ALKA- LINITY FIELD (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 25...	15	0	4.0	1.1	7.6	.9	1.8	16	13	7.0	.20	6.0	
FEB 11...	23	4	7.1	1.4	9.1	.8	2.6	20	9.3	12	<.10	4.3	
JUN 20...	32	4	10	1.8	15	1	2.8	28	14	20	.10	6.6	
AUG 26...	81	0	25	4.4	110	6	5.7	139	24	110	.50	18	

DATE	TIME	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PEN- DED (MG/L)	SOLIDS, VOLA- TILE, SUS- PEN- DED (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 25...		50	3340	236	.03	.070	.10	.230	2.5	2.7	.510	22
FEB 11...		58	42	34	.20	.100	.30	.320	1.5	1.8	.220	20
JUN 20...		87	218	26	.27	.030	.30	.160	.84	1.0	.370	17
AUG 26...		380	20	9	3.7	.040	3.7	.180	1.0	1.2	<.010	7.5

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)
AUG 26...	1110	3	74	1	<10	13	21

DATE	TIME	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)
AUG 26...		<1	36	.2	<1	<1	29

DATE	TIME	AME- TRYNE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
AUG 26...	1110	<.10	<.10	<.10	<2.0	<.1	<.1	<.10	<2.0	<2.0	<.10	<.1

## SAN JACINTO RIVER BASIN

53

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 downstream from gage (station 08068700), 5.6 mi southeast of Hockley, and 6.3 mi upstream from station 08068740.

DRAINAGE AREA.--110 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1975 to July 1983, Feb. 1984 to current year.

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

REMARKS.--Estimated daily discharges: Jan. 29, Mar. 16-22 and Apr. 11 to May 20. Records fair except those for Apr. 11 to May 20, 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.--8 years (water years 1975-82, 1985), 62.7 ft<sup>3</sup>/s (45,430 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,370 ft<sup>3</sup>/s Jan. 20, 1979 (gage height, 61.05 ft), but may have been exceeded during period of no record July 29 to Jan. 31, 1984; no flow for many days each year.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 914 ft<sup>3</sup>/s Mar. 21 at 0200 hours (gage height, 57.08 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	50	2.9	55	8.2	458	4.5	3.5	.08	1.5	6.6	.00
2	.48	124	2.1	57	5.8	609	3.0	2.5	.04	1.2	6.2	.00
3	.45	181	1.4	58	3.6	409	1.7	2.0	.03	6.4	8.6	.00
4	1.2	109	.87	78	2.5	141	1.2	1.5	.00	78	2.2	.00
5	3.2	64	.47	39	2.4	60	1.3	1.2	.00	44	.18	.00
6	1.5	36	86	17	2.5	32	.74	1.0	.00	15	3.0	.00
7	.77	24	44	9.3	2.6	21	.58	.90	.01	8.9	.00	.00
8	.71	19	13	5.9	2.6	15	.47	.80	.01	6.0	.00	.00
9	1.6	14	6.7	4.3	2.5	10	.34	12	.00	4.1	.00	.00
10	1.9	11	4.4	3.1	17	7.9	.24	6.0	.00	3.2	.00	.66
11	1.2	9.9	3.1	2.0	187	6.4	.20	2.5	1.8	2.6	.00	3.4
12	5.8	5.9	2.3	1.6	498	5.6	.18	1.5	13	2.1	.00	1.5
13	10	4.0	1.6	1.5	420	4.8	.15	3.5	2.4	1.7	.00	1.1
14	45	2.5	2.3	1.6	121	68	.15	3.0	.00	5.7	.00	.00
15	43	2.6	8.4	1.9	45	218	3.0	2.5	.00	9.5	.00	.00
16	24	11	5.9	4.8	25	244	2.0	4.0	.00	5.2	.00	.00
17	14	19	4.2	49	16	150	1.0	4.5	.00	4.8	.00	.00
18	4.7	21	6.2	73	11	67	.50	2.5	117	6.1	.02	.00
19	30	18	4.1	32	9.0	38	.30	1.8	707	8.8	.03	.00
20	160	12	2.8	16	6.4	505	1.0	1.8	760	9.2	.17	.00
21	218	7.7	2.2	8.0	5.2	851	60	2.4	486	6.8	3.4	.00
22	193	6.5	1.2	5.7	5.2	582	35	2.6	180	4.3	1.7	.00
23	117	4.7	1.0	3.8	68	213	13	1.2	64	4.5	.00	.00
24	87	3.3	.85	3.2	228	81	6.5	.42	39	4.9	.00	.00
25	174	2.5	.74	2.3	228	41	5.5	.67	27	4.0	.00	.00
26	347	3.5	.52	1.6	132	23	60	.72	16	2.5	.00	.00
27	242	4.2	.38	2.4	87	15	50	.53	9.3	3.9	.00	.00
28	165	5.8	.36	76	138	11	16	.49	4.0	4.4	.00	.00
29	130	8.5	.30	55	---	8.9	8.0	.52	2.8	2.6	.00	.00
30	81	4.6	.68	18	---	6.8	5.0	.28	2.2	13	.00	6.5
31	66	---	12	11	---	5.8	---	.15	---	6.7	.00	---
TOTAL	2170.09	789.2	269.50	697.0	2279.5	4908.2	281.55	68.98	2431.67	281.6	32.10	13.16
MEAN	70.0	26.3	8.69	22.5	81.4	158	9.39	2.23	81.1	9.08	1.04	.44
MAX	347	181	86	78	498	851	60	12	760	78	8.6	6.5
MIN	.45	2.5	.30	1.5	2.4	4.8	.15	.15	.00	1.2	.00	.00
AC-FT	4300	1570	535	1380	4520	9740	558	137	4820	559	64	26
CAL YR 1984	TOTAL	-	MEAN	-	MAX	-	MIN	-	AC-FT	-		
WTR YR 1985	TOTAL	14222.55	MEAN	39.0	MAX	851	MIN	.00	AC-FT	28210		



## SAN JACINTO RIVER BASIN

08068740 CYPRESS CREEK AT HOUSE AND HAHN 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 Hahn Road, 1.4 mi southwest of Cypress, and 6.3 mi downstream from gage (station 08068720).

DRAINAGE AREA.--131 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

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

REMARKS.--Estimated daily discharges: Oct. 1-4, 8, 11-12, Dec. 24-29, Apr. 8-14, 26-27, 29-30, May 11-15, 19-20, 22-29, June 4-11, 14-17, July 10-13, Aug. 7-20, Aug. 23 to Sept. 7, Sept. 15-28. Water-discharge records fair except those for estimated daily discharges, which are poor. Considerable diversions and return flow from irrigation occur upstream from station, especially during the period April through October. Stage discharge relationship affected by seasonal vegetal growth during most years.

AVERAGE DISCHARGE.--10 years, 82.9 ft<sup>3</sup>/s (60,060 acre-ft/yr).

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft<sup>3</sup>/s Mar. 21 at 0700 hours (gage height, 43.22 ft); no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	64	3.5	68	12	514	14	4.8	.82	3.1	16	.00
2	1.3	155	2.2	79	8.3	610	12	4.1	1.0	2.5	9.3	.00
3	1.1	224	2.0	79	6.0	466	8.3	3.2	1.1	5.6	11	.00
4	2.0	148	2.0	95	4.8	177	7.0	2.5	.40	80	5.1	.00
5	9.2	89	33	54	4.7	71	6.7	2.0	.20	69	1.2	.00
6	8.3	59	95	27	4.5	38	6.2	1.9	.10	23	3.0	.00
7	4.2	40	56	17	4.9	24	5.4	1.9	.05	14	.69	.00
8	2.7	40	21	12	4.0	18	4.5	2.0	.00	9.8	.04	1.1
9	5.5	27	12	9.0	3.6	14	4.0	15	.00	7.2	.01	3.6
10	6.6	18	8.5	6.8	26	11	3.5	9.0	.00	6.5	.00	9.8
11	2.7	17	6.4	4.8	254	9.3	3.2	3.6	.20	5.2	.00	27
12	5.4	11	4.7	3.7	422	7.5	3.0	2.0	12	3.8	.00	5.3
13	9.9	7.0	3.5	3.4	465	6.1	4.0	5.2	5.3	4.4	.00	3.7
14	64	4.2	3.0	3.3	162	58	4.5	4.5	4.1	10	.00	1.2
15	66	3.4	13	3.5	57	201	7.2	4.4	3.5	20	.00	.40
16	32	11	9.8	6.8	33	217	5.0	6.7	2.4	11	.00	.05
17	18	26	7.0	50	22	124	3.5	8.3	1.6	8.9	.00	.00
18	11	29	11	82	16	68	2.9	5.2	124	9.7	.00	.00
19	77	27	7.7	39	12	35	2.8	4.4	762	18	.00	.00
20	208	18	5.2	20	9.0	558	7.4	4.1	894	15	.00	.00
21	319	12	4.2	11	6.7	1060	84	4.1	620	11	2.5	.00
22	284	9.3	2.9	7.5	5.6	729	40	4.4	279	7.1	2.6	.00
23	164	6.8	2.2	5.6	131	308	15	2.2	99	5.7	.33	.00
24	112	4.5	1.8	4.7	280	128	9.7	1.3	55	9.9	.05	.00
25	377	3.5	1.5	3.5	280	68	5.9	1.3	37	11	1.2	.70
26	669	3.6	1.2	2.8	148	41	67	2.0	23	9.4	.50	.70
27	442	6.2	1.0	3.8	100	28	59	1.6	14	8.4	.02	.10
28	232	5.3	.90	56	131	23	22	1.3	7.7	8.1	.00	.00
29	174	11	.80	67	---	20	11	1.5	5.4	6.4	.00	2.5
30	108	6.3	2.6	25	---	18	7.0	1.8	4.4	19	.00	17
31	86	---	22	16	---	16	---	.96	---	13	.00	---
TOTAL	3503.5	1086.1	347.60	866.2	2613.1	5665.9	435.7	117.26	2957.27	435.7	53.54	73.15
MEAN	113	36.2	11.2	27.9	93.3	183	14.5	3.78	98.6	14.1	1.73	2.44
MAX	669	224	95	95	465	1060	84	15	894	80	16	27
MIN	1.1	3.4	.80	2.8	3.6	6.1	2.8	.96	.00	2.5	.00	.00
AC-FT	6950	2150	689	1720	5180	11240	864	233	5870	864	106	145

CAL YR 1984 TOTAL 9813.14 MEAN 26.8 MAX 669 MIN .30 AC-FT 19460  
WTR YR 1985 TOTAL 18155.02 MEAN 49.7 MAX 1060 MIN .00 AC-FT 36010

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

## WATER-QUALITY RECORDS

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

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
NOV 20...	0920	20	182	6.9	13.0	70	31	10.2	95	3.5	41
FEB 13...	1015	500	71	6.5	--	200	83	--	--	--	19
MAY 23...	0835	2.2	157	7.1	24.0	120	34	8.1	96	2.1	39
AUG 01...	0936	19	215	6.5	26.5	60	19	6.5	81	2.7	57

DATE	HARD- NESS, DIS- 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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
NOV 20...	9	12	2.7	15	1	10	32	18	26	.10	9.3
FEB 13...	5	4.7	1.7	5.6	.6	5.2	14	11	8.6	.10	5.1
MAY 23...	2	11	2.7	14	1	5.6	37	17	17	.20	6.9
AUG 01...	8	18	3.0	19	1	5.4	49	12	26	.30	11

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDE (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)
NOV 20...	110	56	10	--	.020	<.10	.080	1.7	1.8	.300	12
FEB 13...	51	67	27	.24	.060	.30	.160	1.6	1.8	.370	14
MAY 23...	97	6	<1	.07	.030	.10	.110	.89	1.0	.120	7.8
AUG 01...	120	38	16	.24	.160	.40	.380	.82	1.2	.310	6.1

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 20...	0920	1	63	<1	10	2	420
FEB 13...	1015	<1	41	2	<10	3	210
MAY 23...	0835	<1	82	<1	<10	1	350
AUG 01...	0936	2	120	<1	<10	1	270

## SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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 20...	6	11	<.1	<1	<1	13
FEB 13...	<1	27	<.1	<1	<1	3
MAY 23...	9	39	<.1	<1	<1	38
AUG 01...	<1	24	<.1	<1	<1	18

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)	DI- ELDRIN TOTAL (UG/L)
NOV 20...	0920	<.1	<.10	<.01	<.1	<.01	<.01	<.01	.03	<.01
FEB 13...	1015	<.1	<.10	<.01	<.1	<.01	<.01	<.01	.01	<.01
MAY 23...	0835	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01
AUG 01...	0936	<.1	<.10	<.01	<.1	<.01	<.01	<.01	<.01	<.01

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)	METHYL TRI- THION, TOTAL (UG/L)
NOV 20...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
FEB 13...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
MAY 23...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
AUG 01...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	.01	<.01

DATE	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PER- THANE TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 20...	<.01	<.01	<.1	<1	<.01	--	--	--	--
FEB 13...	<.01	<.01	<.1	<1	<.01	.05	<.01	<.01	<.01
MAY 23...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01
AUG 01...	<.01	<.01	<.1	<1	<.01	<.01	<.01	<.01	<.01

## SAN JACINTO RIVER BASIN

57

08068780 LITTLE CYPRESS CREEK NEAR CYPRESS, TX

LOCATION.--Lat 30°00'57", long 95°41'50", Harris County, Hydrologic Unit 12040102, on right bank at downstream side of bridge on Cypress-Rose Hill Road, 3.2 mi north of Cypress, and 6.9 mi upstream from mouth.

DRAINAGE AREA.--41.0 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1982 to current year.

GAGE.--Water-stage and rainfall recorders and crest-stage gage. Datum of gage is 80.00 ft above National Geodetic Vertical Datum 1929, 1973 adjustment.

REMARKS.--Estimated daily discharges: Jan. 10-16, Mar. 1-7, 20, 21, May 28, 29, June 16, 17, Aug. 23-25, 28, 29, Sept. 1-9 and Sept. 19-29. Records good except those for estimated daily discharges and discharges below 0.20 ft<sup>3</sup>/s, which are poor. No regulation or diversions known. Several observations of water temperature were made each year. Gage height telemeter located at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,400 ft<sup>3</sup>/s May 14, 1982, time unknown, gage height, about 79.5 ft; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 20	2100	*917	*76.85	June 20	0200	537	75.02

Minimum discharge, no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	11	.14	24	3.3	307	1.4	.42	.04	2.1	2.7	.20
2	.82	74	.07	9.4	2.2	230	.99	.38	.02	1.6	6.6	.15
3	.63	45	.06	15	1.6	75	.77	.37	.17	8.8	4.8	.10
4	.30	13	3.5	14	1.3	30	.64	.34	.09	126	3.5	.05
5	.20	5.9	23	7.4	1.2	15	.51	.31	.13	25	1.3	.02
6	4.0	3.5	11	3.9	1.1	8.0	.42	.22	.36	7.1	3.2	.00
7	8.3	1.5	3.9	2.2	.86	5.0	.38	.21	.04	2.9	2.5	.00
8	11	1.1	1.9	1.3	.72	3.3	.36	.28	.02	1.5	.70	.00
9	7.8	.48	1.2	.64	.64	2.5	.37	.34	.00	1.0	.30	.00
10	3.5	11	.80	.40	8.4	1.8	.35	.36	.00	.72	.28	35
11	2.1	5.1	.56	.29	337	1.6	.38	.33	.36	.44	2.5	17
12	1.4	1.8	.38	.22	157	1.4	.41	.31	4.0	.27	.88	7.4
13	1.2	13	.40	.20	40	1.3	.43	.19	1.2	.24	.91	39
14	30	8.2	.41	.29	21	16	.51	.09	.39	51	.70	2.9
15	44	3.8	.38	.44	14	51	.63	.14	.14	31	.34	1.1
16	12	8.1	.26	.55	7.1	27	.47	.15	.05	6.4	.23	.63
17	17	9.5	.26	20	4.6	18	.47	.13	.02	2.5	.24	.45
18	9.2	8.6	.40	14	3.0	8.5	.45	.21	25	1.3	.24	.35
19	49	7.9	.74	7.0	2.4	3.8	.43	.23	398	.93	.21	.25
20	62	2.8	.51	3.7	1.7	487	.56	.23	383	.98	.46	.20
21	22	1.0	.37	1.9	1.4	400	3.1	.42	47	.67	.37	.15
22	18	1.7	.32	1.1	1.2	66	2.4	1.9	14	.52	.21	.10
23	8.1	.74	.34	.69	124	27	1.4	.79	7.1	.44	.15	.06
24	14	.20	.29	.56	146	14	.75	.29	4.1	5.6	.10	.04
25	68	.12	.20	.56	58	7.1	.57	.20	2.7	6.1	.05	.02
26	121	.26	.17	.52	31	4.4	28	.10	8.0	2.5	.36	.00
27	29	.25	.18	1.5	32	3.2	7.5	.06	27	1.3	.22	.00
28	23	.26	.17	40	54	2.7	2.5	.04	11	.78	.15	.00
29	12	.25	.15	14	---	2.2	.91	.02	7.8	.60	.10	1.0
30	14	.20	.60	7.1	---	1.9	.51	.08	3.9	.43	.61	7.6
31	25	---	5.4	4.6	---	2.0	---	.06	---	.26	.86	---
TOTAL	619.65	240.26	58.06	197.46	1056.72	1823.7	58.57	9.20	945.63	290.98	35.77	113.77
MEAN	20.0	8.01	1.87	6.37	37.7	58.8	1.95	.30	31.5	9.39	1.15	3.79
MAX	121	74	23	40	337	487	28	1.9	398	126	6.6	39
MIN	.20	.12	.06	.20	.64	1.3	.35	.02	.00	.24	.05	.00
CFSM	.49	.20	.05	.16	.92	1.43	.05	.007	.77	.23	.03	.09
IN.	.56	.22	.05	.18	.96	1.65	.05	.01	.86	.26	.03	.10
AC-FT	1230	477	115	392	2100	3620	116	18	1880	577	71	226
CAL YR 1984	TOTAL	3081.69	MEAN	8.42	MAX	274	MIN	.06	CFSM	.21	IN	2.80
WTR YR 1985	TOTAL	5449.77	MEAN	14.9	MAX	487	MIN	.00	CFSM	.36	IN	4.94
									AC-FT	6110	AC-FT	10810



## SAN JACINTO RIVER BASIN

08068800 CYPRESS CREEK AT GRANT ROAD NEAR CYPRESS, TX

LOCATION.--Lat 29°58'24", long 95°35'54", Harris County, Hydrologic Unit 12040102, on right bank at downstream side of bridge on Grant Road and 6.0 mi east of Cypress.

DRAINAGE AREA.--214 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1982 (discharge measurements only), October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 80.00 ft above National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Estimated daily discharges: Oct. 1-6, 11-13, Nov. 23 to Dec. 5, Dec. 10-15, 17-30, Jan. 11-15, 23-26, Feb. 4-9, Apr. 5 to May 13, May 15 to June 11, June 14-17, July 2, 11-13, 23-24, Aug. 5-11, 17-22, 28-29, Sept. 2-8, 21-25. Records fair except those for estimated daily discharges, which are poor. Low flow consists of sewage effluent from urbanized areas and drainage from irrigated farming areas in the basin. Gage-height telemeter located at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,550 ft<sup>3</sup>/s May 14, 1982 (gage height, 43.48 ft); minimum daily (estimated), 0.29 ft<sup>3</sup>/s Sept. 15, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft<sup>3</sup>/s Mar. 21 at 0800 hours (gage height, 39.51 ft); maximum gage height, 40.81 ft<sup>3</sup>/s Oct. 25 at 1500 hours (result of backwater); minimum daily discharge, 1.0 ft<sup>3</sup>/s estimated on several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	97	6.5	76	17	662	15	6.0	2.5	7.4	15	3.1
2	3.3	278	5.0	96	14	771	12	5.0	2.6	5.8	22	2.4
3	3.0	334	4.5	95	11	601	9.9	4.0	2.7	47	39	1.6
4	3.2	241	4.0	106	9.0	371	8.0	3.5	2.5	198	12	1.4
5	3.5	120	13	78	8.0	123	7.5	3.0	2.2	163	6.3	1.3
6	3.2	66	101	38	7.0	55	7.0	2.7	1.8	49	4.6	1.2
7	5.8	41	79	22	7.5	32	6.5	2.5	1.4	23	3.3	1.1
8	4.5	36	32	15	6.5	23	6.0	2.5	1.2	14	2.7	1.0
9	9.5	28	17	11	5.5	18	5.5	16	1.0	11	1.8	15
10	8.4	23	12	9.6	197	15	5.0	11	1.0	8.3	1.6	10
11	4.5	23	9.0	8.0	770	12	4.5	5.0	12	7.3	1.4	84
12	3.5	16	7.0	7.0	623	10	4.2	2.0	28	5.9	2.2	37
13	4.8	16	6.0	6.0	554	9.3	10	1.4	11	4.9	11	57
14	51	17	5.0	5.5	378	52	7.0	10	8.0	43	17	13
15	119	12	12	5.5	95	239	9.0	7.0	5.0	78	7.9	3.8
16	49	16	26	14	49	293	7.0	7.0	4.0	26	2.5	2.6
17	22	32	12	49	33	189	5.0	7.2	3.0	13	1.6	2.1
18	19	58	12	101	24	100	4.0	8.2	240	12	1.4	1.7
19	152	42	11	61	19	48	3.5	7.0	783	17	1.2	1.6
20	242	23	8.7	29	16	875	10	6.5	1190	18	1.1	1.3
21	282	15	7.0	18	13	1780	90	9.0	869	14	1.0	1.2
22	326	12	5.5	12	12	1050	45	7.5	522	9.6	2.0	1.1
23	227	11	5.0	9.0	98	576	18	6.0	216	6.9	2.8	1.1
24	123	10	4.5	7.0	520	255	11	4.0	85	5.9	3.3	1.0
25	979	9.1	4.0	6.0	438	113	7.0	3.0	55	18	14	1.5
26	921	8.6	3.8	5.0	269	59	95	3.5	39	14	5.1	3.2
27	562	12	3.5	13	149	38	65	3.2	41	9.5	3.3	2.3
28	365	10	3.3	42	188	29	25	3.5	25	8.7	1.6	1.7
29	242	11	3.2	97	---	24	12	3.2	14	8.1	1.4	41
30	166	9.0	5.0	40	---	23	8.0	2.9	11	14	2.1	51
31	158	---	25	23	---	19	---	2.7	---	16	2.3	---
TOTAL	5065.9	1626.7	452.5	1104.6	4530.5	8464.3	522.6	166.0	4179.9	876.3	194.5	347.3
MEAN	163	54.2	14.6	35.6	162	273	17.4	5.35	139	28.3	6.27	11.6
MAX	979	334	101	106	770	1780	95	16	1190	198	39	84
MIN	3.0	8.6	3.2	5.0	5.5	9.3	3.5	1.4	1.0	4.9	1.0	1.0
AC-FT	10050	3230	898	2190	8990	16790	1040	329	8290	1740	386	689
(††)	9.00	2.80	2.00	1.80	5.40	3.50	2.90	1.50	6.80	2.10	3.50	5.30

CAL YR 1984 TOTAL 14503.91 MEAN 39.6 MAX 979 MIN .29 AC-FT 28770 †† 35.60  
WTR YR 1985 TOTAL 27531.10 MEAN 75.4 MAX 1780 MIN 1.0 AC-FT 54610 †† 46.60

†† Rainfall, in inches.

## SAN JACINTO RIVER BASIN

59

08068900 CYPRESS CREEK AT STUEBNER-AIRLINE ROAD NEAR WESTFIELD, TX

LOCATION.--Lat 30°00'23", long 95°30'42", Harris County, Hydrologic Unit 12040102, on right bank at downstream side of bridge on Stuebner-Airline Road, 1.3 mi upstream from Spring Gully, and 6.5 mi west of Westfield.

DRAINAGE AREA.--248 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1982 to current year.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 70.00 ft above National Geodetic Vertical Datum, 1973 adjustment. Harris County Flood Control District rain gage and gage height telemeters located at station.

REMARKS.--Records good. Extreme low-water gage heights are not collected. Low flow is sustained by sewage effluent from urbanized areas and drainage from irrigated farm land.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 37.88 ft Oct. 25, 1984; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 37.88 ft Oct. 25 at 1400 hours; minimum not determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

Dec. 5.....	62	May 10.....	30
Jan. 18.....	111	June 25.....	73
Feb. 28.....	213	Aug. 7.....	15
Mar. 12.....	21		

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---		---	17.63	16.07	23.57	16.47	16.25	15.97	16.14	16.17	
2	---		---	18.22	16.00	23.72	16.41	16.14	15.97	16.19	19.60	
3	---		---	18.17	16.42	22.72	16.91	16.12	15.95	23.97	20.98	
4	---		---	17.55	15.41	21.56	16.50	16.08	15.95	21.12	16.74	
5	16.09		---	17.55	15.84	19.14	16.40	16.03	15.99	18.80	16.39	
6	15.88		17.50	17.00	15.81	17.35	16.37	16.06	16.08	17.53	16.20	
7	15.96		17.49	16.55	15.82	16.79	16.36	16.00	16.04	16.66	16.25	
8	15.96		16.90	---	15.80	16.48	16.33	16.01	15.97	16.37	16.25	
9	18.21		16.32	---	15.76	16.37	16.29	16.03	15.94	16.19	16.12	
10	16.52		16.11	---	30.38	16.22	16.27	16.58	15.95	16.11	16.06	
11	16.04		15.95	---	30.38	16.12	16.28	16.28	22.57	16.30	16.04	
12	---		16.14	---	22.72	16.09	16.32	16.08	22.45	16.05	16.09	
13	18.80		15.95	---	21.50	16.04	23.85	16.06	16.97	15.90	18.75	
14	20.00		---	---	21.12	19.03	22.43	17.54	16.60	16.88	17.50	
15	18.60		---	---	18.96	19.32	16.48	16.67	16.40	17.21	17.50	
16	17.97		18.48	---	17.27	19.41	16.43	16.07	16.37	16.91	---	
17	17.08		16.49	---	16.79	19.39	16.44	16.17	16.35	16.29	---	
18	16.60		16.00	17.32	16.54	18.09	16.37	16.30	29.06	16.73	---	
19	20.55		16.30	17.32	16.38	17.14	16.29	16.20	27.03	16.73	---	
20	20.00		16.23	16.73	16.27	28.54	20.02	16.11	25.11	16.90	---	
21	19.28		---	17.05	16.20	28.48	18.88	17.28	24.99	16.28	---	
22	19.45		---	16.40	16.14	27.47	17.73	16.50	23.15	16.18	---	
23	19.72		---	15.97	18.96	23.80	17.03	16.16	23.98	16.06	---	
24	19.26		---	15.85	21.87	20.97	16.60	16.11	21.05	15.94	---	
25	37.88		---	---	21.36	18.52	16.37	15.96	17.49	16.26	---	
26	35.11		16.22	---	20.44	17.54	18.22	15.98	16.96	16.23	---	
27	25.38		---	17.25	19.03	17.10	18.13	15.91	16.89	16.13	---	
28	21.86		---	16.80	23.45	16.84	17.28	16.00	16.89	16.03	---	
29	19.74		---	17.64	---	16.71	16.50	15.99	16.36	16.04	---	
30	---		17.41	17.20	---	16.70	16.39	16.10	16.19	16.21	---	
31	---		20.18	16.40	---	16.61	---	15.98	---	16.25	---	
MAX	---		---	---	30.38	28.54	23.85	17.54	29.06	23.97	---	
MIN	---		---	---	15.41	16.04	16.27	15.91	15.94	15.90	---	
(††)	14.00	2.70	1.80	2.00	5.10	3.20	4.00	.80	4.40	1.70	2.00	2.70

WTR YR 1985 †† 44.40

†† Rainfall, inches, at gaging station.

## SAN JACINTO RIVER BASIN

08069000 CYPRESS CREEK NEAR WESTFIELD, TX

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

DRAINAGE AREA.--285 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 63.89 ft above 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 higher.

REMARKS.--No estimated daily discharges. Records good. No large diversions upstream from station. Low flow is maintained by sewage effluent. Channel below gage was rectified in 1950-51, 1975, and 1981.

AVERAGE DISCHARGE.--41 years, 161 ft<sup>3</sup>/s (116,600 acre-ft/yr).

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

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 25	1800	*7,920	*28.40	Mar. 20	1400	2,550	17.31
Feb. 11	0100	3,110	19.34	June 18	2200	2,480	17.05

Minimum daily discharge, 15 ft<sup>3</sup>/s Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	168	27	146	47	1000	47	36	21	34	42	27
2	17	543	24	164	45	939	44	31	22	30	126	26
3	16	337	23	212	39	759	38	28	22	274	321	27
4	15	299	50	137	34	549	33	27	21	379	65	25
5	18	175	91	126	30	236	30	27	21	231	43	26
6	26	103	91	82	25	113	27	28	26	111	32	30
7	24	71	123	58	25	76	27	26	26	63	28	27
8	26	51	75	43	25	60	27	29	23	89	31	25
9	197	49	46	29	25	51	25	29	21	49	26	35
10	68	39	37	32	620	47	26	37	23	45	24	70
11	34	40	29	28	1950	42	29	34	188	46	24	160
12	24	42	22	27	804	38	31	25	453	33	25	95
13	103	33	28	41	622	34	203	24	54	26	60	160
14	497	40	18	46	518	261	372	53	33	46	102	77
15	175	35	16	30	223	247	38	49	27	109	76	39
16	126	186	118	71	104	348	29	24	24	81	34	30
17	75	69	57	117	73	294	30	25	32	117	26	25
18	56	243	33	102	60	171	27	30	811	49	23	23
19	366	107	21	108	51	102	24	32	1420	78	24	22
20	318	66	41	67	43	1530	190	26	1130	91	62	24
21	299	48	22	43	38	1990	260	112	1180	50	157	23
22	326	38	20	51	35	1480	149	49	733	41	29	22
23	398	33	21	34	154	873	77	29	461	35	25	24
24	342	29	22	30	523	438	51	26	409	31	26	24
25	4590	31	21	27	614	209	37	20	129	37	58	34
26	4410	31	31	22	413	121	217	21	82	45	34	100
27	1210	65	22	109	309	84	173	19	67	38	24	30
28	633	36	20	66	388	67	94	20	70	34	22	23
29	368	26	19	112	---	61	56	21	47	38	24	435
30	246	29	81	93	---	63	45	20	37	32	46	471
31	207	---	262	56	---	55	---	20	---	46	35	---
TOTAL	15228	3062	1511	2309	7837	12338	2456	977	7613	2408	1674	2159
MEAN	491	102	48.7	74.5	280	398	81.9	31.5	254	77.7	54.0	72.0
MAX	4590	543	262	212	1950	1990	372	112	1420	379	321	471
MIN	15	26	16	22	25	34	24	19	21	26	22	22
AC-FT	30200	6070	3000	4580	15540	24470	4870	1940	15100	4780	3320	4280

CAL YR 1984	TOTAL	41618	MEAN 114	MAX 4590	MIN 15	AC-FT 82550
WTR YR 1985	TOTAL	59572	MEAN 163	MAX 4590	MIN 15	AC-FT 118200

08069000 CYPRESS CREEK NEAR WESTFIELD, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: August 1983 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
DATE	TIME											
OCT 25-28	0600	3440	68	--	--	--	--	--	--	--	--	--
25...	1020	4870	54	6.8	18.0	350	300	9.2	97	3.5	5800	9300
FEB 11...	1105	1990	76	6.2	13.0	300	100	--	--	6.0	3500	8900
JUN 19...	1420	1180	108	7.4	24.0	130	170	6.2	73	5.1	2300	6900
AUG 26...	1015	32	488	7.2	28.0	70	43	6.1	78	4.4	170	92
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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 25-28	21	3	6.7	.99	4.8	.5	2.3	18	9.3	5.4	.10	3.6
25...	16	0	5.2	.70	3.9	.4	1.9	18	4.0	3.7	.10	2.6
FEB 11...	23	2	7.2	1.2	6.3	.6	3.3	21	9.0	7.2	.10	3.4
JUN 19...	31	0	10	1.5	8.5	.7	4.2	33	7.6	9.2	.10	6.2
AUG 26...	78	0	25	3.7	70	4	6.8	122	22	60	.30	16
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)	
OCT 25-28	44	--	--	.18	.020	.20	.140	.66	.80	.210	--	
25...	33	826	70	.18	.020	.20	.130	1.2	1.3	.470	12	
FEB 11...	50	448	24	.33	.070	.40	.280	2.1	2.4	.350	19	
JUN 19...	67	396	39	.36	.040	.40	.180	1.1	1.3	.670	19	
AUG 26...	280	33	6	2.6	.170	2.8	.460	1.1	1.6	<.010	11	
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)					
AUG 26...	1015	4	100	<1	<10	4	76					
DATE	TIME	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)					
AUG 26...	1	10	<.1	<1	<1	23						
DATE	TIME	AME- TRYNE TOTAL	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)				
AUG 26...	1015	<.10	.20	<.10	<2.0	<.1	<.1	<.10				
DATE	TIME	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)			
AUG 26...		<2.0	<2.0	.20	<.1	<.01	<.01	<.01	<.01			



## SAN JACINTO RIVER MAIN STEM

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 upstream from Texas and New Orleans Railroad Co. bridge, 0.5 mi downstream from Spring Creek, and 2.5 mi north of Humble.

DRAINAGE AREA.--1,741 mi<sup>2</sup>.

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). Prior to 1938, published as San Jacinto River near Humble.

REVISED RECORDS.--WSP 1732: Drainage area.

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

REMARKS.--Records good. 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 are published.

AVERAGE DISCHARGE.--26 years (water years 1929-54), 1,097 ft<sup>3</sup>/s, 794,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--1928-54: Maximum discharge, 187,000 ft<sup>3</sup>/s May 31, 1929, Nov. 25, 26, 1940; maximum gage height, 32.7 ft May 31, 1929, Nov. 26, 1940, present site and datum, both affected by backwater from East Fork San Jacinto River; minimum discharge, 11 ft<sup>3</sup>/s Aug. 31, Sept. 1, 2, 1951.

1954-85: Maximum gage height since first appreciable storage at Lake Houston, 25.15 ft Apr. 19, 1979; minimum since first appreciable storage at Lake Houston, 5.5 ft 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, 21.28 ft. Oct. 26 at 0100 hours; minimum not determined.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---				---	16.80						
2	---				---	16.72						
3	---				---	16.53						
4	---				---	16.50						
5	---				---	---						
6	---				---	---						
7	---				---	---						
8	---				---	---						
9	---				---	---						
10	---				---	---						
11	---				16.76	---						
12	---				---	---						
13	---				16.03	---						
14	---				16.07	---						
15	---				---	---						
16	---				---	---						
17	---				---	---						
18	---				---	---						
19	---				---	---						
20	---				---	17.68						
21	---				---	17.69						
22	---				---	17.08						
23	---				---	---						
24	---				---	---						
25	21.25				16.21	---						
26	21.28				16.97	---						
27	19.00				16.88	---						
28	16.60				---	---						
29	---				---	---						
30	---				---	---						
31	---				---	---						
MEAN	---				---	---						
MAX	---				---	---						
MIN	---				---	---						

Note: No gage-height record June 24 to July 29.

## SAN JACINTO RIVER BASIN

63

## 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 downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi west of Cleveland, and 4.3 mi downstream from Winter Creek.

DRAINAGE AREA.--325 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 107.98 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 13, 1955, at site 1,800 ft upstream at datum 5.00 ft higher. Telemeter located at station.

REMARKS.--Estimated daily discharges: Oct. 1-10, Mar. 27 to Apr. 9, June 1-13, and July 14-25. Records good except those for Oct. 1-10 and Mar. 27 to Apr. 9, which are poor. No large diversion above station. Rain gage and gage-height telemeter at station.

AVERAGE DISCHARGE.--46 years, 227 ft<sup>3</sup>/s (9.49 in/yr), 164,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,000 ft<sup>3</sup>/s Nov. 24, 1940 (gage height, 24.1 ft, present site and datum), from rating curve extended above 27,000 ft<sup>3</sup>/s; minimum daily, 3.0 ft<sup>3</sup>/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, present site and datum, from information by local residents, discharge 53,500 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 18	1700	*2,660	*14.38	No other peak greater than base discharge.			

Minimum discharge, 18 ft<sup>3</sup>/s Sept. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	150	182	784	297	1070	200	66	35	30	25	20
2	28	247	127	983	243	1340	150	59	34	30	25	19
3	27	354	105	1010	207	1620	120	53	33	31	26	19
4	27	241	500	942	193	1720	110	51	32	32	26	19
5	28	171	1100	744	243	834	100	48	31	41	26	19
6	29	122	966	508	361	358	95	47	30	36	25	19
7	29	94	658	309	290	267	90	45	29	35	24	20
8	28	80	423	225	220	226	87	44	29	31	24	23
9	32	73	269	185	179	205	85	45	28	30	23	23
10	45	68	193	171	198	189	85	47	28	29	22	24
11	42	62	161	189	745	175	87	45	27	29	22	28
12	36	56	144	171	1170	163	85	44	27	28	22	34
13	70	54	134	137	1470	151	83	43	30	28	22	34
14	169	52	143	141	1290	155	81	42	32	28	22	30
15	206	52	172	144	433	170	79	41	29	27	24	26
16	97	305	312	149	256	180	72	39	27	27	26	23
17	67	1130	456	330	209	201	69	39	25	27	24	22
18	70	2300	424	607	185	181	66	39	28	27	23	21
19	121	2110	324	767	166	154	63	39	69	30	22	21
20	514	1490	226	506	154	573	62	39	380	29	22	20
21	420	917	177	250	145	1080	74	43	158	35	32	20
22	925	513	146	176	141	1140	76	62	85	49	107	19
23	1310	232	124	143	490	1240	74	83	64	35	46	19
24	1560	163	116	130	1150	508	95	133	51	30	31	20
25	1300	142	113	126	1630	254	81	73	45	29	30	23
26	959	144	101	119	2370	195	218	53	41	27	25	21
27	944	143	97	248	2130	180	216	46	37	26	23	20
28	894	182	102	912	979	800	106	41	34	27	21	19
29	570	255	110	1140	---	900	85	39	32	30	21	34
30	269	275	125	1230	---	800	74	37	30	28	21	61
31	205	---	251	582	---	400	---	36	---	27	20	---
TOTAL	11050	12177	8481	14058	17544	17429	2968	1561	1560	948	852	720
MEAN	356	406	274	453	627	562	98.9	50.4	52.0	30.6	27.5	24.0
MAX	1560	2300	1100	1230	2370	1720	218	133	380	49	107	61
MIN	27	52	97	119	141	151	62	36	25	26	20	19
CFSM	1.10	1.25	.84	1.39	1.93	1.73	.30	.16	.16	.09	.09	.07
IN.	1.26	1.39	.97	1.61	2.01	1.99	.34	.18	.18	.11	.10	.08
AC-FT	21920	24150	16820	27880	34800	34570	5890	3100	3090	1880	1690	1430
CAL YR 1984	TOTAL	97464	MEAN	266	MAX	3260	MIN	24	CFSM	.82	IN	11.16
WTR YR 1985	TOTAL	89348	MEAN	245	MAX	2370	MIN	19	CFSM	.75	IN	10.23
AC-FT									193300		AC-FT	177200

## SAN JACINTO RIVER BASIN

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

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1968 to current year. Biochemical and pesticide analyses: August 1983 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
11...	1045	43	150	--	--	--	--	--	--	--	--	--
26...	1127	956	114	6.0	20.0	250	50	7.6	83	2.7	980	1700
DEC												
10...	1045	194	193	--	11.5	--	--	--	--	--	--	--
FEB												
11...	1315	804	147	7.0	11.0	100	60	--	--	2.4	1200	1800
JUN												
20...	0925	450	168	6.6	22.5	100	88	7.7	89	3.6	2300	3600
AUG												
27...	0915	23	145	7.1	26.5	60	23	6.6	82	1.3	84	K18

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)
OCT												
11...	27	12	8.0	1.7	17	1	1.5	15	8.1	31	<.10	11
26...	33	12	11	1.4	9.3	.7	2.4	21	12	18	<.10	9.2
DEC												
10...	56	23	19	2.1	16	1	1.8	33	11	35	<.10	13
FEB												
11...	37	16	12	1.7	14	1	1.5	21	16	23	<.10	8.9
JUN												
20...	34	9	11	1.6	18	1	2.0	25	6.9	33	<.10	8.2
AUG												
27...	33	10	9.9	2.0	15	1	1.9	23	5.2	27	<.10	11

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)
OCT											
11...	87	--	--	--	--	--	--	--	--	--	--
26...	76	68	23	--	.010	<.10	.050	.65	.70	.080	13
DEC											
10...	120	--	--	--	--	--	--	--	--	--	--
FEB											
11...	90	121	20	.07	.030	.10	.120	.68	.80	.060	13
JUN											
20...	96	72	11	.28	.020	.30	.080	1.0	1.1	.140	17
AUG											
27...	86	15	1	.09	.010	.10	.070	.73	.80	.070	5.5

## 08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX

LOCATION.--Lat 30°08'43", long 95°06'14", Montgomery County, Hydrologic Unit 12040103, on right bank at downstream side of bridge on Farm Road 1485, 1.0 mi upstream from Church House Gully, 5.5 mi east of New Caney, and 5.9 mi upstream from Caney Creek.

DRAINAGE AREA.--388 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1952-58, 1969-76, 1983-84. May 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 43.98 ft above National Geodetic Vertical Datum of 1929 (from Texas Highway Department benchmark).

REMARKS.--Estimated daily discharges for period May to September 1984: May 21 to June 4, June 7, June 10-12, June 21-27, July 5-6, and Aug. 12-20. Estimated daily discharges for current year: Oct. 15-18, Oct. 25 to Nov. 6, Nov. 15, Feb. 28, Mar. 1, May 31 to June 3, and Aug. 26, 28. Records fair except those for estimated daily discharges, which are poor. No known diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,600 ft<sup>3</sup>/s Feb. 27, 1985 (gage height, 15.84 ft); minimum, 23 ft<sup>3</sup>/s Sept. 4-6, 1985 (gage height, 4.38 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1973, reached a stage of 29.6 ft, from flood mark on left bank, identified by local resident. Flood in November 1940 may have been slightly higher.

EXTREMES FOR PERIOD MAY 1984 TO SEPTEMBER 1984.--Peak discharges greater than base discharge of 2,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
July 2	0600	*1,950	*13.63				

Minimum discharge, 30 ft<sup>3</sup>/s Sept. 21, 22.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 27	2200	*2,600	*15.84	No other peak greater than base discharge.			

Minimum discharge, 23 ft<sup>3</sup>/s Sept. 4-6.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								74	90	1290	43	33
2								73	84	1720	41	39
3								73	79	924	41	43
4								71	74	1080	40	47
5								68	72	1080	40	48
6								65	75	298	42	42
7								72	144	220	62	37
8								75	421	351	83	35
9								91	514	202	91	33
10								73	277	126	59	33
11								68	147	99	49	33
12								66	106	91	47	33
13								64	96	79	50	33
14								63	94	87	250	33
15								62	91	72	100	33
16								60	87	63	60	33
17								62	58	60	70	33
18								79	58	56	60	33
19								347	54	53	50	33
20								703	60	52	44	33
21								792	70	50	40	32
22								1050	64	49	37	30
23								1400	60	48	37	31
24								1300	57	46	35	45
25								800	58	45	34	43
26								400	58	45	34	38
27								200	54	46	37	36
28								150	50	65	35	35
29								120	93	65	34	33
30								120	563	53	33	33
31								100	---	47	33	---
TOTAL								8741	3808	8562	1711	1076
MEAN								282	127	276	55.2	35.9
MAX								1400	563	1720	250	48
MIN								60	50	45	33	30
AC-FT								17340	7550	16980	3390	2130



## SAN JACINTO RIVER BASIN

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	230	232	429	632	1480	330	91	46	38	32	26
2	32	200	164	790	311	1330	247	83	44	36	30	24
3	31	300	126	1100	254	1460	203	76	43	38	34	24
4	31	400	113	1160	220	1660	177	71	42	41	34	23
5	32	280	528	1060	211	1720	152	67	41	39	29	23
6	34	180	1140	802	263	931	137	62	40	43	29	23
7	34	132	1040	531	342	429	122	58	40	47	27	23
8	33	115	683	326	267	331	112	58	39	46	56	24
9	40	101	400	274	210	281	106	56	39	40	36	25
10	64	85	254	217	294	245	100	56	38	37	27	29
11	54	78	187	210	1180	220	97	56	37	36	25	33
12	48	73	158	198	1100	201	100	56	37	36	25	33
13	47	68	144	172	1340	185	105	55	37	35	25	37
14	94	65	135	154	1590	223	100	53	44	35	26	36
15	240	62	143	159	1470	313	96	52	43	33	28	34
16	190	65	169	163	546	297	93	52	37	34	27	31
17	95	337	327	198	319	273	88	52	35	33	29	28
18	65	1030	422	354	252	244	82	50	55	34	28	26
19	71	2080	382	583	221	207	77	49	65	37	27	25
20	139	2210	285	732	198	1060	76	48	105	35	28	24
21	395	1620	205	469	184	1740	77	48	312	39	29	24
22	392	972	164	237	175	1500	84	55	160	61	28	24
23	760	490	141	179	760	1380	89	92	97	50	93	24
24	1240	235	126	155	2100	1390	85	119	76	39	58	24
25	1690	173	119	144	1940	608	100	135	60	34	60	24
26	1650	151	117	138	2030	305	106	95	52	33	49	29
27	1110	156	110	164	2450	246	270	73	47	32	33	28
28	1000	151	109	428	2330	298	227	62	43	32	29	25
29	900	176	113	899	---	811	130	53	41	31	27	41
30	600	234	130	1180	---	1030	105	48	39	32	27	121
31	300	---	204	1260	---	713	---	47	---	34	26	---
TOTAL	11443	12449	8570	14865	23189	23111	3873	2028	1834	1170	1061	915
MEAN	369	415	276	480	828	746	129	65.4	61.1	37.7	34.2	30.5
MAX	1690	2210	1140	1260	2450	1740	330	135	312	61	93	121
MIN	31	62	109	138	175	185	76	47	35	31	25	23
AC-FT	22700	24690	17000	29480	46000	45840	7680	4020	3640	2320	2100	1810
CAL YR 1984	TOTAL	-	MEAN	-	MAX	-	MIN	-	AC-FT	-		
WTR YR 1985	TOTAL	104508	MEAN	286	MAX	2450	MIN	23	AC-FT	207300		

## SAN JACINTO RIVER BASIN

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08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX

PERIOD OF RECORD---Chemical, biochemical, and pesticide analyses: August 1983 to current year.

PERIOD OF DAILY RECORD---

SPECIFIC CONDUCTANCE: October 1984 to September 1985.

WATER TEMPERATURES: October 1984 to September 1985.

INSTRUMENTATION---Beginning October 1984, specific conductance and water temperature are recorded continuously at this station.

EXTREMES FOR CURRENT YEAR---

SPECIFIC CONDUCTANCE: Maximum daily, 870 microsiemens May 7; minimum daily 50 microsiemens Dec. 18.

WATER TEMPERATURES: Maximum daily, 30.5°C Aug. 2-4.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
OCT 25...	1123	1620	104	7.2	17.5	70	48	6.4	67	3.0	700	1200	
FEB 11...	1130	1200	82	6.7	11.0	100	56	--	--	3.5	4300	4900	
JUN 20...	1230	61	171	6.6	24.0	70	25	8.8	104	1.4	270	750	
AUG 28...	0900	29	164	6.7	26.0	70	26	6.3	77	1.2	160	120	
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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 25...	33	7	11	1.4	6.4	.5	2.9	26	9.0	11	<.10	8.8	
FEB 11...	24	9	7.6	1.2	8.0	.7	1.6	15	8.0	13	<.10	5.2	
JUN 20...	32	10	10	1.7	20	2	1.8	22	9.7	33	<.10	9.3	
AUG 28...	29	9	8.6	1.7	20	2	2.1	20	8.1	32	<.10	11	
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, 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 25...	66	46	20	--	.010	<.10	.050	.65	.70	.560	13		
FEB 11...	54	101	12	.16	.040	.20	.140	1.1	1.2	.060	19		
JUN 20...	99	29	10	.29	.010	.30	.060	.54	.60	.150	5.7		
AUG 28...	96	10	3	.28	.020	.30	.060	.64	.70	.120	7.3		
	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)					
	AUG 28...	0900	<1	70	<1	<10	6	260					
	DATE	TIME	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)					
	AUG 28...		<1	80	<.1	<1	<1	5					

## SAN JACINTO RIVER BASIN

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	TIME	AME- TRYNE TOTAL	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
AUG 28...	0900	<.10	<.10	<.10	<2.0	<.1	<.1	<.10	<2.0	<2.0	<.10	<.1

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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. 1984	11443	117	73	2240	16	507	10	312	33
NOV. 1984	12449	103	65	2180	14	460	9.8	329	31
DEC. 1984	8570	81	54	1250	10	241	9.4	218	29
JAN. 1985	14865	175	105	4230	29	1160	11	461	44
FEB. 1985	23189	148	89	5590	22	1390	11	672	38
MAR. 1985	23111	170	102	6350	27	1690	11	703	42
APR. 1985	3873	207	125	1300	37	382	12	129	51
MAY 1985	2028	524	396	2170	190	1040	30	164	230
JUNE 1985	1834	196	123	610	39	192	13	62	55
JULY 1985	1170	166	100	316	26	83	11	35	42
AUG. 1985	1061	189	114	328	33	94	12	34	48
SEPT 1985	915	183	110	271	30	75	12	29	45
TOTAL	104508	**	**	26800	**	7310	**	3150	**
WTD.AVG.	286	154	95	**	26	**	11	**	42

## SAN JACINTO RIVER BASIN

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08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	231	213	222	124	120	122	96	88	92	---	---	115
2	233	210	218	128	124	126	93	90	92	---	---	129
3	220	201	208	135	128	131	93	85	90	---	---	143
4	228	205	215	137	134	136	86	85	85	---	---	154
5	237	210	221	138	136	137	86	84	85	---	---	169
6	238	212	225	140	136	138	86	83	85	---	---	157
7	240	211	224	143	139	141	91	85	89	177	170	173
8	238	202	216	146	143	145	82	69	73	193	178	185
9	224	197	209	148	146	147	74	69	72	207	192	199
10	229	181	208	147	146	147	74	56	60	212	207	209
11	216	180	203	148	147	147	58	55	56	222	212	217
12	204	178	190	148	137	144	55	54	54	244	223	231
13	199	131	174	136	76	106	58	54	56	245	242	244
14	181	138	158	75	71	73	59	57	58	248	244	246
15	174	135	156	77	73	75	61	59	60	242	236	238
16	188	146	163	83	77	80	---	---	55	240	233	238
17	216	166	189	88	83	85	---	---	54	238	231	234
18	167	157	162	91	88	89	---	---	50	246	222	239
19	178	146	164	94	90	93	---	---	59	258	208	239
20	188	178	183	98	95	97	---	---	68	205	172	185
21	213	109	141	103	97	101	---	---	74	189	174	182
22	135	103	113	106	103	105	---	---	78	205	190	197
23	131	67	92	103	98	100	---	---	86	224	206	216
24	85	68	78	107	98	103	---	---	104	239	225	233
25	---	---	104	110	99	108	---	---	121	254	239	248
26	159	119	139	99	86	93	---	---	128	267	254	261
27	116	94	101	93	86	89	---	---	136	271	240	258
28	103	94	98	100	81	95	---	---	155	238	189	216
29	112	103	108	101	97	99	---	---	152	182	161	172
30	116	111	114	99	97	98	---	---	147	166	128	149
31	120	116	118	---	---	---	---	---	121	128	126	127
MONTH	240	67	165	148	71	112	96	54	87	271	126	200

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	141	127	134	165	160	162	175	170	174	215	195	206
2	147	140	143	167	165	166	189	168	177	241	216	228
3	147	138	141	173	167	170	217	180	198	255	243	250
4	138	136	137	174	172	173	212	199	204	280	256	267
5	141	137	139	176	173	174	217	212	215	296	280	289
6	173	139	142	182	175	178	220	216	218	604	292	439
7	213	185	202	188	182	185	220	217	219	870	599	722
8	209	193	200	200	188	195	223	217	220	853	717	807
9	201	195	198	206	200	203	226	222	224	864	684	759
10	209	139	195	211	206	208	231	226	228	788	691	742
11	141	128	136	215	210	212	231	229	230	869	707	768
12	152	131	141	220	215	217	231	230	231	799	753	770
13	150	128	134	223	220	221	232	229	230	811	766	783
14	144	131	134	232	176	208	231	228	229	815	774	800
15	146	131	135	181	162	169	230	229	229	766	716	739
16	138	132	135	184	167	173	229	227	228	766	706	736
17	145	138	142	178	168	171	233	230	231	755	677	715
18	153	145	149	209	178	196	260	230	237	673	589	612
19	159	152	156	231	208	218	235	232	234	603	557	582
20	166	159	163	218	125	152	235	229	233	581	513	546
21	171	165	168	144	139	143	236	228	232	587	508	545
22	176	171	174	146	141	142	233	231	233	618	559	590
23	179	135	168	159	142	150	236	232	234	598	461	500
24	144	136	140	160	155	158	297	226	233	487	430	459
25	151	144	148	169	154	160	226	214	220	462	371	405
26	155	149	152	189	165	175	217	210	213	465	305	403
27	156	153	155	249	186	223	217	150	192	543	444	493
28	161	154	158	245	207	228	181	146	166	658	542	596
29	---	---	---	242	176	210	182	168	175	777	657	712
30	---	---	---	173	164	166	194	169	181	741	234	467
31	---	---	---	175	164	170	---	---	---	245	235	240
MONTH	213	127	154	249	125	183	297	146	216	870	195	554



## SAN JACINTO RIVER BASIN

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	254	246	251	197	190	193	302	262	282	171	163	166
2	260	251	256	200	196	198	350	298	322	180	171	175
3	258	252	255	198	178	194	336	281	312	190	180	184
4	252	242	245	187	180	184	282	261	273	198	190	193
5	242	239	241	188	182	185	281	272	277	204	198	201
6	244	238	240	183	176	178	286	228	254	213	204	208
7	245	238	242	175	166	170	232	203	216	222	212	217
8	280	239	251	167	163	165	212	119	166	234	223	228
9	335	286	312	165	161	162	158	131	146	239	235	237
10	359	333	343	162	156	159	188	134	157	238	215	232
11	366	343	362	158	151	154	223	181	205	216	189	209
12	339	301	311	151	147	149	237	224	231	188	171	177
13	326	299	311	152	146	149	220	185	201	173	157	163
14	361	326	342	151	148	150	199	181	191	170	162	165
15	445	356	401	149	145	148	190	180	187	165	163	164
16	451	435	442	150	144	147	191	184	188	171	164	168
17	441	429	434	153	146	149	183	180	182	177	171	173
18	440	108	312	152	148	150	189	180	185	184	177	181
19	163	138	155	148	142	145	193	189	191	192	184	188
20	159	139	149	176	144	158	194	173	191	193	188	190
21	146	80	100	201	128	163	180	159	169	203	194	199
22	79	70	73	146	113	131	184	180	182	202	190	195
23	93	73	81	151	101	124	180	170	176	196	191	193
24	118	95	105	181	113	148	173	165	168	202	195	197
25	154	120	135	194	158	176	172	115	137	207	203	206
26	192	155	172	169	164	166	123	115	119	203	194	197
27	215	189	199	172	169	171	140	124	132	203	197	201
28	201	191	195	187	169	175	143	136	141	202	190	198
29	191	184	187	205	186	193	134	119	123	190	73	155
30	192	183	187	232	206	220	145	123	133	163	94	136
31	---	---	---	266	231	248	163	145	154	---	---	---
MONTH	451	70	243	266	101	168	350	115	193	239	73	190

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	20.0	17.5	19.0	13.0	11.5	12.0	18.0	17.5	17.5	---	---	---
2	20.0	17.0	18.5	14.5	12.5	13.5	17.5	16.5	17.0	---	---	---
3	20.5	18.0	19.5	14.5	14.0	14.5	17.5	16.5	17.0	---	---	---
4	20.5	18.0	19.5	14.0	12.5	13.5	18.5	17.5	17.5	---	---	---
5	22.0	19.5	21.0	13.0	12.0	12.5	19.5	18.5	18.5	---	---	---
6	23.5	21.0	22.0	13.5	12.5	13.0	20.0	19.0	19.5	---	---	---
7	23.5	21.5	22.5	13.5	12.0	12.5	20.0	20.0	20.0	9.5	9.0	9.0
8	24.0	22.5	23.0	14.5	13.0	13.5	19.5	17.0	18.5	10.5	9.0	9.5
9	23.0	22.0	22.5	14.0	13.0	13.5	17.0	14.0	15.5	11.5	10.5	11.0
10	23.5	21.5	22.5	13.5	12.5	13.0	14.0	11.5	12.5	11.0	10.5	11.0
11	23.5	22.0	22.5	12.5	9.5	11.0	11.5	9.5	10.5	10.5	8.5	9.5
12	24.0	22.0	23.0	9.5	9.0	9.0	9.5	8.5	8.5	8.5	8.0	8.0
13	23.5	22.5	23.0	9.0	8.5	8.5	8.5	8.0	8.0	8.5	7.5	8.0
14	23.0	22.0	22.5	9.0	8.0	8.5	9.0	8.0	8.5	7.5	7.0	7.5
15	23.5	22.0	22.5	10.0	8.5	9.0	8.5	8.5	8.5	8.5	8.0	8.5
16	24.0	22.5	23.0	11.5	10.0	10.5	---	---	---	9.0	8.0	8.5
17	23.5	22.5	23.0	13.0	11.0	12.0	---	---	---	10.0	9.0	9.5
18	24.5	23.0	23.5	14.5	12.5	13.5	---	---	---	10.0	9.0	9.5
19	24.0	23.0	23.5	16.0	14.0	15.0	---	---	---	10.0	9.0	9.5
20	24.5	23.0	23.5	17.5	16.0	16.5	---	---	---	10.0	8.0	9.0
21	23.5	22.5	23.0	18.5	17.5	18.0	---	---	---	8.0	7.0	7.5
22	22.5	21.5	22.0	19.0	18.0	18.5	---	---	---	7.0	6.0	6.5
23	21.5	20.0	20.5	19.5	19.0	19.0	---	---	---	7.5	6.5	7.0
24	19.5	19.0	19.5	19.5	19.0	19.5	---	---	---	8.5	7.0	8.0
25	---	---	---	19.5	19.0	19.5	---	---	---	10.0	8.0	9.0
26	16.5	16.0	16.0	19.5	19.0	19.5	---	---	---	10.5	9.0	9.5
27	15.5	14.5	15.0	20.0	19.0	19.5	---	---	---	11.5	9.5	10.5
28	14.5	13.5	14.0	19.5	18.5	19.0	---	---	---	11.5	10.5	11.0
29	13.0	11.5	12.5	18.5	18.0	18.0	---	---	---	11.0	10.5	10.5
30	11.5	11.0	11.5	18.5	17.5	18.0	---	---	---	11.5	11.0	11.0
31	12.0	11.0	11.5	---	---	---	---	---	---	11.5	9.5	10.5
MONTH	24.5	11.0	20.0	20.0	8.0	14.5	20.0	8.0	14.5	11.5	6.0	9.0

## SAN JACINTO RIVER BASIN

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08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	9.5	7.5	8.5	15.0	14.0	14.5	20.0	18.5	19.0	26.5	23.5	24.5
2	7.5	6.5	7.0	15.0	14.5	15.0	20.0	18.0	18.5	25.5	23.0	24.0
3	6.5	6.0	6.0	16.5	15.0	16.0	20.0	17.5	19.0	25.0	22.5	23.5
4	6.0	5.5	6.0	17.0	16.5	17.0	20.5	18.0	19.0	25.0	21.5	23.0
5	6.0	5.5	6.0	17.0	16.0	16.5	21.5	19.5	20.0	25.0	21.5	23.0
6	6.5	6.0	6.0	16.5	15.5	16.0	21.5	18.5	20.0	24.5	21.5	23.0
7	7.0	6.0	6.5	16.0	15.0	15.5	21.5	19.5	20.5	25.0	21.5	23.5
8	7.5	6.0	6.5	18.0	16.0	17.0	20.5	19.0	20.0	24.0	22.5	23.0
9	8.5	6.5	7.5	19.0	17.5	18.0	20.5	18.0	19.0	25.5	22.0	23.5
10	12.5	8.5	10.0	20.0	18.5	19.0	19.0	17.0	18.0	25.0	23.0	24.0
11	12.5	10.5	11.5	21.0	19.5	20.0	19.0	17.5	18.5	25.5	23.0	24.5
12	10.5	9.5	10.0	21.5	20.0	20.5	20.0	18.0	19.0	26.0	24.0	25.0
13	10.0	9.0	9.5	21.0	20.5	20.5	21.5	18.5	19.5	25.5	24.5	25.0
14	10.0	9.5	10.0	21.0	18.5	20.0	22.5	19.0	20.5	26.0	24.5	25.0
15	10.0	9.5	9.5	18.5	17.0	17.5	23.0	19.0	21.0	24.5	23.5	24.0
16	11.0	9.0	10.0	17.0	16.5	17.0	24.0	20.0	22.0	26.0	23.0	24.5
17	12.0	10.5	11.0	18.0	16.5	17.0	24.5	21.0	22.5	24.5	23.0	24.0
18	13.0	11.0	12.0	18.0	16.0	17.0	25.0	21.5	23.0	24.0	22.0	23.0
19	14.0	12.0	13.0	17.0	16.0	16.5	24.5	21.5	23.0	24.5	22.0	23.0
20	15.0	13.0	14.0	17.0	16.5	16.5	23.0	21.5	22.5	24.0	22.0	23.0
21	15.5	14.0	15.0	17.0	16.5	16.5	22.5	21.5	22.0	25.0	22.5	24.0
22	17.0	15.5	16.5	17.0	15.5	16.5	23.0	21.5	22.0	25.5	22.5	24.0
23	17.5	16.0	16.5	17.5	16.5	17.0	23.5	22.0	22.5	25.5	22.5	24.0
24	16.0	14.5	15.0	17.5	16.5	17.0	24.5	21.5	23.0	25.5	23.0	24.0
25	15.0	14.0	14.5	19.0	17.5	18.0	23.5	21.0	22.0	26.0	23.0	24.5
26	15.0	14.0	14.5	19.0	18.0	18.5	23.0	21.5	22.0	26.0	23.0	24.5
27	14.5	14.5	14.5	20.0	18.5	19.5	23.0	22.0	22.5	25.5	23.0	24.5
28	14.5	14.0	14.5	21.5	19.5	20.5	24.0	22.0	22.5	26.5	23.0	25.0
29	---	---	---	21.5	20.5	21.0	24.5	22.5	23.5	27.5	24.0	25.5
30	---	---	---	21.5	21.0	21.5	25.5	23.0	24.0	28.5	25.0	26.5
31	---	---	---	20.5	19.0	20.0	---	---	---	29.0	26.0	27.5
MONTH	17.5	5.5	11.0	21.5	14.0	18.0	25.5	17.0	21.0	29.0	21.5	24.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	29.5	26.5	28.0	28.0	24.5	26.5	30.0	27.0	29.0	29.5	26.5	28.0
2	28.5	26.5	27.5	27.5	25.0	26.5	30.5	27.5	29.0	29.5	26.5	28.0
3	29.5	26.5	28.0	26.5	24.5	25.5	30.5	27.0	29.0	28.5	27.0	28.0
4	29.5	27.0	28.0	24.5	24.0	24.5	30.5	27.5	29.0	28.5	26.5	27.5
5	29.0	26.5	28.0	26.5	23.5	24.5	30.0	27.5	29.0	28.0	26.0	27.0
6	28.5	27.0	27.5	27.5	24.0	25.5	30.0	27.0	28.5	28.0	26.0	27.0
7	29.0	26.0	27.5	27.5	24.5	26.0	30.5	27.5	29.0	28.5	26.5	27.5
8	29.5	26.5	28.0	27.5	25.0	26.0	30.0	27.0	28.5	28.5	26.0	27.5
9	29.5	27.0	28.5	28.5	25.5	27.0	29.5	27.0	28.5	28.0	26.5	27.0
10	28.5	26.5	27.5	29.0	26.0	27.5	30.0	26.5	28.5	27.5	25.5	26.5
11	29.0	26.5	27.5	28.5	26.0	27.5	30.0	27.0	29.0	26.5	25.5	26.0
12	29.0	26.0	27.5	29.0	26.0	27.5	30.0	27.5	29.0	27.5	25.0	26.0
13	27.5	25.0	26.5	29.0	26.0	28.0	29.0	27.0	28.0	27.5	25.0	26.0
14	28.0	24.5	26.5	28.5	26.0	27.5	28.0	26.5	27.5	27.5	25.5	26.5
15	28.0	25.0	26.5	28.5	26.0	27.5	28.0	26.0	27.0	27.0	25.0	26.0
16	29.0	25.5	27.5	29.0	25.5	27.5	28.5	26.0	27.5	26.5	24.5	25.5
17	28.5	26.5	27.5	29.0	26.0	27.5	29.5	26.5	28.0	26.5	24.0	25.5
18	27.0	24.5	25.5	28.5	26.5	27.5	29.5	26.5	28.0	26.5	24.5	25.5
19	25.0	24.0	24.5	27.5	26.0	26.5	30.0	27.0	29.0	26.5	24.0	25.5
20	25.5	23.5	24.5	27.0	26.0	26.5	30.0	27.5	29.0	26.5	24.0	25.5
21	24.0	23.0	23.5	28.5	25.0	27.0	29.5	26.5	28.5	26.5	24.0	25.5
22	25.0	23.5	24.0	29.0	26.0	27.5	30.0	27.5	29.0	26.0	24.0	25.0
23	27.0	24.0	25.5	29.0	26.5	28.0	29.0	27.0	28.0	26.0	24.0	25.5
24	28.0	24.5	26.0	30.0	27.0	28.5	29.0	27.0	28.0	25.5	24.0	25.0
25	28.5	25.0	26.5	29.0	27.0	28.0	29.0	26.5	28.0	26.0	24.0	25.0
26	28.0	25.5	27.0	29.5	26.5	28.0	28.5	25.5	27.0	25.5	23.5	24.5
27	29.0	25.5	27.0	30.0	27.0	28.5	28.5	26.0	27.0	23.5	21.0	22.5
28	28.0	26.0	27.0	29.5	27.0	28.5	28.0	26.0	27.0	23.0	21.0	22.0
29	28.0	24.5	26.5	29.0	27.5	28.5	28.0	26.0	27.0	22.5	22.0	22.5
30	27.5	24.0	26.0	29.0	26.5	28.0	28.5	26.0	27.5	21.5	20.0	21.0
31	---	---	---	30.0	27.0	28.5	29.5	26.5	28.0	---	---	---
MONTH	29.5	23.0	26.5	30.0	23.5	27.0	30.5	25.5	28.0	29.5	20.0	25.5

## SAN JACINTO RIVER BASIN

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 downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, and 8 mi west of Splendora.

DRAINAGE AREA.--105 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1732: Drainage area.

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

REMARKS.--No estimated daily discharges. Records good. No diversion above station.

AVERAGE DISCHARGE.--42 years, 77.1 ft<sup>3</sup>/s (9.97 in/yr), 55,860 acre-ft/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 25	0100	*1,850	*13.12	No other peak greater than base discharge.			

Minimum discharge, 13 ft<sup>3</sup>/s Oct. 2-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	57	45	405	69	641	73	36	25	19	16	17
2	13	92	41	188	64	740	63	35	22	18	16	16
3	13	95	40	153	59	198	59	33	22	19	18	15
4	13	65	211	181	58	139	56	31	21	24	18	15
5	13	54	543	94	58	111	53	30	21	27	17	15
6	13	48	318	72	84	92	50	30	20	23	17	15
7	13	44	125	63	68	84	48	31	20	23	16	16
8	19	42	84	58	59	81	46	30	20	21	15	17
9	28	42	72	54	56	78	45	32	20	20	15	50
10	39	41	65	56	78	75	44	33	19	19	16	33
11	30	39	58	68	561	72	44	33	20	18	16	27
12	25	37	55	59	878	70	45	31	30	19	15	32
13	29	36	54	53	146	68	45	31	32	20	16	29
14	55	35	55	54	99	69	45	31	24	19	15	30
15	91	35	53	56	80	83	43	30	21	17	14	23
16	42	79	54	58	73	83	40	30	21	18	14	21
17	28	634	95	281	68	80	39	28	20	19	14	19
18	27	158	73	233	63	71	37	27	22	25	15	18
19	39	204	59	86	60	66	36	27	206	23	14	18
20	139	101	55	63	58	369	37	27	156	23	14	18
21	110	67	53	53	57	826	44	29	47	29	29	17
22	699	55	50	49	55	218	51	56	42	28	28	17
23	282	49	48	48	107	107	46	51	37	21	20	16
24	130	47	49	47	1170	82	43	66	29	19	19	17
25	312	47	48	47	821	71	42	42	25	18	23	17
26	812	51	45	46	233	65	57	33	23	17	21	17
27	384	53	46	109	159	159	61	30	22	17	19	17
28	106	75	50	678	239	936	48	29	22	17	17	17
29	78	62	49	304	---	171	42	28	20	16	17	35
30	65	51	52	102	---	99	38	26	19	17	17	45
31	59	---	89	82	---	87	---	26	---	16	17	---
TOTAL	3720	2495	2734	3900	5580	6091	1420	1032	1048	629	538	659
MEAN	120	83.2	88.2	126	199	196	47.3	33.3	34.9	20.3	17.4	22.0
MAX	812	634	543	678	1170	936	73	66	206	29	29	50
MIN	13	35	40	46	55	65	36	26	19	16	14	15
CFSM	1.14	.79	.84	1.20	1.90	1.87	.45	.32	.33	.19	.17	.21
IN.	1.32	.88	.97	1.38	1.98	2.16	.50	.37	.37	.22	.19	.23
AC-FT	7380	4950	5420	7740	11070	12080	2820	2050	2080	1250	1070	1310
CAL YR 1984	TOTAL	28955	MEAN 79.1	MAX 1160	MIN 13	CFSM .75	IN 10.26	AC-FT 57430				
WTR YR 1985	TOTAL	29846	MEAN 81.8	MAX 1170	MIN 13	CFSM .78	IN 10.57	AC-FT 59200				

## SAN JACINTO RIVER BASIN

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08070500 CANEY CREEK NEAR SPLENDORA, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: August 1983 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 26...	1010	757	86	6.2	20.5	350	89	8.9	98	3.8	4100	6100
FEB 11...	1425	651	110	7.1	12.0	300	45	--	--	4.0	2900	5300
JUN 19...	1245	241	80	6.2	22.0	50	110	8.7	99	2.9	2000	4800
AUG 27...	1030	19	83	6.8	26.0	65	20	7.4	91	4.1	88	160

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 26...	35	5	12	1.3	3.8	.3	2.8	30	7.5	6.2	<.10	8.4
FEB 11...	36	11	12	1.4	7.3	.6	2.0	25	8.5	14	<.10	5.6
JUN 19...	20	5	6.1	1.1	7.6	.8	1.2	15	5.6	13	<.10	12
AUG 27...	20	2	5.7	1.5	8.2	.8	1.9	18	7.0	12	--	13

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)
OCT 26...	60	313	44	--	.020	<.10	.050	1.3	1.3	.160	14
FEB 11...	66	258	38	.09	.110	.20	.250	2.3	2.5	.130	23
JUN 19...	56	326	36	.29	.010	.30	.070	1.2	1.3	.250	19
AUG 27...	61	4	3	.29	.010	.30	.150	.85	1.0	.060	5.4

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)
AUG 27...	1030	1	41	5	<10	16	360

DATE	TIME	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)
AUG 27...		1	35	<.1	<1	<1	51

DATE	TIME	AME- TRYNE TOTAL	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
AUG 27...	1030	<.10	<.10	<.10	<2.0	<.1	<.1	<.10	<2.0	<2.0	<.10	<.1



## SAN JACINTO RIVER BASIN

08071280 LUCE BAYOU ABOVE LAKE HOUSTON NEAR HUFFMAN, TX

LOCATION.--Lat 30°06'34", long 95°03'35", Liberty County, Hydrologic Unit 12040103, on left bank, in Tricontinental Pipeline Company right of way, 1.1 mi upstream from Key Gully, 3.1 mi east of Huffman-Cleveland Road, and 6.3 mi northeast of Huffman.

DRAINAGE AREA.--218 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low flow measurements, at site 2.2 mi downstream, water years, 1970, 1972, 1975; February to April 1984 (discharge measurements only), May 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 39.91 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges for period May to September 1984: May 1, May 3 to June 3, June 4-27, June 29 to July 15, July 17-24, July 26-30, and Sept. 9-30. Estimated daily discharges for current year: Oct. 1-15, Oct. 17-31, Nov. 2-7, Dec. 9-12, Jan. 26 to Feb. 12, and Feb. 14 to Mar. 11. Records fair except those for estimated daily discharges, which are poor. No known regulation or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,080 ft<sup>3</sup>/s Mar. 22, 1985 (gage height, 23.29 ft); no flow July 16-23, 1984.

EXTREMES FOR PERIOD MAY TO SEPTEMBER 1984.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 22	unknown	*420	unknown				

Minimum discharge, no flow July 16-23.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 12	unknown	*2,080	22.38	Mar. 2	unknown	1,250	unknown
Feb. 26	unknown	1,900	unknown	Mar. 22	1800	*2,500	*23.29

Minimum daily discharge (estimated), 0.10 ft<sup>3</sup>/s Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								1.8	3.0	.60	.48	.06
2								1.5	2.0	.50	.58	.13
3								1.2	1.0	.35	3.7	.58
4								1.0	.67	.25	2.3	.27
5								.90	.38	.20	1.0	.18
6								.80	115	.15	.50	.16
7								2.0	360	.12	.37	.09
8								10	140	.09	.27	.07
9								20	40	.06	.19	.06
10								10	15	.05	.16	.06
11								4.0	7.0	.20	.17	.05
12								2.0	8.0	.10	1.1	.05
13								1.5	6.0	.05	.82	.05
14								1.0	4.0	.02	20	.04
15								.80	2.5	.01	11	.04
16								.60	1.5	.00	3.2	.04
17								.50	1.0	.00	4.7	.03
18								3.0	.70	.00	5.1	.03
19								30	.50	.00	1.1	.03
20								150	.40	.00	.57	.50
21								300	.30	.00	.34	1.0
22								400	.25	.00	.19	.50
23								400	.22	.00	.15	2.0
24								300	.19	.20	.10	1.0
25								150	.16	.31	.09	.50
26								80	.14	.20	.08	.30
27								50	.12	3.0	.06	.25
28								30	.11	10	.06	.22
29								15	1.0	5.0	.06	.19
30								10	.70	2.0	.06	.16
31								5.0	---	.93	.06	---
TOTAL								1982.60	711.84	24.39	58.56	8.64
MEAN								64.0	23.7	.79	1.89	.29
MAX								400	360	10	20	2.0
MIN								.50	.11	.00	.06	.03
CFSM								.29	.11	.004	.009	.001
IN.								.34	.12	.00	.01	.00
AC-FT								3930	1410	48	116	17

## SAN JACINTO RIVER BASIN

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08071280 LUCE BAYOU ABOVE LAKE HOUSTON NEAR HUFFMAN, TX--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	38	13	406	70	950	75	111	.31	.66	1.2	2.3
2	.13	60	11	509	55	1200	55	49	.29	.53	1.6	1.8
3	.12	70	10	689	40	900	42	25	.26	.98	2.8	1.5
4	.11	80	9.4	757	30	650	34	12	.25	4.6	1.9	1.5
5	.10	75	12	662	40	500	26	7.0	.23	2.6	5.7	1.4
6	.10	65	59	500	55	350	19	4.8	.21	1.4	5.6	1.8
7	1.0	55	188	318	45	250	14	3.6	.21	1.3	3.4	3.5
8	5.0	45	271	177	50	170	12	2.9	.22	1.9	2.9	3.7
9	10	35	285	116	55	120	9.6	2.4	.30	1.7	22	3.0
10	12	24	200	90	80	90	8.8	2.1	.31	2.1	13	4.1
11	10	16	120	80	720	70	8.1	2.0	.48	2.8	1.6	11
12	12	11	70	82	2000	57	7.5	2.7	4.5	2.3	1.2	5.0
13	30	8.6	52	65	2050	50	7.3	2.0	2.8	1.7	2.1	10
14	100	7.3	42	57	1800	99	7.1	2.1	.77	1.6	1.5	8.4
15	150	6.8	36	55	1000	262	6.5	1.6	.42	1.2	1.5	5.5
16	160	7.0	33	51	550	297	5.9	1.4	.30	1.3	4.7	5.7
17	170	12	44	76	320	273	5.4	1.1	.72	1.3	2.1	3.5
18	160	44	91	121	200	214	5.1	1.0	17	1.2	.95	2.5
19	200	58	142	136	120	149	4.7	.98	148	13	.69	1.9
20	250	66	144	127	80	1130	4.5	.89	139	5.8	.57	1.5
21	270	69	105	95	60	2280	4.9	4.1	57	2.5	1.7	1.1
22	280	59	73	66	50	2390	5.0	4.0	12	8.4	4.2	.87
23	300	44	54	47	90	2230	4.6	17	4.5	5.4	.99	.70
24	350	33	42	37	1200	1680	4.9	41	3.1	3.8	.62	.57
25	400	21	34	30	1800	1140	4.4	34	1.1	3.3	11	.62
26	400	15	27	25	1850	602	4.3	8.3	.51	2.4	2.5	1.4
27	350	13	21	40	1500	217	4.4	.88	.38	3.2	1.8	1.1
28	220	12	18	100	750	171	15	.53	.79	6.0	1.4	1.1
29	100	12	17	120	---	119	78	.41	.99	2.2	3.6	56
30	60	16	28	120	---	93	143	.35	.84	2.0	3.8	288
31	45	---	169	100	---	86	---	.35	---	1.7	2.8	---
TOTAL	4045.70	1077.7	2420.4	5854	16660	18789	626.0	346.49	397.79	90.87	111.42	431.06
MEAN	131	35.9	78.1	189	595	606	20.9	11.2	13.3	2.93	3.59	14.4
MAX	400	80	285	757	2050	2390	143	111	148	13	22	288
MIN	.10	6.8	9.4	25	30	50	4.3	.35	.21	.53	.57	.57
CFSM	.60	.17	.36	.87	2.73	2.78	.10	.05	.06	.01	.02	.07
IN.	.69	.18	.41	1.00	2.84	3.21	.11	.06	.07	.02	.02	.07
AC-FT	8020	2140	4800	11610	33050	37270	1240	687	789	180	221	855
CAL YR 1984	TOTAL	-	MEAN	-	MAX	-	MIN	-	CFSM	-	IN	-
WTR YR 1985	TOTAL	50850.43	MEAN	139	MAX	2390	MIN	.10	CFSM	.64	IN	8.68
										AC-FT	100900	-

## SAN JACINTO RIVER BASIN

08071280 LUCE BAYOU ABOVE LAKE HOUSTON NEAR HUFFMAN, TX

LOCATION.--Lat 30°06'34", long 95°03'35", Liberty County, Hydrologic Unit 12040103, on left bank in Tricontinental Pipeline Co. right-of-way, 1.1 mi upstream from Key Gully, 3.1 mi east of Huffman-Cleveland Road, and 6.3 mi north-east of Huffman.

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1983 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB 12...	1130	2050	48	5.4	10.0	100	34	9.2	80	3.6	1100	2800
JUN 21...	1400	50	124	7.3	26.0	80	52	--	--	3.0	820	1700
AUG 28...	1030	1.4	152	6.9	26.0	70	14	3.6	44	1.3	190	250

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)	ALKA- LINITY FIELD (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
FEB 12...	14	7	4.0	.90	3.6	.4	1.5	7	8.0	5.8	<.10	2.3
JUN 21...	35	14	12	1.3	8.5	.7	2.3	21	18	12	.20	8.0
AUG 28...	41	3	13	2.0	13	.9	2.1	38	7.4	18	.10	3.6

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDE (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)
FEB 12...	30	16	11	.07	.030	.10	.110	2.1	2.2	.040	15
JUN 21...	75	52	11	.76	.040	.80	.390	.91	1.3	.090	14
AUG 28...	83	2	1	--	<.010	<.10	.070	.53	.60	.080	6.6

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIIUM, 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)
AUG 28...	1030	<1	73	<1	<10	1	270

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)
AUG 28...	1	240	<.1	<1	<1	3

DATE	TIME	AME- TRYNE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
AUG 28...	1030	<.10	<.10	<.10	<2.0	<.1	<.1	<.10	<2.0	<2.0	<.10	<.1

## SAN JACINTO RIVER BASIN

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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 upstream from Lake Houston Dam, 4.0 mi north of Sheldon, 4.6 mi upstream from bridge on U.S. Highway 90, and 18 mi northeast of Houston.

DRAINAGE AREA.--2,828 mi<sup>2</sup>.

## 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 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 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, that can be used for control of releases below gage heights of 44.5 ft and above 28.0 ft. In addition, there is a 36-inch-diameter 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 Apr. 19, 1979 (gage height, 49.50 ft); minimum since first filling of lake in August 1954, 53,380 acre-ft Dec. 1, 1971 (gage height, 34.08 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 178,300 acre-ft Oct. 26 at 1200 hours (gage height, 46.90 ft); minimum, 122,900 acre-ft Sept. 25 (gage height, 42.43 ft).

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

42.0	118,200	45.0	152,900
43.0	129,100	47.0	179,600

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129800	160600	156400	159700	157500	168500	157900	153800	143000	149900	141700	130900
2	129100	160700	155800	161100	155900	168100	156800	152300	142300	149600	141900	129800
3	128600	160200	154500	160700	155400	166600	156700	151600	141700	150000	142100	129000
4	128100	159500	155100	160300	155400	166200	156200	151100	141100	151200	141600	129000
5	128300	158200	159300	159700	154900	163600	155100	150700	140400	151400	140700	128900
6	127800	157500	160500	158800	155100	161000	154500	150400	139700	151200	139900	128700
7	127600	156600	160300	157900	155000	159000	154100	150000	139300	151000	139800	128300
8	127400	155700	159300	156800	155000	157700	153200	150000	138500	150500	139700	127800
9	127800	155000	158000	156200	154900	157000	152800	149500	137800	150100	139100	127600
10	128500	154200	157100	155500	162300	155900	152700	149100	137000	149900	138600	127600
11	128500	152900	156300	154600	168100	155800	152700	148800	136900	149400	138000	128000
12	128300	152700	155700	153300	167500	155300	152800	148800	138700	148800	137400	128100
13	129100	152600	155300	154200	166900	155100	153800	148400	138200	148200	137500	128300
14	135500	152500	155000	154500	166000	157900	154600	148300	137700	147700	138500	128000
15	137400	152500	155100	154500	163300	158500	154100	148200	137200	147300	137900	127500
16	139300	155700	156400	155100	160800	158800	154100	147700	136700	146900	137100	127100
17	140100	157000	157500	155500	158600	157700	154100	147400	136100	147200	136700	126600
18	140600	158400	158100	157900	157200	157300	153700	147100	141300	148800	136200	126400
19	144400	158600	158200	159700	156600	156600	153200	146500	148400	148800	135600	125900
20	146900	159700	157900	158400	156200	170000	154500	146100	154200	148800	135700	125500
21	151100	159000	157700	158100	155800	171100	154600	146900	157600	148400	135400	125000
22	155800	158100	156400	157100	155300	168200	154900	146800	157200	147900	134700	124400
23	160800	157100	155900	156200	164100	166000	155000	146900	155900	147400	134300	124400
24	163700	155800	155800	155300	167300	163700	154400	146900	155300	147100	134500	123700
25	175500	155100	154900	155000	168900	160700	154200	146900	154500	146500	134100	124800
26	175900	154800	154600	154400	169100	158400	154800	146500	154000	145700	134100	125300
27	168400	153200	154600	155400	167700	157300	155400	146100	153500	145100	133600	124800
28	165000	154000	154500	158900	167400	158800	155400	145600	152600	144500	133200	124500
29	162800	155300	154600	161500	---	160700	155100	144700	151500	143800	132600	131100
30	160800	155900	155500	161600	---	161400	154600	144100	150900	142900	132000	136500
31	159800	---	158900	159800	---	159500	---	143800	---	142200	131400	---
MAX	175900	160700	160500	161600	169100	171100	157900	153800	157600	151400	142100	136500
MIN	127400	152500	154500	153300	154900	155100	152700	143800	136100	142200	131400	123700
(+)	45.53	45.23	45.46	45.53	46.11	45.51	45.13	44.25	44.83	44.12	43.20	43.64
(+)	+29200	-3900	+3000	+900	+7600	-7900	-4900	-10800	+7100	-8700	-10800	+5100
(+)	22410	20840	21470	21660	19990	20730	20480	24270	24460	24190	26290	23970
CAL YR 1984	MAX	175900	MIN	127400	(+)	+11200	(++)	269380				
WTR YR 1985	MAX	175900	MIN	123700	(+)	+5900	(++)	270760				

(+) Gage height, in feet, at end of month.

(+) Change in contents, in acre-feet.

(++) Diversions, in acre-feet, for municipal and industrial use by city of Houston and San Jacinto River Authority.



## SAN JACINTO RIVER BASIN

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1969 to current year. Biochemical analyses: August 1983 to current year. Pesticide analyses: May 1968 to August 1972.

## 295505095083101 LAKE HOUSTON SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	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)
FEB												
14...	1226	1.00	185	7.2	9.5	.12	9.2	79	.40	.90	1.3	.230
14...	1228	10.0	185	7.2	9.5	--	9.2	79	--	--	--	--
14...	1230	20.0	185	7.2	9.5	--	9.2	79	.40	1.0	1.4	.240
MAY												
29...	1304	1.00	190	7.4	27.0	.23	6.0	75	.10	.80	.90	.120
29...	1306	10.0	185	7.1	26.0	--	4.5	55	--	--	--	--
29...	1308	17.0	185	7.2	26.0	--	4.5	55	.20	.80	1.0	.160
JUN												
24...	1312	1.00	210	8.6	29.0	.58	7.6	98	<.10	.30	--	.090
24...	1314	10.0	215	7.8	28.0	--	6.3	80	--	--	--	--
24...	1316	17.0	215	7.5	27.5	--	5.6	70	<.10	.50	--	.100
AUG												
31...	1236	1.00	240	8.7	31.5	.87	8.8	119	<.10	.80	--	.090
31...	1238	10.0	240	7.6	30.0	--	5.4	71	--	--	--	--
31...	1240	16.0	240	7.5	30.0	--	4.7	62	<.10	.80	--	.100

## 295516095080801 LAKE HOUSTON SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
FEB												
14...	1234	1.00	190	7.2	8.5	.20	--	--	9.6	81	--	--
14...	1235	.32	--	--	--	--	--	--	--	--	--	--
14...	1236	10.0	190	7.2	8.5	--	--	--	9.5	80	--	--
14...	1238	20.0	190	7.2	8.5	--	--	--	9.4	79	--	--
14...	1240	30.0	190	7.2	8.0	--	--	--	9.2	76	--	--
14...	1242	40.0	190	7.1	8.0	--	--	--	8.5	70	--	--
14...	1244	48.0	195	7.2	8.0	--	--	--	9.4	78	--	--
MAY												
29...	1314	1.00	185	7.7	27.5	.26	90	30	6.6	84	2.6	K1
29...	1315	.40	--	--	--	--	--	--	--	--	--	--
29...	1316	10.0	185	7.1	25.5	--	--	--	4.4	54	--	--
29...	1318	20.0	180	6.9	25.5	--	--	--	3.5	43	--	--
29...	1320	30.0	180	6.9	25.0	--	--	--	2.6	31	--	--
29...	1322	45.0	180	6.9	25.0	--	120	35	2.1	25	2.8	--
JUN												
24...	1324	1.00	210	8.1	28.5	.69	--	--	6.4	82	--	--
24...	1325	1.10	--	--	--	--	--	--	--	--	--	--
24...	1326	10.0	215	7.7	28.0	--	--	--	5.6	71	--	--
24...	1328	20.0	220	7.4	27.5	--	--	--	4.3	54	--	--
24...	1330	30.0	225	7.3	27.5	--	--	--	3.7	46	--	--
24...	1332	40.0	230	7.3	27.5	--	--	--	3.6	45	--	--
24...	1334	46.0	230	7.2	27.5	--	--	--	3.4	43	--	--
AUG												
31...	1250	1.00	240	8.8	31.5	.92	35	2.8	9.2	124	3.2	27
31...	1251	1.50	--	--	--	--	--	--	--	--	--	--
31...	1252	10.0	240	8.2	30.0	--	--	--	6.7	88	--	--
31...	1254	20.0	240	7.3	29.5	--	--	--	4.4	57	--	--
31...	1256	30.0	240	7.1	29.5	--	--	--	3.1	40	--	--
31...	1258	44.0	240	7.1	29.5	--	35	7.7	2.8	37	2.0	--

## SAN JACINTO RIVER BASIN

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## LAKE HOUSTON NEAR SHELDON, TX--Continued

295516095080801 LAKE HOUSTON SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	STREP- TOCOCI 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)	ALKA- LITY FIELD AS (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FEB												
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
29...	5	57	11	19	2.3	17	1	2.7	46	15	24	.10
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	54	8	18	2.2	22	1	2.6	46	15	22	.10
JUN												
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
31...	K5	60	3	20	2.5	24	1	3.1	57	7.5	33	.10
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	61	2	20	2.6	24	1	3.2	59	9.6	36	.20
DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (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)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)
FEB												
14...	--	--	--	--	.30	1.5	1.8	.170	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	.30	1.1	1.4	.240	--	--	--	--
MAY												
29...	4.4	110	28	12	.10	.90	1.0	.120	8.9	<1	74	<1
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	.30	.60	.90	.140	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	8.3	120	17	9	.40	.70	1.1	.160	8.6	3	35	<1
JUN												
24...	--	--	--	--	<.10	.70	--	.080	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	<.10	.70	--	.130	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	.10	1.0	1.1	.230	--	--	--	--
AUG												
31...	5.3	130	8	5	<.10	.90	--	.090	8.8	3	59	1
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	<.10	.90	--	.130	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	5.8	140	14	9	<.10	.90	--	.090	7.6	3	74	<1

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

295516095080801 LAKE HOUSTON SITE AC--Continued  
WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	CHROMIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGANESE, DIS- SOLVED (UG/L AS MN)	MERCURY, DIS- SOLVED (UG/L AS HG)	SELENIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
FEB											
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	1.80	.200
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
MAY											
29...	<10	5	100	11	19	.3	<1	<1	4	--	--
29...	--	--	--	--	--	--	--	--	--	3.50	.200
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	100	--	130	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	<10	29	380	15	320	<.1	<1	<1	31	--	--
JUN											
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	14.0	1.40
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
AUG											
31...	<10	2	<3	<1	34	<.1	<1	<1	<3	--	--
31...	--	--	--	--	--	--	--	--	--	15.0	1.40
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	70	--	60	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	<10	3	5	<1	230	<.1	<1	<1	<3	--	--

295527095074501 LAKE HOUSTON SITE AL  
WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CON- DUCTANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	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)
FEB												
14...	1252	1.00	200	7.3	8.5	.25	9.7	81	.40	.90	1.3	.180
14...	1254	10.0	200	7.3	8.5	--	9.7	81	--	--	--	--
14...	1256	26.0	200	7.4	8.0	--	9.8	81	.40	.90	1.3	.180
MAY												
29...	1344	1.00	185	7.7	27.0	.24	6.8	85	.10	.70	.80	.120
29...	1346	10.0	185	7.2	26.0	--	5.4	67	--	--	--	--
29...	1348	20.0	180	7.0	25.5	--	4.9	60	--	--	--	--
29...	1350	27.0	180	7.2	25.5	--	4.5	55	.30	.90	1.2	.220
JUN												
24...	1344	1.00	210	8.5	29.0	.37	6.8	88	<.10	.70	--	.090
24...	1346	10.0	210	7.4	27.5	--	5.0	63	--	--	--	--
24...	1348	20.0	215	7.3	27.5	--	4.2	53	--	--	--	--
24...	1350	27.0	210	7.2	27.5	--	5.5	69	.10	.80	.90	.430
AUG												
31...	1320	1.00	240	8.8	31.5	.69	9.2	124	<.10	.80	--	.110
31...	1322	10.0	240	8.1	30.5	--	6.4	85	--	--	--	--
31...	1324	23.0	240	7.2	29.5	--	2.4	31	<.10	.70	--	.110

## SAN JACINTO RIVER BASIN

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LAKE HOUSTON NEAR SHELDON, TX--Continued

295708095092901 LAKE HOUSTON SITE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
14...	1215	1.00	165	7.0	10.5	.10	8.4	74
14...	1217	5.00	165	7.0	10.5	--	8.4	74
14...	1219	12.0	165	7.0	10.5	--	8.4	74
MAY								
29...	1254	1.00	185	7.7	27.0	.26	6.5	81
29...	1256	13.0	190	7.6	27.0	--	6.4	80
JUN								
24...	1258	1.00	215	8.7	29.0	.46	8.0	103
24...	1300	5.00	215	8.6	29.0	--	7.6	98
24...	1302	12.0	215	8.0	28.5	--	7.6	97
AUG								
31...	1224	1.00	240	8.8	32.0	.75	8.7	118
31...	1226	12.0	240	7.0	30.0	--	2.3	30

295702095091401 LAKE HOUSTON SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
14...	1202	1.00	145	7.0	10.5	.10	8.3	73
14...	1204	10.0	150	7.0	10.5	--	8.4	74
14...	1206	20.0	155	7.0	10.5	--	8.4	74
14...	1208	30.0	165	7.1	9.5	--	8.8	76
14...	1210	41.0	190	7.0	8.5	--	9.0	76
MAY								
29...	1240	1.00	190	7.7	27.0	.27	6.4	80
29...	1242	10.0	200	7.6	27.0	--	6.1	77
29...	1244	20.0	200	7.4	26.5	--	5.7	71
29...	1246	30.0	185	6.9	25.5	--	2.1	26
29...	1248	40.0	190	7.0	25.5	--	.0	0
JUN								
24...	1246	1.00	220	8.5	28.5	.53	6.8	87
24...	1248	10.0	225	7.9	28.0	--	5.8	73
24...	1250	20.0	225	7.5	28.0	--	5.0	63
24...	1252	30.0	230	7.3	27.5	--	4.3	54
24...	1254	40.0	230	7.2	27.5	--	6.0	75
AUG								
31...	1210	1.00	240	8.8	32.0	.74	9.2	125
31...	1212	10.0	240	7.2	29.5	--	3.7	48
31...	1214	20.0	240	7.2	29.5	--	3.4	44
31...	1216	30.0	240	7.2	29.5	--	3.0	39
31...	1218	41.0	240	7.2	29.5	--	2.5	33



SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

295656095090201 LAKE HOUSTON SITE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
14...	1150	1.00	140	6.9	10.5	.10	8.4	74
14...	1152	10.0	145	7.0	10.0	--	8.5	74
14...	1154	20.0	155	7.0	9.5	--	8.7	75
14...	1156	30.0	185	7.0	8.5	--	9.0	76
14...	1158	40.0	185	7.0	8.5	--	9.1	76
MAY								
29...	1225	1.00	190	6.4	27.0	.29	6.4	80
29...	1227	10.0	195	7.4	27.0	--	5.6	70
29...	1229	20.0	200	7.2	26.5	--	4.3	53
29...	1231	30.0	200	7.1	26.5	--	3.3	41
29...	1233	40.0	200	7.1	26.5	--	3.0	37
JUN								
24...	1234	1.00	215	8.6	29.0	.54	6.9	89
24...	1236	10.0	225	7.8	28.0	--	5.6	71
24...	1238	20.0	235	7.5	27.5	--	4.5	56
24...	1240	30.0	235	7.3	27.5	--	4.6	58
24...	1242	36.0	235	7.4	27.5	--	5.9	74
AUG								
31...	1158	1.00	240	8.7	31.0	.66	8.2	110
31...	1200	10.0	240	7.3	30.0	--	4.0	53
31...	1202	20.0	240	7.1	29.5	--	3.4	44
31...	1204	36.0	235	6.9	29.5	--	2.8	37

295902095075301 LAKE HOUSTON SITE CR

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, AM- MONIA + ORGANIC 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)
FEB												
14...	1100	1.00	130	6.7	10.5	.05	8.1	71	.30	1.5	1.8	.190
14...	1102	10.0	130	6.7	10.5	--	8.1	71	--	--	--	--
14...	1104	17.0	130	6.7	10.0	--	8.1	70	.30	1.2	1.5	.190
MAY												
29...	1108	1.00	195	8.0	27.0	.23	7.1	89	<.10	.90	--	.470
29...	1110	10.0	195	7.8	27.0	--	6.9	86	--	--	--	--
29...	1112	16.0	195	7.8	27.0	--	6.8	85	<.10	1.6	--	.130
JUN												
24...	1156	1.00	225	8.7	28.5	.35	6.8	87	<.10	.80	--	.160
24...	1158	10.0	230	7.7	27.5	--	5.6	70	--	--	--	--
24...	1200	24.0	235	7.2	27.5	--	5.4	68	.10	1.0	1.1	.430
AUG												
31...	1044	1.00	255	8.6	30.5	.55	8.2	109	<.10	1.1	--	.170
31...	1046	14.0	265	7.2	29.5	--	2.1	27	<.10	1.0	--	.200

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

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295902095074201 LAKE HOUSTON SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
FEB												
14...	1110	1.00	115	6.7	10.0	.10	--	--	8.3	72	--	--
14...	1111	.12	--	--	--	--	--	--	--	--	--	--
14...	1112	10.0	120	6.7	10.0	--	--	--	8.2	71	--	--
14...	1114	20.0	125	6.8	10.0	--	--	--	8.2	71	--	--
14...	1116	32.0	130	6.9	10.0	--	--	--	8.3	72	--	--
MAY												
29...	1120	1.00	200	7.8	27.0	.24	70	25	6.8	85	3.9	57
29...	1121	.40	--	--	--	--	--	--	--	--	--	--
29...	1122	10.0	200	7.8	27.0	--	--	--	6.6	83	--	--
29...	1124	20.0	205	7.7	27.0	--	--	--	6.4	80	--	--
29...	1126	30.0	210	7.4	26.5	--	80	32	5.7	71	3.5	58
JUN												
24...	1206	1.00	225	8.7	29.0	.48	--	--	6.7	86	--	--
24...	1207	.80	--	--	--	--	--	--	--	--	--	--
24...	1208	10.0	225	7.7	28.0	--	--	--	5.5	70	--	--
24...	1210	20.0	210	7.4	27.0	--	--	--	5.5	68	--	--
24...	1212	31.0	185	7.2	27.0	--	--	--	6.4	80	--	--
AUG												
31...	1052	1.00	250	8.6	31.0	.45	40	5.7	8.3	111	2.8	57
31...	1053	.70	--	--	--	--	--	--	--	--	--	--
31...	1054	10.0	250	7.5	29.5	--	--	--	5.3	69	--	--
31...	1056	20.0	255	7.3	29.5	--	--	--	4.2	55	--	--
31...	1058	27.0	260	7.2	29.0	--	45	26	2.7	35	3.2	61

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
FEB												
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
29...	9	19	2.4	18	1	2.5	48	14	27	.10	2.8	110
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	9	19	2.5	19	1	2.6	49	11	36	.10	2.7	120
JUN												
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
31...	1	19	2.4	26	2	3.2	56	8.9	38	.20	5.6	140
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	0	20	2.7	29	2	3.3	61	11	39	.10	6.6	150

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

295902095074201 LAKE HOUSTON SITE CC--Continued  
WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
FEB											
14...	--	--	.20	1.3	1.5	.120	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	.800	<.100
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	.30	1.5	1.8	.170	--	--	--	--	--
MAY											
29...	15	8	<.10	.90	--	.130	8.4	6	5	--	--
29...	--	--	--	--	--	--	--	--	--	21.0	1.00
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	<.10	.80	--	.130	--	--	--	--	--
29...	23	7	<.10	.70	--	.170	7.6	13	19	--	--
JUN											
24...	--	--	<.10	.80	--	.160	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	23.0	2.70
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	.20	.70	.90	.310	--	--	--	--	--
24...	--	--	.20	.90	1.1	.410	--	--	--	--	--
AUG											
31...	10	9	<.10	1.0	--	.180	9.1	9	1	--	--
31...	--	--	--	--	--	--	--	--	--	19.0	1.40
31...	--	--	<.10	.70	--	.090	--	50	410	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	40	14	<.10	1.0	--	.180	8.6	25	130	--	--

295902095073001 LAKE HOUSTON SITE CL  
WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	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)
FEB												
14...	1124	1.00	120	6.7	10.5	.10	8.4	74	.20	1.4	1.6	.110
14...	1126	5.00	120	6.7	10.5	--	8.4	74	--	--	--	--
14...	1128	12.0	120	6.8	10.5	--	8.4	74	.20	1.2	1.4	.130
MAY												
29...	1136	1.00	205	7.9	27.0	.22	6.9	86	<.10	1.0	--	.140
29...	1138	12.0	205	7.8	27.0	--	6.8	85	<.10	.70	--	.130
JUN												
24...	1218	1.00	230	9.0	29.5	.37	7.8	101	<.10	.90	--	.190
24...	1220	5.00	235	8.3	28.0	--	7.5	95	--	--	--	--
24...	1222	11.0	235	7.8	28.0	--	7.9	100	<.10	.80	--	.250
AUG												
31...	1114	1.00	245	8.6	30.5	.59	8.3	110	<.10	.90	--	.140
31...	1116	11.0	245	7.8	29.5	--	6.0	78	<.10	.80	--	.120

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

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300016095075601 LAKE HOUSTON SITE DR  
WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- FLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
14...	1024	1.00	130	6.8	10.0	.10	8.6	75
14...	1026	10.0	135	6.8	10.0	--	8.7	76
14...	1028	20.0	135	6.8	10.0	--	8.8	77
14...	1030	24.0	135	6.9	10.0	--	8.8	77
MAY								
29...	1025	1.00	205	7.9	27.0	.26	6.9	86
29...	1027	10.0	205	7.8	27.0	--	6.7	84
29...	1029	22.0	205	7.8	27.0	--	6.6	83
JUN								
24...	1054	1.00	235	8.8	28.5	.25	7.2	92
24...	1056	10.0	235	7.7	28.0	--	5.4	68
24...	1058	22.0	205	7.3	27.5	--	5.3	66
AUG								
31...	1002	1.00	265	8.1	29.5	.48	6.9	90
31...	1004	10.0	265	7.3	29.0	--	5.1	66
31...	1006	21.0	265	7.5	29.5	--	2.5	33

300016095073401 LAKE HOUSTON SITE DC  
WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
14...	1035	1.00	105	6.7	10.0	.10	8.4	73
14...	1037	10.0	110	6.8	10.0	--	8.4	73
14...	1039	20.0	120	6.8	10.0	--	8.4	73
14...	1041	28.0	135	6.8	9.5	--	8.5	73
MAY								
29...	1036	1.00	205	7.9	27.0	.25	6.9	86
29...	1038	10.0	205	7.8	26.5	--	6.7	83
29...	1040	20.0	205	7.7	26.5	--	6.5	81
29...	1042	27.0	205	7.6	26.5	--	6.2	77
JUN								
24...	1105	1.00	230	8.7	28.5	.30	6.1	78
24...	1107	10.0	230	7.4	27.5	--	5.0	63
24...	1109	20.0	175	7.1	27.0	--	5.1	63
24...	1111	27.0	175	7.1	27.0	--	6.4	80
AUG								
31...	1014	1.00	270	8.3	29.5	.52	7.1	93
31...	1016	10.0	265	7.4	29.0	--	4.7	61
31...	1018	25.0	265	7.4	29.0	--	3.1	40

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

300016095072301 LAKE HOUSTON SITE DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
14...	1045	1.00	75	6.6	10.0	.14	8.3	72
14...	1047	10.0	85	6.7	10.0	--	8.3	72
14...	1049	20.0	105	6.8	10.0	--	8.4	73
14...	1051	30.0	135	6.8	10.0	--	8.5	74
MAY								
29...	1050	1.00	205	7.8	27.0	.29	6.8	85
29...	1052	10.0	205	7.7	27.0	--	6.4	80
29...	1054	20.0	205	7.5	26.5	--	5.9	73
29...	1056	26.0	210	7.4	26.5	--	5.7	71
JUN								
24...	1116	1.00	230	8.6	28.5	.29	7.2	92
24...	1118	10.0	230	7.7	27.5	--	5.7	72
24...	1120	20.0	205	7.3	27.0	--	5.6	70
24...	1122	28.0	190	7.3	27.0	--	6.8	85
AUG								
31...	1024	1.00	260	8.4	29.5	.47	7.1	93
31...	1026	10.0	260	7.5	29.0	--	5.1	66
31...	1028	26.0	260	7.3	29.0	--	2.7	35

300202095075701 LAKE HOUSTON SITE ER

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	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)
FEB												
14...	0925	1.00	85	6.3	9.5	.11	8.7	75	.10	1.2	1.3	.050
14...	0927	10.0	85	6.2	9.5	--	8.7	75	--	--	--	--
14...	0929	15.0	85	6.2	9.5	--	8.7	75	.10	1.1	1.2	.060
MAY												
29...	0915	1.00	205	7.5	27.0	.29	6.5	81	<.10	.80	--	.110
29...	0917	12.0	205	7.4	26.5	--	6.3	78	<.10	.80	--	.130
JUN												
24...	0945	1.00	215	8.3	28.5	.24	7.0	89	<.10	.80	--	.180
24...	0947	5.00	215	7.9	28.0	--	6.4	81	--	--	--	--
24...	0949	13.0	215	7.7	28.0	--	6.6	84	.10	.80	.90	.270
AUG												
31...	0842	1.00	225	8.0	30.0	.46	5.8	76	<.10	.90	--	.100
31...	0844	10.0	215	7.0	29.0	--	3.9	50	<.10	.80	--	.100



## SAN JACINTO RIVER BASIN

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## LAKE HOUSTON NEAR SHELDON, TX--Continued

300158095074601 LAKE HOUSTON SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

		SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
DATE	TIME											
FEB												
14...	0910	1.00	85	6.2	9.5	.10	--	--	8.6	74	--	--
14...	0911	.16	--	--	--	--	--	--	--	--	--	--
14...	0912	10.0	85	6.1	9.5	--	--	--	8.3	71	--	--
14...	0914	15.0	85	6.1	9.5	--	--	--	8.3	71	--	--
14...	0916	23.0	85	6.0	9.5	--	--	--	8.3	71	--	--
MAY												
29...	0840	1.00	205	7.5	27.0	.25	60	19	6.6	83	3.4	K10
29...	0841	.40	--	--	--	--	--	--	--	--	--	--
29...	0842	10.0	205	7.4	27.0	--	--	--	6.4	80	--	--
29...	0844	21.0	210	7.5	26.5	--	70	26	6.2	77	3.8	--
JUN												
24...	0932	1.00	200	8.1	28.5	.24	--	--	6.6	84	--	--
24...	0933	.40	--	--	--	--	--	--	--	--	--	--
24...	0934	10.0	205	7.3	27.5	--	--	--	4.4	55	--	--
24...	0936	21.0	130	6.7	26.0	--	--	--	2.6	32	--	--
AUG												
31...	0824	1.00	230	8.1	29.5	.41	35	15	6.5	85	2.7	130
31...	0825	.70	--	--	--	--	--	--	--	--	--	--
31...	0826	10.0	225	6.9	29.0	--	--	--	2.8	36	--	--
31...	0830	18.5	225	7.0	29.0	--	55	25	2.9	38	2.1	--
	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	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 FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
DATE												
FEB												
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
29...	32	55	11	18	2.4	20	1	2.6	44	13	31	.10
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	58	12	19	2.5	20	1	2.6	46	15	30	.10
JUN												
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
31...	250	52	0	17	2.4	27	2	2.9	52	7.8	36	.10
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	52	2	17	2.4	27	2	2.9	50	7.7	34	.10

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

300158095074601 LAKE HOUSTON SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDE (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)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)
FEB												
14...	--	--	--	--	.10	1.2	1.3	.060	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	.10	1.0	1.1	.060	--	--	--	--
MAY												
29...	4.2	120	9	8	<.10	.80	--	.110	8.0	<1	75	<1
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	<.10	.60	--	.110	--	--	--	--
29...	2.8	120	2	1	<.10	1.0	--	.170	9.0	1	79	<1
JUN												
24...	--	--	--	--	<.10	.90	--	.130	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	.30	.80	1.1	.090	--	--	--	--
AUG												
31...	7.4	130	20	11	<.10	.90	--	.130	8.9	3	59	<1
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	8.1	130	36	13	<.10	.60	--	.120	8.3	4	53	<1

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	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)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
FEB											
14...	--	--	--	--	--	--	--	--	--	.500	<.100
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
MAY											
29...	<10	2	8	10	<1	.3	<1	<1	7	--	--
29...	--	--	--	--	--	--	--	--	--	18.0	1.60
29...	--	--	50	--	30	--	--	--	--	--	--
29...	<10	16	53	15	24	.4	<1	<1	6	--	--
JUN											
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	27.0	3.60
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
AUG											
31...	<10	7	38	<1	53	<.1	<1	<1	7	>23.0	1.90
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	<10	5	40	<1	100	<.1	<1	<1	18	--	--

300156095074001 LAKE HOUSTON SITE EL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	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)
FEB												
14...	0900	1.00	60	5.8	9.5	.20	8.0	69	.10	1.2	1.3	.050
14...	0902	10.0	60	5.8	9.5	--	7.8	67	--	--	--	--
14...	0904	17.0	65	5.9	9.5	--	7.3	63	.10	1.4	1.5	.050
MAY												
29...	0830	1.00	210	7.6	27.0	.26	6.2	78	<.10	1.0	--	.120
29...	0832	10.0	210	7.5	27.0	--	5.5	69	--	--	--	--
29...	0834	15.0	210	7.4	26.5	--	4.9	61	<.10	1.9	--	.120
JUN												
24...	0915	1.00	200	8.2	28.5	.25	7.0	89	<.10	.80	--	.160
24...	0917	5.00	205	7.7	28.0	--	6.6	84	--	--	--	--
24...	0919	12.0	210	7.4	27.5	--	5.5	69	<.10	.90	--	.220
AUG												
31...	0815	1.00	240	7.4	29.5	.43	4.8	63	<.10	1.0	--	.150
31...	0817	10.5	225	6.9	29.0	--	3.9	51	<.10	1.0	--	.130

## LAKE HOUSTON NEAR SHELDON, TX--Continued

300202095091701 LAKE HOUSTON SITE FR

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	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)
FEB												
14...	0950	1.00	145	6.6	9.5	.10	8.9	76	.20	1.5	1.7	.160
14...	0952	5.00	145	6.6	9.5	--	8.9	76	--	--	--	--
14...	0954	12.0	145	6.5	9.5	--	9.0	77	.20	1.2	1.4	.160
MAY												
29...	0930	1.00	340	8.9	28.0	.21	7.0	89	<.10	.40	--	.500
29...	0932	5.00	360	8.9	28.0	--	6.5	83	--	--	--	--
29...	0934	11.0	370	8.9	27.5	--	6.2	78	<.10	.90	--	.570
JUN												
24...	1017	1.00	165	7.1	28.5	.15	3.9	50	.30	1.1	1.4	.430
24...	1019	5.00	170	7.0	28.0	--	3.1	39	--	--	--	--
24...	1021	12.0	165	6.9	27.0	--	4.2	52	.30	1.6	1.9	.680
AUG												
31...	0902	1.00	360	8.9	31.0	.33	8.2	110	<.10	1.8	--	.770
31...	0904	9.50	380	7.4	29.5	--	.8	10	<.10	2.2	--	1.20

300209095091201 LAKE HOUSTON SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
FEB												
14...	1000	1.00	145	6.8	9.0	.10	--	--	9.1	77	--	--
14...	1001	.14	--	--	--	--	--	--	--	--	--	--
14...	1002	10.0	145	6.8	9.0	--	--	--	9.2	78	--	--
14...	1004	16.0	145	6.8	9.0	--	--	--	9.2	78	--	--
MAY												
29...	0945	1.00	310	8.9	27.5	.22	50	17	--	--	4.4	K2
29...	0946	.40	--	--	--	--	--	--	--	--	--	--
29...	0947	10.0	310	8.9	27.5	--	--	--	7.1	90	--	--
29...	0949	15.0	300	8.7	27.5	--	50	31	6.3	80	4.8	--
JUN												
24...	1025	1.00	170	7.1	28.5	.15	--	--	3.4	43	--	--
24...	1026	.30	--	--	--	--	--	--	--	--	--	--
24...	1027	10.0	175	7.0	28.0	--	--	--	3.0	38	--	--
24...	1029	17.0	170	6.9	27.5	--	--	--	3.0	38	--	--
AUG												
31...	0924	1.00	340	8.8	31.0	.34	55	18	8.3	111	6.5	180
31...	0925	.60	--	--	--	--	--	--	--	--	--	--
31...	0926	10.0	390	7.6	29.5	--	--	--	1.9	25	--	--
31...	0928	14.0	390	7.4	29.0	--	55	35	.7	9	5.1	--
STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)												
DATE	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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FEB												
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
29...	22	76	12	25	3.2	36	2	3.3	64	14	47	.20
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	73	7	24	3.1	34	2	4.0	66	16	48	.20
JUN												
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
31...	78	67	0	22	2.9	44	2	4.3	80	14	53	.20
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	76	0	25	3.4	49	3	4.5	94	16	56	.20

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELTON, TX--Continued

300209095091201 LAKE HOUSTON SITE FC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (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)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)
FEB												
14...	--	--	--	--	.20	1.3	1.5	.130	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	.20	1.3	1.5	.160	--	--	--	--
MAY												
29...	2.0	170	1	<1	<.10	1.0	--	.400	8.5	1	--	<1
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	<.10	.90	--	.400	--	--	--	--
29...	1.8	170	32	8	<.10	1.3	--	.400	14	1	83	<1
JUN												
24...	--	--	--	--	.30	1.1	1.4	.440	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	.30	1.1	1.4	.560	--	--	--	--
AUG												
31...	11	200	30	15	<.10	1.8	--	.780	11	5	53	<1
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	14	220	52	14	.20	1.7	1.9	1.10	11	5	67	<1

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	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)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
FEB											
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	1.60	<.100
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
MAY											
29...	<10	3	7	13	<1	<.1	<1	<1	<3	--	--
29...	--	--	--	--	--	--	--	--	--	32.0	1.90
29...	--	--	30	--	<10	--	--	--	--	--	--
29...	<10	23	16	2	<1	<.1	<1	<1	<3	--	--
JUN											
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	14.0	1.80
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
AUG											
31...	<10	3	14	1	9	<.1	<1	<1	<3	--	--
31...	--	--	--	--	--	--	--	--	--	39.0	2.40
31...	--	--	--	--	--	--	--	--	--	--	--
31...	<10	3	9	<1	50	<.1	<1	<1	7	--	--

300214095090901 LAKE HOUSTON SITE FL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCTANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, 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)
FEB												
14...	1010	1.00	145	6.9	9.0	.08	9.1	77	.20	1.3	1.5	.140
14...	1012	5.00	145	6.9	9.0	--	9.1	77	--	--	--	--
14...	1014	13.0	145	6.9	9.0	--	9.1	77	.20	1.2	1.4	.170
MAY												
29...	1010	1.00	310	8.8	27.5	.20	6.9	87	<.10	.90	--	.400
29...	1012	10.0	310	8.8	27.5	--	6.6	83	<.10	.90	--	.420
JUN												
24...	1038	1.00	160	7.2	29.0	.14	4.5	58	.40	1.1	1.5	.460
24...	1040	5.00	160	7.1	28.0	--	3.9	49	--	--	--	--
24...	1042	11.0	175	7.0	28.0	--	4.6	58	.30	1.1	1.4	.490
AUG												
31...	0944	1.00	355	8.8	31.0	.35	8.2	110	<.10	1.8	--	.800
31...	0946	8.00	385	8.0	30.0	--	3.6	47	.20	2.1	2.3	.950

## SAN JACINTO RIVER BASIN

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LAKE HOUSTON NEAR SHELDON, TX--Continued

Lake Houston AC (295516095080801)

Phytoplankton Analyses October 1984 to September 1985

Date	2-14-85
Time	1235
<hr/>	
TOTAL CELLS/ml	3,261
NUMBER OF SPECIES	17
DEPTH COLLECTED (ft.)	0.32

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus nannoselene</u>	57
<u>Nephrocytium limneticum</u>	455
<u>Tetraedron trigonum</u>	57
<u>Tetrastrum staurogeniaeforme</u>	227
CYANOPHYTA (Blue-green algae)	
<u>Chroococcus pallidus</u>	398
<u>Dactylococcopsis acicularis</u>	114
<u>Dactylococcopsis fascicularis</u>	398
<u>Dactylococcopsis muscicola</u>	114
<u>Gomphosphaeria sp.</u>	455
EUGLENOPHYTA (Euglenoids)	
<u>Phacus longicauda</u>	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella stelligera</u> var. <u>tenuis</u>	170
<u>Melosira granulata</u>	114
Order Pennales	
<u>Diploneis</u> sp.	114
<u>Navicula sabiniana</u>	38
<u>Nitzschia frustulum</u>	38
<u>Nitzschia microcephala</u>	57
<u>Nitzschia subacicularis</u>	398

Lake Houston AC (295516095080801)

Phytoplankton Analyses October 1984 to September 1985

Date	5-29-85
Time	1315
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TOTAL CELLS/ml	64,468
NUMBER OF SPECIES	13
DEPTH COLLECTED (ft.)	0.42

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Crucigenia irregularis</u>	3408
<u>Gloeactinium limneticum</u>	852
<u>Scenedesmus armatus</u>	1136
<u>Tetraedron minimum</u>	284
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa elachista</u> var. <u>conferta</u>	7668
<u>Dactylococcopsis fasciculata</u>	284
<u>Merismopedia punctata</u>	18176
<u>Oscillatoria</u> sp.	4544
<u>Spirulina</u> sp.	284
<u>Synechococcus elongatus</u>	3408
<u>Synechococcus lineare</u> var. <u>spirale</u>	2840
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella meneghiniana</u>	3976
<u>Cyclotella stelligera</u>	17608



SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

Lake Houston AC (295516095080801)

Phytoplankton Analyses October 1984 to September 1985

Date Time	6-24-85 1325
TOTAL CELLS/ml	486,502
NUMBER OF SPECIES	32
DEPTH COLLECTED (ft.)	1.13
Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	568
<u>Kirchneriella convolutus</u>	9656
<u>Kirchneriella elongata</u>	1136
<u>Micractinium sp.</u>	2840
<u>Oocystis borgei</u>	284
<u>Scenedesmus armatus var. bicaudatus</u>	1136
<u>Scenedesmus sp.</u>	568
<u>Schroederia setigera</u>	284
<u>Selenastrum westii</u>	2272
<u>Tetrastrum staurogeniaeforme</u>	2272
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	124960
<u>Aphanocapsa elachista</u>	45440
<u>Aphanothece saxicola</u>	3976
<u>Chroococcus giganteus</u>	3408
<u>Chroococcus minutus</u>	4544
<u>Chroococcus pallidus</u>	5680
<u>Chroococcus varius</u>	14200
<u>Dactylococcopsis fasciculata</u>	2272
<u>Lyngbya nana</u>	6816
<u>Merismopedia tenuissima</u>	568
<u>Microcystis marina</u>	56800
<u>Pseudoanabaena catenata</u>	5112
<u>Synechococcus aeruginosa</u>	568
<u>Synechococcus elongatus</u>	158472
<u>Synechococcus lineare</u>	2840
<u>Synechococcus lineare var. spirale</u>	11360
<u>Synechococcus sigmoides</u>	5672
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Chaetoceros sp.</u>	284
<u>Cyclotella meneghiniana</u>	2272
<u>Cyclotella stelligera var. tenuis</u>	11644
<u>Rhizosolenia sp.</u>	284
Order Pennales	
<u>Anomoeoneis sp.</u>	284

Lake Houston CC (295902095074201)

Phytoplankton Analyses October 1984 to September 1985

Date Time	2-14-85 1111
TOTAL CELLS/ml	3,209
NUMBER OF SPECIES	11
DEPTH COLLECTED (ft.)	0.12
Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	28
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	2102
<u>Chroococcus sp.</u>	28
<u>Dactylococcopsis fascicularis</u>	85
<u>Synechococcus lineare</u>	57
EUGLENOPHYTA (Euglenoids)	
<u>Euglena sp.</u>	28
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella stelligera var. tenuis</u>	114
<u>Metosira lutea</u>	483
Order Pennales	
<u>Navicula contenta var. biceps</u>	57
<u>Nitzschia subcylindrica</u>	57
<u>Nitzschia sp.</u>	170

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

Lake Houston CC (295902095074201)

Phytoplankton Analyses October 1984 to September 1985

Date	5-29-85
Time	1121
<hr/>	
TOTAL CELLS/ml	105,093
NUMBER OF SPECIES	39
DEPTH COLLECTED (ft.)	0.40
<hr/>	

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	114
<u>Chodatella subsalsa</u>	57
<u>Dictyosphaerium pulchellum</u>	341
<u>Dictyosphaerium sp.</u>	227
<u>Gloeocystis sp.</u>	2954
<u>Scenedesmus abundans</u>	682
<u>Scenedesmus armatus var. brevicaudatus</u>	909
<u>Scenedesmus bijuga var. alternans</u>	909
<u>Scenedesmus dimorphus</u>	909
<u>Scenedesmus hystrix</u>	1363
<u>Scenedesmus quadricauda</u>	1818
<u>Scenedesmus sp.</u>	227
<u>Selenastrum minutum</u>	57
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	39419
<u>Aphanocapsa elachista</u>	2272
<u>Aphanocapsa elachista var. conferta</u>	7611
<u>Aphanothece saxicola</u>	909
<u>Chroococcus multicolatus</u>	454
<u>Chroococcus varius</u>	795
<u>Coelosphaerium confertum</u>	1136
<u>Dactylococcopsis fasciculata</u>	114
<u>Merismopedia tenuissima</u>	9770
<u>Microcystis marina</u>	2272
<u>Synechococcus lineare</u>	454
<u>Synechococcus lineare var. spirale</u>	795
CRYPTOPHYTA (Cryptomonads)	
<u>Cryptomonas sp.</u>	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella meneghiniana</u>	227
<u>Cyclotella stelligera var. tenuis</u>	26014
<u>Melosira granulata var. angustissima f. spiralis</u>	1363
<u>Stephanodiscus tenuis</u>	57
Order Pennales	
<u>Anomoeoneis sp.</u>	170
<u>Diploneis sp.</u>	57
<u>Navicula pupula</u>	14
<u>Nitzschia acicularis</u>	57
<u>Nitzschia amphibia</u>	27
<u>Nitzschia palea</u>	57
<u>Nitzschia paleacea</u>	170
<u>Nitzschia subacicularis</u>	170
<u>Nitzschia thermalis</u>	85

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

Lake Houston CC (295902095074201)

Phytoplankton Analyses October 1984 to September 1985

Date	6-24-85
Time	1207

TOTAL CELLS/ml	339,364
NUMBER OF SPECIES	48
DEPTH COLLECTED (ft.)	0.79

Organisms	Cells/ml
<b>CHLOROPHYTA (Green algae)</b>	
<u>Ankistrodesmus falcatus</u> var. <u>mirabilis</u>	284
<u>Ankistrodesmus nannoselene</u>	568
<u>Closterium</u> sp.	284
<u>Coelastrum</u> sp.	2272
<u>Crucigenia irregularis</u>	2272
<u>Crucigenia tetrapedia</u>	3692
<u>Franceia ovalis</u>	284
<u>Gloeocystis</u> sp.	852
<u>Kirchneriella convolutus</u>	284
<u>Oocystis borgei</u>	1704
<u>Oocystis parva</u>	568
<u>Pteromonas aculeata</u>	1136
<u>Scenedesmus armatus</u> var. <u>bicaudatus</u>	1136
<u>Scenedesmus brasiliensis</u>	1136
<u>Scenedesmus hystrix</u>	1136
<u>Scenedesmus opoliensis</u>	1136
<u>Scenedesmus quadricauda</u>	1136
<u>Schroederia setigera</u>	284
<u>Tetrastrum heteracanthum</u>	1136
<u>Treubaria</u> sp. 1	284
<u>Treubaria</u> sp. 2	284
<b>CYANOPHYTA (Blue-green algae)</b>	
<u>Anabaenopsis raciborskii</u>	1136
<u>Aphanocapsa delicatissima</u>	49984
<u>Aphanocapsa elachista</u>	25276
<u>Aphanocapsa elachista</u> var. <u>conferta</u>	3124
<u>Aphanothece saxicola</u>	3408
<u>Chroococcus dispersus</u>	4544
<u>Chroococcus giganteus</u>	2272
<u>Chroococcus multicoloratus</u>	1704
<u>Dactylococcopsis fasciculata</u>	568
<u>Merismopedia punctata</u>	7952
<u>Merismopedia tenuissima</u>	49484
<u>Microcystis marina</u>	10224
<u>Oscillatoria angustissima</u>	15904
<u>Oscillatoria limnetica</u>	1704
<u>Pseudoanabaena catenata</u>	11928
<u>Synechococcus aeruginosa</u>	1136
<u>Synechococcus elongatus</u>	64952
<u>Synechococcus lineare</u>	10224
<u>Synechococcus lineare</u> var. <u>spirale</u>	28400
<b>EUGLENOPHYTA (Euglenoids)</b>	
<u>Euglena acus</u>	284
<u>Trachelomonas</u> sp.	568
<b>PYRRROPHYTA (Dinoflagellates)</b>	
<u>Peridinium africanum</u>	284
<u>Peridinium</u> sp.	284
<b>BACILLARIOPHYTA (Diatoms)</b>	
Order Centrales	
<u>Chaetoceros</u> sp.	1988
<u>Cyclotella meneghiniana</u>	568
<u>Cyclotella stelligera</u> var. <u>tenuis</u>	18460
Order Pennales	
<u>Anomooneis</u> sp.	1136

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

Lake Houston EC (300158095074601)

Phytoplankton Analyses October 1984 to September 1985

Date 2-14-85  
Time 0911

TOTAL CELLS/ml 531  
NUMBER OF SPECIES 8  
DEPTH COLLECTED (ft.) 0.16

<u>Organisms</u>	<u>Cells/ml</u>
CHLOROPHYTA (Green algae)	
<u>Selenastrum minutum</u>	76
CYANOPHYTA (Blue-green algae)	
<u>Dactylococcopsis fascicularis</u>	189
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella stelligera</u> var. <u>tenuis</u>	76
Order Pennales	
<u>Navicula capitata</u>	38
<u>Nitzschia acicularis</u>	38
<u>Nitzschia communis</u>	38
<u>Nitzschia obtusa</u> var. <u>scalpelliformis</u>	38
<u>Nitzschia palea</u>	38

## SAN JACINTO RIVER BASIN

LAKE HOUSTON NEAR SHELDON, TX--Continued

Lake Houston EC (300158095074601)

Phytoplankton Analyses October 1984 to September 1985

Date	5-29-85
Time	0841
TOTAL CELLS/ml	215,502
NUMBER OF SPECIES	53
DEPTH COLLECTED (ft.)	0.41
Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Actinastrum</u> sp.	682
<u>Ankistrodesmus convolutus</u>	114
<u>Ankistrodesmus falcatus</u> var. <u>mirabilis</u>	114
<u>Crucigenia</u> sp.	454
<u>Gloeactinium limneticum</u>	1818
<u>Oocystis parva</u>	909
<u>Pediastrum biradiatum</u>	909
<u>Pteromonas</u> sp.	227
<u>Scenedesmus armatus</u> var. <u>brevicaudatus</u>	454
<u>Scenedesmus quadricauda</u>	1136
<u>Scenedesmus</u> sp.	454
<u>Sphaerocystis Schroeteri</u>	454
<u>Tetraedron</u> sp.	114
<u>Treubaria</u> sp.	114
CHRYSOPHYTA (Golden-brown algae)	
<u>Mallomonas</u> sp.	114
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	43736
<u>Aphanocapsa elachista</u> var. <u>conferta</u>	14768
<u>Aphanothece saxicola</u>	3408
<u>Chroococcus multicolatus</u>	17608
<u>Chroococcus varius</u>	1704
<u>Dactylococcopsis fasciculata</u>	568
<u>Lyngbya nana</u>	5680
<u>Merismopedia punctata</u>	3408
<u>Merismopedia tenuissima</u>	43168
<u>Microcystis aeruginosa</u>	9088
<u>Microcystis marina</u>	3408
<u>Oscillatoria</u> sp.	1704
<u>Spirulina</u> sp.	568
<u>Synechococcus elongatus</u>	38624
<u>Synechococcus lineare</u>	1136
EUGLENOPHYTA (Euglenoids)	
<u>Euglena</u> sp.	227
PYRROPHYTA (Dinoflagellates)	
<u>Peridinium inconspicua</u>	114
<u>Peridinium</u> sp.	114
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella pseudostelligera</u>	114
<u>Cyclotella stelligera</u> var. <u>tenuis</u>	14314
<u>Melosira distans</u>	568
<u>Melosira granulata</u>	1136
<u>Melosira lirata</u>	1250
<u>Rhizosolenia eriensis</u>	227
<u>Stephanodiscus tenuis</u>	114
Order Pennales	
<u>Navicula capitata</u>	28
<u>Navicula cryptocephala</u>	85
<u>Navicula interostrata</u>	14
<u>Navicula sabiniana</u>	7
<u>Nitzschia acicularis</u>	114
<u>Nitzschia amphibia</u>	85
<u>Nitzschia frustulum</u>	28
<u>Nitzschia obtusa</u> var. <u>scalpelliformis</u>	7
<u>Nitzschia palea</u>	57
<u>Nitzschia paleacea</u>	50
<u>Synedra acus</u>	114
<u>Synedra radians</u>	7
<u>Synedra rumpens</u>	85



SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued  
Lake Houston EC (300158095074601)

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Phytoplankton Analyses October 1984 to September 1985

Date	6-24-85
Time	0933
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TOTAL CELLS/ml	213,378
NUMBER OF SPECIES	52
DEPTH COLLECTED (ft.)	0.39

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	284
<u>Ankistrodesmus falcatulus</u> var. <u>mirabilis</u>	284
<u>Chlorococcum</u> sp.	568
<u>Coelastrum</u> sp.	1704
<u>Crucigenia irregularis</u>	852
<u>Dictyosphaerium</u> sp.	1704
<u>Franceia ovalis</u>	284
<u>Franceia tuberculata</u>	568
<u>Gloeactinium limneticum</u>	6816
<u>Kirchneriella convolutus</u>	1136
<u>Kirchneriella lunaris</u>	284
<u>Nephrocium limneticum</u>	852
<u>Pediastrum tetras</u> var. <u>tetraodon</u>	2272
<u>Scenedesmus armatus</u> var. <u>bicaudatus</u>	2840
<u>Scenedesmus brasiliensis</u>	1704
<u>Schroederia setigera</u>	568
<u>Treubaria</u> sp. 1	284
CYANOPHYTA (Blue-green algae)	
<u>Anabaena</u> sp.	3976
<u>Aphanocapsa delicatissima</u>	40328
<u>Aphanocapsa elachista</u>	1136
<u>Aphanocapsa elachista</u> var. <u>conferta</u>	3408
<u>Aphanothece saxicola</u>	9088
<u>Chroococcus dispersus</u>	114
<u>Chroococcus giganteus</u>	1136
<u>Chroococcus minutus</u>	1136
<u>Chroococcus multicoloratus</u>	268
<u>Chroococcus pallidus</u>	9088
<u>Chroococcus varius</u>	4544
<u>Gloeocapsa</u> sp.	1136
<u>Gloeotheca linearis</u>	568
<u>Lyngbya nana</u>	5680
<u>Merismopedia punctata</u>	6816
<u>Merismopedia tenuissima</u>	6812
<u>Microcystis marina</u>	5680
<u>Oscillatoria angustissima</u>	12496
<u>Pseudoanabaena catenata</u>	19880
<u>Spirulina</u> sp. 1	284
<u>Spirulina</u> sp. 2	284
<u>Synechococcus elongatus</u>	10224
<u>Synechococcus lineare</u>	3408
<u>Synechococcus lineare</u> var. <u>spirale</u>	9088
EUGLENOPHYTA (Euglenoids)	
<u>Euglena acus</u>	284
<u>Trachelomonas hispida</u>	284
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Chaetoceros</u> sp.	1988
<u>Cyclotella meneghiniana</u>	1704
<u>Cyclotella stelligera</u> var. <u>tenuis</u>	18460
<u>Melosira granulata</u>	2840
<u>Melosira granulata</u> var. <u>angustissima</u> f. <u>spiralis</u>	3976
Order Pennales	
<u>Anomoeoneis</u> sp.	284
<u>Nitzschia palea</u>	284
<u>Nitzschia paleacea</u>	3408
<u>Nitzschia thermalis</u>	284

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

Lake Houston FC (300209095091201)

Phytoplankton Analyses October 1984 to September 1985

Date	2-14-85
Time	1001

TOTAL CELLS/ml	1,148
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	0.14

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Closterium</u> sp.	28
<u>Scenedesmus abundans</u>	114
CYANOPHYTA (Blue-green algae)	
<u>Dactylococcopsis acicularis</u>	28
<u>Dactylococcopsis fascicularis</u>	28
<u>Lyngbya nana</u>	455
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Melosira granulata</u>	114
<u>Melosira</u> sp.	57
Order Pennales	
<u>Navicula minuscula</u>	57
<u>Navicula rhyncocephala</u>	69
<u>Nitzschia filiformis</u>	28
<u>Nitzschia palea</u>	57
<u>Nitzschia subacicularis</u>	28
<u>Nitzschia</u> sp.	57
<u>Synedra tenera</u>	28

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

Lake Houston FC (300209095091201)

Phytoplankton Analyses October 1984 to September 1985

Date 5-29-85  
Time 0946

TOTAL CELLS/ml 865,869  
NUMBER OF SPECIES 31  
DEPTH COLLECTED (ft.) 0.36

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Crucigenia irregularis</u>	18176
<u>Dictyosphaerium pulchellum</u>	13632
<u>Gloeocystis</u> sp.	454
<u>Scenedesmus abundans</u>	9088
<u>Scenedesmus armatus</u>	2272
<u>Scenedesmus</u> sp.	6816
<u>Treubaria</u> sp.	2272
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	274912
<u>Aphanocapsa elachista</u>	61344
<u>Chroococcus multicoloratus</u>	682
<u>Chroococcus varius</u>	8293
<u>Merismopedia punctata</u>	4544
<u>Merismopedia tenuissima</u>	74976
<u>Microcystis marina</u>	136320
<u>Pseudoanabaena</u> sp.	908
<u>Spirulina</u> sp.	1136
<u>Synechococcus elongatus</u>	5680
CRYPTOPHYTA (Cryptomonads)	
<u>Cryptomonas</u> sp.	1136
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella meneghiniana</u>	3408
<u>Cyclotella stelligera</u> var. <u>tenuis</u>	212432
<u>Melosira granulata</u> var. <u>angustissima</u> f. <u>spiralis</u>	13632
Order Pennales	
<u>Navicula capitata</u>	1136
<u>Navicula cryptocephala</u>	227
<u>Navicula festiva</u>	227
<u>Navicula interostrata</u>	57
<u>Navicula sabiniana</u>	114
<u>Nitzschia acicularis</u>	350
<u>Nitzschia amphibia</u>	227
<u>Nitzschia palea</u>	8010
<u>Nitzschia paleacea</u>	2272
<u>Nitzschia subacicularis</u>	1136

SAN JACINTO RIVER BASIN  
LAKE HOUSTON NEAR SHELDON, TX--Continued

Lake Houston FC (300209095091201)

Phytoplankton Analyses October 1984 to September 1985

Date	6-24-85
Time	1026

TOTAL CELLS/ml	107,636
NUMBER OF SPECIES	23
DEPTH COLLECTED (ft.)	0.25

Organisms	Cells/ml
<b>CHLOROPHYTA (Green algae)</b>	
<u>Actinastrum hantzschii</u>	1704
<u>Oocystis borgei</u>	1704
<u>Scenedesmus armatus</u> var. <u>bicaudatus</u>	1136
<u>Scenedesmus dimorphus</u>	1136
<b>CYANOPHYTA (Blue-green algae)</b>	
<u>Aphanocapsa delicatissima</u>	27548
<u>Aphanocapsa elachista</u>	1136
<u>Chroococcus multicoloratus</u>	284
<u>Dactylococcopsis fasciculata</u>	568
<u>Dactylococcopsis raphidioides</u>	568
<u>Merismopedia tenuissima</u>	34080
<u>Oscillatoria angustissima</u>	5680
<u>Pseudoanabaena catenata</u>	13916
<u>Synechococcus elongatus</u>	4544
<u>Synechococcus lineare</u>	284
<u>Synechococcus lineare</u> var. <u>spirale</u>	2272
<b>BACILLARIOPHYTA (Diatoms)</b>	
<b>Order Centrales</b>	
<u>Cyclotella meneghiniana</u>	284
<u>Cyclotella stelligera</u> var. <u>tenuis</u>	7668
<u>Melosira</u> sp.	568
<b>Order Pennales</b>	
<u>Navicula sabiniana</u>	284
<u>Nitzschia acicularis</u>	284
<u>Nitzschia paleacea</u>	1136
<u>Nitzschia subacicularis</u>	568
<u>Synedra tenera</u>	284

## SAN JACINTO RIVER BASIN

101

08072020 LAKE HOUSTON PLANT INTAKE AT GALENA PARK, TX

## WATER-QUALITY RECORDS

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 east of Galena Park.

DRAINAGE AREA.--2,828 mi<sup>2</sup>.

PERIOD OF RECORD.--Periodic chemical analyses: May 1972 to current year. Pesticide analyses: May 1968 to September 1981.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

		DATE		TIME		TEMPER- ATURE (DEG C)	
		NOV 20...		1110		22.5	



## SAN JACINTO RIVER MAIN STEM

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 downstream from Southern Pacific Railway Co. bridge, 1.5 mi east of Sheldon, 4.6 mi downstream from Lake Houston, and 21 mi northeast of Houston.

DRAINAGE AREA.--2,879 mi<sup>2</sup>.

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 below National Geodetic Vertical Datum of 1929, adjustment of 1973. Prior records unadjusted for land-surface subsidence.

REMARKS.--Records fair. Except during periods of runoff, gage heights reflect tidal fluctuations. Harris County Flood Control District rain gage and gage height telemeters located at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 20.12 ft June 15, 1973; minimum recorded elevation, -2.36 ft Feb. 13, 1971.

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 8.10 ft Oct. 26, time unknown; minimum gage height unknown (occurred during period of no gage height record in January or February).

## GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

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	2.55	.75	-	-	-	-	-	-	-	-	4.52	3.88	2.27	.37	2.17	.82	2.44	.50	-	-	1.78	-.02	-	-
2	2.78	.93	-	-	-	-	-	-	-	-	4.27	3.62	1.89	-.12	1.42	.03	2.78	.52	-	-	2.28	-.18	-	-
3	2.62	.93	-	-	-	-	-	-	-	-	4.43	3.06	2.33	.84	1.63	-.08	2.87	.56	-	-	2.39	.26	-	-
4	3.15	1.00	-	-	-	-	-	-	-	-	4.73	3.19	2.88	1.64	2.66	.41	3.12	.73	-	-	2.18	.44	-	-
5	3.40	1.42	-	-	-	-	-	-	-	-	3.73	2.11	3.07	.84	2.84	.61	3.12	.88	-	-	2.10	.75	-	-
6	3.30	1.71	-	-	-	-	-	-	-	-	3.32	1.83	3.19	.20	2.87	.62	2.87	.96	-	-	2.01	1.12	-	-
7	2.82	1.62	-	-	-	-	-	-	-	-	3.28	1.80	3.17	1.49	2.99	.78	2.52	.37	-	-	2.00	.73	-	-
8	2.94	1.61	-	-	-	-	-	.12	-	-	2.83	1.30	2.50	.43	2.38	.58	2.07	.22	-	-	1.91	.66	-	-
9	3.29	1.76	-	-	-	-	3.02	1.42	-	-	2.55	1.12	3.18	.56	2.62	.13	2.13	.32	-	-	1.85	.49	-	-
10	3.05	1.47	-	-	-	-	3.17	.52	-	-	2.28	.80	3.40	1.15	2.68	.50	2.38	.34	-	-	1.90	.08	-	-
11	3.05	1.67	-	-	-	-	2.07	-.17	-	-	2.73	1.02	3.03	1.13	3.02	1.05	2.23	1.09	-	-	1.73	-.06	-	-
12	2.98	1.69	-	-	-	-	.99	.10	-	-	2.68	.43	3.10	.93	3.19	1.25	1.87	.90	-	-	2.12	.00	-	-
13	2.98	1.26	-	-	-	-	2.08	.78	-	-	2.68	.72	3.24	1.31	3.83	2.17	2.42	.63	-	-	2.43	.35	-	-
14	3.71	1.90	-	-	-	-	-	.84	-	-	2.46	.91	2.85	1.08	2.83	1.00	2.85	1.43	-	-	3.15	.65	-	-
15	-	-	-	-	-	-	-	-	-	-	2.63	.58	2.32	.78	2.52	1.37	2.79	1.06	-	-	2.79	1.21	-	-
16	-	-	-	-	-	-	-	-	-	-	2.80	1.20	1.90	.38	2.29	1.07	2.52	.49	-	-	2.86	.02	-	-
17	-	-	-	-	-	-	-	-	-	-	2.50	.27	2.08	.52	1.91	.51	2.97	.93	2.12	-.12	2.68	1.11	-	-
18	-	-	-	-	-	-	-	-	-	-	2.72	.83	2.53	1.33	2.97	.13	3.15	.51	2.26	-.25	2.27	.67	-	2.25
19	-	-	-	-	-	-	-	-	-	-	3.57	1.80	3.03	1.35	2.80	.87	2.33	.10	2.33	.31	2.06	.48	4.00	2.23
20	-	-	-	-	-	-	-	-	-	-	5.30	3.15	3.11	1.38	2.83	1.01	2.76	.62	2.33	.37	2.05	.90	3.98	1.87
21	-	-	-	-	-	-	-	-	2.83	1.68	5.63	4.87	3.53	1.16	3.11	1.15	3.96	1.36	2.16	.27	2.08	.92	3.65	2.13
22	-	-	-	-	-	-	-	-	3.05	2.12	4.87	4.18	3.97	2.04	2.54	.51	3.68	1.64	2.07	.60	2.42	.86	3.97	1.95
23	-	-	-	-	-	-	-	-	3.54	1.62	4.26	3.25	3.57	2.03	2.52	.53	3.13	1.47	1.98	.67	2.43	.54	3.51	1.33
24	-	-	-	-	-	-	-	-	2.18	1.45	3.26	2.42	2.42	.58	2.32	.48	2.86	1.22	2.37	1.06	2.44	.50	2.31	.87
25	-	-	-	-	-	-	-	-	4.48	1.74	2.47	1.53	2.84	.58	2.67	.60	2.82	1.25	2.20	.66	2.33	.40	3.10	1.16
26	8.10	-	-	-	-	-	-	-	4.50	3.92	3.32	1.11	3.59	1.21	2.87	.85	2.80	-	2.05	.03	2.51	.37	2.38	.92
27	-	-	-	-	-	-	-	-	4.43	3.77	3.38	1.72	3.45	1.71	2.88	1.18	-	-	1.73	-.12	-	-	3.16	1.04
28	-	-	-	-	-	-	-	-	4.30	2.96	3.42	1.52	3.24	1.43	2.82	1.12	-	-	2.27	-.01	-	-	3.33	2.00
29	-	-	-	-	-	-	-	-	-	-	3.42	1.85	3.07	1.26	2.88	1.67	-	-	2.24	.07	-	-	3.55	2.37
30	-	-	-	-	-	-	-	-	-	-	3.63	2.57	2.88	1.31	2.70	1.46	-	-	2.18	.05	-	-	2.84	.27
31	-	-	-	-	-	-	-	-	-	-	2.63	.11	-	-	2.72	1.07	-	-	1.97	.16	-	-	-	-

## SAN JACINTO RIVER BASIN

103

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 downstream from confluence of Willow Fork and Cane Island Branch of Buffalo Bayou, and 3.1 mi southeast of Katy.

DRAINAGE AREA.--63.3 mi<sup>2</sup>.

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

Water-quality records: Chemical and biochemical analyses: June 1978 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 75.02 ft above National Geodetic Vertical Datum of 1929, 1973 adjustment. From Jan. 18, to Sept. 30, 1985, gage located at temporary site 250 ft upstream at same datum. All records adjusted to original site and datum.

REMARKS.--Estimated daily discharges: Dec. 1-4, 11-16, 19-29, Jan. 2-9, 13-18, Apr. 6-21, and Aug. 27 to Sept. 16. Records fair except those for estimated daily discharges, which are poor. Stage discharge relationship affected by seasonal vegetal growths during most years. Telemeter located at station.

AVERAGE DISCHARGE.--8 years, 49.5 ft<sup>3</sup>/s (35,860 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,920 ft<sup>3</sup>/s Sept. 20, 1979 (gage height, 37.54 ft); minimum daily estimated, 0.30 ft<sup>3</sup>/s Dec. 26-29, 1984 (result of regulation).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 25	0600	1,340	33.44	Mar. 20	1900	1,320	32.80
Feb. 10	2400	*1,990	*34.98				

Minimum daily discharge (estimated), 0.30 ft<sup>3</sup>/s Dec. 26-29 (result of regulation).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	75	1.8	160	12	888	3.9	1.9	1.7	2.8	26	2.6
2	2.1	367	.80	40	9.5	276	3.9	1.7	1.8	2.9	28	2.6
3	1.6	181	.60	20	8.1	102	3.4	1.7	2.0	3.2	45	2.5
4	1.5	101	.80	15	7.5	49	2.8	1.6	1.8	6.4	16	2.5
5	1.8	61	4.9	12	7.5	27	2.4	2.0	1.8	8.0	11	3.3
6	1.4	55	4.2	10	7.0	17	2.2	3.0	1.8	8.8	21	3.0
7	1.2	55	2.8	9.0	6.0	13	2.0	3.0	1.7	7.5	17	2.9
8	2.0	47	1.8	8.0	5.4	10	1.8	22	1.7	6.2	11	2.8
9	2.3	52	1.3	7.0	5.3	9.2	1.6	48	1.7	5.6	10	2.8
10	1.6	35	1.2	5.3	441	7.8	1.4	11	1.7	5.3	13	6.0
11	3.8	18	1.0	3.4	1200	7.0	1.2	5.0	2.0	5.3	11	16
12	3.4	10	.80	7.1	268	6.4	4.0	3.3	4.7	5.8	6.0	30
13	4.9	8.6	.60	7.6	97	6.0	3.0	2.4	3.5	4.9	7.5	10
14	81	12	.50	7.1	44	168	2.5	17	3.1	4.3	10	7.0
15	48	9.8	.50	4.7	25	202	2.2	12	2.4	4.3	5.9	4.5
16	32	42	6.5	17	19	93	2.0	5.4	2.5	4.8	4.5	3.7
17	24	44	2.8	73	14	49	1.8	3.6	2.9	5.1	3.4	3.6
18	20	134	1.4	33	12	23	1.6	3.7	29	4.6	2.8	3.4
19	69	82	.80	22	9.7	15	1.4	2.8	197	4.3	2.6	3.0
20	46	35	.60	15	9.3	596	10	2.2	179	4.3	2.6	2.8
21	177	16	.55	16	8.9	726	5.0	6.1	50	5.4	3.3	2.7
22	132	8.4	.50	18	8.3	184	3.4	4.0	23	5.8	3.3	2.7
23	76	4.7	.45	11	375	54	3.0	2.9	14	5.3	2.9	2.6
24	75	3.2	.40	11	254	24	2.2	2.3	10	4.9	2.6	2.6
25	1050	2.9	.35	9.6	161	14	2.0	1.8	7.6	4.8	2.8	3.4
26	539	7.7	.30	11	74	9.3	93	1.8	5.2	10	3.1	3.2
27	269	21	.30	11	73	7.5	23	1.7	4.0	6.9	2.9	2.9
28	149	8.8	.30	10	182	6.0	7.8	1.7	3.4	5.6	2.8	2.9
29	96	5.2	.30	11	---	5.1	4.3	2.1	3.1	35	3.0	22
30	92	3.4	.48	20	---	4.5	2.5	1.9	3.0	102	2.8	42
31	76	---	187	15	---	4.5	---	1.7	---	41	2.7	---
TOTAL	3081.5	1505.7	274.15	619.8	3343.5	3603.3	201.3	181.3	567.1	331.1	286.5	202.0
MEAN	99.4	50.2	8.84	20.0	119	116	6.71	5.85	18.9	10.7	9.24	6.73
MAX	1050	367	187	160	1200	888	93	48	197	102	45	42
MIN	1.2	2.9	.30	3.4	5.3	4.5	1.2	1.6	1.7	2.8	2.6	2.5
AC-FT	6110	2990	544	1230	6630	7150	399	360	1120	657	568	401
CAL YR 1984	TOTAL	8666.53	MEAN	23.7	MAX	1050	MIN	.30	AC-FT	17190		
WTR YR 1985	TOTAL	14197.25	MEAN	38.9	MAX	1200	MIN	.30	AC-FT	28160		

## SAN JACINTO RIVER BASIN

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 upstream from reservoir outlet works, 1,160 ft upstream from Addicks-Howell county road, 1.1 mi south of Addicks, and 1.2 mi upstream from South Mayde Creek.

DRAINAGE AREA.--128 mi<sup>2</sup>. Prior to August 1977, 134 mi<sup>2</sup>. 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.

Water-quality records.--Chemical and biochemical analyses: June 1978 to September 1981.

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 (since 1973). Prior to Oct 1, 1980, 0.33 ft below National Geodetic Vertical Datum of 1929, unadjusted for land-surface subsidence.

REMARKS.--The reservoir is formed by a rolled earthfill dam 72,900 ft 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 wide, each controlled by a vertical slide gate. U.S. Army Corps of Engineers gage-height telemeter 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.....	112.5	-
Ground elevation at ends of dam.....	106.0	209,000
Design flood.....	105.4	199,000
Crest of spillway (invert).....	73.2	0

COOPERATION.--The capacity table, furnished by the U.S. Army Corps of Engineers, is based on extensive releveing survey made in 1974 using National Geodetic Vertical Datum, 1973 adjustment as base.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,200 acre-ft May 15, 1968 (gage height, 94.60 ft, former datum and former capacity table); minimum, reservoir was dry at times.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 16,340 acre-ft Oct. 29 at 1000 to 1600 hours (elevation, 90.16 ft); minimum, 0.13 acre-ft on many days (elevation, 73.70 ft).

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

73.2	0	78.4	14	81.6	193	86.0	3,979
75.8	1	79.2	22	82.2	331	87.0	6,005
76.3	2	79.8	32	83.0	671	88.5	10,100
76.9	4	80.4	49	84.0	1,367	90.2	16,520
77.6	8	81.0	100	85.0	2,433		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.1	14450.0	.14	190.00	.16	784.00	.18	.13	.13	.13	.32	.15
2	.1	14900.0	.14	492.00	.16	2770.00	.16	.13	.13	.13	.68	.15
3	.1	14530.0	.13	635.00	.15	3730.00	.16	.13	.13	.13	18.50	.15
4	.1	13850.0	.14	717.00	.15	3760.00	.15	.13	.13	.16	11.10	.15
5	.1	12940.0	.27	584.00	.14	3670.00	.14	.13	.13	.18	.27	.15
6	.1	11370.0	.19	240.00	.14	1540.00	.13	.13	.13	.17	.30	.15
7	.1	10390.0	.15	7.10	.14	272.00	.13	.14	.13	.18	.31	.15
8	.1	9040.0	.14	.26	.14	.26	.13	.13	.13	.15	.24	.15
9	.2	7890.0	.14	.22	.14	.22	.13	.70	.13	.14	.24	.17
10	.2	6840.0	.14	.22	19.80	.19	.13	.27	.13	.14	.23	.20
11	.1	5720.0	.14	.23	1370.00	.17	.13	.17	.15	.14	.23	.17
12	.1	4650.0	.14	.27	2350.00	.16	.16	.14	.36	.14	.19	.18
13	.2	3550.0	.14	.27	3670.00	.15	.14	.14	.17	.14	.15	.20
14	61.1	2500.0	.14	.29	2990.00	112.00	.13	.81	.13	.14	.18	.21
15	89.1	1440.0	.14	.25	2080.00	594.00	.13	.43	.13	.20	.16	.16
16	14.5	500.0	.41	.36	1220.00	1000.00	.13	.20	.13	.15	.15	1.20
17	.3	20.9	.24	4.10	265.00	1090.00	.13	.15	.13	.15	.15	3.30
18	.3	.7	.17	1.90	.26	816.00	.13	.15	1.80	.14	.15	6.00
19	94.4	20.1	.15	.32	.21	347.00	.13	.14	322.00	.14	.15	8.30
20	565.0	14.8	.14	.24	.19	890.00	.13	.13	1150.00	.14	.15	.18
21	1060.0	.3	.14	.21	.18	3290.00	.28	1.60	1570.00	.14	.23	.15
22	1540.0	.3	.14	.22	.17	4830.00	.17	.17	1530.00	.15	.15	.15
23	1760.0	.2	.14	.18	1.50	5220.00	.14	.13	1280.00	.14	.15	.52
24	1820.0	.2	.14	.17	91.20	5010.00	.13	.13	983.00	.14	.15	1.20
25	5540.0	.2	.14	.16	614.00	4080.00	.13	.13	645.00	.15	.20	2.00
26	11790.0	.2	.14	.15	619.00	2840.00	3.60	.13	328.00	.20	.15	3.30
27	14660.0	.2	.14	.23	242.00	1810.00	8.20	.13	18.70	.18	.15	.15
28	16060.0	.2	.14	.20	106.00	778.00	.26	.13	.13	.16	.15	.14
29	16240.0	.2	.14	.17	---	83.10	.18	.13	.13	.16	.15	.40
30	15930.0	.2	.41	.20	---	.27	.15	.13	.13	1.70	.15	164.00
31	15150.0	---	20.90	.18	---	.24	---	.13	---	.77	.15	---
MAX	16240	14900	20	717	3670	5220	8.2	1.6	1570	1.7	18	164
MIN	.10	.20	.13	.15	.14	.15	.13	.13	.13	.13	.15	.14
CAL YR 1984	MAX	16240	MIN	.10								
WTR YR 1985	MAX	16240	MIN	.10								

## SAN JACINTO RIVER BASIN

105

08072730 BEAR CREEK NEAR BARKER, TX

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

DRAINAGE AREA.--19.8 mi<sup>2</sup>.

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

Water-quality records.--Chemical and biochemical analyses: June 1978 to September 1981.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 100.00 ft above National Geodetic Vertical Datum of 1929, 1973 adjustment. Mar. 1, 1984 to Mar. 12, 1985, at site 1,100 ft downstream, same datum.

REMARKS.--Estimated daily discharges: Oct. 1-12, Dec. 1-4, 7-15, 18, 20-29, Jan. 11, 15, 23-26, Jan. 31 to Feb. 5, Feb. 7-9. Records fair except those for estimated daily discharges, which are poor. Channel was rectified in 1981 water year. Considerable diversions and return of irrigation water from area above station. Telemeter located at station.

AVERAGE DISCHARGE.--8 years, 21.6 ft<sup>3</sup>/s (15,650 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,060 ft<sup>3</sup>/s Aug. 31, 1981 (gage height, 15.86 ft); maximum gage height, 16.72 ft Sept. 20, 1979, occurred prior to channel rectification; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 29	2000	*875	*13.72	June 11	2400	577	11.98
Feb. 10	2200	433	10.92	June 18	2000	726	12.82
Mar. 20	2200	401	10.80				

Minimum discharge, no flow Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.0	53	e.60	43	e.15	203	2.3	.35	.12	1.6	3.3	.20
2	e.60	184	e.40	36	e.10	120	1.8	.31	.04	.72	24	.20
3	e.40	146	e.25	40	e.08	61	1.3	.22	.03	1.2	72	.19
4	e.25	93	e1.3	29	e.08	39	.92	.09	.02	3.3	15	.14
5	e.15	63	6.2	8.7	e.07	21	.76	.07	.14	2.7	13	.35
6	e.10	51	1.9	2.5	.61	8.7	.66	.49	.65	1.8	12	.24
7	e.05	37	e.60	.46	e.30	4.6	.54	.35	.63	1.7	5.5	.18
8	e1.0	26	e.30	.02	e.20	3.4	.42	.23	.13	.72	2.6	.13
9	e2.0	19	e.20	.10	e.10	2.6	.33	.81	.22	.48	1.3	.12
10	e.80	13	e.10	.77	110	1.3	.23	.43	.29	.24	1.2	1.1
11	e.50	8.8	e.50	e.00	312	1.0	.16	.31	.47	.11	.79	3.5
12	e.30	8.1	e.60	.06	120	.61	.41	.22	228	.65	.55	25
13	7.0	5.4	e.30	.29	53	.70	.57	.36	46	2.9	.52	9.1
14	47	4.3	e.10	1.6	26	46	.52	22	19	1.1	1.2	1.3
15	20	3.3	e.05	e.10	10	63	.44	1.3	8.3	2.0	1.6	.79
16	12	4.3	11	17	4.9	42	.35	.32	5.2	1.1	1.5	.23
17	4.4	15	2.3	24	2.6	24	.24	.41	3.1	.21	1.9	.12
18	2.3	52	e.60	18	1.5	11	.17	1.3	259	1.1	1.1	.07
19	38	38	1.3	5.4	.97	3.2	.14	3.4	515	3.0	.92	.04
20	38	23	e.80	2.2	.61	244	11	.94	267	1.6	12	.02
21	106	11	e.50	.85	.33	288	8.8	3.4	140	.57	13	.03
22	97	5.0	e.30	.55	.38	143	2.7	.62	71	.31	3.9	.05
23	71	3.0	e.20	e.25	24	75	1.1	.27	29	.11	3.2	.08
24	58	1.8	e.10	e.15	113	39	.49	.33	17	.07	3.4	.06
25	546	1.6	e.05	e.10	84	23	.25	.22	7.7	.12	2.7	.04
26	573	1.9	e.03	e.10	52	14	53	.19	3.0	.12	1.1	.03
27	232	13	e.02	3.3	41	8.7	27	.08	2.5	3.4	.37	.03
28	133	4.5	e.02	.85	61	5.9	4.9	.06	9.2	2.3	.23	.03
29	91	2.3	e.02	.69	---	4.0	1.4	.07	5.2	2.7	.22	38
30	109	1.5	24	.38	---	3.7	.76	.08	2.0	.91	.27	42
31	74	---	45	e.25	---	3.0	---	.46	---	.77	.19	---
TOTAL	2265.85	892.8	99.64	236.67	1018.98	1507.41	123.66	39.69	1686.47	39.61	200.56	123.37
MEAN	73.1	29.8	3.21	7.63	36.4	48.6	4.12	1.28	56.2	1.28	6.47	4.11
MAX	573	184	45	43	312	288	53	22	515	3.4	72	42
MIN	.05	1.5	.02	.00	.07	.61	.14	.06	.02	.07	.19	.02
AC-FT	4490	1770	198	469	2020	2990	245	79	3350	79	398	245

CAL YR 1984 TOTAL 6099.47 MEAN 16.7 MAX 573 MIN .02 AC-FT 12100  
WTR YR 1985 TOTAL 8234.71 MEAN 22.6 MAX 573 MIN .00 AC-FT 16330

e Estimated daily discharges.

## SAN JACINTO RIVER BASIN

## 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 upstream from reservoir outlet works, 2,700 ft upstream from U.S. Highway 90, 1.2 mi east of Addicks, and 1.4 mi upstream from mouth.

DRAINAGE AREA.--129 mi<sup>2</sup>. Prior to Aug. 1, 1977, 133 mi<sup>2</sup>. 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.

Water-quality records.--Chemical and biochemical analyses: June 1978 to September 1981.

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 (since 1973). Prior to Oct. 1, 1980 datum of gage was National Geodetic Vertical Datum of 1929, unadjusted for land-surface subsidence that occurred prior to that date.

REMARKS.--The reservoir is formed by a rolled earthfill dam 61,166 ft 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 wide, each controlled by a vertical slide gate. Runoff in excess of maximum design capacity will be discharged around both ends of dam. Gage-height telemeter at station. Figures given here in represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	121.6	-
Design flood.....	112.7	212,500
Ground elevation at ends of dam.....	112.0	200,800
Crest of spillway (invert).....	71.0	0

COOPERATION.--The capacity table, furnished by the U.S. Army Corps of Engineers, was based on extensive releveing survey in 1974, using National Geodetic Vertical Datum, 1973 adjustment.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 37,460 acre-ft May 15, 1968 (elevation, 100.02 ft, former datum and former capacity table); minimum, reservoir was dry at times.

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,590 acre-ft Oct. 29 at 1100 to 1700 hours (elevation, 95.50 ft); minimum, 0.34 acre-ft May 8 and 9 (elevation, 71.65 ft).

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

71.1	0	76.4	30	80.0	202	86.0	1,676	92.0	9,940
73.6	2	77.2	54	81.5	351	88.0	3,190	94.0	16,680
75.1	8	78.0	85	83.0	598	90.0	5,707	96.0	26,200
75.7	16	79.0	134	84.5	1,033				

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.4	20190.0	.39	390.00	.39	1600.00	.48	.54	.38	.38	.70	.39
2	.4	20610.0	.38	295.00	.42	3270.00	.44	.42	.38	.38	3.70	.39
3	.4	20190.0	.38	337.00	.43	3590.00	.41	.40	.38	.38	454.00	.39
4	.4	18930.0	.39	210.00	.43	3090.00	.41	.39	.38	.44	392.00	.39
5	.4	17390.0	.44	52.20	.41	2100.00	.39	.38	.38	.44	87.10	.42
6	.4	13860.0	.50	1.00	.39	833.00	.38	.38	.38	.41	.89	.42
7	.4	14000.0	.49	.76	.38	4.00	.38	.37	.38	.43	.59	.41
8	.4	12470.0	.41	.59	.38	1.00	.38	.34	.38	.38	.55	.40
9	.5	10960.0	.38	.53	.38	.89	.38	.36	.38	.41	.49	.39
10	.4	9490.0	.38	.51	67.50	.74	.38	.35	.39	.39	.44	.41
11	.4	8050.0	.38	.44	3040.00	.66	.38	.35	.49	.37	.41	.80
12	.4	6730.0	.38	.56	4510.00	.63	.41	.35	250.00	.36	.41	.69
13	.6	5330.0	.38	.59	3830.00	.60	.38	.35	250.00	.39	.43	.64
14	352.0	3940.0	.38	1.00	2510.00	368.00	.43	82.80	1.40	.47	.62	.48
15	409.0	2560.0	.38	.67	1380.00	884.00	.38	.57	.46	.52	1.60	.47
16	152.0	1260.0	4.00	1.40	565.00	789.00	.38	.44	.41	.48	.45	16.90
17	1.0	295.0	.89	2.90	36.40	460.00	.38	.89	.38	.46	.41	31.20
18	.6	61.2	.44	1.10	.79	142.00	.38	1.10	140.00	.45	.41	44.70
19	328.0	101.0	.41	.67	.65	.93	.38	.59	3640.00	.63	.41	56.30
20	692.0	3.8	.39	.48	.58	998.00	.48	.50	5790.00	.50	.47	.52
21	1460.0	.8	.39	.44	.58	5480.00	1.40	1.10	5920.00	.44	330.00	.39
22	2430.0	.6	.38	.44	.57	5580.00	.64	.50	4950.00	.41	293.00	.39
23	2810.0	.6	.38	.41	72.20	5250.00	11.60	.43	3660.00	.40	2.00	18.40
24	2950.0	.5	.38	.40	475.00	4480.00	.41	.36	1890.00	.39	.56	35.80
25	12470.0	.5	.38	.39	869.00	3430.00	.39	.36	131.00	.43	1.50	50.40
26	19460.0	1.7	.37	.38	915.00	2320.00	89.60	.36	.49	.46	.48	63.00
27	22010.0	1.0	.38	.78	285.00	1340.00	23.20	.36	.44	.45	.41	.55
28	23180.0	.6	.38	.50	243.00	448.00	.95	.36	.39	.44	.39	.38
29	23440.0	.4	.38	.43	---	33.70	.69	.37	.39	.48	.38	59.10
30	22560.0	.4	4.00	.41	---	.91	.55	.38	.38	1.00	.41	652.00
31	21320.0	---	120.00	.39	---	.80	---	.38	---	.70	.41	---
MAX	23440	20610	120	390	4510	5580	89	82	5920	1.0	454	652
MIN	.40	.40	.37	.38	.38	.60	.38	.34	.38	.36	.38	.38
CAL YR 1984	MAX	23440	MIN	.36								
WTR YR 1985	MAX	23440	MIN	.34								



## SAN JACINTO RIVER BASIN

107

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 downstream from South Mayde Creek, and 2.6 mi southeast of Addicks.

DRAINAGE AREA.--293 mi<sup>2</sup>, unadjusted for basin boundary changes.

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

Water-quality records.--Chemical, biochemical, and pesticide analyses: August 1970 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.40 ft 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 to right at same datum. Feb. 2 to May 21, 1948, nonrecording gage at present site and datum.

REMARKS.--Except for period Oct. 17-30, estimated daily discharges are adjustments for backwater from local runoff below gage. Records fair. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000), 3.2 and 3.0 mi upstream, respectively (total capacity 315,900 acre-ft). Extreme low flow is sustained by drainage from irrigated lands, and minor sewage effluent.

AVERAGE DISCHARGE.--40 years, 214 ft<sup>3</sup>/s (155,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft<sup>3</sup>/s Aug. 29, 1945 (gage height, 81.23 ft, former site); no flow at times.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,990 ft<sup>3</sup>/s (adjusted for backwater) Oct. 25 at about 1600 hours (gage height, 68.44 ft, from peak mark); minimum daily, 14 ft<sup>3</sup>/s Sept. 19, 24 (result of regulation).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	1650	39	640	55	e840	54	36	33	37	113	27
2	29	2000	35	e706	54	796	46	33	32	36	167	27
3	29	1640	30	746	55	765	44	32	32	54	637	27
4	27	1560	33	664	55	742	41	31	33	44	475	28
5	28	1530	108	589	50	975	37	32	32	49	338	28
6	27	1570	92	410	53	1330	35	29	32	47	149	32
7	25	1670	56	307	49	1170	31	31	33	61	69	31
8	25	1630	43	128	47	422	32	31	35	46	59	31
9	49	1560	36	83	45	72	33	72	33	41	50	31
10	41	1330	32	81	e184	57	32	94	34	42	44	36
11	32	1300	32	69	e723	51	33	49	96	41	40	42
12	51	1280	30	81	1020	47	33	37	e310	37	38	52
13	80	1260	32	100	1420	42	36	33	299	39	34	81
14	e288	1240	31	114	1450	e280	37	175	221	41	34	49
15	321	1200	33	104	1350	401	38	290	51	60	105	43
16	553	1150	167	116	971	734	34	72	38	53	97	28
17	e620	1030	133	323	860	669	35	43	41	47	35	15
18	e170	814	54	300	399	600	33	43	e280	47	31	16
19	e600	592	42	172	68	452	31	37	e400	80	31	14
20	e140	476	37	97	59	e580	e55	36	55	54	41	63
21	e300	226	35	70	53	570	164	65	480	42	287	30
22	e90	87	34	66	51	1020	76	65	937	37	280	26
23	e300	58	31	65	135	973	42	44	902	37	234	22
24	e450	47	30	56	483	942	36	36	948	36	55	14
25	e1800	41	29	51	665	1080	34	33	1050	34	100	15
26	e1400	40	29	48	812	1260	216	31	398	39	60	17
27	e400	57	30	64	926	1010	393	31	195	46	32	60
28	e300	91	30	82	e820	939	172	31	92	45	28	29
29	e500	60	30	58	---	693	53	33	38	e110	28	e222
30	e1100	46	e116	53	---	227	41	32	34	151	29	e220
31	1610	---	e580	58	---	67	---	33	---	182	29	---
TOTAL	11416	27235	2069	6501	12912	19806	1977	1670	7194	1715	3749	1356
MEAN	368	908	66.7	210	461	639	65.9	53.9	240	55.3	121	45.2
MAX	1800	2000	580	746	1450	1330	393	290	1050	182	637	222
MIN	25	40	29	48	45	42	31	29	32	34	28	14
AC-FT	22640	54020	4100	12890	25610	39290	3920	3310	14270	3400	7440	2690

CAL YR 1984 TOTAL 74439 MEAN 203 MAX 2000 MIN 23 AC-FT 147600  
WTR YR 1985 TOTAL 97600 MEAN 267 MAX 2000 MIN 14 AC-FT 193600

e Except for period Oct. 17-30, estimated daily discharges are adjustments for backwater from local runoff below gage.

## SAN JACINTO RIVER BASIN

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 downstream from Rummel Creek, 3.5 mi downstream from station 08073500, and 3.7 mi upstream from station 08073700.

DRAINAGE AREA.--307 mi<sup>2</sup>, 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 below National Geodetic Vertical Datum of 1929, 1973 adjustment. Telemetry located at station.

REMARKS.--Estimated daily discharges: May 6, 7, 24-29, June 9, 10, July 9-13, 24, 25, and Aug. 13, 17-19, 28. Records good except those for April through September, which are fair. High-water flow is a combination of regulated flow from Barker and Addicks Reservoirs (stations 08072500 and 08073000, located 10.1 and 10.3 mi upstream, respectively) and runoff from highly urbanized area below these reservoirs. Low flow is mostly sustained by sewage effluent.

AVERAGE DISCHARGE.--14 years, 315 ft<sup>3</sup>/s (228,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,350 ft<sup>3</sup>/s Aug. 31, 1981 (gage height, 64.58 ft); minimum daily, 25 ft<sup>3</sup>/s Nov. 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,340 ft<sup>3</sup>/s Oct. 25 at 1800 hours (gage height, 58.98 ft); minimum daily (estimated), 47 ft<sup>3</sup>/s Sept. 24 (result of regulation).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	1590	70	700	88	1080	104	74	62	60	154	55
2	72	2130	71	836	87	830	93	68	61	61	242	57
3	72	1670	64	832	86	799	90	66	61	125	838	57
4	70	1550	84	703	86	775	86	65	62	90	534	59
5	81	1520	201	622	78	911	82	66	62	76	395	63
6	84	1530	133	465	83	1320	75	62	61	71	199	74
7	74	1640	85	376	78	1210	70	62	59	86	116	69
8	73	1620	72	186	73	559	70	64	60	65	96	64
9	138	1570	68	116	70	117	70	102	58	59	83	65
10	102	1370	66	130	272	93	68	147	58	60	71	74
11	89	1320	66	100	873	82	74	106	141	58	68	95
12	112	1290	65	135	927	78	72	88	473	56	65	112
13	208	1260	68	158	1360	74	175	85	324	60	60	150
14	598	1230	70	170	1400	698	121	270	253	64	67	103
15	359	1200	70	153	1390	456	75	330	91	86	147	89
16	616	1190	298	205	1000	811	71	132	63	77	97	69
17	744	1070	220	390	895	733	72	95	69	65	62	49
18	211	965	100	376	516	667	70	92	441	76	60	50
19	798	635	77	247	107	541	68	85	586	143	58	49
20	168	517	70	146	88	1060	127	85	103	98	180	89
21	450	291	65	107	80	596	194	158	398	68	377	77
22	124	132	64	103	78	1060	112	127	874	62	333	57
23	405	94	61	100	310	1030	73	102	863	62	289	55
24	559	82	60	88	570	996	63	91	863	60	108	47
25	2340	77	58	82	755	1080	57	86	991	58	160	48
26	1570	75	57	78	823	1320	297	81	483	63	115	48
27	466	95	59	124	1000	1070	426	77	221	69	74	85
28	373	133	60	125	987	997	235	73	140	65	68	75
29	604	92	60	90	---	796	98	67	67	295	60	524
30	1300	76	373	86	---	358	81	61	61	221	64	518
31	1530	---	844	91	---	127	---	62	---	214	61	---
TOTAL	14463	28014	3779	8120	14160	22324	3369	3129	8109	2773	5301	3026
MEAN	467	934	122	262	506	720	112	101	270	89.5	171	101
MAX	2340	2130	844	836	1400	1320	426	330	991	295	838	524
MIN	70	75	57	78	70	74	57	61	58	56	58	47
AC-FT	28690	55570	7500	16110	28090	44280	6680	6210	16080	5500	10510	6000
CAL YR 1984	TOTAL	92323	MEAN 252	MAX 2340	MIN 49	AC-FT 183100						
WTR YR 1985	TOTAL	116567	MEAN 319	MAX 2340	MIN 47	AC-FT 231200						

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

## WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1979 to September 1981.

WATER TEMPERATURES: June 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 922 micromhos June 25, 1979; minimum daily, 78 micromhos Aug. 31, 1981.

WATER TEMPERATURES (1979-80): Maximum daily, 30.5°C July 1, 1978; minimum daily, 8.5°C Jan. 23, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	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)
NOV 26...	1017	81	684	7.4	20.5	35	7.9	88	2.9	K3	K16	130
FEB 12...	1115	811	153	7.1	11.0	230	10.8	96	6.0	210	230	40
MAY 29...	1018	68	883	7.8	26.0	16	6.8	84	2.0	24	30	140
AUG 20...	1043	53	765	7.6	29.0	16	6.9	90	8.3	K8	52	130
DATE	TIME	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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 26...		0	40	7.1	89	4	6.1	180	25	80	.30	20
FEB 12...		3	12	2.3	15	1	4.0	37	12	15	.20	5.8
MAY 29...		0	44	8.1	130	5	7.5	226	37	120	.40	21
AUG 20...		0	41	7.1	110	4	6.8	189	51	93	.40	22
DATE	TIME	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 26...		373	390	2.9	2.50	4.2	2.50	2.20	2.20	52	11	92
FEB 12...		90	90	.53	.320	--	.530	.350	.320	207	453	74
MAY 29...		483	520	2.9	4.40	.40	<.010	2.60	2.10	38	7.0	49
AUG 20...		437	450	2.4	3.30	4.3	2.00	2.30	1.40	44	6.3	43
DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)		
NOV 26...	1017	3	170	<.5	<1	1	<3	4	42	5		
FEB 12...	1115	<1	60	<.5	1	<1	<3	4	120	3		
MAY 29...	1018	4	180	<.5	<1	<1	<3	4	18	10		
AUG 20...	1043	4	180	<.5	<1	1	<3	3	17	<1		
DATE	TIME	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	
NOV 26...	18	87	<.1	<10	4	<1	<1	410	<6	14		
FEB 12...	4	15	<.1	<10	8	<1	<1	71	<6	6		
MAY 29...	23	23	<.1	<10	<1	<1	<1	530	<6	26		
AUG 20...	21	29	<.1	<10	1	<1	<1	460	<6	22		

## SAN JACINTO RIVER BASIN

08073630 BETTINA STREET DITCH AT KIMBERLY STREET AT HOUSTON, TX  
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°46'32", long 95°32'23", Harris County, Hydrologic Unit 12040104, at intersection of Bettina Street ditch and Kimberly Street in west Houston.

DRAINAGE AREA.--1.37 mi<sup>2</sup>. (Flow leaves basin above IH 10 during some large runoff events).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1978 to September 1985 (discontinued).

GAGE.--Flood-hydrograph and rainfall recorder, automatic water-quality sampler, and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 562 ft<sup>3</sup>/s Aug. 31, 1981 (elevation, 81.69 ft).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 19	0655	306	79.53	Aug. 20	1930	*358	*80.15
Aug. 2	2145	317	79.67	Sept. 29	1525	344	79.99

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1981 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	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 13-13	1600	43	82	--	--	50	20	--	4.3	--	--	30
MAY 14-14	0940	59	90	--	--	35	17	--	8.4	--	--	30
JUN 11...	1230	.75	798	9.3	31.0	40	11	>20.0	>25	2400	200	160

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 13-13	1	11	.70	5.2	.4	1.3	29	8.4	4.0	<.10	2.4
MAY 14-14	3	11	.70	5.2	.4	2.5	27	9.9	4.6	<.10	2.3
JUN 11...	0	49	8.5	120	4	6.7	251	14	120	.70	24

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)
OCT 13-13	50	79	50	.38	.020	.40	.150	.95	1.1	.430	12
MAY 14-14	52	72	17	.57	.030	.60	.370	1.6	2.0	.490	13
JUN 11...	490	90	87	--	.020	<.10	.150	1.9	2.0	2.50	28

## SAN JACINTO RIVER BASIN

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08073630 BETTINA STREET DITCH AT KIMBERLY STREET AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)
JUN 11...	1230	2	93	<1	<10	3	91

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)
JUN 11...	6	32	<.1	<1	1	29



## SAN JACINTO RIVER BASIN

## 08073700 BUFFALO BAYOU AT PINEY POINT, TX

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

DRAINAGE AREA.--317 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1963 to September 1976, October 1984 to current year. October 1976 to September 30, 1984 (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 1.35 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment. Telemetry located at station.

REMARKS.--Estimated daily discharges: Oct. 19-25 and Oct. 31 to Nov. 4. Records good except those for estimated daily discharges, which are poor. High-water flow is a combination of regulated flow from Barker and Addicks Reservoirs (stations 08072500 and 08073000, located 14.0 and 13.8 mi upstream from gage, respectively) and runoff from highly urbanized area below these reservoirs. Low flow is mostly sustained by sewage effluent.

AVERAGE DISCHARGE.--14 years (water years 1964-76, 1985), 270 ft<sup>3</sup>/s (195,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (estimated), 5,700 ft<sup>3</sup>/s Aug. 31, 1981 (gage height, 57.20 ft, from floodmark); minimum daily, 6.0 ft<sup>3</sup>/s Dec. 6, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (estimated), 3,500 ft<sup>3</sup>/s Oct. 25 at time and gage height unknown; minimum daily, 52 ft<sup>3</sup>/s Sept. 17-19, 24-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	1700	77	694	113	1130	137	84	71	75	170	64
2	75	2100	79	778	107	793	120	77	70	73	204	63
3	75	1800	71	816	103	763	113	75	70	143	946	64
4	71	1600	118	663	102	743	108	72	72	131	564	65
5	86	1490	225	582	100	820	101	72	71	105	435	70
6	103	1490	157	429	101	1230	94	70	71	98	225	77
7	76	1600	107	324	93	1160	90	71	70	113	138	74
8	75	1590	84	181	87	648	89	72	69	93	121	69
9	139	1550	76	115	83	177	89	106	67	81	106	70
10	111	1360	73	129	232	142	86	160	68	80	94	74
11	88	1300	71	97	920	128	93	108	125	77	85	102
12	106	1270	70	129	858	117	91	82	601	73	83	106
13	200	1240	72	144	1300	107	276	76	356	73	77	135
14	641	1210	74	152	1330	861	288	275	286	88	90	103
15	290	1180	74	140	1370	417	94	360	132	108	145	88
16	560	1200	316	183	988	767	86	166	82	108	121	75
17	716	1070	236	315	878	693	84	109	80	89	77	52
18	215	1010	128	314	565	637	83	98	498	87	70	52
19	796	648	100	212	164	533	80	87	758	174	67	52
20	150	516	88	136	127	1210	139	83	145	118	235	67
21	388	320	83	134	115	538	235	188	367	89	438	98
22	124	163	80	122	108	963	166	131	928	78	320	63
23	400	118	75	120	359	936	104	105	928	76	275	63
24	550	97	74	102	540	907	85	83	901	74	132	52
25	2500	86	72	91	733	953	83	78	1050	71	153	52
26	1950	83	70	85	747	1210	315	73	591	77	127	58
27	438	114	70	141	937	1000	408	71	233	88	82	66
28	329	150	72	137	920	915	272	73	184	84	73	94
29	497	110	71	104	---	761	124	74	88	266	68	576
30	1210	86	455	92	---	375	96	72	77	294	70	673
31	1600	---	828	100	---	165	---	73	---	219	68	---
TOTAL	14639	28251	4246	7761	14080	21799	4229	3324	9109	3403	5859	3317
MEAN	472	942	137	250	503	703	141	107	304	110	189	111
MAX	2500	2100	828	816	1370	1230	408	360	1050	294	946	673
MIN	71	83	70	85	83	107	80	70	67	71	67	52
AC-FT	29040	56040	8420	15390	27930	43240	8390	6590	18070	6750	11620	6580

CAL YR 1984	TOTAL	-	MEAN	-	MAX	-	MIN	-	AC-FT	-
WTR YR 1985	TOTAL	120017	MEAN	329	MAX	2500	MIN	52	AC-FT	238100

LOCATION.--Lat 29°45'36", long 95°24'30", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Shepherd Drive in Houston and 0.8 mi upstream from Waugh Drive.

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).  
Water-quality records.--Chemical, biochemical, and pesticide analysis: October 1968 to September 1981.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.36 ft 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 downstream at 4.08-foot lower datum. Jan. 17, 1962, to Sept. 30, 1973, auxiliary water-stage recorder 0.8 mi downstream. Water-stage recorder at Main Street (station 08074600) used as auxiliary gage after Sept. 30, 1973. Telemetry located at station.

AVERAGE DISCHARGE.--8 years (water years 1936-44) unregulated, 272 ft<sup>3</sup>/s, 197,100 acre-ft/yr; 26 years (water years 1944-57, 1962-75) regulated, 274 ft<sup>3</sup>/s (198,500 acre-ft/yr).

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,800 ft<sup>3</sup>/s Oct. 25 at time unknown (gage height, 23.00 ft); minimum discharge not determined (affected by tides).

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1630	---	1040	---	1790	---		---		---	---
2	---	2100	---	---	---	883	---		---		---	---
3	---	1900	---	---	---	---	---		---		1080	---
4	---	1700	---	---	---	---	---		---		620	---
5	---	1600	---	---	---	---	---		---		---	---
6	---	1600	---	---	---	1190	---		---		---	---
7	---	1800	---	---	---	1260	---		---		---	---
8	---	1700	---	---	---	909	---		---		---	---
9	---	1600	---	---	---	---	---		---		---	---
10	---	1500	---	---	314	---	---		---		---	---
11	---	1400	---	---	1170	---	---		---		---	---
12	---	1350	---	---	756	---	---		---		---	---
13	---	1300	---	---	1200	---	307		---		---	---
14	800	1300	---	---	1360	1680	1420		---		---	---
15	350	1250	---	---	1420	662	---		---		---	---
16	700	1400	---	---	1140	860	---		---		---	---
17	900	1200	---	---	960	---	---		---		---	---
18	300	1200	---	---	800	---	---		740		---	---
19	1000	1000	---	---	---	---	---		1460		---	---
20	200	600	---	---	---	2800	---		360		370	---
21	---	---	---	---	---	822	---		---		1430	---
22	---	---	---	---	---	935	---		---		---	---
23	500	---	---	---	940	1020	---		---		---	---
24	700	---	---	---	696	960	---		---		---	---
25	3500	---	---	---	934	950	---		---		---	---
26	2500	---	---	---	742	1210	---		---		---	---
27	700	---	---	---	1000	1170	---		---		---	---
28	---	---	---	---	1060	1020	---		---		---	---
29	---	---	---	---	---	920	---		---		---	620
30	1300	---	413	---	---	---	---		---		---	1550
31	1490	---	1100	---	---	---	---		---		---	---
TOTAL	---	---	---	---	---	---	---		---		---	---
MEAN	---	---	---	---	---	---	---		---		---	---
MAX	---	---	---	---	---	---	---		---		---	---
MIN	---	---	---	---	---	---	---		---		---	---
AC-FT	---	---	---	---	---	---	---		---		---	---

## SAN JACINTO RIVER BASIN

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 storm sewer in the center median at Bingle Road and 3,000 ft north of the station Cole Creek at Deihl Road, Houston (08074150).

DRAINAGE AREA.--0.21 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to current year.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, pending better rating definition; maximum gage height, 13.97 ft Aug. 31, 1981, is a recorded pressure head in the access pipe and exceeds gage height for full pipe flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base gage height of 11.00 ft and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 9	1255	(a)	b*13.56	Sept. 7	1650	(a)	b11.15
Oct. c25	0710	(a)	b13.40	Sept. 29	1415	(a)	b12.75

a Discharge not determined; pending better rating definition.

b Recorded pressure head; gage height for full pipe flow exceeded.

c Five peaks above base gage height this date; only highest shown.

Minimum daily discharge not determined.

## WATER-QUALITY RECORDS

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

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	
JUN 11...	1340	.22	1140	7.2	24.5	5	2.3	2.6	31	1.8	210	1200	
11-12	2045	21	92	--	--	40	42	--	--	7.3	--	--	
DATE	TIME	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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JUN 11...	260	0	77	16	170	5	2.4	361	14	170	.70	30	
11-12	35	2	13	.70	5.5	.4	1.7	33	6.5	4.2	<.10	1.7	
DATE	TIME	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, 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 11...	700	7	3	--	<.010	.20	.050	.55	.60	.070	3.0		
11-12	53	138	6	.38	.020	.40	.260	1.3	1.6	.240	16		
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)						
JUN 11...	1340	2	440	<1	<10	4	12						

## SAN JACINTO RIVER BASIN

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08074145 BINGLE ROAD STORM SEWER AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

		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)	
DATE													
JUN 11...		6		25		<.1		<1		<1		12	
DATE	TIME	AME- TRYNE TOTAL	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	
JUN 11...	1340	<.10	<.10	<.10	<2.0	<.1	<.1	<.10	<2.0	<2.0	<.10	<.1	

## SAN JACINTO RIVER BASIN

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 upstream from mouth.

DRAINAGE AREA.--7.50 mi<sup>2</sup>. Prior to Oct. 1, 1976, 8.05 mi<sup>2</sup>. Prior to Oct. 1, 1979, 7.33 mi<sup>2</sup>. 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 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 except for the following period of estimated daily discharge records, Sept. 20-30, which are poor. 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. Telemetry owned by Harris County Flood Control District also located at station.

AVERAGE DISCHARGE.--21 years, 7.97 ft<sup>3</sup>/s (5,770 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft<sup>3</sup>/s Mar. 20, 1972 (elevation, 78.60 ft); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Elevation (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Elevation (ft)
Oct. 9	1330	650	75.46	Mar. 20	0730	558	74.64
Oct. 25	1200	*1,560	78.03	June 18	1630	550	75.00
Feb. 10	2100	439	73.94	Sept. 29	unknown	859	a76.27

a From peak mark.

Minimum daily discharge, 0.16 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	19	1.5	25	3.3	76	6.4	1.7	2.0	1.4	1.4	1.5
2	.20	103	1.4	34	3.3	14	4.0	1.7	1.8	9.9	33	1.4
3	.24	6.2	1.4	28	3.4	8.9	3.4	2.0	1.8	27	72	1.9
4	.34	2.9	3.4	9.9	3.8	8.0	3.2	1.6	2.1	6.4	13	3.0
5	1.6	4.4	16	7.1	3.6	8.4	3.7	1.4	2.0	2.6	3.8	2.7
6	1.4	1.5	2.0	4.2	3.0	5.2	2.9	1.4	1.9	1.5	3.2	2.7
7	.23	2.1	1.2	3.7	3.2	5.2	3.1	1.6	1.9	1.4	2.7	18
8	.18	1.5	1.1	3.5	3.1	4.9	2.9	1.6	1.6	2.5	2.6	7.9
9	90	1.9	1.0	3.4	3.3	4.9	3.5	1.9	1.7	3.5	2.4	4.4
10	3.2	8.5	1.0	5.6	73	5.0	3.1	1.3	1.9	6.4	2.4	2.0
11	.47	1.8	1.0	3.7	55	4.9	3.2	1.3	21	2.6	2.6	1.7
12	.32	1.3	.99	4.9	8.2	4.5	2.9	1.4	35	1.4	2.8	1.5
13	17	1.2	.96	5.9	5.4	4.7	28	1.4	2.5	1.1	2.3	1.7
14	85	1.2	.92	7.6	4.3	73	13	52	1.6	2.4	3.2	1.6
15	4.2	1.1	.93	4.2	4.2	27	2.6	4.2	1.2	9.3	2.9	1.7
16	2.5	11	17	16	4.0	17	2.5	2.1	1.2	4.5	1.7	1.7
17	1.6	3.5	2.7	9.2	3.8	8.7	3.5	1.7	1.2	1.2	1.6	1.6
18	.49	33	3.7	4.4	3.2	6.6	3.5	1.6	156	30	1.5	1.7
19	53	5.9	2.1	4.1	3.1	5.6	3.5	1.4	59	55	1.5	1.7
20	7.8	2.8	1.3	3.6	4.7	212	14	1.6	6.6	4.5	22	1.7
21	64	2.5	1.3	3.5	5.4	31	8.9	20	23	3.4	19	1.7
22	2.8	2.2	1.2	3.7	2.9	13	3.2	3.5	6.6	2.2	2.3	1.7
23	19	1.6	1.1	3.9	51	6.6	2.8	2.8	2.9	1.9	1.3	1.7
24	36	1.5	1.1	3.7	22	5.2	3.8	1.6	2.5	2.1	6.9	1.7
25	601	2.0	1.1	3.3	29	4.3	3.3	2.1	1.9	2.3	8.0	2.0
26	184	1.7	2.4	3.3	8.0	4.0	22	2.1	1.8	2.1	2.7	2.5
27	54	2.5	1.3	9.0	12	5.0	3.5	2.0	1.8	2.1	2.1	2.0
28	17	1.7	1.1	4.3	59	4.5	2.0	2.1	1.7	2.0	1.9	4.0
29	2.3	1.6	1.0	3.8	---	3.7	1.9	2.9	1.7	1.6	1.5	119
30	1.2	1.5	43	3.7	---	4.7	1.8	2.6	1.4	1.6	1.7	48
31	2.3	---	96	2.9	---	4.0	---	2.2	---	1.5	2.0	---
TOTAL	1253.53	232.6	212.20	233.1	388.2	590.5	166.1	128.8	349.3	197.4	228.0	246.4
MEAN	40.4	7.75	6.85	7.52	13.9	19.0	5.54	4.15	11.6	6.37	7.35	8.21
MAX	601	103	96	34	73	212	28	52	156	55	72	119
MIN	.16	1.1	.92	2.9	2.9	3.7	1.8	1.3	1.2	1.1	1.3	1.4
AC-FT	2490	461	421	462	770	1170	329	255	693	392	452	489
(††)	13.23	2.61	2.82	1.66	4.22	3.53	2.42	1.68	5.04	1.87	3.80	4.94

CAL YR 1984 TOTAL 3336.42 MEAN 9.12 MAX 601 MIN .08 AC-FT 6620 †† -  
WTR YR 1985 TOTAL 4226.13 MEAN 11.6 MAX 601 MIN .16 AC-FT 8380 †† 47.82

(††) Rainfall, in inches, at gaging station.



## SAN JACINTO RIVER BASIN

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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 storm sewer 30 ft north of the intersection of Lazybrook Street and West T. C. Jester Boulevard, Houston.

DRAINAGE AREA.--0.13 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

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

REMARKS.--Peak discharge records good. Additional storm rainfall-runoff data for this site for water years 1979-1984 can be obtained from the reports "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 119 ft<sup>3</sup>/s represents full storm sewer discharge and usually occurs many times annually, gage height, 58.09 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 85 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 21	0210	90	57.60	Oct. 25	1740	*108	*57.91
June 18	1305	92	57.63				

Minimum discharge not determined.

## WATER-QUALITY RECORDS

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

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	
OCT 13-13	1620	3.9	60	--	65	4.7	5.6	19	0	6.5	
APR 20-20	1330	1.5	60	6.9	32	11	5.5	22	0	7.7	
AUG 20-20	1850	15	133	--	50	--	8.5	29	0	10	
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)	ALKA- LINITY FIELD (MG/L AS CAC03)	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 13-13	.60	4.7	.5	2.4	21	5.5	3.7	<.10	2.8	39	
APR 20-20	.60	3.4	.3	2.2	24	6.8	2.3	<.10	2.2	40	
AUG 20-20	1.0	14	1	3.5	39	6.8	13	.10	3.8	76	
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)
OCT 13-13	30	12	.29	.010	.30	.220	.88	1.1	.620	9.2	
APR 20-20	23	5	.28	.020	.30	.230	1.1	1.3	.400	6.5	
AUG 20-20	40	16	.67	.030	.70	.330	1.7	2.0	.750	--	

## SAN JACINTO RIVER BASIN

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 downstream from Texas and New Orleans Railroad Co. bridge, 2.4 mi upstream from Little Whiteoak Bayou, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--86.3 mi<sup>2</sup>. Prior to Oct. 1, 1976, 84.7 mi<sup>2</sup>.

## 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 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 upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 26-29, Nov. 2 to Dec. 6, and Jan. 13-30. Records fair except for the periods of estimated daily discharges, which are poor. Low flow is partly sustained by industrial waste. No diversion above station. Telemeter located at station.

AVERAGE DISCHARGE.--49 years, 85.4 ft<sup>3</sup>/s (61,870 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft<sup>3</sup>/s Mar. 20, 1972 (gage height, 43.50 ft); maximum gage height, 43.60 ft 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 Dec. 9, 1935, prior to channel rectification, present site and datum (discharge, 14,750 ft<sup>3</sup>/s), furnished by the engineer for Harris County. The flood of May 31, 1929, reached a stage of 47.0 + 0.5 ft, prior to channel rectification, present site and datum discharge, 9,360 ft<sup>3</sup>/s, computed on basis of current-meter measurement at stage 1.0 ft below crest, furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,400 ft<sup>3</sup>/s (revised) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 25	2000	*12,700	*38.22	Mar. 20	0830	6,500	30.43
Nov. 2	0130	4,930	28.10	June 18	1900	6,340	30.20
Feb. 10	2300	4,870	28.01	Sept. 29	1700	4,810	27.91

Minimum daily discharge, 26 ft<sup>3</sup>/s Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	153	42	279	50	926	51	43	40	35	34	33
2	27	1200	41	431	56	238	45	35	36	94	127	32
3	27	100	40	371	50	163	41	42	36	417	757	38
4	26	60	65	129	55	142	41	37	36	301	109	39
5	58	75	200	77	44	97	43	40	37	71	59	96
6	59	45	50	54	39	71	39	41	35	43	37	50
7	29	50	41	50	40	65	39	39	38	38	35	155
8	29	42	39	43	40	66	39	43	36	39	41	79
9	759	45	38	43	40	65	37	43	34	42	36	48
10	134	120	38	68	844	65	38	39	36	41	37	38
11	35	50	37	44	1080	62	42	39	177	80	38	49
12	32	40	37	79	208	58	39	41	655	37	61	52
13	316	39	36	95	124	53	697	39	75	35	44	63
14	947	39	36	110	82	885	388	509	40	162	54	40
15	180	38	35	75	67	311	59	127	35	228	110	34
16	48	150	407	200	56	245	44	51	35	100	50	35
17	82	65	71	130	51	135	40	42	36	39	36	33
18	40	400	47	60	49	91	39	43	2030	361	36	38
19	505	90	45	46	46	76	40	42	1100	514	33	36
20	154	60	38	43	48	2390	239	40	257	68	482	31
21	792	55	37	43	54	476	204	262	302	46	319	30
22	96	50	42	48	47	203	66	74	174	38	58	29
23	351	45	35	48	707	123	47	43	60	35	37	31
24	476	42	36	46	390	86	45	38	51	36	98	31
25	6500	50	35	44	451	70	42	37	44	35	202	31
26	1500	45	37	43	158	61	288	37	40	37	60	51
27	440	55	37	130	239	87	88	34	41	35	38	34
28	230	45	35	65	585	53	42	37	38	34	37	42
29	115	44	37	50	---	51	44	39	36	51	37	1130
30	72	42	375	42	---	90	41	41	34	36	38	869
31	61	---	826	42	---	58	---	38	---	37	37	---
TOTAL	14148	3334	2915	3028	5700	7562	2947	2055	5624	3165	3177	3297
MEAN	456	111	94.0	97.7	204	244	98.2	66.3	187	102	102	110
MAX	6500	1200	826	431	1080	2390	697	509	2030	514	757	1130
MIN	26	38	35	42	39	51	37	34	34	34	33	29
AC-FT	28060	6610	5780	6010	11310	15000	5850	4080	11160	6280	6300	6540
CAL YR 1984	TOTAL	47287	MEAN 129	MAX 6500	MIN 26	AC-FT 93790						
WTR YR 1985	TOTAL	56952	MEAN 156	MAX 6500	MIN 26	AC-FT 113000						

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 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
JUN 10...	0930	32	881	8.2	27.5	10	1.7	10.8	137	3.4	20000	260	
DATE	TIME	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	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- LITY FIELD (MG/L CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
JUN 10...	210	0	63	12	110	3	5.9	239	28	120	.40	26	
DATE	TIME	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (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 10...	510	2	1	3.4	.150	3.5	.230	1.4	1.6	<.010	6.8		
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)						
JUN 10...	0930	11	230	<1	<10	6	24						
DATE	TIME	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)						
JUN 10...	3	5	<.1	<1	<1	60							
DATE	TIME	AME- TRYNE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	
JUN 10...	0930	<.10	.20	<.10	<2.0	<.1	<.1	<.10	<2.0	<2.0	<.10	<.1	

## SAN JACINTO RIVER BASIN

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 Whiteoak Bayou at upstream side of Main Street viaduct in Houston and 3.2 mi downstream from station 08074000.

DRAINAGE AREA.--469 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1962 to current year. (Gage removed for bridge repairs April 5, 1982 to Dec. 2, 1983).

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

REMARKS.--Records fair. Most days are influenced by tidal fluctuations. Gage heights during rises reflect releases from Barker and Addicks Reservoirs (stations 08072500 and 08073000 respectively) or runoff from urban areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 23.6 ft June 13, 1973; minimum recorded, -3.5 ft Jan. 13, 1964.

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 20.6 ft Oct. 25 at 2000 hours; minimum, 0.2 ft Jan. 20.

## GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1984 TO APRIL 1985

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	3.9	2.2	7.8	3.8	4.3	3.2	4.5	2.4	2.6	0.7	-	-	3.6	1.6	3.6	2.3	3.7	2.1	3.7	1.8	3.3	1.6	5.2	3.8
2	4.1	2.3	11.6	4.6	4.6	3.4	3.7	2.1	2.8	0.8	-	-	3.2	1.4	3.0	1.5	4.1	2.0	3.8	1.8	4.3	1.2	4.9	3.2
3	3.9	2.3	5.1	4.1	-	2.2	3.3	1.5	3.7	1.6	-	-	3.6	2.1	3.1	1.6	4.2	2.0	4.3	1.5	4.9	3.0	4.0	2.8
4	4.3	2.4	5.0	4.0	5.2	-	2.9	0.8	4.1	2.2	-	-	4.1	2.8	4.0	2.0	4.6	2.3	4.6	1.6	3.8	2.2	4.7	3.7
5	4.5	2.8	4.2	3.2	-	-	3.2	1.0	3.9	1.8	-	-	4.2	1.7	4.2	2.0	4.6	2.4	4.2	2.4	3.7	2.5	5.7	3.4
6	4.4	3.1	4.8	3.3	-	-	3.3	1.7	3.4	1.6	-	-	4.5	2.1	4.2	3.3	4.3	2.4	3.7	1.9	3.5	2.6	4.7	3.0
7	4.2	3.1	5.4	4.1	-	1.8	3.5	1.1	3.7	2.0	-	-	4.4	2.1	4.4	2.2	3.9	2.0	3.9	2.2	3.4	2.2	4.3	2.7
8	4.4	3.1	5.3	3.9	3.8	1.8	3.1	1.5	3.4	2.6	3.5	2.8	3.9	2.0	3.8	2.1	3.6	1.8	3.9	2.6	3.6	2.2	4.1	2.4
9	6.8	3.3	5.1	3.7	3.7	1.9	4.2	2.6	4.5	3.5	3.8	2.5	4.7	2.1	4.2	1.7	3.6	1.8	3.5	2.3	3.4	2.1	4.3	2.4
10	4.7	3.0	4.9	2.0	3.6	1.5	4.3	1.6	9.8	3.1	3.6	2.2	4.7	2.6	4.2	2.0	3.9	2.3	3.2	1.9	3.3	1.8	4.8	2.6
11	4.4	3.1	3.8	1.9	3.7	2.0	3.4	1.4	9.9	1.1	4.0	2.4	4.6	2.7	4.3	2.7	4.9	2.8	3.5	1.8	2.2	1.5	5.4	2.5
12	4.3	3.2	4.2	2.6	3.8	2.2	2.6	1.6	2.7	0.4	4.1	1.9	4.5	2.4	4.6	2.7	4.9	2.4	3.2	1.8	3.7	1.5	4.8	2.9
13	5.0	3.1	4.6	3.1	4.6	3.1	3.5	2.5	3.7	2.1	4.1	2.2	4.5	2.8	5.2	3.4	4.0	2.4	3.6	1.9	4.0	1.9	4.2	2.6
14	8.4	3.9	4.6	3.2	4.7	3.2	3.8	2.4	3.5	2.1	7.8	2.7	9.6	2.9	4.6	3.2	4.4	2.9	4.1	2.1	4.9	2.3	4.9	2.8
15	4.9	3.0	4.7	3.0	4.5	3.3	3.7	1.7	3.7	1.6	4.2	2.0	4.2	2.1	3.9	2.7	4.3	2.4	3.5	2.0	4.4	2.7	5.7	3.5
16	5.3	3.4	5.5	2.9	5.4	3.3	4.6	2.6	4.0	2.3	4.2	2.8	3.6	1.9	3.7	2.7	3.9	2.0	3.2	1.5	4.3	1.7	5.5	3.8
17	5.0	3.7	4.9	3.3	4.0	2.9	4.0	1.3	-	-	3.5	1.9	3.5	2.0	3.4	2.0	4.4	2.4	3.5	1.2	4.1	2.6	4.9	3.7
18	5.6	3.5	5.2	3.1	4.2	2.6	3.3	1.2	-	-	4.2	2.3	3.9	2.7	4.7	1.7	11.4	2.0	5.7	1.2	3.7	2.2	5.2	3.9
19	5.9	3.6	3.3	2.1	4.0	2.3	3.6	1.7	-	-	5.0	3.3	4.4	2.8	4.3	2.4	10.6	3.7	5.6	2.3	3.4	2.0	5.5	3.8
20	6.0	4.0	3.8	1.9	4.3	2.3	3.6	0.2	-	-	14.5	4.5	4.7	2.8	4.3	2.6	4.4	2.4	3.7	2.0	8.2	2.4	5.4	3.3
21	7.4	4.0	3.8	1.8	4.4	2.4	2.9	0.9	-	-	6.0	2.0	5.0	2.7	5.1	2.7	5.8	2.9	3.7	1.9	7.2	2.6	5.2	3.8
22	5.6	3.8	3.9	2.0	4.2	1.9	3.1	1.2	-	-	3.9	1.9	5.4	3.4	4.0	2.1	5.1	3.4	3.5	2.2	4.0	2.4	5.4	3.5
23	5.5	3.2	4.0	2.1	4.0	2.2	3.2	1.8	-	-	4.2	3.2	5.0	3.4	4.1	2.1	4.8	3.2	3.4	2.2	4.0	2.3	5.0	2.8
24	5.9	3.5	4.2	2.3	4.4	2.7	3.3	1.9	-	-	3.6	2.6	3.9	2.1	3.9	2.0	5.4	2.9	3.8	2.5	4.0	2.3	3.9	2.4
25	20.6	4.8	4.6	2.2	4.2	2.1	3.4	1.8	-	-	3.7	2.3	4.3	2.0	4.1	2.1	4.4	3.2	3.6	2.3	3.9	2.0	4.6	2.8
26	15.9	5.6	4.3	2.6	4.1	2.8	3.5	2.2	-	-	4.7	2.5	5.0	2.8	4.2	2.4	4.2	2.8	3.4	1.5	4.0	2.1	4.1	2.2
27	5.9	3.4	4.5	1.5	4.5	3.4	4.3	2.8	-	-	4.9	3.3	5.1	3.2	4.4	2.6	3.9	2.0	3.2	1.4	4.7	2.3	4.6	2.8
28	5.0	2.8	2.9	2.3	4.6	3.3	2.9	1.4	-	-	4.8	3.1	4.8	2.9	4.3	2.6	3.1	1.6	3.7	1.6	5.2	3.4	5.0	3.6
29	4.4	2.8	4.3	3.0	4.5	3.3	4.2	2.1	-	-	5.1	3.1	4.4	2.7	4.3	3.2	3.7	1.5	3.7	1.6	4.9	3.0	8.5	4.1
30	4.7	3.4	4.6	2.8	4.3	3.4	4.2	2.7	---	---	4.6	2.0	4.3	2.8	4.2	3.0	3.7	2.0	3.6	1.8	5.0	2.8	6.8	2.6
31	5.0	3.8	---	---	7.0	4.0	3.9	1.4	---	---	3.3	1.0	---	---	4.1	2.4	---	---	3.4	1.7	5.0	3.2	---	---

## SAN JACINTO RIVER BASIN

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08074700 BUFFALO BAYOU AT 69TH STREET, HOUSTON, TX

LOCATION.--Lat 29°45'15", long 95°17'51", Harris County, Hydrologic Unit 12040104, on left bank at end of remaining segment of 69th Street in Houston, 0.15 mi south of Clinton Drive, 1.1 mi upstream from Turning Basin, 2.8 mi upstream from Brays Bayou, and 4.8 mi downstream from Whiteoak Bayou.

DRAINAGE AREA.--476 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1961 to May 1984, May 1985 to September 1985.

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

REMARKS.--Records poor. Only very large storms or hurricane surge produce gage heights above normal tidal fluctuations.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 15.6 ft Aug. 18, 1983, result of Hurricane Alicia; minimum, -3.5 ft Jan. 13, 1964.

EXTREMES FOR PERIOD MAY 3, 1985 TO SEPT. 30, 1985.--Maximum gage height, 5.9 ft Sept. 15 at 2100 hours; minimum recorded, 2.0 ft May 3.

## GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	OCT max. min.	NOV max. min.	DEC max. min.	JAN max. min.	FEB max. min.	MAR max. min.	APR max. min.	MAY max. min.	JUNE max. min.	JULY max. min.	AUG max. min.	SEPT. max. min.
1									- -	- -	- -	- -
2									- -	- -	- -	- -
3								3.4 2.0	- -	- -	- -	- -
4								4.3 2.2	- -	- -	- -	- -
5								4.5 2.3	- -	- -	- -	5.8 3.6
6								4.9 2.3	- -	- -	- -	4.8 3.1
7								5.0 2.8	- -	- -	- -	4.4 2.7
8								4.3 2.6	- -	- -	- -	4.2 2.5
9								4.6 2.2	- -	- -	- -	4.4 2.6
10								4.7 2.5	- -	- -	- -	4.8 2.8
11								4.9 3.1	- -	- -	- -	5.4 2.8
12								5.1 3.3	- -	- -	- -	5.0 3.0
13								5.7 4.0	- -	- -	- -	4.4 2.7
14								4.9 3.2	- -	- -	- -	5.0 2.9
15								4.4 3.1	- -	- -	- -	5.9 3.7
16								4.2 3.2	- -	- -	- -	5.1 3.9
17								- 2.8	- -	- -	- -	5.1 3.9
18								5.1 2.3	- -	- -	- -	5.3 4.0
19								4.8 3.0	- -	- -	- -	5.7 4.0
20								4.9 3.1	- -	- -	- -	5.6 3.5
21								5.5 3.3	- -	- -	- -	5.3 3.9
22								4.6 2.6	- -	- -	- -	5.6 3.7
23								4.6 2.6	- -	- -	- -	5.2 3.0
24								4.4 2.6	- -	- -	- -	4.1 2.6
25								4.7 2.6	- -	- -	- -	4.7 2.9
26								4.8 2.9	- -	- -	- -	4.1 2.5
27								4.9 3.2	- -	- -	5.3 3.9	4.8 2.9
28								4.8 3.2	- -	- -	5.6 3.8	5.1 3.8
29								- 3.8	- -	- -	- -	5.2 4.3
30								- -	- -	- -	- -	4.8 2.2
31								- -	- -	- -	- -	---



## SAN JACINTO RIVER BASIN

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 Main Street Bridge in southwest Houston, 1.6 mi upstream from Harris Gully, and 11.6 mi upstream from Buffalo Bayou.

DRAINAGE AREA.--94.9 mi<sup>2</sup>. Prior to October 1976, 88.4 mi<sup>2</sup>. 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 below National Geodetic Vertical Datum of 1929, 1973 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 downstream at same datum.

REMARKS.--Estimated daily discharge: July 2-12. Records good. No diversion above station. Low flow is mostly sewage effluent from Houston suburbs. Gage-height telemeter at station.

AVERAGE DISCHARGE.--49 years, 128 ft<sup>3</sup>/s (92,740 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft<sup>3</sup>/s June 15, 1976, and Sept. 19, 1983 (gage height, 52.13 ft); minimum daily, 0.1 ft<sup>3</sup>/s Oct. 11, 12, 1937, Mar. 14, Apr. 1, 1958.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 14	0730	6,900	36.58	Mar. 14	1100	9,670	39.26
Oct. 25	1645	7,380	37.07	Mar. 20	0800	*13,200	*42.22
Feb. 23	1145	6,200	35.84	Apr. 13	2145	6,770	36.45

Minimum daily discharge, 93 ft<sup>3</sup>/s Nov. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	137	95	412	117	729	125	108	103	103	119	123
2	108	1380	132	601	122	239	117	101	100	110	169	119
3	102	213	102	561	119	179	116	99	103	280	641	120
4	109	145	362	225	150	189	114	99	105	390	183	127
5	126	125	431	161	126	142	112	102	106	140	171	168
6	221	113	150	140	116	125	108	102	106	120	127	135
7	114	115	108	133	118	125	107	101	104	113	120	125
8	117	115	109	129	115	125	109	113	102	110	121	126
9	338	110	114	123	112	121	107	132	99	108	121	172
10	211	110	114	125	1080	121	108	108	118	107	119	280
11	119	106	106	112	755	121	118	104	187	106	115	165
12	115	106	103	227	178	115	129	101	622	105	120	144
13	598	104	99	187	138	114	978	160	143	112	123	143
14	1900	101	100	243	122	3540	574	131	114	185	149	130
15	286	108	99	141	114	700	129	128	105	179	128	136
16	140	168	663	500	113	491	116	111	104	127	119	133
17	409	154	172	381	112	235	110	152	106	116	120	130
18	186	394	118	164	113	171	106	126	983	124	118	127
19	1470	186	108	138	113	148	109	112	696	171	123	129
20	298	117	103	127	109	4200	294	109	259	132	786	126
21	618	110	101	126	106	559	249	318	433	119	394	119
22	387	99	103	129	106	225	126	144	185	119	150	119
23	972	101	100	123	1690	167	113	111	149	116	145	134
24	780	93	104	121	711	148	105	107	125	114	661	141
25	3990	101	101	118	795	142	104	105	113	114	359	121
26	1470	106	98	117	240	132	370	97	111	116	142	172
27	338	193	100	272	394	144	151	96	114	109	131	130
28	196	110	102	150	715	130	111	101	113	108	128	127
29	150	97	104	119	---	124	107	101	102	119	185	1110
30	133	100	1010	111	---	181	101	103	100	140	238	1170
31	129	---	1460	110	---	149	---	107	---	127	159	---
TOTAL	16238	5217	6771	6326	8799	14031	5323	3689	5910	4239	6484	6201
MEAN	524	174	218	204	314	453	177	119	197	137	209	207
MAX	3990	1380	1460	601	1690	4200	978	318	983	390	786	1170
MIN	102	93	95	110	106	114	101	96	99	103	115	119
AC-FT	32210	10350	13430	12550	17450	27830	10560	7320	11720	8410	12860	12300
CAL YR 1984	TOTAL	76689	MEAN 210	MAX 3990	MIN 93	AC-FT 152100						
WTR YR 1985	TOTAL	89228	MEAN 244	MAX 4200	MIN 93	AC-FT 177000						

## SAN JACINTO RIVER BASIN

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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 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI KF AGAR (COLS. PER 100 ML)	
JUN 10...	1300	111	810	8.1	29.0	10	7.5	10.4	135	4.1	K2	K8	
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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
JUN 10...	150		0	46	8.8	110	4	6.2	231	40	84	.40	25
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, 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 10...	460		10	4	2.6	.410	3.0	4.10	1.5	5.6	<.010	7.4	
DATE				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)		
				JUN 10...	1300		4	140	1	<10	4	7	
DATE				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)		
				JUN 10...		3	5	<.1	<1	<1	12		
DATE	TIME	AME- TRYNE TOTAL	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	
JUN 10...	1300	<.10	.10	<.10	<2.0	.1	<.1	<.10	<2.0	<2.0	.20	<.1	

## SAN JACINTO RIVER BASIN

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 upstream from gage Sims Bayou at Houston, and 19.7 mi upstream from mouth.

DRAINAGE AREA.--20.2 mi<sup>2</sup>.

## 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 and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence. Gage-height telemeter located at station.

REMARKS.--Records fair except those for estimated daily discharges, Dec. 20 to May 20, which are poor. Channel bed was lowered 5 to 6 ft during rectification in 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 193 acre-ft of ground water was used for cooling purposes then released to the Bayou about 200 ft upstream from this station.

AVERAGE DISCHARGE.--20 years (water years 1965-78, 1980-85), 29.2 ft<sup>3</sup>/s (21,160 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,660 ft<sup>3</sup>/s Sept 19, 1983 (elevation, 54.50 ft); maximum elevation, 57.12 ft June 15, 1976, occurred prior to 1978 channel rectification; minimum daily discharge, 1.5 ft<sup>3</sup>/s July 26, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 19	1115	1,420	46.25	Feb. 10	2230	1,000	44.10
Oct. 21	2000	1,200	45.34	Feb. 23	1400	*1,860	47.27
Oct. 25	1800	1,040	44.65	Mar. 20	0845	1,420	45.74

Minimum daily discharge, 8.1 ft<sup>3</sup>/s June 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	15	16	73	12	150	17	14	13	12	11	16
2	10	320	19	94	16	50	16	13	13	12	16	15
3	11	58	16	92	17	37	18	15	12	70	39	15
4	12	26	38	36	21	35	17	14	13	104	17	16
5	13	20	52	24	20	24	16	13	14	35	14	17
6	14	16	22	21	18	18	15	14	11	15	13	15
7	12	16	16	18	16	18	15	14	15	12	15	16
8	15	16	16	19	14	17	14	17	13	12	15	16
9	31	16	16	19	16	17	16	17	13	12	14	13
10	22	16	16	18	168	16	15	15	14	12	13	13
11	12	16	16	17	218	14	17	14	13	17	14	16
12	23	16	16	31	37	25	16	13	38	13	13	20
13	53	15	16	30	22	30	90	13	11	12	13	19
14	348	15	14	44	18	330	113	14	8.1	16	14	19
15	37	16	16	26	16	104	20	14	21	15	14	22
16	17	16	102	40	16	100	18	13	14	12	13	16
17	16	17	28	90	17	44	16	139	14	12	13	18
18	12	28	17	34	17	28	15	31	214	12	14	14
19	466	18	16	21	16	25	17	16	112	12	12	12
20	84	15	16	19	15	597	28	13	34	13	67	13
21	294	15	16	18	14	110	33	64	55	13	55	16
22	270	15	22	17	13	39	16	20	30	12	18	16
23	156	15	16	18	730	27	17	14	28	11	16	17
24	301	15	16	16	350	23	16	14	14	11	19	17
25	496	15	16	16	250	20	17	13	13	11	64	16
26	214	15	16	15	60	20	24	13	11	11	20	27
27	50	15	16	24	70	20	20	13	13	12	16	17
28	25	15	16	17	100	20	17	13	12	12	15	14
29	19	15	16	15	---	20	16	12	13	11	47	49
30	16	14	28	14	---	23	15	13	13	11	48	87
31	16	---	196	13	---	21	---	13	---	11	20	---
TOTAL	3076	840	858	949	2297	2022	700	628	812.1	556	692	597
MEAN	99.2	28.0	27.7	30.6	82.0	65.2	23.3	20.3	27.1	17.9	22.3	19.9
MAX	496	320	196	94	730	597	113	139	214	104	67	87
MIN	10	14	14	13	12	14	14	12	8.1	11	11	12
AC-FT	6100	1670	1700	1880	4560	4010	1390	1250	1610	1100	1370	1180
(††)	9.12	1.56	3.00	1.68	5.76	4.08	1.50	1.20	6.12	2.76	4.32	3.24

CAL YR 1984 TOTAL 12674.0 MEAN 34.6 MAX 760 MIN 10 AC-FT 25140 †† -  
WTR YR 1985 TOTAL 14027.1 MEAN 38.4 MAX 730 MIN 8.1 AC-FT 27820 †† 44.34

(††) Rainfall, in inches, at gaging station.

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

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to September 1985 (discontinued).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
DATE	TIME												
OCT 13-15	1600	217	254	--	--	350	180	--	--	7.7	--	--	
MAY 17-18	0800	148	284	--	--	90	160	--	--	13	--	--	
JUN 11...	1055	10	1020	7.6	28.5	35	13	5.8	75	9.6	210	100	
AUG 20-21	1900	185	--	--	--	75	110	--	--	.1	--	--	
		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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
DATE	TIME												
OCT 13-15	68	0	21	3.7	25	1	4.3	82	20	16	.20	9.7	
MAY 17-18	66	0	21	3.2	31	2	4.2	77	21	25	.20	6.2	
JUN 11...	150	0	44	9.7	150	6	6.5	177	100	120	.50	22	
AUG 20-21	--	--	--	--	--	--	--	--	--	--	--	--	
		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)	
OCT 13-15	150	234	58	.56	.140	.70	.300	1.3	1.6	1.20	12		
MAY 17-18	160	336	40	.91	.190	1.1	.510	1.3	1.8	1.20	11		
JUN 11...	560	25	5	3.4	.970	4.4	3.10	1.1	4.2	<.010	7.7		
AUG 20-21	--	306	46	.80	.200	1.0	.460	2.2	2.7	1.30	13		
				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)				
		DATE	TIME										
		JUN 11...	1055	22	150	<1	<10	4	9				
				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)				
		JUN 11...		2	33	<.1	<1	<1	11				
DATE	TIME	AME- TRYNE TOTAL	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	
JUN 11...	1055	<.10	.40	<.10	<2.0	.1	<.1	<.10	<2.0	<2.0	<.10	<.1	

## SAN JACINTO RIVER BASIN

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 upstream from mouth.

DRAINAGE AREA.--63.0 mi<sup>2</sup>. Prior to Oct. 1, 1976, 64.0 mi<sup>2</sup>.

## 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 below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence. Gage height telemetry located at station.

REMARKS.--Estimated daily discharges: Oct. 19, 21, 22, Jan. 3, 12, 13, 20-22, 30, and Sept. 23-30. Records fair. Low flow is largely sustained by sewage effluent from Houston suburbs and from industrial wastes.

AVERAGE DISCHARGE.--33 years, 85.5 ft<sup>3</sup>/s (61,940 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft<sup>3</sup>/s Aug. 18, 1983, Hurricane Alica (gage height, 33.23 ft); minimum daily, 0.9 ft<sup>3</sup>/s Aug. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 23	1800	*4,010	*24.95	Mar. 20	1400	2,820	22.33
Mar. 14	1130	3,060	22.91				

Minimum daily discharge, 36 ft<sup>3</sup>/s June 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	53	59	311	70	599	81	74	50	55	51	58
2	54	1220	94	311	70	249	82	69	36	71	66	54
3	61	318	70	373	69	158	82	61	36	130	151	54
4	68	112	154	149	76	153	85	57	40	394	86	59
5	70	77	206	79	85	126	79	57	43	193	61	91
6	69	65	113	70	71	90	73	63	45	86	56	83
7	61	54	72	65	68	82	71	68	41	71	58	61
8	59	62	47	63	65	81	68	66	49	65	59	58
9	122	56	47	79	68	69	74	76	44	70	55	58
10	95	49	44	77	295	69	72	63	40	73	52	80
11	72	68	54	72	1140	69	78	54	59	75	48	76
12	73	75	51	97	240	77	79	51	105	54	52	109
13	120	86	55	95	126	80	75	54	58	46	61	112
14	788	83	53	173	101	1610	334	63	56	85	62	87
15	301	86	52	104	88	598	99	63	69	89	61	101
16	102	70	346	130	81	479	76	59	62	57	59	69
17	117	75	134	327	81	229	73	192	62	54	59	66
18	83	102	57	146	79	130	70	130	307	52	60	73
19	778	77	50	98	74	105	69	57	446	59	55	69
20	448	60	50	75	74	1620	115	52	144	54	106	59
21	290	58	49	75	77	615	172	156	179	51	328	56
22	650	57	59	75	74	202	83	99	179	50	84	56
23	304	53	49	78	1590	127	77	63	78	54	66	60
24	544	52	46	72	1180	111	79	57	77	52	63	150
25	1210	58	46	70	885	90	74	49	67	53	183	80
26	924	58	44	69	348	77	106	45	64	51	84	170
27	199	62	48	109	308	84	91	44	62	50	62	75
28	90	57	49	84	306	83	79	51	59	52	61	70
29	62	57	44	72	---	80	76	52	55	56	71	183
30	56	54	63	72	---	93	74	52	56	57	156	394
31	53	---	448	72	---	94	---	57	---	55	78	---
TOTAL	7974	3414	2753	3742	7789	8329	2746	2154	2668	2414	2554	2771
MEAN	257	114	88.8	121	278	269	91.5	69.5	88.9	77.9	82.4	92.4
MAX	1210	1220	448	373	1590	1620	334	192	446	394	328	394
MIN	51	49	44	63	65	69	68	44	36	46	48	54
AC-FT	15820	6770	5460	7420	15450	16520	5450	4270	5290	4790	5070	5500
(††)	9.96	2.76	3.00	2.16	5.52	7.08	1.32	1.08	4.20	2.52	2.76	3.84

CAL YR 1984 TOTAL 38833 MEAN 106 MAX 1420 MIN 25 AC-FT 77030 †† -  
WTR YR 1985 TOTAL 49308 MEAN 135 MAX 1620 MIN 36 AC-FT 97800 †† 46.20

(††) Rainfall, in inches, at gaging station.



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 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)
MAY												
21...	0845	181	972	--	23.5	25	23	5.1	60	13	44000	12000
21...	1050	181	554	--	23.5	50	200	5.8	68	5.8	1000	650
22...	0945	91	584	--	24.5	50	40	3.8	45	11	6700	600
JUN												
11...	0910	62	1370	7.6	27.5	25	4.0	3.1	39	4.8	11000	800

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)	ALKA- LINITY FIELD (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAY												
21...	130	0	39	8.0	150	6	5.3	141	140	120	.60	17
21...	86	0	26	5.1	80	4	4.1	118	41	68	.40	11
22...	100	0	30	6.1	81	4	5.0	126	49	69	.50	12
JUN												
11...	150	0	44	9.9	240	9	5.8	221	270	130	.60	17

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)
MAY											
21...	560	51	6	1.9	.900	2.8	3.00	1.4	4.4	2.10	6.8
21...	310	238	21	1.5	.360	1.9	1.90	1.4	3.3	1.60	14
22...	330	65	6	1.6	.310	1.9	2.50	1.3	3.8	1.70	8.4
JUN											
11...	850	10	1	3.0	.830	3.8	.810	1.2	2.0	<.010	7.0

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							
21...	0845	4	100	<1	<10	5	14
21...	1050	3	58	<1	20	10	24
JUN							
11...	0910	6	110	<1	<10	4	6

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						
21...	10	88	.1	<1	1	26
21...	13	50	<.1	<1	2	23
JUN						
11...	3	2	--	<1	<1	15

DATE	TIME	AME- TRYNE TOTAL	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
MAY												
21...	0845	<.10	.30	<.10	<2.0	.1	<.1	<.10	<2.0	<2.0	<.10	<.1
21...	1050	<.10	.60	<.10	<2.0	.1	<.1	<.10	<2.0	<2.0	<.10	<.1
JUN												
11...	0910	<.10	.10	<.10	<2.0	.1	<.1	<.10	<2.0	<2.0	<.10	<.1

## SAN JACINTO RIVER BASIN

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX

LOCATION.--Lat 29°40'35", long 95°14'37", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge at Forest Oaks Street in southeast Houston, 0.8 mi upstream from mouth of Berry Creek, and 1.7 mi upstream from Sims Bayou.

DRAINAGE AREA.--10.7 mi . Prior to Oct. 1, 1973, 11.1 mi . Oct. 1, 1976, to Dec. 31, 1977, 10.1 mi . Drainage ditch relocations resulted in drainage area changes.

PERIOD OF RECORD.--October 1967 to current year (stage only beginning October 1982). October 1966 to September 1982 operated as partial discharge or flood-hydrograph partial-record station. April 1964 to September 1966 operated as a daily discharge station.

Water-quality records.--Chemical, biochemical, and pesticide analyses: October 1968 to September 1981. Water temperatures: April 1964 to September 1981.

REVISED RECORDS.--WDR TX-80-2: 1979(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.72 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment prior to Oct. 1, 1982, auxiliary water-stage recorder 0.8 mi downstream at same datum. June 25, 1964, to Jan. 11, 1965, auxiliary nonrecording gage 0.8 mi downstream at same datum. Rain gage also located at station.

REMARKS.--Records good. Low stages affected by tidal surge. Rises sometimes affected by backwater from Sims Bayou. The reports "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan area," for the water years 1965-82 contain additional storm runoff data for this station. Harris County Flood Control District rain gage and gage-height telemeters located at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft<sup>3</sup>/s, June 9, 1975; maximum gage height, 23.85 ft Sept. 20, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 17.49 ft Mar. 14 at 1100 hours; minimum gage height, 2.72 ft Jan. 21.

## GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

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	5.33 3.95	6.58 4.94	5.58	4.53 7.95 4.41	3.95 2.80	8.43 6.48	5.13 3.52	5.20 4.04	5.15 3.85	5.11 3.53	4.57 3.04	6.50 5.93
2	5.57 4.01	12.17 5.96	5.98	4.70 6.59 4.67	4.13 2.80	6.48 4.57	5.00 3.25	4.45 3.29	5.37 3.60	5.32 3.53	6.23 2.93	6.43 5.32
3	5.40 4.15	7.50 5.16	5.43	3.81 6.64 4.97	5.12 3.10	6.08 4.19	6.17 4.25	4.57 3.32	5.53 3.74	7.89 3.43	6.31 4.29	5.45 4.68
4	5.77 4.30	6.04 5.08	6.70	5.43 4.97 2.98	5.42 3.87	6.28 5.12	5.68 4.82	5.44 3.71	6.37 4.07	7.86 6.50	5.07 3.59	6.15 5.03
5	6.05 4.64	5.18 4.17	6.66	4.64 4.42 2.89	5.39 3.38	5.78 4.18	5.72 4.05	5.64 3.90	6.56 5.28	6.50 4.81	4.93 3.72	7.08 5.93
6	5.85 5.10	5.96 4.42	4.64	2.82 4.85 3.11	4.79 3.08	5.74 4.51	5.97 3.48	5.69 3.73	5.58 4.18	5.18 3.56	4.75 4.05	6.87 6.15
7	- -	6.53 5.23	5.25	3.83 4.82 2.75	5.04 3.54	6.03 4.31	5.94 4.70	5.84 3.83	5.24 3.60	5.22 4.17	4.72 3.69	6.15 5.05
8	- -	6.44 4.98	5.22	3.28 4.88 2.90	5.27 4.06	5.66 4.41	5.33 3.74	5.57 3.77	4.86 3.48	5.28 4.33	4.65 3.71	5.57 4.82
9	6.32 5.44	6.19 4.78	5.07	3.36 5.58 4.05	5.80 4.79	5.30 4.31	5.99 3.86	5.47 3.44	4.82 3.49	4.83 4.13	4.73 3.74	5.70 4.73
10	6.25 4.53	6.00 3.10	4.93	3.10 5.12 3.27	13.15 4.52	5.07 4.07	6.19 4.33	5.45 3.70	5.58 4.20	4.63 3.81	4.77 3.50	7.27 4.93
11	5.78 4.58	4.98 3.18	5.12	3.49 4.67 2.93	12.13 5.22	5.44 4.18	5.92 4.40	5.68 4.08	6.81 5.52	4.51 3.73	4.62 3.25	6.50 5.77
12	5.78 4.58	5.29 3.74	5.25	3.70 4.15 3.57	5.22 3.15	5.50 3.76	5.90 4.12	5.87 4.36	5.92 4.87	4.75 3.75	4.93 3.24	6.25 5.31
13	6.00 4.50	5.78 4.27	5.99	4.58 4.89 4.15	4.83 3.27	5.48 4.02	6.10 4.42	6.41 5.33	6.30 4.36	5.02 4.00	5.52 3.86	6.23 5.46
14	9.34 6.00	5.82 4.38	6.01	4.56 5.28 4.46	4.60 3.11	17.49 4.63	7.44 5.73	6.06 4.77	7.10 5.64	6.82 4.03	5.98 4.19	6.37 4.93
15	7.67 4.54	5.94 4.22	5.81	4.87 5.00 3.42	4.96 2.82	9.96 6.86	5.73 3.84	5.23 4.22	5.73 5.06	5.60 3.82	5.74 4.96	7.17 6.20
16	6.68 4.83	5.63 3.97	8.68	5.25 5.85 4.14	5.29 3.37	8.14 6.68	4.76 3.62	5.06 4.23	5.37 4.40	4.57 3.14	5.48 3.90	7.08 5.79
17	6.29 5.07	6.15 4.30	5.92	4.48 5.48 3.24	5.35 3.80	6.68 4.07	4.83 3.68	5.87 3.72	5.82 4.47	4.81 3.21	5.44 4.61	6.46 5.96
18	7.00 4.98	6.45 4.77	5.57	4.10 4.65 2.93	5.03 3.40	5.87 4.42	5.28 4.33	5.86 4.30	9.32 4.39	5.08 3.08	5.12 4.24	7.21 6.46
19	11.25 4.98	4.77 3.58	5.43	3.80 4.90 3.09	4.69 3.31	6.48 5.17	6.06 4.44	5.56 3.94	8.70 5.88	5.20 3.49	4.80 4.06	7.63 6.95
20	9.12 6.02	5.03 3.54	5.63	3.84 5.01 2.80	5.00 3.72	11.82 6.46	7.12 4.95	5.60 3.98	6.09 4.56	5.03 3.60	6.67 4.28	7.69 6.84
21	10.95 5.66	5.08 3.45	5.78	3.87 4.27 2.72	5.52 4.44	9.58 5.04	7.08 5.96	6.58 4.15	7.62 4.62	5.00 3.42	7.56 6.46	7.11 6.63
22	12.60 6.66	5.23 3.53	5.62	3.43 4.36 2.90	5.63 4.82	5.57 4.17	6.92 5.18	5.43 3.89	7.44 5.46	4.85 3.62	6.46 5.00	7.14 6.48
23	7.73 5.47	5.31 3.63	5.42	3.63 4.55 3.27	13.78 5.08	5.79 5.07	6.68 5.38	5.36 3.59	5.93 4.48	5.00 3.76	6.09 4.99	7.97 6.32
24	7.61 5.56	5.62 3.83	5.82	4.11 4.70 3.37	11.95 7.96	5.17 4.36	5.33 3.98	5.17 3.53	6.35 4.38	5.17 4.22	6.03 5.54	7.98 5.30
25	9.14 7.00	5.90 3.83	5.67	3.57 4.63 3.27	8.87 7.29	5.08 3.99	5.72 3.77	5.41 3.62	7.15 5.12	5.07 4.03	7.31 6.03	5.99 4.98
26	9.08 5.77	5.59 4.04	5.46	4.27 4.85 3.70	7.29 5.69	6.13 4.02	6.55 5.08	5.55 3.84	5.51 4.77	4.81 3.38	6.78 5.89	5.74 4.92
27	6.83 4.71	5.98 3.08	5.83	4.77 5.83 4.56	6.04 4.78	6.17 4.97	6.45 5.09	5.65 4.06	5.26 4.26	4.50 3.13	6.32 5.46	6.06 5.00
28	6.33 4.23	4.70 3.67	5.93	4.78 4.56 3.13	8.45 4.58	6.17 4.73	6.09 4.57	5.46 4.12	4.53 3.79	5.04 3.27	6.58 6.15	6.26 5.70
29	5.83 4.23	5.73 4.42	5.84	4.63 5.55 3.70	-----	6.18 4.87	5.77 4.27	5.59 4.80	4.97 3.41	5.02 3.32	6.36 5.79	9.05 6.15
30	6.04 4.59	5.97 4.28	5.67	4.77 5.50 4.13	-----	6.30 5.37	5.58 4.37	5.38 4.78	5.17 3.82	4.93 3.40	7.15 6.24	8.60 7.52
31	6.17 4.92	-----	8.53	5.37 5.32 3.04	-----	5.55 3.25	-----	5.49 4.40	-----	4.77 3.31	7.05 6.11	-----

## SAN JACINTO RIVER BASIN

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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 upstream from mouth.

DRAINAGE AREA.--7.32 mi<sup>2</sup>. Prior to Jan. 1, 1978, 8.21 mi<sup>2</sup>. Jan. 1 to Sept. 30, 1978, 7.61 mi<sup>2</sup>. 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 below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence (levels by Corps of Engineers). Gage-height telemeter located at station.

REMARKS.--Estimated daily discharges: Dec. 19-21, and Sept. 23-25, 29-30. Records fair. Low flow is sustained by sewage effluent.

AVERAGE DISCHARGE.--14 years, 16.6 ft<sup>3</sup>/s (12,030 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,720 ft<sup>3</sup>/s May 3, 1981 (gage height, 18.30 ft); no flow Aug. 5, 6, 18, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 10	2045	1,640	13.69	Mar. 14	0930	*2,400	*15.04
Minimum daily discharge, 0.24 ft <sup>3</sup> /s Apr. 28.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2.6	1.3	5.1	1.2	28	.60	2.0	2.5	.73	1.2	.77
2	1.4	304	8.1	69	1.6	3.3	.64	1.4	1.7	.56	26	.85
3	1.4	12	1.7	29	1.1	1.7	.53	.71	1.3	17	18	1.6
4	1.3	2.5	22	4.0	12	6.0	.35	.68	1.4	31	5.0	3.0
5	14	1.5	32	1.8	3.5	2.9	.49	.57	1.5	8.1	1.0	2.0
6	1.5	.97	2.2	1.7	1.6	1.4	.60	.52	1.5	1.6	.72	20
7	.83	.87	1.2	1.1	1.7	.83	.42	.83	2.9	.92	.48	4.6
8	2.3	2.6	1.1	1.5	5.5	.86	.80	1.8	1.5	.68	2.9	1.4
9	23	2.7	1.0	2.2	2.4	1.3	.81	2.1	1.5	.92	.91	.74
10	2.9	1.3	1.0	1.8	218	1.3	1.1	1.0	1.5	1.2	.77	32
11	2.5	1.0	1.1	1.0	88	2.6	.78	1.1	14	1.3	.59	10
12	1.5	1.1	1.3	8.5	5.7	1.9	1.3	.99	22	.76	.58	2.7
13	14	.94	1.3	7.4	1.7	1.5	1.5	.83	1.4	.56	1.8	3.2
14	120	1.4	1.5	23	1.1	651	3.8	.83	.95	3.3	1.6	4.8
15	8.6	1.6	1.3	2.3	.74	71	1.2	.83	1.2	1.3	.43	3.7
16	2.2	19	94	9.1	1.5	39	.52	.71	.77	2.1	.68	1.3
17	14	6.6	5.2	9.4	.64	6.4	1.0	5.3	.59	3.5	.41	1.4
18	4.6	16	2.3	1.7	.44	2.6	3.3	2.2	112	5.4	.47	1.4
19	233	2.9	1.2	1.2	.61	3.4	1.6	.97	37	4.5	.72	1.9
20	15	1.0	1.0	1.3	.73	233	40	.62	13	9.1	1.0	1.7
21	112	.72	.85	1.2	.78	13	22	28	25	4.5	.58	1.4
22	250	.68	.72	1.2	1.6	3.7	5.7	2.4	9.0	1.2	.47	1.7
23	86	.68	.77	1.2	256	2.0	5.1	1.3	1.4	.88	.44	41
24	32	.73	1.1	2.4	73	1.7	2.2	1.3	.79	.63	11	14
25	23	.90	1.2	1.9	84	.76	.39	.91	.68	.94	21	8.1
26	5.9	1.0	1.2	1.2	7.7	.71	25	.69	.68	1.1	2.9	17
27	2.8	2.4	1.3	40	8.0	.86	1.1	.68	.68	1.2	.75	4.5
28	2.2	2.3	1.3	3.1	45	.69	.24	.68	.92	1.3	6.5	2.5
29	2.0	1.7	1.7	1.3	---	.71	.70	.68	.85	2.0	1.9	63
30	2.1	1.4	4.2	1.4	---	1.6	.97	1.1	.83	1.9	1.4	22
31	1.8	---	73	1.3	---	1.1	---	1.6	---	2.1	.67	---
TOTAL	985.13	395.09	269.14	238.3	825.84	1086.82	124.74	65.33	261.04	112.28	112.87	274.26
MEAN	31.8	13.2	8.68	7.69	29.5	35.1	4.16	2.11	8.70	3.62	3.64	9.14
MAX	250	304	94	69	256	651	40	28	112	31	26	63
MIN	.83	.68	.72	1.0	.44	.69	.24	.52	.59	.56	.41	.74
AC-FT	1950	784	534	473	1640	2160	247	130	518	223	224	544
CAL YR 1984	TOTAL	4920.35	MEAN	13.4	MAX	304	MIN	.16	AC-FT	9760		
WTR YR 1985	TOTAL	4750.84	MEAN	13.0	MAX	651	MIN	.24	AC-FT	9420		

## SAN JACINTO RIVER BASIN

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 upstream from mouth.

DRAINAGE AREA.--15.8 mi<sup>2</sup>. Prior to Oct. 1, 1973, 16.8 mi<sup>2</sup>. Oct. 1, 1973, to Sept. 30, 1978, 14.7 mi<sup>2</sup>. 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 upstream at same datum. Telemetry located at station.

REMARKS.--No estimated daily discharges. Records good. Low flow is largely maintained by sewage and industrial effluent. Stage discharge relationship affected by seasonal vegetal growth during most years. Recording rain gage located at station.

AVERAGE DISCHARGE.--21 years, 23.5 ft<sup>3</sup>/s (17,030 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,440 ft<sup>3</sup>/s Aug. 18, 1983 (elevation, 39.16 ft); maximum gage height, 39.28 ft June 15, 1976; minimum daily, 0.88 ft<sup>3</sup>/s Aug. 24, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 25	2130	*2,500	37.20	Feb. 23	1530	1,540	33.58
Nov. 2	0530	731	29.82	Mar. 20	1000	1,700	34.18

Minimum daily discharge, 2.7 ft<sup>3</sup>/s Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	9.9	5.9	27	16	144	8.0	6.3	4.6	5.9	6.2	7.4
2	2.7	354	5.3	53	15	35	7.3	6.4	4.6	10	12	9.8
3	2.8	40	5.1	46	15	22	7.1	7.0	4.6	66	17	9.8
4	2.8	17	26	20	23	21	7.0	6.4	4.8	41	6.5	13
5	4.3	12	27	14	18	17	6.8	6.3	4.6	15	6.0	27
6	4.7	8.8	9.7	12	16	20	6.4	6.6	4.8	9.1	5.8	15
7	4.3	8.1	7.1	10	15	13	6.6	7.3	4.9	7.6	5.4	12
8	8.0	7.8	6.3	9.6	15	12	6.2	6.6	5.0	7.0	13	11
9	107	6.9	5.9	9.4	15	11	6.2	6.6	5.3	6.9	6.2	10
10	46	12	5.7	15	70	11	6.1	6.0	5.4	6.5	5.7	13
11	10	6.2	5.6	9.4	162	11	7.5	5.8	28	6.9	5.5	11
12	6.3	7.3	5.3	14	28	10	6.1	6.0	96	6.5	5.6	12
13	66	7.6	7.3	15	21	10	10	6.0	9.1	6.2	7.1	11
14	289	6.3	6.3	20	18	206	20	12	6.4	9.6	7.4	10
15	27	5.3	5.1	12	17	62	8.7	8.6	5.5	18	9.4	11
16	8.5	67	65	39	17	44	12	6.5	5.3	8.8	6.1	10
17	7.7	17	20	37	16	23	5.9	6.2	4.9	7.8	5.4	10
18	6.4	22	12	16	15	18	9.0	6.1	91	7.5	7.4	9.7
19	44	11	9.2	13	15	16	5.3	7.3	85	15	6.8	10
20	11	11	8.1	11	15	708	45	8.5	34	7.8	32	12
21	34	6.6	7.8	9.9	15	116	28	22	23	6.2	62	9.7
22	23	6.2	8.2	11	15	27	11	7.4	14	5.9	7.5	9.8
23	57	6.0	6.6	12	573	18	9.2	5.9	8.9	6.4	6.0	9.9
24	47	6.1	6.5	10	197	14	7.9	5.3	9.2	5.8	7.6	10
25	1080	8.6	6.4	15	150	12	7.0	8.4	8.7	5.5	13	11
26	834	8.5	6.1	16	50	10	13	7.8	8.2	6.0	6.0	17
27	47	16	6.3	25	41	13	8.1	6.1	7.3	5.8	5.5	4.7
28	16	7.3	6.6	18	60	10	7.0	4.9	6.8	5.8	5.3	9.8
29	15	6.9	6.1	17	---	9.8	6.7	4.9	6.6	8.4	5.2	84
30	10	5.8	16	16	---	11	6.4	5.1	5.8	7.6	5.2	78
31	9.5	---	88	16	---	9.4	---	4.9	---	6.4	5.2	---
TOTAL	2833.9	715.2	412.5	568.3	1643	1664.2	301.5	221.2	512.3	338.9	305.0	478.6
MEAN	91.4	23.8	13.3	18.3	58.7	53.7	10.1	7.14	17.1	10.9	9.84	16.0
MAX	1080	354	88	53	573	708	45	22	96	66	62	84
MIN	2.7	5.3	5.1	9.4	15	9.4	5.3	4.9	4.6	5.5	5.2	4.7
AC-FT	5620	1420	818	1130	3260	3300	598	439	1020	672	605	949
(††)	9.58	3.98	2.91	1.18	5.60	5.75	1.59	.52	4.33	1.81	2.72	3.99

CAL YR 1984	TOTAL	7204.7	MEAN	19.7	MAX	1080	MIN	2.4	AC-FT	14290	††	-
WTR YR 1985	TOTAL	9994.6	MEAN	27.4	MAX	1080	MIN	2.7	AC-FT	19820	††	43.96

(††) Rainfall, in inches, at gaging station.

## SAN JACINTO RIVER BASIN

131

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 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	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)
JUN 11-12	2000	117	264	70	77	7.8	82	9	28	3.0
DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
JUN 11-12	19	1	3.8	73	31	15	.30	3.9	150	208
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 11-12	26	.63	.370	1.0	.840	4.0	4.8	1.30	33	



## SAN JACINTO RIVER BASIN

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 access road bridge, 9.0 mi upstream from station 08076000, and 21 mi upstream from Halls Bayou.

DRAINAGE AREA---36.1 mi<sup>2</sup>. Prior to October 1973, 34.8 mi<sup>2</sup>.

PERIOD OF RECORD---August 1965 to current year (discharge measurements and supplemental peak discharges only, Oct. 1, 1980, to Mar. 26, 1981).

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. Telemetry located at station.

REMARKS---Estimated daily discharges: Nov. 18 and Aug. 2-3. Records fair. Stage discharge relationship affected by seasonal vegetal growth during most years. Channel was rectified (widened and bed lowered about 2 ft) in 1980-81. Records furnished by Houston Lighting and Power Co. show that about 3,000 acre-ft of ground water used for cooling purposes was released to Bayou about 8 mi upstream from station 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---19 years (water years 1966-80, 1982-1985), 35.5 ft<sup>3</sup>/s (25,720 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD---Maximum discharge, 6,920 ft<sup>3</sup>/s Oct. 25, 1984 (elevation, 87.37 ft); maximum elevation, 91.09 ft Feb. 21, 1969, occurred prior to 1980-81 channel rectification; minimum daily discharge, 0.16 ft<sup>3</sup>/s Oct. 21, 22, 1969.

EXTREMES FOR CURRENT YEAR---Peak discharges greater than base discharge of 1,800 ft<sup>3</sup>/s (revised) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 25	1130	*6,920	*87.37	June 18	1930	2,550	82.41
Feb. 10	2200	3,410	83.41	Aug. 3	0100	2,370	82.10
Mar. 20	0900	2,020	81.18	Sept. 29	1700	2,190	81.79

Minimum daily discharge, 9.7 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	20	12	63	17	385	16	17	13	14	14	13
2	9.8	422	12	90	19	81	16	15	13	15	134	14
3	11	54	12	84	20	48	15	15	13	124	459	14
4	11	27	16	29	20	33	15	15	13	129	32	15
5	17	23	45	18	21	30	15	14	13	31	21	16
6	20	18	18	16	19	22	15	13	12	18	18	15
7	12	17	14	15	17	19	15	16	15	15	14	23
8	11	16	14	14	16	18	14	15	16	26	14	16
9	48	14	14	13	16	16	14	19	18	27	13	14
10	40	14	13	13	568	16	15	15	15	17	15	15
11	13	13	13	14	641	16	17	16	110	16	15	24
12	11	15	13	16	87	16	15	14	285	16	15	17
13	43	16	12	25	42	16	234	14	25	15	16	76
14	405	14	12	30	28	288	258	78	15	16	24	18
15	50	14	28	17	22	79	28	34	13	16	29	14
16	16	118	70	59	21	62	17	17	12	19	16	13
17	20	30	19	48	20	32	15	14	23	39	16	12
18	16	160	14	21	18	21	14	15	779	20	14	12
19	153	51	13	16	17	18	15	14	426	76	14	13
20	38	16	12	15	17	834	115	14	68	21	24	13
21	21	14	12	15	16	188	116	72	66	16	69	13
22	17	13	12	16	16	62	27	22	45	14	20	13
23	68	12	12	16	163	35	18	14	22	14	15	14
24	113	14	12	16	97	26	16	14	25	14	16	14
25	3790	17	12	15	154	22	15	12	17	13	19	25
26	815	15	11	17	46	19	82	12	24	13	16	101
27	134	39	10	76	70	19	33	12	17	15	15	20
28	50	17	12	30	183	19	18	13	16	16	15	15
29	31	14	13	18	---	19	16	13	15	15	15	477
30	21	13	87	16	---	23	14	12	14	15	14	308
31	18	---	296	17	---	21	---	13	---	14	15	---
TOTAL	6032.5	1240	865	868	2391	2503	1233	593	2158	829	1146	1367
MEAN	195	41.3	27.9	28.0	85.4	80.7	41.1	19.1	71.9	26.7	37.0	45.6
MAX	3790	422	296	90	641	834	258	78	779	129	459	477
MIN	9.7	12	10	13	16	16	14	12	12	13	13	12
AC-FT	11970	2460	1720	1720	4740	4960	2450	1180	4280	1640	2270	2710
(††)	9.77	3.12	2.79	2.07	5.65	3.90	3.76	1.20	3.85	2.03	.95	4.02
CAL YR 1984	TOTAL	16886.5	MEAN	46.1	MAX	3790	MIN	9.7	AC-FT	33490	††	-
WTR YR 1985	TOTAL	21225.5	MEAN	58.2	MAX	3790	MIN	9.7	AC-FT	42100	††	43.11

(††) Rainfall, in inches, at gaging station.

## SAN JACINTO RIVER BASIN

133

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 access road, 10.5 mi northeast of Houston, 12.0 mi upstream from Halls Bayou, and 23.4 mi upstream from mouth.

DRAINAGE AREA.--69.6 mi<sup>2</sup>. Prior to Oct. 1, 1973, 72.7 mi<sup>2</sup>.

## 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 below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence. Gage-height telemeter at station.

REMARKS.--No estimated daily discharge. Records fair. Channel was rectified during water years 1974-75. No known diversion above station. Low flow is sustained by Houston Lighting and Power Company effluent, which is obtained from ground-water sources. Recording rain gage at station.

AVERAGE DISCHARGE.--33 years, 63.4 ft<sup>3</sup>/s (45,930 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft<sup>3</sup>/s Oct. 25, 1984 (gage height, 66.00 ft); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 25	1930	*12,500	*66.00	Mar. 20	1100	3,050	59.35

Minimum daily discharge, 21 ft<sup>3</sup>/s Dec. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	38	24	166	35	796	49	36	27	24	26	26
2	23	534	24	157	38	177	47	32	26	25	28	24
3	23	87	21	219	37	106	46	32	26	135	532	25
4	24	49	37	68	37	83	44	32	27	212	57	26
5	29	41	97	42	40	72	44	32	26	50	41	30
6	44	36	44	36	35	58	43	31	26	30	36	27
7	29	36	29	33	32	51	43	32	27	25	31	33
8	26	35	27	30	33	49	42	34	30	131	34	35
9	97	33	26	29	32	46	44	35	30	100	29	34
10	100	32	26	28	320	45	42	30	34	30	29	33
11	37	30	25	30	940	45	48	27	155	29	29	37
12	30	30	25	33	120	44	44	24	531	26	28	32
13	99	33	24	47	68	45	111	25	53	36	31	84
14	835	32	24	66	51	556	580	197	30	30	38	36
15	141	33	34	40	42	243	73	77	27	26	46	27
16	45	236	153	72	38	181	48	39	25	48	34	25
17	44	67	51	119	36	101	40	37	24	127	29	24
18	40	194	33	48	36	67	38	34	723	122	29	24
19	237	76	29	38	33	54	40	31	725	247	26	24
20	88	36	28	33	32	1530	285	30	115	77	38	24
21	48	29	27	32	30	551	309	147	75	52	113	23
22	43	28	26	34	31	192	69	60	78	30	47	23
23	150	25	26	34	490	107	47	35	41	28	30	24
24	201	25	25	32	284	78	42	32	37	28	27	24
25	5530	31	24	31	346	65	39	27	31	28	32	28
26	2520	31	22	31	118	57	130	26	49	27	30	218
27	228	51	24	99	151	78	65	25	41	28	31	40
28	84	35	25	65	244	58	38	27	28	27	27	27
29	53	27	26	36	---	55	37	28	26	26	26	566
30	42	26	100	34	---	62	37	27	24	34	29	676
31	36	---	449	34	---	59	---	26	---	27	28	---
TOTAL	10949	1996	1555	1796	3729	5711	2564	1307	3117	1865	1591	2279
MEAN	353	66.5	50.2	57.9	133	184	85.5	42.2	104	60.2	51.3	76.0
MAX	5530	534	449	219	940	1530	580	197	725	247	532	676
MIN	23	25	21	28	30	44	37	24	24	24	26	23
AC-FT	21720	3960	3080	3560	7400	11330	5090	2590	6180	3700	3160	4520
(††)	10.42	1.54	2.00	1.45	6.02	3.02	2.20	1.26	6.06	3.96	.90	4.35

CAL YR 1984	TOTAL	32442	MEAN	88.6	MAX	5530	MIN	16	AC-FT	64350	††	-
WTR YR 1985	TOTAL	38459	MEAN	105	MAX	5530	MIN	21	AC-FT	76280	††	43.18

(††) Rainfall, in inches, at gaging station.

## SAN JACINTO RIVER BASIN

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 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)	
JUN 10...	1100	29	847	8.0	29.0	30	40	6.2	80	3.8	30	28	
DATE	TIME	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)	ALKA- LINEITY FIELD (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JUN 10...	200	0	64	8.5	100	3	6.2	217	59	110	.40	27	
DATE	TIME	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (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 10...	510	63	4	2.1	.160	2.3	.430	.87	1.3	<.010	6.5		
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)						
JUN 10...	1100	8	260	<1	<10	4	5						
DATE	TIME	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)						
JUN 10...		2	16	<.1	<1	<1	11						
DATE	TIME	AME- TRYNE TOTAL	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	
JUN 10...	1100	<.10	.10	<.10	<2.0	<.1	<.1	<.10	<2.0	<2.0	.20	<.1	

## SAN JACINTO RIVER BASIN

135

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 upstream from mouth.

DRAINAGE AREA.--27.6 mi<sup>2</sup>. Oct. 1, 1973, to Sept. 30, 1977, 28.3 mi<sup>2</sup>. Prior to Oct. 1, 1973, 24.7 mi<sup>2</sup>. Changes were result of drainage ditch extensions or relocations.

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 below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence. Gage-height telemeter at station.

REMARKS.--Estimated daily discharges: Oct. 25-28, Dec. 4 to Jan. 16, Feb. 25 to May 20, and May 22-30. Records fair. No known diversion above station. Low flow is sustained by sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--33 years, 29.1 ft<sup>3</sup>/s (21,080 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,670 ft<sup>3</sup>/s Oct. 25, 1984 (gage height, 62.42 ft, from peak mark); no flow at times prior to 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 25	1800	*4,670	*a62.42	Mar. 20	1000	1,720	57.50

a From peak mark.

Minimum daily discharge, 6.7 ft<sup>3</sup>/s July 28, Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	22	10	56	9.4	359	19	11	9.2	8.9	7.7	6.9
2	7.8	187	11	73	9.8	80	18	12	9.3	8.8	8.6	7.4
3	8.4	29	11	87	11	44	17	11	9.1	47	52	8.0
4	8.1	20	17	28	11	46	15	11	8.8	55	16	7.7
5	8.7	18	47	20	12	34	14	12	8.9	15	8.0	9.7
6	10	16	16	17	9.3	27	12	12	8.8	11	7.1	8.7
7	9.6	15	12	15	9.4	22	13	12	8.8	9.1	6.7	7.5
8	9.3	15	11	15	8.5	21	12	11	8.8	16	7.6	11
9	88	14	11	14	9.0	20	12	12	8.8	80	7.7	14
10	46	14	11	16	195	20	12	11	8.8	12	7.3	10
11	11	13	10	13	396	19	14	11	66	10	7.1	8.3
12	9.3	13	10	15	49	18	13	11	304	8.6	15	8.6
13	33	13	10	19	27	18	100	12	18	8.0	19	9.1
14	256	12	10	29	21	250	209	93	9.2	9.0	9.7	8.5
15	41	13	11	18	17	99	28	53	8.4	31	7.6	9.3
16	12	83	82	28	15	84	20	13	8.2	85	7.1	9.9
17	15	23	23	47	15	43	16	11	8.4	12	7.0	8.7
18	9.4	49	15	18	15	27	13	11	352	46	7.6	8.8
19	52	25	14	14	14	23	13	12	365	148	7.2	9.0
20	25	13	13	11	13	761	51	13	60	17	12	9.1
21	26	12	13	11	13	177	86	49	28	10	33	9.1
22	13	11	12	11	13	57	20	25	23	8.1	8.1	10
23	37	10	11	10	262	33	16	13	15	7.6	7.2	10
24	84	11	12	9.7	153	28	15	12	11	7.4	8.0	9.7
25	1820	12	11	9.0	160	25	12	12	9.6	7.0	8.4	12
26	1460	13	10	9.7	58	23	31	11	14	7.2	7.5	43
27	79	16	12	23	83	33	19	11	13	7.0	7.5	12
28	33	12	13	17	140	24	13	10	9.5	6.7	6.8	10
29	20	12	13	11	---	22	12	10	8.6	7.5	7.7	134
30	22	11	24	10	---	23	11	9.0	8.6	7.4	7.6	185
31	24	---	149	9.5	---	21	---	9.0	---	7.3	7.2	---
TOTAL	4285.7	727	635	683.9	1748.4	2481	856	526.0	1428.8	720.6	337.0	615.0
MEAN	138	24.2	20.5	22.1	62.4	80.0	28.5	17.0	47.6	23.2	10.9	20.5
MAX	1820	187	149	87	396	761	209	93	365	148	52	185
MIN	7.8	10	10	9.0	8.5	18	11	9.0	8.2	6.7	6.7	6.9
AC-FT	8500	1440	1260	1360	3470	4920	1700	1040	2830	1430	668	1220
(††)	17.40	3.00	3.24	1.68	4.80	4.68	2.16	.84	6.00	2.16	.84	3.72
CAL YR 1984 TOTAL	12129.8			MEAN 33.1	MAX 1820	MIN 7.5	AC-FT 24060	††	-			
WTR YR 1985 TOTAL	15044.4			MEAN 41.2	MAX 1820	MIN 6.7	AC-FT 29840	††	50.52			

(††) Rainfall, in inches, at gaging station.

## SAN JACINTO RIVER BASIN

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 downstream from mouth of Halls Bayou.

DRAINAGE AREA.--182 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1962 to December 1964, May to September 1971 (discharge measurements only), October 1971 to current year.

Water-quality records.--Chemical, biochemical, and pesticide analyses: October 1970 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 2.13 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment. Gage-height telemeter at station.

REMARKS.--No estimated daily discharges except during days affected by tides (usually below 1,000 ft<sup>3</sup>/s). Records fair. Discharges for days with peak discharges below 2,000 ft<sup>3</sup>/s are not computed. Estimates for days affected by tides are made only during storm periods that produce peak discharges greater than 2,000 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft<sup>3</sup>/s June 13, 1973, gage height, 34.27 ft; minimum not determined (affected by tides).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 26	0800	*14,900	*32.13	Feb. 23	2200	5,470	21.10
Feb. 11	0730	6,140	22.05	Mar. 20	1800	8,380	24.85

Minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---				---	2620	---		---			---
2	---				---	840	---		---			---
3	---				---	340	---		---			---
4	---				---	190	---		---			---
5	---				---	---	---		---			---
6	---				---	---	---		---			---
7	---				---	---	---		---			---
8	---				---	---	---		---			---
9	---				---	---	---		---			---
10	---				470	---	---		---			---
11	---				4150	---	---		60			---
12	---				720	---	---		1580			---
13	170				200	---	60		240			---
14	1590				---	960	1200		---			---
15	830				---	1180	190		---			---
16	120				---	680	70		---			---
17	---				---	300	---		---			---
18	---				---	140	---		1090			---
19	---				---	---	---		2890			---
20	---				---	4570	---		560			---
21	---				---	2990	---		160			---
22	---				---	630	---		---			---
23	230				2270	250	---		---			---
24	830				2580	130	---		---			---
25	3660				1540	---	---		---			---
26	13000				710	---	---		---			---
27	2920				640	---	---		---			---
28	600				660	---	---		---			---
29	120				---	---	---		---			520
30	---				---	---	---		---			1860
31	---				---	---	---		---			---
TOTAL	---				---	---	---		---			---
MEAN	---				---	---	---		---			---
MAX	---				---	---	---		---			---
MIN	---				---	---	---		---			---
AC-FT	---				---	---	---		---			---



08077000 CLEAR CREEK NEAR PEARLAND, TX

LOCATION.--Lat 29°35'50", long 95°17'11", Harris-Brazoria County line, Hydrologic Unit 12040204, on left bank at downstream side of bridge on State Highway 35, 0.7 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi upstream from Hickory Slough, 2.3 mi north of Pearland, and about 30 mi upstream from head of Clear Lake.

DRAINAGE AREA.--38.8 mi<sup>2</sup>.

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 above 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 higher.

REMARKS.--Estimated daily discharges: Nov. 22-27, Nov. 29 to Dec. 10 and Mar. 9-14. Records fair. A small amount of the drainage area is currently irrigated with water from the Brazos River. Low flow from April to October is largely drainage from these areas. Many small diversions for irrigation above station. Several observations of water temperature were made during the current year.

AVERAGE DISCHARGE.--34 years (water years 1948-59, 1964-85), 36.6 ft<sup>3</sup>/s (26,520 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft<sup>3</sup>/s Mar. 18, 1957; maximum gage height, 18.57 ft 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 greater than base discharge of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 22	0900	902	13.46	Mar. 14	1600	*1,320	*15.18
Feb. 11	0500	1,160	14.10	Mar. 20	1700	705	10.69
Feb. 23	2400	1,060	13.43				

Minimum discharge, no flow Oct. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	9.2	1.3	85	3.4	261	5.6	1.8	1.3	1.9	5.6	2.9
2	.02	248	1.3	112	2.7	168	4.7	1.5	5.0	1.8	5.0	1.9
3	.00	185	2.0	165	2.5	89	4.1	1.4	9.7	6.0	6.6	2.8
4	.00	80	10	90	2.5	59	3.7	1.3	5.4	143	9.7	3.9
5	.24	37	25	40	2.6	48	3.5	1.3	3.3	190	7.4	4.4
6	.85	20	15	21	2.5	29	3.2	1.3	2.1	94	6.3	3.7
7	.38	9.0	8.0	12	2.4	19	3.2	1.8	1.7	37	5.8	2.9
8	.45	7.5	4.0	6.9	2.0	14	3.3	1.9	1.7	16	4.8	1.7
9	21	6.3	3.0	4.6	1.8	10	3.2	1.7	1.7	8.8	4.0	1.1
10	7.6	5.4	2.6	3.2	112	8.1	3.0	1.5	1.4	6.9	3.4	1.5
11	2.9	4.5	2.5	2.5	955	6.9	2.8	1.4	1.3	5.6	2.9	2.3
12	4.4	3.7	3.2	4.6	374	6.1	2.8	1.8	4.6	5.2	3.4	6.8
13	2.5	3.2	3.5	8.0	135	5.3	2.6	3.2	4.5	4.7	3.7	3.7
14	174	2.9	2.4	22	65	732	8.6	2.4	2.6	4.6	3.2	1.4
15	118	2.7	2.5	19	33	634	6.6	1.7	1.8	5.1	2.9	1.1
16	34	2.6	49	13	19	371	4.4	1.6	1.7	5.8	2.7	.90
17	19	4.3	33	27	12	202	3.2	29	1.6	6.0	2.7	.82
18	14	8.4	15	21	9.0	84	2.4	39	37	5.7	2.2	.73
19	222	10	8.5	12	7.1	40	1.9	21	128	5.3	2.5	.71
20	260	5.2	6.1	6.8	6.3	461	3.0	6.9	70	4.7	2.2	.65
21	238	3.5	4.3	3.6	6.0	482	8.2	21	57	5.6	27	.65
22	795	2.5	13	2.6	5.6	201	6.4	14	104	6.0	23	.59
23	466	2.0	9.9	2.4	390	73	5.6	6.4	40	5.2	14	2.1
24	289	1.9	4.8	2.4	878	34	5.6	4.5	12	4.8	8.5	2.3
25	452	1.9	3.5	2.4	659	19	7.6	2.9	7.3	5.5	10	.67
26	422	1.8	3.1	2.0	364	12	6.4	2.0	4.9	5.2	11	6.0
27	209	1.5	3.1	16	186	9.0	5.8	1.4	3.5	5.6	8.7	3.6
28	82	1.4	3.0	15	150	7.9	4.5	1.3	2.8	5.1	6.6	1.1
29	36	1.4	2.9	7.0	---	6.9	3.2	1.1	2.3	5.5	6.4	11
30	22	1.4	3.0	5.2	---	6.5	2.3	1.1	2.0	6.1	6.2	46
31	13	---	53	4.4	---	6.4	---	1.1	---	5.9	4.2	---
TOTAL	3905.44	674.2	301.5	738.6	4388.4	4105.1	131.4	180.3	522.2	618.6	212.6	119.92
MEAN	126	22.5	9.73	23.8	157	132	4.38	5.82	17.4	20.0	6.86	4.00
MAX	795	248	53	165	955	732	8.6	39	128	190	27	46
MIN	.00	1.4	1.3	2.0	1.8	5.3	1.9	1.1	1.3	1.8	2.2	.59
AC-FT	7750	1340	598	1470	8700	8140	261	358	1040	1230	422	238
CAL YR 1984	TOTAL	9263.86	MEAN	25.3	MAX	795	MIN	.00	AC-FT	18370		
WTR YR 1985	TOTAL	15898.26	MEAN	43.6	MAX	955	MIN	.00	AC-FT	31530		

## COASTAL BASIN

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 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 National Geodetic Vertical Datum of 1929, (levels by county engineer, Galveston County), 1978 adjustment. Prior to May 19, 1983, datum of gage was 0.49 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment. Prior records unadjusted for land-surface subsidence.

REMARKS.--Records good. The purpose of this station is to record elevations of high tides in Galveston Bay and the corresponding elevations of the water surface in Moses Lake. Moses Lake is connected to Galveston Bay by gated opening through a levee. No elevations are shown for Moses Lake until they reach 3.0 ft on either side. A U.S. Army Corps of Engineers satellite telemeter is located at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (Moses Lake), 4.4 ft Sept. 20, 1979; minimum, -4.2 ft Feb. 28, 1983. Maximum elevation (Galveston Bay), about 10.0 ft (Hurricane Alicia) Aug. 18, 1983; minimum, about -4.2 ft. Feb. 28, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (Moses Lake), 2.7 ft Oct. 21; minimum -2.7 ft. Feb. 12. Maximum elevation (Galveston Bay), 2.9 ft. Sept. 22; minimum elevation, -2.8 ft Feb. 12.

MAXIMUM DAILY ELEVATION, IN FEET, MOSES LAKE AND GALVESTON BAY  
WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake
	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	-	1.1	-	2.3	-	1.6	-	1.7	-	0.2	-	1.2	-	0.8	-	0.9	-	1.0	-	1.0	-	0.5	-	2.0
2	-	1.4	-	1.9	-	1.9	-	1.0	-	0.0	-	.9	-	.7	-	.1	-	1.0	-	.8	-	.3	-	1.9
3	-	1.3	-	1.6	-	1.4	-	.7	-	.8	-	1.7	-	.3	-	.2	-	1.2	-	.8	-	.6	-	.9
4	-	1.5	-	1.8	-	2.4	-	-.1	-	1.2	-	1.8	-	.8	-	.9	-	1.5	-	1.3	-	.6	-	1.7
5	-	1.8	-	1.2	-	2.2	-	.2	-	1.3	-	1.3	-	1.2	-	1.3	-	1.5	-	1.3	-	.6	-	2.1
6	-	1.6	-	1.6	-	.4	-	.5	-	.6	-	1.3	-	1.4	-	1.5	-	1.2	-	.7	-	.6	-	1.8
7	-	1.5	-	2.3	-	1.0	-	.7	-	1.0	-	1.6	-	1.6	-	1.4	-	.8	-	.9	-	.5	-	1.5
8	-	1.5	-	2.3	-	1.0	-	.5	-	1.0	-	1.0	-	1.4	-	1.0	-	.4	-	.9	-	.5	-	1.3
9	-	1.8	-	2.0	-	1.0	-	1.2	-	1.5	-	1.0	-	1.6	-	1.1	-	.4	-	.4	-	.6	-	1.4
10	-	1.6	-	1.7	-	.9	-	1.4	-	1.9	-	.7	-	1.9	-	1.0	-	.6	-	.4	-	.6	-	1.7
11	-	1.6	-	.9	-	1.0	-	.4	-	1.5	-	1.0	-	1.6	-	1.3	-	.8	-	.5	-	.5	-	1.9
12	-	1.7	-	1.2	-	1.1	-	.3	-	-.4	-	1.0	-	1.6	-	1.4	-	.4	-	.6	-	.8	-	1.7
13	-	1.7	-	1.5	-	1.6	-	.9	-	.4	-	1.2	-	1.7	-	1.9	-	.9	-	.8	-	1.1	-	1.3
14	-	1.9	-	1.7	-	1.8	-	1.0	-	.4	-	1.1	-	1.6	-	1.4	-	1.6	-	.9	-	1.8	-	1.6
15	-	2.0	-	1.9	-	1.4	-	1.0	-	.4	-	1.3	-	1.1	-	.8	-	1.4	-	.7	-	1.8	-	2.6
16	-	2.1	-	1.4	-	1.7	-	1.4	-	1.0	-	1.5	-	.6	-	.9	-	1.1	-	.6	-	.9	-	2.3
17	-	2.3	-	1.9	-	1.1	-	1.0	-	1.1	-	1.1	-	.4	-	.5	-	1.3	-	.6	-	1.2	-	2.0
18	-	2.6	-	2.2	-	1.3	-	.5	-	.8	-	1.3	-	.9	-	1.1	-	1.2	-	.9	-	.7	-	2.2
19	-	2.5	-	.8	-	1.3	-	.8	-	.5	-	1.5	-	1.1	-	1.3	-	1.1	-	1.1	-	.5	-	2.6
20	-	2.6	-	.9	-	1.4	-	1.2	-	.7	-	2.3	-	1.3	-	1.3	-	1.3	-	.8	-	.7	-	2.7
21	-	2.5	-	1.0	-	1.5	-	.2	-	1.2	-	1.3	-	1.6	-	1.6	-	2.2	-	.7	-	.8	-	2.6
22	-	2.4	-	1.3	-	1.6	-	.3	-	1.3	-	.5	-	2.1	-	1.2	-	1.9	-	.5	-	1.0	-	2.9
23	-	2.2	-	1.3	-	1.3	-	.4	-	1.6	-	1.1	-	1.8	-	1.2	-	1.5	-	.3	-	1.2	-	2.3
24	-	2.2	-	1.6	-	1.6	-	.7	-	.9	-	.6	-	1.3	-	1.2	-	1.1	-	.8	-	1.2	-	1.3
25	-	2.2	-	1.8	-	1.6	-	.3	-	.8	-	.6	-	1.3	-	1.2	-	1.1	-	.9	-	1.1	-	1.6
26	-	2.3	-	1.5	-	1.5	-	.8	-	1.0	-	1.2	-	2.0	-	1.2	-	.9	-	.6	-	1.3	-	1.1
27	-	2.4	-	2.0	-	1.7	-	1.3	-	.8	-	1.6	-	1.9	-	1.3	-	.9	-	.5	-	1.8	-	1.6
28	-	2.2	-	.9	-	1.5	-	.4	-	1.4	-	1.6	-	1.6	-	1.0	-	.5	-	.9	-	2.2	-	1.8
29	-	1.8	-	1.7	-	1.6	-	1.3	-	---	-	1.7	-	1.2	-	1.0	-	.9	-	.9	-	1.9	-	2.2
30	-	2.0	-	1.8	-	1.4	-	1.3	-	---	-	2.1	-	1.2	-	1.0	-	1.0	-	.7	-	1.9	-	1.3
31	-	2.0	-	---	-	2.0	-	1.2	-	---	-	1.4	-	---	-	1.1	-	---	-	.5	-	2.0	-	---

## HIGHLAND BAYOU MAIN STEM

08077690 HIGHLAND BAYOU DIVERSION CHANNEL NEAR HITCHCOCK, TX

LOCATION.--Lat 29°21'20", long 95°02'22", Galveston County, Hydrologic Unit 12040204, at downstream side of bridge on State Highway 6, 1.1 mi west of Hitchcock, and 7 mi upstream from mouth.

DRAINAGE AREA.--Not determinable.

PERIOD OF RECORD.--June 1982 to current year.

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

REMARKS.--Records good. This channel drains the headwaters of Highland Bayou. There is an earthen dam about 2,000 ft upstream from former gage on the natural channel. This dam diverts floodwaters into the diversion channel and has a 24-inch uncontrolled outlet for maintaining base flow in the natural channel. Records prior to June 1982 were collected at gage on natural channel (station 08077700).

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 9.21 ft Aug. 18, 1983 (Hurricane Alicia); minimum, -2.71 ft Dec. 24, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 2.97 ft Oct. 21 at 2300 hours; minimum, -1.80 ft Feb. 12, 15.

## GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

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	0.39	-.70	1.56	0.37	0.95	-0.43	0.88	-0.25	-0.31	-1.55	0.43	0.30	-0.01	-1.09	0.07	-0.92	0.12	-1.14	0.26	-0.98	-0.14	-1.44	-	-
2	.65	-.51	1.20	.47	1.15	.28	.34	-.14	-.41	-1.78	.29	.00	-.01	-1.40	-.45	-1.32	.28	-1.17	.19	-1.11	-.17	-1.47	-	-
3	.46	-.46	.99	.50	.71	-.34	.32	-1.09	.37	-1.35	.80	-.03	-.24	-.91	-.35	-1.02	.36	-1.18	.06	-1.24	.03	-1.27	-	-
4	.86	-.12	1.15	.50	1.83	.74	-.52	-1.78	.84	-.44	.94	.61	.21	-.35	.36	-.84	.78	-.95	.74	1.30	.09	-.77	-	-
5	1.08	0.08	.58	.00	1.81	.04	-.55	-1.69	.82	-.71	.59	-.24	.56	-.76	.54	-.75	.71	-.80	.80	-.56	-.11	-.66	-	-
6	.94	.13	.91	.08	-.04	-1.33	-.33	-1.02	.06	-1.16	.69	-.23	.82	-.76	.78	-.78	.49	-.75	.21	-.77	-.17	-.39	-	-
7	.93	.17	1.46	.57	.21	-.94	-.28	-1.59	.30	-.75	1.06	.10	.97	-.47	.70	-.74	.23	-1.03	.24	-.94	-.28	-.75	-	-
8	.84	.21	1.49	.36	.28	-.95	-.22	-1.19	.39	-.27	.54	-.35	.83	-.77	.25	-.96	-.12	-1.17	.19	-.47	-.14	-.90	-	-
9	1.20	.28	1.29	.10	.23	-.89	.36	-.17	.94	.31	.29	-.37	.99	-.49	.42	-1.22	-.21	-1.11	-.16	-.77	-.26	-1.00	-	-
10	.94	.20	.98	-1.20	.11	-1.17	.49	-.85	.89	.07	.14	-.51	1.26	-.24	.26	-.91	.03	-.77	-.40	-.98	-.26	-1.26	-	-
11	.85	.07	.15	-1.29	.29	-.83	-.18	-1.19	.34	-1.79	.32	-.64	1.00	-.12	.51	-.72	.12	-.71	-.28	-1.12	-.27	-1.24	-	-
12	.85	.05	.46	-.58	.66	-.64	-.18	-.52	-1.16	-1.80	.37	-.90	.95	-.38	.58	-.53	.03	-.92	-.15	-.92	.06	-.92	-	-
13	.90	-.07	.79	-.24	1.03	-.01	.35	-.11	-.32	-1.63	.51	-.80	.08	-.04	1.17	.07	.41	-.66	.09	-.81	.43	-.87	-	-0.34
14	1.27	.31	.99	-.12	1.21	.01	.35	-.15	-.28	-1.54	.56	-.75	.85	-.07	.77	-.29	.90	-.13	.17	-.97	.88	-.62	0.93	-.21
15	1.26	-.05	1.14	-.20	1.08	.38	.46	-.96	-.29	-1.80	.65	-.85	.41	-.65	.26	-.39	.74	-.49	-.02	-1.14	1.23	-.14	2.10	.73
16	1.41	.26	.78	-.45	1.14	.12	.75	-.16	.23	-1.27	.94	-.09	-.18	-1.00	.14	-.76	.50	-.52	-.17	-1.22	.35	-.71	1.59	.90
17	1.27	.58	1.57	.42	.56	-.14	.30	-1.37	.32	-.82	.36	-.88	-.35	-.89	-.26	-1.15	.71	-.58	-.14	-1.16	.38	-.28	1.42	.50
18	1.97	.38	1.58	.08	.63	-.36	-.34	-1.56	.07	-1.11	.62	-.61	.16	-.36	.51	-1.18	.65	-.75	.15	-1.17	.00	-.58	1.56	.55
19	1.64	.64	.51	-.66	.61	-.65	.17	-1.25	-.24	-1.17	1.20	.03	.53	-.27	.63	-.58	.44	-1.08	.32	-.85	-.21	-.64	1.84	.73
20	1.91	1.00	.33	-.62	.81	-.56	.24	-1.79	.07	-.77	2.70	.80	.72	-.29	.61	-.54	.76	-.70	.01	-.67	-.22	-.36	1.86	.44
21	2.97	1.18	.34	-.67	.89	-.41	-.47	-1.50	.55	.10	.80	-1.17	1.08	-.09	.94	-.65	1.53	-.19	.02	-.98	.01	-.23	1.82	.70
22	2.83	1.03	.66	-.59	.79	-.97	-.33	-1.45	.52	.21	.06	-1.22	1.69	.17	.60	-.98	1.32	.03	-.18	-.72	.19	-.43	2.07	.53
23	1.46	.87	.69	-.58	.75	-.74	-.18	-1.08	.90	.51	.43	-.55	1.11	-.14	.60	-.74	.91	-.05	-.32	-.75	.32	-.49	1.55	-.31
24	1.74	.68	1.09	-.39	.96	-.30	.06	-.97	.90	.49	-.05	-.72	.56	-.53	.52	-.85	.49	-.29	.00	-.47	.36	-.58	.69	-.25
25	1.67	.90	1.13	-.42	.87	-.69	-.37	-1.02	.46	.27	-.11	-.96	.54	-.82	.53	-.79	.59	-.22	-.01	-.52	.25	-.56	1.04	-.30
26	1.57	.52	.92	-.33	.78	-.06	.22	-.69	.25	.02	.73	-.98	1.47	-.29	.51	-.63	.45	-.25	-.23	-1.06	.40	-.36	.61	-.52
27	1.65	.32	1.22	-1.03	1.00	.32	.82	-.25	.04	-.25	.80	-.11	1.04	.05	.46	-.53	.33	-.83	-.42	-1.03	.91	-.20	1.05	-.27
28	1.44	-.11	.14	-.86	.93	.35	-.31	-1.09	.43	-.31	.84	-.28	1.01	-.35	.49	-.46	-.17	-1.22	-.05	-1.05	-	-	1.35	.38
29	1.00	-.26	.86	.05	.89	.34	.64	-.75	-x-	-x-	1.00	-.30	.62	-.32	.32	-.28	.29	-1.04	.17	-1.19	-	-	1.55	.75
30	1.18	.17	1.06	.04	.74	.41	.62	-.26	-x-	-x-	1.23	.17	.56	-.35	.16	-.67	.32	-.91	.06	-1.24	-	-	.82	-.33
31	1.28	.27	-x-	-x-	1.05	.63	.43	-.87	-x-	-x-	-.02	-1.23	-x-	-x-	.34	-1.03	-x-	-x-	-.12	-1.29	-	-	-x-	-x-

## CHOCOLATE BAYOU MAIN STEM

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 downstream from bridge on Farm Road 1462, 5.9 mi southwest of Alvin, and 6.9 mi upstream from State Highway 35.

DRAINAGE AREA.--87.7 mi<sup>2</sup>. During extreme flooding, overflow from about 11 mi<sup>2</sup> 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 above 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 upstream and at datum 3.00 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, Apr. 2 to May 13, which are poor. 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. There are diversions for irrigation above station.

AVERAGE DISCHARGE.--36 years (water years 1948-57, 1960-85), 110 ft<sup>3</sup>/s, 79,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft<sup>3</sup>/s July 26, 1979, gage height, 23.88 ft; no flow at times. Flood of Oct. 8, 1949, reached a stage of 21.80 ft, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 14, 1939, reached a stage of 22.9 ft, former site and present datum, adjusted from floodmark 1,700 ft to right and 550 ft 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 greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 23	1100	2,430	19.56	Mar. 21	0400	1,210	13.80
Mar. 16	0100	*2,500	*19.69				

Minimum daily discharge, 0.69 ft<sup>3</sup>/s May 26 (result of pumpage).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	39	6.8	48	15	399	13	16	23	42	52	43
2	2.1	291	6.8	81	14	288	12	23	31	38	59	31
3	1.9	383	9.1	187	12	156	11	22	37	48	84	29
4	1.5	158	9.9	134	12	98	10	30	40	202	97	23
5	1.7	81	15	71	12	78	9.5	35	37	354	95	68
6	1.7	44	16	43	12	47	9.0	25	34	197	91	118
7	1.6	28	12	30	12	31	9.0	30	44	105	73	70
8	1.7	20	11	24	11	25	12	26	41	76	73	47
9	73	17	10	20	11	20	17	22	31	59	62	38
10	35	14	9.9	18	19	19	16	21	33	46	75	39
11	24	12	9.5	16	760	16	16	20	30	55	69	35
12	14	10	8.7	17	632	14	15	21	52	66	58	30
13	10	9.0	8.4	28	186	13	15	25	74	53	79	29
14	365	8.4	8.4	36	96	890	28	22	51	52	87	31
15	366	8.2	8.4	36	58	2200	23	15	48	59	92	41
16	124	8.2	15	30	38	2340	20	19	37	52	74	30
17	177	9.5	45	31	28	1510	18	43	26	56	63	20
18	131	13	29	31	23	336	24	87	47	57	54	20
19	456	13	20	26	18	123	23	37	415	55	45	19
20	1000	10	16	20	16	680	15	17	240	60	46	16
21	547	9.1	13	16	15	1080	20	19	134	65	70	14
22	1950	8.4	12	14	14	390	15	22	202	51	102	14
23	2370	7.8	11	13	183	130	20	9.1	119	50	81	17
24	1800	7.3	10	13	1090	69	20	8.2	93	50	64	41
25	821	7.2	9.5	12	1180	42	26	4.2	66	51	100	38
26	565	7.2	8.6	12	780	30	22	.69	49	54	94	32
27	409	7.5	8.2	14	323	24	20	.78	45	59	66	33
28	153	7.6	8.2	18	251	21	19	4.6	42	67	57	27
29	84	7.4	8.2	19	---	16	18	8.7	42	63	64	39
30	61	7.3	8.2	18	---	15	17	10	42	60	60	100
31	61	---	9.4	17	---	15	---	20	---	56	56	---
TOTAL	11610.6	1253.1	381.2	1093	5821	11115	512.5	663.27	2205	2358	2242	1132
MEAN	375	41.8	12.3	35.3	208	359	17.1	21.4	73.5	76.1	72.3	37.7
MAX	2370	383	45	187	1180	2340	28	87	415	354	102	118
MIN	1.5	7.2	6.8	12	11	13	9.0	.69	23	38	45	14
AC-FT	23030	2490	756	2170	11550	22050	1020	1320	4370	4680	4450	2250
CAL YR 1984	TOTAL	32700.90	MEAN	89.3	MAX	2370	MIN	1.5	AC-FT	64860		
WTR YR 1985	TOTAL	40386.67	MEAN	111	MAX	2370	MIN	.69	AC-FT	80110		

## CHOCOLATE BAYOU MAIN STEM

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08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: May 1971 to September 1985 (discontinued). Pesticide analyses: May 1971 to September 1981.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1978 to September 1981.

WATER TEMPERATURES: February 1978 to September 1981

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,620 microsiemens Apr. 18, 1981; minimum daily, 100 microsiemens July 26, 1979.

WATER TEMPERATURES: Maximum daily, 32.0°C July 8, 1978; minimum, 4.0°C Jan. 2, Feb. 11, 1979.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	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)
NOV 13...	1145	8.9	905	7.5	16.5	1.5	8.6	87	1.2	1500	150	270
FEB 21...	1055	15	1190	8.4	17.5	31	8.9	93	1.6	120	92	300
MAY 14...	1015	22	1340	7.9	25.5	24	7.3	88	1.5	270	190	350
AUG 05...	1140	97	1320	7.7	28.0	31	7.0	90	4.0	900	750	300

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 13...	26	75	19	85	2	3.2	240	36	130	.40	17
FEB 21...	65	85	21	130	3	2.8	235	45	210	.40	8.1
MAY 14...	220	100	25	140	3	5.3	135	150	260	.40	13
AUG 05...	140	82	23	160	4	4.0	162	110	250	.30	13

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 13...	527	510	<.10	.040	.60	.080	.070	.060	32	.77	93
FEB 21...	645	640	<.10	.040	.70	.040	.020	.020	25	1.0	98
MAY 14...	811	780	2.2	.190	1.5	.110	.070	.040	34	2.0	96
AUG 05...	766	740	.43	.330	1.7	.040	.030	.030	31	8.1	99

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 13...	1145	2	210	<.5	<1	<1	<3	2	18	9
FEB 21...	1055	<1	250	2.3	2	<1	<3	1	16	<1
MAY 14...	1015	1	280	<.5	<1	<1	<3	4	5	3
AUG 05...	1140	3	190	<.5	<1	<1	<3	6	15	<1



## CHOCOLATE BAYOU MAIN STEM

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 13...	16	20	<.1	<10	3	<1	<1	450	<6	4
FEB 21...	17	9	<.1	<10	2	<1	1	570	<6	4
MAY 14...	23	2	<.1	<10	7	1	<1	720	<6	25
AUG 05...	14	11	<.1	<10	1	<1	<1	820	<6	17

BRAZOS RIVER BASIN

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08079575 NORTH FORK DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR POST, TX

LOCATION.--Lat 33°14'52", long 101°20'24", Garza County, Hydrologic Unit 12050003, at right upstream end of bridge on Farm Road 651 and 4.4 mi northeast of Post.

DRAINAGE AREA.--438 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No known diversion above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,320 ft<sup>3</sup>/s May 20, 1985 (gage height, 8.98 ft, from floodmarks), on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
May 20	1900	*4,320	*28.98	No other peak greater than base discharge.			

Minimum daily discharge, no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	8.0	15	14	18	15	11	18	10	17	5.6	.00
2	.00	8.0	12	12	18	15	11	14	9.0	25	5.0	.00
3	.00	8.0	11	12	40	18	9.0	11	8.0	301	4.4	.00
4	.10	7.1	14	21	47	18	8.0	8.0	126	516	4.4	.00
5	.00	6.3	18	15	14	19	9.0	21	497	393	3.9	.00
6	.00	5.6	12	16	14	14	9.0	14	189	147	3.9	.00
7	.00	5.6	12	14	14	14	7.1	5.6	235	104	1.6	.00
8	.00	5.0	18	13	11	12	8.0	31	162	82	.44	.00
9	.00	3.8	16	12	9.0	12	9.0	7.1	76	70	.13	.00
10	.00	4.4	15	12	12	14	6.3	32	43	63	.05	.00
11	.00	5.0	11	14	12	15	8.0	28	36	57	.28	.00
12	1.0	3.8	11	6.3	14	18	8.0	14	36	44	.22	30
13	.40	3.0	11	11	14	14	8.0	12	34	37	.68	23
14	.40	2.6	16	11	12	14	7.1	10	24	40	3.0	12
15	.30	3.8	48	12	11	16	6.3	9.0	19	35	1.2	3.8
16	.30	5.0	19	12	12	18	6.3	15	22	48	.54	3.4
17	.30	10	34	14	16	15	5.6	19	11	28	71	3.0
18	.20	11	32	12	16	15	5.0	18	15	24	43	3.0
19	.20	12	26	14	14	33	3.8	92	12	27	30	6.7
20	.20	16	30	12	21	53	4.4	630	10	23	19	80
21	6.0	16	32	12	18	40	6.1	91	9.0	17	7.1	210
22	5.0	12	30	12	17	34	169	28	10	65	2.6	552
23	4.4	12	34	12	20	16	16	38	8.0	53	1.2	223
24	5.0	26	11	12	19	18	15	130	9.0	71	.82	157
25	7.1	11	18	12	19	16	19	226	10	572	.68	126
26	7.1	32	12	14	18	14	18	135	40	400	.36	110
27	7.1	34	12	15	18	11	63	82	10	122	.22	92
28	8.0	11	12	15	19	11	18	45	7.7	85	.07	67
29	9.0	10	12	14	---	15	18	22	7.1	43	.02	171
30	9.0	12	14	14	---	12	16	15	12	18	.02	191
31	9.0	---	18	18	---	11	---	14	---	9.0	.00	---
TOTAL	80.10	310.0	586	409.3	487.0	560	508.0	1834.7	1696.8	3536.0	211.43	2063.90
MEAN	2.58	10.3	18.9	13.2	17.4	18.1	16.9	59.2	56.6	114	6.82	68.8
MAX	9.0	34	48	21	47	53	169	630	497	572	71	552
MIN	.00	2.6	11	6.3	9.0	11	3.8	5.6	7.1	9.0	.00	.00
AC-FT	159	615	1160	812	966	1110	1010	3640	3370	7010	419	4090
CAL YR 1984	TOTAL	6172.02	MEAN	16.9	MAX	300	MIN	.00	AC-FT	12240		
WTR YR 1985	TOTAL	12283.23	MEAN	33.7	MAX	630	MIN	.00	AC-FT	24360		

## BRAZOS RIVER MAIN STEM

08079575 NORTH FORK DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR POST, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1983 to September 1984.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1983 to September 1984.

WATER TEMPERATURES: October 1983 to September 1984.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,910 microsiemens May 22, 1984; minimum daily, 400 microsiemens May 20, July 26, 1985.

WATER TEMPERATURES: Maximum daily, 35.0°C July 9, Aug. 1, 1985; minimum daily, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,600 microsiemens Apr. 24; minimum daily, 400 microsiemens May 20, July 26.

WATER TEMPERATURES: Maximum daily, 35.0°C July 9, Aug. 1; minimum daily, 0.0°C Jan. 12, 20, 31, Feb. 1, 2.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 23...	0915	4.2	2430	9.0	520	260	64	87	320
JAN 08...	1020	13	2570	5.5	640	300	74	110	320
APR 02...	0935	12	2750	12.0	680	330	75	120	340
MAY 21...	0220	221	941	14.0	230	92	53	23	110
JUN 25...	0845	10	2500	22.0	570	250	66	98	320
JUL 25...	1250	560	471	23.0	90	0	18	11	55

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 23...	6	17	260	370	430	3.0	11	1500
JAN 08...	6	22	340	390	460	3.6	14	1600
APR 02...	6	25	349	430	500	4.1	17	1700
MAY 21...	3	7.5	135	97	180	1.2	9.5	560
JUN 25...	6	21	323	400	440	3.8	13	1600
JUL 25...	3	6.7	94	49	57	1.0	9.0	260

## BRAZOS RIVER MAIN STEM

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08079575 NORTH FORK DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR POST, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	80.10	2340	1400	302	370	80	360	79	520
NOV.	1984	310.0	2300	1370	1150	370	307	360	300	510
DEC.	1984	586	2140	1260	1990	340	543	320	512	480
JAN.	1985	409.3	2560	1550	1710	400	444	420	459	550
FEB.	1985	487.0	2600	1590	2090	410	536	430	563	560
MAR.	1985	560	2590	1580	2390	410	614	420	642	560
APR.	1985	508.0	2620	1630	2230	400	554	450	615	550
MAY	1985	1834.7	1410	815	4040	230	1140	200	1010	320
JUNE	1985	1696.8	1300	729	3340	220	992	170	794	310
JULY	1985	3536.0	1490	847	8090	250	2340	210	1970	350
AUG.	1985	211.43	2220	1310	748	360	203	340	193	500
SEPT	1985	2063.90	1590	895	4990	260	1470	210	1190	370
TOTAL		12283.23	**	**	33100	**	9230	**	8330	**
WTD.AVG.		34	1710	997	**	280	**	250	**	390

## SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	2600	2400	2450	2760	2770	2670	2800	2630	2820	2580	---
2	---	2580	2450	2400	3100	2750	2860	2850	2790	2700	2650	---
3	---	2600	2500	2500	2900	2700	2880	2960	2910	1650	2780	---
4	3030	2700	2320	2400	2100	2790	2970	3050	1590	1500	2710	---
5	---	2660	2140	2550	2400	2640	3000	2860	510	1800	2880	---
6	---	2700	2350	2450	2540	2720	2900	3100	1050	1850	2900	---
7	---	2800	2500	2500	2600	2810	3000	3200	940	1940	2940	---
8	---	2750	2230	2570	2650	2840	3100	2250	1970	2000	3070	---
9	---	2900	2310	2600	2700	2780	3050	3060	1980	2100	3100	---
10	---	2850	2400	2670	2600	2730	3200	2250	2040	2200	3110	---
11	---	2760	2500	2500	2660	2680	2900	2480	2120	2500	3040	---
12	3000	2780	2550	3000	2610	2600	3000	2560	2180	2540	3070	750
13	2500	2860	2600	2550	2660	2710	3100	2780	2080	2500	3210	850
14	3100	2940	2400	2500	2700	2820	3200	2820	2150	2600	3120	992
15	2800	2960	1000	2600	2820	2670	3250	2860	2170	2700	3130	2560
16	2750	2870	1950	2640	2750	2580	3350	2700	2210	2550	3250	2780
17	2700	2300	1540	2510	2510	2700	3400	2600	2370	2900	2060	2640
18	2600	2040	1730	2600	2600	2720	3480	2800	1460	2700	2000	2590
19	2820	2400	2400	2500	2700	2400	3590	2650	2180	2760	2090	2320
20	3000	2300	2300	2450	2300	2290	3500	400	2300	2780	2170	1950
21	1800	2340	2160	2400	2600	2350	3560	680	2420	2800	2440	1780
22	1700	2350	2250	2540	2640	2400	2500	2370	2290	1550	2410	1110
23	2700	2400	2120	2500	2520	2460	3300	2350	2400	2000	2660	1860
24	2400	1650	2500	2600	2600	2430	3600	1520	2510	1750	2620	1940
25	2250	2260	2300	2640	2620	2570	3400	1150	2540	550	2570	1980
26	2350	2010	2390	2600	2680	2630	3500	1680	1000	400	2830	2020
27	2400	1890	2480	2500	2700	2780	910	2250	1780	1200	2680	2090
28	2300	2340	2500	2450	2600	2850	2000	2360	2060	1600	2830	2120
29	2400	2400	2600	2500	---	2650	2800	2480	2260	2100	2870	1000
30	2450	2390	2450	2740	---	2700	3080	2520	2630	2400	2800	1750
31	2500	---	2100	3000	---	2800	---	2550	---	2500	---	---
MEAN	2550	2510	2270	2560	2630	2660	3040	2420	2050	2130	2750	1850

## BRAZOS RIVER MAIN STEM

08079575 NORTH FORK DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR POST, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	19.0	7.5	3.0	.0	16.0	15.0	26.0	26.0	27.0	35.0	---
2	---	18.0	6.0	5.0	.0	12.0	19.0	23.0	22.5	27.5	34.0	---
3	---	12.0	6.0	11.0	2.0	17.0	22.0	27.0	31.0	28.0	26.5	---
4	24.0	13.0	2.0	7.0	8.0	12.0	19.0	22.0	20.5	34.0	24.5	---
5	---	16.5	3.5	2.0	12.0	13.5	14.0	20.0	21.0	24.5	30.0	---
6	---	17.0	10.5	7.0	7.5	13.0	12.0	28.0	27.0	24.0	27.0	---
7	---	18.0	13.0	8.0	4.5	18.0	13.0	27.0	29.0	31.0	29.0	---
8	---	22.0	8.0	10.0	13.5	15.5	14.0	30.0	21.0	22.5	30.0	---
9	---	15.5	11.0	11.5	13.0	18.5	14.0	26.0	24.5	35.0	27.0	---
10	---	11.0	5.5	8.0	7.0	15.5	21.0	27.0	28.5	29.5	29.0	---
11	---	8.0	14.0	3.0	13.0	16.0	21.0	17.0	29.0	27.0	25.0	---
12	27.5	17.0	7.0	.0	12.5	11.0	21.5	19.0	26.0	30.0	26.5	---
13	24.0	18.0	10.0	.5	15.0	12.0	20.5	20.0	27.5	25.0	25.0	20.0
14	27.0	20.0	4.0	8.0	11.0	14.0	22.0	24.0	31.0	32.5	32.5	20.0
15	18.0	13.0	3.0	8.0	13.0	7.5	25.5	24.0	22.0	28.0	28.0	20.0
16	14.0	11.0	3.0	8.0	18.0	8.0	19.5	25.5	23.0	26.0	26.0	25.0
17	17.0	10.5	15.0	9.0	17.0	12.5	19.0	20.5	30.0	27.0	27.0	29.0
18	22.0	9.0	13.0	15.5	9.5	21.0	20.0	17.0	24.5	23.0	23.0	25.0
19	18.0	6.5	13.0	6.0	14.0	11.0	20.0	19.0	24.0	25.5	29.0	23.0
20	14.5	7.0	15.0	.0	14.0	11.0	23.0	18.5	30.0	28.5	29.0	22.0
21	13.5	10.0	13.0	9.0	19.0	14.5	21.0	27.5	29.0	24.0	25.0	17.0
22	12.0	7.0	6.5	8.0	16.0	17.0	18.0	24.0	24.0	23.5	30.5	22.0
23	13.5	8.0	8.0	9.0	9.0	13.0	21.0	30.0	27.5	25.0	27.0	21.0
24	11.5	9.0	7.5	10.0	9.0	10.5	24.0	26.0	27.5	29.0	28.0	22.0
25	15.0	14.5	3.0	11.0	18.0	19.0	24.0	23.0	25.5	27.0	23.0	21.5
26	16.0	10.0	5.0	5.5	13.0	19.0	23.0	21.5	27.0	20.0	27.0	22.5
27	20.5	8.5	16.0	7.0	16.0	17.0	16.0	30.0	26.0	25.0	26.5	22.0
28	12.0	11.5	17.0	12.0	13.0	17.0	14.5	27.0	25.0	25.0	24.0	24.0
29	20.0	10.0	14.0	12.0	---	19.0	26.0	29.0	16.5	27.0	25.0	13.0
30	21.0	12.0	10.0	2.0	---	14.0	21.0	27.0	21.5	28.0	31.0	17.0
31	22.0	---	8.0	.0	---	11.0	---	26.0	---	23.0	---	---
MEAN	18.0	13.0	9.0	7.0	11.5	14.5	19.5	24.0	25.5	27.0	27.5	21.5



## 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 downstream from Panhandle and Santa Fe Railroad, and at mile 143.4 measured from confluence with Salt Fork Brazos River at mile 923.2 on the Brazos River.

DRAINAGE AREA.--1,466 mi<sup>2</sup>, of which 1,222 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. No known diversion above station.

AVERAGE DISCHARGE.--23 years (water years 1963-85), 27.3 ft<sup>3</sup>/s (1.52 in/yr), 19,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft<sup>3</sup>/s May 6, 1969 (gage height, 19.8 ft, from floodmarks); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1895, 25.8 ft in 1914 and 22.2 ft in September 1955, from information by local resident. Flood in July 1961 reached a stage of 18.2 ft, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Oct. 13	0500	12,500	a11.70	July 25	0930	*13,600	a*12.00
Apr. 28	2300	9,100	a10.70	July 26	1130	10,400	a 11.08
June 5	1100	2,400	7.93				

a From floodmark.

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	117	1.6	49	.00	2.9	1.6	14	.07	.00	.63	.00
2	.10	26	1.3	12	.00	2.7	.53	5.9	.05	.00	.44	.00
3	.10	8.8	.74	5.9	.00	2.7	.37	2.9	.02	.00	.37	.00
4	.24	4.8	.79	5.2	.10	2.2	.18	1.4	.01	.00	.30	.00
5	.07	2.9	1.6	3.8	.63	2.2	.10	.37	572	.00	.30	.00
6	.03	2.2	.99	2.7	.50	2.0	.02	43	288	.00	.24	.00
7	.01	2.2	.86	2.0	.40	2.0	.01	12	46	.00	.18	.00
8	.00	2.0	.44	1.8	.35	2.0	.00	155	10	.00	.10	.00
9	.00	1.6	.24	1.6	.30	1.8	.00	13	3.2	.00	.05	.00
10	.00	1.4	.10	1.0	.25	1.8	.00	4.1	.74	.00	.00	.00
11	.00	1.4	.03	.74	.20	1.8	2.5	1.4	13	.00	.00	.00
12	4.8	1.4	.01	.74	.14	1.6	2.8	.53	15	.00	.00	.00
13	671	1.4	.00	1.1	.05	1.4	.18	.37	1.3	.00	.00	.00
14	30	1.6	2.0	.86	.00	1.3	.07	.18	.30	.00	.00	.74
15	5.5	1.4	451	.86	.00	6.3	.02	.18	.18	.00	.00	2.4
16	2.2	1.4	233	1.6	.00	3.5	.01	.18	.18	.00	.00	1.4
17	1.1	130	29	.74	.00	1.6	.00	103	.18	.00	.00	.10
18	.74	93	10	.53	.00	1.3	.00	14	.14	.00	.00	.03
19	.63	17	8.3	.53	.00	1.3	.00	2.4	.14	.00	.00	.02
20	.63	7.8	7.8	.20	57	162	.00	.63	.10	.00	.00	.02
21	66	4.1	6.8	.00	54	24	.00	79	.07	.00	.00	.03
22	39	2.7	4.1	.00	10	7.3	261	12	.05	.00	.00	.03
23	37	2.0	3.5	.20	9.4	4.1	52	135	.03	.86	.00	.01
24	8.8	195	2.9	1.6	7.8	2.4	8.8	20	.02	.07	.85	.00
25	5.2	169	2.0	.24	4.8	2.0	2.0	4.8	.01	1800	.00	.00
26	4.4	22	2.2	.24	3.5	2.0	1.4	2.4	.01	1260	.00	.00
27	3.5	7.3	2.9	.30	2.9	1.8	199	.44	.01	143	.00	.00
28	2.4	4.1	2.9	.30	2.9	.86	815	.18	.00	19	.00	.00
29	1.6	2.9	2.7	.24	---	.99	551	.10	.00	5.5	.00	4.5
30	1.4	2.0	2.2	.24	---	58	43	.05	.00	2.2	.00	.99
31	1.3	---	172	.10	---	7.3	---	.05	---	.86	.00	---
TOTAL	887.99	836.4	954.00	96.36	155.22	315.15	1941.59	628.56	950.81	3231.49	3.46	83.53
MEAN	28.6	27.9	30.8	3.11	5.54	10.2	64.7	20.3	31.7	104	.11	2.78
MAX	671	195	451	49	57	162	815	155	572	1800	.85	74
MIN	.00	1.4	.00	.00	.00	.86	.00	.05	.00	.00	.00	.00
CFSM	.12	.11	.13	.01	.02	.04	.27	.08	.13	.43	.000	.01
IN.	.14	.13	.15	.01	.02	.05	.30	.10	.14	.49	.00	.01
AC-FT	1760	1660	1890	191	308	625	3850	1250	1890	6410	6.9	166
CAL YR 1984	TOTAL	4138.22	MEAN 11.3	MAX 671	MIN .00	CFSM .05	IN .63	AC-FT 8210				
WTR YR 1985	TOTAL	10084.56	MEAN 27.6	MAX 1800	MIN .00	CFSM .11	IN 1.54	AC-FT 20000				

## BRAZOS RIVER MAIN STEM

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 September 1982.

## 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, 26,800 microsiemens Mar. 5, 1982; minimum daily, 370 microsiemens Oct. 20, 1983.

WATER TEMPERATURES: Minimum daily, 32.5°C July 4, 1978; minimum daily, 0.0°C on many days during winter months.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 18,000 microsiemens June 27; minimum daily, 460 microsiemens Oct. 13.

WATER TEMPERATURES: Maximum daily, 26.0°C Apr. 26; minimum daily, 0.0°C Jan. 12, 13.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 23...	1255	35	1230	10.5	98	0	26	8.0	220
NOV 01...	1505	190	657	19.0	71	0	21	4.4	130
DEC 04...	0735	.64	10000	4.5	810	600	200	76	2100
JAN 08...	0825	1.8	6840	4.5	540	310	130	53	1300
MAY 21...	0720	124	621	14.0	70	0	20	4.8	130
AUG 06...	0740	.23	12000	22.5	890	690	220	83	2700

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 23...	10	3.5	120	110	240	1.0	8.5	690
NOV 01...	7	2.8	150	58	88	.70	11	410
DEC 04...	33	7.7	210	430	3100	1.2	11	6100
JAN 08...	25	6.6	230	380	2000	1.3	12	4000
MAY 21...	7	3.6	171	64	79	.80	11	420
AUG 06...	41	14	205	510	4200	1.4	12	7900

## BRAZOS RIVER MAIN STEM

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08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	887.99	829	472	1130	250	606	22	53	44
NOV.	1984	836.4	1760	1010	2270	540	1220	49	111	96
DEC.	1984	954.00	1080	614	1580	330	848	29	74	57
JAN.	1985	96.36	2880	1650	429	880	230	82	21	160
FEB.	1985	155.22	3130	1820	761	970	409	96	40	180
MAR.	1985	315.15	3770	2230	1890	1200	1020	130	109	230
APR.	1985	1941.59	1030	579	3040	310	1630	26	137	53
MAY	1985	628.56	1600	905	1540	480	823	42	70	84
JUNE	1985	950.81	1010	571	1470	310	785	25	65	52
JULY	1985	3231.49	672	377	3290	200	1760	16	143	34
AUG.	1985	3.46	11200	6660	62	3600	33	400	3.7	*
SEPT	1985	83.53	1200	680	153	360	82	31	7.1	63
TOTAL		10084.56	**	**	17600	**	9440	**	835	**
WTD.AVG.		28	1140	647	**	350	**	31	**	61

## SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	OCT	NOV	DEC	JAN	EQUIVALENT MEAN					JUN	JUL	AUG	SEP
					FEB	MAR	APR	MAY					
1	8100	900	7000	1350	---	13100	6000	2800	13800	---	8200	---	---
2	10900	1200	8000	2420	---	14200	9790	3650	14500	---	9120	---	---
3	12500	3200	9000	3500	---	16300	12000	4900	15100	---	9800	---	---
4	16900	6100	10000	3620	14500	16100	15300	6400	16000	---	10800	---	---
5	14400	9300	8000	3760	12800	15900	16100	7900	875	---	11300	---	---
6	15200	11500	7000	3890	8900	17000	16300	2400	970	---	12100	---	---
7	16500	12900	9000	4000	10800	17100	16700	3950	1360	---	12700	---	---
8	---	13300	10400	5470	13800	17000	---	1620	2140	---	13000	---	---
9	---	13600	11000	5630	14800	17500	---	1540	3100	---	13800	---	---
10	---	13500	12400	5800	15600	17100	---	3770	4070	---	---	---	---
11	---	13900	13000	6500	15900	17200	5500	7660	2750	---	---	---	---
12	12700	14100	14700	7580	16300	17700	3770	10900	1980	---	---	---	---
13	460	14500	---	8700	16900	17200	10100	11900	3540	---	---	---	---
14	620	14700	14000	9300	---	16600	12700	13400	6560	---	---	---	942
15	2420	14800	700	8990	---	7000	13500	13500	9240	---	---	---	1680
16	4300	14600	600	4250	---	7500	14200	13800	8930	---	---	---	8040
17	7000	1250	1350	4500	---	12700	---	1250	9810	---	---	---	12200
18	8870	1000	2820	5370	---	15400	---	1450	10700	---	---	---	14500
19	9900	2000	3580	6000	---	17000	---	3670	11600	---	---	---	15400
20	9970	3300	3900	6280	1400	1480	---	7450	12500	---	---	---	14500
21	1000	4600	4000	---	1580	2040	---	775	13700	---	---	---	11200
22	1150	5650	5000	---	3900	4700	650	2040	14900	---	---	---	15100
23	1160	6700	5300	7870	4600	6300	900	1100	15500	12100	---	---	16600
24	2600	2000	5700	6200	4500	9300	2190	1180	16200	17800	14200	---	---
25	4500	900	7000	9900	8400	11400	4280	2610	16900	750	---	---	---
26	5080	1500	6400	10100	12300	13300	9500	4960	17700	500	---	---	---
27	4050	3000	6000	11800	13500	14100	3100	7560	18000	850	---	---	---
28	5600	4400	6250	12500	14800	16400	900	9360	---	1500	---	---	---
29	7620	5300	6730	13600	---	16800	525	11200	---	2700	---	---	1960
30	9130	6400	7010	14500	---	1700	1000	12900	---	4200	---	---	3270
31	10100	---	975	15100	---	2880	---	14000	---	6100	---	---	---
MEAN	7510	7340	6890	7190	10800	12600	7950	6180	9720	5170	11500	9620	

## BRAZOS RIVER MAIN STEM

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

DAY	TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.0	17.0	5.0	3.0	---	9.0	9.0	19.5	18.5	---	21.0	---
2	14.0	10.5	4.0	---	---	10.5	9.5	15.0	21.5	---	22.5	---
3	15.5	8.0	2.0	3.0	---	17.0	12.5	15.0	---	---	23.0	---
4	12.0	9.0	4.5	9.0	---	8.0	10.0	16.0	---	---	22.0	---
5	16.5	7.0	1.5	2.0	3.0	7.5	8.5	16.0	18.0	---	22.0	---
6	15.0	8.0	3.0	5.0	3.5	9.0	14.0	17.0	16.0	---	22.0	---
7	---	11.0	4.0	8.5	2.0	15.0	---	18.0	19.5	---	23.0	---
8	---	10.0	5.0	9.0	3.0	15.0	---	10.0	21.0	---	23.0	---
9	---	12.5	8.0	11.0	4.0	13.0	---	19.0	22.0	---	---	---
10	---	6.5	15.0	2.0	4.5	15.0	---	14.5	20.5	---	---	---
11	---	5.5	15.0	1.0	1.0	14.0	---	18.0	19.5	---	---	---
12	---	6.0	---	.0	---	8.5	14.0	16.0	17.5	---	---	---
13	18.0	11.5	---	.0	---	11.5	14.5	16.0	16.0	---	---	---
14	14.0	14.5	3.0	2.0	---	9.0	14.0	10.5	18.5	---	---	21.0
15	12.0	11.0	3.0	2.0	---	6.5	---	13.0	20.5	---	---	19.0
16	13.0	7.0	2.5	4.5	---	7.0	---	17.5	20.5	---	---	19.5
17	12.0	9.0	4.0	4.0	---	10.5	---	17.0	---	---	---	20.5
18	14.5	9.5	4.0	5.0	---	7.0	---	15.5	---	---	---	21.0
19	10.0	5.0	7.5	2.5	---	9.0	---	16.0	---	---	---	21.5
20	14.0	5.0	10.0	---	---	8.0	---	18.0	---	---	---	21.0
21	12.0	4.0	8.5	---	13.0	7.0	---	19.0	---	---	---	16.5
22	9.0	6.0	4.0	---	15.0	7.0	12.0	16.0	---	---	---	18.5
23	9.0	7.0	4.0	---	9.0	7.0	10.0	16.0	---	21.0	---	---
24	9.0	9.0	10.0	5.5	6.0	11.0	10.0	17.0	---	20.0	21.0	---
25	9.0	6.0	2.0	6.5	10.0	9.0	12.0	17.5	---	19.5	---	---
26	12.0	9.0	5.0	3.0	9.0	14.5	26.0	19.5	---	22.0	---	---
27	12.0	1.5	13.5	6.0	5.5	13.0	15.0	22.0	---	23.0	---	---
28	15.5	2.0	---	4.0	10.0	12.0	15.0	19.5	---	22.0	---	---
29	11.0	4.0	---	6.0	---	14.0	15.5	16.0	---	21.0	---	13.0
30	14.5	3.0	---	7.0	---	8.0	15.0	18.0	---	20.5	---	8.0
31	16.5	---	---	7.5	---	5.5	---	18.5	---	21.0	---	---
MEAN	13.0	8.0	6.0	4.5	6.5	10.5	13.0	16.5	19.5	21.0	22.0	18.0

## BRAZOS RIVER MAIN STEM

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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 downstream from Hitson Creek, 10 mi south of Aspermont, and at mile 34.5 measured from confluence with Salt Fork Brazos River which is at mile 923.2 on the Brazos River.

DRAINAGE AREA.--8,796 mi<sup>2</sup>, of which 6,932 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929. Dec. 3, 1923, to Sept. 30, 1934, nonrecording gage at site 90 ft downstream at datum 2.0 ft higher, and June 8, 1939, to Aug. 12, 1972, water-stage recorder at present site and datum 2.0 ft higher.

REMARKS.--Estimated daily discharges: Dec. 25, Jan. 12-13, 26-27, Feb. 3, and Aug. 22-27. Records fair. There are small diversions above station for oilfield operation.

AVERAGE DISCHARGE.--56 years (water years 1925-34, 1940-85), 159 ft<sup>3</sup>/s (1.16 in/yr), 115,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 91,400 ft<sup>3</sup>/s Sept. 26, 1955 (gage height, 29.5 ft 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 greater than base discharge of 8,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Apr. 29	0900	*9,400	*10.88	No other peak greater than base discharge.			
Minimum daily discharge, 0.20 ft <sup>3</sup> /s Sept. 8-13.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	2140	142	253	32	47	74	463	90	16	83	.33
2	71	1080	119	442	33	43	57	220	79	14	59	.28
3	53	303	100	243	34	40	49	128	70	14	43	.33
4	39	262	89	165	37	44	43	79	66	12	33	.33
5	30	155	85	125	41	43	35	57	1750	11	26	.28
6	23	113	75	99	44	36	30	44	2860	9.8	21	.24
7	19	88	67	84	40	31	27	34	1280	8.5	18	.24
8	15	70	60	74	38	29	23	458	633	7.5	16	.20
9	13	58	56	67	36	28	19	1360	418	6.8	13	.20
10	12	48	50	58	35	26	17	502	356	14	11	.20
11	11	42	47	53	34	25	17	294	304	13	9.2	.20
12	12	38	43	51	32	23	16	234	207	12	8.0	.20
13	588	34	50	48	30	25	16	1430	157	8.8	7.3	.20
14	2900	31	46	45	26	30	15	688	122	6.4	9.7	.28
15	551	28	278	43	23	66	14	355	107	5.3	20	51
16	253	24	957	45	23	54	13	151	92	4.5	9.9	42
17	141	60	873	43	22	45	12	1350	73	4.4	18	25
18	95	114	410	41	21	40	12	563	61	3.7	9.6	17
19	64	125	250	38	21	38	11	288	54	3.1	8.0	221
20	46	232	179	37	24	121	11	217	46	3.0	13	747
21	39	171	142	35	40	142	18	637	38	15	11	309
22	147	130	117	32	171	150	92	1060	33	14	4.1	163
23	90	103	99	41	323	154	112	477	29	20	2.8	85
24	87	180	87	38	158	105	95	305	27	26	2.2	44
25	153	274	79	34	111	78	115	217	25	24	1.5	26
26	225	852	71	35	74	67	83	246	27	2800	1.1	51
27	298	429	68	35	57	56	67	158	32	2550	.64	44
28	141	282	65	32	51	45	456	179	30	986	.44	30
29	93	205	61	31	---	40	4430	144	26	400	.44	153
30	76	172	57	31	---	59	1640	118	20	213	.38	63
31	66	---	284	31	---	104	---	103	---	119	.38	---
TOTAL	6445	7843	5106	2429	1611	1834	7619	12559	9112	7344.8	460.68	2074.51
MEAN	208	261	165	78.4	57.5	59.2	254	405	304	237	14.9	69.2
MAX	2900	2140	957	442	323	154	4430	1430	2860	2800	83	747
MIN	11	24	43	31	21	23	11	34	20	3.0	.38	.20
CFSM	.11	.14	.09	.04	.03	.03	.14	.22	.16	.13	.008	.04
IN.	.13	.16	.10	.05	.03	.04	.15	.25	.18	.15	.01	.04
AC-FT	12780	15560	10130	4820	3200	3640	15110	24910	18070	14570	914	4110
CAL YR 1984	TOTAL	24671.52	MEAN	67.4	MAX	2900	MIN	.00	CFSM	.04	IN	.49
WTR YR 1985	TOTAL	64437.99	MEAN	177	MAX	4430	MIN	.20	CFSM	.10	IN	1.29
									AC-FT	48940		
									AC-FT	127800		



## BRAZOS RIVER MAIN STEM

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 September 1977. Chemical and biochemical analyses: October 1977 to current year. 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 microsiemens July 29, 1980; minimum daily, 735 microsiemens Oct. 24. WATER TEMPERATURES (1945-51, 1956-85): 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, 9,700 microsiemens Apr. 20; minimum daily, 1,000 microsiemens July 28. WATER TEMPERATURES: Maximum daily, 31.0°C July 24; minimum daily, 0.0°C Jan. 20, 21, 22.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	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 24...	1445	59	4490	7.7	12.0	300	9.8	98	1.2	1000	720	920
DEC 11...	1500	68	5270	8.1	14.5	72	11.0	117	4.4	K36	K20	1200
FEB 21...	0900	54	6320	8.0	12.0	90	10.6	107	2.4	350	280	1700
APR 09...	1410	19	6640	8.1	20.5	55	10.2	122	2.2	58	K28	1600
JUN 19...	0915	36	4440	7.9	22.0	100	10.7	131	2.7	96	170	1000
AUG 21...	1030	6.2	4090	7.7	20.0	280	10.1	119	2.8	5600	3700	1200

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 24...	790	280	52	650	10	7.0	126	760	1000	.60	6.6
DEC 11...	1100	340	90	750	10	9.7	140	1000	1200	1.1	11
FEB 21...	1500	430	140	870	10	11	130	1400	1500	.60	8.0
APR 09...	1400	440	110	970	11	12	115	1400	1600	1.0	12
JUN 19...	920	270	85	570	8	16	112	890	870	1.4	13
AUG 21...	1100	360	65	440	6	9.6	64	1100	720	.50	8.1

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 24...	2940	2800	.11	.080	.70	.190	.010	<.010	382	61	87
DEC 11...	3580	3500	<.10	.140	.70	.140	.010	<.010	214	39	96
FEB 21...	4680	4400	.17	.220	.40	.110	<.010	<.010	339	49	90
APR 09...	4750	4600	<.10	.190	.80	.090	.150	.130	165	8.5	99
JUN 19...	2700	2800	<.10	.170	.60	.080	<.010	<.010	189	18	87
AUG 21...	3070	2700	.19	.110	.40	--	<.010	<.010	731	12	99

## BRAZOS RIVER MAIN STEM

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08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
OCT 24...	1445	1	<100	<10	1	<1	7	1	60	<1
FEB 21...	0900	1	<100	<10	<1	<1	<1	2	30	<1
JUN 19...	0915	4	<100	<10	1	<1	<1	3	60	4
AUG 21...	1030	4	100	<10	3	<1	1	3	40	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 24...	60	10	<.1	5	5	<1	<1	5200	24	<10
FEB 21...	130	60	<.1	2	12	3	<1	9000	33	20
JUN 19...	130	20	<.1	11	3	<1	1	7000	28	40
AUG 21...	60	40	.9	4	2	1	<1	5000	16	40

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	6445	1740	1110	19300	310	5310	380	6570	370
NOV.	1984	7843	2040	1310	27700	370	7740	440	9310	440
DEC.	1984	5106	2740	1770	24400	510	7090	590	8070	600
JAN.	1985	2429	4240	2780	18300	860	5630	890	5830	970
FEB.	1985	1611	4400	2900	12600	920	3980	920	3980	1000
MAR.	1985	1834	4560	3000	14800	930	4620	950	4720	1100
APR.	1985	7619	2500	1620	33300	470	9690	530	11000	550
MAY	1985	12559	1900	1210	41100	330	11300	410	13900	400
JUNE	1985	9112	1880	1200	29600	340	8310	400	9960	400
JULY	1985	7344.8	1720	1100	21800	300	6030	370	7360	370
AUG.	1985	460.68	3420	2230	2770	670	832	720	898	770
SEPT	1985	2074.51	1960	1250	7020	340	1930	430	2380	420
TOTAL		64437.99	**	**	253000	**	72500	**	84000	**
WTD.AVG.		177	2250	1450	**	420	**	480	**	490

## BRAZOS RIVER MAIN STEM

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

DAY	SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985											
	EQUIVALENT MEAN											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	1400	2430	4000	6530	4380	2960	1500	3840	6300	1570	7870
2	1550	1300	2970	3600	6670	5230	3740	1630	4210	6800	2000	7900
3	1880	1790	3450	2300	6750	5780	4270	1700	4570	7200	2490	7960
4	2500	2330	3800	2000	6780	5560	4560	2000	4920	7600	3000	8000
5	3060	2900	4200	2400	7000	6170	5000	2600	2090	7800	3490	8270
6	3530	2300	4400	3000	7010	5950	5480	3200	1160	7700	3950	8350
7	3980	2700	4600	3600	7040	5500	5840	3800	1400	8000	4400	8280
8	4270	3100	4800	4100	6600	6170	6230	3520	1290	8100	4770	8260
9	4850	3670	4900	4600	6130	6470	6650	2410	1370	8240	5150	8370
10	5270	4180	5000	5100	6120	6670	7080	1500	1440	6750	5560	8430
11	5610	4600	5200	5200	5800	6800	7300	1600	1700	6260	5820	8350
12	5960	4900	5300	5340	5900	7110	7560	1500	2130	5800	6200	8390
13	1600	5250	5150	5490	6500	7010	7710	1070	2600	6100	6460	8380
14	1390	5500	5500	5600	6480	7050	7930	1900	3000	6600	6690	7980
15	1170	5800	4250	5900	6830	7300	8060	2100	3350	7100	2400	2240
16	1110	6000	2000	6100	7060	6520	8300	2400	3490	7400	5550	2070
17	1180	5640	1800	6000	7230	5680	8500	1800	3860	7460	4150	1990
18	1420	4290	1500	6100	7400	5200	8750	1940	4300	7580	4450	2440
19	1790	3730	1400	6400	7480	6000	9000	2100	4480	7700	4890	2200
20	2570	2900	1600	6700	7450	4780	9700	2000	4710	7870	4510	1530
21	3540	2500	2010	6500	6400	4450	8660	2500	5070	4580	4260	1920
22	2580	2080	2570	6400	4470	3190	7540	1210	5410	3560	4780	2150
23	2420	2300	3100	6290	2000	2500	6700	1400	5660	3450	5330	2330
24	3300	3000	3600	6600	2300	2910	7030	1700	6040	3600	5890	2550
25	3000	2750	3930	6500	2530	3050	3500	2280	6260	3820	6440	2590
26	2820	2200	4200	6430	2800	3450	3900	2000	6170	1840	7030	2780
27	2000	1600	4400	6390	3300	3950	4270	2500	6190	1600	7490	2720
28	2230	1500	4700	6500	3760	4500	3340	2600	6200	1000	7580	2920
29	2730	1600	5020	6400	---	5000	2030	2700	6660	1010	7670	1940
30	3360	1900	5440	6440	---	4760	1460	3160	6520	1040	7760	2500
31	3780	---	3100	6470	---	2580	---	3500	---	1200	7800	---
MEAN	2840	3190	3750	5300	5800	5220	6100	2190	4000	5520	5150	5060

DAY	TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985											
	ONCE-DAILY											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	17.0	---	5.0	---	10.0	12.0	20.0	25.0	20.0	24.0	21.0
2	15.0	12.0	---	1.0	---	---	12.0	19.0	---	22.0	25.0	23.0
3	17.0	---	5.0	1.0	---	---	13.0	19.0	24.0	23.0	26.0	22.0
4	18.0	---	6.0	3.0	1.0	11.0	15.0	19.0	23.0	22.0	25.0	21.0
5	19.0	11.0	4.0	4.0	1.0	9.0	12.0	20.0	---	22.0	25.0	23.0
6	21.0	10.0	3.0	5.0	3.0	10.0	14.0	21.0	23.0	23.0	25.0	22.0
7	18.0	13.0	3.0	5.0	3.0	14.0	12.0	21.0	23.0	21.0	25.0	22.0
8	19.0	14.0	6.0	5.0	5.0	15.0	12.0	22.0	25.0	22.0	24.0	22.0
9	18.0	15.0	9.0	3.0	7.0	16.0	14.0	23.0	25.0	23.0	24.0	21.0
10	17.0	11.0	8.0	4.0	7.0	15.0	15.0	23.0	26.0	21.0	24.0	22.0
11	19.0	9.0	9.0	3.0	3.0	15.0	16.0	24.0	25.0	24.0	24.0	21.0
12	19.0	9.0	12.0	---	3.0	11.0	17.0	20.0	21.0	24.0	24.0	21.0
13	18.0	11.0	11.0	---	5.0	13.0	---	19.0	20.0	24.0	24.0	23.0
14	17.0	14.0	5.0	1.0	6.0	10.0	---	17.0	21.0	24.0	24.0	21.0
15	16.0	13.0	---	1.0	5.0	10.0	17.0	19.0	24.0	25.0	23.0	---
16	16.0	9.0	5.0	5.0	6.0	---	18.0	21.0	25.0	24.0	24.0	21.0
17	12.0	---	6.0	4.0	---	---	18.0	20.0	24.0	23.0	24.0	21.0
18	16.0	---	6.0	5.0	9.0	10.0	19.0	19.0	22.0	24.0	24.0	22.0
19	13.0	8.0	7.0	5.0	10.0	12.0	20.0	20.0	20.0	24.0	---	22.0
20	---	7.0	9.0	.0	11.0	---	20.0	21.0	21.0	24.0	---	22.0
21	---	6.0	11.0	.0	14.0	10.0	19.0	20.0	22.0	22.0	---	20.0
22	11.0	7.0	---	.0	16.0	9.0	20.0	20.0	22.0	24.0	---	21.0
23	10.0	7.0	2.5	3.0	14.0	12.0	15.0	19.0	24.0	25.0	---	17.0
24	11.0	9.0	9.0	4.0	10.0	13.0	---	22.0	24.0	31.0	---	16.0
25	11.0	---	---	5.0	9.0	14.0	17.0	23.0	23.0	26.0	---	17.0
26	14.0	11.0	4.0	---	9.0	17.0	19.0	24.0	22.0	25.0	---	15.0
27	15.0	7.0	8.0	---	7.0	17.0	---	24.0	20.0	26.0	22.0	15.0
28	14.0	5.0	14.0	5.0	11.0	15.0	---	25.0	19.0	27.0	23.0	19.0
29	14.0	7.0	---	4.0	---	17.0	18.0	23.0	19.0	26.0	21.0	---
30	15.0	7.0	---	8.0	---	---	19.0	24.0	---	25.0	22.0	---
31	17.0	---	7.0	---	---	---	---	24.0	---	25.0	22.0	---
MEAN	15.5	10.0	7.0	3.5	7.5	12.5	16.0	21.0	22.5	24.0	24.0	20.5

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LOCATION.--Lat 33°21'22", long 100°42'17", Kent County, Hydrologic Unit 12050007, near right bank at downstream side of bridge on Farm Road 643, 2.5 mi west of Girard, and 10.7 mi upstream from mouth.

REMARKS.--Records good except those for estimated daily discharges, July 13-17, which are fair. There are several small diversions upstream from gage. Flow is affected at times by discharge from the flood-detention pools of 12 floodwater-retarding structures with a combined detention capacity of 24,710 acre-ft. These structures control runoff from 108 mi<sup>2</sup> above this station. Several observations of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 218 ft<sup>3</sup>/s June 5 at 1430 hours (gage height, 10.43 ft); minimum daily, 0.01 ft<sup>3</sup>/s June 29.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.06	.46	2.6	.99	1.3	1.5	1.1	.80	.20	.29	.06
2	.11	.03	.44	1.7	1.0	1.2	1.5	.63	.63	.11	.22	.05
3	.09	.03	.41	1.5	1.1	1.3	1.5	.55	.48	.03	.21	.05
4	.13	.14	.48	1.4	1.3	1.4	1.5	.48	.71	.03	.22	.05
5	.09	.13	.60	1.3	1.3	1.1	1.3	.42	94	.02	.20	.05
6	.07	.12	.57	1.3	1.3	1.1	1.3	.89	37	.02	.18	.05
7	.07	.12	.55	1.2	1.2	1.1	1.2	.71	20	.02	.15	.04
8	.07	.11	.55	1.1	1.2	1.2	1.2	.48	8.9	.02	.13	.03
9	.07	.10	.58	1.2	1.2	1.2	1.2	.48	2.8	.03	.10	.04
10	.06	.09	.56	1.0	1.1	1.3	1.2	.48	1.4	.02	.13	.03
11	.08	.08	.59	.97	.92	1.3	1.3	.42	.99	.02	.15	.03
12	.11	.09	.55	.91	.89	1.2	1.2	.26	.77	.16	.10	.03
13	.33	.10	.71	1.0	.96	1.2	1.2	.31	.78	.03	.08	.05
14	.75	.10	.64	1.1	.93	1.1	1.1	.22	.57	.03	.08	.10
15	.12	.09	10	1.0	.97	1.2	1.0	.15	.41	.04	.08	.11
16	.11	.10	8.3	1.1	1.0	1.4	.88	.22	.27	.04	.10	.14
17	.14	.59	2.2	1.1	1.0	1.4	.83	.99	.21	.08	.12	.14
18	.13	.90	1.4	1.1	1.1	1.3	.73	.71	.22	.10	.10	.13
19	.13	.43	1.3	1.0	1.1	1.8	.59	.71	.21	.08	.10	.13
20	.17	.36	1.4	.82	3.5	4.0	.51	6.5	.19	.08	.10	.14
21	.49	.33	1.3	.87	3.0	2.6	.62	23	.07	.08	.10	.27
22	.28	.31	1.2	.90	1.9	2.0	1.9	32	.12	.08	.08	.13
23	.21	.26	1.1	1.0	2.1	1.8	1.1	21	.07	11	.10	.10
24	.25	.85	1.0	1.1	1.5	1.6	.63	5.7	.03	3.8	.11	.10
25	.26	2.0	.89	1.0	1.3	1.6	.55	2.4	.02	14	.08	.10
26	.23	1.6	.94	1.0	1.2	1.5	.63	1.7	.02	15	.10	.10
27	.17	.91	1.0	1.1	1.1	1.4	.80	1.5	.02	33	.09	.10
28	.11	.67	1.1	1.2	1.2	1.3	3.4	1.1	.02	34	.08	.10
29	.11	.50	1.1	1.2	---	1.6	14	.89	.01	7.0	.08	.16
30	.09	.43	1.0	1.2	---	2.8	3.1	.71	.02	1.9	.07	.10
31	.07	---	2.9	1.0	---	1.8	---	.55	---	.61	.06	---
TOTAL	5.20	11.63	45.82	35.97	37.36	48.1	49.47	107.26	171.74	121.63	3.79	2.71
MEAN	.17	.39	1.48	1.16	1.33	1.55	1.65	3.46	5.72	3.92	.12	.090
MAX	.75	2.0	10	2.6	3.5	4.0	14	32	94	34	.29	.27
MIN	.06	.03	.41	.82	.89	1.1	.51	.15	.01	.02	.06	.03
AC-FT	10	23	91	71	74	95	98	213	341	241	7.5	5.4
CAL YR 1984	TOTAL	304.76	MEAN	.83	MAX	15	MIN	.00	AC-FT	604		
WTR YR 1985	TOTAL	640.68	MEAN	1.76	MAX	94	MIN	.01	AC-FT	1270		

## BRAZOS RIVER BASIN

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 northwest of Peacock, 6.2 mi upstream from Croton Creek, 13.0 mi northwest of Aspermont, and at mile 54.3 measured from confluence with Double Mountain Fork Brazos River which is at mile 923.2 on the Brazos River.

DRAINAGE AREA.--4,619 mi<sup>2</sup>, of which 2,634 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1964, nonrecording gage at site 2.9 mi upstream at datum 19.39 ft higher.

REMARKS.--No estimated daily discharges. Records fair. There is some regulation by White River Reservoir (capacity, 44,900 acre-ft), 79 mi upstream. Several small diversions above station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950.

AVERAGE DISCHARGE.--22 years (water years 1951, 1965-85), 37.4 ft<sup>3</sup>/s (27,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft<sup>3</sup>/s Aug. 13, 1972 (gage height, 13.75 ft); no flow at times most years.

Maximum stage since at least 1939, that of Aug. 13, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
May 21	0900	*3,150	a*9.15				

a From floodmark.

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	3.2	12	26	7.5	12	23	81	47	7.4	19	.00
2	.00	4.3	11	33	7.0	11	17	38	40	4.9	14	.00
3	.00	2.7	9.6	36	7.0	13	14	21	39	3.7	9.6	.00
4	.00	2.1	8.7	32	9.0	14	11	15	33	2.5	5.5	.00
5	.00	1.8	8.2	28	11	12	10	15	172	1.8	3.2	.00
6	.00	1.6	7.6	24	10	9.6	11	11	600	.98	1.8	.00
7	.00	1.5	7.2	21	9.6	10	9.6	9.2	398	.64	1.2	.00
8	.00	1.5	6.9	19	9.6	10	9.4	8.7	280	.39	.57	.00
9	.00	1.5	6.8	18	9.2	10	9.2	12	176	.17	.20	.00
10	.00	1.3	6.7	18	8.7	10	9.2	11	95	.06	.02	.00
11	.00	1.2	6.6	17	8.7	9.6	9.2	18	64	.00	1.8	.00
12	.05	1.2	6.7	15	7.0	7.8	8.9	16	55	.00	.57	.00
13	332	1.2	6.6	15	5.2	35	8.4	68	43	.00	.12	.00
14	385	1.2	6.6	13	4.9	26	7.9	81	38	.00	.09	.00
15	86	1.2	58	12	4.9	20	7.4	29	30	.00	.05	.00
16	26	1.3	81	11	4.9	18	6.6	23	34	.00	.00	.00
17	11	14	78	10	4.9	16	6.6	62	29	.00	2.1	.00
18	5.9	13	65	9.6	5.2	15	6.6	108	25	.00	1.1	.00
19	3.7	9.2	47	9.2	6.2	13	6.2	64	22	.00	.05	.00
20	2.7	7.0	36	8.2	9.4	54	6.2	80	20	.00	.00	.00
21	4.9	5.5	27	7.4	15	39	6.6	1570	15	.00	.00	148
22	13	4.9	20	7.4	29	24	6.6	732	14	2.9	.00	26
23	8.7	4.6	18	7.0	27	22	11	474	14	3.0	.00	4.3
24	5.5	12	18	7.0	26	23	13	388	14	3.2	.00	1.1
25	4.0	16	17	7.0	19	24	13	361	13	25	.00	.44
26	18	19	17	7.4	13	27	18	237	22	335	.00	.30
27	19	33	16	7.4	12	18	22	158	22	207	.00	.23
28	5.2	27	15	8.7	12	15	53	113	18	127	.00	.40
29	4.0	19	15	8.2	---	15	1220	79	15	149	.00	25
30	3.7	13	19	7.8	---	29	234	67	12	77	.00	4.6
31	3.5	---	34	7.8	---	28	---	58	---	37	.00	---
TOTAL	942.10	226.0	692.2	458.1	302.9	590.0	1794.6	5007.9	2399	988.64	60.97	210.37
MEAN	30.4	7.53	22.3	14.8	10.8	19.0	59.8	162	80.0	31.9	1.97	7.01
MAX	385	33	81	36	29	54	1220	1570	600	335	19	148
MIN	.00	1.2	6.6	7.0	4.9	7.8	6.2	8.7	12	.00	.00	.00
AC-FT	1870	448	1370	909	601	1170	3560	9930	4760	1960	121	417
CAL YR 1984	TOTAL	2737.63	MEAN	7.48	MAX	385	MIN	.00	AC-FT	5430		
WTR YR 1985	TOTAL	13672.78	MEAN	37.5	MAX	1570	MIN	.00	AC-FT	27120		



## BRAZOS RIVER BASIN

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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.--Since January 1969, specific conductance was recorded continuously at this station (discontinued September 1983).

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 microsiemens July 31, 1966; minimum daily, 900 microsiemens Aug. 31, 1966.

WATER TEMPERATURES (1964-85): 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, 53,600 microsiemens Nov. 21; minimum daily, 2,360 microsiemens May 23.

WATER TEMPERATURES: Maximum daily, 38.0°C Aug. 2; minimum daily, 0.0°C Jan. 11, 22.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 06...	1400	1.5	46200	18.0	3400	3200	850	300	11000
DEC 19...	1515	49	13500	9.0	840	720	220	70	2700
APR 24...	1220	13	25300	24.0	2400	2300	660	190	4600
MAY 22...	0920	768	2530	19.0	260	150	76	17	430
JUN 11...	1300	64	8050	24.0	760	640	210	57	1300
DATE		SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 06...		85	28	120	3000	16000	.50	9.6	31000
DEC 19...		42	7.9	120	690	4300	.50	8.1	8100
APR 24...		42	18	108	1600	7600	.50	7.0	15000
MAY 22...		12	4.6	112	240	610	.50	8.3	1500
JUN 11...		21	8.8	118	650	2100	.80	11	4400

## BRAZOS RIVER BASIN

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	942.10	10700	6830	17400	3400	8660	830	2100	*
NOV.	1984	226.0	27500	18300	11100	9500	5810	1900	1140	*
DEC.	1984	692.2	29700	19600	36700	10200	19100	2000	3790	*
JAN.	1985	458.1	29000	19100	23600	9900	12200	2000	2500	*
FEB.	1985	302.9	36300	24300	19900	12800	10500	2400	1950	*
MAR.	1985	590.0	31600	21000	33400	10900	17400	2100	3410	*
APR.	1985	1794.6	9980	6570	31800	3400	16400	700	3370	850
MAY	1985	5007.9	5880	3670	49600	1800	24200	470	6410	580
JUNE	1985	2399	9390	5980	38700	3000	19300	720	4660	880
JULY	1985	988.64	6720	4220	11300	2100	5520	540	1430	650
AUG.	1985	60.97	18100	11600	1910	5900	963	1400	224	*
SEPT	1985	210.37	5890	3700	2100	1800	1030	470	266	570
TOTAL		13672.78	**	**	278000	**	141000	**	31300	**
WTD.AVG.		38	11600	7520	**	3800	**	850	**	**

## SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	EQUIVALENT MEAN										
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	21900	41100	35400	27800	40800	36800	40400	7800	21800	39400	11200
2	---	47600	35600	20700	41600	36600	40300	11000	21900	39700	15300
3	---	43500	40200	18000	43000	38600	43400	17600	24300	39900	19900
4	---	39000	42700	17000	42400	29000	45600	21900	26300	41300	25800
5	---	42100	42900	20700	39200	32700	47700	28700	5500	42700	26000
6	---	42800	46100	27300	38700	36400	47200	29100	4500	42200	29900
7	---	43600	47800	32300	42300	40000	47800	32300	3440	42400	31400
8	---	44200	47500	32100	46000	40400	48200	31600	3260	42200	33400
9	---	44300	48600	34400	46300	41500	49000	21200	5600	42100	35300
10	---	44500	49200	25700	46200	41600	48200	23500	6650	43800	29000
11	---	44700	47000	31700	47100	42500	48800	20600	8190	---	37000
12	23500	42800	46600	28500	46800	43400	48200	22800	12100	---	34300
13	12000	42300	49600	26600	46600	17000	49300	18500	14600	---	33300
14	4630	43000	50000	36700	46800	13000	48900	11500	17700	---	33100
15	5720	44100	28000	31500	46200	37900	49700	21400	20500	---	32900
16	13400	44900	24000	33700	46500	38700	50200	28500	19100	---	---
17	17600	31000	23900	29500	47000	46200	51200	11900	23800	---	14100
18	25600	29500	12500	29300	46500	46500	51400	10800	24000	---	16500
19	25700	39200	15000	36900	45600	46900	51700	8170	26300	---	25400
20	28100	48500	23000	40800	44200	20000	51900	8000	28700	---	---
21	29400	53600	27300	37800	37400	21500	49500	3900	30600	---	3000
22	32500	53400	29600	44100	28900	25500	46800	2600	30700	---	4800
23	36200	53500	32900	32800	19400	26100	30500	2360	30800	26600	11000
24	37400	36400	35600	36400	25600	26500	27100	3350	32800	36800	12000
25	39200	32200	38600	32000	29100	35000	23000	3500	33600	12500	23700
26	28700	10000	40300	35000	30500	35200	22700	4900	28100	7680	25500
27	28500	9000	40400	45600	35900	38500	22600	7450	26600	5000	27400
28	40600	15100	42400	42000	35700	42100	22100	10400	34100	2800	26900
29	42600	24600	43600	41300	---	43900	3250	15500	36800	3570	17000
30	43000	25000	43900	39800	---	35200	4400	15700	39500	5300	32400
31	42900	---	35000	40200	---	29500	---	18500	---	6380	---
MEAN	27600	38500	37600	32500	40400	35000	40400	15300	21400	27700	26900

## BRAZOS RIVER BASIN

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08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

DAY	TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985											
	OCT	NOV	DEC	JAN	FEB	ONCE-DAILY MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	14.0	10.0	3.0	---	14.0	13.0	25.0	21.0	20.0	35.0	---
2	---	9.0	7.0	4.0	---	19.0	19.0	23.0	22.0	21.0	38.0	---
3	---	10.0	10.0	7.0	---	23.0	27.0	28.0	26.0	21.0	35.0	---
4	---	9.0	8.0	10.0	---	14.0	25.0	29.0	25.0	36.0	34.0	---
5	---	11.0	9.0	---	7.0	13.0	20.0	26.0	19.0	34.0	29.0	---
6	---	9.0	10.0	10.0	11.0	14.0	22.0	27.0	26.0	36.0	31.0	---
7	---	11.0	10.0	11.0	9.0	16.0	12.0	32.0	29.0	31.0	34.0	---
8	---	16.0	9.0	10.0	8.0	24.0	14.0	32.0	31.0	32.0	33.0	---
9	---	21.0	7.0	8.0	4.0	14.0	22.0	23.0	31.0	34.0	32.0	---
10	---	---	5.0	5.0	6.0	15.0	20.0	21.0	32.0	30.0	30.0	---
11	---	18.0	12.0	.0	9.0	18.0	27.0	27.0	24.0	---	33.0	---
12	---	14.0	18.0	---	12.0	14.0	22.0	25.0	27.0	---	28.0	---
13	---	14.0	8.0	3.0	14.0	13.0	25.0	17.0	24.0	---	29.0	---
14	23.0	22.0	5.0	5.0	15.0	14.0	27.0	25.0	30.0	---	---	---
15	22.0	21.0	4.0	10.0	14.0	12.0	30.0	29.0	24.0	---	31.0	---
16	18.0	20.0	5.0	5.0	14.0	10.0	15.0	31.0	23.0	---	---	---
17	14.0	11.0	5.0	9.0	11.0	11.0	28.0	21.0	24.0	---	34.0	---
18	16.0	10.0	5.0	4.0	11.0	12.0	20.0	20.0	22.0	---	32.0	---
19	17.0	7.0	7.0	1.0	14.0	13.0	21.0	21.0	33.0	---	27.0	---
20	17.0	8.0	10.0	1.0	14.0	10.0	26.0	21.0	29.0	---	---	---
21	15.0	10.0	---	7.0	14.0	12.0	22.0	14.0	22.0	---	---	18.0
22	12.0	9.0	2.0	.0	18.0	21.0	22.0	18.0	21.0	---	---	19.0
23	15.0	10.0	12.0	10.0	14.0	19.0	---	26.0	21.0	24.0	---	14.0
24	12.0	9.0	9.0	10.0	16.0	25.0	24.0	28.0	26.0	29.0	---	15.0
25	17.0	15.0	2.0	6.0	17.0	21.0	25.0	27.0	29.0	35.0	---	24.0
26	15.0	10.0	7.0	5.0	10.0	19.0	---	31.0	25.0	31.0	---	18.0
27	14.0	9.0	8.0	6.0	10.0	22.0	---	34.0	28.0	26.0	---	16.0
28	20.0	10.0	20.0	10.0	10.0	20.0	17.0	32.0	28.0	28.0	---	19.0
29	19.0	11.0	19.0	10.0	---	16.0	---	31.0	24.0	25.0	---	13.0
30	20.0	12.0	11.0	7.0	---	10.0	24.0	31.0	22.0	29.0	---	8.0
31	22.0	---	7.0	---	---	---	---	26.0	---	31.0	---	---
MEAN	17.5	12.5	8.5	6.5	12.0	16.0	22.0	26.0	25.5	29.0	32.0	16.5

## BRAZOS RIVER BASIN

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 downstream from county road, 0.9 mi upstream from mouth, and 8.5 mi northeast of Jayton.

DRAINAGE AREA.--290 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929. Prior to Nov. 11, 1976, at site 680 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. No diversion above station.

AVERAGE DISCHARGE.--26 years, 13.7 ft<sup>3</sup>/s (0.64 in/yr), 9,930 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft<sup>3</sup>/s Oct. 18, 1960 (gage height, 12.40 ft), from rating curve extended above 3,100 ft<sup>3</sup>/s; maximum gage height, 12.52 ft May 20, 1977, from floodmark; no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1935, 13.5 ft in 1941 or 1942, present datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Apr. 27	1415	*759	*6.41				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.12	.08	4.9	.78	1.4	3.6	1.3	.89	.01	.00	.00		
2	.00	.02	.04	3.8	.78	1.4	2.8	.79	1.0	.00	.00	.00		
3	.00	.02	.03	4.1	1.0	1.8	2.5	.60	1.0	.00	.00	.00		
4	.00	.00	.02	3.4	1.4	1.4	2.5	.46	1.3	.00	.00	.00		
5	.00	.00	.07	3.1	1.6	1.3	2.2	.42	74	.00	.00	.00		
6	.00	.00	.13	2.5	1.8	1.4	2.0	.30	126	.00	.00	.00		
7	.00	.00	.10	2.2	1.6	1.4	1.8	.24	33	.00	.00	.00		
8	.00	.00	.09	2.2	1.6	1.4	1.6	.19	13	.00	.00	.00		
9	.00	.00	.07	2.0	1.4	1.3	1.6	.19	6.5	.00	.00	.00		
10	.00	.00	.03	1.6	1.3	1.3	1.6	.24	4.7	.00	.00	.00		
11	.00	.00	.03	1.2	1.1	1.4	1.6	5.9	17	.00	.00	.00		
12	.03	.00	.03	1.3	1.0	1.0	1.6	.43	3.0	.00	.00	.00		
13	91	.00	.10	1.3	1.0	8.5	1.6	37	1.9	.00	.00	8.4		
14	18	.00	.04	1.4	.89	2.2	1.6	2.9	1.4	.00	.00	1.6		
15	1.7	.00	59	1.6	.78	1.5	1.6	1.1	1.0	.00	.00	.24		
16	.59	.00	85	1.6	.89	1.9	1.4	.59	.74	.00	.00	.00		
17	.14	3.6	14	1.4	.89	3.0	1.4	.59	.50	.00	.00	.00		
18	.03	4.1	6.4	1.3	.78	3.1	1.3	.68	.41	.00	.00	.00		
19	.00	.52	5.2	1.1	.89	2.2	1.3	.78	.41	.00	.00	.00		
20	.00	.23	5.8	1.0	6.1	19	1.4	55	.31	.00	.00	.00		
21	1.2	.15	5.4	1.0	19	8.4	1.6	44	.25	.00	.00	87		
22	2.2	.09	4.1	1.1	4.1	6.2	34	21	1.0	1.5	.00	25		
23	1.3	.07	3.8	1.1	8.7	4.5	5.9	57	1.8	12	.00	2.5		
24	.64	1.5	3.1	1.1	3.4	3.4	3.6	9.0	.81	.59	.00	1.0		
25	.42	4.5	2.5	1.1	2.2	2.8	2.9	4.4	.49	6.0	.00	.50		
26	3.2	5.6	2.8	1.0	1.6	2.8	2.8	2.4	51	7.2	.00	.19		
27	4.0	.94	2.8	1.4	1.4	2.5	184	1.7	2.5	5.4	.00	.03		
28	.78	.40	3.0	1.1	1.4	2.2	11	1.6	.59	4.1	.00	.08		
29	.33	.22	2.8	1.3	---	3.7	39	1.1	.24	.50	.00	5.4		
30	.24	.11	2.5	1.1	---	44	3.5	1.0	.05	.01	.00	1.3		
31	.18	---	17	.89	---	4.9	---	.89	---	.00	.00	---		
TOTAL	125.98	22.19	226.06	55.19	69.38	143.3	325.3	253.79	346.79	37.31	.00	133.24		
MEAN	4.06	.74	7.29	1.78	2.48	4.62	10.8	8.19	11.6	1.20	.000	4.44		
MAX	91	5.6	85	4.9	19	44	184	57	126	12	.00	87		
MIN	.00	.00	.02	.89	.78	1.0	1.3	.19	.05	.00	.00	.00		
CFSM	.01	.003	.03	.006	.009	.02	.04	.03	.04	.004	.000	.02		
IN.	.02	.00	.03	.01	.01	.02	.04	.03	.04	.00	.00	.02		
AC-FT	250	44	448	109	138	284	645	503	688	74	.00	264		
CAL YR 1984	TOTAL	1156.14	MEAN	3.16	MAX	153	MIN	.00	CFSM	.01	IN	.15	AC-FT	2290
WTR YR 1985	TOTAL	1738.53	MEAN	4.76	MAX	184	MIN	.00	CFSM	.02	IN	.22	AC-FT	3450

## BRAZOS RIVER BASIN

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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 CONDUCTANCE: October 1961 to current year.  
WATER TEMPERATURES: October 1961 to September 1973.

INSTRUMENTATION.--Since May 1968, 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. Minimum estimated specific conductance was based on historical records and regression analysis between discharge and specific conductance.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 60,700 microsiemens Feb. 15, 1967; minimum daily, 1,200 microsiemens June 26, 1985.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 51,200 microsiemens Apr. 20, 21; minimum daily, 1,200 microsiemens June 26.  
WATER TEMPERATURES: Maximum daily 39.5°C July 27; minimum daily, 0.0°C on many days during December, January and February.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 20...	1230	5.8	20500	10.5	2600	2500	820	130	4000
JAN 30...	1440	1.2	38700	8.0	4400	4200	1200	330	8400
MAR 12...	1340	.99	41500	14.0	4300	4200	1200	320	8500
JUN 12...	1430	3.1	21000	28.5	2800	2800	900	140	3900

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
DEC 20...	36	12	75	2300	6200	.20	5.4	14000
JAN 30...	57	20	130	3500	14000	.20	4.0	28000
MAR 12...	58	24	120	4000	14000	.20	3.6	28000
JUN 12...	33	15	67	2600	6200	.20	3.7	14000



## BRAZOS RIVER BASIN

08081200 CROTON CREEK NEAR JAYTON, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	125.98	6200	4090	1390	2100	729	410	141	580
NOV.	1984	22.19	30100	20200	1210	10900	650	1800	110	*
DEC.	1984	226.06	22900	15300	9320	8100	4960	1400	878	*
JAN.	1985	55.19	33000	22200	3310	11900	1780	2000	295	*
FEB.	1985	69.38	32000	21600	4040	11600	2170	1900	361	*
MAR.	1985	143.3	23500	15800	6100	8400	3260	1500	562	*
APR.	1985	325.3	11900	7910	6950	4200	3690	760	664	*
MAY	1985	253.79	12600	8310	5690	4400	3000	830	567	*
JUNE	1985	346.79	14200	9440	8840	5000	4670	920	864	*
JULY	1985	37.31	18600	12400	1250	6600	667	1200	117	*
AUG.	1985	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT	1985	133.24	6400	4230	1520	2200	801	420	152	590
TOTAL		1738.53	**	**	49600	**	26400	**	4710	**
WTD.AVG.		4.8	15900	10600	**	5600	**	1000	**	**

## SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	32800	29200	26100	27700	40800	28700	36100
2	---	---	---	---	---	35600	31500	29400	30400	32300	27400	28900
3	---	---	---	---	---	38000	32900	31600	32300	28500	26900	28000
4	---	---	---	---	---	---	33400	32200	33000	30100	28200	29100
5	---	---	---	---	---	---	32900	31700	32400	28500	19400	27000
6	---	---	---	---	---	---	32600	31800	32100	28800	25900	28300
7	---	---	---	---	---	---	33400	32600	33000	30200	20300	28900
8	---	---	---	---	---	---	34100	33400	33900	31300	26000	30200
9	---	---	---	---	---	---	35400	34200	34800	32700	31200	31800
10	---	---	---	---	---	---	36500	34000	35900	33500	30800	32600
11	---	---	---	---	---	---	36700	36300	36500	---	---	32800
12	29100	14900	27800	---	---	---	36800	36500	36600	---	---	32300
13	---	---	4440	---	---	---	37100	33600	34600	35200	30200	32100
14	---	---	3760	---	---	---	33900	32700	33200	35100	27100	33000
15	---	---	10800	---	---	---	32800	10500	22100	36700	31200	35400
16	---	---	14600	---	---	---	27300	17400	20600	37000	30400	35400
17	---	---	17500	41100	21200	29200	18700	17900	18300	---	---	35900
18	---	---	20300	36100	24300	31300	19400	18700	19100	---	---	36200
19	---	---	---	36900	35300	35700	20000	19300	19700	---	---	36500
20	---	---	---	45200	37300	41300	20400	20000	20200	---	---	37100
21	---	---	19400	45600	41700	43300	28900	23500	27000	---	---	37300
22	---	---	18200	41900	41300	41700	32500	28900	30300	---	---	36900
23	---	---	21600	42100	41100	41700	33600	30800	32600	---	---	37000
24	---	---	23900	41500	20000	34000	31700	30200	30800	---	---	37400
25	---	---	25500	35800	21900	27900	31000	30400	30700	---	---	37900
26	---	---	18400	43500	26600	31600	30800	30400	30600	---	---	38400
27	---	---	16300	26700	18500	20600	30800	30500	30700	---	---	36900
28	---	---	21100	21500	18700	19800	31800	30800	31200	---	---	37900
29	---	---	25700	24400	21700	23100	32100	31600	31900	---	---	38400
30	---	---	27400	26900	24600	25600	34400	32000	32500	---	---	38700
31	---	---	29900	---	---	---	39700	21300	28500	43300	40200	42100
MONTH	29100	14900	19300	45600	18500	32500	39700	10500	29800	43300	19400	34400

## 08081200 CROTON CREEK NEAR JAYTON, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	45400	40800	43000	34400	32600	33500	20300	15600	18000	6200	3900	5310
2	43700	38600	41200	35300	32300	34500	25400	20700	23400	8400	4900	7120
3	43100	34900	39300	36900	33700	35600	28300	25900	27500	11200	6000	9300
4	36200	32100	34700	38600	36600	37700	32400	28500	30200	13600	9000	11500
5	33800	32800	33400	39800	38300	38900	33200	32600	33000	13800	10800	12600
6	38400	30600	35500	40800	39800	40200	34000	33100	33600	15000	12200	13800
7	39500	38400	38900	40800	40000	40400	35300	34100	34800	15100	12300	14400
8	39800	38600	39200	40300	39700	40100	37100	35500	36300	15400	14900	15200
9	39200	36200	38500	40400	40100	40200	39300	37300	38200	16600	15500	16100
10	40200	38700	39400	40000	39700	39900	41100	38400	40300	17600	12200	16300
11	40800	37900	40300	40900	39600	39900	42600	41100	41900	13600	6100	8920
12	41600	38100	40700	42000	41200	41500	43200	42100	42800	10100	9400	9810
13	41100	40100	40700	41900	4100	15500	44500	43100	43800	10100	6300	8530
14	41300	39000	40800	17100	7900	13200	45300	44100	44800	9400	6600	8180
15	41700	40700	41200	24500	18700	22100	46900	44600	45800	10200	6700	8960
16	42000	41000	41600	31500	24400	26000	47300	46100	46900	12100	9700	10800
17	42200	40800	41600	35900	30800	33200	47600	47300	47400	13100	11600	12400
18	41500	38200	41000	42300	36600	40500	48100	45900	47700	14000	11100	13400
19	41000	36900	39900	41200	17600	37100	49100	48200	48600	15600	13600	14600
20	46000	28800	36700	25300	12000	18100	51000	49200	50000	16200	7800	13300
21	31600	24300	27400	26600	20900	25200	51000	36200	41800	15800	9200	12500
22	30200	23900	28700	29200	27000	28100	19300	13200	15500	23800	12100	17100
23	34900	21200	26100	30800	29300	29900	19900	19300	19600	22100	7400	12200
24	30100	27100	28100	32900	30900	31800	23500	19700	20700	11100	7600	9330
25	30300	28600	29400	34500	32000	33400	28000	21600	25100	15800	8300	13300
26	30700	30000	30300	36000	34600	35300	21800	14500	18100	21200	14100	18500
27	31200	29900	30500	38900	36000	37300	21600	2200	7280	25800	21200	23500
28	33000	31200	32200	40800	38800	39700	4800	2400	3760	29000	23200	27100
29	---	---	---	40400	11700	36800	8900	3500	5600	31000	28400	29300
30	---	---	---	20900	7200	14500	6300	3600	5000	33300	28900	31900
31	---	---	---	15400	13900	14400	---	---	---	33400	32600	33000
MONTH	46000	21200	36400	42300	4100	32100	51000	2200	31200	33400	3900	14800

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	35700	29400	33800	31800	27400	29100				---	---	---
2	36300	35000	35700	---	---	---				---	---	---
3	36800	36000	36400	---	---	---				---	---	---
4	37100	23200	35400	---	---	---				---	---	---
5	26900	14200	18300	---	---	---				---	---	---
6	13100	8400	10500	---	---	---				---	---	---
7	10300	9300	9770	---	---	---				---	---	---
8	13200	9400	11000	---	---	---				---	---	---
9	17700	13300	15300	---	---	---				---	---	---
10	21000	16500	19500	---	---	---				---	---	---
11	21400	16800	19500	---	---	---				---	---	---
12	23500	19800	22000	---	---	---				---	---	---
13	32000	22900	28400	---	---	---				28300	23300	24500
14	36000	32000	33800	---	---	---				---	---	27400
15	37700	34300	35800	---	---	---				---	---	32200
16	40300	35700	37500	---	---	---				---	---	---
17	42200	37300	39500	---	---	---				---	---	---
18	40800	37900	39200	---	---	---				---	---	---
19	42200	37300	39400	---	---	---				---	---	---
20	42300	38000	41000	---	---	---				---	---	---
21	43200	41300	42100	---	---	---				---	---	4040
22	41500	32400	37700	44000	10600	40500				---	---	3270
23	48700	40900	44700	7400	4300	5850				---	---	8260
24	46400	41700	44900	13900	7500	10800				---	---	12100
25	45400	12600	42500	38000	13700	24100				---	---	15900
26	23100	1200	12000	45300	23700	33000				---	---	17700
27	8900	1400	6120	22900	16700	19600				---	---	20100
28	15000	7900	12100	15400	13400	14200				---	---	22800
29	22300	15000	17600	21000	14500	18000				---	---	16700
30	27500	22700	25600	24300	21000	22600				---	---	19900
31	---	---	---	---	---	---				---	---	---
MONTH	48700	1200	28200	45300	4300	21800				28300	23300	17300

## BRAZOS RIVER BASIN

08081200 CROTON CREEK NEAR JAYTON, TX--Continued

## TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	18.5	17.0	17.5	11.0	4.0	7.5	5.0	.0	2.5
2	---	---	---	16.5	14.0	15.0	10.5	5.5	8.0	5.5	.0	1.5
3	---	---	---	17.0	13.5	15.5	9.0	3.0	6.0	8.0	.0	3.0
4	---	---	---	---	---	---	7.5	5.0	6.0	11.5	.5	5.0
5	---	---	---	---	---	---	6.5	5.5	6.0	12.0	1.5	6.0
6	---	---	---	---	---	---	8.5	3.0	6.0	13.5	2.0	6.5
7	---	---	---	---	---	---	10.0	1.0	5.5	11.5	2.0	6.0
8	---	---	---	---	---	---	11.0	4.0	7.5	12.5	4.0	7.5
9	---	---	---	---	---	---	13.5	7.5	10.5	14.5	4.5	8.0
10	---	---	---	---	---	---	11.5	6.0	8.5	10.5	.5	4.5
11	---	---	---	---	---	---	12.0	7.5	10.0	4.5	.0	2.0
12	25.5	19.5	21.5	---	---	---	14.5	10.5	12.5	.5	.0	.0
13	22.0	17.0	19.0	---	---	---	14.0	10.5	12.0	7.0	.0	2.0
14	26.5	16.0	20.5	---	---	---	10.5	7.0	8.5	10.5	.0	3.5
15	24.0	13.5	18.0	---	---	---	7.0	3.5	5.0	11.0	.0	4.5
16	18.0	15.0	16.0	---	---	---	8.5	2.5	5.0	12.0	4.0	6.5
17	16.5	12.5	14.5	11.5	10.0	11.0	11.0	4.0	7.5	12.0	.5	5.5
18	20.5	15.5	17.5	11.0	8.5	9.5	6.5	4.0	5.0	14.0	1.5	6.5
19	---	---	---	8.0	6.5	7.0	9.5	5.5	8.0	14.5	.0	5.5
20	---	---	---	9.0	6.0	7.0	11.5	9.0	10.0	3.0	.0	1.0
21	16.5	12.0	14.5	8.0	4.5	6.0	12.0	7.0	10.5	6.5	.0	2.0
22	13.0	10.5	12.0	9.5	7.5	8.0	12.5	3.5	7.5	7.0	.0	2.5
23	16.0	10.5	13.0	10.5	8.0	9.0	13.0	3.5	8.0	9.5	1.0	4.0
24	13.0	11.0	12.0	10.5	8.0	9.5	10.0	2.5	6.0	13.0	1.0	5.5
25	14.5	12.0	13.0	15.5	7.0	10.5	3.5	.0	2.0	14.0	2.5	6.5
26	16.0	14.5	15.0	15.5	7.0	11.0	7.0	2.5	5.0	10.5	.5	5.5
27	22.5	12.5	17.0	11.5	3.0	6.5	13.5	6.5	10.0	7.5	3.5	6.5
28	18.0	12.0	15.0	13.5	2.5	7.0	20.0	12.5	16.0	7.5	3.0	5.0
29	15.0	11.0	13.0	15.0	4.5	8.5	20.0	12.5	15.5	14.5	.0	6.0
30	14.5	13.5	14.0	10.5	4.0	7.5	12.0	8.0	9.5	8.5	.0	5.5
31	17.0	15.0	16.0	---	---	---	8.5	5.5	7.0	.5	.0	.0
MONTH	26.5	10.5	15.5	18.5	2.5	10.0	20.0	.0	8.0	14.5	.0	4.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.0	.0	.0	23.5	8.0	14.5	23.5	9.5	15.0	29.0	17.5	22.5
2	1.0	.0	.0	19.5	12.0	14.5	25.5	8.5	16.5	31.5	16.5	23.0
3	1.0	.0	.0	25.0	12.5	17.5	29.0	10.0	18.5	33.0	16.5	24.0
4	4.5	.0	1.0	20.5	7.0	12.5	27.0	12.0	18.0	33.0	16.5	23.5
5	7.5	1.0	3.0	21.0	5.0	12.0	26.0	10.0	16.5	34.0	17.5	24.0
6	11.5	2.5	5.0	17.5	9.0	12.0	26.5	11.0	18.0	35.0	18.5	26.0
7	9.0	1.5	5.0	21.5	12.5	16.0	22.0	10.0	15.5	35.0	19.5	26.0
8	15.0	3.0	7.5	28.0	12.5	18.0	24.0	11.5	16.0	34.0	20.0	25.5
9	18.0	4.0	10.0	20.5	13.5	16.5	26.0	13.0	18.0	32.5	20.0	24.5
10	13.5	4.5	7.5	24.0	13.0	17.5	25.0	13.0	17.5	30.0	20.0	24.0
11	13.0	.5	5.5	22.5	12.5	17.5	29.5	13.0	20.0	29.5	19.0	23.5
12	14.0	.0	6.0	16.0	10.0	12.5	29.0	15.5	21.0	33.0	16.0	23.5
13	13.5	2.0	7.0	15.5	10.5	12.5	28.5	15.5	21.0	25.5	15.5	20.5
14	15.0	4.0	8.0	21.0	8.0	13.5	28.5	13.5	21.0	30.5	12.5	20.5
15	15.0	2.0	7.5	13.0	7.0	10.5	29.5	14.0	20.5	32.0	14.5	23.0
16	15.0	4.0	8.5	13.5	9.5	11.0	28.5	14.0	21.0	35.0	18.5	24.5
17	14.5	3.5	8.0	22.5	6.5	13.5	30.0	14.5	21.5	24.5	19.0	21.0
18	10.0	8.0	9.0	24.5	7.5	15.0	26.0	16.0	21.5	33.0	17.5	23.5
19	14.5	9.0	10.5	13.5	9.5	12.0	27.5	17.5	22.0	34.0	18.0	24.5
20	13.5	10.5	12.0	18.0	8.5	12.5	29.5	17.5	22.0	32.5	14.5	22.0
21	23.0	13.0	16.5	14.0	9.0	11.0	29.5	16.5	21.5	29.5	15.0	21.0
22	23.0	15.0	17.5	23.5	7.0	14.0	25.5	15.0	19.5	25.0	17.0	21.0
23	19.5	9.5	14.0	24.0	9.0	15.0	28.0	12.5	20.5	30.0	19.0	23.5
24	20.0	6.5	12.0	27.5	8.5	17.0	30.0	14.0	21.0	34.0	18.5	25.5
25	20.0	6.5	12.5	27.5	11.0	18.0	29.0	14.5	20.5	35.0	19.5	26.5
26	14.0	7.5	10.0	23.5	14.0	17.5	33.0	16.5	23.5	35.0	20.0	27.0
27	18.5	4.5	10.5	25.5	14.5	18.5	21.0	13.0	16.0	38.5	21.5	28.5
28	13.0	9.5	11.0	24.0	11.5	17.0	21.0	15.0	17.5	35.5	22.0	27.5
29	---	---	---	24.0	8.0	17.0	27.5	17.0	21.5	36.5	18.0	26.5
30	---	---	---	15.5	6.5	10.5	31.0	16.0	22.5	32.0	20.0	25.5
31	---	---	---	23.0	5.5	13.5	---	---	---	30.0	19.5	24.5
MONTH	23.0	.0	8.0	28.0	5.0	14.5	33.0	8.5	19.5	38.5	12.5	24.0

## BRAZOS RIVER BASIN

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08081200 CROTON CREEK NEAR JAYTON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	34.0	20.5	27.0	31.0	22.0	26.5				---	---	---
2	34.0	20.0	26.5	---	---	---				---	---	---
3	32.0	21.5	27.0	---	---	---				---	---	---
4	25.5	20.0	23.5	---	---	---				---	---	---
5	23.5	19.5	21.0	---	---	---				---	---	---
6	29.0	19.0	23.5	---	---	---				---	---	---
7	36.5	21.0	28.0	---	---	---				---	---	---
8	37.0	22.5	29.0	---	---	---				---	---	---
9	38.0	23.0	29.5	---	---	---				---	---	---
10	36.0	23.5	29.0	---	---	---				---	---	---
11	30.0	21.0	25.0	---	---	---				---	---	---
12	30.5	19.0	24.0	---	---	---				---	---	---
13	32.5	17.5	24.5	---	---	---				31.5	22.5	26.0
14	35.5	19.0	26.5	---	---	---				28.0	22.5	24.5
15	36.5	22.5	28.5	---	---	---				25.5	21.5	23.5
16	35.5	22.5	28.5	---	---	---				---	---	---
17	35.5	21.0	28.0	---	---	---				---	---	---
18	27.0	21.0	24.5	---	---	---				---	---	---
19	31.0	17.5	24.5	---	---	---				---	---	---
20	31.0	20.0	25.5	---	---	---				---	---	---
21	31.5	22.0	26.5	---	---	---				25.0	17.0	20.0
22	37.5	21.0	28.5	30.0	26.0	27.5				30.5	18.5	24.0
23	35.0	24.0	28.5	29.0	24.0	25.5				27.0	15.0	20.5
24	32.0	22.0	27.0	32.0	23.5	27.5				27.5	13.0	20.0
25	30.0	22.5	26.0	36.0	22.5	28.0				24.0	17.5	20.5
26	27.5	22.5	24.5	35.0	24.5	29.0				23.5	18.0	21.0
27	31.5	18.0	24.0	39.5	23.5	30.5				25.0	17.5	21.5
28	35.0	17.5	26.0	37.0	25.0	30.0				25.5	20.5	23.0
29	31.5	18.5	26.0	36.0	23.0	29.0				22.5	11.0	15.0
30	29.0	20.5	25.0	33.5	23.0	28.5				22.5	8.5	14.5
31	---	---	---	---	---	---				---	---	---
MONTH	38.0	17.5	26.0	39.5	22.0	28.0				31.5	8.5	21.0

## BRAZOS RIVER BASIN

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 downstream from Salt Croton Creek, 13.2 mi north of Aspermont, and at mile 27.3 measured from confluence with Double Mountain Fork Brazos River which is at mile 923.2 on the Brazos River.

DRAINAGE AREA.--5,130 mi<sup>2</sup>, of which 2,634 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929. Dec. 5, 1923, to Aug. 29, 1925, nonrecording gage at site 6.7 mi 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 upstream at same datum.

REMARKS.--No estimated daily discharges. Records are fair. No large diversion above station. Some regulation by White River Reservoir (capacity, 44,900 acre-ft), 106 mi upstream.

AVERAGE DISCHARGE.--46 years (water years 1940-85), 106 ft<sup>3</sup>/s (76,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,200 ft<sup>3</sup>/s Sept. 25, 1955 (gage height, 14.92 ft), from rating curve extended above 29,000 ft<sup>3</sup>/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, and flood in November 1934 reached a stage of 13.7 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Apr. 27	1700	*10,800	*8.20				

Minimum daily discharge, 0.03 ft<sup>3</sup>/s, July 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	10	19	119	5.5	26	32	156	15	6.7	23	.18
2	.45	7.8	15	75	6.8	24	23	73	11	5.8	13	.18
3	.35	4.9	12	73	7.1	26	16	29	7.8	5.1	7.0	.18
4	.49	4.4	10	73	14	29	11	15	7.1	3.8	3.4	.18
5	.33	4.3	11	67	27	31	8.4	11	405	3.1	1.8	.20
6	.30	3.8	12	58	20	19	7.1	8.5	899	2.4	.84	.21
7	.30	3.2	10	49	19	17	6.0	4.9	480	1.5	.36	.24
8	.30	3.5	8.6	44	23	15	4.8	4.0	285	1.2	.21	.25
9	.30	3.1	7.8	40	14	15	4.7	3.6	184	.97	.12	.27
10	.31	2.6	6.0	36	4.4	14	4.4	11	118	.64	.08	.35
11	4.2	2.1	5.9	31	2.0	14	4.4	39	85	.54	.07	.35
12	7.6	2.0	5.7	28	3.2	12	3.9	17	80	.44	.07	.35
13	303	2.0	8.7	27	4.4	61	2.8	69	66	.29	.05	190
14	338	2.4	10	27	8.5	78	2.5	141	55	.24	12	11
15	146	2.2	356	26	6.5	42	2.4	51	45	.21	27	2.0
16	58	1.9	388	25	4.0	23	2.1	26	36	.17	1.7	.81
17	29	53	147	24	3.6	20	1.8	54	30	.17	.35	.43
18	14	57	122	23	5.4	20	1.3	65	24	.12	.22	.33
19	3.2	31	89	21	9.2	20	1.2	122	18	.09	.14	.32
20	1.0	20	57	16	19	166	1.0	69	10	.06	.17	1.2
21	5.4	14	43	15	68	86	3.1	1350	12	.04	.14	197
22	20	11	31	16	71	62	295	866	19	.03	.11	122
23	16	9.8	24	17	126	42	35	480	11	.35	.10	32
24	12	33	19	17	88	23	16	335	5.4	5.9	.20	10
25	7.1	67	15	16	50	11	18	259	4.0	8.2	2.1	3.4
26	36	35	14	15	40	15	28	187	88	13	.36	1.4
27	67	34	13	16	32	10	2040	124	88	136	.19	.88
28	29	42	13	16	26	18	545	88	25	117	.15	.71
29	15	28	12	17	---	16	996	68	14	119	.15	40
30	11	22	9.4	16	---	239	389	36	9.3	81	.15	16
31	9.2	---	108	7.1	---	60	---	20	---	45	.18	---
TOTAL	1135.83	517.0	1602.1	1050.1	707.6	1254	4505.9	4782.0	3136.6	559.06	95.41	632.42
MEAN	36.6	17.2	51.7	33.9	25.3	40.5	150	154	105	18.0	3.08	21.1
MAX	338	67	388	119	126	239	2040	1350	899	136	27	197
MIN	.30	1.9	5.7	7.1	2.0	10	1.0	3.6	4.0	.03	.05	.18
AC-FT	2250	1030	3180	2080	1400	2490	8940	9490	6220	1110	189	1250

CAL YR 1984	TOTAL	6035.93	MEAN 16.5	MAX 388	MIN .04	AC-FT 11970
WTR YR 1985	TOTAL	19978.02	MEAN 54.7	MAX 2040	MIN .03	AC-FT 39630



## BRAZOS RIVER BASIN

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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 September 1982.

WATER TEMPERATURES: October 1948 to September 1951, October 1956 to September 1982.

INSTRUMENTATION.--Continuous recording of specific conductance was discontinued September 1982.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
OCT 24...	1200	20	43800	7.3	12.0	18	8.5	99	1.8	91	110	2800
FEB 21...	1200	80	118000	7.8	13.5	78	7.1	129	2.6	50	84	5200
JUN 19...	1340	15	24900	8.0	27.0	10	9.6	138	2.3	K4	K10	2300
AUG 21...	1430	.18	66300	8.0	30.0	10	8.7	156	1.7	K3	350	5100

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 24...	2700	780	210	10000	85	29	87	2000	16000	.30	5.0
FEB 21...	5100	1200	530	35000	220	85	89	2900	56000	.50	4.8
JUN 19...	2200	590	190	5000	47	20	110	1900	7400	.50	10
AUG 21...	5000	1400	380	17000	110	47	110	3600	28000	.50	8.6
DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 24...	30500	29000	.19	.480	.90	.030	<.010	<.010	102	5.5	95
FEB 21...	99100	96000	.26	1.70	.90	.070	<.010	.010	237	51	97
JUN 19...	16800	15000	<.10	.510	.50	.020	<.010	<.010	24	.97	91
AUG 21...	49000	51000	<.10	.540	1.8	--	<.010	<.010	17	.00	83

## BRAZOS RIVER BASIN

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

		ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	
OCT 24...	1200	2	<100	10	<1	<1	<1	<1	170	<1	
FEB 21...	1200	2	100	30	<1	<1	1	2	680	<1	
JUN 19...	1340	4	200	<10	<1	<1	2	3	80	6	
AUG 21...	1430	6	600	10	2	<1	1	1	210	2	
		LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 24...	100	80	<.1	3	<1	3	<1	13000	300	20	
FEB 21...	150	230	.3	3	2	3	1	24000	900	50	
JUN 19...	150	60	<.1	6	4	4	1	9100	140	40	
AUG 21...	190	370	.4	6	2	4	<1	20000	500	40	

## BRAZOS RIVER BASIN

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 downstream from Wedington Creek, 9.5 mi upstream from mouth, and 15.4 mi southwest of Knox City.

DRAINAGE AREA.--251 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No diversion or regulation above station. Recording rain gage located at station prior to May 1, 1978.

AVERAGE DISCHARGE.--20 years, 15.3 ft<sup>3</sup>/s (0.83 in/yr), 11,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,100 ft<sup>3</sup>/s Aug. 30, 1966 (gage height, 32.36 ft), from rating curve extended above 240 ft<sup>3</sup>/s on basis of step-backwater analysis and slope-area measurement of 2,660, 6,530, and 32,100 ft<sup>3</sup>/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, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 5	1300	*2,180	*18.46	No other peak greater than base discharge.			

Minimum daily discharge, 0.02 ft<sup>3</sup>/s, Oct. 1-3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	2.0	1.9	48	2.9	3.4	20	12	2.1	1.2	.22	.04
2	.02	1.4	1.7	24	3.1	3.0	16	10	1.7	.99	.18	.04
3	.02	1.1	1.7	13	3.4	5.6	14	7.8	1.4	1.0	.17	.04
4	.03	.99	1.7	9.8	3.4	7.6	12	7.0	4.9	.84	.12	.05
5	.03	.96	2.0	8.6	3.3	4.1	9.5	5.2	1070	.75	.10	.04
6	.03	.80	1.8	7.7	3.1	3.6	8.3	4.2	292	.66	.10	.06
7	.03	.79	1.6	6.5	2.7	3.5	7.4	3.4	54	.46	.09	.07
8	.03	.79	1.6	5.8	2.5	3.4	6.5	3.0	25	.47	.05	.05
9	.03	.77	1.5	5.8	2.5	3.1	6.6	2.8	20	.50	.04	.04
10	.03	.70	1.5	4.2	2.4	3.1	6.6	2.8	18	.51	.04	.06
11	.03	.62	1.4	3.8	2.0	3.0	6.9	4.4	16	.52	.03	.05
12	16	.62	1.3	3.2	1.9	2.5	6.3	3.0	11	.53	.03	.05
13	10	.62	1.8	3.5	2.1	32	5.9	6.9	9.1	.53	.03	2.9
14	2.0	.62	1.8	3.7	2.0	7.8	5.4	4.7	8.6	.53	77	.91
15	1.4	.62	22	3.1	2.0	5.2	5.3	8.6	7.2	.53	98	.08
16	1.1	.62	85	3.7	2.0	5.9	4.7	6.0	6.5	.50	5.7	.08
17	.79	14	22	3.3	1.8	5.2	4.2	11	5.1	.52	1.6	.08
18	.70	7.6	9.8	3.1	1.8	4.4	4.4	6.2	4.1	.51	1.1	.08
19	.70	12	6.7	3.0	1.8	9.1	4.5	3.8	4.0	.39	.64	.09
20	7.0	5.1	5.3	2.7	2.5	80	4.4	3.2	3.7	.38	.37	.78
21	2.1	3.1	4.4	2.7	5.2	41	5.2	3.3	3.1	.39	.29	14
22	2.5	2.3	3.4	2.7	4.5	23	53	2.6	3.5	.35	.20	2.1
23	6.6	1.8	2.9	2.6	11	21	48	2.5	2.6	.44	.15	17
24	2.9	13	2.5	2.6	12	16	16	2.1	2.0	.52	.12	3.7
25	2.1	6.0	2.3	2.5	8.9	12	9.4	1.6	1.5	.58	.11	.48
26	4.2	13	2.1	2.3	5.8	14	7.3	100	2.5	2.6	.09	.20
27	2.9	4.9	2.0	2.7	4.1	10	36	89	9.9	1.9	.07	.14
28	11	2.8	2.0	2.9	3.5	7.8	29	15	12	1.8	.05	.08
29	3.9	2.2	1.9	2.8	---	16	33	6.2	3.7	.95	.04	.30
30	2.3	2.0	1.8	2.7	---	112	17	3.4	1.8	.55	.04	5.5
31	1.8	---	48	2.5	---	39	---	2.4	---	.33	.05	---
TOTAL	82.29	103.82	247.4	195.5	104.2	507.3	412.8	344.1	1607.0	22.73	186.82	49.09
MEAN	2.65	3.46	7.98	6.31	3.72	16.4	13.8	11.1	53.6	.73	6.03	1.64
MAX	16	14	85	48	12	112	53	100	1070	2.6	98	17
MIN	.02	.62	1.3	2.3	1.8	2.5	4.2	1.6	1.4	.33	.03	.04
CFSM	.01	.01	.03	.03	.02	.07	.06	.04	.21	.003	.02	.007
IN.	.01	.02	.04	.03	.02	.08	.06	.05	.24	.00	.03	.01
AC-FT	163	206	491	388	207	1010	819	683	3190	45	371	97

CAL YR 1984	TOTAL	1630.93	MEAN	4.46	MAX	97	MIN	.00	CFSM	.02	IN	.24	AC-FT	3230
WTR YR 1985	TOTAL	3863.05	MEAN	10.6	MAX	1070	MIN	.02	CFSM	.04	IN	.57	AC-FT	7660

## BRAZOS RIVER BASIN

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, 48,600 microsiemens May 26, 1981; minimum daily, 975 microsiemens Oct. 19, 1983.

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, 32,400 microsiemens July 31; minimum daily, 2,000 microsiemens June 5.

WATER TEMPERATURES: Maximum daily, 35.0°C July 3, 4.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 05...	1415	.96	18000	15.0	3400	3300	860	300	3300
DEC 19...	1100	6.8	7220	7.0	1800	1700	530	110	1100
MAR 28...	1445	7.7	8190	21.0	2400	2200	590	220	1000
MAY 06...	1210	4.4	10700	24.0	3100	2900	760	280	1500
JUL 17...	1320	.52	13300	32.0	3200	3100	740	340	1800
AUG 28...	1215	.06	12600	29.0	3700	3600	920	340	1600

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 05...	26	22	120	2300	5500	.40	1.6	12000
DEC 19...	12	10	87	1300	1800	.30	5.2	4900
MAR 28...	9	20	150	1700	1900	.70	2.8	5500
MAY 06...	12	18	151	2400	2600	.50	3.2	7700
JUL 17...	14	22	187	2600	3200	.40	2.6	8800
AUG 28...	12	20	135	2500	3300	.30	1.4	8800

## BRAZOS RIVER BASIN

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08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	82.29	15800	10900	2420	4700	1050	2300	512	*
NOV.	1984	103.82	13700	9520	2670	3900	1100	2200	619	*
DEC.	1984	247.4	13700	9470	6330	4000	2650	2100	1430	*
JAN.	1985	195.5	7030	4970	2620	1900	1000	1300	696	1600
FEB.	1985	104.2	15800	10900	3070	4600	1300	2400	676	*
MAR.	1985	507.3	9800	6840	9370	2800	3810	1600	2250	2000
APR.	1985	412.8	9430	6620	7380	2600	2910	1700	1870	2000
MAY	1985	344.1	6270	4430	4120	1700	1570	1200	1100	1400
JUNE	1985	1607.0	3190	2270	9850	840	3640	640	2760	750
JULY	1985	22.73	13600	9440	580	3900	240	2200	134	*
AUG.	1985	186.82	11100	7810	3940	3100	1570	1900	974	*
SEPT	1985	49.09	15500	10700	1420	4600	605	2300	307	*
TOTAL		3863.05	**	**	53800	**	21400	**	13300	**
WTD. AVG.		11	7360	5150	**	2100	**	1300	**	1600



## BRAZOS RIVER BASIN

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

## SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	EQUIVALENT MEAN											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19900	15200	14500	6010	13500	19200	5120	8430	12200	11300	31900	15100
2	20100	15700	15800	5200	12900	20000	7690	8600	13500	12100	31300	15900
3	20200	17000	15700	4000	12100	18700	10100	9400	13600	12200	30700	14700
4	19800	17300	16000	4780	12400	17100	12900	9700	12800	12200	29100	15500
5	20000	18000	16200	5460	12900	17700	14700	10300	2000	12400	28400	16500
6	19900	18000	16900	5400	13200	18900	16200	10700	3600	13100	26400	16400
7	20000	18300	17600	5580	13600	19400	16500	11600	4180	13400	25800	16100
8	20600	18600	18200	5450	14100	20100	15300	11800	4750	13300	23200	16300
9	21100	19400	19400	5200	14500	20400	14400	11900	5180	13400	22900	16400
10	21400	19700	19800	6000	16000	20600	14000	12400	5680	13600	21500	16600
11	22200	20200	20300	9800	16600	21000	12200	10900	6250	13500	20300	16800
12	22000	20400	20900	9400	17800	21500	11100	10200	6410	13700	21000	16900
13	21400	20900	20500	7700	17000	17200	11100	9850	6860	13800	19700	6580
14	21000	21300	20800	6400	17500	18100	10900	10800	7380	13800	12400	5050
15	19700	21000	22500	9550	18300	18900	11500	9740	7450	13800	9850	4050
16	19800	19500	15300	5600	18800	18000	12000	10100	7740	14000	12700	8290
17	19900	11700	14000	6400	19400	19100	12300	9430	8180	13300	12200	12600
18	19900	14000	10400	7800	19800	20300	12500	11800	8350	13900	11100	16000
19	20300	10200	7220	8400	20400	18900	12600	9900	8490	13700	10700	15800
20	7510	12500	8060	8830	19200	11100	12700	10200	9240	13700	10000	15500
21	7840	13200	8190	9250	18300	9630	12500	10700	9210	13800	8900	12100
22	8130	13500	8310	9680	18800	8450	11500	11000	9220	13300	9600	15700
23	10400	13700	10600	10000	15200	8320	9500	12000	10400	13100	10000	19900
24	10900	13000	12400	13400	14600	8280	6060	13000	10100	12100	10700	18300
25	12100	16300	14000	16000	15200	8500	7470	14600	11100	12100	11000	14300
26	13800	14200	14600	16000	16000	8000	8980	3420	11200	11600	11700	16200
27	14300	13800	15100	14200	17100	8080	5200	3700	21900	12800	12500	15600
28	14900	13700	15400	12000	18300	8190	5160	4760	22800	14400	13100	16400
29	14500	13500	15700	14800	---	7740	7260	8360	11800	15900	12600	16300
30	14000	13400	16000	17800	---	3650	7800	9360	11500	25100	14100	15100
31	14700	---	7450	14400	---	4070	---	11300	---	32400	14700	---
MEAN	17200	16200	15100	9050	16200	14800	10900	10000	9440	14200	17400	14600

## TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	ONCE-DAILY											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	28.0	30.0	22.0	30.0	29.0
2	---	18.0	7.0	7.0	---	---	---	27.0	31.0	30.0	30.0	29.0
3	---	20.0	3.0	2.0	---	---	---	21.0	29.0	35.0	27.0	27.0
4	---	19.0	5.0	---	---	---	---	22.0	26.0	35.0	25.0	29.0
5	---	---	6.0	8.0	---	---	---	22.0	20.0	---	25.0	27.0
6	---	17.0	---	6.0	---	---	7.0	---	26.0	32.0	33.0	30.0
7	25.0	17.0	---	10.0	---	---	---	21.0	28.0	30.0	31.0	30.0
8	23.0	15.0	14.0	12.0	---	---	---	21.0	24.0	24.0	31.0	30.0
9	22.0	21.0	12.0	13.0	---	---	---	22.0	31.0	25.0	30.0	28.0
10	20.0	16.0	14.0	9.0	---	---	---	---	32.0	31.0	---	29.0
11	21.0	13.0	11.0	4.0	---	---	---	23.0	26.0	29.0	32.0	27.0
12	23.0	14.0	---	2.0	---	---	24.0	24.0	25.0	---	32.0	27.0
13	---	---	---	7.0	---	---	27.0	21.0	---	28.0	30.0	27.0
14	20.0	15.0	---	8.0	---	---	26.0	20.0	30.0	30.0	29.0	25.0
15	18.0	15.0	---	9.0	---	---	16.0	---	---	28.0	---	22.0
16	---	15.0	---	---	---	---	20.0	---	---	31.0	---	27.0
17	---	---	11.0	7.0	---	---	---	26.0	28.0	29.0	32.0	25.0
18	16.0	---	---	12.0	---	---	---	25.0	24.0	30.0	30.0	27.0
19	14.0	---	---	2.0	---	---	---	27.0	28.0	28.0	---	---
20	---	13.0	---	---	---	---	---	28.0	25.0	29.0	33.0	25.0
21	---	12.0	---	---	---	---	---	28.0	30.0	27.0	30.0	---
22	14.0	12.0	---	---	---	---	---	24.0	27.0	27.0	28.0	---
23	---	---	---	5.0	---	---	---	24.0	26.0	25.0	32.0	25.0
24	---	15.0	---	---	---	---	---	25.0	26.0	---	30.0	22.0
25	---	---	---	6.0	---	---	---	---	29.0	27.0	30.0	23.0
26	---	16.0	---	5.0	---	---	---	22.0	27.0	27.0	28.0	20.0
27	17.0	---	---	---	---	---	20.0	25.0	26.0	---	---	26.0
28	---	---	21.0	2.0	---	---	18.0	26.0	24.0	---	29.0	26.0
29	17.0	14.0	18.0	---	---	---	27.0	24.0	28.0	32.0	27.0	---
30	18.0	13.0	18.0	---	---	---	27.0	27.0	22.0	30.0	29.0	19.0
31	10.0	---	---	5.0	---	---	---	25.0	---	---	28.0	---
MEAN	18.5	15.5	11.5	6.5	---	---	21.0	24.0	27.0	29.0	29.5	26.0

## BRAZOS RIVER MAIN STEM

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08082500 BRAZOS RIVER AT SEYMOUR, TX

LOCATION.--Lat 33°34'51", long 99°16'02", Baylor County, Hydrologic Unit 12060101, on left bank at downstream side of bridge on U.S. Highways 277 and 283, 0.8 mi upstream from Wichita Valley Railway bridge, 1.0 mi southwest of courthouse in Seymour, and at mile 847.4.

DRAINAGE AREA.--15,538 mi<sup>2</sup>, approximately, of which 9,566 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929. Prior to Apr. 6, 1972, at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. There are small diversions upstream from station for irrigation and oilfield operation. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950. Data collection platform is located at station.

AVERAGE DISCHARGE.--61 years (water years 1925-85), 371 ft<sup>3</sup>/s (268,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,400 ft<sup>3</sup>/s Oct. 16, 1926 (gage height, 17.16 ft, from floodmark, present datum), from rating curve extended above 48,000 ft<sup>3</sup>/s on basis of slope-area measurement of 95,400 ft<sup>3</sup>/s; maximum gage height, 23.00 ft, present datum, Sept. 28, 1955 (discharge, 71,200 ft<sup>3</sup>/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 greater than base discharge of 11,000 ft<sup>3</sup>/s and maximum (\*).

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 6	1100	*8,700	*8.65				

Minimum discharge, no flow Sept. 15-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	218	147	243	778	99	266	334	2340	237	93	309	1.4
2	180	1040	201	636	88	263	290	1520	197	74	210	.92
3	132	1070	175	470	113	263	255	1210	164	67	152	3.0
4	99	542	155	416	116	533	211	804	140	59	118	.43
5	86	356	146	366	114	360	170	554	2440	53	90	.12
6	71	271	137	293	79	233	146	400	7490	48	70	.09
7	53	231	130	258	149	180	132	322	5110	42	57	.08
8	41	182	121	229	143	167	123	271	4040	39	45	.08
9	30	151	121	201	131	146	116	232	2640	36	34	.07
10	25	115	115	178	103	140	108	535	1870	33	27	.16
11	20	94	107	149	93	134	106	1350	1320	31	22	.07
12	18	85	104	131	90	108	100	651	848	28	17	.06
13	23	75	109	127	85	118	98	435	667	26	16	.06
14	317	73	101	124	82	140	91	510	570	22	15	.04
15	1880	62	136	108	80	187	82	1300	385	20	41	.00
16	823	51	225	132	78	149	76	809	283	20	107	.00
17	482	92	601	127	69	164	72	533	233	25	145	.00
18	368	232	769	123	69	158	72	502	195	28	76	.00
19	249	185	659	114	74	161	67	1260	171	18	45	.02
20	211	184	481	86	103	244	63	790	149	17	26	.95
21	208	181	370	97	119	406	95	538	135	17	18	22
22	171	175	280	95	198	468	2550	702	144	18	15	469
23	136	228	242	89	977	354	1500	2300	133	26	21	394
24	129	187	197	97	628	289	1020	1370	128	26	22	196
25	188	186	170	99	615	274	806	984	98	22	13	138
26	139	284	152	92	393	252	623	784	89	48	9.9	85
27	217	347	156	87	331	222	361	721	92	1560	7.7	65
28	272	536	158	87	283	197	369	587	84	2530	5.5	48
29	362	419	155	92	---	180	1050	438	74	1360	3.6	49
30	275	283	132	80	---	388	4570	300	121	874	2.9	71
31	182	---	461	61	---	500	---	259	---	457	1.9	---
TOTAL	7605	8064	7309	6022	5502	7644	15656	25311	30247	7717	1742.5	1544.55
MEAN	245	269	236	194	197	247	522	816	1008	249	56.2	51.5
MAX	1880	1070	769	778	977	533	4570	2340	7490	2530	309	469
MIN	18	51	101	61	69	108	63	232	74	17	1.9	.00
AC-FT	15080	15990	14500	11940	10910	15160	31050	50200	59990	15310	3460	3060
CAL YR 1984	TOTAL	33837.00	MEAN	92.5	MAX	1880	MIN	.00	AC-FT	67120		
WTR YR 1985	TOTAL	124364.05	MEAN	341	MAX	7490	MIN	.00	AC-FT	246700		

## BRAZOS RIVER MAIN STEM

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 microsiemens May 24, 1971; minimum daily, 559 microsiemens May 22, 1979.  
WATER TEMPERATURES (1959-84): Maximum daily, 38.0°C Aug. 1, 1983; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 19,900 microsiemens Mar. 18; minimum daily, 1,160 microsiemens June 5.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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...	1415	8.4	3600	18.0	600	460	190	30	540
NOV 26...	0910	251	6210	10.5	710	600	210	46	1100
JAN 07...	1030	269	9160	5.5	1100	1000	310	80	1800
APR 22...	1120	3320	2430	18.5	350	260	100	24	350
MAY 01...	1300	2150	3120	20.0	700	630	230	31	390

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 16...	10	7.2	140	470	850	.60	14	2200
NOV 26...	19	7.1	110	580	1700	.50	8.7	3700
JAN 07...	24	9.2	110	940	2700	.60	8.1	5900
APR 22...	8	7.2	90	280	560	.40	7.3	1400
MAY 01...	7	7.3	75	690	600	.40	8.1	2000

## BRAZOS RIVER MAIN STEM

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08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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. 1984	7605	4120	2600	53300	1100	22000	560	11400	630
NOV. 1984	8064	5660	3580	77900	1500	32800	740	16100	840
DEC. 1984	7309	7330	4650	91800	2000	39100	930	18400	1100
JAN. 1985	6022	9270	5920	96200	2600	42300	1100	18000	1300
FEB. 1985	5502	10100	6470	96200	2900	43000	1200	17300	*
MAR. 1985	7644	9120	5810	120000	2500	52500	1100	22700	1300
APR. 1985	15656	5190	3300	139000	1400	59900	650	27400	750
MAY 1985	25311	4360	2750	188000	1100	77500	590	40300	670
JUNE 1985	30247	2770	1740	142000	710	58100	380	31000	430
JULY 1985	7717	4770	3030	63100	1300	26800	610	12700	700
AUG. 1985	1742.5	4420	2790	13100	1200	5440	590	2780	670
SEPT 1985	1544.55	4230	2670	11100	1100	4640	560	2340	640
TOTAL	124364.05	**	**	1092000	**	464000	**	220000	**
WTD.AVG.	341	5130	3250	**	1400	**	660	**	750

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1960	11300	6330	4990	15200	7300	6070	3120	5210	14500	3450	10300
2	2220	6880	9150	5110	15700	8010	8540	3340	5830	15700	3740	10700
3	2490	3520	8240	3790	15200	8130	12200	3690	6400	16600	3970	10900
4	2530	2310	7450	5650	15400	2440	12100	4370	6750	13400	3320	11400
5	2710	2750	6470	7460	15900	5920	12000	4650	1160	13100	2670	11900
6	2720	3170	7490	8300	15700	7080	12900	4920	1870	13900	3970	11400
7	2860	3660	8270	9620	16100	9260	13500	5100	2350	13800	4450	12500
8	3000	3970	9010	10000	16600	12100	13900	6010	2720	14700	5000	12800
9	3470	5010	9650	9630	16500	12500	14000	7250	2520	14900	5500	13400
10	3880	5540	10200	10000	15900	12900	13900	8260	2500	14800	5620	13000
11	4380	6130	10500	10200	16600	14000	14700	3440	2450	14900	6210	13200
12	4560	6440	11500	12100	17400	14300	15200	3750	2410	15100	6800	13300
13	4770	6770	11700	12700	17800	13700	15500	4130	2740	15300	6990	13200
14	4650	6760	9960	13300	17700	13800	15900	5240	3350	15600	7040	13100
15	3300	7040	9200	13900	17300	10400	16100	3520	3930	15900	4250	---
16	3600	7080	8650	14400	17100	10200	16500	3980	5540	16100	3250	---
17	3960	6180	7810	14300	16600	14900	17000	4450	6550	15600	2710	---
18	3900	4230	7500	13800	16300	19900	17400	4980	7060	15000	5050	---
19	3520	3870	4360	13300	16400	15900	17800	2530	7690	14600	7460	14400
20	3060	5420	4300	14400	15700	8740	18100	3080	8070	14000	8430	11300
21	3010	6170	4250	15600	14900	6750	16900	8050	8450	14900	8740	10900
22	2970	6500	5870	15400	14200	6480	1710	5810	8930	14800	9110	2550
23	3710	5620	5820	15200	3750	11200	2030	6040	9250	12200	12700	2370
24	4490	6140	7340	15600	5030	11000	2470	5420	9480	11600	10400	4260
25	7090	6610	8870	16800	6970	10800	5300	4800	8830	12100	9780	6180
26	5980	6000	10000	15000	7650	10300	7150	4350	9460	11800	9320	9580
27	6960	10100	10200	14300	8480	10600	8540	3960	10100	4520	8990	8940
28	5630	10200	10600	13700	7960	11800	11300	2940	10200	2640	8570	8100
29	4400	5960	11400	15100	---	12900	6300	3430	10100	3370	8250	7990
30	7960	6040	11600	15300	---	7280	2830	3940	13000	4100	8550	3080
31	11000	---	4870	15600	---	4200	---	4610	---	3170	9050	---
MEAN	4220	5910	8340	12100	14100	10500	11600	4620	6160	12700	6560	10000

## BRAZOS RIVER MAIN STEM

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985												
ONCE-DAILY												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	---	8.0	---	---	15.0	18.0	22.0	---	---	32.0	---
2	---	11.0	10.0	1.0	---	15.0	---	25.0	---	30.0	---	---
3	18.0	18.0	---	4.0	---	---	18.0	---	30.0	30.0	26.0	---
4	18.0	16.0	---	---	---	15.0	---	---	28.0	24.0	---	32.0
5	18.0	---	5.0	8.0	1.0	15.0	20.0	---	28.0	---	34.0	28.0
6	20.0	15.0	6.0	9.0	4.0	13.0	24.0	---	23.0	25.0	34.0	28.0
7	---	18.0	11.0	8.0	---	16.0	---	35.0	25.0	25.0	32.0	29.0
8	26.0	20.0	9.5	10.0	10.0	22.0	22.0	---	26.0	31.0	---	30.0
9	24.0	20.0	---	11.0	12.5	17.0	---	---	28.0	33.0	34.0	---
10	18.0	16.0	15.0	---	10.0	17.0	15.0	---	---	26.0	31.0	25.0
11	19.0	15.0	10.0	4.0	---	18.0	25.0	---	---	26.0	27.0	25.0
12	---	17.0	15.0	2.0	9.0	---	26.0	---	22.0	---	32.0	24.0
13	24.0	18.0	10.0	---	7.0	12.5	23.0	---	25.0	26.0	32.0	28.0
14	18.0	20.0	6.0	7.0	7.0	19.0	---	---	---	33.0	---	22.0
15	18.0	16.0	10.0	---	---	---	28.0	---	---	---	33.0	---
16	18.0	15.0	---	11.0	7.0	12.5	28.0	---	---	30.0	---	---
17	15.0	10.0	7.0	11.0	7.0	18.0	29.0	---	25.0	---	25.0	---
18	20.0	---	6.0	7.0	12.0	18.0	---	---	25.0	---	25.0	---
19	---	7.0	7.0	5.0	12.0	16.0	23.0	---	29.0	---	34.0	25.0
20	16.0	8.0	---	---	---	16.0	28.0	---	---	28.0	30.0	27.0
21	---	7.0	12.0	3.0	---	---	---	25.0	25.0	28.0	---	19.0
22	13.0	5.0	9.5	---	17.0	15.0	20.0	22.0	24.0	27.0	32.0	---
23	13.0	---	5.0	5.0	15.0	14.0	---	22.0	---	---	35.0	22.5
24	13.0	7.0	---	6.5	15.0	---	19.0	---	32.0	---	25.0	---
25	16.0	10.0	3.5	12.0	15.0	22.0	20.0	25.0	32.0	28.0	27.0	20.0
26	15.0	15.0	4.0	5.0	---	16.0	20.0	---	---	34.0	---	17.0
27	16.0	8.0	14.0	---	8.0	24.0	---	25.0	26.0	---	23.0	---
28	---	10.0	16.0	10.5	---	---	18.0	26.0	26.0	27.0	32.0	19.0
29	16.5	10.0	17.0	9.0	---	20.0	23.0	---	27.0	---	32.0	---
30	18.0	12.0	---	---	---	12.0	22.0	24.0	27.0	30.0	34.0	18.0
31	22.0	---	3.5	---	---	16.5	---	24.0	---	30.0	26.0	---
MEAN	18.0	13.0	9.0	7.0	10.0	16.5	22.5	25.0	26.5	28.5	30.5	24.5



## BRAZOS RIVER BASIN

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08082700 MILLEKS CREEK NEAR MUNDAY, TX

LOCATION.--Lat 33°19'45", long 99°27'53", Throckmorton County, Hydrologic Unit 12060101, near right bank at downstream side of bridge on Farm Road 1720, 12.7 mi southeast of Munday, and 24.6 mi upstream from mouth.

DRAINAGE AREA.--104 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharge. Records good. There are no known diversions upstream from station.

AVERAGE DISCHARGE.--22 years (water years 1964-85), 7.16 ft<sup>3</sup>/s (0.94 in/yr), 5,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,600 ft<sup>3</sup>/s Aug. 4, 1978 (gage height, 17.53 ft); no flow most of time.

Maximum stage since 1930, 18.0 ft 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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*).

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 1	0700	329	7.72	June 7	0300	*441	*9.09
Feb. 23	2230	295	7.10				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	296	.00	.78	.00	3.8	.00	.01	.00	.00
2	.00	.00	.00	60	.00	.49	.00	2.5	.00	.00	.00	.00
3	.00	.00	.00	9.4	.00	.38	.00	1.4	.00	.00	.00	.00
4	.00	.00	.00	4.3	.00	.24	.00	.34	.00	.00	.00	.00
5	.00	.00	.00	2.5	.00	.13	.00	.08	26	.00	.00	.00
6	.00	.00	.00	1.6	.00	.06	.00	.01	301	.00	.00	.00
7	.00	.00	.00	1.1	.00	.03	.00	.00	352	.00	.00	.00
8	.00	.00	.00	.73	.00	.02	.00	.00	75	.00	.00	.00
9	.00	.00	.00	.48	.00	.00	.00	.00	11	.00	.00	.00
10	.00	.00	.00	.26	.00	.00	.00	.00	4.4	.00	.00	.00
11	.00	.00	.00	.15	.00	.00	.00	.00	2.1	.00	.00	.00
12	.00	.00	.00	.09	.00	.00	.00	.00	.84	.00	.00	.00
13	.00	.00	.01	.07	.00	.00	.00	.00	.33	.00	.00	.00
14	.00	.00	.00	.02	.00	.00	.00	.00	.14	.00	.00	.00
15	.00	.00	4.5	.01	.00	.00	.00	.00	.07	.00	.00	.00
16	.00	.00	4.9	.00	.00	.00	.00	.00	.05	.00	.00	.00
17	.00	1.2	3.3	.00	.00	.00	.00	.00	.05	.00	.00	.00
18	.00	1.6	1.3	.00	.00	.00	.00	.00	.04	.00	.00	.00
19	.00	.46	.41	.00	.00	.00	.00	.00	.04	.00	.00	.00
20	.00	.24	.18	.00	5.4	.18	.00	.00	.04	.00	.00	.00
21	.00	.31	.09	.00	63	.41	.00	.00	.04	.00	.00	.00
22	.02	.10	.04	.00	62	.13	1.5	.00	.04	.00	.00	.00
23	.00	.03	.02	.00	219	.02	.18	.00	.04	.00	.00	.00
24	.00	.07	.00	.00	171	.00	.09	.00	.02	.00	.00	.00
25	.03	.30	.00	.00	23	.00	.01	.00	.02	.00	.00	.00
26	.13	.21	.00	.00	5.7	.00	.00	.00	.02	.00	.00	.00
27	.18	.06	.00	.00	2.3	.00	.00	.00	.02	.00	.00	.00
28	.01	.02	.00	.00	1.2	.00	.00	.00	.01	.00	.00	.00
29	.00	.00	.01	.00	---	.00	12	.00	.01	.00	.00	.00
30	.00	.00	.10	.00	---	.00	21	.00	.01	.00	.00	.00
31	.00	---	135	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.37	4.60	149.86	376.71	552.60	2.87	34.78	8.13	773.33	.01	.00	.00
MEAN	.012	.15	4.83	12.2	19.7	.093	1.16	.26	25.8	.000	.000	.000
MAX	.18	1.6	135	296	219	.78	21	3.8	352	.01	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.001	.05	.12	.19	.001	.01	.003	.25	.000	.000	.000
IN.	.00	.00	.05	.13	.20	.00	.01	.00	.28	.00	.00	.00
AC-FT	.7	9.1	297	747	1100	5.7	69	16	1530	.02	.00	.00
CAL YR 1984	TOTAL	156.50	MEAN	.43	MAX	135	MIN	.00	CFSM	.004	IN	.06
WTR YR 1985	TOTAL	1903.26	MEAN	5.21	MAX	352	MIN	.00	CFSM	.05	IN	.68
									AC-FT	310		
									AC-FT	3780		

## 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 upstream from dam, 7.1 mi southeast of Bomarton, and 13.2 mi upstream from mouth.

DRAINAGE AREA.--240 mi<sup>2</sup>.

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 long. The dam was completed in 1974 and storage began in July 1974. Dead storage, 1,240 acre-ft below elevation, 1,303.4 ft. The reservoir is used for municipal and industrial water supply. The uncontrolled spillway is an open cut 3,000 ft wide located on left bank about 800 ft upstream from levee. The service spillway is an uncontrolled morning-glory-type drop inlet, 16.5 ft square, that discharges through a 5.0-foot-square 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, 53,850 acre-ft June 26, 1982 (elevation, 1,341.42 ft); 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, 20,440 acre-ft June 9 at 1500 hours (elevation, 1,328.42 ft); minimum, 9,870 acre-ft Dec. 6,7,10,11 (elevation, 1,319.68 ft).

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

1,318.0	8,460	1,324.0	14,270	1,328.0	19,630
1,320.0	10,160	1,326.0	16,760	1,330.0	22,950
1,322.0	12,080				

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10160	10060	9930	11960	11730	14660	14590	16700	16020	19680	18530	17180
2	10130	10010	9920	12030	11730	14680	14590	16700	15990	19650	18470	17130
3	10130	10020	9910	12040	11730	14720	14580	16690	15940	19630	18440	17100
4	10120	10010	9900	12050	11730	14680	14570	16690	15840	19600	18410	17060
5	10110	9980	9890	12060	11730	14670	14530	16640	17210	19550	18340	17010
6	10110	9950	9890	12050	11730	14660	14490	16610	18940	19490	18280	16970
7	10110	9960	9880	12050	11730	14650	14470	16600	20000	19440	18220	16920
8	10090	9950	9900	11990	11730	14650	14450	16570	20360	19410	18190	16900
9	10090	9940	9890	11940	11730	14650	14450	16560	20400	19380	18120	16880
10	10070	9930	9870	11950	11730	14660	14450	16560	20400	19350	18060	16820
11	10070	9920	9880	11930	11730	14590	14420	16530	20340	19300	18000	16800
12	10060	9920	9880	11920	11730	14590	14410	16480	20310	19260	17950	16770
13	10090	9920	9890	11870	11730	14610	14380	16480	20290	19180	17880	16720
14	10100	9920	9910	11870	11730	14600	14380	16440	20240	19130	17910	16720
15	10080	9920	9970	11850	11730	14590	14360	16430	20210	19060	17890	16690
16	10050	9910	10030	11830	11730	14580	14330	16390	20200	19060	17860	16680
17	10040	9920	10030	11820	11730	14580	14310	16370	20150	19040	17840	16650
18	10020	10050	10040	11830	11730	14580	14310	16350	20080	18970	17790	16620
19	9990	10060	10060	11830	11710	14640	14270	16310	20050	18920	17770	16600
20	10000	10050	10060	11830	11890	14670	14290	16310	20000	18860	17710	16580
21	10000	10040	10070	11820	12190	14650	14800	16310	19970	18860	17680	16600
22	10000	10030	10070	11830	12570	14650	15730	16300	19920	18820	17630	16600
23	10000	10030	10070	11820	13570	14650	16020	16280	19880	18800	17510	16500
24	10000	10010	10040	11800	14290	14650	16070	16250	19860	18760	17530	16480
25	10000	10010	10030	11770	14550	14650	16040	16230	19800	18750	17470	16410
26	10050	10000	10020	11780	14580	14620	16040	16220	19800	18780	17430	16390
27	10110	9960	10010	11770	14600	14620	16030	16180	19850	18780	17370	16360
28	10100	9950	10010	11750	14660	14600	16040	16160	19820	18730	17330	16320
29	10100	9940	9990	11760	---	14580	16500	16140	19800	18690	17290	16320
30	10090	9940	9980	11760	---	14590	16660	16070	19720	18610	17260	16300
31	10100	---	11530	11740	---	14600	---	16050	---	18570	17220	---
MAX	10160	10060	11530	12060	14660	14720	16660	16700	20400	19680	18530	17180
MIN	9990	9910	9870	11710	11710	14580	14270	16050	15840	18570	17220	16300
(+)	1319.93	1319.75	1321.46	1321.67	1324.33	1324.28	1325.93	1325.46	1328.06	1327.30	1326.35	1325.65
(+)	-70	-160	+1590	+210	+2920	-60	+2060	-610	+3670	-1150	-1350	-920
(++)	112	96.9	108	110	101	104	113	126	146	193	179	135
CAL YR 1984	MAX	15780	MIN	9870	(+)	-4270	(++)	1536				
WTR YR 1985	MAX	20400	MIN	9870	(+)	+6130	(++)	1524				

(+) Elevation, in feet, at end of month.

(+) Change in contents, in acre-feet.

(++) Diversions, in acre-feet, for municipal use by North Central Texas Municipal Water District.

## BRAZOS RIVER BASIN

179

08082950 ELM CREEK NEAR PROFFITT, TX  
(Reconnaissance partial-record station)

LOCATION.--Lat 33 11'00", long 98 53'40", Young County, Hydrologic Unit 12060101, at bridge on U.S. Highway 380 in Proffitt community, 1,000 ft west of Farm Road 578 south, 5.5 mi upstream from mouth, and about 9 mi west of Newcastle.

DRAINAGE AREA.--275 mi<sup>2</sup>.

PERIOD OF RECORD.--Occasional discharge measurements: October 1968 to September 1985 (discontinued). Occasional water-quality data: December 1968 to September 1985 (discontinued).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JAN 22...	1450	.02	906	5.0	270	130	73	21	76
MAR 04...	1030	21	733	14.0	220	100	56	19	59
APR 15...	1500	2.1	1410	22.0	380	210	93	35	140
MAY 28...	2040	.05	1590	28.0	440	240	99	48	150

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
JAN 22...	2	5.1	140	86	160	.20	9.2	510
MAR 04...	2	5.2	115	55	130	.20	12	410
APR 15...	3	5.5	165	110	290	.30	5.7	780
MAY 28...	3	6.3	202	130	330	.30	8.6	890

## BRAZOS RIVER BASIN

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 north of Roby, 3.2 mi upstream from Cottonwood Creek, and 255.7 mi upstream from mouth.

DRAINAGE AREA.--228 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are several small diversions above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years (water years 1963-85), 10.2 ft<sup>3</sup>/s (0.61 in/yr), 7,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,050 ft<sup>3</sup>/s Oct. 18, 1965 (gage height, 21.48 ft); maximum gage height, 21.52 ft Sept. 19, 1969; no flow at times in 1963-67.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since the 1890's, about 22 ft in May and June 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Apr. 29	1600	*1,650	*14.77	June 6	0500	511	10.52
May 13	2030	435	10.04				

Minimum daily discharge, 0.47 ft<sup>3</sup>/s Oct. 10-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.96	1.5	2.9	1.8	1.9	1.7	22	4.9	4.4	2.6	1.7
2	.66	1.9	1.5	2.8	1.8	2.1	1.7	11	4.9	4.3	2.5	1.6
3	.62	1.9	1.5	2.3	1.7	2.1	1.7	7.8	4.9	4.2	2.4	1.6
4	.59	1.2	1.5	2.0	1.8	2.1	1.7	6.4	5.0	4.1	2.4	1.6
5	.57	.94	1.6	1.8	1.9	2.0	1.7	5.6	117	4.0	2.3	1.6
6	.52	.90	1.6	1.8	1.9	2.0	1.7	5.2	403	3.8	2.3	1.6
7	.51	.89	1.6	1.7	1.9	2.0	1.6	5.0	55	3.7	2.2	1.6
8	.50	.92	1.7	1.7	1.9	2.0	1.6	54	16	3.7	2.2	1.6
9	.49	.90	1.7	1.7	1.9	2.0	1.6	48	9.4	3.6	2.2	1.6
10	.46	.89	1.8	1.7	1.9	2.0	1.6	11	7.5	3.4	2.1	1.6
11	.46	.90	1.8	1.6	1.7	2.0	1.6	6.4	7.0	3.3	2.1	1.6
12	.46	.92	1.9	1.7	1.7	1.9	1.6	5.2	6.6	3.2	2.0	1.5
13	.54	.97	1.9	1.7	1.7	2.0	1.6	143	6.4	3.2	2.0	1.5
14	3.4	.98	1.9	1.7	1.8	1.9	1.6	214	6.2	3.0	2.0	1.5
15	7.4	1.0	7.3	1.7	1.8	1.9	1.6	19	6.1	3.0	53	1.6
16	1.2	1.0	79	1.8	1.8	2.0	1.6	11	6.0	2.8	8.9	1.6
17	.82	1.3	21	1.8	1.8	2.0	1.5	24	5.8	2.7	2.6	1.6
18	.72	1.5	5.1	1.8	1.8	1.9	1.5	26	5.7	2.6	2.3	1.6
19	.68	1.6	2.9	1.9	1.8	2.0	1.4	10	5.6	2.6	2.1	2.6
20	.66	1.5	2.3	1.7	2.2	2.4	1.4	6.8	5.6	2.6	2.0	3.9
21	.62	1.4	2.0	1.7	2.4	2.3	1.4	6.2	5.6	2.6	2.0	3.0
22	.72	1.4	1.9	1.6	2.3	2.4	2.6	8.3	5.6	41	1.9	2.2
23	.74	1.3	1.9	1.7	2.5	2.1	26	21	5.5	11	1.9	1.8
24	.72	1.5	1.8	1.7	2.2	1.9	6.3	11	8.4	42	1.9	1.7
25	.71	2.7	1.8	1.9	2.2	1.8	3.6	7.1	5.9	15	1.8	1.6
26	.82	1.8	1.8	1.8	2.0	1.8	3.2	6.0	5.3	34	1.8	1.6
27	13	1.6	1.8	1.9	1.9	1.8	3.0	5.5	5.1	7.0	1.8	1.6
28	4.8	1.5	1.8	1.8	1.9	1.7	3.3	5.2	4.9	3.5	1.7	1.6
29	1.4	1.5	1.8	1.8	---	1.8	741	5.1	4.7	2.9	1.7	2.3
30	1.0	1.5	1.8	1.9	---	1.8	229	5.0	4.6	2.7	1.7	2.0
31	.87	---	3.2	1.8	---	1.7	---	5.0	---	2.6	1.7	---
TOTAL	47.36	39.27	162.7	57.4	54.0	61.3	1051.4	726.8	744.2	232.5	122.1	54.5
MEAN	1.53	1.31	5.25	1.85	1.93	1.98	35.0	23.4	24.8	7.50	3.94	1.82
MAX	13	2.7	79	2.9	2.5	2.4	741	214	403	42	53	3.9
MIN	.46	.89	1.5	1.6	1.7	1.7	1.4	5.0	4.6	2.6	1.7	1.5
CFSM	.007	.006	.02	.008	.008	.009	.15	.10	.11	.03	.02	.008
IN.	.01	.01	.03	.01	.01	.01	.17	.12	.12	.04	.02	.01
AC-FT	94	78	323	114	107	122	2090	1440	1480	461	242	108

CAL YR 1984	TOTAL	742.49	MEAN	2.03	MAX	79	MIN	.33	CFSM	.009	IN	.12	AC-FT	1470
WTR YR 1985	TOTAL	3353.53	MEAN	9.19	MAX	741	MIN	.46	CFSM	.04	IN	.55	AC-FT	6650

## BRAZOS RIVER BASIN

181

## 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 upstream from upstream bridge on U.S. Highways 83 and 277, 0.8 mi south of Hawley, 7.4 mi upstream from Mulberry Creek, and 188.6 mi upstream from mouth.

DRAINAGE AREA.--1,416 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929. Prior to Dec. 21, 1973, at datum 0.80 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Lake Sweetwater (capacity, 11,900 acre-ft) is located on a tributary upstream from gage.

AVERAGE DISCHARGE.--18 years, 53.1 ft<sup>3</sup>/s (38,470 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,540 ft<sup>3</sup>/s Sept. 30, 1980 (gage height, 21.07 ft, 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, present datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Jan. 1	1000	1,240	12.62	June 7	1400	1,140	12.73
Feb. 23	0830	*1,610	*13.42	July 25	0630	1,130	12.71

Minimum daily discharge, 0.22 ft<sup>3</sup>/s Aug. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	22	7.0	1070	11	43	20	628	19	19	20	2.1
2	9.5	29	5.4	291	7.1	36	17	452	18	14	16	2.1
3	8.1	19	3.7	83	13	31	15	101	16	13	14	3.0
4	7.5	12	2.8	61	13	28	14	52	15	12	12	3.2
5	6.4	8.3	2.8	53	14	24	13	38	108	11	9.2	4.1
6	6.4	4.4	2.8	45	14	22	12	31	831	9.3	7.8	4.3
7	7.1	2.2	2.8	36	14	21	11	27	1060	7.4	6.7	3.8
8	31	1.4	2.8	29	14	21	11	47	673	7.4	5.9	3.5
9	15	1.1	2.8	26	14	20	11	322	171	12	5.0	3.9
10	9.1	.69	2.6	23	13	19	10	202	114	11	4.6	3.5
11	7.1	.60	2.4	20	12	18	10	128	84	10	4.6	5.6
12	5.7	.77	2.3	18	11	17	10	50	64	7.9	3.8	6.6
13	12	.86	2.6	18	11	16	10	28	49	3.5	2.8	4.2
14	13	1.5	2.5	17	12	17	10	30	41	2.8	3.3	5.2
15	14	1.5	9.2	17	12	16	12	223	35	2.5	15	1.8
16	16	1.5	30	17	13	16	14	150	30	2.5	72	7.1
17	10	19	39	17	13	16	14	370	26	2.5	98	4.0
18	7.6	138	93	16	13	16	14	413	23	2.0	57	2.5
19	6.0	88	57	15	14	18	13	170	21	1.5	22	1.8
20	5.7	35	32	13	68	24	13	107	20	1.7	13	1.4
21	6.4	21	21	13	839	27	50	94	19	8.3	8.6	15
22	7.9	14	16	13	657	27	146	91	17	44	5.9	114
23	13	9.3	12	13	1420	28	95	265	43	221	4.0	65
24	10	13	9.3	13	733	23	69	200	19	917	3.5	38
25	14	31	8.0	13	158	19	39	138	16	850	1.9	20
26	47	50	7.2	13	127	18	29	83	18	312	1.4	12
27	80	31	6.6	13	64	17	17	48	229	152	.74	7.5
28	80	18	6.3	13	51	17	13	35	171	115	.28	5.6
29	30	12	6.9	13	---	17	472	27	71	71	.22	14
30	17	8.9	8.3	13	---	26	730	24	29	47	.97	51
31	13	---	349	13	---	26	---	20	---	30	1.4	---
TOTAL	526.5	505.02	756.1	2028	4355.1	684	1914	4594	4050	2920.3	421.61	415.8
MEAN	17.0	19.8	24.4	65.4	156	22.1	63.8	148	135	94.2	13.6	13.9
MAX	80	138	349	1070	1420	43	730	628	1060	917	98	114
MIN	5.7	.60	2.3	13	7.1	16	10	20	15	1.5	.22	1.4
AC-FT	1040	1180	1500	4020	8640	1360	3800	9110	8030	5790	836	825
CAL YR 1984	TOTAL	3715.20	MEAN	10.2	MAX	349	MIN	.02	AC-FT	7370		
WTR YR 1985	TOTAL	23260.43	MEAN	63.7	MAX	1420	MIN	.22	AC-FT	46140		



## BRAZOS RIVER BASIN

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 south of Hawley, and 5.8 mi upstream from mouth.

DRAINAGE AREA.--205 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1967 to current year.

Water-quality records: Chemical analyses: December 1967 to September 1983.

REVISED RECORDS.--WRD TX-74-1: 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 1,615.98 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, Aug. 16 to Sept. 5 and discharges below 5.0 ft<sup>3</sup>/s, which are poor. No known diversion above station.

AVERAGE DISCHARGE.--17 years (water years 1969-85), 8.76 ft<sup>3</sup>/s (0.58 in/yr), 6,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft<sup>3</sup>/s May 28, 1980 (gage height, 16.00 ft); no flow at times most years.

Maximum stage since 1932, that of May 28, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1957 reached a stage of about 16.0 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 14	2330	*540	*9.60	Jan. 1	0500	499	9.14
Oct. 21	0600	378	7.64	July 23	2300	451	9.07
Oct. 27	1400	486	8.97				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	21	.63	306	.95	1.1	.21	7.7	.02	.33	.10	.00
2	.02	22	.22	59	.99	1.3	.10	3.1	.01	.01	.05	.00
3	.00	10	.07	32	1.2	1.6	.04	2.1	.00	.00	.03	.00
4	.00	2.7	.06	25	1.7	1.7	.03	1.7	.00	.00	.02	.00
5	.00	.80	.18	18	2.6	1.4	.04	1.5	14	.00	.01	.00
6	12	.35	.15	11	2.8	.97	.02	1.3	89	.00	.00	.00
7	2.7	.28	.15	7.6	2.3	.66	.01	1.2	12	.00	.00	.00
8	.03	.03	.09	5.7	1.8	.58	.01	79	3.6	.00	.00	.00
9	.00	.00	.04	4.5	1.4	.59	.01	42	2.0	.00	.00	.00
10	.00	.00	.00	3.9	1.1	.52	.01	4.7	1.3	.00	.00	.00
11	.00	.00	.00	3.2	1.1	.54	.01	2.3	.86	.00	.00	.00
12	.00	.00	.00	2.4	1.1	.65	.02	1.4	.65	.00	.00	.00
13	26	.00	.00	2.1	.95	.95	.04	1.1	.32	.00	.00	.00
14	280	.00	.00	2.1	.73	.86	.05	.61	.19	.00	.02	.00
15	129	.00	5.6	2.4	.72	.82	.05	.39	.09	.00	26	.00
16	15	.00	21	2.8	.72	.92	.26	.27	.04	.00	3.7	.00
17	4.5	3.3	22	2.8	.52	.45	.34	5.9	.01	.00	1.3	.00
18	1.7	7.9	5.8	2.8	.55	1.0	.11	2.9	.00	.00	.70	.00
19	.50	6.0	2.8	2.3	.65	1.5	.05	1.1	.00	.00	.40	.00
20	139	3.4	1.9	1.9	1.1	5.6	.13	.86	.00	.00	.20	.00
21	203	1.5	1.7	1.4	2.8	16	64	1.3	.00	3.4	.05	.00
22	35	.38	1.6	1.1	8.4	3.5	35	3.3	.00	.44	.02	.00
23	45	.07	1.3	1.2	10	1.3	33	28	.00	129	.00	.00
24	44	8.2	.79	1.4	25	.51	7.6	5.3	2.9	381	.00	.00
25	24	33	.38	1.4	7.6	.42	1.9	2.1	1.1	117	.00	.00
26	145	21	.28	1.4	2.9	.33	.77	.92	1.1	54	.00	.00
27	356	6.0	.35	1.4	1.5	.32	.48	.51	53	5.4	.00	.00
28	80	2.2	.57	1.2	1.1	1.4	.65	.32	42	2.0	.00	.00
29	22	1.1	.65	1.4	---	2.5	52	.16	4.7	1.0	.00	.01
30	8.3	.66	1.6	1.5	---	3.5	70	.09	1.4	.44	.00	.00
31	3.8	---	254	1.3	---	.19	---	.04	---	.20	.00	---
TOTAL	1576.85	151.87	323.91	512.2	84.28	53.68	266.94	203.17	230.29	694.22	32.60	.01
MEAN	50.9	5.06	10.4	16.5	3.01	1.73	8.90	6.55	7.68	22.4	1.05	.000
MAX	356	33	254	306	25	16	70	79	89	381	26	.01
MIN	.00	.00	.00	1.1	.52	.19	.01	.04	.00	.00	.00	.00
CFSM	.25	.03	.05	.08	.02	.008	.04	.03	.04	.11	.005	.000
IN.	.29	.03	.06	.09	.02	.01	.05	.04	.04	.13	.01	.00
AC-FT	3130	301	642	1020	167	106	529	403	457	1380	65	.02
CAL YR 1984	TOTAL	2877.73	MEAN	7.86	MAX	356	MIN	.00	CFSM	.04	IN	.52
WTR YR 1985	TOTAL	4130.02	MEAN	11.3	MAX	381	MIN	.00	CFSM	.06	IN	.75
									AC-FT	5710		
										8190		

## BRAZOS RIVER BASIN

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08083245 MULBERRY CREEK NEAR HAWLEY, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1967 to September 1985 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 05...	1115	.83	971	12.0	330	190	76	34	71
DEC 19...	0745	2.5	3520	7.0	1300	1100	250	160	320
FEB 06...	1420	2.6	4510	6.0	1600	1300	250	240	490
MAR 20...	1120	6.0	4540	12.5	1500	1200	190	240	480
MAY 01...	1510	5.7	734	24.5	210	100	42	26	59
JUN 05...	1115	8.8	1670	21.5	450	340	81	61	170
JUL 24...	1250	396	400	23.0	120	37	28	12	26

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 05...	2	6.4	140	170	130	.20	9.5	580
DEC 19...	4	6.6	220	780	670	.40	6.0	2300
FEB 06...	5	4.7	280	1100	890	.60	4.0	3100
MAR 20...	6	5.8	220	1100	860	.60	3.0	3000
MAY 01...	2	5.6	110	120	88	.30	8.2	420
JUN 05...	4	7.0	110	340	260	.40	5.4	990
JUL 24...	1	5.7	82	50	37	.30	10	220

## 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 upstream from dam on Elm Creek, 4.3 mi upstream from mouth, and 5.4 mi south of Nugent.

DRAINAGE AREA.--470 mi<sup>2</sup>.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--The reservoir is formed by a rock-faced earthfill dam 3,740 ft 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 from right end of dam. The service outlet works consist of a concrete tower with a 4.0- by 7.0-foot 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, West Texas Utility Co. has operated a steam generating powerplant on 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.--Record of gage heights were furnished by the city of Abilene. The capacity table was furnished by the Soil Conservation Service.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents observed, 89,910 acre-ft May 25, 1957 (gage height, 58.7 ft); minimum observed, 19,040 acre-ft Apr. 23-25, 1953 (gage height, 34.5 ft).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents observed, 54,830 acre-ft July 27-31 (gage height, 49.8 ft); minimum observed, 20,340 acre-ft Oct. 1-6 (gage height, 35.3 ft).

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

35.0	19,840	45.0	40,640
40.0	28,970	50.0	55,480

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20340	26590	27570	32190	35400	40130	40380	41980	47050	50060	54510	50060
2	20340	26780	27570	34700	35400	39870	40380	43060	46750	49750	54510	50060
3	20340	26970	27570	35400	35170	39870	40380	43890	46750	49750	54180	49750
4	20340	26970	27570	35400	35170	39870	40380	43890	46450	49440	53860	49440
5	20340	26970	27570	35400	35170	39870	40380	43890	46750	49440	53860	49130
6	20340	26970	27370	35400	35170	39870	40380	43890	47340	49130	53530	49130
7	20510	26970	27370	35400	35170	39870	40380	43890	49130	49130	53210	49130
8	20510	26970	27370	35400	34930	39870	40130	43890	50680	48830	53210	48830
9	20510	26970	27370	35400	34930	39870	40130	43890	52230	48830	52880	48530
10	20510	26970	27370	35400	34930	39870	40130	44460	52230	48830	52560	48530
11	20510	26780	27370	35400	34930	39870	40130	44460	51920	48530	52560	48230
12	20510	26780	27370	35400	34930	39870	40130	44460	51920	48530	52230	48230
13	20510	26780	27370	35400	34930	39870	40130	44460	51920	48530	52230	48230
14	20840	26780	27370	35400	34930	39870	39870	44460	51610	48230	51920	47940
15	20840	26780	27370	35400	34700	39620	39870	44460	51300	48230	52560	47940
16	20840	26780	27970	35400	34700	39620	39870	44460	51300	47940	52880	47940
17	20840	26780	28170	35400	34700	39620	39870	44740	50990	47940	52880	47640
18	20840	26970	28370	35400	34700	39620	39620	45310	50990	47640	52560	47640
19	20840	27170	28370	35400	34700	39620	39620	45870	50990	47340	52230	47640
20	21010	27170	28370	35400	34700	40130	39620	45870	50680	47340	51920	47340
21	22030	27170	28370	35400	34700	40130	39620	45870	50680	47640	51920	47340
22	22030	27170	28370	35400	35630	40380	39870	46160	50370	47640	51610	47340
23	22200	27170	28370	35400	36860	40380	39870	46750	50370	47640	51610	47050
24	22380	27170	28370	35400	38850	40380	39870	47340	50370	48830	51610	47050
25	22900	27370	28370	35400	39870	40380	39870	47340	50060	51300	51300	46750
26	23430	27570	28370	35400	40130	40380	39620	47340	50060	53530	50990	46750
27	24520	27570	28370	35400	40130	40380	39620	47340	50060	54830	50990	46750
28	26210	27570	28370	35400	40130	40380	39620	47340	50060	54830	50680	46750
29	26590	27570	28370	35400	---	40380	39870	47050	50060	54830	50680	46750
30	26590	27570	28370	35400	---	40380	40910	47050	50060	54830	50370	46750
31	26590	---	28770	35400	---	40380	---	47050	---	54830	50370	---
MAX	26590	27570	28770	35400	40130	40380	40910	47340	52230	54830	54510	50060
MIN	20340	26590	27370	32190	34700	39620	39620	41980	46450	47340	50370	46750
(†)	38.8	39.3	39.9	42.9	44.8	44.9	45.1	47.3	48.3	49.8	48.4	47.2
(‡)	+6250	+980	+1200	+6630	+4730	+250	+530	+6140	+3010	+4770	-4460	-3620

CAL YR 1984 MAX 40130 MIN 19840 (†) -11610  
WTR YR 1985 MAX 54830 MIN 20340 (‡) +26410

(†) Gage height, in feet, at end of month.  
(‡) Change in contents, in acre-feet.

## BRAZOS RIVER BASIN

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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 downstream from bridge on Farm Road 600 at Nugent, 2 mi downstream from Elm Creek, 4 mi upstream from Deadman Creek, and 167.8 mi upstream from mouth.

DRAINAGE AREA.--2,199 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1924 to current year.

Water-quality records.--Chemical analyses: August 1948 to September 1953. Chemical and biochemical analyses: February 1968 to September 1981.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,531.91 ft above National Geodetic Vertical Datum of 1929 (levels by Brazos River Authority). Prior to Dec. 12, 1933, nonrecording gage at site 575 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow is affected by four upstream reservoirs with a total capacity of 103,600 acre-ft. There are numerous diversions above station for municipal supply and oilfield operation that materially affect all streamflow.

AVERAGE DISCHARGE.--14 years (water years 1925-38) prior to completion of Fort Phantom Hill Reservoir, 186 ft<sup>3</sup>/s (134,800 acre-ft/yr); 47 years (water years 1939-85) partially regulated, 79.9 ft<sup>3</sup>/s (57,890 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 47,000 ft<sup>3</sup>/s Sept. 8, 1932 (gage height, 27.05 ft, site then in use), from rating curve extended above 25,000 ft<sup>3</sup>/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 30 ft in 1876; floods in 1900 and May 1923 reached stages of 24 and 24.5 ft, respectively, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 752 ft<sup>3</sup>/s Feb. 21 at 1100 hours (gage height, 4.81 ft); minimum, 2.7 ft<sup>3</sup>/s Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	119	10	382	12	40	35	65	22	28	25	4.2
2	8.9	98	8.5	72	9.5	35	32	23	20	22	20	3.9
3	6.6	64	7.4	33	12	31	30	107	19	19	18	3.5
4	5.3	32	6.5	92	12	28	29	75	18	18	16	3.6
5	4.5	16	6.4	64	14	25	29	53	30	17	15	3.7
6	4.0	10	6.3	55	16	23	27	42	32	16	14	3.7
7	71	7.9	5.9	57	16	23	27	36	21	15	13	4.1
8	18	6.4	5.8	34	16	23	25	43	16	14	12	4.0
9	45	5.3	6.2	28	16	23	25	172	20	14	11	3.4
10	12	4.6	6.3	25	15	24	24	64	93	14	9.9	3.5
11	5.9	4.5	6.3	23	14	25	24	139	57	13	9.2	3.7
12	4.3	4.4	6.7	20	14	26	24	72	45	13	8.4	3.0
13	77	4.5	7.6	19	14	27	24	48	38	13	8.5	2.9
14	181	4.5	7.9	19	14	28	25	33	34	13	12	5.5
15	394	4.6	18	19	14	28	26	52	31	12	62	7.5
16	43	4.9	56	19	14	29	25	50	29	12	47	5.1
17	19	9.2	51	19	14	29	24	65	27	12	64	5.5
18	8.5	114	44	18	14	30	23	29	25	13	55	6.8
19	5.6	86	104	18	14	30	22	77	23	14	27	4.8
20	363	30	38	16	16	46	20	92	21	14	16	4.1
21	314	30	22	13	167	40	20	61	20	15	12	3.9
22	62	19	14	12	16	41	190	58	20	36	9.3	37
23	42	14	11	11	226	38	191	76	24	84	7.6	51
24	63	16	8.7	11	260	36	117	55	31	206	6.8	29
25	54	45	7.2	11	80	33	59	111	23	346	6.0	17
26	214	57	6.7	12	147	32	45	67	21	25	5.6	11
27	269	47	6.3	12	77	32	31	47	148	92	5.2	7.9
28	55	27	6.9	12	49	32	23	37	340	107	4.9	6.3
29	95	16	7.3	12	---	33	108	32	82	61	4.0	7.9
30	48	13	8.6	12	---	34	32	27	43	41	3.5	11
31	29	---	190	12	---	36	---	24	---	31	3.3	---
TOTAL	2538.6	913.8	697.5	1162	1302.5	960	1336	1932	1373	1350	531.2	268.5
MEAN	81.9	30.5	22.5	37.5	46.5	31.0	44.5	62.3	45.8	43.5	17.1	8.95
MAX	394	119	190	382	260	46	191	172	340	346	64	51
MIN	4.0	4.4	5.8	11	9.5	23	20	23	16	12	3.3	2.9
AC-FT	5040	1810	1380	2300	2580	1900	2650	3830	2720	2680	1050	533
CAL YR 1984	TOTAL	6705.87	MEAN	18.3	MAX	394	MIN	.03	AC-FT	13300		
WTR YR 1985	TOTAL	14365.10	MEAN	39.4	MAX	394	MIN	2.9	AC-FT	28490		

## BRAZOS RIVER BASIN

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 east of Nugent, and 4.4 mi upstream from Clear Fork Brazos River.

DRAINAGE AREA.--168 mi<sup>2</sup>.

PERIOD OF RECORD.--Periodic discharge measurements: October 1967 to current year. Chemical analyses: October 1967 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
OCT 25...	1015	80	634	7.4	13.0	10.4	104	4.0	140	54
DEC 12...	0930	19	1800	7.4	13.5	8.2	84	14	260	140
FEB 20...	1550	16	1690	7.7	12.5	8.4	84	21	310	100
APR 10...	0930	30	1740	7.8	17.5	7.2	80	23	300	69
JUN 20...	0930	15	1740	7.5	24.0	8.2	103	13	300	120
AUG 22...	1000	22	1550	7.2	23.0	9.6	118	8.8	270	180

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (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)
OCT 25...	41	10	68	3	6.1	90	59	100	.30
DEC 12...	59	27	250	7	14	120	230	310	1.0
FEB 20...	71	33	230	6	11	210	200	290	.90
APR 10...	67	33	220	6	15	235	170	290	1.0
JUN 20...	64	33	230	6	17	174	270	260	.90
AUG 22...	58	30	190	5	17	92	210	250	1.1

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 25...	9.5	350	1.2	.060	1.3	.110	2.0	2.1	1.40
DEC 12...	9.4	970	11	.420	11	.730	1.5	2.2	9.80
FEB 20...	8.6	970	1.6	.150	1.7	12.0	--	--	5.40
APR 10...	8.5	950	.53	.270	.80	17.0	4.0	21	.020
JUN 20...	10	990	4.3	.100	4.4	.140	1.4	1.5	<6.00
AUG 22...	12	820	15	.060	15	.090	1.8	1.9	<.010



## 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 upstream from dam, 1.7 mi upstream from California Creek, 10 mi southeast of Haskell, and 21.8 mi upstream from mouth.

DRAINAGE AREA.--368 mi<sup>2</sup>.

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 above 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 long. The dam was completed in March 1953, and deliberate impoundment began in June 1953. The right spillway is an uncontrolled natural channel located near the right end of dam. The left spillway is an uncontrolled channel excavated through natural ground, 169 ft wide, located 900 ft to left of left end of dam. The service outlet is a controlled 24-inch-diameter concrete pipe that is used for low-flow releases. The capacity table is based on sedimentation survey of 1966. The gage-height record was furnished by the West Texas Utilities Co. from their powerplant 1.0 mi upstream from dam. Water is diverted for municipal supply for the cities of Stamford and Hamlin. 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 Aug. 5, 1978 (gage height, 1,422.2 ft); minimum since first appreciable storage in June 1954, 14,060 acre-ft Jan. 29-31, 1957 (gage height, 1,400.2 ft).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 66,320 acre-ft June 8, 9 (gage height, 1,416.6 ft); minimum, 25,810 acre-ft Oct. 6-14, 17-24 (gage height, 1,406.5 ft).

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

1,406.0	24,490	1,412.0	44,280	1,416.0	63,080
1,408.0	30,100	1,414.0	53,070	1,418.0	74,400
1,410.0	36,660				

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26080	27190	29800	33910	38100	47650	47650	57920	57920	55940	53540	49860
2	26080	27750	29800	36660	38100	47650	47650	57920	57420	55940	53540	49860
3	26080	28040	30100	36660	38100	47650	47650	57920	57420	55460	53540	49860
4	26080	28330	30100	38100	38100	48090	47650	57920	57420	55940	53070	49410
5	26080	28330	31020	37730	38100	47650	47650	57920	57420	55460	53070	49410
6	25810	28910	31020	37370	38100	47650	47650	57420	58930	55460	52600	49410
7	25810	28910	31020	37730	38100	47220	47650	57420	64150	55460	52600	49410
8	25810	28910	30710	38100	38100	47220	47650	56920	66320	55460	52600	49410
9	25810	28910	30710	38460	38100	47220	46790	56920	66320	54970	52600	49410
10	25810	28910	30710	38460	38100	47220	46790	56920	64690	54970	52600	49410
11	25810	28910	30410	38100	38100	47220	46790	56920	63080	54970	52600	47650
12	25810	28910	30410	38460	38100	47220	46790	56920	62020	54970	52600	48530
13	25810	28910	30410	38100	38100	47220	46790	57920	61500	54970	52600	48090
14	25810	28910	30410	38100	38100	47220	46790	58930	60980	54970	51210	48090
15	26080	28910	30410	38100	38100	47220	46790	58930	60460	54970	51670	48530
16	26080	28910	30410	38460	38100	47220	46790	58930	59950	54490	51670	48530
17	25810	28910	30410	38100	38100	47220	46790	58930	59440	54020	51670	48090
18	25810	28910	30710	38460	38100	47220	46790	58930	58420	54020	51670	48090
19	25810	28910	31020	38460	38100	47220	46790	58420	58420	53540	51210	48090
20	25810	29200	31020	38100	38100	47650	46790	58420	57920	54020	51210	47650
21	25810	29500	31330	38100	41100	47650	47220	58420	57920	53070	51210	47650
22	25810	29500	31020	38100	44280	47650	49860	57420	57420	53540	51210	47650
23	25810	29800	31020	38100	45530	47650	54020	57920	57420	53540	50760	47650
24	25810	29800	31020	38460	45530	47650	55940	57920	57420	53540	50760	47650
25	26080	29800	31020	38460	47220	47650	55940	57420	56920	53540	50760	47220
26	26360	30100	31020	38460	47650	47650	55940	57920	56920	53540	50310	47220
27	26360	29500	31020	38100	46790	46790	55460	58420	56920	53540	50310	47220
28	26630	29500	31330	38100	47650	47220	55940	57920	56920	53540	50310	47220
29	26630	29800	31330	38100	---	46790	56430	58420	56430	53540	50310	47220
30	26910	29800	31330	38100	---	47650	56920	58420	56430	53540	49860	47220
31	26630	---	32280	38100	---	47220	---	57920	---	53540	49860	---
MAX	26910	30100	32280	38460	47650	48090	56920	58930	66320	55940	53540	49860
MIN	25810	27190	29800	33910	38100	46790	46790	56920	56430	53070	49860	47220
(†)	1406.8	1407.9	1408.7	1410.4	1412.8	1412.7	1414.8	1415.0	1414.7	1414.1	1413.3	1412.7
(‡)	+550	+3170	+2480	+5820	+9550	-430	+9700	+1000	-1490	-2890	-3680	-2640
(††)	135	114	116	111	116	158	171	158	178	237	284	215

CAL YR 1984 MAX 41100 MIN 25810 (†) -8820 (††) 1836  
WTR YR 1985 MAX 66320 MIN 25810 (†) +21140 (††) 1993

(†) Gage height, in feet, at end of month.

(‡) Change in contents, in acre-feet.

(††) Diversions, in acre-feet, for municipal use by the cities of Hamlin and Stamford.

## 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 east of Stamford, and 19.4 mi upstream from Paint Creek.

DRAINAGE AREA.--478 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. There are three small diversions upstream from station.

AVERAGE DISCHARGE.--23 years, 34.0 ft<sup>3</sup>/s (0.97 in/yr), 24,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft<sup>3</sup>/s Aug. 4, 1978 (gage height, 31.00 ft, from floodmark), from rating curve extended above 21.0 ft 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, 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, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*).

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	2030	780	14.92	Mar. 30	0200	1,750	20.12
Nov. 18	0130	654	14.07	Apr. 22	2030	*2,350	*20.91
Dec. 31	2300	1,120	16.91	Apr. 29	1430	1,270	17.70
Feb. 21	1500	1,040	16.50	May 14	0300	462	12.60
Feb. 23	1800	1,750	20.00	June 8	1000	1,910	20.68

Minimum, 0.18 ft<sup>3</sup>/s Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	346	13	978	6.2	42	50	195	8.4	11	2.5	.32
2	.28	380	12	549	6.8	38	25	56	6.9	8.5	2.3	.35
3	.26	141	11	107	7.0	35	19	36	7.2	7.4	2.4	.34
4	.26	34	11	61	6.9	31	17	27	6.1	7.4	2.2	.30
5	.28	20	11	49	6.9	27	13	22	114	7.0	1.9	.27
6	.28	12	12	36	7.0	24	12	20	616	6.7	1.9	.32
7	.25	7.8	11	24	6.8	22	10	20	1380	6.0	1.9	.40
8	.23	6.6	11	21	6.8	22	9.1	42	1700	4.1	1.7	.71
9	.23	6.2	10	19	6.7	22	8.6	28	425	3.4	1.5	.99
10	.24	5.8	10	17	6.7	21	8.4	18	148	3.1	1.5	1.2
11	.28	5.6	10	15	6.4	18	8.5	27	56	3.2	1.4	1.6
12	.28	5.4	10	14	5.8	19	8.7	20	40	2.3	1.2	2.3
13	40	6.4	10	13	5.4	18	7.8	104	33	2.1	.88	3.0
14	186	7.8	10	12	5.3	16	6.9	333	26	1.8	.72	4.2
15	35	8.0	16	12	4.7	14	8.3	146	17	1.7	8.2	1.5
16	9.2	7.9	27	12	4.7	14	7.2	42	18	1.7	2.4	1.1
17	6.1	215	40	11	4.2	14	6.5	28	20	1.5	1.5	.80
18	5.5	439	37	11	4.1	14	6.0	65	20	1.3	1.0	.67
19	5.1	106	25	11	4.3	17	5.5	146	17	.98	1.1	.71
20	5.5	42	17	10	7.0	24	14	75	16	1.4	.70	.73
21	5.2	20	15	9.9	781	22	279	107	15	2.8	.76	.82
22	5.7	16	14	9.4	690	20	1530	166	16	2.0	1.3	1.0
23	6.1	14	13	9.3	1540	18	1220	140	20	78	.62	1.1
24	5.2	25	12	9.2	1320	16	101	62	20	71	.43	2.2
25	7.5	71	12	8.9	437	15	39	42	14	66	.36	15
26	29	60	11	8.9	164	15	29	83	13	44	.35	7.1
27	52	40	11	8.3	78	16	25	34	15	16	.31	3.4
28	30	25	11	8.1	52	19	21	22	27	6.7	.28	1.4
29	20	17	12	7.8	---	143	925	16	19	3.9	.31	2.9
30	9.8	15	14	7.4	---	645	803	12	14	3.3	.32	2.4
31	7.4	---	642	7.4	---	161	---	9.4	---	2.8	.35	---
TOTAL	473.43	2105.5	1081	2076.6	5181.7	1542	5223.5	2143.4	4847.6	379.08	44.29	59.13
MEAN	15.3	70.2	34.9	67.0	185	49.7	174	69.1	162	12.2	1.43	1.97
MAX	186	439	642	978	1540	645	1530	333	1700	78	8.2	15
MIN	.23	5.4	10	7.4	4.1	14	5.5	9.4	6.1	.98	.28	.27
CFSM	.03	.15	.07	.14	.39	.10	.36	.15	.34	.03	.003	.004
IN.	.04	.16	.08	.16	.40	.12	.41	.17	.38	.03	.00	.00
AC-FT	939	4180	2140	4120	10280	3060	10360	4250	9620	752	88	117
CAL YR 1984	TOTAL	4279.07	MEAN	11.7	MAX	642	MIN	.02	CFSM	.02	IN	.33
WTR YR 1985	TOTAL	25157.23	MEAN	68.9	MAX	1700	MIN	.23	CFSM	.14	IN	1.96
									AC-FT	8490	AC-FT	49900

## 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 northeast of Fort Griffin, 1.0 mi upstream from bridge on U.S. Highway 283, 1.7 mi upstream from Mill Creek, and 74.6 mi upstream from mouth.

DRAINAGE AREA.--3,988 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929. Prior to June 23, 1932, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, Sept. 29, 30, which are poor. There are diversions upstream from station for irrigation, municipal supply, and oilfield operation that materially affect low flow. A gage-height telemeter is located at station.

AVERAGE DISCHARGE.--61 years (water years 1925-85), 222 ft<sup>3</sup>/s (160,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 149,000 ft<sup>3</sup>/s Aug. 4, 1978 (gage height, 38.88 ft, from floodmark), from rating curve extended above 33,600 ft<sup>3</sup>/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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft<sup>3</sup>/s and maximum (\*).

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 24	0800	*3,130	*10.99				

Minimum discharge, 0.26 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	147	86	1830	49	273	431	1100	146	160	81	8.1
2	32	387	56	1800	45	225	240	443	131	118	60	7.5
3	44	843	51	1120	46	189	176	273	119	92	45	7.6
4	37	392	46	389	46	177	143	217	108	77	34	7.2
5	29	253	44	221	47	154	117	204	110	65	30	6.6
6	22	223	40	245	49	128	102	207	536	59	27	6.1
7	18	192	36	220	52	115	87	181	1620	52	23	6.0
8	16	179	36	185	50	105	79	160	2540	46	18	5.7
9	13	164	34	168	52	98	78	154	2410	39	18	5.7
10	29	147	33	143	52	93	72	237	1230	34	17	5.0
11	45	130	32	121	49	90	73	236	856	31	14	4.7
12	36	115	31	104	47	85	77	156	641	30	12	4.7
13	50	100	31	96	43	81	73	240	501	26	11	5.4
14	46	89	35	86	39	74	74	360	389	22	14	7.8
15	74	86	35	78	44	74	77	563	315	22	14	25
16	268	80	51	74	42	84	70	364	261	21	22	19
17	251	82	57	76	37	78	67	248	227	19	39	16
18	110	295	166	78	37	75	61	294	200	19	82	14
19	60	734	148	73	35	76	62	278	174	16	65	13
20	55	410	136	66	35	121	59	334	163	16	78	15
21	37	217	142	58	1180	127	58	261	150	18	66	14
22	211	119	125	58	1900	164	782	313	138	15	44	13
23	193	87	92	57	2350	152	2080	350	126	38	32	9.6
24	134	73	74	57	2770	144	1110	345	113	44	25	7.6
25	81	63	61	52	1720	122	374	258	106	274	19	6.6
26	97	56	52	49	713	113	233	203	99	375	18	18
27	169	109	46	50	408	104	175	405	147	342	15	47
28	490	154	43	48	339	94	136	292	141	194	13	39
29	237	141	43	48	---	92	158	216	189	119	11	38
30	170	112	43	47	---	1680	1140	186	265	160	11	32
31	128	---	143	50	---	1350	---	166	---	119	9.4	---
TOTAL	3182.30	6179	2048	7747	12276	6537	8464	9244	14151	2662	967.4	414.9
MEAN	103	206	66.1	250	438	211	282	298	472	85.9	31.2	13.8
MAX	490	843	166	1830	2770	1680	2080	1100	2540	375	82	47
MIN	.30	56	31	47	35	74	58	154	99	15	9.4	4.7
AC-FT	6310	12260	4060	15370	24350	12970	16790	18340	28070	5280	1920	823
CAL YR 1984	TOTAL	14944.92	MEAN	40.8	MAX	843	MIN	.00	AC-FT	29640		
WTR YR 1985	TOTAL	73872.60	MEAN	202	MAX	2770	MIN	.30	AC-FT	146500		

## 08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX

LOCATION.--Lat 32°42'27", long 99°16'29", Shackelford County, Hydrologic Unit 12060105, at downstream side of bridge on U.S. Highway 6, 1.7 mi southeast of Albany, and 2.0 mi upstream from Salt Prong Hubbard Creek.

DRAINAGE AREA.--39.3 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No diversion above station.

AVERAGE DISCHARGE.--22 years (water years 1964-85), 6.38 ft<sup>3</sup>/s (2.20 in/yr), 4,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft<sup>3</sup>/s Aug. 4, 1978 (gage height, 23.3 ft, from floodmarks), from rating curve extended above 1,500 ft<sup>3</sup>/s on basis of slope-area measurement of 4,570 ft<sup>3</sup>/s, contracted-opening measurement of 9,520 ft<sup>3</sup>/s, and computation of flow-through-culvert, contracted-opening, and flow-over-road determination of 103,000 ft<sup>3</sup>/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, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Nov. 1	1700	166	3.57	May 17	0100	278	3.97
Dec. 31	1030	*992	5.82	June 27	0630	640	4.99
May 12	2200	612	4.92				

Minimum daily discharge, 0.04 ft<sup>3</sup>/s Oct. 1-3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	39	.84	72	2.0	4.2	4.7	2.4	1.1	2.2	.46	.17
2	.04	22	.60	43	2.0	4.9	3.1	1.2	.97	1.8	.42	.15
3	.04	4.6	.54	36	2.0	4.5	2.1	.91	.97	1.6	.41	.15
4	.05	1.8	.51	29	2.2	6.4	2.0	.80	.96	1.6	.37	.14
5	.06	.99	.68	22	2.3	3.8	1.6	.67	11	1.5	.37	.15
6	.07	.61	.77	17	2.4	3.3	1.2	.61	4.6	1.4	.34	.16
7	.07	.42	.58	13	2.5	3.1	1.1	.54	2.1	1.3	.32	.17
8	.07	.35	.51	10	2.5	3.0	1.1	.63	1.6	1.2	.30	.20
9	.07	.28	.48	9.6	2.6	2.8	1.0	.78	1.5	1.1	.31	.19
10	.07	.20	.46	8.3	2.1	2.5	.97	.68	1.5	.97	.29	.17
11	.07	.17	.46	6.1	1.9	2.7	.89	.61	2.0	1.0	.27	.17
12	.07	.15	.46	5.0	1.7	2.9	.80	82	1.8	1.1	.24	.17
13	21	.15	.84	4.6	1.7	2.4	.67	94	1.6	.95	.19	.17
14	19	.15	1.4	4.3	1.8	2.2	.62	8.4	1.5	.89	.20	.22
15	4.9	.14	5.5	4.3	1.7	2.2	.56	3.0	1.4	.87	.22	.26
16	1.7	.13	9.3	4.8	1.7	2.2	.56	2.1	1.3	.81	.22	.26
17	.90	1.8	2.2	5.5	1.7	2.2	.52	79	1.2	.81	.25	.27
18	.45	4.9	2.0	5.9	1.9	2.0	.49	9.5	1.2	.81	.26	.27
19	.22	.90	2.0	5.1	1.9	2.2	.38	4.5	1.2	.74	.24	.30
20	13	.45	1.9	3.2	2.9	49	.43	3.1	1.2	.68	.22	.30
21	5.0	.35	1.5	3.1	4.9	14	3.6	15	1.1	4.7	.26	.30
22	2.0	.30	1.4	3.1	2.9	7.3	2.7	7.3	.94	3.2	.24	.27
23	5.2	.28	1.2	2.9	46	5.1	2.0	7.3	1.0	1.2	.19	.22
24	2.0	.35	1.1	3.0	16	3.9	1.6	4.5	1.0	1.0	.14	.22
25	1.5	2.7	.91	3.2	6.1	3.2	.98	2.6	.88	1.5	.13	.22
26	6.8	6.2	.81	2.8	4.3	2.7	.89	1.8	.86	1.8	.12	.22
27	8.6	3.4	.81	2.4	3.5	2.5	.76	1.9	164	.95	.17	.22
28	1.7	2.0	.77	2.2	3.2	2.1	.67	2.0	17	.71	.22	.22
29	.78	1.3	.66	2.2	---	2.0	25	1.5	4.5	.67	.22	2.3
30	.40	1.1	.98	2.1	---	23	8.8	1.3	2.6	.63	.20	1.1
31	.43	---	292	1.9	---	10	---	1.3	---	.53	.19	---
TOTAL	96.30	97.17	334.17	337.6	128.4	184.3	71.79	341.93	234.58	40.22	7.98	9.33
MEAN	3.11	3.24	10.8	10.9	4.59	5.95	2.39	11.0	7.82	1.30	.26	.31
MAX	21	39	292	72	46	49	25	94	164	4.7	.46	2.3
MIN	.04	.13	.46	1.9	1.7	2.0	.38	.54	.86	.53	.12	.14
CFSM	.08	.08	.28	.28	.12	.15	.06	.28	.20	.03	.007	.008
IN.	.09	.09	.32	.32	.12	.17	.07	.32	.22	.04	.01	.01
AC-FT	191	193	663	670	255	366	142	678	465	80	16	19
CAL YR 1984	TOTAL	585.02	MEAN 1.60	MAX 292	MIN .00	CFSM .04	IN .55	AC-FT 1160				
WTR YR 1985	TOTAL	1883.77	MEAN 5.16	MAX 292	MIN .04	CFSM .13	IN 1.78	AC-FT 3740				

## BRAZOS RIVER BASIN

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08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: November 1962 to September 1985 (discontinued). Sediment records: October 1967 to September 1975.

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1962 to September 1985 (discontinued).

WATER TEMPERATURES: November 1962 to September 1985 (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: Maximum daily, 9,750 microsiemens Sept. 28-30, 1968; minimum measured daily, 408 microsiemens Sept. 16, 1974; minimum estimated daily, 149 microsiemens Aug. 4, 1978.

WATER TEMPERATURES (1962-69, 1974-85): Maximum daily, 36.0°C June 5, 1980; minimum daily, 0.0°C Jan. 12, 1963, Jan. 29, 1966.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,770 microsiemens Oct. 4; minimum daily, 1,000 microsiemens May 13.

WATER TEMPERATURES: Maximum daily, 32.0°C July 28, 30, Aug. 3; minimum daily, 5.0°C Jan. 30.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 30...	1100	.38	2520	19.0	530	380	140	44	280
DEC 18...	1000	2.0	2140	9.5	500	360	130	43	240
JAN 29...	0900	2.2	4200	8.0	920	740	250	72	530
APR 22...	1745	5.3	3570	25.0	810	670	220	63	430
JUL 16...	1300	.85	3910	28.0	840	690	220	70	450
AUG 29...	0900	.22	4400	25.0	990	820	250	90	530
		SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 30...	5	3.6	150	95	640	.30	11	1300	
DEC 18...	5	3.9	140	82	550	.30	7.7	1100	
JAN 29...	8	3.1	180	120	1200	.30	5.3	2300	
APR 22...	7	4.4	141	110	1000	.30	6.4	1900	
JUL 16...	7	3.6	153	110	1100	.40	11	2100	
AUG 29...	8	3.5	177	120	1300	.40	14	2400	



## BRAZOS RIVER BASIN

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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. 1984	96.30	3130	1760	458	940	243	97	25	690
NOV. 1984	97.17	1850	1060	277	550	144	58	15	400
DEC. 1984	334.17	2170	1240	1120	650	584	68	61	470
JAN. 1985	337.6	3080	1730	1580	920	838	95	87	680
FEB. 1985	128.4	3440	1930	668	1000	357	110	37	770
MAR. 1985	184.3	4240	2360	1170	1300	634	130	65	960
APR. 1985	71.79	3750	2090	406	1100	218	120	22	840
MAY 1985	341.93	1720	979	904	510	472	53	49	370
JUNE 1985	234.58	1670	951	602	500	315	52	33	360
JULY 1985	40.22	3540	1990	216	1100	115	110	12	790
AUG. 1985	7.98	4200	2330	50	1300	27	130	2.8	950
SEPT 1985	9.33	4630	2560	65	1400	35	140	3.6	1000
TOTAL	1883.77	**	**	7500	**	3980	**	412	**
WTD.AVG.	5.2	2620	1480	**	780	**	81	**	580

## SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	EQUIVALENT MEAN											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6480	1200	2680	2450	4370	4510	4690	4300	3900	3510	3760	4600
2	6540	1540	2750	2480	4360	4330	4600	4350	3920	3470	3870	4550
3	6610	1960	2820	2500	4260	4390	4500	4400	4020	3320	3890	4620
4	6770	2380	3130	2800	4250	4450	4460	4530	4040	3240	3960	4570
5	6610	2700	3090	3000	4310	4380	4480	4610	3590	2850	3950	4540
6	6390	2800	3000	3400	4370	4320	4490	4660	2950	2840	3940	4600
7	6260	2900	3160	3300	4360	4230	4530	4700	2950	2830	4080	4660
8	6420	2970	3300	3420	4430	4210	4550	4400	3210	3810	4280	4650
9	6440	3000	3000	3510	4320	4340	4530	4200	3540	3830	4250	4640
10	6450	3110	3100	3600	4380	4480	4580	4500	3730	3900	4250	4600
11	6430	3060	3260	3830	4390	4550	4560	4830	3620	3690	4260	4620
12	6500	3000	3400	4000	4390	4570	4570	1100	3520	3650	4240	4630
13	3000	3220	3500	3980	4500	4600	4590	1000	3590	3670	4220	4590
14	4000	3400	3140	4000	4460	4640	4600	1300	4060	3790	4160	4620
15	4270	3370	2100	4200	4520	4700	4640	2600	3770	3940	4330	4690
16	4420	3400	2050	4000	4590	4700	4680	3060	3910	4090	4200	4540
17	4790	3100	2100	3970	4640	4730	4710	1900	3960	4100	4280	4560
18	5010	2830	2200	3940	4530	4790	4760	2450	3980	4090	4340	4690
19	5180	3010	2600	4200	4540	4440	4700	2700	4000	4060	4310	4690
20	2550	3190	2700	4330	4410	4110	4660	3040	4070	4070	4340	4670
21	3010	3300	2900	4500	4260	4200	3250	2500	4060	3510	4400	4660
22	3140	3260	3130	4300	4400	4290	3570	2670	4110	3260	4430	4500
23	2640	3300	3360	4200	2400	4410	3750	2900	4190	3520	4450	4720
24	2910	3240	3500	4170	2750	4490	4110	3280	4220	3860	4440	4710
25	3130	3000	3560	4090	3580	4480	4450	3400	4240	3800	4590	4720
26	2780	2800	3600	4200	4470	4470	4680	3700	4520	3420	4430	4700
27	1910	2600	3570	4240	4400	4460	4890	3750	1100	3450	4550	4720
28	2130	2850	3630	4300	4450	4480	5050	3800	1490	3790	4430	4740
29	2350	3000	3600	4250	---	4650	2700	3750	2080	3770	4400	4590
30	2540	2600	3560	4400	---	3790	4220	3730	2230	3780	4500	4680
31	2640	---	2100	4300	---	4140	---	3700	---	3790	4580	---
MEAN	4530	2870	3020	3800	4250	4430	4420	3410	3550	3640	4260	4640

## BRAZOS RIVER BASIN

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08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

DAY	TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985											
	ONCE-DAILY											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	17.0	---	6.0	9.0	---	18.0	24.0	29.0	28.0	31.0	29.0
2	---	19.0	---	7.0	6.0	17.0	19.0	25.0	30.0	30.0	30.0	30.0
3	19.0	18.0	10.0	7.0	9.0	16.0	20.0	26.0	27.0	29.0	32.0	28.0
4	21.0	18.0	10.0	7.0	10.0	17.0	21.0	25.0	28.0	29.0	30.0	27.0
5	---	17.0	11.0	10.0	---	18.0	19.0	26.0	30.0	30.0	---	28.0
6	---	15.0	12.0	12.0	11.0	17.0	20.0	---	29.0	31.0	31.0	27.0
7	22.0	18.0	12.0	10.0	10.0	19.0	20.0	25.0	29.0	30.0	29.0	29.0
8	22.0	19.0	11.0	---	9.0	20.0	---	28.0	30.0	31.0	29.0	28.0
9	21.0	19.0	14.0	12.0	---	---	19.0	27.0	---	30.0	30.0	30.0
10	22.0	---	15.0	11.0	11.0	21.0	20.0	24.0	24.0	29.0	28.0	27.0
11	21.0	---	---	---	10.0	24.0	24.0	---	26.0	30.0	---	---
12	24.0	17.0	18.0	6.0	12.0	18.0	---	25.0	18.0	---	29.0	28.0
13	19.0	18.0	15.0	---	---	17.0	22.0	26.0	---	31.0	30.0	30.0
14	20.0	16.0	11.0	8.0	12.0	17.0	23.0	25.0	29.0	---	29.0	---
15	---	14.0	12.0	9.0	---	18.0	26.0	24.0	30.0	---	29.0	27.0
16	---	16.0	14.0	9.0	---	20.0	25.0	26.0	30.0	30.0	26.0	26.0
17	---	12.0	12.0	11.0	12.0	17.0	---	23.0	31.0	31.0	---	27.0
18	---	19.0	10.0	10.0	13.0	17.0	26.0	24.0	26.0	---	30.0	26.0
19	---	---	13.0	12.0	14.0	18.0	26.0	25.0	29.0	27.0	28.0	27.0
20	16.0	10.0	12.0	9.0	12.0	15.0	---	---	29.0	29.0	30.0	26.0
21	15.0	10.0	14.0	10.0	---	17.0	26.0	24.0	30.0	30.0	---	25.0
22	14.0	---	---	10.0	13.0	---	25.0	22.0	---	---	29.0	24.0
23	14.0	12.0	11.0	12.0	17.0	20.0	---	26.0	---	29.0	---	28.0
24	15.0	---	12.0	13.0	---	20.0	---	23.0	---	31.0	29.0	---
25	16.0	12.0	12.0	12.0	17.0	18.0	---	29.0	29.0	30.0	31.0	27.0
26	18.0	13.0	13.0	11.0	15.0	---	---	29.0	28.0	29.0	30.0	27.0
27	16.0	13.0	13.0	---	---	18.0	---	---	22.0	30.0	30.0	24.0
28	17.0	---	18.0	7.0	14.0	20.0	---	29.0	25.0	32.0	---	25.0
29	20.0	13.0	14.0	10.0	---	---	24.0	30.0	29.0	30.0	29.0	---
30	21.0	14.0	---	5.0	---	18.0	25.0	---	28.0	32.0	---	26.0
31	17.0	---	10.0	8.0	---	17.0	---	28.0	---	31.0	30.0	---
MEAN	18.5	15.5	12.5	9.5	12.0	18.0	22.5	25.5	28.0	30.0	29.5	27.0

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 downstream from Salt Prong Hubbard Creek, 2.8 mi upstream from Newcomb Creek, 4.5 mi upstream from U.S. Highway 180, 9.1 mi east of Albany, 22.6 mi upstream from Hubbard Creek Reservoir, and 35.2 mi upstream from mouth.

DRAINAGE AREA.--613 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929. Prior to June 12, 1968, water-stage recorder at site 2.1 mi downstream at datum 7.63 ft lower.

REMARKS.--Estimated daily discharges: Oct. 24, Dec. 31 to Jan. 1, Jan 3, 20-21, Jan. 31 to Feb. 3, Mar. 21, May 14-15, 17, June 27-28, July 26, and Aug 10-13, 19-22. Records good except those for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--19 years, 66.0 ft<sup>3</sup>/s (1.46 in/yr), 47,820 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 330,000 ft<sup>3</sup>/s Aug. 4, 1978 (gage height, 41.41 ft, from floodmark), from rating curve extended above 110 ft<sup>3</sup>/s on basis of step-backwater method and computation of flow-through-culverts, contracted-openings, and flow-over-road determination of 330,000 ft<sup>3</sup>/s at site 4.5 mi downstream; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Oct. 20	2300	2,380	10.30	May 13	0700	*15,900	*24.30
Oct. 27	0600	5,390	15.10	July 25	2400	2,140	9.87
Dec. 31	2130	3,700	12.66				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	128	8.8	731	5.2	12	33	29	24	14	4.0	.00
2	1.3	131	7.6	136	4.9	11	21	20	16	9.8	6.0	.00
3	.72	48	7.3	80	4.9	11	15	17	11	25	3.4	.00
4	.31	26	6.4	72	5.0	11	12	16	8.5	30	1.6	.00
5	.08	17	6.5	59	5.4	11	10	14	15	13	.97	.00
6	1.8	13	6.6	48	6.0	11	8.5	16	27	8.5	.61	.00
7	47	8.0	6.4	38	6.0	11	7.7	18	38	7.5	.15	.00
8	12	6.0	6.3	32	5.8	9.9	7.9	16	28	6.3	.02	.00
9	4.3	5.8	6.1	27	5.6	8.7	6.9	16	19	4.2	.00	.00
10	1.8	5.4	6.1	23	4.9	8.1	5.8	19	14	3.4	.00	.00
11	1.1	5.1	5.8	20	4.7	7.3	5.4	19	13	2.8	.00	.00
12	.75	4.9	5.6	17	4.4	6.6	6.9	174	20	1.9	.00	.00
13	105	4.4	7.7	15	4.1	7.0	6.5	10300	28	1.6	.00	.00
14	398	3.9	9.9	13	3.9	7.8	5.6	526	18	1.2	.00	.00
15	48	3.9	24	13	3.9	7.5	5.2	132	14	1.1	.96	.00
16	13	3.8	177	14	3.8	14	4.9	90	11	.91	2.7	.00
17	7.3	4.3	76	14	4.1	12	4.7	123	7.4	.90	1.7	.00
18	3.7	4.3	41	14	3.7	9.8	4.0	81	5.8	.90	.84	.00
19	1.8	6.6	27	14	3.9	9.1	3.2	63	5.5	.90	.53	.00
20	747	9.0	20	11	4.0	99	2.8	53	5.0	1.0	.14	.00
21	333	8.7	16	9.3	4.7	86	3.3	82	4.4	1.3	.03	.00
22	29	7.2	14	9.0	6.0	53	15	101	3.9	2.7	.03	.00
23	164	6.3	12	8.7	103	32	11	122	3.5	43	.03	.00
24	127	6.3	9.7	7.7	88	22	9.7	90	3.0	30	.08	.00
25	37	6.2	8.7	7.4	36	17	7.8	68	2.4	457	.11	.00
26	313	22	8.4	6.7	21	13	7.1	56	2.0	509	.14	.00
27	3020	32	7.6	6.1	15	12	7.3	49	237	41	.35	.00
28	176	17	7.6	5.6	12	11	7.7	46	182	19	.11	.00
29	45	13	6.6	5.6	---	14	21	44	45	12	.03	.00
30	28	11	6.8	5.5	---	125	57	34	23	7.7	.02	.00
31	18	---	1820	5.4	---	57	---	28	---	5.7	.00	---
TOTAL	5687.26	568.1	2379.5	1468.0	379.9	726.8	323.9	12462	834.4	1263.31	24.55	.00
MEAN	183	18.9	76.8	47.4	13.6	23.4	10.8	402	27.8	40.8	.79	.000
MAX	3020	131	1820	731	103	125	57	10300	237	509	6.0	.00
MIN	.08	3.8	5.6	5.4	3.7	6.6	2.8	14	2.0	.90	.00	.00
CFSM	.30	.03	.13	.08	.02	.04	.02	.66	.05	.07	.001	.000
IN.	.35	.03	.14	.09	.02	.04	.02	.76	.05	.08	.00	.00
AC-FT	11280	1130	4720	2910	754	1440	642	24720	1660	2510	49	.00

CAL YR 1984	TOTAL	8802.38	MEAN 24.1	MAX 3020	MIN .00	CFSM .04	IN .53	AC-FT 17460
WTR YR 1985	TOTAL	26117.72	MEAN 71.6	MAX 10300	MIN .00	CFSM .12	IN 1.58	AC-FT 51800

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.

INSTRUMENTATION.--Beginning Mar. 30, 1982, specific conductance and water temperature are 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, 21,200 microsiemens Feb. 15, 21, 1978; minimum measured daily, 180 microsiemens Oct. 27, 1984, May 13, 1985; minimum estimated daily, 129 microsiemens Aug. 4, 1978.

WATER TEMPERATURES (1966-80, 1983-85): 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, 3,300 microsiemens Feb. 23, Mar. 16; minimum daily, 180 microsiemens Oct. 27, May 13.

WATER TEMPERATURES: Minimum daily, 1.5°C Feb. 2.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 30...	1215	28	374	18.0	110	43	35	5.5	27
DEC 18...	1145	40	1490	9.0	350	240	94	27	170
JAN 29...	1010	5.7	2680	8.0	640	480	170	53	300
MAY 15...	1200	127	515	22.5	140	48	44	8.1	41
JUN 13...	0950	29	1900	25.0	420	260	110	35	200
JUL 17...	1010	.91	1640	29.5	340	200	93	26	190

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 30...	1	3.2	67	22	55	.20	6.9	190
DEC 18...	4	4.0	110	130	330	.20	5.2	830
JAN 29...	5	3.9	160	130	720	.20	5.2	1500
MAY 15...	2	5.8	95	27	86	.20	9.2	280
JUN 13...	4	5.7	161	110	440	.30	7.3	1000
JUL 17...	5	5.9	135	79	390	.30	7.3	870

## BRAZOS RIVER BASIN

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	5687.26	289	153	2350	75	1160	16	249	61
NOV.	1984	568.1	957	512	786	260	393	52	79	200
DEC.	1984	2379.5	1100	589	3790	290	1890	60	384	230
JAN.	1985	1468.0	1020	548	2170	270	1090	55	218	210
FEB.	1985	379.9	2590	1410	1450	720	736	130	136	540
MAR.	1985	726.8	2320	1260	2480	640	1260	120	235	480
APR.	1985	323.9	2230	1210	1060	610	537	120	101	470
MAY	1985	12462	416	222	7460	110	3710	23	766	88
JUNE	1985	834.4	1690	912	2050	460	1040	89	201	350
JULY	1985	1263.31	642	341	1160	170	579	35	120	140
AUG.	1985	24.55	999	534	35	270	18	54	3.6	210
SEPT	1985	0.00	*	*	0.00	*	0.00	*	0.00	*
TOTAL		26117.72	**	**	24800	**	12400	**	2490	**
WTD.AVG.		72	656	352	**	180	**	35	**	140

## SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1040	960	992	660	300	463	1600	1500	1540	640	460	567
2	1100	1020	1070	700	480	602	1720	1520	1600	800	640	727
3	1280	1120	1200	760	560	653	1800	1740	1760	980	780	886
4	1680	1180	1410	---	---	920	1900	1780	1840	1140	980	1070
5	1760	1340	1530	980	700	750	2040	1920	1990	1340	1160	1250
6	1880	1340	1490	860	720	772	2040	1920	1980	1960	1320	1500
7	1600	520	742	1120	880	973	1920	1880	1890	1600	1340	1420
8	660	600	621	1220	1120	1180	1880	1820	1850	1840	1340	1520
9	700	580	632	1260	1200	1230	1840	1800	1820	2300	1500	1780
10	801	661	725	1380	1260	1310	1820	1800	1820	2320	1840	2110
11	941	781	843	1420	1380	1400	1840	1800	1820	2540	1620	2220
12	941	841	906	1460	1420	1440	1860	1820	1840	2220	1500	1940
13	1080	540	820	1480	1440	1450	2120	1840	1910	1460	1380	1410
14	681	200	304	1540	1480	1510	2080	1900	2020	2820	1460	2010
15	240	200	225	1600	1540	1580	2140	1680	1800	2100	1660	1790
16	280	240	259	1620	1580	1600	1720	900	1210	2820	1900	2350
17	300	260	286	1900	1600	1710	1600	1200	1400	2440	2040	2230
18	360	300	329	1700	1600	1650	1500	1380	1430	2980	1820	2280
19	400	340	368	1740	1700	1720	1760	1360	1640	2700	1760	2110
20	420	220	329	1720	1580	1670	1460	1280	1370	2800	2560	2700
21	340	220	287	1540	1400	1450	1540	1200	1320	2660	2240	2430
22	440	340	404	1440	1400	1420	1940	1420	1650	2220	1960	2080
23	500	360	406	1480	1420	1450	1820	1500	1600	2060	1780	1930
24	360	300	313	1620	1460	1510	1760	1540	1610	3100	1880	2310
25	400	300	358	1560	1520	1540	1940	1760	1830	3220	2040	2520
26	480	280	352	1840	1400	1580	1960	1920	1940	3240	2740	3000
27	360	180	228	2140	1740	1940	1940	1900	1910	2920	2680	2740
28	340	260	312	1820	1660	1720	1960	1880	1910	2940	2780	2860
29	460	340	373	1840	1680	1810	2140	1980	2070	2780	2360	2540
30	460	360	425	1740	1600	1680	2220	2140	2180	2980	2420	2620
31	460	360	418	---	---	---	2440	500	980	2980	2800	2890
MONTH	1880	180	612	2140	300	1360	2440	500	1730	3240	460	1990



## 08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3000	2800	2940	3260	3020	3090	2940	1280	1740	3240	1980	2540
2	3020	2580	2770	3260	3080	3230	1280	1100	1190	3020	2020	2350
3	2560	2260	2360	3260	3200	3230	1660	1260	1420	2160	1820	1990
4	2280	2240	2260	3200	3120	3160	2020	1380	1720	1960	1820	1910
5	2320	2240	2280	3140	3120	3130	2800	1640	2250	2220	1920	2050
6	3100	2240	2410	3120	3080	3100	2240	2020	2170	2420	2220	2310
7	3280	3160	3240	3120	3080	3100	2800	2120	2570	2660	2360	2510
8	3200	2480	2660	3120	2900	3100	2640	1860	2230	2840	2600	2730
9	2920	2660	2800	3040	2980	3010	2160	1740	1900	2800	2520	2700
10	3080	2860	2990	3000	2960	2980	2040	1780	1900	2640	2480	2560
11	3180	3080	3130	2980	2900	2950	2160	2060	2110	2740	2620	2680
12	3180	2820	3000	3000	2900	2940	2160	2060	2110	2840	1140	2590
13	3020	2800	2850	3140	2880	2990	2980	2140	2450	601	180	255
14	3200	3020	3110	3220	3100	3170	2880	2540	2640	420	240	333
15	3020	2840	2990	3100	2840	2980	2560	2480	2520	540	420	489
16	2960	2900	2940	3300	2840	3010	2840	2380	2480	721	540	606
17	3040	2920	2980	3060	2540	2760	2840	2480	2680	1080	601	887
18	3120	2940	2990	2600	2520	2550	2580	2420	2500	1100	941	1000
19	3140	3060	3100	2680	2380	2600	2680	2560	2600	1220	941	1060
20	3080	2780	2940	2920	2120	2520	3120	2680	2780	1380	1140	1260
21	2900	2740	2790	2900	2180	2440	2940	2740	2820	1400	1120	1290
22	3080	2940	3000	2580	1820	2150	2880	2260	2620	1220	1080	1140
23	3300	2300	2570	2240	1700	1880	2860	2540	2720	1400	1140	1290
24	2420	2140	2300	2100	1940	2000	2680	2320	2540	1420	1240	1330
25	2600	2300	2400	2060	1620	1880	2680	2320	2540	1600	1340	1470
26	2740	2620	2690	2180	2000	2120	2840	2640	2750	1620	1560	1590
27	2960	2740	2820	2240	1980	2140	3100	2720	2880	1560	1520	1530
28	3020	2960	2990	2100	1920	2010	3100	3000	3070	1660	1500	1580
29	---	---	---	2280	1900	2060	2980	2200	2710	1680	1500	1570
30	---	---	---	2400	1200	1750	2440	2120	2300	1720	1560	1650
31	---	---	---	1920	1540	1720	---	---	---	1760	1600	1680
MONTH	3300	2140	2800	3300	1200	2640	3120	1100	2360	3240	180	1640

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	1800	1660	1720	1200	1120	1160	681	661	674			
2	1840	1740	1790	1300	1180	1240	841	661	744			
3	1920	1800	1870	1320	1160	1250	941	741	855			
4	1960	1900	1920	1300	1180	1270	941	861	907			
5	1980	1860	1940	1320	1240	1280	1000	881	949			
6	2000	1800	1900	1400	1180	1280	1060	941	1010			
7	2020	1840	1930	1360	1260	1320	1160	981	1030			
8	1900	1740	1830	1240	1200	1230	1100	941	994			
9	1940	1740	1850	1300	1200	1230	---	---	---			
10	1980	1760	1890	1400	1280	1350	---	---	---			
11	2120	1800	1950	1480	1380	1420	---	---	---			
12	2180	1920	2040	1560	1460	1520	---	---	---			
13	2000	1780	1920	1580	1520	1550	---	---	---			
14	2180	2020	2110	1620	1540	1580	---	---	---			
15	2220	2100	2150	1680	1520	1620	1740	1120	1510			
16	2280	2180	2230	1740	1660	1700	1620	1300	1410			
17	2340	2240	2290	1720	1640	1690	1380	1300	1350			
18	2380	2260	2330	1720	1640	1690	1420	1340	1390			
19	2420	2340	2380	1780	1700	1740	1500	1400	1460			
20	2420	2320	2370	2440	1720	1870	1600	1420	1530			
21	2480	2380	2440	1820	1660	1760	1620	1460	1530			
22	2560	2460	2510	1640	1580	1610	1620	1460	1510			
23	2560	2480	2540	1760	1000	1360	1640	1480	1540			
24	2660	2540	2600	1260	821	965	1860	1460	1600			
25	2720	2660	2680	1540	280	750	2020	1540	1780			
26	2780	2680	2740	380	260	311	2000	1580	1730			
27	2740	1200	2070	500	380	411	2000	1620	1740			
28	1920	621	879	701	400	510	2000	1680	1780			
29	1100	921	990	721	480	568	1960	1760	1830			
30	1180	1100	1130	621	560	590	---	---	1870			
31	---	---	---	681	621	650	---	---	---			
MONTH	2780	621	2030	2440	260	1240	2020	661	1360			

## BRAZOS RIVER BASIN

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	17.5	14.5	16.0	19.5	17.5	19.0	12.0	10.0	11.0	8.0	5.5	7.0
2	19.0	16.0	17.5	17.5	16.0	16.5	12.0	10.5	11.0	5.5	4.5	4.5
3	20.0	18.0	19.0	17.5	16.0	16.5	11.0	8.5	10.0	4.5	3.5	4.0
4	21.0	19.0	20.0	17.5	15.5	16.5	10.5	8.0	9.0	4.5	4.0	4.0
5	22.5	19.5	21.0	18.0	15.0	16.0	9.5	8.0	8.5	5.5	4.5	5.0
6	23.5	20.5	22.0	16.5	14.0	15.5	10.0	7.0	8.5	7.0	4.5	6.0
7	22.0	19.5	20.0	18.5	15.0	16.5	10.0	7.0	8.5	7.0	5.5	6.5
8	24.5	19.5	21.5	20.0	16.0	18.0	10.5	8.5	9.5	8.0	6.0	7.0
9	---	20.5	---	20.0	17.5	18.5	12.5	9.5	11.0	9.0	7.0	8.0
10	22.5	19.5	21.0	18.0	15.0	16.5	12.5	9.5	11.0	8.5	7.0	8.0
11	21.5	20.0	20.5	16.5	13.5	15.0	14.0	11.0	12.5	7.5	5.5	6.5
12	22.5	20.0	21.0	17.0	13.5	15.5	14.5	13.0	13.5	5.0	4.0	4.5
13	23.0	19.0	21.5	17.0	14.5	16.0	14.5	13.0	14.0	4.5	3.5	4.0
14	21.0	19.5	20.0	19.0	15.5	17.0	12.5	9.5	10.5	6.0	3.0	4.0
15	20.0	19.0	19.5	17.5	15.5	17.0	10.0	9.5	9.5	6.0	3.5	4.5
16	21.0	18.0	19.5	16.0	14.0	15.0	9.5	8.5	9.0	6.5	5.0	5.5
17	19.5	17.5	18.5	14.5	14.0	14.0	9.5	8.5	9.0	7.5	4.5	6.0
18	22.0	18.0	20.0	14.0	12.5	13.0	9.5	9.0	9.0	8.5	5.5	6.5
19	21.0	17.0	19.0	12.5	11.0	11.5	9.5	9.0	9.5	9.5	5.5	7.0
20	19.5	16.0	18.0	11.0	10.5	10.5	10.5	9.5	10.0	5.5	3.5	4.5
21	18.0	17.0	17.5	11.0	10.0	10.5	11.5	10.5	11.0	6.0	3.0	4.0
22	16.5	15.0	16.0	11.5	9.0	10.5	12.0	9.5	11.0	6.5	3.5	5.0
23	15.0	13.5	14.0	12.5	10.0	11.0	11.5	9.5	10.5	6.0	4.5	5.0
24	13.5	13.0	13.5	11.5	10.5	10.5	12.5	9.5	11.0	8.0	4.5	6.0
25	13.5	13.0	13.5	13.0	9.5	11.0	9.0	7.5	8.0	9.0	5.5	6.5
26	15.0	13.5	14.0	13.0	11.5	12.0	9.0	7.5	8.0	7.5	5.0	6.5
27	18.0	15.5	17.5	11.5	10.0	11.0	11.5	9.0	10.0	7.5	6.5	7.0
28	18.5	17.5	18.0	11.5	9.0	10.0	16.0	12.0	14.0	9.5	6.5	7.5
29	18.5	17.5	17.5	11.5	9.0	10.5	16.0	15.0	15.5	11.0	7.0	9.0
30	18.5	17.0	17.5	12.0	10.0	11.0	15.0	12.0	13.0	10.5	7.5	9.0
31	20.0	18.5	19.0	---	---	---	11.5	8.0	10.0	7.0	2.5	4.0
MONTH	24.5	13.0	18.5	20.0	9.0	14.0	16.0	7.0	10.5	11.0	2.5	6.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.0	2.0	2.5	15.5	12.0	13.0	17.5	16.0	16.5	24.5	23.0	23.5
2	4.0	1.5	2.5	16.0	13.0	14.5	19.0	15.0	16.5	25.5	22.0	23.5
3	5.5	2.5	4.0	19.0	15.5	17.0	20.5	16.5	18.0	26.5	22.0	24.0
4	5.0	3.5	4.5	17.5	15.5	16.5	21.5	18.0	19.5	26.5	22.0	24.0
5	5.0	4.0	4.5	18.0	14.5	16.0	21.0	17.5	19.0	27.0	22.5	24.5
6	6.0	4.0	5.0	16.0	15.0	15.5	22.0	17.0	19.5	27.5	23.0	25.0
7	7.0	3.5	5.0	16.5	14.5	15.5	19.5	17.0	18.5	29.0	24.0	26.5
8	8.5	4.0	6.0	19.0	15.0	17.0	20.5	17.0	18.5	28.5	24.0	26.0
9	11.5	6.0	8.5	19.0	17.0	17.5	20.5	17.0	18.5	28.0	24.5	26.0
10	10.0	7.0	8.5	20.0	16.5	18.0	20.0	17.5	19.0	26.5	25.0	26.0
11	9.5	5.5	7.5	22.0	17.5	19.5	23.5	18.0	20.5	28.5	24.5	26.5
12	9.5	5.5	7.5	18.0	15.5	16.5	24.0	20.0	21.5	28.5	21.5	26.0
13	11.0	6.5	8.5	17.0	15.5	16.5	24.5	20.0	22.0	23.0	18.0	20.5
14	10.0	7.0	8.5	17.5	14.5	15.5	24.5	19.5	22.0	23.5	22.0	23.0
15	11.0	7.5	9.0	15.5	14.0	15.0	26.0	20.0	22.5	24.5	21.5	23.0
16	13.0	8.0	10.0	15.0	14.0	14.5	25.5	20.0	22.5	25.0	23.5	24.0
17	11.5	8.0	10.0	16.5	13.0	14.5	26.0	20.0	23.0	24.5	23.5	24.0
18	10.5	9.5	10.0	17.0	13.5	15.0	25.0	22.0	23.5	24.5	23.0	24.0
19	11.5	10.0	10.5	15.0	14.0	14.5	24.5	21.0	23.0	26.0	22.5	24.0
20	12.0	10.5	11.0	15.0	14.5	14.5	25.0	22.0	23.5	26.0	23.0	24.0
21	14.5	12.0	13.0	15.0	14.0	14.0	25.0	21.5	23.5	24.5	22.5	23.5
22	16.5	13.5	15.0	15.0	13.5	14.0	26.0	22.5	24.5	24.0	23.0	23.5
23	15.5	14.0	14.5	17.0	14.0	15.5	25.0	22.0	23.5	24.5	22.5	23.5
24	15.0	13.5	14.5	18.0	15.0	16.5	26.0	21.5	23.5	25.5	23.5	24.5
25	15.5	14.0	14.5	20.5	16.5	18.0	25.0	22.0	23.5	28.5	24.0	26.0
26	14.5	12.5	13.5	18.5	17.5	18.0	25.5	21.5	23.0	29.0	25.0	27.0
27	14.0	12.0	12.5	21.5	17.0	19.0	24.5	22.5	23.5	32.0	26.0	28.5
28	13.0	12.0	12.5	22.5	19.0	20.5	24.0	21.5	23.0	32.0	27.5	29.5
29	---	---	---	21.0	20.0	20.5	25.0	22.0	23.5	33.5	28.5	31.0
30	---	---	---	19.0	16.5	17.5	24.0	22.5	23.5	32.0	28.5	30.5
31	---	---	---	17.0	15.5	16.0	---	---	---	30.5	28.5	29.5
MONTH	16.5	1.5	9.0	22.5	12.0	16.5	26.0	15.0	21.5	33.5	18.0	25.5

## BRAZOS RIVER BASIN

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08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	31.0	27.5	29.0	28.0	25.5	26.5	33.5	27.5	30.5			
2	31.5	27.0	29.0	28.5	26.0	27.0	33.5	28.5	31.0			
3	30.5	27.0	29.0	29.5	26.0	27.5	33.0	29.0	31.0			
4	29.0	27.0	28.0	30.5	27.0	28.5	32.5	29.0	30.5			
5	27.0	25.5	26.0	31.0	27.0	29.0	32.5	28.0	30.5			
6	29.5	25.0	27.0	31.0	27.5	29.0	33.0	28.0	30.5			
7	30.5	26.0	28.0	30.5	26.0	28.0	32.0	28.0	30.0			
8	33.0	27.0	30.0	30.5	27.0	28.5	31.5	27.5	29.5			
9	33.0	28.5	30.5	31.0	27.0	29.0	---	---	---			
10	32.5	28.5	30.0	31.5	28.0	30.0	---	---	---			
11	30.5	27.0	28.5	31.5	28.0	30.0	---	---	---			
12	28.0	25.5	26.5	32.5	27.5	30.0	---	---	---			
13	28.5	25.5	26.5	30.5	28.0	29.5	---	---	---			
14	29.0	25.0	27.0	31.0	27.0	29.0	---	---	---			
15	30.5	26.0	28.0	31.5	27.5	29.5	---	---	---			
16	30.5	27.5	28.5	31.5	28.0	30.0	---	---	---			
17	32.0	27.0	29.0	35.0	28.5	31.5	---	---	---			
18	30.0	27.0	28.0	33.5	28.0	30.5	---	---	---			
19	30.5	25.0	27.5	33.5	28.5	30.5	---	---	---			
20	29.5	25.5	27.5	31.5	28.0	29.0	---	---	---			
21	29.0	26.0	27.5	30.0	27.0	28.0	---	---	---			
22	30.5	26.0	28.0	29.5	27.0	28.5	---	---	---			
23	29.0	27.0	28.0	27.5	26.5	27.0	---	---	---			
24	30.0	26.5	28.0	28.5	26.0	27.0	---	---	---			
25	29.5	26.5	28.0	29.5	24.0	26.5	---	---	---			
26	29.0	26.0	27.5	26.5	24.0	25.5	---	---	---			
27	27.5	24.5	25.5	29.0	26.0	27.0	---	---	---			
28	25.0	23.5	24.5	33.5	27.0	29.5	---	---	---			
29	27.5	24.5	25.5	32.0	27.5	29.5	---	---	---			
30	27.0	24.0	25.5	31.5	28.0	29.5	---	---	---			
31	---	---	---	32.0	27.5	29.5	---	---	---			
MONTH	33.0	23.5	27.5	35.0	24.0	28.5	33.5	27.5	30.5			

## 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 downstream from Battle Creek, 1.6 mi upstream from bridge on Farm Road 576, 9.8 mi southwest of Breckenridge, and about 14.6 mi upstream from Hubbard Creek Dam.

DRAINAGE AREA.--280 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1975, at site 1.6 mi downstream at datum 7.41 ft lower.

REMARKS.--Estimated daily discharges: Oct. 22-29, Nov. 2-7, Dec. 17, Mar. 16 to Apr. 21, Apr. 23 to May 14, May 16-20, June 27 to July 15, and July 23 to Aug. 28. Records are good except those for periods of estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--23 years (water years 1963-85), 27.8 ft<sup>3</sup>/s (1.35 in/yr), 20,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,000 ft<sup>3</sup>/s Oct. 13, 1981 (gage height, 28.60 ft, from floodmark), from field estimate, based on 2-section slope-area determination of peak flow; 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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Oct. 27	1000	4,530	20.40	May 13	0600	*5,000	*21.52
Dec. 31	1630	3,850	18.68	May 16	2000	2,200	12.78

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	171	.24	461	.34	.14	32	12	.09	1.3	.11	.00
2	.03	147	.20	87	.34	.10	14	4.2	.07	.60	.18	.00
3	.00	31	.17	50	.29	.06	6.3	2.3	.06	2.2	.09	.00
4	.00	6.8	.16	36	.29	.06	3.4	1.1	.04	1.1	.02	.00
5	.00	2.0	.20	26	.29	.04	2.3	.60	.78	.13	.21	.00
6	.00	1.3	.19	16	.25	.00	1.6	.46	154	.07	.78	.00
7	10	.60	.18	10	.34	.00	1.0	.40	36	.07	.34	.00
8	.37	.47	.18	7.2	.43	.00	1.0	.40	11	.13	.07	.00
9	.02	.32	.18	4.7	.88	.00	1.0	1.8	4.6	.11	.04	.00
10	.00	.18	.18	2.9	.79	.00	1.0	4.6	2.3	.07	.02	.00
11	.12	.15	.18	1.8	.69	.00	1.0	1.8	5.0	.07	.01	.00
12	2.9	.15	.21	1.2	.57	.00	1.0	431	16	.06	.00	.00
13	64	.15	.62	.97	.44	.00	1.0	2740	3.8	.04	.00	.00
14	273	.18	.51	.80	.40	187	.89	157	2.1	.03	29	.00
15	71	.18	106	.69	.40	22	.89	30	1.3	.07	32	.00
16	19	.18	486	.83	.34	11	.60	786	.89	.04	.40	.00
17	3.7	1.1	69	.87	.32	3.8	.46	361	.69	.04	.09	.00
18	.47	18	24	.70	.27	.78	.29	33	.52	.03	.06	.00
19	.08	4.6	9.6	.62	.21	.34	.21	10	.52	.03	.04	.00
20	329	1.0	4.8	.37	.23	98	1.8	4.7	.46	81	.00	.00
21	255	.47	2.3	.42	.25	56	1.4	38	.46	110	.00	.00
22	27	.29	1.3	.46	.23	32	1.3	16	.52	236	.00	.00
23	87	.23	.71	.46	41	20	1.0	61	.52	62	.00	.00
24	89	2.2	.41	.55	24	5.0	.52	13	.52	35	.00	.00
25	20	40	.25	.60	10	1.6	.29	3.4	.52	170	.00	.00
26	166	15	.19	.53	2.1	1.0	.25	1.4	.52	103	.00	.00
27	1610	3.7	.14	.56	.49	28	.21	.60	99	23	.83	.00
28	127	1.2	.15	.52	.18	12	.18	.40	43	7.3	.15	.00
29	32	.49	.14	.66	---	6.8	124	.25	8.0	2.5	.00	.00
30	14	.33	.13	.52	---	224	35	.15	2.3	.52	.00	.00
31	7.1	---	1650	.34	---	90	---	.11	---	.18	.00	---
TOTAL	3207.87	450.27	2358.52	715.27	86.36	799.72	235.89	4716.67	395.58	836.69	64.44	.00
MEAN	103	15.0	76.1	23.1	3.08	25.8	7.86	152	13.2	27.0	2.08	.000
MAX	1610	171	1650	461	41	224	124	2740	154	236	32	.00
MIN	.00	.15	.13	.34	.18	.00	.18	.11	.04	.03	.00	.00
CFSM	.37	.05	.27	.08	.01	.09	.03	.54	.05	.10	.007	.000
IN.	.43	.06	.31	.10	.01	.11	.03	.63	.05	.11	.01	.00
AC-FT	6360	893	4680	1420	171	1590	468	9360	785	1660	128	.00

CAL YR 1984	TOTAL	6423.31	MEAN 17.6	MAX 1650	MIN .00	CFSM .06	IN .85	AC-FT 12740
WTR YR 1985	TOTAL	13867.28	MEAN 38.0	MAX 2740	MIN .00	CFSM .14	IN 1.84	AC-FT 27510

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 August 1979, March 1982 to current year.

INSTRUMENTATION.--Beginning Mar. 30, 1982, specific conductance and water temperature are recorded continuously at this station.

REMARKS.--When maximum and minimum specific conductance values are not shown, mean value is estimated. 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, 28,700 microsiemens Apr. 5, 10, 1976; minimum daily, 59 microsiemens Nov. 21, 1963.

WATER TEMPERATURES (1976-77, 1982-85): Maximum daily, 36.5°C May 29, 1985; minimum daily, 0.0°C Jan. 9, 10, 1977.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 11,900 microsiemens July 20; minimum daily, 100 microsiemens Jan. 1, May 17.

WATER TEMPERATURES: Maximum daily, 36.5°C May 29; minimum daily, 0.5°C Jan. 20, 31.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 30...	1755	11	340	19.0	110	35	39	3.9	22
DEC 18...	1720	15	452	9.0	140	48	46	5.2	35
JAN 29...	1610	.65	5690	13.0	1100	930	320	70	780
APR 22...	1635	1.2	3390	28.0	690	560	210	40	450
MAY 15...	1445	25	642	25.0	170	61	55	6.9	57
JUL 16...	1510	.04	10200	33.0	1500	1400	430	110	1600

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 30...	.9	3.4	79	21	41	.20	7.8	190
DEC 18...	1	3.9	89	24	67	.20	6.2	240
JAN 29...	11	4.2	160	280	1600	.20	4.7	3200
APR 22...	8	5.7	128	180	950	.20	3.1	1900
MAY 15...	2	5.7	105	32	120	.20	8.1	350
JUL 16...	18	6.4	96	510	3200	.30	3.8	5900



## BRAZOS RIVER BASIN

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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. 1984	3207.87	276	147	1270	83	717	10	90	50
NOV. 1984	450.27	444	237	288	130	163	17	20	80
DEC. 1984	2358.52	806	431	2750	240	1550	30	194	150
JAN. 1985	715.27	288	155	299	87	168	11	21	52
FEB. 1985	86.36	4070	2270	529	1300	296	160	37	740
MAR. 1985	799.72	1530	831	1790	470	1010	59	127	280
APR. 1985	235.89	1950	1060	674	590	379	75	48	350
MAY 1985	4716.67	844	454	5780	260	3250	32	409	150
JUNE 1985	395.58	1650	901	962	510	541	64	68	300
JULY 1985	836.69	1250	711	1610	400	896	50	114	230
AUG. 1985	64.44	1970	1070	185	600	104	75	13	360
SEPT 1985	0.00	*	*	0.00	*	0.00	*	0.00	*
TOTAL	13867.28	**	**	16100	**	9080	**	1140	**
WTD.AVG.	38	796	431	**	240	**	30	**	140

## SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	660	620	647	460	200	321	620	580	602	160	100	128
2	660	640	648	320	260	300	720	620	661	260	180	220
3	---	---	---	360	320	341	820	720	771	360	260	317
4	---	---	---	400	360	377	840	780	808	480	360	424
5	---	---	---	420	400	409	820	780	798	580	460	528
6	---	---	---	460	420	438	940	820	893	740	600	673
7	800	260	498	480	440	458	1040	940	987	900	760	836
8	280	260	267	500	460	479	1140	1040	1090	1040	900	957
9	300	280	283	520	480	498	1320	1140	1210	1200	1040	1100
10	---	---	---	540	500	524	1500	1320	1390	1380	1180	1260
11	660	300	399	560	540	550	1600	1500	1530	1720	1380	1540
12	460	220	306	600	560	578	1820	1600	1700	2180	1680	1860
13	960	180	458	640	580	609	1980	1740	1840	2420	2040	2220
14	380	220	332	680	620	654	2060	2000	2040	2740	2280	2490
15	420	360	388	720	660	698	2060	660	1880	3140	2600	2790
16	460	420	433	780	720	748	440	340	371	3260	2860	3080
17	500	460	475	820	760	789	420	380	403	3180	2800	2940
18	520	480	501	980	840	918	---	---	415	3920	3020	3320
19	540	520	531	1000	980	994	---	---	463	4040	3320	3460
20	560	480	533	1020	1000	1000	---	---	495	4660	3840	4170
21	---	---	426	1000	980	993	600	480	526	4620	4020	4410
22	---	---	487	1000	960	986	660	560	602	4400	4260	4320
23	---	---	460	1000	960	978	1020	680	803	4520	3940	4410
24	---	---	452	1020	960	986	5080	1000	2870	4400	3840	3950
25	---	---	515	1060	1000	1040	3440	2200	2840	4220	3360	3770
26	---	---	433	980	840	908	5500	1620	2470	4400	3700	4010
27	---	---	140	840	660	735	---	---	2650	4960	4060	4540
28	---	---	155	640	560	601	---	---	2730	5420	4460	5020
29	---	---	268	580	540	561	---	---	2790	6780	5340	5770
30	---	---	340	600	560	568	---	---	2830	6320	4620	5150
31	400	360	381	---	---	---	2180	220	888	5900	5440	5750
MONTH	960	180	414	1060	200	668	5500	220	1370	6780	100	2760

## BRAZOS RIVER BASIN

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08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	6120	5880	6020	4940	4560	4800	1800	1760	1780	---	---	1920
2	6560	6180	6410	4920	4700	4860	1860	1800	1830	2120	1940	2030
3	6320	5640	6100	4980	4740	4880	1940	1860	1900	2260	2120	2190
4	5640	5420	5490	5100	4560	4850	2040	1940	1970	4280	2180	2380
5	5680	5460	5540	5060	3920	4490	2140	2020	2070	---	---	2400
6	5880	5240	5570	---	---	---	2200	2120	2160	2640	2360	2480
7	5320	4860	5100	---	---	---	2320	2200	2260	2960	2540	2740
8	---	---	4860	---	---	---	2420	2320	2350	3420	2860	3090
9	---	---	5350	---	---	---	2500	2420	2450	3700	3340	3540
10	5900	5720	5800	---	---	---	2580	2500	2540	3700	3500	3620
11	5800	5460	5630	---	---	---	2680	2580	2630	3480	2920	3170
12	6160	5620	5890	---	---	---	2780	2680	2720	2920	2200	2730
13	6440	5880	6160	---	---	---	2840	2780	2800	2120	340	702
14	6640	6440	6540	1560	320	510	2940	2840	2880	460	360	403
15	7460	6540	6890	1720	380	1110	3020	2920	2970	580	460	503
16	7940	7280	7530	3000	1760	2610	3100	3000	3050	840	240	695
17	8700	7040	8100	2540	2120	2360	3140	3080	3120	260	100	160
18	7900	7040	7400	5700	2080	2690	3240	3140	3190	420	160	284
19	7820	7160	7440	10800	4000	6390	3260	3200	3230	760	420	597
20	8680	7880	8150	9800	900	4240	3340	3240	3280	1020	760	891
21	8240	7400	7910	1200	920	1030	3360	3280	3330	860	340	590
22	---	---	8050	1280	1180	1220	3420	3280	3370	840	500	660
23	8400	1220	4850	4640	1140	1670	3680	3060	3380	960	520	802
24	2940	1580	2330	7180	1200	2240	4120	3520	3920	1160	720	923
25	3460	3040	3350	---	---	2480	5200	3740	4510	1540	1180	1380
26	3420	3360	3390	---	---	2870	6380	5060	5650	1820	1560	1680
27	3460	3220	3360	1600	1500	1550	7200	6260	6730	2180	1820	1990
28	4860	3480	4190	1700	1600	1650	8560	7180	7900	2600	2220	2310
29	---	---	---	1820	1700	1760	6980	1320	1920	2860	2480	2610
30	---	---	---	---	---	1280	1780	1640	1680	3260	2860	2990
31	---	---	---	---	---	1460	---	---	---	3760	3200	3430
MONTH	8700	1220	5840	10800	320	2740	8560	1320	3120	4280	100	1800

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	4080	3680	3930	2900	2440	2590	840	760	789			
2	4400	4000	4220	3600	2960	3240	960	820	873			
3	4520	4340	4460	4500	3620	4020	1120	940	1030			
4	5200	4500	4920	4180	3920	4040	1280	1120	1190			
5	5480	1360	4970	4360	4040	4190	1400	1260	1320			
6	1680	540	788	4800	4400	4570	1520	1380	1440			
7	740	560	659	5280	4820	5030	1620	1520	1560			
8	940	760	845	5840	5280	5530	1740	1600	1660			
9	1060	940	1010	6440	5820	6180	1840	1720	1780			
10	1160	1040	1110	7060	6480	6780	1940	1820	1870			
11	1180	1140	1170	7660	7080	7400	2020	1920	1960			
12	1200	1180	1190	8060	7720	7900	---	---	---			
13	1540	1180	1260	8620	8080	8350	---	---	---			
14	2180	1560	1820	8900	8640	8780	2000	1920	1960			
15	2880	2260	2570	9800	8840	9430	2040	2000	2020			
16	3620	2920	3310	10600	9860	10200	2080	2020	2050			
17	4280	3620	3950	10900	10400	10700	2080	2040	2060			
18	4840	4280	4620	11400	10800	11000	2100	2060	2080			
19	5380	4960	5190	11600	11100	11400	2100	2060	2080			
20	6320	5400	5710	11900	480	8490	---	---	---			
21	6860	6240	6560	480	320	403	---	---	---			
22	7660	6840	7220	420	300	356	---	---	---			
23	8440	7660	8070	460	360	410	---	---	---			
24	9020	8420	8730	500	440	473	---	---	---			
25	9940	9000	9480	540	500	521	---	---	---			
26	10300	9700	10100	580	540	559	---	---	---			
27	10400	460	2910	620	580	594	1520	1460	1500			
28	3440	1320	2300	640	600	624	1540	1460	1500			
29	3020	2220	2410	680	620	658	---	---	---			
30	2420	2200	2310	720	680	695	---	---	---			
31	---	---	---	760	700	735	---	---	---			
MONTH	10400	460	3930	11900	300	4700	2100	760	1620			

## BRAZOS RIVER BASIN

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	20.5	14.0	17.0	20.0	18.0	19.0	11.0	9.5	10.5	8.0	4.5	6.5
2	21.0	15.5	18.0	18.0	17.0	17.5	11.0	10.0	10.5	4.5	3.5	4.0
3	---	---	---	17.0	16.5	17.0	9.5	8.0	9.0	4.5	2.5	3.5
4	---	---	---	17.0	16.5	17.0	9.5	8.0	8.5	5.5	3.0	4.0
5	---	---	---	17.0	15.5	16.0	8.0	7.5	8.0	6.5	4.0	5.0
6	---	---	---	16.0	15.0	15.5	8.5	6.0	7.5	8.0	4.0	6.0
7	23.5	19.0	21.5	18.5	15.5	16.5	9.5	7.0	8.0	7.5	5.0	6.5
8	25.0	18.5	21.0	20.0	15.5	17.5	10.5	9.0	9.5	8.5	5.5	6.5
9	22.0	18.0	19.5	19.5	17.0	18.0	12.5	10.0	11.0	11.0	7.0	8.5
10	---	---	---	17.0	13.5	15.0	12.5	10.0	11.0	8.0	5.5	7.0
11	20.5	19.0	19.5	14.0	11.0	12.5	13.5	11.5	12.5	5.5	3.5	4.5
12	24.5	19.0	21.0	14.5	11.0	13.0	15.0	13.5	14.0	4.0	1.5	2.5
13	22.5	18.0	21.0	15.0	12.5	14.0	16.0	14.5	15.0	4.5	2.0	3.0
14	20.5	20.0	20.0	17.5	14.5	16.0	14.0	10.0	11.5	8.0	2.5	5.0
15	20.5	19.5	20.0	17.0	15.0	16.5	10.0	9.5	10.0	7.0	3.0	5.0
16	20.5	19.5	19.5	15.0	13.5	14.0	10.5	9.5	10.0	9.0	5.5	7.0
17	19.5	17.5	18.5	14.5	13.5	14.0	11.0	10.0	10.5	9.0	4.0	6.5
18	21.5	18.0	19.5	14.0	12.5	13.0	11.0	10.5	10.5	11.0	5.0	8.0
19	20.0	17.0	18.5	12.5	11.0	11.5	9.5	8.5	9.0	12.5	5.5	8.0
20	19.0	18.5	19.0	11.0	10.0	10.5	11.5	9.5	10.5	5.5	.5	2.5
21	19.0	19.0	19.0	10.5	9.5	10.0	13.0	11.0	12.0	6.0	3.0	4.0
22	---	---	---	11.0	8.0	9.5	12.0	9.5	10.5	6.0	2.5	4.0
23	---	---	---	11.0	9.0	10.0	12.0	9.0	10.5	7.0	4.0	5.0
24	---	---	---	10.5	9.5	10.0	14.0	9.0	11.5	10.0	4.0	6.5
25	---	---	---	11.5	9.5	10.5	8.5	6.5	7.5	12.0	5.0	8.0
26	---	---	---	12.0	11.0	11.5	9.5	7.0	8.0	8.5	4.5	7.0
27	---	---	---	11.5	9.5	10.5	14.0	9.5	11.5	9.0	7.5	8.0
28	---	---	---	10.5	8.5	9.5	17.5	14.0	15.5	11.0	5.0	8.0
29	---	---	---	11.5	9.0	10.0	17.0	16.0	16.5	13.0	7.5	10.0
30	---	---	---	11.5	9.5	10.5	15.5	11.0	13.0	12.5	7.0	11.0
31	20.5	19.0	20.0	---	---	---	11.5	8.0	9.5	6.5	.5	2.0
MONTH	25.0	14.0	19.5	20.0	8.0	13.5	17.5	6.0	10.5	13.0	.5	6.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.5	1.5	2.5	17.0	12.0	14.5	19.5	18.5	19.0	23.0	21.5	22.0
2	5.0	1.5	3.5	16.5	13.5	15.0	20.0	18.0	19.0	24.0	21.0	22.5
3	5.0	1.5	3.0	20.0	15.5	17.5	21.5	19.0	20.0	24.5	20.5	22.5
4	4.5	2.0	3.5	18.0	15.0	16.5	22.0	20.0	21.0	25.0	20.5	22.5
5	4.5	2.5	3.5	16.0	12.5	14.5	21.5	20.0	21.0	25.0	20.5	23.0
6	7.0	3.5	5.0	---	---	---	22.0	19.5	20.5	25.0	21.0	23.5
7	8.5	3.5	5.5	---	---	---	21.5	20.0	20.5	25.5	21.5	24.0
8	---	---	---	---	---	---	21.0	19.5	20.0	26.0	22.5	24.5
9	---	---	---	---	---	---	21.5	19.5	20.5	26.0	22.5	24.0
10	10.0	6.0	8.5	---	---	---	21.5	20.0	21.0	25.0	23.5	24.5
11	10.5	2.5	6.5	---	---	---	23.5	21.0	22.5	27.0	23.5	25.0
12	10.0	4.5	7.0	---	---	---	24.0	22.5	23.0	27.5	19.0	25.0
13	14.0	6.0	9.5	---	---	---	24.5	23.0	23.5	24.5	19.5	21.5
14	12.0	7.5	9.5	14.5	11.5	13.0	25.0	22.5	24.0	24.5	21.5	23.5
15	11.5	6.5	9.0	14.0	12.0	13.0	26.0	23.0	24.5	27.0	21.5	24.0
16	14.5	7.5	10.5	14.0	13.5	14.0	26.0	23.5	25.0	27.5	23.0	25.5
17	13.5	8.5	11.0	16.0	13.0	14.5	27.0	24.0	25.5	25.0	21.5	23.0
18	12.0	10.5	11.0	16.0	14.0	15.0	27.0	25.0	26.0	24.5	22.5	23.5
19	13.5	11.0	12.0	15.5	14.0	15.0	27.0	25.5	26.0	27.0	21.5	24.0
20	15.0	12.0	13.5	15.5	14.5	15.0	28.0	26.0	27.0	26.5	23.0	24.0
21	17.0	14.5	15.5	15.5	15.0	15.0	29.0	26.0	27.5	25.5	21.0	23.0
22	19.5	16.0	17.5	16.0	14.5	15.0	28.0	22.5	26.5	23.5	21.5	22.5
23	17.0	14.5	15.5	18.0	16.0	16.5	28.0	19.0	23.0	25.5	21.5	23.5
24	15.0	13.5	14.0	19.0	16.5	17.5	29.5	18.0	23.0	28.0	22.5	25.5
25	15.5	12.0	13.5	20.5	17.5	19.0	27.5	19.0	23.0	30.5	23.5	26.5
26	14.0	12.0	13.0	20.0	19.0	19.5	27.5	20.0	23.0	32.5	25.5	28.5
27	14.0	10.5	12.0	21.5	19.0	20.0	27.0	22.0	23.5	34.5	26.5	30.0
28	13.0	12.0	12.5	22.0	20.5	21.5	27.0	21.0	23.5	35.5	27.5	31.0
29	---	---	---	22.0	21.5	22.0	22.5	20.5	21.0	36.5	28.0	32.0
30	---	---	---	22.0	20.0	20.5	23.5	21.0	22.0	34.5	28.0	31.0
31	---	---	---	19.5	18.5	19.0	---	---	---	31.5	28.0	30.0
MONTH	19.5	1.5	9.5	22.0	11.5	16.5	29.5	18.0	23.0	36.5	19.0	25.0

## BRAZOS RIVER BASIN

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08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	33.0	27.5	30.0	26.5	24.0	25.5	28.5	26.0	27.5			
2	34.5	27.5	30.5	27.0	24.5	25.5	29.0	26.0	27.5			
3	34.0	28.0	31.0	27.5	25.0	26.5	28.5	26.5	27.5			
4	31.0	28.5	30.0	28.0	25.0	26.5	29.0	26.5	27.5			
5	29.0	26.0	27.5	28.5	25.5	27.0	29.0	26.0	27.5			
6	27.0	25.5	26.0	28.5	26.0	27.5	29.0	26.5	27.5			
7	28.5	26.0	27.0	28.0	25.5	27.0	28.0	26.5	27.0			
8	30.0	27.5	28.5	27.5	25.5	27.0	28.5	25.5	27.0			
9	30.5	28.5	29.5	28.5	26.0	27.0	29.0	26.0	27.5			
10	31.0	28.5	30.0	28.5	26.5	27.5	29.0	26.0	27.5			
11	30.5	28.0	29.0	28.5	26.5	27.5	28.5	25.5	27.0			
12	29.5	26.5	27.5	28.5	26.0	27.5	---	---	---			
13	26.5	23.0	25.5	28.5	26.5	27.5	---	---	---			
14	27.0	22.5	24.5	29.0	26.5	28.0	28.5	25.5	27.0			
15	29.0	24.5	26.5	29.0	27.0	28.0	26.5	25.5	26.0			
16	29.0	26.0	27.5	33.5	27.0	29.5	27.5	25.5	26.5			
17	30.0	26.0	28.0	34.5	27.5	30.5	28.0	25.5	27.0			
18	29.0	26.5	27.0	34.5	27.5	31.0	28.0	26.0	27.0			
19	28.0	24.0	26.0	32.5	28.0	30.0	27.5	25.5	26.5			
20	28.0	24.5	26.5	30.5	24.0	27.5	---	---	---			
21	28.0	25.5	26.5	26.0	24.0	25.0	---	---	---			
22	29.0	26.0	27.5	26.0	24.0	24.5	---	---	---			
23	28.0	26.5	27.0	25.5	24.5	25.0	---	---	---			
24	29.0	26.0	27.0	26.0	24.5	25.5	---	---	---			
25	28.5	26.5	27.5	26.0	25.0	25.5	---	---	---			
26	28.5	26.5	27.5	27.0	26.0	26.5	---	---	---			
27	28.0	24.5	25.0	28.5	26.5	27.5	26.5	24.5	25.5			
28	25.0	23.0	24.0	28.5	26.5	28.0	27.0	24.5	25.5			
29	26.0	23.5	24.5	29.0	26.5	28.0	---	---	---			
30	26.0	24.0	25.0	29.0	26.5	28.0	---	---	---			
31	---	---	---	28.5	26.0	27.5	---	---	---			
MONTH	34.5	22.5	27.5	34.5	24.0	27.5	29.0	24.5	27.0			

## 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 upstream from U.S. Highway 183, 6.5 mi northwest of Breckenridge, and 12.6 mi upstream from mouth.

DRAINAGE AREA.--1,085 mi<sup>2</sup>.

## 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 long. There are two additional levees, the north and south, making an overall length of 3.5 mi. Storage began September 1962 and the dam was completed in December 1962. The emergency spillway is a 2,000-foot-wide 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 ft<sup>3</sup>/s with a 17.5-foot head through a 22.0-foot-diameter concrete conduit. The dam is the property of the West Central Texas Municipal Water District. 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 emergency 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, 441,200 acre-ft Oct. 14, 1981, for several hours (elevation, 1,190.22 ft); minimum since normal operating level was reached in May 1969, 157,400 acre-ft Oct. 1, 1984 (elevation, 1,169.89 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 236,500 acre-ft May 24, 25 (elevation, 1,177.12 ft); minimum, 157,400 acre-ft Oct. 1 (elevation, 1,169.89 ft).

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

1,169.0	149,100	1,175.0	211,100
1,172.0	178,300	1,178.0	247,600

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157400	188600	187600	204100	203100	205700	208100	206500	234900	230800	228000	219800
2	157500	190200	187200	204600	203100	205800	208100	206400	234500	230500	227400	219700
3	157500	189900	187000	204900	203000	205800	208100	206100	234100	230400	227200	219400
4	157600	189400	187300	205100	202900	205800	208100	206000	234100	230000	226800	219000
5	157800	189400	187200	205200	202900	205800	208100	205800	234900	229900	226600	218800
6	158200	189200	187300	205200	202600	205800	208100	205600	235400	229300	226200	218400
7	158300	188900	187300	205400	202600	205800	208100	205100	235400	229100	225700	218100
8	158300	188800	187400	205200	202600	205800	208100	205100	235200	228900	225700	217800
9	157900	189400	187000	205200	202700	205800	208100	205000	234900	228500	225100	217500
10	157800	188500	186900	205100	202600	205800	208000	204800	234400	228200	224900	217400
11	158300	188400	187000	204600	202600	205200	207800	204700	234400	228200	224500	217000
12	158500	188300	186900	204400	202700	205200	207700	204600	233800	227700	224300	216900
13	158900	188300	187300	204800	202500	205500	207600	231700	233800	227300	223800	216900
14	160400	187800	187200	204600	202400	205800	207600	233500	233500	226900	224100	216800
15	160100	187700	189500	204700	202400	205800	207600	233800	233400	226600	224400	216600
16	159700	187600	190900	204800	202200	205800	207400	234500	233000	226200	224100	216400
17	159400	188300	190900	204800	202200	205800	207100	235200	232300	225800	224100	216100
18	159400	188300	191100	204700	202200	205800	206700	235500	232100	225500	223800	215700
19	159200	187900	191200	204700	202200	206400	206600	235400	231900	225100	223400	215600
20	162900	187800	191200	204300	203000	207500	206500	235400	231500	224700	223200	215300
21	164600	187600	191300	204100	202900	207700	206500	235700	231200	225100	222700	215000
22	164800	187600	191100	203900	202600	208600	206500	235900	231000	225600	222400	214600
23	164900	187600	191200	203800	202900	208200	206500	236400	230700	225800	221300	214100
24	165100	187600	191200	203800	205400	208100	206400	236500	230200	226200	221400	214000
25	166100	187600	191200	203800	205600	208100	206400	236500	230100	227800	221000	213100
26	169100	187600	191200	203500	205200	208100	206300	236300	229700	229100	220700	212800
27	184900	187600	191200	203400	205400	208100	205800	236000	230800	229400	221300	212600
28	185500	187600	191200	203500	205700	208100	205900	236000	231500	229100	221000	212200
29	186100	187600	191200	203300	---	208100	206800	235900	231500	228900	220800	212300
30	186200	187600	191200	203100	---	208100	206800	235700	231100	228400	220600	212100
31	186200	---	200900	203000	---	208100	---	235100	---	228200	220200	---
MAX	186200	190200	200900	205400	205700	208600	208100	236500	235400	230800	228000	219800
MIN	157400	187600	186900	203000	202200	205200	205800	204600	229700	224700	220200	212100
(+)	1172.75	1172.89	1174.11	1174.29	1174.53	1174.74	1174.63	1177.01	1176.68	1176.44	1175.78	1175.09
(#)	+28100	+1400	+13300	+2100	+2700	+2400	-1300	+28300	-4000	-2900	-8000	-8100

CAL YR 1984 MAX 206600 MIN 157400 (+) -5700  
WTR YR 1985 MAX 236500 MIN 157400 (#) +54000

(+) Elevation, in feet, at end of month.  
(#) Change in contents, in acre-feet.



## BRAZOS RIVER BASIN

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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 1984 TO SEPTEMBER 1985

								OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)		HARD- NESS (MG/L AS CACO3)
		SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)			
DATE	TIME									
JAN										
23...	1310	1.00	860	7.9	5.5	.70	11.6	96	220	
23...	1312	10.0	860	7.9	5.5	--	11.5	95	--	
23...	1314	20.0	860	7.9	5.5	--	11.5	95	--	
23...	1316	30.0	860	7.8	5.5	--	11.5	95	--	
23...	1318	40.0	860	7.8	5.5	--	11.5	95	--	
23...	1320	50.0	860	7.8	5.5	--	11.5	95	--	
23...	1322	60.0	859	7.8	5.5	--	11.5	95	220	
AUG										
13...	1425	1.00	874	8.3	30.0	1.90	7.2	100	210	
13...	1427	10.0	875	8.3	29.5	--	7.3	100	--	
13...	1429	20.0	877	8.1	29.0	--	6.6	90	--	
13...	1431	30.0	879	7.9	28.5	--	5.6	76	--	
13...	1433	40.0	875	7.3	26.5	--	.2	3	--	
13...	1435	50.0	870	7.3	25.5	--	.2	3	--	
13...	1437	62.0	887	7.2	23.5	--	.4	5	230	
		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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
DATE										
JAN										
23...	120	63	15	81	2	6.6	95	41	190	
23...	--	--	--	--	--	--	--	--	--	
23...	--	--	--	--	--	--	--	--	--	
23...	--	--	--	--	--	--	--	--	--	
23...	--	--	--	--	--	--	--	--	--	
23...	130	64	15	78	2	6.6	94	41	190	
AUG										
13...	120	61	15	81	3	6.4	98	38	200	
13...	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	
13...	110	66	15	79	2	6.0	113	27	190	
		FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, 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)
DATE										
JAN										
23...	.30	3.2	460	.10	.90	1.0	.010	8	4	
23...	--	--	--	--	--	--	--	--	--	
23...	--	--	--	--	--	--	--	--	--	
23...	--	--	--	.10	.60	.70	.010	20	<10	
23...	--	--	--	--	--	--	--	--	--	
23...	--	--	--	--	--	--	--	--	--	
23...	--	3.2	450	.10	.40	.50	.020	30	<10	
AUG										
13...	.30	2.7	460	<.10	.40	--	<.010	18	14	
13...	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	
13...	--	--	--	.10	.50	.60	.020	10	40	
13...	--	--	--	<.10	.40	--	.020	30	550	
13...	--	--	--	--	--	--	--	--	--	
13...	--	7.3	460	<.10	1.1	--	.100	820	1600	

## BRAZOS RIVER BASIN

## HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324843098582901 HUBBARD CREEK RESERVOIR SITE P6

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
23...	1715	1.00	845	8.0	5.0	11.9	97
23...	1717	10.0	845	7.9	5.0	11.6	94
23...	1719	20.0	846	7.9	5.0	11.5	94
23...	1721	30.0	846	7.8	5.0	11.5	94
23...	1723	40.0	850	7.8	5.0	11.4	93
23...	1725	51.0	851	7.8	5.0	11.2	91
AUG							
13...	1746	1.00	870	8.2	29.5	7.1	98
13...	1748	10.0	870	8.2	29.0	7.1	97
13...	1750	20.0	872	8.1	28.5	6.6	89
13...	1752	30.0	874	7.9	28.5	5.8	78
13...	1754	40.0	872	7.3	26.5	.2	3
13...	1756	54.0	871	7.3	25.0	.2	3

324649099000501 HUBBARD CREEK RESERVOIR SITE P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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									
24...	0830	1.00	814	8.0	4.5	.50	12.1	98	210
24...	0832	10.0	814	8.0	4.5	--	12.1	98	--
24...	0834	20.0	814	8.0	4.5	--	12.1	98	--
24...	0836	30.0	815	8.0	4.5	--	12.1	98	--
24...	0838	42.0	816	8.0	4.0	--	12.1	97	210
AUG									
14...	0740	1.00	885	8.0	27.5	.80	6.1	81	210
14...	0742	10.0	885	8.0	27.5	--	6.1	81	--
14...	0744	20.0	885	8.0	27.5	--	6.0	80	--
14...	0746	30.0	884	7.6	27.5	--	3.3	44	--
14...	0748	40.0	885	7.3	26.5	--	.2	3	--
14...	0750	45.0	886	7.3	25.5	--	.2	3	220

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
24...	110	60	14	75	2	6.3	94	36	170
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	110	60	14	76	2	6.2	94	39	180
AUG									
14...	110	63	14	82	3	6.5	103	38	200
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	100	64	14	79	2	6.2	118	33	190

## BRAZOS RIVER BASIN

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## HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324649099000501 HUBBARD CREEK RESERVOIR SITE P9--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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								
24...	3.1	420	.20	.80	1.0	.020	6	6
24...	--	--	--	--	--	--	--	--
24...	--	--	.20	.50	.70	.010	20	<10
24...	--	--	--	--	--	--	--	--
24...	3.2	430	.20	.80	1.0	.010	14	6
AUG								
14...	3.5	470	<.10	.40	--	.020	12	6
14...	--	--	--	--	--	--	--	--
14...	--	--	<.10	.40	--	.010	20	20
14...	--	--	<.10	.40	--	--	20	230
14...	--	--	--	--	--	--	--	--
14...	6.0	470	<.10	.90	--	.040	260	2200

324606099000201 HUBBARD CREEK RESERVOIR SITE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
23...	1225	1.00	735	7.9	3.5	12.1	95
23...	1227	10.0	735	7.9	3.5	12.1	95
23...	1229	20.0	760	7.9	4.0	11.9	94
23...	1231	32.0	790	7.8	4.0	11.7	93
AUG							
13...	1400	1.00	877	8.0	29.0	6.3	86
13...	1402	10.0	877	7.9	28.0	5.9	79
13...	1404	20.0	877	7.8	28.0	5.4	72
13...	1406	31.0	882	7.5	28.0	2.8	38

324514099010201 HUBBARD CREEK RESERVOIR SITE P11

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
24...	0900	1.00	680	7.9	3.5	12.2	96
24...	0902	10.0	685	7.9	3.5	12.0	95
24...	0904	21.0	763	7.8	4.0	11.6	93
AUG							
14...	0812	1.00	883	8.1	27.5	6.5	87
14...	0814	10.0	880	8.0	27.5	6.1	81
14...	0816	21.0	880	7.8	27.0	4.6	61

## BRAZOS RIVER BASIN

## HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324301099001701 HUBBARD CREEK RESERVOIR SITE P12

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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									
24...	0940	1.00	463	7.9	3.5	.10	11.6	91	140
24...	0942	9.00	586	7.9	3.5	--	11.5	91	160
AUG									
14...	0844	1.00	876	7.8	27.5	.20	5.6	75	220
14...	0846	11.0	877	7.8	27.0	--	5.5	73	220

DATE	TIME	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN										
24...	54	44	6.7	34	1	4.3	84	24	73	
24...	77	50	9.5	51	2	4.9	87	29	110	
AUG										
14...	120	67	14	79	2	6.5	110	35	190	
14...	110	66	14	79	2	6.4	110	37	190	

DATE	TIME	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									
24...		5.2	240	.40	.90	1.3	.060	37	6
24...		4.5	310	.30	1.2	1.5	.050	55	13
AUG									
14...		5.4	460	<.10	.60	--	.020	200	180
14...		5.0	460	.10	.60	.70	.050	88	160

324949098594301 HUBBARD CREEK RESERVOIR SITE P13

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
23...	1340	1.00	864	8.0	5.5	11.8	97
23...	1342	10.0	864	7.9	5.0	11.7	95
23...	1344	20.0	863	7.9	5.0	11.7	95
23...	1346	30.0	862	7.9	5.0	11.6	94
23...	1348	40.0	862	7.9	5.0	11.6	94
23...	1350	50.0	861	7.9	5.0	11.6	94
23...	1352	57.0	861	7.8	5.0	11.5	94
AUG							
13...	1500	1.00	876	8.3	30.0	7.1	99
13...	1502	10.0	876	8.3	29.5	7.0	96
13...	1504	20.0	876	8.2	29.0	6.9	94
13...	1506	30.0	876	8.0	28.5	6.5	88
13...	1508	40.0	873	7.3	26.5	.2	3
13...	1510	50.0	873	7.3	25.5	.2	3
13...	1512	56.0	883	7.3	25.0	.3	4

## BRAZOS RIVER BASIN

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## HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

## 324802099021601 HUBBARD CREEK RESERVOIR SITE P15

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
23...	1415	1.00	840	7.9	4.0	12.1	96
23...	1417	10.0	841	7.9	4.0	12.0	95
23...	1419	23.0	842	7.8	4.0	11.9	94
AUG							
13...	1530	1.00	880	8.2	29.5	7.0	96
13...	1532	10.0	881	8.1	28.5	6.4	87
13...	1534	20.0	885	8.1	28.5	6.1	83
13...	1536	29.0	886	8.0	28.5	5.8	78

## 324653099032401 HUBBARD CREEK RESERVOIR SITE P16

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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...	1450	1.00	840	7.9	4.0	.30	12.3	98	210
23...	1452	10.0	1010	7.7	4.0	--	11.2	89	--
23...	1454	19.0	1400	7.7	5.0	--	10.6	86	350
AUG									
13...	1554	1.00	893	8.2	29.0	.40	7.0	96	220
13...	1556	10.0	893	8.1	28.0	--	6.1	82	--
13...	1558	20.0	890	8.0	28.0	--	5.6	75	220

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
23...	110	60	14	77	2	5.9	97	41	180
23...	--	--	--	--	--	--	--	--	--
23...	240	100	25	150	4	3.9	110	61	340
AUG									
13...	120	63	15	83	3	6.6	103	38	200
13...	--	--	--	--	--	--	--	--	--
13...	120	63	15	83	3	6.5	103	38	200

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, 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...	3.7	440	.20	.40	.60	.030	42	7
23...	--	--	.60	1.2	1.8	.040	50	20
23...	7.4	750	1.0	1.0	2.0	.050	12	36
AUG								
13...	3.4	470	<.10	.40	--	.040	5	5
13...	--	--	<.10	.50	--	--	30	20
13...	3.4	470	<.10	.60	--	.060	18	30



## BRAZOS RIVER BASIN

## HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324608099042101 HUBBARD CREEK RESERVOIR SITE P17

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
23...	1535	1.00	887	7.9	4.5	12.5	100
23...	1537	10.0	1660	7.8	5.0	11.2	91
23...	1539	16.0	1720	7.7	5.0	11.0	90
AUG							
17...	1628	1.00	702	8.1	30.0	6.4	89
17...	1630	10.0	790	7.6	28.0	3.5	47
17...	1632	18.0	814	7.5	28.0	1.8	24

324541099053601 HUBBARD CREEK RESERVOIR SITE P18

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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...	1600	1.00	1540	8.1	5.0	.50	13.2	108	390
23...	1602	13.0	2130	7.9	5.0	--	12.4	101	510
AUG									
13...	1650	1.00	496	8.1	30.5	.40	6.6	92	150
13...	1652	10.0	503	7.3	27.5	--	.1	1	--
13...	1654	15.0	501	7.3	27.5	--	.2	3	150

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
23...	270	110	27	160	4	3.7	120	68	380
23...	360	140	39	230	5	3.9	150	95	560
AUG									
13...	48	45	8.5	37	1	4.8	100	24	78
13...	--	--	--	--	--	--	--	--	--
13...	39	45	8.3	35	1	4.8	108	22	73

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, 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...	7.3	830	1.1	.50	1.6	.040	12	29
23...	7.7	1200	1.3	.70	2.0	.030	10	40
AUG								
13...	6.0	260	<.10	.90	--	.080	14	35
13...	--	--	<.10	1.1	--	--	310	900
13...	6.7	260	<.10	1.2	--	.090	500	1000

## BRAZOS RIVER BASIN

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08086500 HUBBARD CREEK NEAR BRECKENRIDGE, TX

LOCATION.--Lat 32°50'13", long 98°56'52", Stephens County, Hydrologic Unit 12060105, at downstream side of pier of bridge on U.S. Highway 183, 1.4 mi downstream from Hubbard Creek Reservoir, 6.8 mi northwest of Breckenridge, 8.2 mi upstream from Gonzales Creek, and 11.2 mi upstream from Clear Fork Brazos River.

DRAINAGE AREA.--1,089 mi<sup>2</sup>, of which 1,085 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929. Prior to July 16, 1959, at site 300 ft upstream at same datum.

REMARKS.--Estimated daily discharges: June 6-13. Records good. Flow is regulated by Hubbard Creek Reservoir (station 08086400) 1.4 mi upstream. 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 ft<sup>3</sup>/s (123,200 acre-ft/yr); 23 years (water years 1963-85) regulated, 43.0 ft<sup>3</sup>/s (31,150 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,500 ft<sup>3</sup>/s May 26, 1957 (gage height, 34.00 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1925, 34.2 ft July 20, 1953, from information by local resident and State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 282 ft<sup>3</sup>/s Oct. 27 at 0430 hours (gage height, 7.49 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	71	.06	14	.16	.43	1.3	.12	.19	.00	.00	.00
2	.00	11	.02	4.8	.14	.31	.51	.07	.12	.00	.00	.00
3	.00	2.7	.00	3.3	.13	.28	.28	.05	.08	.00	.00	.00
4	.00	1.9	.01	2.5	.14	.55	.19	.03	.07	.00	.00	.00
5	.00	1.3	.01	1.4	.14	.31	.13	.02	.05	.00	.00	.00
6	.00	.99	.00	.73	.14	.16	.09	.01	.05	.00	.00	.00
7	.00	.74	.00	.41	.12	.13	.07	.01	.06	.00	.00	.00
8	.00	.46	.00	.30	.11	.12	.06	.01	.07	.00	.00	.00
9	.00	.28	.00	.26	.10	.11	.05	.01	.07	.00	.00	.00
10	.00	.15	.00	.19	.10	.08	.05	.01	.06	.00	.00	.00
11	.00	.08	.00	.15	.09	.06	.06	.01	.06	.00	.00	.00
12	.00	.05	.00	.11	.07	.04	.06	.01	.05	.00	.00	.00
13	.00	.04	.02	.10	.07	.08	.07	.75	.04	.00	.00	.00
14	.00	.03	.02	.10	.07	.13	.07	1.1	.03	.00	.00	.00
15	.00	.02	7.4	.10	.05	.10	.06	.28	.02	.00	.00	.00
16	.00	.01	24	.13	.06	.10	.04	.14	.02	.00	.00	.00
17	.00	.05	2.9	.13	.05	.10	.02	.16	.00	.00	.00	.00
18	.00	.09	1.3	.12	.06	.06	.01	.14	.00	.00	.00	.00
19	.00	.09	.73	.12	.07	.09	.00	.12	.00	.00	.00	.00
20	3.5	.16	.35	.11	.15	28	.01	.14	.00	.00	.00	.00
21	2.6	.13	.17	.10	.24	6.9	.04	.38	.00	.00	.00	.00
22	2.8	.07	.08	.10	.16	3.5	.15	.42	.00	.00	.00	.00
23	5.8	.04	.06	.13	25	1.7	.16	.38	.00	.00	.00	.00
24	10	.05	.04	.12	5.2	.68	.10	.28	.00	.00	.00	.00
25	30	1.1	.01	.14	2.3	.37	.05	.16	.00	.00	.00	.00
26	40	3.2	.01	.13	1.4	.25	.06	.12	.00	.00	.00	.00
27	93	2.2	.01	.14	.73	.18	.06	.04	.00	.00	.00	.00
28	13	.59	.02	.14	.48	.13	.06	.02	.00	.00	.00	.00
29	5.5	.26	.02	.14	---	.24	.19	.28	.00	.00	.00	.00
30	2.8	.12	.02	.14	---	24	.16	.69	.00	.00	.00	.00
31	1.3	---	62	.14	---	4.8	---	.38	---	.00	.00	---
TOTAL	210.30	98.90	99.26	30.48	37.53	73.99	4.16	6.34	1.04	.00	.00	.00
MEAN	6.78	3.30	3.20	.98	1.34	2.39	.14	.20	.035	.000	.000	.000
MAX	93	71	62	14	25	28	1.3	1.1	.19	.00	.00	.00
MIN	.00	.01	.00	.10	.05	.04	.00	.01	.00	.00	.00	.00
AC-FT	417	196	197	60	74	147	8.3	13	2.1	.00	.00	.00

CAL YR 1984 TOTAL 414.08 MEAN 1.13 MAX 93 MIN .00 AC-FT 821  
WTR YR 1985 TOTAL 562.00 MEAN 1.54 MAX 93 MIN .00 AC-FT 1110

## BRAZOS RIVER MAIN STEM

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 downstream from bridge on State Highway 67, 1.8 mi downstream from Clear Fork Brazos River, 2.0 mi northeast of South Bend, and at mile 758.2.

DRAINAGE AREA.--22,673 mi<sup>2</sup>, of which 9,566 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929. Prior to Feb. 23, 1939, nonrecording gage at site 255 ft upstream; Feb. 23, 1939, to Mar. 9, 1961, water-stage recorder at site 225 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, May 12-13 and July 26, 28-29, which are poor. There are many small diversions upstream from station for municipal supply and oilfield operation. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950. Gage-height telemeter is located at station.

AVERAGE DISCHARGE.--47 years, 823 ft<sup>3</sup>/s (596,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,400 ft<sup>3</sup>/s May 4, 1941 (gage height, 27.35 ft); maximum gage height, 41.50 ft Aug. 6, 1978, from floodmark; no flow at times. Maximum stage since 1938, that of Aug. 6, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1876 reached a stage of 36.2 ft, 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, and flood of June 16, 1930, reached a stage of 35.5 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft<sup>3</sup>/s and maximum(\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 23	2030	*12,400	*18.37	No other peak greater than base discharge.			
Minimum discharge, 18.0 ft <sup>3</sup> /s Sept. 23.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	325	1910	536	5720	179	926	2480	5320	669	609	853	38
2	236	1920	416	3560	143	778	1350	3680	607	483	655	36
3	187	749	351	2320	133	682	976	2460	558	435	530	31
4	157	1820	302	1520	134	623	736	1880	508	364	424	31
5	132	1200	278	962	133	638	577	1540	667	326	341	28
6	107	826	249	806	136	825	482	1280	3930	296	276	29
7	259	609	231	717	138	635	398	1140	8960	272	226	27
8	94	481	209	616	148	493	346	987	8330	255	191	24
9	74	400	192	535	156	408	308	882	5590	239	166	24
10	67	325	175	442	184	367	284	785	4530	224	141	22
11	63	278	163	405	169	335	262	817	2950	212	125	24
12	60	242	149	359	166	312	246	790	2230	198	111	22
13	67	211	180	318	153	301	231	1170	1780	184	98	22
14	107	185	198	290	138	292	231	1420	1510	173	100	32
15	120	177	257	270	131	303	220	1170	1320	163	115	30
16	789	165	1300	264	122	288	207	1660	1140	157	91	30
17	939	170	1010	238	118	323	203	1670	987	150	93	32
18	830	223	525	229	115	318	186	1270	861	140	81	28
19	576	311	854	225	115	300	182	1080	762	132	138	25
20	779	715	1010	218	118	1380	180	1350	686	142	174	27
21	590	679	788	203	291	1500	198	2770	629	135	150	24
22	388	508	631	157	2340	1010	3540	1660	571	156	122	25
23	407	414	559	190	3990	881	10300	1210	538	139	101	19
24	579	332	463	194	7130	797	6850	1990	501	164	81	82
25	976	454	392	179	3710	620	3090	1990	485	215	69	321
26	1120	379	350	170	2410	535	2030	1470	452	426	61	227
27	6370	391	314	168	1450	456	1570	1190	637	516	60	185
28	2870	366	291	164	1060	419	1280	1150	525	553	67	142
29	870	519	268	161	---	713	2340	1120	518	553	64	123
30	748	666	262	149	---	3620	4000	951	448	1390	53	107
31	626	---	2020	146	---	4800	---	799	---	1160	44	---
TOTAL	21512	17625	14923	21895	25210	25878	45283	48651	53879	10561	5801	1817
MEAN	694	588	481	706	900	835	1509	1569	1796	341	187	60.6
MAX	6370	1920	2020	5720	7130	4800	10300	5320	8960	1390	853	321
MIN	60	165	149	146	115	288	180	785	448	132	44	19
AC-FT	42670	34960	29600	43430	50000	51330	89820	96500	106900	20950	11510	3600

CAL YR 1984	TOTAL	70532.27	MEAN 193	MAX 6370	MIN .00	AC-FT 139900
WTR YR 1985	TOTAL	293035.00	MEAN 803	MAX 10300	MIN 19	AC-FT 581200

BRAZOS RIVER MAIN STEM

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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 September 1982.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to September 1981.

WATER TEMPERATURES: November 1977 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 14,000 microsiemens Dec. 4, 1979; minimum daily, 350 microsiemens Aug. 6, 1978.

WATER TEMPERATURES: Maximum daily, 36.0°C July 18, 20-23, Aug. 17, 1981; minimum daily, 0.0°C Jan. 10, 11, 18, 21, Feb. 18, 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	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)
NOV 28...	0730	3290	6620	7.5	6.0	73	1.8	15	1.8	--	--	930
JAN 23...	0900	181	8430	7.6	3.0	63	.5	4	.5	K52	K88	1200
MAR 13...	0845	303	6500	8.2	14.0	85	12.5	130	3.1	250	220	980
MAY 22...	0900	1990	1770	8.2	21.0	1100	9.3	110	4.0	K60000	26000	440
JUL 24...	1215	159	6780	7.9	28.5	29	9.9	138	1.6	--	--	1100
AUG 22...	0700	132	4460	7.9	27.5	100	8.1	110	4.2	K80	K240	910

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 28...	830	270	60	1100	16	8.0	95	800	1600	.40	7.5
JAN 23...	1100	340	90	1400	18	9.1	160	910	2300	.50	9.1
MAR 13...	840	260	78	1200	17	9.6	140	800	1900	.40	9.0
MAY 22...	360	130	28	190	4	6.4	84	350	310	.30	7.4
JUL 24...	920	290	82	950	13	10	146	850	1500	.50	10
AUG 22...	810	240	73	660	10	10	100	720	1000	.70	9.8

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
NOV 28...	4100	3900	.26	.120	1.0	.340	.030	.030	318	2820	99
JAN 23...	5230	5200	.56	.230	.60	.260	.180	.180	80	39	95
MAR 13...	4240	4300	.10	.120	1.1	.170	.030	.030	98	80	97
MAY 22...	1080	1100	.44	.090	2.9	.760	.060	.040	3340	17900	100
JUL 24...	4290	3800	<.10	.100	.60	.050	<.010	<.010	115	49	95
AUG 22...	2840	2800	<.10	.070	1.0	.200	<.010	<.010	80	29	96

## BRAZOS RIVER MAIN STEM

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 28...	0730	2	<100	<10	1	<1	1	3	50	3
MAR 13...	0845	3	<100	<10	1	1	1	1	30	<1
MAY 22...	0900	3	100	<.5	<1	<1	<3	3	44	<1
AUG 22...	0700	5	500	<10	1	<1	<1	2	50	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 28...	50	10	.3	5	<1	<1	1	4700	21	20
MAR 13...	70	20	.1	3	1	1	<1	4100	36	20
MAY 22...	30	1	.6	<10	5	<1	<1	1700	9	15
AUG 22...	70	40	<.1	5	2	1	<1	4500	28	20



## BRAZOS RIVER BASIN

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08088300 BRIAR CREEK NEAR GRAHAM, TX

LOCATION.--Lat 33°12'43", long 98°37'06", Young County, Hydrologic Unit 12060201, near right bank at downstream side of bridge on Farm Road 1769, 3.7 mi upstream from mouth, and 7.0 mi northwest of Graham.

DRAINAGE AREA.--24.2 mi<sup>2</sup>.

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 1090 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharge. Records fair. No diversions upstream from station.

AVERAGE DISCHARGE.--27 years (water years 1959-85), 3.79 ft<sup>3</sup>/s (2.13 in/yr), 2,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,690 ft<sup>3</sup>/s May 22, 1982 (gage height, 13.54 ft), from rating curve extended above 2,300 ft<sup>3</sup>/s; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 15.2 ft in September 1955. Flood in May 1957 reached a stage of 15.0 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 25	1030	287	5.33	Mar. 20	1200	258	4.97
Oct. 27	0900	*2,210	*11.90	Mar. 30	1200	1,340	11.00
Dec. 16	0630	176	5.20	June 6	1000	361	6.19
Dec. 31	1500	1,780	11.50				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	40	.12	121	.15	.50	4.6	.76	.00	.00	.00	.00
2	.00	18	.09	7.6	.15	.37	2.6	.27	.00	.00	.00	.00
3	.00	2.2	.05	2.8	.16	.39	1.8	.17	.00	.00	.00	.00
4	.00	.90	.04	2.7	.18	.75	1.3	.14	.00	.00	.00	.00
5	.00	.42	.04	2.1	.19	.58	.96	.12	65	.00	.00	.00
6	25	.24	.03	1.4	.21	.58	.80	.09	252	.00	.00	.00
7	14	.19	.02	.88	.24	.49	.65	.08	14	.00	.00	.00
8	2.4	.13	.02	.65	.21	.33	.52	.08	2.2	.00	.00	.00
9	.52	.08	.02	.52	.22	.26	.46	.05	.79	.00	.00	.00
10	.15	.05	.01	.41	.23	.21	.46	.05	.33	.00	.00	.00
11	.06	.03	.00	.32	.22	.20	.46	.05	.18	.00	.00	.00
12	.03	.02	.00	.28	.19	.15	.46	.05	.08	.00	.00	.00
13	.02	.01	5.1	.28	.18	.21	.41	.07	.03	.00	.00	.00
14	.17	.00	18	.28	.18	.24	.41	.06	.02	.00	.00	.00
15	.01	.00	32	.24	.15	.22	.36	.05	.00	.00	.00	.00
16	2.4	.00	144	.24	.15	.19	.30	.03	.00	.00	.00	.00
17	.56	.75	8.0	.24	.18	.17	.25	.02	.00	.00	.00	.00
18	.14	3.3	2.3	.24	.18	.15	.22	.01	.00	.00	.00	.00
19	.04	2.3	1.3	.24	.18	.28	.18	.01	.00	.00	.00	.00
20	44	.79	.99	.24	.27	161	.17	.44	.00	.00	.00	.00
21	16	.31	.81	.18	.46	15	.27	12	.00	.00	.00	.00
22	3.4	.16	.66	.18	.38	3.6	7.2	2.9	.00	.00	.00	.00
23	2.9	.11	.48	.18	51	1.9	4.7	.99	.00	.00	.00	.00
24	14	.59	.29	.18	11	1.2	1.3	.43	.00	1.2	.00	.00
25	173	3.1	.18	.18	2.2	.76	.54	.21	.00	2.3	.00	.00
26	110	1.9	.15	.18	1.1	.51	.28	.11	.00	26	.00	.00
27	779	1.0	.13	.18	.74	.44	.20	.06	3.7	6.8	.00	.00
28	23	.48	.13	.21	.54	.32	.16	.04	1.4	.67	.00	.00
29	2.6	.29	.12	.21	---	169	6.0	.01	.22	.10	.00	.00
30	1.1	.15	.11	.21	---	518	2.7	.00	.04	.01	.00	.00
31	.61	---	647	.17	---	19	---	.00	---	.00	.00	---
TOTAL	1215.15	77.50	862.19	144.72	71.24	897.00	40.72	62.91	339.99	37.08	.00	.00
MEAN	39.2	2.58	27.8	4.67	2.54	28.9	1.36	2.03	11.3	1.20	.000	.000
MAX	779	40	647	121	51	518	7.2	44	252	26	.00	.00
MIN	.00	.00	.00	.17	.15	.15	.16	.00	.00	.00	.00	.00
CFSM	1.62	.11	1.15	.19	.11	1.19	.06	.08	.47	.05	.000	.000
IN.	1.87	.12	1.33	.22	.11	1.38	.06	.10	.52	.06	.00	.00
AC-FT	2410	154	1710	287	141	1780	81	125	674	74	.00	.00
CAL YR 1984	TOTAL	2287.31	MEAN	6.25	MAX	779	MIN	.00	CFSM	.26	IN	3.52
WTR YR 1985	TOTAL	3748.50	MEAN	10.3	MAX	779	MIN	.00	CFSM	.43	IN	5.76
									AC-FT	4540		
									AC-FT	7440		

## BRAZOS RIVER BASIN

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 northwest of Graham, 5 mi downstream from Briar Creek, and 9.5 mi upstream from mouth.

DRAINAGE AREA.--221 mi<sup>2</sup>.

## 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 Salt Creek datum. Prior to October 1963, nonrecording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,000 ft long. Lake Graham was connected with Lake Eddleman in 1959 by a cut channel at a gage height of 1,050.0 ft. Deliberate impoundment began Apr. 28, 1958, and dam was completed in July 1958. The uncontrolled emergency spillway is a 1,050-foot-wide cut at the right end of dam. The spillway is designed to discharge 136,500 ft<sup>3</sup>/s at a gage height of 1,087.5 ft. 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 Apr. 30, 1970 (gage height, 1,077.77 ft); minimum, 28,760 acre-ft Sept. 30, 1979 (gage height, 1,064.09 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 57,750 acre-ft June 7 at 1100 hours (gage height, 1,076.54 ft); minimum, 29,150 acre-ft Oct. 3, 4 (gage height, 1,064.29 ft).

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

1,064.0	28,580	1,068.0	36,940	1,072.0	46,220	1,076.0	56,290
1,066.0	32,630	1,070.0	41,480	1,074.0	51,140	1,078.0	61,780

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29230	48730	48930	56670	53400	54150	54960	54150	54150	53840	52410	49750
2	29170	49110	48880	55450	53320	54100	54650	54100	54050	53780	52280	49650
3	29150	49210	48860	54930	53380	54180	54380	54020	53970	53680	52230	49580
4	29190	49180	48830	54750	53400	53990	54310	53940	53840	53630	52160	49430
5	29170	49130	48830	54540	53400	54070	54150	53910	55510	53580	52050	49380
6	29610	49060	48810	54460	53380	54050	54180	53860	57690	53530	51950	49230
7	29830	49110	48810	54310	53380	53990	53990	53840	57050	53480	51830	49210
8	29830	49060	48810	54230	53400	54020	53910	53760	56080	53350	51720	49130
9	29790	49060	48810	54180	53450	53970	53860	53710	55660	53300	51650	49010
10	29790	48880	48810	54050	53350	53940	53780	53650	55400	53250	51520	48910
11	29750	48860	48810	53940	53320	53890	53780	53630	55250	53170	51390	48830
12	29750	48860	48830	53860	53320	53810	53780	53580	55040	53120	51290	48780
13	29810	48780	49130	53860	53350	53810	53760	53630	54910	53020	51170	48810
14	30080	48810	49260	53810	53350	53780	53760	53530	54750	52940	51110	48830
15	30080	48710	50050	53810	53250	53760	53730	53480	54720	52870	51220	48730
16	30030	48640	51780	53890	53300	53710	53680	53430	54620	52770	51170	48680
17	30030	48880	52230	53840	53220	53630	53630	53400	54540	52660	51090	48610
18	30010	48910	52260	53860	53270	53650	53530	53300	54380	52590	51020	48560
19	29950	48880	52310	53680	53270	53890	53480	53250	54280	52490	50920	48460
20	30600	48880	52360	53550	53350	55510	53630	54150	54180	52440	50840	48440
21	30740	48860	52360	53580	53400	55190	53600	54830	54050	52360	50720	48370
22	30820	48860	52360	53580	53480	54830	53970	54800	53990	52330	50590	48320
23	30880	48830	52380	53580	54380	54520	54050	54700	53910	52280	50490	48200
24	31270	48910	52280	53630	54490	54380	53970	54670	53810	52260	50400	48100
25	33350	49010	52280	53580	54440	54250	53890	54590	53730	52360	50270	48030
26	35390	49060	52280	53580	54280	54180	53860	54520	53650	52790	50170	47930
27	46170	49010	52380	53600	54150	54120	53810	54440	54070	52790	50100	47830
28	47590	48980	52440	53550	54150	54070	53780	54410	54020	52770	50020	47780
29	47680	48980	52460	53600	---	56320	54100	54360	53990	52690	49970	47810
30	47680	48910	52440	53480	---	56610	54180	54310	53910	52560	49880	47710
31	47710	---	57340	53430	---	55640	---	54150	---	52490	49800	---
MAX	47710	49210	57340	56670	54490	56610	54960	54830	57690	53840	52410	49750
MIN	29150	48640	48810	53430	53220	53630	53480	53250	53650	52260	49800	47710
(†)	1072.61	1073.10	1076.39	1074.90	1075.18	1075.75	1075.19	1075.18	1075.09	1074.53	1073.46	1072.61
(‡)	+18400	+1200	+8430	-3910	+720	+1490	-1460	-30	-240	-1420	-2690	-2090

CAL YR 1984 MAX 57340 MIN 28040 (†) +14460  
WTR YR 1985 MAX 57690 MIN 29150 (†) +18400

(†) Gage height, in feet, at end of month.  
(‡) Change in contents, in acre-feet.

## BRAZOS RIVER BASIN

219

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 south of Ivan, 8.2 mi northwest of Caddo, and 11.6 mi northeast of Breckenridge.

DRAINAGE AREA.--97.0 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1090 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharge: Dec. 11 to Jan. 22. Records good except those for period of estimated daily discharges, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--20 years (water years 1966-85), 12.7 ft<sup>3</sup>/s (1.78 in/yr), 9,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,700 ft<sup>3</sup>/s Oct. 13, 1981 (gage height, 32.50 ft), from rating curve extended above 30,100 ft<sup>3</sup>/s; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 27	0930	1,320	12.46	No other peak greater than base discharge.			

Minimum discharge, no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	136	.08	.29	.19	.61	2.6	4.1	.03	.00	.00	.08
2	.03	38	.19	.29	.19	.45	1.5	1.7	.03	.00	.00	.09
3	.05	15	.15	.28	.12	.44	.97	.79	.02	.00	.00	.10
4	.11	6.5	.19	.28	.11	.29	.73	.31	.01	.00	.00	.11
5	.19	2.9	.32	.27	.12	.29	.48	.15	.08	.00	.00	.11
6	.25	1.5	.25	.26	.17	.15	.27	.09	.24	.00	.00	.19
7	.39	1.0	.25	.25	.18	.09	.19	.02	.44	.00	.00	.17
8	.39	.64	.19	.25	.19	.09	.19	.02	.06	.00	.00	.10
9	.39	.59	.19	.25	.30	.05	.18	.02	.00	.00	.00	.08
10	.39	.56	.19	.24	.13	.11	.11	.02	.00	.00	.00	.08
11	.32	.68	.19	.24	.11	.15	.11	.03	.00	.00	.00	.14
12	.39	.68	.19	.23	.17	.18	.14	.05	.00	.00	.00	.05
13	.32	.80	.19	.23	.25	7.2	.15	92	.00	.00	.01	.14
14	12	.99	.27	.23	.19	28	.15	30	.00	1.2	.03	.26
15	1.9	1.2	.30	.22	.21	16	.13	12	.00	.22	.04	.14
16	.57	1.1	.27	.32	.28	8.9	.05	4.4	.00	.00	.03	.18
17	.08	1.5	.35	.31	.42	5.1	.00	2.0	.00	.00	.03	.22
18	.01	1.6	.30	.30	.34	3.3	.00	1.0	.00	.00	.03	.19
19	.01	2.3	.25	.29	.48	2.5	.02	.54	.00	.00	.06	.27
20	16	2.1	.22	.29	.71	62	.02	1.8	.00	.02	.05	.30
21	18	1.3	.21	.28	.91	32	.08	1.9	.00	2.3	.05	.29
22	7.4	.89	.19	.27	1.5	20	6.1	.91	.00	29	.05	.29
23	34	.68	.19	.32	13	13	8.4	.54	.02	29	.05	.46
24	25	1.6	.19	.32	11	8.1	3.0	.27	.03	11	.05	.47
25	98	14	.25	.29	4.6	4.1	1.1	.13	.01	5.6	.07	.47
26	215	3.5	.20	.25	1.8	3.0	.69	.07	.02	4.5	.08	.47
27	446	1.9	.19	.31	.78	2.0	.63	.11	16	2.7	.13	.23
28	39	.88	.19	.11	.40	1.5	.85	.06	4.9	.70	.10	.07
29	14	.19	.19	.04	---	1.2	9.5	.03	.35	.12	.08	.17
30	7.2	.08	.25	.04	---	1.4	7.8	.09	.03	.00	.08	.10
31	4.1	---	.30	.15	---	1.6	---	.13	---	.00	.08	---
TOTAL	941.54	240.66	6.88	7.70	38.85	223.80	46.14	155.28	22.27	86.36	1.10	6.02
MEAN	30.4	8.02	.22	.25	1.39	7.22	1.54	5.01	.74	2.79	.035	.20
MAX	446	136	.35	.32	13	62	9.5	92	16	29	.13	.47
MIN	.01	.08	.08	.04	.11	.05	.00	.02	.00	.00	.00	.05
CFSM	.31	.08	.002	.003	.01	.07	.02	.05	.008	.03	.000	.002
IN.	.36	.09	.00	.00	.01	.09	.02	.06	.01	.03	.00	.00
AC-FT	1870	477	14	15	77	444	92	308	44	171	2.2	12

CAL YR 1984	TOTAL	1224.64	MEAN	3.35	MAX	446	MIN	.00	CFSM	.04	IN	.47	AC-FT	2430
WTR YR 1985	TOTAL	1776.60	MEAN	4.87	MAX	446	MIN	.00	CFSM	.05	IN	.68	AC-FT	3520

## BRAZOS RIVER MAIN STEM

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 the Brazos River, 2.6 mi upstream from Loving Creek, 11.3 mi southwest of Grafard, and at mile 687.5.

DRAINAGE AREA.--23,596 mi<sup>2</sup>, approximately, of which 9,566 mi<sup>2</sup> 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 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 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 each and are designed to discharge about 100,000 ft<sup>3</sup>/s at a gage height of 1,000.0 ft. The outlet works consist of one controlled 54-inch-diameter 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-foot gage height. Eleven major reservoirs, with a combined capacity of 607,800 acre-ft, largely regulate the inflow. The capacity curve is based on recomputation of a survey made in 1974. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950. Gage-height telemeter was installed at station on Jan. 13, 1981. 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 Oct. 5, 1941 (gage height, 1,001.0 ft), maximum gage height 1,003.60 ft Oct. 13, 1981; minimum observed, 273,000 acre-ft Feb. 19 to Mar. 17, 1953 (gage height, 967.0 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 567,600 acre-ft Feb. 26 at 1000 hours (gage height, 999.85 ft); minimum, 391,900 acre-ft Oct. 2 (gage height, 987.73 ft).

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

986.0	371,700	992.0	446,100	998.0	536,000
988.0	395,100	994.0	474,100	1,000.0	570,200
990.0	419,800	996.0	504,000		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	392400	453500	485100	546200	536400	557800	559400	558500	549600	553400	531400	484500
2	392200	460300	485500	555400	534400	554600	559400	562300	549800	552800	532700	483300
3	392600	464100	485800	559600	532200	552300	555400	561800	549800	552500	532200	481700
4	392700	466400	486700	560800	531800	553000	551500	559600	548400	551800	530800	481200
5	393100	469600	487800	558000	532100	552300	547200	556500	547800	552200	529600	480700
6	393200	471900	487800	555300	532600	552800	545000	554000	548300	552200	528800	481400
7	393900	473200	488500	553500	532900	551500	542200	552200	556300	549300	527700	479500
8	393900	474100	488500	553200	532700	552300	539200	550000	557300	548900	526400	477900
9	393300	475100	488800	554200	533900	552500	539200	547200	560400	547200	524600	476700
10	394400	475100	489100	553700	533600	552200	539900	544400	558700	547200	522300	475800
11	394900	475300	489700	549400	532400	551800	536900	541500	556300	545000	520400	473800
12	394900	475600	489700	545900	532900	551700	537000	539500	556300	542500	520200	472400
13	395100	476000	494100	545200	533900	554200	537900	540900	556100	541000	519100	472800
14	395800	476400	494900	545500	533400	550100	537700	537400	555100	539900	518800	472800
15	395300	476600	498000	546600	533200	550800	538000	537500	553500	537900	515900	472800
16	395900	476300	503300	547200	533700	549800	538000	537400	552800	537200	512900	472500
17	395900	477200	506400	547400	533900	550000	538500	540500	551100	536200	510700	469400
18	398200	477600	505900	547900	534200	549800	538400	542000	550800	535400	508700	467200
19	399900	477300	507500	546600	534400	551300	538900	544700	551700	534400	505700	467100
20	401500	477300	509600	543400	535200	555800	539000	545900	552200	534400	503900	467100
21	403200	477600	511400	540200	535500	557700	539500	549600	552700	535900	501100	466400
22	404700	478600	512600	539000	538500	559100	538500	550300	553200	534200	499400	465400
23	406200	479600	514000	539500	546200	556500	546900	548900	551300	533600	496500	464200
24	407600	480700	514500	540200	555400	555300	558900	549400	550300	531300	495600	464000
25	409900	481700	514800	540200	564800	552800	563200	549400	549100	527200	495300	463000
26	414900	482900	515900	540200	561100	551300	562300	550600	550100	524800	493800	462800
27	423600	482600	516600	540200	562700	548400	558900	550500	552500	525100	492300	462300
28	436100	482600	517700	540400	561600	546100	557700	549400	553200	525700	490000	461100
29	441600	483300	518500	541200	---	545900	554700	548300	553700	526200	489400	461500
30	444000	483900	518500	541500	---	549100	556500	548400	553500	529300	488200	461100
31	446200	---	536000	538700	---	555100	---	548600	---	530100	486400	---
MAX	446200	483900	536000	560800	564800	559100	563200	562300	560400	553400	532700	484500
MIN	392200	453500	485100	538700	531800	545900	536900	537400	547800	524800	486400	461100
(†)	992.01	994.67	998.00	998.16	999.51	999.13	999.21	998.75	999.04	997.64	994.84	993.09
(‡)	+53600	+37700	+52100	+2700	+22900	-6500	+1400	-7900	+4900	-23400	-43700	-25300

GAL YR 1984 MAX 536000 MIN 392200 (‡) +50300  
WTR YR 1985 MAX 564800 MIN 392200 (‡) +68500

(†) 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 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
24...	1630	1.00	3640	8.0	8.5	10.9	97
24...	1632	10.0	3670	8.0	8.5	10.6	95
24...	1634	20.0	3700	7.9	8.5	10.3	92
24...	1636	30.0	3750	7.9	8.5	10.2	91
24...	1638	40.0	3750	7.9	8.5	10.2	91
24...	1640	50.0	3750	7.9	8.5	10.1	90
24...	1642	60.0	3760	7.8	8.5	10.1	90
24...	1644	66.0	3760	7.8	8.5	9.9	89
MAY							
07...	1644	1.00	3260	8.6	25.5	7.7	99
07...	1646	10.0	3260	8.7	23.0	7.9	97
07...	1648	20.0	3260	8.5	22.0	7.4	89
07...	1650	30.0	3260	8.5	21.5	7.0	83
07...	1652	40.0	3260	8.2	19.0	6.1	69
07...	1654	50.0	3250	8.1	17.5	6.0	66
07...	1656	62.0	3250	8.0	17.0	5.9	64
AUG							
14...	1542	1.00	3080	8.3	29.5	7.0	96
14...	1544	10.0	3080	8.3	29.5	7.0	96
14...	1546	20.0	3070	8.0	28.5	5.6	76
14...	1548	30.0	3070	7.3	27.5	.2	3
14...	1550	40.0	3080	7.3	26.5	.2	3
14...	1552	50.0	3080	7.3	25.5	.2	3
14...	1554	60.0	3120	7.3	24.0	.2	2

325218098254101 POSSUM KINGDOM LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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									
24...	1555	1.00	3740	7.9	9.5	3.4	10.3	94	640
24...	1557	10.0	3740	7.9	9.0	--	10.3	93	--
24...	1559	20.0	3740	7.9	8.5	--	10.2	91	--
24...	1601	30.0	3760	7.9	8.5	--	10.1	90	--
24...	1603	40.0	3750	7.9	9.0	--	10.0	91	--
24...	1605	50.0	3750	7.9	9.0	--	10.0	91	--
24...	1607	60.0	3750	7.9	9.0	--	10.0	91	--
24...	1609	70.0	3760	7.9	9.0	--	9.9	90	--
24...	1611	80.0	3780	7.8	9.0	--	9.9	90	--
24...	1613	90.0	3760	7.8	9.0	--	9.9	90	--
24...	1615	103	3760	7.8	9.0	--	9.7	88	650
MAY									
07...	1602	1.00	3220	8.6	24.0	2.30	7.6	95	600
07...	1604	10.0	3220	8.7	23.0	--	7.9	97	--
07...	1606	20.0	3220	8.5	22.0	--	7.3	88	--
07...	1608	30.0	3220	8.4	21.0	--	6.8	80	--
07...	1610	40.0	3220	8.2	19.0	--	6.2	70	--
07...	1612	50.0	3230	8.1	17.0	--	6.0	65	--
07...	1614	60.0	3230	8.0	16.0	--	5.8	62	--
07...	1616	70.0	3270	7.9	15.0	--	5.2	54	--
07...	1618	80.0	3400	7.7	13.0	--	3.6	36	--
07...	1620	90.0	3510	7.6	12.0	--	2.4	23	--
07...	1622	102	3570	7.6	11.5	--	1.3	13	600
AUG									
14...	1506	1.00	3070	8.3	29.5	2.00	7.0	96	530
14...	1508	10.0	3070	8.3	29.5	--	7.0	96	--
14...	1510	20.0	3060	8.0	28.5	--	5.3	72	--
14...	1512	30.0	3080	7.3	27.5	--	.2	3	--
14...	1514	40.0	3110	7.3	26.5	--	.2	3	--
14...	1516	50.0	3110	7.3	25.5	--	.2	3	--
14...	1518	60.0	3120	7.2	23.0	--	.2	2	--
14...	1520	70.0	3210	7.2	21.5	--	.2	2	--
14...	1522	80.0	3300	7.1	20.0	--	.2	2	--
14...	1524	90.0	3350	7.0	18.5	--	.2	2	--
14...	1526	102	3380	7.0	17.5	--	.2	2	600



## BRAZOS RIVER BASIN

## POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325218098254101 POSSUM KINGDOM LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LINIT FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
24...	550	180	47	560	10	8.0	96	460	880
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	550	180	49	570	10	8.2	100	500	950
MAY									
07...	510	170	43	430	8	7.0	95	270	810
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	500	170	43	510	9	7.3	103	430	910
AUG									
14...	450	150	38	430	8	6.9	84	340	680
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	460	170	42	510	9	6.7	136	360	810

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									
24...	.40	6.2	2200	.10	.50	.60	.020	12	6
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	.10	.50	.60	.020	20	<10
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	6.1	2300	.10	1.1	1.2	.010	80	<10
MAY									
07...	.40	4.9	1800	<.10	.40	--	<.010	30	<10
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	.20	.70	.90	.010	20	<10
07...	--	--	--	.40	.50	.90	.020	40	30
07...	--	--	--	--	--	--	--	--	--
07...	--	7.1	2100	.40	.50	.90	.080	.40	300
AUG									
14...	.40	4.7	1700	<.10	.50	--	.020	50	<10
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.10	.30	--	.010	40	10
14...	--	--	--	<.10	.50	--	.010	50	60
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	8.9	2000	<.10	1.5	--	.310	120	730

## BRAZOS RIVER BASIN

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## POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

## 325250098275301 POSSUM KINGDOM LAKE SITE BR

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
24...	1530	1.00	3510	8.0	9.0	11.0	99
24...	1532	10.0	3550	7.9	8.5	10.7	96
24...	1534	20.0	3550	7.9	8.0	10.6	94
24...	1536	30.0	3550	7.9	8.5	10.4	93
24...	1538	40.0	3690	7.8	8.5	9.8	88
24...	1540	53.0	3690	7.8	8.5	9.8	88
MAY							
07...	1536	1.00	3150	8.7	24.5	8.2	103
07...	1538	10.0	3210	8.7	23.0	8.0	98
07...	1540	20.0	3210	8.6	22.5	7.5	91
07...	1542	30.0	3220	8.4	21.0	6.6	78
07...	1544	40.0	3220	8.1	19.0	5.8	66
07...	1546	50.0	3180	7.9	17.0	5.1	55
07...	1548	57.0	3220	7.9	17.0	4.9	53
AUG							
14...	1440	1.00	3030	8.3	30.0	7.3	101
14...	1442	10.0	3030	8.2	29.5	6.7	92
14...	1444	20.0	3030	8.1	29.0	6.5	89
14...	1446	30.0	3010	7.3	27.5	.2	3
14...	1448	40.0	3030	7.2	26.5	.2	3
14...	1450	50.0	3050	7.2	26.0	.2	3
14...	1452	59.0	3080	7.3	24.5	.2	3

## 325256098275301 POSSUM KINGDOM LAKE SITE BC

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
24...	1505	1.00	3510	8.0	8.5	11.0	98
24...	1507	10.0	3550	7.9	8.5	10.7	96
24...	1509	20.0	3570	7.9	8.5	10.4	93
24...	1511	30.0	3620	7.9	8.5	10.3	92
24...	1513	40.0	3690	7.8	8.5	10.1	90
24...	1515	50.0	3710	7.8	8.5	10.1	90
24...	1517	60.0	3710	7.8	8.5	10.1	90
24...	1519	70.0	3710	7.8	8.5	10.0	89
24...	1521	80.0	3740	7.8	8.5	9.9	89
24...	1523	90.0	3750	7.8	8.5	9.8	88
24...	1525	97.0	3750	7.6	8.5	9.7	87
MAY							
07...	1508	1.00	3150	8.7	25.5	7.9	102
07...	1510	10.0	3210	8.6	23.0	7.7	94
07...	1512	20.0	3210	8.6	22.5	7.6	92
07...	1514	30.0	3210	8.5	21.5	6.9	82
07...	1516	40.0	3210	8.1	18.5	5.9	66
07...	1518	50.0	3180	7.9	17.0	5.1	55
07...	1520	60.0	3210	7.9	16.0	4.9	52
07...	1522	70.0	3310	7.7	14.5	3.7	38
07...	1524	80.0	3500	7.5	13.0	1.5	15
07...	1526	90.0	3570	7.5	12.0	1.1	11
07...	1528	97.0	3590	7.5	12.0	.8	8
AUG							
14...	1412	1.00	3010	8.3	30.0	7.1	99
14...	1414	10.0	3010	8.1	29.0	6.1	83
14...	1416	20.0	3010	8.0	29.0	5.9	80
14...	1418	30.0	3000	7.3	27.5	.1	1
14...	1420	40.0	3030	7.2	25.5	.1	1
14...	1422	50.0	3040	7.2	25.5	.2	3
14...	1424	60.0	3090	7.2	23.5	.2	2
14...	1426	70.0	3190	7.1	22.0	.2	2
14...	1428	80.0	3290	7.1	20.5	.2	2
14...	1430	91.0	3340	7.0	19.0	.2	2

## BRAZOS RIVER BASIN

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325129098311801 POSSUM KINGDOM LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
25...	0905	1.00	3180	8.0	7.0	10.5	90
25...	0907	10.0	3180	8.0	7.0	10.4	89
25...	0909	20.0	3310	7.9	7.0	9.8	84
25...	0911	30.0	3340	7.9	7.0	9.8	84
25...	0913	40.0	3400	7.9	7.5	9.7	84
25...	0915	50.0	3500	7.9	7.5	9.5	83
25...	0917	60.0	3500	7.8	7.5	9.4	82
25...	0919	70.0	3520	7.7	7.5	9.4	82
25...	0921	76.0	3520	7.7	7.5	9.4	82
MAY							
07...	1425	1.00	3030	8.6	25.0	7.7	98
07...	1427	10.0	3060	8.7	23.0	7.9	97
07...	1429	20.0	3060	8.5	22.5	6.8	83
07...	1431	30.0	3060	8.3	21.5	6.1	73
07...	1433	40.0	3150	8.0	20.0	4.7	54
07...	1435	50.0	3280	7.7	18.0	3.1	34
07...	1437	60.0	3380	7.6	16.5	2.5	27
07...	1439	70.0	3580	7.5	15.0	1.0	10
07...	1441	78.0	3620	7.5	14.5	.7	7
AUG							
14...	1330	1.00	2840	8.3	29.5	7.1	98
14...	1332	10.0	2840	8.2	29.0	6.9	94
14...	1334	20.0	2840	8.0	29.0	5.7	78
14...	1336	30.0	2800	7.4	28.0	1.6	21
14...	1338	40.0	2830	7.2	26.5	.2	3
14...	1340	50.0	2960	7.2	25.5	.2	3
14...	1342	60.0	3080	7.1	23.5	.2	2
14...	1344	70.0	3190	7.1	22.0	.2	2
14...	1346	76.0	3220	7.1	21.5	.2	2

325327098314001 POSSUM KINGDOM LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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									
24...	1345	1.00	3050	7.8	7.0	1.40	11.2	96	530
24...	1347	10.0	3050	7.8	7.0	--	10.8	93	--
24...	1349	20.0	3230	7.7	7.5	--	10.3	90	--
24...	1351	30.0	3330	7.7	7.5	--	9.7	85	--
24...	1355	50.0	3340	7.7	7.5	--	9.7	85	--
24...	1357	60.0	3480	7.7	8.0	--	9.5	84	--
24...	1359	72.0	3500	7.7	8.0	--	9.3	82	610
MAY									
07...	1350	1.00	2670	8.7	25.0	1.10	8.2	104	470
07...	1352	10.0	2780	8.7	23.5	--	7.8	96	--
07...	1354	20.0	2940	8.5	23.0	--	7.1	87	--
07...	1356	30.0	3090	7.9	21.5	--	4.7	56	--
07...	1358	40.0	3440	7.6	20.5	--	3.3	39	--
07...	1400	50.0	3440	7.5	18.0	--	2.3	26	--
07...	1402	60.0	3440	7.5	16.5	--	2.0	22	--
07...	1404	73.0	3800	7.4	15.0	--	.6	6	590
AUG									
14...	1254	1.00	2770	8.3	30.0	1.70	6.9	96	490
14...	1256	10.0	2770	8.2	29.5	--	6.9	95	--
14...	1258	20.0	2770	7.8	29.0	--	4.4	60	--
14...	1300	30.0	2760	7.2	28.0	--	.2	3	--
14...	1302	40.0	2800	7.2	26.5	--	.1	1	--
14...	1304	50.0	2880	7.1	25.5	--	.2	3	--
14...	1306	60.0	3090	7.0	23.5	--	.2	2	--
14...	1308	71.0	3210	7.0	22.5	--	.2	2	590

## BRAZOS RIVER BASIN

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## POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325327098314001 POSSUM KINGDOM LAKE SITE DC--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
24...	440	150	37	450	9	6.8	85	320	740
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	520	170	45	510	9	7.6	92	440	890
MAY									
07...	370	130	35	390	8	6.4	100	310	660
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	480	160	46	580	11	7.0	112	440	980
AUG									
14...	400	140	34	390	8	7.3	89	340	600
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	440	170	40	430	8	7.2	148	360	730

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								
24...	5.9	1800	.30	.60	.90	.040	20	<10
24...	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--
24...	--	--	.20	.40	.60	.010	20	10
24...	--	--	--	--	--	--	--	--
24...	6.0	2100	.20	1.1	1.3	.020	30	10
MAY								
07...	4.5	1600	<.10	.80	--	.030	30	<10
07...	--	--	--	--	--	--	--	--
07...	--	--	<.10	.50	--	.010	20	20
07...	--	--	.20	.90	1.1	.060	30	20
07...	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--
07...	8.0	2300	.30	.70	1.0	.180	50	770
AUG								
14...	5.9	1600	<.10	.60	--	.010	40	<10
14...	--	--	--	--	--	--	--	--
14...	--	--	<.10	.50	--	.020	50	20
14...	--	--	<.10	.40	--	.030	40	60
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
14...	9.6	1800	<.10	2.1	--	.340	120	590

## BRAZOS RIVER BASIN

## POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

## 325347098265701 POSSUM KINGDOM LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
25...	1045	1.00	2880	8.1	6.5	11.8	100
25...	1047	10.0	2880	8.1	6.0	11.1	93
25...	1049	20.0	3120	7.8	7.0	9.2	79
25...	1051	30.0	3270	7.8	7.5	9.0	78
25...	1053	40.0	3350	7.8	8.0	8.3	73
25...	1055	53.0	3370	7.7	8.0	7.3	64
MAY							
08...	0838	1.00	2460	8.5	23.0	8.4	103
08...	0840	10.0	2480	8.5	22.5	8.2	99
08...	0842	20.0	2720	8.1	21.5	6.1	72
08...	0844	30.0	3130	7.7	21.0	4.0	47
08...	0846	40.0	3690	7.5	20.5	2.5	29
08...	0848	50.0	3930	7.4	19.5	.9	10
08...	0850	56.0	3930	7.3	18.5	.5	6
AUG							
15...	0838	1.00	2810	8.0	28.5	5.2	70
15...	0840	10.0	2810	8.0	28.5	5.1	69
15...	0842	20.0	2810	8.0	28.5	5.1	69
15...	0844	30.0	2810	8.0	28.0	5.0	67
15...	0846	40.0	3520	7.2	27.0	.2	3
15...	0848	51.0	3420	7.2	26.0	.2	3

## 325557098264401 POSSUM KINGDOM LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
25...	1115	1.00	2810	8.2	5.5	11.8	97
25...	1117	10.0	2810	8.2	5.5	11.5	95
25...	1119	20.0	2860	7.9	5.5	10.5	87
25...	1121	30.0	3170	7.9	6.5	9.4	80
25...	1123	41.0	4830	8.2	5.0	12.0	99
MAY							
08...	0908	1.00	2370	8.4	23.0	7.6	93
08...	0910	10.0	2370	8.4	23.0	7.7	94
08...	0912	20.0	2570	8.1	22.5	6.5	79
08...	0914	30.0	3400	7.5	21.5	2.7	32
08...	0916	43.0	3800	7.4	21.0	1.5	18
AUG							
15...	0904	1.00	2780	8.2	28.5	5.3	71
15...	0906	10.0	2780	8.1	28.5	5.2	70
15...	0908	20.0	2800	8.1	28.5	5.1	69
15...	0910	30.0	3200	7.4	28.5	1.1	15
15...	0912	39.0	4020	7.2	28.0	.2	3



## BRAZOS RIVER BASIN

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POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325715098250501 POSSUM KINGDOM LAKE SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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...	1145	1.00	2750	8.3	5.5	1.10	12.2	101	460
25...	1147	10.0	2810	8.0	5.5	--	10.7	88	--
25...	1149	20.0	2850	8.0	5.5	--	10.8	89	--
25...	1151	31.0	5020	8.3	5.0	--	12.6	104	720
MAY									
08...	0930	1.00	2410	8.3	23.0	.60	7.7	94	420
08...	0932	10.0	2540	8.1	23.0	--	6.8	83	--
08...	0934	20.0	2790	7.7	22.5	--	4.5	55	--
08...	0936	30.0	3380	7.4	21.5	--	1.9	23	--
08...	0938	34.0	3380	7.4	21.5	--	1.9	23	560
AUG									
15...	0924	1.00	2820	8.1	29.0	.70	5.3	72	560
15...	0926	10.0	2820	8.1	29.0	--	5.2	71	--
15...	0928	20.0	2820	8.1	29.0	--	5.2	71	--
15...	0930	28.0	2820	8.0	29.0	--	5.1	69	500

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	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 FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
25...	370	130	32	400	8	5.9	87	280	650
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	600	200	54	790	13	7.2	120	530	1300
MAY									
08...	330	120	30	350	8	6.7	98	280	540
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	460	160	40	490	9	7.3	103	440	820
AUG									
15...	470	160	38	390	7	8.3	84	380	580
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	410	140	36	390	8	8.3	85	390	600

DATE	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, 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								
25...	6.0	1600	.40	.70	1.1	.080	20	<10
25...	--	--	--	--	--	--	--	--
25...	--	--	.40	.60	1.0	.060	30	<10
25...	6.8	3000	.50	.90	1.4	.170	30	30
MAY								
08...	6.7	1400	.10	.70	.80	.060	30	<10
08...	--	--	.20	.50	.70	.070	120	20
08...	--	--	.30	.60	.90	.030	170	110
08...	--	--	--	--	--	--	--	--
08...	7.8	2000	.40	.90	1.3	.140	40	310
AUG								
15...	7.7	1600	<.10	.60	--	.040	30	<10
15...	--	--	<.10	.80	--	.050	30	<10
15...	--	--	--	--	--	--	--	--
15...	7.8	1600	<.10	.70	--	.050	20	10

## BRAZOS RIVER BASIN

## POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325047098291201 POSSUM KINGDOM LAKE SITE P3

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
24...	1705	1.00	3380	8.1	8.5	11.9	106
24...	1707	10.0	3380	8.1	8.0	11.7	103
24...	1709	20.0	3420	8.1	7.5	11.1	97
24...	1711	30.0	3430	8.0	7.5	10.8	94
24...	1713	40.0	3480	7.9	8.0	10.4	92
24...	1715	50.0	3580	7.8	8.0	9.6	85
24...	1717	63.0	3640	7.8	8.5	9.3	83
MAY							
07...	1720	1.00	3140	8.6	24.5	7.8	98
07...	1722	10.0	3140	8.7	22.5	8.2	100
07...	1724	20.0	3140	8.6	22.0	7.7	93
07...	1726	30.0	3150	8.4	21.5	6.4	76
07...	1728	40.0	3220	8.1	20.0	5.6	65
07...	1730	50.0	3220	7.8	18.0	4.1	46
07...	1732	64.0	3220	7.7	16.5	3.1	33
AUG							
14...	1615	1.00	2920	8.2	29.5	6.7	92
14...	1617	10.0	2920	8.1	28.5	6.1	82
14...	1619	20.0	2920	7.9	28.5	5.3	72
14...	1621	30.0	2930	7.3	28.0	1.3	17
14...	1623	40.0	2950	7.2	27.0	.2	3
14...	1625	50.0	3020	7.2	25.5	.2	3
14...	1627	61.0	3070	7.2	24.0	.2	2

325125098323701 POSSUM KINGDOM LAKE SITE P5

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
25...	0940	1.00	3270	7.9	7.5	10.5	91
25...	0942	10.0	3270	7.8	7.0	10.2	88
25...	0944	20.0	3300	7.8	7.0	10.1	87
25...	0946	29.0	3300	7.7	7.0	9.9	85
MAY							
07...	1800	1.00	3070	8.6	25.0	7.9	101
07...	1802	10.0	3070	8.6	22.5	7.7	94
07...	1804	20.0	3070	8.4	22.5	6.6	80
07...	1806	29.0	3070	8.3	22.5	5.7	69
AUG							
14...	1652	1.00	2810	8.2	28.5	6.3	85
14...	1654	10.0	2810	8.1	28.5	6.2	84
14...	1656	20.0	2800	7.9	28.0	5.2	70
14...	1658	27.0	2800	7.9	28.0	4.9	66

## POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325301098342901 POSSUM KINGDOM LAKE SITE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
25...	1010	1.00	3180	8.0	7.5	11.0	96
25...	1012	10.0	3180	8.0	7.0	10.6	91
25...	1014	20.0	3250	7.9	7.5	10.6	92
25...	1016	30.0	3300	7.9	7.0	10.2	88
25...	1018	40.0	3300	7.8	6.5	10.1	86
25...	1020	50.0	3300	7.8	6.5	10.1	86
25...	1022	65.0	3300	7.8	6.5	10.0	85
MAY							
08...	1126	1.00	2820	8.7	24.0	8.3	103
08...	1128	10.0	2820	8.6	23.5	8.0	99
08...	1130	20.0	2850	8.6	23.5	7.7	95
08...	1132	30.0	3030	8.1	22.0	5.2	62
08...	1134	40.0	3120	7.7	19.5	3.3	38
08...	1136	50.0	3160	7.4	17.5	1.4	15
08...	1138	65.0	3220	7.4	16.0	.6	6
AUG							
14...	1716	1.00	2800	8.3	29.0	6.9	94
14...	1718	10.0	2800	8.1	29.0	5.9	80
14...	1720	20.0	2800	8.2	28.5	6.2	84
14...	1722	30.0	2810	7.5	28.0	2.3	31
14...	1724	40.0	2880	7.2	26.0	.2	3
14...	1726	50.0	2900	7.2	25.0	.2	3
14...	1728	63.0	3000	7.1	23.0	.2	2

325915098243001 POSSUM KINGDOM LAKE SITE P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
25...	1210	1.00	2720	8.1	6.0	12.1	101
25...	1212	10.0	2740	8.0	5.5	11.6	96
25...	1214	20.0	2990	8.0	5.5	11.3	93
25...	1216	31.0	4830	8.2	5.0	11.1	91
MAY							
08...	1000	1.00	2460	8.3	23.5	7.7	95
08...	1002	10.0	2460	8.2	23.5	7.2	89
08...	1004	20.0	2610	8.0	23.0	6.0	73
08...	1006	32.0	3400	7.4	21.5	1.1	13
AUG							
15...	0950	1.00	2820	8.1	29.5	5.4	74
15...	0952	10.0	2820	8.0	29.5	5.1	70
15...	0954	20.0	2830	8.0	29.5	5.1	70
15...	0956	29.0	2830	8.0	29.0	5.1	69

325725098280301 POSSUM KINGDOM LAKE SITE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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...	1240	1.00	2850	8.8	6.0	.90	15.2	127	490
25...	1242	7.00	5890	8.6	5.5	--	16.0	134	830
MAY									
08...	1030	1.00	2790	8.4	25.0	.40	8.8	112	580
08...	1032	8.00	2820	6.9	24.5	--	6.9	87	590
AUG									
15...	1014	1.00	3430	8.2	28.0	.20	5.4	72	520
15...	1016	4.50	3440	8.0	27.5	--	4.7	62	520

## BRAZOS RIVER BASIN

## POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325725098280301 POSSUM KINGDOM LAKE SITE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

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)	ALKA- LINIT FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
25...	400	140	35	450	9	6.0	90	280	680
25...	700	230	62	1000	16	7.6	130	570	1600
MAY									
08...	480	180	31	380	7	7.2	94	480	590
08...	500	180	35	390	7	7.3	97	490	600
AUG									
15...	420	150	35	570	11	8.1	95	450	810
15...	430	150	36	540	11	8.0	95	450	800

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								
25...	6.4	1700	.40	.90	1.3	.130	30	10
25...	6.8	3600	.30	1.0	1.3	.170	70	50
MAY								
08...	9.2	1700	.30	.70	1.0	.050	30	10
08...	9.3	1800	.40	.50	.90	<.010	30	40
AUG								
15...	8.9	2100	<.10	1.0	--	.110	30	90
15...	8.2	2000	<.10	1.0	--	.110	30	110

08088600 BRAZOS RIVER AT MORRIS SHEPPARD DAM NEAR GRAFORD, TX

LOCATION.--Lat 32°52'00", long 98°26'00", Palo Pinto County, Hydrologic Unit 12060201, immediately below Morris Sheppard Dam (formerly Possum Kingdom Dam), 2.6 mi upstream from Loving Creek, 11.3 mi southwest of Grafard, and 20 mi upstream from gaging station near Palo Pinto.

DRAINAGE AREA.--27,190 mi<sup>2</sup>, of which 9,566 mi<sup>2</sup> 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 Lake. 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 microsiemens Feb. 20, 1961; minimum daily, 494 microsiemens May 4, 1957.

WATER TEMPERATURES: Maximum daily, 28.0°C Aug. 19, Sept. 1, 28, 1983, and June 19, 20, 1984; minimum daily, 6.5°C Jan. 20, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,920 microsiemens Dec. 13, 25-27; minimum daily, 3,020 microsiemens July 25, 30, 31.

WATER TEMPERATURES: Maximum daily, 27.0°C on many days during July and August; minimum daily 10.0°C on several days during February.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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)
OCT 24...	0840	25	3700	7.7	--	670	550	190	47
JAN 02...	1200	2960	3890	--	14.0	660	550	180	50
APR 16...	0950	25	3590	--	16.5	580	480	160	43
MAY 29...	1555	1740	3280	--	17.0	560	470	160	40
JUL 10...	1515	146	3230	--	26.0	560	470	160	40
AUG 20...	1430	1140	3370	--	22.0	540	440	150	40
		SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 24...	570	10	7.8	118	490	940	.40	7.0	2300
JAN 02...	580	10	8.5	103	500	960	.40	6.7	2300
APR 16...	530	10	7.5	96	420	850	.40	3.2	2100
MAY 29...	480	9	6.0	95	400	820	.30	5.4	2000
JUL 10...	450	9	7.3	92	390	810	.30	5.0	1900
AUG 20...	460	9	6.9	97	370	770	.40	6.1	1900



## BRAZOS RIVER MAIN STEM

08088600 BRAZOS RIVER AT MORRIS SHEPPARD DAM NEAR GRAFORD, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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. 1984	776	3880	2290	4800	950	1990	470	982	620
NOV. 1984	1305	3880	2290	8090	950	3350	470	1650	620
DEC. 1984	3159	3900	2310	19700	960	8150	470	4020	620
JAN. 1985	36754	3820	2260	224000	930	92600	460	45800	610
FEB. 1985	19175	3520	2070	107000	840	43700	420	21800	580
MAR. 1985	40443	3420	2010	219000	820	89100	410	44700	560
APR. 1985	47033	3220	1890	240000	760	96600	380	48800	540
MAY 1985	48185	3230	1900	247000	760	99500	390	50200	540
JUNE 1985	54465	3160	1850	272000	740	109300	380	55300	530
JULY 1985	17067	3050	1780	82200	710	32900	360	16700	520
AUG. 1985	22697	3280	1920	118000	780	47600	390	24000	550
SEPT 1985	10517	3230	1890	53700	760	21600	380	10900	540
TOTAL	301576	**	**	1595000	**	646000	**	325000	**
WTD.AVG.	826	3340	1960	**	790	**	400	**	550

## 08088600 BRAZOS RIVER AT MORRIS SHEPPARD DAM NEAR GRAFORD, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985												
DAY	EQUIVALENT MEAN											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3850	3890	3890	3900	3640	3490	3250	3230	3170	3070	3290	3280
2	3860	3890	3900	3890	3630	3470	3260	3250	3190	3060	3260	3280
3	3870	3880	3900	3890	3610	3460	3250	3240	3190	3080	3300	3270
4	3870	3880	3900	3890	3610	3480	3240	3200	3190	3070	3290	3270
5	3860	3890	3910	3860	3610	3480	3240	3250	3180	3070	3270	3270
6	3870	3890	3910	3860	3600	3480	3240	3250	3180	3070	3300	3270
7	3870	3880	3900	3860	3600	3480	3240	3250	3180	3070	3280	3250
8	3870	3880	3900	3860	3600	3470	3230	3250	3150	3070	3290	3250
9	3870	3880	3900	3840	3600	3460	3230	3250	3140	3060	3270	3240
10	3860	3880	3910	3830	3600	3460	3230	3250	3150	3060	3280	3240
11	3860	3890	3910	3830	3600	3470	3230	3250	3140	3060	3280	3210
12	3860	3880	3910	3780	3590	3470	3230	3240	3120	3060	3280	3210
13	3870	3880	3920	3810	3580	3470	3220	3250	3120	3060	3280	3210
14	3880	3880	3900	3780	3580	3460	3230	3230	3110	3060	3270	3210
15	3870	3880	3900	3780	3570	3450	3230	3210	3190	3070	3260	3210
16	3880	3890	3900	3750	3560	3450	3230	3210	3260	3070	3280	3210
17	3890	3890	3900	3760	3560	3450	3230	3210	3290	3050	3280	3210
18	3880	3890	3900	3760	3530	3440	3230	3210	3280	3040	3270	3190
19	3900	3880	3900	3760	3520	3420	3220	3220	3280	3050	3270	3190
20	3900	3880	3900	3730	3510	3430	3200	3220	3090	3040	3280	3190
21	3910	3880	3900	3730	3510	3420	3190	3210	3100	3030	3280	3190
22	3910	3880	3900	3710	3520	3410	3210	3210	3280	3030	3270	3180
23	3900	3880	3900	3690	3540	3400	3210	3210	3090	3040	3270	3180
24	3890	3880	3910	3700	3500	3400	3200	3210	3150	3040	3290	3190
25	3880	3870	3920	3630	3470	3400	3200	3210	3280	3020	3270	3190
26	3870	3870	3920	3620	3470	3390	3200	3210	3280	3030	3280	3200
27	3870	3880	3920	3610	3480	3380	3200	3200	3120	3030	3270	3200
28	3870	3890	3900	3610	3470	3330	3200	3240	3110	3030	3280	3190
29	3880	3890	3900	3600	---	3350	3200	3290	3110	3030	3270	3190
30	3880	3890	3900	3580	---	3340	3200	3210	3090	3020	3260	3180
31	3890	---	3890	3600	---	3310	---	3190	---	3020	3280	---
MEAN	3880	3880	3900	3760	3560	3430	3220	3230	3170	3050	3280	3220

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985												
DAY	ONCE-DAILY											SEP
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	
1	22.0	20.0	17.0	14.0	12.0	14.0	18.0	---	23.0	26.0	26.0	
2	22.0	19.0	25.0	14.0	11.0	---	16.0	19.0	23.0	25.0	27.0	
3	22.0	---	22.0	16.0	11.0	14.0	16.0	---	---	26.0	27.0	
4	20.0	19.0	17.0	13.0	11.0	15.0	17.0	23.0	23.0	25.0	25.0	
5	20.0	---	16.0	14.0	11.0	---	17.0	21.0	---	---	27.0	
6	22.0	18.0	16.0	14.0	11.0	14.0	17.0	22.0	---	25.5	26.0	
7	22.0	18.0	17.0	13.0	---	13.0	17.0	21.0	25.0	26.0	26.0	
8	22.0	---	16.0	13.0	10.0	15.0	18.0	21.0	25.0	26.0	26.0	
9	22.0	18.0	17.0	15.0	11.0	15.0	17.0	---	25.0	26.5	27.0	
10	---	18.0	16.0	14.0	---	---	17.0	---	25.0	26.0	26.0	
11	22.0	18.0	14.0	14.0	10.0	14.0	17.0	21.0	24.0	26.0	27.0	
12	20.0	18.0	15.0	14.0	10.0	13.0	17.0	22.0	25.0	---	27.0	
13	20.0	18.0	16.0	13.0	10.0	16.0	18.0	22.0	25.0	26.5	27.0	
14	20.0	19.0	15.0	12.0	12.0	14.0	18.0	22.0	26.0	---	27.0	
15	21.0	18.0	16.0	13.0	---	15.0	18.0	22.0	---	27.0	26.0	
16	22.0	---	---	12.0	10.0	15.0	18.0	22.0	18.0	26.0	27.0	
17	19.0	---	15.0	13.0	10.0	---	18.0	22.0	21.0	25.0	27.0	
18	20.0	18.0	---	12.0	---	14.0	18.0	22.0	22.0	26.0	27.0	
19	20.0	18.0	15.0	13.0	---	15.0	18.0	21.0	22.0	26.0	27.0	
20	20.0	---	---	11.0	10.0	17.0	---	21.0	24.0	24.0	27.0	
21	20.0	---	17.0	11.0	11.0	14.0	18.0	21.0	25.0	26.0	27.0	
22	20.0	---	16.0	13.0	13.0	15.0	17.0	---	23.0	---	27.0	
23	---	---	16.0	12.0	14.0	17.0	18.0	22.0	25.0	25.0	27.0	
24	20.0	18.0	16.0	12.0	---	---	17.0	22.0	22.0	25.0	25.0	
25	21.0	17.0	16.0	13.0	14.0	16.0	---	21.0	20.0	26.0	27.0	
26	20.0	17.0	15.0	---	---	16.0	19.0	23.0	20.0	25.5	27.0	
27	20.0	17.0	15.0	---	14.0	16.0	19.0	22.0	25.0	25.0	27.0	
28	20.0	16.0	14.0	---	13.0	17.0	19.0	---	25.0	26.0	27.0	
29	20.0	17.0	---	13.0	---	17.0	19.0	---	25.0	26.0	27.0	
30	---	17.0	14.0	13.0	---	17.0	---	23.0	26.0	25.0	27.0	
31	---	---	14.0	11.0	---	16.0	---	---	---	25.0	27.0	
MEAN	20.5	18.0	16.0	13.0	11.5	15.0	17.5	21.5	23.5	25.5	26.5	

## 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 upstream from bridge on Farm Road 4, 300 ft downstream from Dark Valley Creek, 6.5 mi north of Palo Pinto, and at mile 667.3.

DRAINAGE AREA.--23,811 mi<sup>2</sup>, of which 9,566 mi<sup>2</sup> 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). WDK TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 831.23 ft above National Geodetic Vertical datum of 1929. Prior to Nov. 15, 1933, nonrecording gage at site 19 mi downstream at datum 38.19 ft lower.

REMARKS.--No estimated daily discharge. Records good. Since 1941, flow largely regulated by Possum Kingdom Lake (station 08088500) 20 mi upstream. Several observations of water temperature were made during the water year.

AVERAGE DISCHARGE.--16 years (water years 1925-40) prior to completion of Possum Kingdom Lake, 1,262 ft<sup>3</sup>/s (914,300 acre-ft/yr); 45 years (water years 1941-85) regulated, 919 ft<sup>3</sup>/s (665,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,600 ft<sup>3</sup>/s June 16, 1930, at site 19 mi downstream from Mineral Wells (gage height, 30 ft, present site and datum); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage occurred in 1876, from data by U.S. Army Corps of Engineers, and was several feet higher than the flood of June 16, 1930, which reached a stage of about 30 ft and was the highest since at least 1876.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,200 ft<sup>3</sup>/s June 10 at 0600 hours (gage height, 9.39 ft); minimum daily, 15 ft<sup>3</sup>/s Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	572	66	1940	1630	2520	2540	2510	380	110	406	576
2	20	438	64	2860	1610	2510	2530	2510	68	255	92	733
3	19	160	87	2810	979	2270	2530	2510	50	364	47	494
4	19	115	146	2750	264	389	2500	2510	50	300	306	629
5	21	97	80	2710	174	430	2480	2500	843	149	573	99
6	22	86	72	2660	81	457	1530	1840	1510	73	570	49
7	28	80	68	2040	67	757	1430	1680	2410	372	491	43
8	23	76	66	824	64	1070	1520	1520	5870	852	558	475
9	19	74	250	945	122	140	964	1990	6630	66	579	579
10	15	72	109	714	170	420	138	1670	8340	667	902	539
11	19	70	75	1280	114	477	653	1560	8490	121	945	87
12	29	68	68	1780	167	450	987	1490	2450	844	577	594
13	29	68	384	1480	167	157	127	1870	1590	787	82	649
14	27	68	289	482	102	2670	81	2120	1610	465	510	105
15	21	68	848	201	65	705	72	1110	1530	475	385	54
16	20	67	905	112	61	672	63	898	1370	763	1130	42
17	19	67	266	105	60	630	62	752	1300	572	850	266
18	19	72	656	98	62	305	60	87	907	60	863	899
19	16	71	718	92	62	230	56	56	441	310	1170	694
20	22	69	320	717	65	1390	55	52	76	514	992	94
21	37	155	202	2410	70	1370	55	51	60	60	1040	47
22	37	167	100	982	73	1280	688	333	57	46	951	41
23	33	78	85	217	106	1600	1720	1470	111	722	1040	485
24	39	68	79	101	834	1520	2470	1330	704	531	912	84
25	59	69	75	90	1170	1720	2500	1470	557	1520	108	46
26	168	71	71	122	3750	1720	2520	952	660	1460	53	42
27	661	69	71	214	3180	2180	2520	551	91	933	695	36
28	305	94	71	84	1420	1720	1880	1110	60	116	651	137
29	107	154	71	71	---	1620	2510	1270	45	59	713	547
30	80	77	71	68	---	1310	2510	1100	39	48	102	177
31	75	---	2450	110	---	2490	---	702	---	45	417	---
TOTAL	2029	3460	8883	31069	16689	37179	39751	41574	48299	13659	18710	9342
MEAN	65.5	115	287	1002	596	1199	1325	1341	1610	441	604	311
MAX	661	572	2450	2860	3750	2670	2540	2510	8490	1520	1170	899
MIN	15	67	64	68	60	140	55	51	39	45	47	36
AC-FT	4020	6860	17620	61630	33100	73740	78850	82460	95800	27090	37110	18530

CAL YR 1984 TOTAL 57118 MEAN 156 MAX 2450 MIN 15 AC-FT 113300  
WTR YR 1985 TOTAL 270644 MEAN 741 MAX 8490 MIN 15 AC-FT 536800

## BRAZOS RIVER MAIN STEM

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08090800 BRAZOS RIVER NEAR DENNIS, TX

LOCATION.--Lat 32°36'56", long 97°55'32", Parker County, Hydrologic Unit 12060201, on right bank at downstream side of highway embankment of bridge on Farm Road 1543, 0.2 mi south of Dennis, 1.0 mi upstream from Patrick Creek, and at mile 589.98.

DRAINAGE AREA.--25,237 mi<sup>2</sup>, of which 9,566 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation bench marks).

REMARKS.--No estimated daily discharges. Records good. Flow largely regulated by releases from Possum Kingdom Lake (station 08088500) and from Lake Palo Pinto (station 08090300). Flow is affected at times by discharge from the flooddetent pools of twelve floodwater-retarding structures with a combined detention capacity of 13,840 acre-ft. These structures control runoff from 53.0 mi<sup>2</sup> in the East Keechi and Pollard Creeks drainage basins. There are many diversions above station for irrigation, municipal supply, and oilfield operations. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--17 years (water years 1969-85), 957 ft<sup>3</sup>/s (693,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 96,600 ft<sup>3</sup>/s Oct. 14, 1981 (gage height, 31.85 ft, from floodmarks); minimum, 0.87 ft<sup>3</sup>/s Aug. 2, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1930, 31.8 ft in May 1957, from floodmark, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,700 ft<sup>3</sup>/s Jan. 1 at 1630 hours (gage height, 13.71 ft); minimum daily, 12 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	283	51	8890	158	1650	2210	3220	931	232	138	314
2	13	905	110	5260	398	2390	2590	2970	546	174	100	357
3	13	1780	124	3730	1950	2600	2580	2910	389	141	95	571
4	13	699	91	3340	1790	2570	2600	2890	277	276	163	590
5	13	370	147	3140	729	1450	2620	2860	218	378	135	533
6	15	266	168	3020	395	538	2570	2820	980	363	110	558
7	24	210	192	2930	349	522	2020	2380	1830	254	383	291
8	26	177	156	2770	253	598	1720	2150	2440	228	467	281
9	24	151	117	1650	200	1370	1650	1930	4020	624	509	129
10	22	123	90	1400	176	706	1730	1940	6140	643	478	255
11	26	104	71	1180	155	322	740	2300	6610	317	773	590
12	56	93	159	1180	160	389	388	2540	7580	549	693	443
13	44	78	209	1950	200	515	1230	2070	3140	255	672	286
14	40	71	250	1970	188	1080	708	3020	2430	790	443	979
15	40	63	623	1390	195	2770	332	3160	2130	610	314	872
16	33	55	3720	713	198	2110	262	2270	2090	610	368	328
17	31	52	5150	475	176	1070	220	1310	1950	558	268	191
18	31	111	1790	331	145	1190	191	1050	1670	700	1100	113
19	29	94	1060	282	126	734	158	608	1580	455	665	195
20	364	73	1260	253	118	1780	143	305	796	277	720	603
21	1100	70	983	241	108	3950	132	624	639	394	1180	509
22	264	59	622	1610	105	2870	125	408	347	521	1190	314
23	228	58	481	1880	203	2060	127	305	277	356	939	167
24	780	60	333	1050	174	1850	915	810	242	1670	886	88
25	2900	136	270	455	188	2000	2150	1590	254	1600	1200	191
26	2430	136	234	289	1170	1890	2440	1540	765	1510	693	222
27	1140	98	210	234	2190	3350	2480	1550	867	1880	347	133
28	789	75	193	206	3570	2950	3040	753	1110	1840	286	94
29	992	62	188	250	---	2380	3880	935	479	726	449	79
30	1200	53	243	242	---	2010	5130	1240	320	315	603	71
31	390	---	1730	191	---	1990	---	1460	---	180	527	---
TOTAL	13082	6565	21025	52502	15767	53654	47081	55918	53047	19426	16894	10347
MEAN	422	219	678	1694	563	1731	1569	1804	1768	627	545	345
MAX	2900	1780	5150	8890	3570	3950	5130	3220	7580	1880	1200	979
MIN	12	52	51	191	105	322	125	305	218	141	95	71
AC-FT	25950	13020	41700	104100	31270	106400	93390	110900	105200	38530	33510	20520
CAL YR 1984	TOTAL	92886.8	MEAN	254	MAX	5150	MIN	6.1	AC-FT	184200		
WTR YR 1985	TOTAL	365308.0	MEAN	1001	MAX	8890	MIN	12	AC-FT	724600		

## BRAZOS RIVER MAIN STEM

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, 5,410 microsiemens Apr. 18, 1984; minimum daily, 200 microsiemens Oct. 13, 1981.

WATER TEMPERATURES: Maximum daily, 38.5°C July 26, 1976; minimum daily, 0.0°C on many days during winter months 1977-79.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,330 microsiemens Oct. 1; minimum daily, 268 microsiemens Oct. 25.

WATER TEMPERATURES: Maximum daily, 33.0°C July 11, Aug. 3, 11; minimum daily, 0.0°C Feb. 2.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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)
OCT 31...	1630	320	1010	8.0	13.0	200	130	58	13
JAN 31...	1245	182	3250	--	3.0	580	470	160	44
APR 10...	1807	1640	3370	--	--	590	490	160	46
MAY 16...	1345	2090	2860	--	24.0	490	400	140	34
JUN 26...	1305	457	3270	--	30.0	570	480	160	42
JUL 31...	1952	172	3050	--	--	530	420	150	37
SEP 25...	1434	199	3110	--	25.0	570	460	160	42
SOLIDS,									
	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 31...	140	4	4.2	69	120	220	.20	5.3	600
JAN 31...	460	9	7.2	115	400	770	.40	3.3	1900
APR 10...	450	8	7.3	100	410	810	.30	3.3	1900
MAY 16...	390	8	7.0	94	320	690	.30	5.4	1600
JUN 26...	500	9	7.8	92	400	810	.40	4.0	2000
JUL 31...	440	9	7.5	112	350	760	.40	5.6	1800
SEP 25...	450	8	7.1	112	380	740	.40	4.7	1900



## BRAZOS RIVER MAIN STEM

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08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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. 1984	13082	767	433	15300	160	5660	86	3040	150
NOV. 1984	6565	892	498	8830	180	3180	99	1760	180
DEC. 1984	21025	826	464	26300	170	9610	92	5240	160
JAN. 1985	52502	2140	1250	177000	500	70300	250	35400	380
FEB. 1985	15767	3250	1920	81700	780	33100	380	16300	550
MAR. 1985	53654	2460	1430	208000	570	82200	290	41400	430
APR. 1985	47081	3020	1770	226000	710	90600	350	45000	520
MAY 1985	55918	3050	1790	270000	720	108700	360	53900	520
JUNE 1985	53047	3090	1810	260000	730	104600	360	51800	530
JULY 1985	19426	2680	1570	82300	630	32800	310	16400	460
AUG. 1985	16894	3240	1910	87200	770	35300	380	17400	550
SEPT 1985	10347	2920	1710	47800	690	19100	340	9540	500
TOTAL	365308	**	**	1491000	**	595000	**	297000	**
WTD.AVG.	1001	2580	1510	**	600	**	300	**	450

## BRAZOS RIVER MAIN STEM

08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985												
DAY	EQUIVALENT MEAN											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4330	1130	1730	295	3150	3380	2810	2860	3250	2230	3030	3170
2	4320	954	1570	765	3160	3400	3190	3180	3280	2370	2990	3180
3	4310	469	1530	1070	3400	3460	3260	3280	3300	2480	2940	3230
4	4280	417	1640	2450	3550	3440	3270	3310	3280	2630	3110	3210
5	4310	513	1440	2900	3480	3400	3290	3330	3020	3190	3140	3220
6	4220	672	1180	3210	3400	3370	3310	3350	1860	3260	3100	3230
7	4150	871	1280	3430	3380	3290	3280	3320	2350	3250	3270	3190
8	4010	1060	1550	3270	3340	3320	3310	3330	3020	3100	3370	3170
9	3980	1270	1920	3160	3290	3120	3300	3340	3260	3210	3280	3170
10	4140	1420	2100	3180	3210	3370	3320	3350	3200	3310	3300	3160
11	3800	1540	2230	3090	3190	3320	3240	3030	3140	3320	3280	3210
12	3540	1580	2500	2930	3150	3350	3170	2930	3110	3340	3260	3200
13	3070	1610	2750	2040	3210	3370	3220	3150	3050	3350	3260	3190
14	3570	1600	2300	2300	3240	2380	3120	2550	3140	3360	3270	1690
15	3590	1610	1440	2290	3230	1970	3080	2220	3220	3340	3300	2470
16	3760	1630	545	2280	3220	2050	3120	2830	3240	3330	3070	2510
17	3830	1640	371	2270	3080	2180	3110	3030	3230	3340	3210	2260
18	3820	1430	350	2300	3070	2510	3100	2830	3240	3310	3270	2370
19	3910	1370	469	2520	3050	2440	3110	2950	3250	3320	3250	2610
20	2310	1460	593	2770	3030	1430	3100	2910	3230	3240	3210	3070
21	510	1520	975	2910	3000	650	3090	2000	3240	3080	3240	3140
22	815	1470	1040	3050	2960	887	2930	1670	3230	3300	3230	3130
23	1310	1500	1620	3640	2000	1760	3010	2410	3220	2070	3220	3120
24	1050	1610	2190	3630	2260	2540	3850	2210	3190	1100	3220	3140
25	268	1420	2290	3540	2200	2920	3300	3170	3210	1140	3240	3130
26	281	1400	2260	3440	2550	3080	3330	3260	3320	1650	3230	3210
27	539	1580	2240	3340	3190	1820	3320	3230	3260	3000	3210	3190
28	732	1610	2300	3260	3440	2590	2560	3250	2140	3090	3220	3230
29	1580	1630	2380	3230	---	2680	2250	3290	2180	3110	3240	3010
30	617	1680	1910	3280	---	2900	2270	3240	2220	3080	3260	3070
31	1060	---	557	3250	---	3080	---	3310	---	3030	3250	---
WTR YR 1985	MEAN	2700		MAX	4330	MIN	268	DAYS	365			

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985												
DAY	ONCE-DAILY											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	19.0	14.0	8.0	1.0	14.0	16.0	22.0	30.0	31.0	28.0	32.0
2	---	17.0	14.0	7.0	.0	14.0	16.0	21.0	30.0	31.0	29.0	30.0
3	23.0	18.0	11.0	7.0	2.0	17.0	18.0	21.0	30.0	32.0	33.0	27.0
4	21.0	18.0	8.0	8.0	4.0	16.0	19.0	22.0	30.0	30.0	32.0	28.0
5	25.0	17.0	7.0	9.0	4.0	13.0	19.0	23.0	25.0	30.0	28.0	27.0
6	26.0	16.0	8.0	11.0	5.0	14.0	17.0	23.0	26.0	32.0	30.0	27.0
7	27.0	18.0	8.0	10.0	6.0	14.0	17.0	25.0	29.0	32.0	32.0	31.0
8	27.0	21.0	9.0	10.0	8.0	17.0	15.0	---	29.0	32.0	28.0	32.0
9	24.0	22.0	15.0	11.0	9.0	17.0	19.0	25.0	26.0	31.0	29.0	27.0
10	25.0	18.0	15.0	9.0	10.0	19.0	17.0	24.0	27.0	28.0	31.0	26.0
11	23.0	18.0	16.0	6.0	9.0	23.0	20.0	23.0	25.0	33.0	33.0	27.0
12	24.0	18.0	16.0	5.0	10.0	18.0	22.0	25.0	24.0	32.0	28.0	26.0
13	22.0	18.0	18.0	4.0	11.0	15.0	23.0	25.0	25.0	30.0	28.0	26.0
14	24.0	20.0	12.0	8.0	11.0	15.0	24.0	23.0	26.0	31.0	27.0	25.0
15	23.0	21.0	12.0	---	11.0	14.0	19.0	23.0	27.0	33.0	27.0	25.0
16	23.0	17.0	11.0	8.0	10.0	13.0	25.0	24.0	29.0	28.0	28.0	22.0
17	22.0	14.0	12.0	9.0	15.0	16.0	26.0	25.0	27.0	28.0	28.0	28.0
18	24.0	13.0	10.0	10.0	15.0	16.0	26.0	24.0	---	29.0	32.0	25.0
19	---	11.0	11.0	9.0	15.0	15.0	23.0	26.0	---	29.0	28.0	24.0
20	19.0	10.0	14.0	3.0	15.0	16.0	25.0	25.0	---	28.0	29.0	25.0
21	---	11.0	14.0	5.0	16.0	15.0	25.0	25.0	26.0	28.0	31.0	27.0
22	16.0	12.0	13.0	4.0	18.0	15.0	24.0	23.0	28.0	27.0	29.0	28.0
23	15.0	8.0	---	6.0	16.0	17.0	25.0	28.0	30.0	26.0	28.0	26.0
24	15.0	9.0	14.0	9.0	16.0	18.0	24.0	26.0	30.0	24.0	29.0	19.0
25	13.0	13.0	8.0	10.0	17.0	20.0	23.0	26.0	30.0	26.0	30.0	22.0
26	15.0	---	9.0	7.0	---	18.0	20.0	27.0	31.0	27.0	27.0	19.0
27	19.0	11.0	13.0	9.0	14.0	20.0	22.0	25.0	27.0	29.0	---	18.0
28	19.0	12.0	16.0	10.0	10.0	20.0	---	31.0	29.0	32.0	29.0	22.0
29	19.0	14.0	18.0	11.0	---	20.0	21.0	31.0	30.0	28.0	29.0	19.0
30	19.0	14.0	15.0	12.0	---	17.0	22.0	28.0	29.0	29.0	26.0	20.0
31	21.0	---	11.0	3.0	---	16.0	---	30.0	---	32.0	29.0	---
MEAN	21.0	15.5	12.5	8.0	10.5	16.5	21.0	25.0	28.0	29.5	29.0	25.5

## 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 DeCordova Bend Dam on Brazos River, 2.6 mi upstream from Fall Creek, 7.5 mi southeast of Granbury, and at mile 342.5.

DRAINAGE AREA.--25,679 mi<sup>2</sup> of which 9,566 mi<sup>2</sup> 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 U.S. Army Corps of Engineers).

REMARKS.--The lake is formed by an Ambursen-type concrete and earthfill dam 2,256 ft long, including a 932-foot 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 tainter gates and two 7- by 8-foot sluice gates. The outflow from the sluice gates discharges into a bay where it is then controlled by two 4- by 4.5-foot sluice gates with invert at 625.8 ft. Stage telemeter at station. Flow is affected at times by discharge from the flood-detention pools of 12 floodwater-retarding structures with a combined detention capacity of 13,940 acre-ft. These structures control runoff from 53.9 mi<sup>2</sup> 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. Water is diverted from the lake for municipal, domestic, irrigation, and industrial uses by several lakeside developers, or residents. Water is also diverted into Squaw Creek Reservoir. The city of Granbury returns sewage effluent into Lake Granbury. 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 provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 158,800 acre-ft Mar. 27, 1977 (elevation, 693.60 ft); minimum since first filling in October 1969, 97,600 acre-ft Aug. 9, 1978 (elevation, 685.28 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 151,900 acre-ft Mar. 16 at 0900 hours (elevation, 692.82 ft); minimum, 110,800 acre-ft Oct. 20 (elevation, 687.40 ft).

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

686.0	101,900	690.0	129,200
688.0	114,900	693.0	153,500

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112700	144400	137700	150200	147900	147200	143500	146100	150500	149500	150000	148600
2	112600	144300	137900	147600	145600	149000	144800	147100	150000	149600	150100	148200
3	112400	146200	138000	147800	147200	150100	146200	147900	149900	150000	150000	149000
4	112000	146400	138300	148700	148500	149800	147500	148500	150200	150000	150100	150200
5	111500	140400	138500	150300	148000	149400	148500	149100	150300	150100	150000	149600
6	111400	135300	138700	151100	148200	148600	149300	149600	148400	150600	148000	149300
7	111600	135700	139000	150600	148400	149100	149200	149600	148800	150400	146700	148800
8	111400	135800	139200	149600	149300	148800	148100	148800	148500	150000	147700	148900
9	111200	136300	139500	149200	149900	149500	148500	148700	143100	149700	148300	148100
10	111100	136400	139700	148200	151100	149400	150000	148700	143800	150300	149100	148600
11	111000	136300	139400	148700	150200	148700	149600	149100	144000	150000	150300	149700
12	111000	136300	139700	148600	150300	147800	149500	149600	146000	150000	150000	150500
13	111600	136000	140700	150400	150800	148900	150300	144700	146700	149200	149300	150000
14	111700	136000	141000	149600	150800	147600	149300	146200	149100	150600	150200	150400
15	111400	136400	142400	148100	150200	150600	148800	148800	149700	151000	149100	149400
16	111400	136200	144000	148200	150000	149100	149100	149200	150100	150100	149600	149400
17	111400	137000	148100	148000	149600	147200	149500	148600	150400	150300	150500	149600
18	111200	137300	148100	148100	149400	148100	149400	147400	150100	150600	150600	149600
19	110900	137400	147800	150000	149500	148300	149200	146500	149500	151100	150600	148800
20	115900	137000	148600	149100	149500	148900	150000	147200	149600	150600	149400	148400
21	118500	136900	149800	147300	150000	148200	150000	145500	149400	150700	148600	148000
22	119200	136900	150000	146400	150600	146700	147400	146200	149800	151300	147500	147500
23	119700	136900	150000	147200	148600	147200	146600	146700	150500	150300	147400	147600
24	122300	137300	150100	147100	146600	147400	147800	147500	150700	150000	147500	147200
25	129800	137500	149200	147500	146300	147800	149600	148900	150000	149700	147800	147700
26	135200	138200	148800	147900	146300	147800	149400	150200	149700	149400	148400	147500
27	137200	137500	149300	148600	145100	149400	149200	150600	150500	150000	148800	147100
28	137900	137600	149800	148700	147200	148100	145100	149200	150600	150700	149200	147100
29	139100	137700	150200	149100	---	146800	146200	148100	149900	150200	149900	148300
30	141700	137700	148700	150100	---	145500	144800	148800	149300	149900	150200	147500
31	142700	---	150700	150000	---	144100	---	150000	---	150000	149800	---
MAX	142700	146400	150700	151100	151100	150600	150300	150600	150700	151300	150600	150500
MIN	110900	135300	137700	146400	145100	144100	143500	144700	143100	149200	146700	147100
(†)	691.72	691.10	692.68	692.60	692.27	691.89	691.98	692.60	692.51	692.59	692.57	692.30
(‡)	+29700	-5000	+13000	-700	-2800	-3100	+700	+5200	-700	+700	-200	-2300

CAL YR 1984 MAX 151500 MIN 107800 (†) +12300  
WTR YR 1985 MAX 151300 MIN 110900 (‡) +34500

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.

## BRAZOS RIVER MAIN STEM

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 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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									
17...	1245	1.00	1370	8.1	8.5	.50	9.7	85	260
17...	1248	10.0	1370	8.1	8.0	--	9.6	83	--
17...	1250	20.0	1380	8.1	8.0	--	9.4	81	--
17...	1252	30.0	1380	8.1	8.0	--	9.4	81	--
17...	1254	35.0	1380	8.1	8.0	--	9.6	83	--
17...	1256	40.0	2330	7.9	8.5	--	8.3	73	--
17...	1258	50.0	2450	8.0	8.0	--	8.9	77	--
17...	1300	60.0	2520	8.0	8.0	--	9.0	78	--
17...	1302	68.0	2520	8.0	8.0	--	8.9	77	440
MAY									
01...	1130	1.00	2460	8.2	23.0	1.30	7.8	93	420
01...	1132	10.0	2460	8.2	23.0	--	7.8	93	--
01...	1134	20.0	2460	8.2	23.0	--	7.7	92	--
01...	1136	30.0	2460	8.2	23.0	--	7.7	92	--
01...	1138	40.0	2460	8.2	22.5	--	7.5	89	--
01...	1140	50.0	2920	7.5	20.0	--	2.4	27	--
01...	1142	60.0	3090	7.4	18.5	--	1.0	11	--
01...	1144	67.0	3090	7.4	18.5	--	.4	4	530
AUG									
07...	1100	1.00	2970	8.4	31.0	1.40	8.0	111	470
07...	1102	10.0	2970	8.4	30.5	--	8.2	113	--
07...	1104	20.0	2960	8.3	30.0	--	7.9	108	--
07...	1106	25.0	2970	7.8	30.0	--	3.8	52	--
07...	1108	30.0	2950	7.3	29.0	--	.2	3	--
07...	1110	40.0	3000	7.2	28.0	--	.2	3	--
07...	1112	50.0	3040	7.2	27.0	--	.2	3	--
07...	1114	60.0	3060	7.2	26.0	--	.2	3	--
07...	1116	67.0	3060	7.2	25.0	--	.3	4	530

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
17...	170	75	18	180	5	5.0	93	160	280
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	330	130	29	340	7	6.2	110	310	560
MAY									
01...	310	120	29	350	8	6.1	106	310	570
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	420	150	38	440	9	6.9	111	370	740
AUG									
07...	400	130	36	380	8	7.2	75	330	690
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	370	150	37	440	9	7.4	157	320	710

## BRAZOS RIVER MAIN STEM

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08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 LAKE GRANBURY SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, 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...	.20	5.8	780	.30	.50	.80	.030	84	16
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	.30	.50	.80	.040	80	10
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	.30	.50	.80	.030	30	40
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	6.8	1400	.30	1.0	1.3	.040	30	30
MAY									
01...	.40	5.7	1500	<.10	.50	--	.020	20	<10
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	<.10	.70	--	.030	30	10
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	.30	.80	1.1	.030	30	310
01...	--	4.3	1800	.20	.80	1.0	.040	220	880
AUG									
07...	.30	5.2	1600	<.10	.40	--	.010	20	<10
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	<.10	.70	--	.010	20	20
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	<.10	.30	--	.020	50	110
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	9.5	1800	<.10	2.1	--	.300	120	1400

322231097412001 LAKE GRANBURY SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
17...	1320	1.00	1370	8.1	8.0	9.6	83
17...	1322	10.0	1370	8.1	8.0	9.7	84
17...	1324	20.0	1380	8.2	8.0	9.6	83
17...	1326	30.0	1380	8.2	8.0	9.3	80
17...	1328	43.0	2380	8.4	8.0	7.9	68
MAY							
01...	1200	1.00	2460	8.2	23.0	7.7	92
01...	1202	10.0	2460	8.2	23.0	7.7	92
01...	1204	20.0	2460	8.2	23.0	7.7	92
01...	1206	29.0	2460	8.2	23.0	7.6	91
AUG							
07...	1125	1.00	2970	8.4	31.0	8.0	111
07...	1128	10.0	2950	8.4	30.5	8.1	111
07...	1130	20.0	2950	8.3	30.5	8.0	110
07...	1132	30.0	2950	7.6	29.5	.2	3



## BRAZOS RIVER MAIN STEM

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

## 322345097421901 LAKE GRANBURY SITE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
17...	1230	1.00	1300	8.1	8.0	9.8	84
17...	1232	10.0	1300	8.1	8.0	9.5	82
17...	1234	20.0	1340	8.1	8.0	9.3	80
MAY							
01...	1105	1.00	2500	8.2	24.0	7.9	96
01...	1108	10.0	2450	8.2	23.5	7.7	93
01...	1110	20.0	2510	8.1	23.0	6.4	77
01...	1112	28.0	2710	8.0	23.0	5.8	69
AUG							
07...	1025	1.00	3000	8.4	31.0	7.3	101
07...	1028	10.0	3000	8.3	31.0	7.2	100
07...	1030	20.0	3000	8.0	30.5	5.1	70

## 322341097420601 LAKE GRANBURY SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
17...	1200	1.00	1300	8.1	8.0	9.7	83
17...	1202	10.0	1300	8.1	8.0	9.6	83
17...	1204	20.0	1300	8.0	8.0	9.3	80
17...	1206	30.0	1790	7.9	8.5	7.7	67
17...	1208	35.0	2100	7.9	8.5	7.9	69
17...	1210	40.0	2410	8.0	8.0	9.1	79
17...	1212	50.0	2690	8.1	7.5	9.6	82
17...	1214	60.0	2830	8.1	7.5	9.6	82
17...	1216	65.0	2830	8.1	7.5	9.3	79
MAY							
01...	1045	1.00	2500	8.2	24.0	7.8	95
01...	1048	10.0	2500	8.2	23.5	7.8	94
01...	1050	20.0	2510	8.1	22.5	6.5	77
01...	1052	30.0	2700	7.9	22.5	5.7	68
01...	1054	40.0	2760	7.8	22.0	4.9	58
01...	1056	50.0	2870	7.6	20.5	2.7	31
01...	1058	60.0	3110	7.4	18.5	.8	9
01...	1100	64.0	3110	7.4	18.5	.8	9
AUG							
07...	1020	1.00	3000	8.3	30.5	7.3	100
07...	1022	10.0	3000	8.3	30.5	7.2	99
07...	1024	20.0	3000	7.6	30.0	3.7	50
07...	1026	30.0	3020	7.3	28.5	.2	3
07...	1028	40.0	3040	7.2	28.0	.2	3
07...	1030	50.0	3050	7.2	27.0	.2	3
07...	1032	60.0	3080	7.2	26.0	.2	3
07...	1034	64.0	3080	7.2	25.5	.2	3

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

## 322337097415401 LAKE GRANBURY SITE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
17...	1220	1.00	1280	8.1	8.0	9.7	83
17...	1222	10.0	1280	8.1	8.0	9.7	83
17...	1224	20.0	1280	8.1	8.0	9.6	83
MAY							
01...	1120	1.00	2500	8.2	24.0	7.7	94
01...	1122	10.0	2500	8.2	24.0	7.7	94
01...	1124	21.0	2500	8.0	23.0	6.2	74
AUG							
07...	1045	1.00	2970	8.4	31.0	7.6	105
07...	1048	10.0	2970	8.3	30.5	7.3	100
07...	1050	21.0	2950	7.6	29.5	2.3	31

## 322537097414501 LAKE GRANBURY SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
17...	1145	1.00	1210	8.1	8.0	9.9	85
17...	1147	9.00	1170	8.1	8.0	9.3	80
MAY							
01...	1030	1.00	1820	7.8	22.5	6.1	72
01...	1032	5.00	1680	7.7	22.0	5.9	69
AUG							
07...	1000	1.00	3000	8.2	32.0	6.4	90
07...	1002	8.00	3000	8.2	31.5	6.1	85

## 322422097423901 LAKE GRANBURY SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
17...	1105	1.00	1310	8.1	10.5	9.7	88
17...	1108	10.0	1310	8.1	10.0	10.3	93
17...	1110	20.0	1320	8.2	8.0	10.0	86
17...	1112	30.0	2120	8.2	7.0	10.2	86
17...	1114	35.0	2680	8.2	7.0	9.9	83
17...	1116	40.0	2840	8.2	6.5	10.3	86
17...	1118	50.0	2900	8.2	6.5	10.2	85
17...	1120	59.0	2910	8.1	6.5	9.6	80
MAY							
01...	0950	1.00	2620	8.1	24.5	7.4	91
01...	0952	10.0	2620	8.1	24.5	7.3	90
01...	0954	20.0	2910	7.9	22.5	6.0	71
01...	0956	30.0	2950	7.9	22.5	5.8	69
01...	0958	40.0	2960	7.8	22.5	5.5	65
01...	1000	50.0	3020	7.5	20.5	2.0	23
01...	1002	58.0	3140	7.4	18.5	.2	2
AUG							
07...	0920	1.00	3040	7.8	32.0	5.0	71
07...	0922	10.0	3040	7.8	31.5	4.9	69
07...	0924	20.0	3040	7.2	30.0	.2	3
07...	0926	30.0	3120	7.2	29.0	.2	3
07...	0928	40.0	3120	7.2	28.0	.2	3
07...	0930	50.0	3100	7.2	27.0	.2	3
07...	0932	59.0	3100	7.2	25.5	.2	3

## BRAZOS RIVER MAIN STEM

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

322437097423901 LAKE GRANBURY SITE DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
17...	1130	1.00	1280	8.1	10.0	10.0	90
17...	1132	10.0	1280	8.1	9.0	9.5	84
17...	1134	22.0	1280	8.1	8.5	8.8	77
MAY							
01...	1010	1.00	2580	8.2	24.0	7.7	94
01...	1012	10.0	2580	8.2	24.0	7.7	94
01...	1014	20.0	2870	8.0	23.0	6.0	72
01...	1016	24.0	2900	7.9	23.0	5.8	70
AUG							
07...	0940	1.00	3020	8.0	31.5	5.6	78
07...	0942	10.0	3020	7.9	31.5	5.6	78
07...	0944	22.0	3040	7.4	30.5	.2	3

322458097443101 LAKE GRANBURY SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
17...	1045	1.00	1180	8.1	8.5	10.0	87
17...	1047	10.0	1180	8.1	8.0	10.1	87
17...	1049	20.0	1460	8.0	8.0	9.6	83
17...	1051	30.0	2650	8.2	6.0	10.6	87
17...	1053	40.0	3020	8.2	6.0	10.8	89
17...	1055	54.0	3020	8.2	6.0	10.8	89
MAY							
01...	0930	1.00	2630	8.2	23.5	8.0	97
01...	0932	10.0	2630	8.2	23.5	7.9	95
01...	0934	20.0	2980	8.0	23.0	6.5	78
01...	0936	30.0	3040	7.8	22.5	5.8	69
01...	0938	40.0	3050	7.8	22.5	5.6	67
01...	0940	51.0	3050	7.8	22.5	5.5	65
AUG							
07...	0850	1.00	3040	8.3	31.5	6.8	95
07...	0852	10.0	3040	8.2	31.0	6.9	96
07...	0854	20.0	3000	7.4	30.0	1.3	18
07...	0856	30.0	3150	7.2	28.5	.2	3
07...	0858	40.0	3150	7.2	28.0	.2	3
07...	0900	50.0	3120	7.1	26.0	.2	3
07...	0902	54.0	3120	7.1	26.0	.2	3

## BRAZOS RIVER MAIN STEM

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08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

322619097463301 LAKE GRANBURY SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	HARD- NESS (MG/L AS CACO3)
JAN									
17...	1410	1.00	1150	7.7	7.0	.30	10.7	90	240
17...	1412	10.0	1150	7.8	7.0	--	10.8	91	--
17...	1414	15.0	1340	7.8	7.0	--	10.7	90	--
17...	1416	20.0	2830	8.0	6.5	--	11.2	93	--
17...	1418	30.0	3160	8.1	6.5	--	11.3	94	--
17...	1420	41.0	3160	8.1	6.5	--	10.3	86	560
MAY									
01...	1245	1.00	2660	8.0	23.0	.60	7.7	92	420
01...	1248	10.0	2660	8.0	22.5	--	7.6	90	--
01...	1250	20.0	2700	8.0	22.5	--	7.3	87	--
01...	1252	30.0	2820	7.8	22.0	--	6.3	74	--
01...	1254	39.0	2830	7.8	22.0	--	5.8	68	470
AUG									
07...	1215	1.00	2980	8.4	31.5	.90	8.2	115	470
07...	1218	10.0	2980	8.3	31.0	--	7.3	101	--
07...	1220	20.0	2940	7.8	30.5	--	5.6	77	--
07...	1222	30.0	2880	7.3	30.0	--	1.3	18	--
07...	1224	40.0	3170	7.2	28.5	--	.2	3	540

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
17...	150	72	14	140	4	4.4	91	120	230
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	460	160	40	470	9	7.2	110	400	740
MAY									
01...	330	120	30	380	8	6.1	89	330	620
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	370	130	35	410	9	6.4	95	340	670
AUG									
07...	400	130	36	370	8	7.4	71	320	680
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	400	150	39	460	9	7.5	134	320	740

DATE	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, 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...	7.5	640	.30	.50	.80	.050	250	20
17...	--	--	--	--	--	--	--	--
17...	--	--	.30	.50	.80	.040	270	20
17...	--	--	.30	.40	.70	.030	170	20
17...	--	--	--	--	--	--	--	--
17...	6.5	1900	.30	.40	.70	.020	100	20
MAY								
01...	4.9	1500	.10	.80	.90	.040	30	<10
01...	--	--	.10	.50	.60	.040	30	<10
01...	--	--	--	--	--	--	--	--
01...	--	--	.10	.50	.60	.030	30	20
01...	4.9	1700	.10	.60	.70	.050	30	80
AUG								
07...	5.7	1600	<.10	.40	--	.030	20	<10
07...	--	--	--	--	--	--	--	--
07...	--	--	<.10	.50	--	.030	20	30
07...	--	--	<.10	.70	--	.030	30	300
07...	9.4	1800	<.10	1.7	--	.100	280	960

## BRAZOS RIVER MAIN STEM

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

## 322703097451401 LAKE GRANBURY SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
07...	1355	1.00	3000	8.6	31.5	9.4	132
07...	1358	10.0	3000	8.0	31.0	6.4	89
07...	1400	22.0	3020	7.4	31.0	.3	4

## 322834097470801 LAKE GRANBURY SITE HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JAN							
17...	1600	1.00	2150	8.4	6.5	.60	12.2
17...	1602	10.0	2470	8.4	6.5	--	12.3
17...	1604	20.0	3200	8.2	6.0	--	12.1
17...	1606	32.0	3200	8.2	7.0	--	10.4
MAY							
01...	1400	1.00	1950	7.8	22.0	.30	7.1
01...	1402	10.0	1950	7.8	22.0	--	7.0
01...	1404	20.0	2050	7.8	22.0	--	6.9
01...	1406	32.0	2720	7.6	21.5	--	5.2
AUG							
07...	1325	1.00	2890	8.4	31.5	.80	8.8
07...	1328	10.0	2740	7.9	30.5	--	5.1
07...	1330	20.0	2740	7.8	30.5	--	4.5
07...	1332	32.0	2730	7.6	30.5	--	2.3

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							
17...	102	.30	.50	.80	.040	100	<10
17...	103	.30	.40	.70	.030	80	<10
17...	100	--	--	--	--	--	--
17...	88	.20	.40	.60	.030	100	10
MAY							
01...	83	.30	.70	1.0	.040	30	10
01...	82	--	--	--	--	--	--
01...	81	.30	.60	.90	.050	30	10
01...	61	.20	1.0	1.2	.060	30	80
AUG							
07...	123	<.10	.60	--	.040	20	<10
07...	70	--	--	--	--	--	--
07...	62	<.10	.50	--	.020	20	20
07...	32	<.10	.50	--	.020	30	180



## BRAZOS RIVER MAIN STEM

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08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

## 322819097483201 LAKE GRANBURY SITE IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAY							
01...	1410	1.00	2160	7.9	23.0	7.5	90
01...	1412	10.0	2160	7.9	23.0	7.4	88
01...	1414	16.0	2340	7.8	22.5	6.1	72
AUG							
07...	1420	1.00	2720	8.4	31.0	7.9	110
07...	1422	10.0	2730	7.9	30.0	4.7	64
07...	1424	18.0	2740	7.3	30.0	4.8	66

## 323318097480101 LAKE GRANBURY SITE JC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
17...	1630	1.00	3540	8.2	7.0	11.8	100
17...	1632	10.0	3540	8.2	7.0	11.8	100
17...	1634	21.0	3540	8.1	7.0	10.2	87
MAY							
01...	1435	1.00	2110	7.8	22.0	7.0	82
01...	1438	10.0	2120	7.7	22.0	6.7	79
01...	1440	21.0	2120	7.7	22.0	6.7	79
AUG							
07...	1450	1.00	2890	8.4	32.5	9.7	138
07...	1452	10.0	2890	8.0	32.0	7.2	102
07...	1454	15.0	3040	7.4	31.5	.3	4
07...	1456	23.0	2960	7.2	30.5	.2	3

## 323435097492001 LAKE GRANBURY SITE KC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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 CAC03)
JAN									
17...	1650	1.00	3390	8.2	7.5	.80	11.4	98	560
17...	1652	10.0	3390	8.1	7.5	--	11.3	97	--
17...	1654	16.0	3410	8.1	7.5	--	10.2	88	570
MAY									
01...	1500	1.00	2530	7.9	22.0	.20	7.7	90	420
01...	1502	10.0	2540	7.9	22.0	--	7.6	89	--
01...	1504	15.0	2540	7.9	22.0	--	7.6	89	430
AUG									
07...	1515	1.00	3040	8.2	32.5	--	7.8	111	530
07...	1518	10.0	2980	7.8	31.5	--	5.2	73	--
07...	1520	15.0	2980	7.8	31.5	--	4.7	66	530

## BRAZOS RIVER MAIN STEM

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

323435097492001 LAKE GRANBURY SITE KC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
17...	460	160	40	510	10	7.4	110	410	800
17...	--	--	--	--	--	--	--	--	--
17...	460	160	41	520	10	7.6	110	410	810
MAY									
01...	330	120	29	360	8	6.2	93	310	580
01...	--	--	--	--	--	--	--	--	--
01...	340	120	31	360	8	6.2	92	310	590
AUG									
07...	420	150	38	380	7	7.5	112	330	690
07...	--	--	--	--	--	--	--	--	--
07...	420	150	38	370	7	7.4	112	330	680

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, 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...	6.3	2000	.20	.30	.50	.030	150	30
17...	--	--	--	--	--	--	--	--
17...	6.1	2000	.20	.30	.50	.020	20	20
MAY								
01...	5.5	1500	.30	.70	1.0	.080	20	10
01...	--	--	--	--	--	--	--	--
01...	5.3	1500	.30	.90	1.2	.110	40	10
AUG								
07...	5.6	1700	<.10	.50	--	.050	30	70
07...	--	--	--	--	--	--	--	--
07...	6.1	1600	<.10	.40	--	.020	20	60

## BRAZOS RIVER MAIN STEM

249

08091000 BRAZOS RIVER NEAR GLEN ROSE, 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 downstream from Georges Creek, 4.1 mi upstream from Paluxy River, 6 mi northeast of Glen Rose, and at mile 511.2.

DRAINAGE AREA.--25,818 mi<sup>2</sup>, of which 9,566 mi<sup>2</sup> probably is noncontributing.

## WATER-DISCHARGE RECORDS

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 above National Geodetic Vertical Datum of 1929. Prior to May 7, 1931, nonrecording gage at site 2.5 mi downstream at same datum. May 7, 1931, to Sept. 30, 1957, water-stage recorder at site 2.4 mi 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.--Estimated daily discharges: Oct. 18-19, Nov. 10-14, 16-20, 23-27, and Dec. 2-4, 9-11. Records good. Since September 1969, flow largely regulated by Lake Granbury (station 08090900) 31 mi upstream. There are many diversions above station for irrigation, municipal supply, and oilfield operation.

AVERAGE DISCHARGE.--46 years (water years 1924-69) prior to regulation by Lake Granbury, 1,567 ft<sup>3</sup>/s (1,135,000 acre-ft/yr); 16 years (water years 1970-85) regulated, 975 ft<sup>3</sup>/s (706,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97,600 ft<sup>3</sup>/s May 18, 1935 (gage height, 23.68 ft, site then in use, from floodmarks); maximum gage height, 35.19 ft, present site, Oct. 15, 1981; no flow at times prior to construction of Morris Sheppard Dam (1941) on the Brazos River forming Possum Kingdom Lake, and on July 14, 1984. Maximum stage since at least 1876, that of Oct. 15, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 reached a stage of 27 ft, and flood in May 1922 reached a stage of 29.5 ft, each at site 2.4 mi downstream, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,200 ft<sup>3</sup>/s Jan. 2 at 1100 hours (gage height, 14.44 ft); minimum daily, 9.8 ft<sup>3</sup>/s Oct. 5.

REVISIONS.--The maximum discharge for water year 1984 has been revised to 3,220 ft<sup>3</sup>/s Jan. 26, 1984 (gage height, 8.14 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	57	15	6270	60	2690	2430	4420	845	426	77	1050
2	19	40	14	12300	1280	1440	2410	2560	824	61	35	1000
3	13	291	13	4370	1100	2060	2240	2510	818	34	29	324
4	11	1030	13	3990	933	2650	2270	2490	255	30	28	64
5	9.8	1360	50	2590	1510	2480	2450	2490	43	26	25	43
6	154	4730	65	2750	907	1470	2490	2500	2760	54	25	706
7	70	723	31	3450	247	629	2490	2510	1920	54	1510	1060
8	33	85	18	3440	61	565	2490	2590	1810	71	338	382
9	22	17	14	3180	38	1110	1920	2450	4990	299	57	72
10	14	15	13	1790	30	1160	1220	1870	6550	310	41	49
11	12	15	13	1070	26	1170	1570	2130	7480	310	32	45
12	21	14	44	937	24	1150	927	2140	7380	311	28	44
13	87	14	67	934	43	681	743	4430	5140	612	1570	43
14	50	14	33	1140	32	1310	1100	2670	2010	407	354	1100
15	30	57	23	2940	104	1790	1530	1860	1860	93	87	2030
16	20	15	559	1240	335	1500	455	2660	1870	585	851	1630
17	13	14	4810	1020	348	1930	115	1860	1870	939	105	403
18	13	14	2860	524	350	1250	65	1800	1880	476	47	93
19	13	13	1700	313	265	695	122	1690	1870	405	933	77
20	111	13	1060	74	79	1610	96	729	1280	417	1340	788
21	439	24	579	41	42	3660	44	1770	1040	416	1660	1060
22	97	62	515	1410	30	5450	36	1340	448	534	1670	1150
23	53	14	509	1690	873	2640	1750	368	96	414	1670	450
24	40	14	505	1640	2190	2100	382	97	45	1560	1070	100
25	39	13	493	943	627	2090	79	328	29	878	1010	73
26	93	13	494	273	544	2100	1510	875	429	2440	996	60
27	162	13	231	63	1400	2130	3110	885	536	1400	353	53
28	566	35	66	38	2560	4310	9520	1660	762	1380	65	58
29	563	63	43	33	---	3330	4640	1650	886	1380	38	82
30	447	30	696	33	---	3340	7600	875	888	707	35	59
31	114	---	1210	141	---	3150	---	849	---	314	692	---
TOTAL	3358.8	8812	16756	60627	16038	63640	57804	59056	58614	17343	16771	14148
MEAN	108	294	541	1956	573	2053	1927	1905	1954	559	541	472
MAX	566	4730	4810	12300	2560	5450	9520	4430	7480	2440	1670	2030
MIN	9.8	13	13	33	24	565	36	97	29	26	25	43
AC-FT	6660	17480	33240	120300	31810	126200	114700	117100	116300	34400	33270	28060
CAL YR 1984	TOTAL	81411.86	MEAN	222	MAX	4810	MIN	.17	AC-FT	161500		
WTR YR 1985	TOTAL	392967.80	MEAN	1077	MAX	12300	MIN	9.8	AC-FT	779500		

## BRAZOS RIVER MAIN STEM

08091000 BRAZOS RIVER NEAR GLEN ROSE, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	
NOV 13...	1030	3.4	3410	7.1	13.5	10	--	9.9	98	.5	600	
JAN 28...	1345	63	2020	8.2	9.0	5	2.3	11.6	103	.7	420	
MAR 04...	1130	2650	1900	8.0	11.5	25	3.6	10.8	101	.8	380	
MAY 16...	1330	2660	1800	8.1	24.0	12	5.2	9.0	109	1.8	450	
JUN 27...	1145	495	2950	8.2	26.5	4	1.6	3.8	49	1.3	500	
AUG 07...	1200	2710	3010	8.0	30.0	--	--	7.0	96	2.4	510	
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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 13...	490	160	48	530	10	8.1	107	430	830	.40	4.8	
JAN 28...	290	120	28	270	6	5.3	130	250	450	.30	6.0	
MAR 04...	260	110	26	290	7	5.5	120	250	480	.30	5.5	
MAY 16...	350	130	31	360	8	6.6	108	310	590	.30	3.8	
JUN 27...	400	140	36	420	8	7.2	97	350	700	.30	4.7	
AUG 07...	410	140	38	440	9	7.2	94	350	750	.30	5.5	
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, 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)
NOV 13...	2100	--	--	--	<.010	<.10	.050	.55	.60	.010	3.7	
JAN 28...	1200	22	1	.49	.010	.50	.080	.52	.60	.020	3.2	
MAR 04...	1200	7	6	.29	.010	.30	.080	.62	.70	.020	3.9	
MAY 16...	1500	20	11	--	.010	<.10	.080	.52	.60	.030	4.5	
JUN 27...	1700	11	6	--	.020	<.10	.080	.32	.40	.080	3.8	
AUG 07...	1800	--	--	--	--	--	--	--	--	--	--	
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 28...	1345	<1	200	<1	<10	<1	30					
MAY 16...	1330	<1	400	<1	<10	3	10					
AUG 07...	1200	1	400	1	<10	6	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)					
JAN 28...		<1	10	<.1	<1	<1	20					
MAY 16...		4	<10	<.1	<1	<1	10					
AUG 07...		1	10	.2	<1	<1	70					

## BRAZOS RIVER BASIN

251

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 upstream from bridge on U.S. Highway 67, 1.0 mi upstream from Cross Branch, 1.2 mi southwest of Glen Rose, and 5.1 mi upstream from mouth.

DRAINAGE AREA.--410 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929. Oct. 27, 1923, to Sept. 30, 1925, nonrecording gage at bridge 1.8 mi downstream at datum 13.62 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow is affected at times by discharge from the flood-detention pools of fourteen floodwater-retarding structures with a combined detention capacity of 20,100 acre-ft. These structures control runoff from 90.8 mi<sup>2</sup>. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--39 years (water years 1925, 1948-85), 62.4 ft<sup>3</sup>/s (2.07 in/yr), 45,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft<sup>3</sup>/s Oct. 4, 1959 (gage height, 25.4 ft), from rating curve extended above 32,000 ft<sup>3</sup>/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1877, 27.2 ft Apr. 17, 1908, present site and datum (discharge, 59,000 ft<sup>3</sup>/s), from rating curve extended as explained above. Flood of May 21, 1922, reached a stage of 26.0 ft, present site and datum (discharge, 53,000 ft<sup>3</sup>/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.--Peak discharges greater than base discharge of 4,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Apr. 29	1900	*5,700	*10.12	No other peak greater than base discharge.			
Minimum discharge, no flow for many days.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	18	4.5	513	15	22	21	179	15	8.5	2.7	.00
2	.00	14	4.3	117	16	21	19	110	14	6.9	1.9	.00
3	.00	12	3.7	74	15	22	19	82	13	6.5	1.3	.00
4	.00	12	4.1	57	17	21	18	67	12	20	1.3	.00
5	.00	9.2	7.1	47	18	19	17	57	11	18	1.3	.00
6	.00	7.6	6.1	41	18	18	16	49	631	10	.82	.00
7	.00	6.7	5.3	35	18	18	16	43	170	7.5	.48	.00
8	.00	6.1	6.2	32	18	18	15	102	68	6.3	.39	.00
9	.00	5.4	6.7	30	17	18	15	100	44	5.6	.31	.00
10	.00	4.2	6.0	27	17	17	15	59	33	4.6	.23	.00
11	.00	3.8	5.7	25	17	17	15	45	30	4.6	.19	.00
12	.00	3.7	6.0	24	16	16	15	38	24	4.6	.24	.00
13	.00	3.7	6.3	23	16	18	18	39	33	3.9	.12	.00
14	.00	3.6	21	23	16	29	16	68	25	2.8	.06	.00
15	.00	3.5	31	23	15	35	14	62	24	2.1	.02	.35
16	.00	3.0	211	25	15	29	14	44	23	1.7	.00	14
17	.00	3.1	87	23	15	24	13	35	21	1.3	.00	8.6
18	.00	7.5	42	24	14	22	13	31	19	1.6	.00	6.7
19	.00	7.0	30	22	14	20	12	29	15	1.0	.00	3.9
20	521	9.9	24	20	14	73	12	27	12	.81	.00	2.3
21	516	8.0	20	19	14	127	12	95	10	.78	.00	1.4
22	47	6.4	17	18	14	60	17	62	11	.74	.00	1.1
23	28	5.6	15	18	65	42	20	43	9.6	93	.00	.55
24	21	5.5	14	19	67	35	14	39	8.4	200	.00	.26
25	155	6.9	12	19	33	31	12	32	8.0	26	.00	.21
26	174	5.9	11	18	26	28	11	27	7.2	13	.00	.14
27	59	5.1	11	18	23	26	12	24	9.8	16	.00	.10
28	67	4.5	11	17	22	25	1420	23	8.4	10	.00	.06
29	34	4.4	13	17	---	24	1440	21	19	5.8	.00	.19
30	21	4.4	78	17	---	24	635	19	12	5.0	.00	.15
31	19	---	652	16	---	22	---	17	---	4.1	.00	---
TOTAL	1662.00	200.7	1372.0	1401	585	921	3906	1668	1340.4	492.73	11.36	40.01
MEAN	53.6	6.69	44.3	45.2	20.9	29.7	130	53.8	44.7	15.9	.37	1.33
MAX	521	18	652	513	67	127	1440	179	631	200	2.7	14
MIN	.00	3.0	3.7	16	14	16	11	17	7.2	.74	.00	.00
CFSM	.13	.02	.11	.11	.05	.07	.32	.13	.11	.04	.001	.003
IN.	.15	.02	.12	.13	.05	.08	.35	.15	.12	.04	.00	.00
AC-FT	3300	398	2720	2780	1160	1830	7750	3310	2660	977	23	79
CAL YR 1984	TOTAL	5367.28	MEAN 14.7	MAX 652	MIN .00	CFSM .04	IN .49	AC-FT 10650				
WTR YR 1985	TOTAL	13600.20	MEAN 37.3	MAX 1440	MIN .00	CFSM .09	IN 1.23	AC-FT 26980				



## BRAZOS RIVER BASIN

## 08091730 SQUAW CREEK RESERVOIR NEAR GLEN ROSE, TX

LOCATION.--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 upstream from dam, 3.9 mi north of Glen Rose, and 6.1 mi upstream from mouth.

DRAINAGE AREA.--64.0 mi<sup>2</sup>.

PERIOD OF RECORD.--February 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 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 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 slide gates and a 6- by 6-foot slide gate, which feed into a 6-foot inside diameter concrete conduit that extends through the dam. During the year, water was diverted by pipeline from Lake Granbury into this reservoir. 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.....	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, provided by Texas Utilities Services, Inc., was prepared by Freese and Nichols Inc., Consulting Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 154,800 acre-ft May 26, 1982 (elevation, 776.16 ft); minimum since initial filling of reservoir on May 3, 1979, 142,700 acre-ft May 20, 1983 (elevation, 772.44 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 150,900 acre-ft May 22 at 1500 hours (elevation, 774.99 ft); minimum, 145,500 acre-ft Sept. 5, 6 (elevation, 773.32 ft).

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

772.0	141,300	774.0	147,700
773.0	144,500	775.0	151,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146000	149200	148100	149600	149000	149300	149800	150600	150500	149200	148400	145900
2	146000	149100	148200	149600	148900	149300	149800	150500	150400	149100	148300	145800
3	146100	149100	148000	149600	148900	149400	149700	150500	150300	149400	148300	145700
4	146200	149000	148000	149500	148900	149400	149700	150500	150200	149400	148200	145600
5	146400	149000	148100	149500	148900	149400	149700	150500	150300	149400	148100	145500
6	146500	148900	148000	149500	148900	149300	149700	150400	150500	149300	148000	145600
7	146700	148900	148000	149500	148900	149400	149600	150400	150500	149200	147900	145600
8	146900	148900	147900	149500	148900	149400	149500	150700	150500	149200	147800	145600
9	147000	148900	147900	149500	148900	149400	149500	150700	150400	149100	147700	145600
10	147100	148700	147900	149400	148800	149400	149500	150700	150300	149100	147600	145600
11	147700	148700	147900	149400	148800	149400	149500	150700	150500	149000	147500	145700
12	147700	148600	147900	149300	148800	149400	149500	150700	150400	149000	147400	145700
13	148100	148600	147900	149300	148800	149700	149600	150700	150300	148800	147300	145800
14	148200	148500	147900	149300	148700	149700	149600	150600	150200	148800	147200	145900
15	148100	148500	148200	149300	148600	149700	149600	150500	150200	148800	147200	145900
16	148000	148400	148300	149400	148600	149600	149500	150500	150100	149100	147100	146000
17	148000	148500	148400	149400	148600	149600	149500	150500	150100	149000	147000	146000
18	148000	148500	148300	149400	148600	149600	149400	150400	150000	149000	146900	146000
19	147900	148400	148400	149300	148600	149700	149300	150400	150000	148900	146900	146000
20	148600	148400	148400	149200	148600	149900	149300	150300	149900	148900	146800	146100
21	148600	148300	148400	149200	148700	149900	149300	150900	149800	148800	146700	146100
22	148600	148300	148400	149200	148800	149900	149500	150900	149800	149200	146700	146100
23	148600	148300	148400	149200	149300	149900	149500	150900	149700	148800	146600	146100
24	148800	148400	148300	149200	149300	149900	149400	150900	149700	148800	146500	146000
25	148900	148300	148300	149100	149300	149900	149400	150800	149600	148700	146400	146000
26	149000	148300	148300	149100	149200	149900	149300	150800	149500	148700	146300	146000
27	149100	148200	148300	149100	149200	149900	149800	150600	149500	148700	146300	146000
28	149100	148200	148300	149100	149300	149900	150300	150500	149400	148600	146200	146000
29	149100	148100	148600	149100	---	149900	150600	150700	149400	148500	146100	146100
30	149100	148100	148700	149100	---	149800	150600	150600	149300	148500	146000	146000
31	149100	---	149500	149000	---	149800	---	150500	---	148400	146000	---
MAX	149100	149200	149500	149600	149300	149900	150600	150900	150500	149400	148400	146100
MIN	146000	148100	147900	149000	148600	149300	149300	150300	149300	148400	146000	145500
(†)	774.44	774.12	774.55	774.41	774.49	774.65	774.90	774.87	774.49	774.22	773.46	773.47
(‡)	+3200	-1000	+1400	-500	+300	+500	+800	-100	-1200	-900	-2400	0

ANAL YR 1984 MAX 149500 MIN 144300 (†) +2600  
WTR YR 1985 MAX 150900 MIN 145500 (‡) +100

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.

## BRAZOS RIVER BASIN

253

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 highway embankment 25 ft left of left end of bridge on State Highway 144, 2.1 mi upstream from mouth, 2.5 mi downstream from Squaw Creek Dam, and 2.8 mi northeast of Glen Rose.

DRAINAGE AREA.--70.3 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 13-25, Sept. 18-22. Records good except those for estimated daily discharges, which are fair. 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 were 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.--9 years (water years 1977-85, 6.92 ft<sup>3</sup>/s (5,010 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,030 ft<sup>3</sup>/s Apr. 8, 1975 (gage height, 11.90 ft), from rating curve extended above 1,000 ft<sup>3</sup>/s on basis of velocity-area study; minimum, 0.02 ft<sup>3</sup>/s Aug. 28, 29, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1934, about 20.5 ft in May 1957, from information by State Department of Highways and Public Transportation (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 373 ft<sup>3</sup>/s Oct. 20 at 1330 hours (gage height, 4.75 ft) maximum gage height, 4.77 ft on May 21; minimum daily discharge, 1.3 ft<sup>3</sup>/s May 12, July 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	3.1	4.3	6.3	4.6	4.9	5.1	2.4	3.3	4.3	4.0	7.0
2	4.0	3.1	4.4	5.3	4.6	4.9	4.9	2.0	3.3	4.3	4.1	7.4
3	4.0	2.9	4.6	4.9	4.3	5.1	4.6	1.9	3.4	6.8	4.3	7.4
4	3.9	2.7	4.6	4.6	4.4	5.7	4.6	1.7	3.4	5.9	4.4	7.4
5	3.7	2.9	5.4	4.6	4.4	4.9	5.3	1.7	3.5	3.9	4.9	7.4
6	3.9	2.8	4.8	4.0	3.9	4.9	4.6	1.8	4.7	4.1	5.3	8.2
7 45	4.6	2.9	4.3	4.0	3.4	4.8	4.6	1.9	4.2	3.2	5.3	9.1
8	4.1	2.8	4.3	4.0	3.4	3.3	4.6	2.9	4.0	3.3	5.3	6.8
9	4.2	2.9	4.3	4.0	3.7	2.9	4.4	2.7	4.0	3.4	5.3	6.8
10	4.6	3.7	4.3	5.5	3.7	2.9	4.3	2.0	4.0	3.0	5.7	7.0
11	8.1	3.3	4.3	4.6	5.3	2.9	3.9	2.0	11	2.2	5.7	7.1
12	5.2	3.2	4.3	4.6	4.3	2.9	3.7	2.1	5.1	3.4	5.7	8.4
13	8.4	3.1	4.5	4.6	4.3	3.3	3.7	2.0	5.2	3.4	5.7	8.4
14	4.3	3.1	4.0	4.6	4.3	4.4	3.5	5.2	5.3	3.3	5.7	12
15	3.7	3.0	10	4.6	4.9	3.2	2.9	1.9	5.3	3.7	5.9	5.0
16	3.3	3.0	10	6.0	4.9	3.3	2.9	2.1	5.1	3.6	6.1	3.7
17	3.2	3.0	4.0	6.0	4.9	4.5	2.7	2.1	4.9	3.6	6.1	3.7
18	3.2	4.5	4.0	4.5	5.2	4.6	2.6	2.1	4.6	3.7	5.6	3.7
19	3.2	4.1	4.0	3.4	4.9	4.7	2.5	2.1	4.6	3.6	5.3	3.7
20	38	4.1	4.4	3.3	5.6	8.3	2.7	2.1	4.3	3.7	5.3	3.9
21	4.1	4.1	4.0	3.5	6.5	6.5	3.7	53	3.7	3.4	5.3	3.9
22	3.3	4.1	4.0	3.7	5.7	6.1	5.2	2.8	3.7	3.7	5.3	3.7
23	3.2	4.1	4.0	3.4	28	6.0	4.4	2.9	3.8	4.4	5.3	3.7
24	4.8	5.0	4.0	3.4	5.7	5.7	2.7	2.9	4.0	4.3	5.6	3.7
25	9.2	4.4	4.0	3.4	4.7	5.7	1.9	2.6	4.0	4.3	5.7	3.7
26	3.9	4.1	4.0	3.4	4.6	5.7	1.9	2.6	3.7	4.1	6.0	3.7
27	4.7	6.0	4.1	3.9	4.6	5.7	2.5	2.7	4.0	4.0	6.1	3.7
28	2.9	4.6	4.0	4.1	4.6	5.7	47	3.2	4.3	4.0	6.6	3.7
29	2.9	4.6	5.3	3.7	---	5.7	2.2	3.2	4.2	3.7	7.0	4.3
30	3.0	4.3	6.6	7.4	---	12	1.8	3.2	4.3	3.7	7.0	4.3
31	3.0	---	36	4.7	---	6.1	---	3.3	---	3.7	7.0	---
TOTAL	166.6	109.5	178.8	138.0	153.4	157.3	151.4	127.1	132.9	119.7	172.6	172.5
MEAN	5.37	3.65	5.77	4.45	5.48	5.07	5.05	4.10	4.43	3.86	5.57	5.75
MAX	38	6.0	36	7.4	28	12	47	53	11	6.8	7.0	12
MIN	2.9	2.7	4.0	3.3	3.4	2.9	1.8	1.7	3.3	2.2	4.0	3.7
AC-FT	330	217	355	274	304	312	300	252	264	237	342	342

CAL YR 1984 TOTAL 1627.4 MEAN 4.45 MAX 66 MIN 1.6 AC-FT 3230  
WTR YR 1985 TOTAL 1779.8 MEAN 4.88 MAX 53 MIN 1.7 AC-FT 3530

## BRAZOS RIVER BASIN

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 upstream from Buffalo Creek, 4.3 mi south of Cleburne, and 21.4 mi upstream from mouth.

DRAINAGE AREA.--100 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1965 to September 1985 (discontinued).

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 long, including a 150-foot-wide uncontrolled concrete service spillway at left end of dam. A spillway, 500 ft wide, is cut in natural ground on the right bank about 400 ft 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. 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.--Capacity table provided by Homer Hunter Associates, Consulting Engineers for the city of Cleburne.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 20,960 acre-ft Oct. 1 at 0100 hours (elevation, 730.31 ft); minimum, 14,600 acre-feet Sept. 30 (elevation, 724.95 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 31,130 acre-ft Apr. 28 at 1300 hours (elevation, 736.86 ft); minimum, 14,500 acre-ft Oct. 5, 6 (elevation, 724.85 ft).

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

724.0	13,640	730.0	20,560	736.0	29,630
726.0	15,730	732.0	23,320	737.0	31,370
728.0	18,030	734.0	26,340		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14570	15230	14860	16800	17720	19600	22270	26660	25670	24630	23360	22110
2	14550	15230	14840	16880	17720	19640	22270	26410	25620	24570	23360	22070
3	14510	15200	14810	16960	17720	19720	22250	26230	25620	24580	23360	22040
4	14510	15200	14830	17050	17750	19780	22250	26110	25570	24570	23330	22010
5	14500	15190	14840	17110	17780	19830	22220	26030	25560	24550	23320	21970
6	14600	15150	14830	17140	17810	19840	22210	25990	25590	24490	23320	21950
7	14590	15130	14800	17190	17820	19880	22200	25950	25560	24430	23260	21920
8	14580	15130	14800	17210	17840	19910	22180	26010	25510	24390	23190	21890
9	14570	15130	14800	17250	17850	19950	22170	25960	25470	24350	23130	21810
10	14550	15090	14790	17270	17870	20360	22150	25930	25470	24300	23070	21720
11	14620	15070	14790	17280	17880	20430	22150	25900	25420	24240	23030	21630
12	14610	15050	14790	17280	17880	20490	22150	25890	25390	24200	22960	21570
13	14680	15010	14920	17300	17900	20520	22200	26140	25340	24140	22890	21550
14	14710	15000	14950	17320	17900	20530	22200	26040	25310	24090	22830	21520
15	14690	15000	15020	17340	17890	20560	22200	25980	25280	24120	22800	21490
16	14670	14950	15250	17490	17900	20570	22170	25930	25230	24090	22760	21460
17	14640	15010	15340	17530	17900	21560	22150	25900	25190	24050	22700	21450
18	14620	15020	15510	17570	17910	21780	22130	25840	25140	23980	22650	21440
19	14590	14970	15560	17600	17910	21860	22110	25790	25100	23930	22600	21380
20	14890	14950	15600	17580	17930	21950	22110	25780	25070	23900	22520	21340
21	14940	14930	15610	17580	17960	21990	22080	26030	25020	23870	22460	21300
22	14920	14920	15620	17590	18010	22040	22110	26030	24950	23800	22410	21250
23	14920	14910	15620	17620	19270	22070	22140	25980	24920	23770	22340	21150
24	15020	14950	15620	17640	19360	22100	22130	25930	24900	23710	22280	21100
25	15130	14940	15620	17650	19410	22130	22100	25890	24870	23670	22220	21060
26	15120	14960	15610	17660	19460	22180	22080	25840	24870	23650	22150	21010
27	15200	14920	15620	17670	19470	22200	22660	25810	24850	23600	22150	20940
28	15200	14900	15650	17690	19540	22270	29800	25790	24790	23550	22150	20910
29	15200	14890	15780	17700	---	22250	27950	25780	24730	23490	22140	21150
30	15190	14870	16090	17720	---	22250	27130	25750	24690	23430	22140	21050
31	15190	---	16630	17720	---	22270	---	25710	---	23390	22110	---
MAX	15200	15230	16630	17720	19540	22270	29800	26660	25670	24630	23360	22110
MIN	14500	14870	14790	16800	17720	19600	22080	25710	24690	23390	22110	20910
(+)	725.50	725.20	726.80	727.74	729.21	731.26	734.49	733.60	732.93	732.05	731.15	730.37
(+)	+590	-320	+1760	+1090	+1820	+2730	+4860	-1420	-1020	-1300	-1280	-1060

CAL YR 1984 MAX 20230 MIN 14500 (+) -2710  
WTR YR 1985 MAX 29800 MIN 14500 (+) +6450

(+) Elevation, in feet, at end of month.

(+) Change in contents, in acre-feet.

## 08092000 NOLAN RIVER AT BLUM, TX

LOCATION.--Lat 32°09'02", long 97°24'09", Hill County, Hydrologic Unit 12060202, on right bank 60 ft upstream from bridge on Farm Road 933, 0.6 mi northwest of Blum, 2.8 mi downstream from Mustang Creek, 3.0 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.2 mi upstream from Rock Creek, and 8.5 mi upstream from mouth.

DRAINAGE AREA.--282 mi<sup>2</sup>.

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 above 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 upstream at datum 5.00 ft higher. May 29 to July 7, 1949, nonrecording gage at present site and datum then in use (5.00 ft higher than present datum).

REMARKS.--Estimated daily discharges: Apr. 28. Records fair. Since August 1964, flow from 100 mi<sup>2</sup> above this station has been affected by storage in Lake Pat Cleburne (station 08091900) located 13 mi upstream. The city of Cleburne diverts water from Lake Pat Cleburne and returns sewage effluent to a tributary upstream from the gage. Gage-height telemeter is located at station.

AVERAGE DISCHARGE.--18 years (water years 1925, 1949-64) prior to regulation by Lake Pat Cleburne, 66.1 ft<sup>3</sup>/s (47,890 acre-ft/yr); 21 years (water years 1965-85) regulated, 81.2 ft<sup>3</sup>/s (58,830 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,200 ft<sup>3</sup>/s May 7, 1969 (gage height, 31.23 ft), from rating curve extended above 22,200 ft<sup>3</sup>/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 May 8, 1922, present site and datum, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 5,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 28	Unknown	*5,250	a*9.14	No other peak greater than base discharge.			

a From floodmark.

Minimum daily discharge, 0.07 ft<sup>3</sup>/s Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2.7	8.5	226	17	20	9.0	208	3.3	2.5	.64	.24
2	.93	7.6	8.5	45	17	20	9.4	121	2.6	1.8	.42	.21
3	.57	4.6	8.8	33	15	18	10	81	2.3	1.3	.25	.23
4	.43	3.1	9.4	28	15	18	11	61	1.6	8.1	.38	.27
5	.50	2.3	17	26	17	20	11	49	2.3	8.4	.25	.30
6	.73	1.9	18	23	17	17	10	41	7.2	1.7	.18	.30
7	4.6	1.8	13	21	15	16	8.8	36	9.4	.73	.22	.26
8	4.3	2.3	13	19	15	17	9.1	75	4.3	.41	.23	.10
9	1.9	2.1	13	18	14	18	9.1	45	2.7	.29	.22	.11
10	1.3	1.9	14	18	14	18	9.1	34	1.9	.27	.19	.16
11	1.4	2.1	14	17	14	18	9.4	31	1.8	.35	.22	.17
12	5.8	2.3	15	16	14	19	9.4	27	6.3	.30	.34	.21
13	4.6	2.1	26	16	14	19	8.8	71	4.4	.23	.29	3.7
14	12	2.1	37	17	14	138	9.4	70	2.7	.35	.27	51
15	5.3	3.1	25	17	14	59	9.4	39	3.4	.34	.30	7.6
16	1.9	2.7	83	19	14	33	7.6	30	3.0	.30	.26	2.5
17	1.3	3.1	52	26	14	26	7.0	27	3.0	.23	.27	1.0
18	1.2	11	52	20	14	23	7.3	25	3.3	.37	.34	.65
19	.93	8.2	52	18	14	21	6.4	21	3.6	.34	.39	.73
20	2.5	4.6	34	16	13	970	6.4	19	3.7	1.1	.43	.65
21	32	4.6	28	15	13	123	6.7	78	2.4	.70	.42	.57
22	5.3	4.3	24	15	14	22	6.7	29	5.9	30	.32	.73
23	2.7	4.3	22	15	163	14	7.8	21	6.4	19	.26	.89
24	6.4	5.6	21	16	79	11	8.5	17	6.7	6.0	.23	1.3
25	32	13	20	16	30	9.8	7.0	14	4.7	2.6	.65	3.6
26	9.4	11	19	15	23	9.1	6.4	12	3.5	.77	.43	5.6
27	8.2	8.2	20	15	20	9.6	6.7	9.3	3.4	1.4	.73	5.6
28	5.6	7.8	20	15	18	10	2500	8.0	3.7	1.2	1.2	6.1
29	2.9	7.6	21	15	---	8.7	1390	6.9	4.9	.72	.73	50
30	2.1	8.5	231	16	---	9.6	486	5.7	4.0	.57	.30	10
31	2.1	---	399	16	---	10	---	4.0	---	1.5	.22	---
TOTAL	162.19	146.5	1338.2	808	655	1744.8	4603.4	1315.9	118.4	93.87	11.58	154.78
MEAN	5.23	4.88	43.2	26.1	23.4	56.3	153	42.4	3.95	3.03	.37	5.16
MAX	32	13	399	226	163	970	2500	208	9.4	30	1.2	51
MIN	.43	1.8	8.5	15	13	8.7	6.4	4.0	1.6	.23	.18	.10
AC-FT	322	291	2650	1600	1300	3460	9130	2610	235	186	23	307
CAL YR 1984	TOTAL	4592.02	MEAN 12.5	MAX 1340	MIN .00	AC-FT 9110						
WTR YR 1985	TOTAL	11152.62	MEAN 30.6	MAX 2500	MIN .10	AC-FT 22120						



## BRAZOS RIVER MAIN STEM

## 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 upstream from Coon Creek, 3.5 mi upstream from Iron Creek, 7.4 mi southwest of Whitney, and at mile 442.4.

DRAINAGE AREA.--27,189 mi<sup>2</sup>, approximately, of which 9,566 mi<sup>2</sup> 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 U.S. Army Corps of Engineers).

REMARKS.--The lake is formed by a concrete-gravity and rolled earthfill dam 17,695 ft long, including spillway. The dam was completed in April 1951, and deliberate impoundment began Dec. 10, 1951. Concrete spillway is 680 ft long and includes 17 tainter gates 38.0 by 40.0 ft each. Outlet works are comprised of 16 gate-operated conduits that are 5.0 by 9.0 ft each. The space between elevations 522.0 and 571.0 ft is reserved for flood-control storage. At maximum design elevation of 573.0 ft the spillway is designed to discharge 684,000 ft<sup>3</sup>/s. Capacity table is based on a survey made in April and May 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.....	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 U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,980,000 acre-ft May 29, 1957 (elevation, 570.25 ft); minimum daily since power pool elevation first reached in April 1954, 250,200 acre-ft Nov. 1, 1956 (elevation 509.52 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 692,900 acre-ft May 1 at 1600 hours (elevation, 535.69 ft); minimum daily, 394,700 acre-ft Oct. 4 at 1600 hours (elevation, 520.98 ft).

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

520.0	379,100	526.0	478,800	532.0	603,900
522.0	411,100	528.0	517,100	534.0	651,000
524.0	444,000	530.0	559,200	536.0	700,700

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	395800	415300	428200	486800	528700	526400	627100	692100	628000	622400	603400	562300
2	395500	415200	428200	508900	524100	528500	630000	689900	628000	621500	601100	561900
3	395200	415000	428200	519400	520600	532800	631600	686600	627300	620400	599000	560300
4	394800	415600	429400	527900	520800	538600	633800	683600	627300	618700	596700	559000
5	395000	416900	429400	531400	522300	543800	638300	680800	626400	617100	594500	557500
6	396900	423300	429200	535300	523700	545700	641400	677500	632600	615300	592200	556600
7	397900	427900	429100	539100	522900	548300	644800	674800	637800	613400	591700	556400
8	398000	428100	429100	544400	522500	549400	647400	672800	639800	611500	591300	555900
9	398500	428200	429200	551900	522700	550900	648800	670400	645300	609700	589000	554400
10	399000	428200	429200	553000	523700	552100	650000	666400	652000	608500	586800	553300
11	400000	428100	429200	551300	520400	555400	648400	662000	657400	607800	584300	551800
12	400100	427900	429400	546100	517700	556400	646200	656400	662500	605500	582100	550500
13	400300	427900	430400	542500	517300	560500	644300	658800	665500	603400	581000	549600
14	401100	427900	430400	541900	516300	564500	640200	658100	660300	601600	581300	554200
15	401300	427700	433200	545500	513200	568700	638600	653900	656900	599300	579900	556100
16	401400	427600	433500	549600	511800	572400	638800	650800	651700	598800	579000	557500
17	401700	428100	442100	548700	511000	578800	637800	647600	646400	598100	576200	554000
18	402200	427900	450800	549600	509600	581300	636200	644800	645700	597900	572900	551600
19	402400	427900	455000	550600	509400	582400	635700	640700	643300	597900	570000	550900
20	402500	427900	457200	545500	508300	594600	635500	638300	641900	597400	568500	550900
21	405300	427700	459300	540600	507900	601600	633300	639000	639800	597900	567800	551600
22	406200	427700	460400	538400	507300	611500	633500	639500	639500	598300	567600	551400
23	406600	427700	461100	541000	511800	613600	635000	636900	637100	598300	567400	550500
24	407700	428600	462400	543600	516500	612900	635200	633800	635000	598800	568500	549900
25	408000	428600	463300	545100	517700	611500	633300	630900	632100	599900	568300	549000
26	408500	428600	464000	543400	518400	609900	634700	625900	629500	603600	567800	547900
27	410100	428600	465100	542300	518800	611100	640200	623100	628500	605000	566700	547100
28	410900	428400	465200	540600	520200	613400	668700	624100	626600	605500	565600	546400
29	411400	428400	466700	539700	---	616900	678800	626200	625700	606000	564300	548800
30	412400	428400	470000	538900	---	621100	685600	627300	623400	606400	563600	547500
31	412700	---	476400	535500	---	625000	---	627800	---	605000	562300	---
MAX	412700	428600	476400	553000	528700	625000	685600	692100	665500	622400	603400	562300
MIN	394800	415000	428200	486800	507300	526400	627100	623100	623400	597400	562300	546400
(†)	522.10	523.06	525.87	528.89	528.15	532.91	535.40	533.03	532.84	532.05	530.14	529.46
(‡)	+16600	+15700	+48000	+59100	-15300	+104800	+60600	-57800	-4400	-18400	-42700	-14800

CAL YR 1984 MAX 576600 MIN 394800 (†) -39500  
WTR YR 1985 MAX 692100 MIN 394800 (‡) +151400

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



## BRAZOS RIVER MAIN STEM

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1961 to current year.

315203097222601 LAKE WHITNEY SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	
JAN											
16...	1100	1.00	1810	8.4	9.0	1.60	1.0	9	K6	K6	
16...	1101	2.70	--	--	--	--	--	--	--	--	
16...	1102	10.0	1810	8.4	9.0	--	10.9	96	--	--	
16...	1104	20.0	1810	8.4	9.0	--	10.9	96	--	--	
16...	1106	30.0	1820	8.4	9.0	--	10.9	96	--	--	
16...	1108	40.0	1830	8.4	9.0	--	10.8	96	--	--	
16...	1110	50.0	1830	8.4	8.5	--	10.9	95	--	--	
16...	1112	60.0	1830	8.4	8.5	--	10.9	95	--	--	
16...	1114	70.0	1840	8.4	8.5	--	10.9	95	--	--	
16...	1116	80.0	1850	8.3	8.5	--	10.8	94	--	--	
16...	1118	90.0	1860	8.3	8.5	--	10.6	93	--	--	
16...	1120	104	1870	8.0	8.5	--	10.1	88	--	--	
APR											
30...	0915	1.00	1920	8.3	21.0	2.10	8.5	98	K4	K5	
30...	0916	3.50	--	--	--	--	--	--	--	--	
30...	0918	10.0	1920	8.3	21.0	--	8.4	96	--	--	
30...	0920	20.0	1920	8.1	20.5	--	7.3	83	--	--	
30...	0922	30.0	1920	8.0	19.5	--	6.6	74	--	--	
30...	0924	40.0	1920	7.9	18.5	--	6.1	67	--	--	
30...	0926	50.0	1920	7.9	18.5	--	5.9	64	--	--	
30...	0928	60.0	1910	7.8	17.5	--	5.2	56	--	--	
30...	0930	70.0	1910	7.7	17.0	--	4.2	44	--	--	
30...	0932	80.0	1890	7.6	16.5	--	3.1	32	--	--	
30...	0934	90.0	1890	7.5	15.5	--	2.2	23	--	--	
30...	0936	100	1900	7.4	14.5	--	.6	6	--	--	
30...	0938	108	1900	7.4	14.5	--	.3	3	--	--	
AUG											
06...	0915	1.00	2260	8.2	30.0	1.60	6.7	91	K3	<1	
06...	0916	2.60	--	--	--	--	--	--	--	--	
06...	0918	10.0	2260	8.1	28.5	--	6.4	84	--	--	
06...	0920	20.0	2260	7.9	28.5	--	5.4	71	--	--	
06...	0922	30.0	2260	7.5	28.0	--	2.0	26	--	--	
06...	0924	35.0	2260	7.5	28.0	--	1.7	22	--	--	
06...	0926	40.0	2230	7.4	27.0	--	.3	4	--	--	
06...	0928	50.0	2200	7.3	26.0	--	.3	4	--	--	
06...	0930	60.0	2160	7.3	25.5	--	.3	4	--	--	
06...	0932	70.0	2120	7.2	24.5	--	.4	5	--	--	
06...	0934	80.0	2060	7.2	22.0	--	.4	5	--	--	
06...	0936	90.0	2010	7.2	20.5	--	.5	6	--	--	
06...	0938	100	1990	7.1	19.0	--	.6	7	--	--	
DATE		HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN											
16...	340	230	94	26	230	6	7.0	110	220	390	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	350	250	96	27	240	6	6.9	100	230	410	--
APR											
30...	380	270	110	25	260	6	5.7	110	230	430	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	350	240	98	26	250	6	6.3	112	230	420	--

BRAZOS RIVER MAIN STEM

LAKE WHITNEY NEAR WHITNEY, TX--Continued

315203097222601 LAKE WHITNEY SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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BRAZOS RIVER MAIN STEM

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LAKE WHITNEY NEAR WHITNEY, TX--Continued

315203097222601 LAKE WHITNEY SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	
AUG 06...	0940	108	1990	7.1	19.0	.7	8	380	230	110	26	280	
DATE		SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG 06...	6	6.8	150	220	440	9.2	1200	<.10	2.0	.330	200	1600	

315214097222001 LAKE WHITNEY SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
16...	1135	1.00	1810	8.4	9.0	11.2	99
16...	1137	10.0	1810	8.4	9.0	11.2	99
16...	1139	20.0	1810	8.4	9.0	11.0	97
16...	1141	30.0	1810	8.4	9.0	10.9	96
16...	1143	41.0	1820	8.3	9.0	10.4	92
APR							
30...	0950	1.00	1920	8.3	21.0	8.5	98
30...	0952	10.0	1920	8.3	21.0	8.4	96
30...	0954	20.0	1920	8.2	20.5	7.8	89
30...	0956	30.0	1920	8.0	20.0	6.8	77
30...	0958	41.0	1910	7.9	19.0	6.2	68
AUG							
06...	1055	1.00	2260	8.1	29.0	6.1	81
06...	1058	10.0	2260	8.0	29.0	5.9	78
06...	1100	20.0	2260	8.0	29.0	5.8	77
06...	1102	30.0	2260	7.7	28.5	3.8	50
06...	1104	42.0	2240	7.4	27.5	.5	6

315432097234601 LAKE WHITNEY SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
16...	1220	1.00	1810	8.5	8.5	11.4	100
16...	1222	10.0	1810	8.4	8.5	11.3	99
16...	1224	20.0	1840	8.4	8.5	11.2	98
16...	1226	30.0	1870	8.4	8.5	11.2	98
16...	1228	40.0	1880	8.4	8.5	11.1	97
16...	1230	50.0	1920	8.4	8.5	10.9	95
16...	1232	60.0	1930	8.4	8.5	10.8	94
16...	1234	70.0	1960	8.3	8.5	10.8	94
16...	1236	80.0	2040	8.3	8.0	10.4	90
16...	1238	91.0	2040	8.3	8.0	10.1	87

BRAZOS RIVER MAIN STEM  
LAKE WHITNEY NEAR WHITNEY, TX--Continued

315432097234601 LAKE WHITNEY SITE CC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
APR							
30...	1040	1.00	1930	8.4	22.5	8.8	104
30...	1042	10.0	1930	8.4	22.0	8.6	101
30...	1044	20.0	1930	8.3	21.5	8.0	93
30...	1046	30.0	1940	8.0	20.5	6.2	70
30...	1048	40.0	1970	7.8	19.0	5.0	55
30...	1050	50.0	1950	7.8	18.5	4.7	51
30...	1052	60.0	1960	7.7	18.0	4.1	44
30...	1054	70.0	1940	7.6	17.5	3.0	32
30...	1056	80.0	1930	7.5	17.0	2.2	23
30...	1058	90.0	1900	7.4	16.0	.7	7
30...	1100	95.0	1890	7.5	16.0	.3	3
AUG							
06...	1110	1.00	2260	8.2	30.0	7.0	95
06...	1112	10.0	2260	8.2	30.0	6.7	91
06...	1114	20.0	2260	8.1	29.5	6.5	87
06...	1116	30.0	2250	7.4	28.5	1.0	13
06...	1118	40.0	2200	7.3	27.5	.2	3
06...	1120	50.0	2190	7.3	26.5	.2	3
06...	1122	60.0	2160	7.2	26.0	.2	3
06...	1124	70.0	2150	7.2	24.5	.2	2
06...	1126	80.0	2100	7.2	23.0	.3	4
06...	1128	91.0	2060	7.2	21.0	.3	3

315722097240201 LAKE WHITNEY SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
16...	1300	1.00	1940	8.4	8.5	1.50	11.2	98	K2	K1
16...	1302	10.0	1950	8.4	8.5	--	11.2	98	--	--
16...	1304	20.0	1980	8.4	8.0	--	11.3	98	--	--
16...	1306	30.0	2060	8.4	8.0	--	11.2	97	--	--
16...	1308	40.0	2100	8.4	8.0	--	11.1	96	--	--
16...	1310	50.0	2120	8.4	7.5	--	11.0	94	--	--
16...	1312	60.0	2130	8.3	7.5	--	10.9	93	--	--
16...	1314	70.0	2140	8.3	7.5	--	10.8	92	--	--
16...	1316	80.0	2140	8.3	7.5	--	10.4	89	--	--
APR										
30...	1120	1.00	1960	8.5	23.0	1.60	9.0	107	<1	<1
30...	1122	10.0	1960	8.4	22.5	--	8.9	105	--	--
30...	1124	20.0	1980	8.3	22.0	--	8.1	95	--	--
30...	1126	30.0	1990	8.2	22.0	--	7.4	87	--	--
30...	1128	40.0	2070	7.9	21.5	--	4.8	56	--	--
30...	1130	50.0	2140	7.6	19.0	--	2.2	24	--	--
30...	1132	60.0	2140	7.5	18.5	--	1.6	17	--	--
30...	1134	70.0	2110	7.5	18.0	--	1.0	11	--	--
30...	1136	80.0	2100	7.5	18.0	--	.9	10	--	--
30...	1138	85.0	2100	7.5	18.0	--	.9	10	--	--
AUG										
06...	1200	1.00	2290	8.3	31.0	1.40	7.0	96	<1	<1
06...	1202	10.0	2290	8.2	30.5	--	7.1	97	--	--
06...	1204	20.0	2310	8.1	30.5	--	6.6	90	--	--
06...	1206	30.0	2350	7.8	30.0	--	5.2	70	--	--
06...	1208	35.0	2500	7.4	30.0	--	1.1	15	--	--
06...	1210	40.0	2550	7.3	28.5	--	.2	3	--	--
06...	1212	50.0	2310	7.3	27.0	--	.2	3	--	--
06...	1214	60.0	2300	7.3	26.0	--	.2	3	--	--
06...	1216	70.0	2220	7.2	24.5	--	.2	2	--	--
06...	1218	81.0	2150	7.2	23.5	--	.3	4	--	--

## LAKE WHITNEY NEAR WHITNEY, TX--Continued

315722097240201 LAKE WHITNEY SITE DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
16...	360	260	100	27	250	6	7.1	100	230
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	400	300	110	30	290	7	6.8	100	250
APR									
30...	360	250	100	27	270	6	5.6	112	240
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	390	270	110	27	290	7	6.0	115	250
AUG									
06...	420	320	120	29	280	6	6.8	100	250
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	410	260	120	28	260	6	6.7	156	220
JAN									
16...	430	3.8	1100	<.10	.50	--	.010	9	<1
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	<.10	.30	--	.020	30	<10
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	480	4.2	1200	<.10	.60	--	.020	80	20
APR									
30...	440	4.1	1200	<.10	.70	--	.020	10	<10
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	<.10	.70	--	.020	20	<10
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	.20	.60	.80	.050	20	30
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	470	5.4	1200	.30	.50	.80	.030	<10	80
AUG									
06...	490	4.6	1200	<.10	.40	--	.010	30	10
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	<.10	.40	--	.010	20	40
06...	--	--	--	<.10	.50	--	.020	30	710
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	440	8.9	1200	<.10	2.0	--	.240	160	1600



BRAZOS RIVER MAIN STEM  
LAKE WHITNEY NEAR WHITNEY, TX--Continued

320122097260901 LAKE WHITNEY SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JAN							
16...	1415	1.00	2060	8.4	7.0	1.20	11.7
16...	1417	10.0	2070	8.4	7.0	--	11.6
16...	1419	20.0	2070	8.4	7.0	--	11.5
16...	1421	30.0	2150	8.4	7.0	--	11.4
16...	1423	40.0	2180	8.3	7.0	--	10.8
16...	1425	53.0	2200	8.3	7.0	--	10.2
APR							
30...	1240	1.00	2270	8.0	24.0	.90	6.9
30...	1242	10.0	2290	8.0	24.0	--	6.6
30...	1244	20.0	2290	8.0	23.5	--	6.0
30...	1246	30.0	2340	7.9	23.5	--	5.6
30...	1248	40.0	2310	7.8	23.0	--	5.2
30...	1250	50.0	2290	7.8	22.5	--	4.4
30...	1252	59.0	2230	7.5	19.5	--	.0
AUG							
06...	1320	1.00	2340	8.3	31.5	.98	7.1
06...	1322	10.0	2340	8.3	31.0	--	7.4
06...	1324	20.0	2340	8.1	30.5	--	6.0
06...	1326	30.0	2390	8.0	30.5	--	5.5
06...	1328	40.0	2490	7.6	30.0	--	3.5
06...	1330	50.0	2630	7.3	29.5	--	.3
06...	1332	55.0	2500	7.3	28.5	--	.4

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								
16...	99	.20	.50	.70	.020	40	<10	
16...	98	--	--	--	--	--	--	--
16...	97	--	--	--	--	--	--	--
16...	96	.10	.50	.60	.020	20	<10	
16...	91	--	--	--	--	--	--	--
16...	86	.10	.50	.60	.030	20	20	
APR								
30...	84	<.10	.70	--	.030	<10	<10	
30...	80	--	--	--	--	--	--	--
30...	72	<.10	.80	--	.030	20	<10	
30...	68	--	--	--	--	--	--	--
30...	62	--	--	--	--	--	--	--
30...	52	<.10	.80	--	.050	30	80	
30...	0	.20	.90	1.1	.040	150	540	
AUG								
06...	99	<.10	.60	--	.020	20	20	
06...	102	--	--	--	--	--	--	--
06...	82	--	--	--	--	--	--	--
06...	75	--	--	--	--	--	--	--
06...	47	<.10	.60	--	.020	30	90	
06...	4	<.10	.80	--	.100	60	1400	
06...	5	<.10	1.4	--	.180	130	2000	

315907097222801 LAKE WHITNEY SITE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JAN							
16...	1330	1.00	2010	8.4	8.0	1.20	11.5
16...	1332	10.0	2010	8.4	8.0	--	11.4
16...	1334	20.0	2020	8.4	8.0	--	11.3
16...	1336	30.0	2080	8.3	8.0	--	10.4
16...	1338	40.0	2130	8.2	8.0	--	9.1
16...	1340	49.0	2150	8.2	8.0	--	8.9

BRAZOS RIVER MAIN STEM  
LAKE WHITNEY NEAR WHITNEY, TX--Continued

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315907097222801 LAKE WHITNEY SITE P7--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
APR							
30...	1200	1.00	1980	8.4	23.0	1.50	8.3
30...	1202	10.0	1980	8.3	22.5	--	8.0
30...	1204	20.0	1990	8.3	22.5	--	7.8
30...	1206	30.0	1990	8.3	22.5	--	7.8
30...	1208	40.0	1990	8.0	21.5	--	5.4
30...	1210	53.0	2030	7.6	20.5	--	2.3
AUG							
06...	1240	1.00	2290	8.3	31.5	1.43	7.5
06...	1242	10.0	2290	8.2	31.0	--	7.1
06...	1244	20.0	2290	8.0	30.5	--	5.9
06...	1246	30.0	2350	7.4	30.0	--	1.8
06...	1248	40.0	2350	7.3	29.0	--	.2
06...	1250	48.0	2380	7.3	28.5	--	.2

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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN						
16...	99	<.10	.40	.020	80	<10
16...	98	--	--	--	--	--
16...	98	--	--	--	--	--
16...	90	<.10	.60	.020	60	<10
16...	79	--	--	--	--	--
16...	77	<.10	.70	.040	90	30
APR						
30...	99	<.10	.60	.020	30	<10
30...	95	--	--	--	--	--
30...	92	--	--	--	--	--
30...	92	--	--	--	--	--
30...	63	--	--	--	--	--
30...	26	<.10	.90	.040	20	100
AUG						
06...	104	<.10	.50	.020	140	10
06...	98	--	--	--	--	--
06...	81	--	--	--	--	--
06...	24	--	--	--	--	--
06...	3	--	--	--	--	--
06...	3	<.10	.80	.040	160	760

320401097291301 LAKE WHITNEY SITE P11

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
16...	1500	1.00	1700	8.2	7.0	.90	11.3	95	K17	K8
16...	1501	1.50	--	--	--	--	--	--	--	--
16...	1502	10.0	1700	8.2	7.0	--	11.2	94	--	--
16...	1504	20.0	1700	8.2	7.0	--	10.7	90	--	--
16...	1506	24.0	1710	8.2	7.0	--	10.2	86	--	--
APR										
30...	1325	1.00	1300	7.8	23.0	.40	5.9	70	K490	K680
30...	1326	.60	--	--	--	--	--	--	--	--
30...	1328	10.0	1340	7.7	22.0	--	5.2	61	--	--
30...	1330	15.0	1520	7.7	21.5	--	5.3	61	--	--
30...	1332	20.0	1640	7.7	21.5	--	5.5	64	--	--
30...	1334	30.0	1650	7.7	21.5	--	5.7	66	--	--
AUG										
06...	1400	1.00	2570	8.4	32.5	.90	8.7	123	K1	<1
06...	1401	1.40	--	--	--	--	--	--	--	--
06...	1402	10.0	2620	7.9	31.5	--	5.8	81	--	--
06...	1404	20.0	2650	7.7	31.5	--	4.7	65	--	--
06...	1406	29.0	2770	7.3	31.5	--	.3	4	--	--

BRAZOS RIVER MAIN STEM  
LAKE WHITNEY NEAR WHITNEY, TX--Continued

320401097291301 LAKE WHITNEY SITE P11--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
16...	310	210	89	22	230	6	5.5	99	190
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
16...	310	210	89	22	220	6	5.5	100	200
APR									
30...	240	140	70	15	160	5	4.8	94	140
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	300	200	86	20	230	6	4.9	95	190
AUG									
06...	430	340	120	31	380	8	7.4	92	280
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	460	360	130	33	400	8	7.3	98	380

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...	360	5.4	960	.30	.40	.70	.030	42	2
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	.30	.40	.70	.020	70	<10
16...	--	--	--	--	--	--	--	--	--
16...	360	5.2	960	.30	.40	.70	.030	10	5
APR									
30...	260	4.8	710	.40	.90	1.3	.080	7	4
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	.40	.80	1.2	.060	30	<10
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	360	5.2	950	.30	.80	1.1	.060	12	39
AUG									
06...	580	5.8	1500	<.10	.80	--	.040	20	10
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	<.10	.40	--	.040	20	40
06...	620	7.0	1600	<.10	.90	--	.080	160	680

315500097204001 LAKE WHITNEY SITE P15

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JAN							
16...	1200	1.00	1810	8.5	9.0	1.20	11.8
16...	1202	10.0	1810	8.5	8.5	--	11.7
16...	1204	20.0	1820	8.5	8.5	--	11.6
16...	1206	25.0	1820	8.5	8.5	--	11.3
APR							
30...	1015	1.00	1910	8.3	22.0	1.50	8.7
30...	1018	10.0	1910	8.3	22.0	--	8.5
30...	1020	20.0	1910	8.3	22.0	--	8.5
30...	1022	30.0	1920	8.2	21.5	--	7.1
AUG							
06...	1025	1.00	2270	8.3	30.5	1.74	7.2
06...	1028	10.0	2260	8.3	30.5	--	7.2
06...	1030	20.0	2260	7.6	29.0	--	2.3
06...	1032	27.0	2260	7.4	29.0	--	1.3

BRAZOS RIVER MAIN STEM

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LAKE WHITNEY NEAR WHITNEY, TX--Continued

315500097204001 LAKE WHITNEY SITE P15

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN						
16...	104	<.10	.40	.010	80	<10
16...	102	<.10	.70	.020	20	<10
16...	101	--	--	--	--	--
16...	99	<.10	.40	.020	60	<10
APR						
30...	102	<.10	.70	.020	20	<10
30...	99	--	--	--	--	--
30...	99	--	--	--	--	--
30...	82	<.10	.70	.050	20	<10
AUG						
06...	98	<.10	.50	<.010	20	<10
06...	98	--	--	--	--	--
06...	31	--	--	--	--	--
06...	17	<.10	.40	.030	20	20

## BRAZOS RIVER BASIN

## LAKE WHITNEY NEAR WHITNEY, TX--Continued

Whitney Lake AC (315203097222601)

Phytoplankton Analyses October 1984 to September 1985

Date	1-16-85
Time	1101
<hr/>	
TOTAL CELLS/ml	27501
NUMBER OF SPECIES	32
DEPTH COLLECTED (ft.)	2.7

Organisms	Cells/ml
<hr/>	
CHLOROPHYTA (Green algae)	
<u>Closterium</u> sp.	1193
<u>Crucigenia</u> irregularis	341
<u>Kirchneriella</u> elongata	170
<u>Kirchneriella</u> obesa	284
<u>Oocystis</u> sp.	1307
<u>Scenedesmus</u> abundans	341
<u>Scenedesmus</u> bijuga	57
<u>Scenedesmus</u> quadricauda var. maxima	852
<u>Scenedesmus</u> sp.	341
<u>Selenastrum</u> minutum	57
<u>Tetraedron</u> minimum	57
<u>Tetraedron</u> sp.	57
<u>Tetrastrum</u> staurogeniaeforme	227
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa</u> delicatissima	7386
<u>Aphanothece</u> sp.	1136
<u>Chroococcus</u> giganteus	966
<u>Chroococcus</u> multicolouratus	284
<u>Chroococcus</u> pallidus	170
<u>Chroococcus</u> refractus	455
<u>Chroococcus</u> turicensis	1250
<u>Chroococcus</u> varius	114
<u>Dactylococcopsis</u> acicularis	57
<u>Dactylococcopsis</u> irregularis	284
<u>Dactylococcopsis</u> sp.	57
<u>Merismopedia</u> elegans	909
<u>Synechococcus</u> aeruginosa	114
<u>Synechococcus</u> lineare	455
CRYPTOPHYTA (Cryptomonads)	
<u>Chroomonas</u> sp.	682
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella</u> ocellata	7330
<u>Stephanodiscus</u> tenuis	227
Order Pennales	
<u>Diploneis</u> elliptica	284
<u>Synedra</u> acus	57



## LAKE WHITNEY NEAR WHITNEY, TX--Continued

Lake Whitney AC (315203097222601)

Phytoplankton Analyses October 1984 to September 1985

Date	4-30-85
Time	0916
<hr/>	
TOTAL CELLS/ml	171,833
NUMBER OF SPECIES	41
DEPTH COLLECTED (ft.)	3.5

Organisms	Cells/ml
<hr/>	
CHLOROPHYTA (Green algae)	
<u>Crucigenia apiculata</u>	454
<u>Crucigenia irregularis</u>	1363
<u>Chlorococcum sp.</u>	568
<u>Coelastrum microporum</u>	1363
<u>Crucigenia tetrapedia</u>	2726
<u>Oocystis sp.</u>	3181
<u>Scenedesmus abundans</u>	114
<u>Scenedesmus bijuga</u>	909
<u>Scenedesmus quadricauda</u>	909
<u>Scenedesmus quadricauda var. maxima</u>	454
<u>Scenedesmus sp.</u>	909
<u>Selenastrum capricornutum</u>	227
<u>Selenastrum minutum</u>	454
<u>Tetraedron minimum</u>	454
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	6816
<u>Aphanocapsa elachista</u>	568
<u>Aphanothece saxicola</u>	4544
<u>Aphanothece sp.</u>	3862
<u>Chroococcus pallidus</u>	3749
<u>Chroococcus turicensis</u>	1818
<u>Dactylococcopsis fascicularis</u>	454
<u>Gloeotheca linearis</u>	1818
<u>Merismopedia tenuissima</u>	909
<u>Microcystis sp.</u>	75430
<u>Rhabdoderma sigmoidea</u>	1136
<u>Rhabdoderma sigmoidea var. irregularis</u>	114
<u>Rhabdoderma sigmoidea var. minor</u>	795
<u>Synechococcus aeruginosa</u>	114
<u>Synechococcus elongatus</u>	3067
<u>Synechococcus lineare</u>	227
<u>Synechococcus sp.</u>	44190
CRYPTOPHYTA (Cryptomonads)	
<u>Chroomonas sp.</u>	57
<u>Cryptomonas sp.</u>	114
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella meneghiniana</u>	114
<u>Cyclotella stelligera</u>	7043
Order Pennales	
<u>Diploneis elliptica</u>	568
<u>Navicula canalis</u>	57
<u>Navicula cryptocephala</u>	14
<u>Navicula falaisensis var. lanceola</u>	28
<u>Navicula schroeteri var. escambia</u>	28
<u>Synedra acus</u>	114

## BRAZOS RIVER BASIN

LAKE WHITNEY NEAR WHITNEY, TX--Continued

Lake Whitney AC (315203097222601)

Phytoplankton Analyses October 1984 to September 1985

Date	8-6-85
Time	0916
<hr/>	
TOTAL CELLS/ml	198,653
NUMBER OF SPECIES	47
DEPTH COLLECTED (ft.)	2.65

Organisms	Cells/ml
<hr/>	
CHLOROPHYTA (Green algae)	
<u>Chlorococcum</u> sp.	284
<u>Cosmarium</u> sp.	57
<u>Crucigenia</u> <u>tetrapedia</u>	227
<u>Dictyosphaerium</u> <u>pulchellum</u>	227
<u>Gloeocystis</u> sp.	57
<u>Oocystis</u> <u>borgei</u>	170
<u>Phacotus</u> sp.	341
<u>Scenedesmus</u> <u>serratus</u>	682
<u>Spondyliostium</u> <u>planum</u>	57
<u>Tetraedron</u> <u>trigonum</u> var. <u>tetragonum</u>	170
<hr/>	
CYANOPHYTA (Blue-green algae)	
<u>Anabaena</u> sp.	682
<u>Anabaenopsis</u> <u>circularis</u>	2386
<u>Anabaenopsis</u> <u>raciborskii</u>	11246
<u>Aphanocapsa</u> <u>delicatissima</u>	39760
<u>Chroococcus</u> <u>giganteus</u>	454
<u>Chroococcus</u> <u>multicoloratus</u>	1363
<u>Chroococcus</u> <u>turicensis</u>	5680
<u>Chroococcus</u> <u>varius</u>	2613
<u>Chroococcus</u> sp.	114
<u>Dactylococcopsis</u> <u>acicularis</u>	114
<u>Dactylococcopsis</u> <u>fascicularis</u>	2272
<u>Dactylococcopsis</u> <u>raphidroides</u>	568
<u>Gloeocapsa</u> sp.	1818
<u>Gloeotheca</u> <u>linearis</u>	1931
<u>Lyngbya</u> <u>contorta</u>	4544
<u>Lyngbya</u> <u>nana</u>	69410
<u>Merismopedia</u> <u>punctata</u>	1818
<u>Merismopedia</u> <u>tenuissima</u>	909
<u>Oscillatoria</u> <u>angustissima</u>	12723
<u>Oscillatoria</u> <u>limnetica</u>	17835
<u>Oscillatoria</u> sp.	909
<u>Pseudoanabaena</u> <u>catenata</u>	4885
<u>Raphidiopsis</u> <u>curvata</u>	454
<u>Spirulina</u> <u>laxa</u>	4998
<u>Spirulina</u> sp.	2613
<u>Synechococcus</u> <u>lineare</u>	1931
<u>Synechocystis</u> sp.	114
<hr/>	
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Chaetoceros</u> <u>muelleri</u>	738
<u>Cyclotella</u> <u>meneghiniana</u>	14
<u>Cyclotella</u> <u>stelligera</u>	57
<u>Rhizosolenia</u> <u>ertensis</u>	568
Order Pennales	
<u>Diploneis</u> <u>elliptica</u>	57
<u>Navicula</u> <u>falaisensis</u> var. <u>lanceola</u>	7
<u>Nitzschia</u> <u>amphibia</u>	57
<u>Nitzschia</u> <u>palea</u>	398
<u>Nitzschia</u> <u>paleacea</u>	284
<u>Nitzschia</u> <u>thermalls</u>	57

## BRAZOS RIVER BASIN

## LAKE WHITNEY NEAR WHITNEY, TX--Continued

Whitney Lake P-11 (320401097291301)

Phytoplankton Analyses October 1984 to September 1985

Date	1-16-85
Time	1501
<hr/>	
TOTAL CELLS/ml	16650
NUMBER OF SPECIES	29
DEPTH COLLECTED (ft.)	1.5

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Chlamydomonas</u> sp.	57
<u>Kirchneriella</u> <u>elongata</u>	114
<u>Oocystis</u> sp.	455
<u>Pteromonas</u> sp.	57
<u>Scenedesmus</u> <u>quadricauda</u> var. <u>maxima</u>	57
<u>Scenedesmus</u> sp.	114
<u>Tetraedron</u> <u>minimum</u>	57
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa</u> <u>delicatissima</u>	966
<u>Chroococcus</u> <u>giganteus</u>	1818
<u>Chroococcus</u> <u>multicoloratus</u>	114
<u>Chroococcus</u> <u>pallidus</u>	170
<u>Chroococcus</u> <u>refractus</u>	682
<u>Chroococcus</u> <u>varius</u>	2443
<u>Dactylococcopsis</u> <u>irregularis</u>	284
<u>Dactylococcopsis</u> sp.	57
<u>Gomphosphaeria</u> sp.	455
<u>Spirulina</u> <u>laxa</u>	568
<u>Synechococcus</u> <u>aeruginosa</u>	795
<u>Synechococcus</u> <u>elongatus</u>	57
<u>Synechococcus</u> <u>lineare</u>	1023
<u>Synechococcus</u> sp.	739
CRYPTOPHYTA (Cryptomonads)	
<u>Chroomonas</u> sp.	1136
<u>Cryptomonas</u> sp.	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella</u> <u>ocellata</u>	3807
<u>Rhizosolenia</u> <u>eriensis</u>	57
<u>Stephanodiscus</u> <u>tenuis</u>	170
Order Pennales	
<u>Diploneis</u> <u>elliptica</u>	227
<u>Navicula</u> <u>cryptocephala</u>	57
<u>Navicula</u> <u>falaisensis</u> var. <u>lanceola</u>	57

BRAZOS RIVER BASIN  
LAKE WHITNEY NEAR WHITNEY, TX--Continued

Lake Whitney P-11 (320401097291301)

Phytoplankton Analyses October 1984 to September 1985

Date	4-30-85
Time	1326
<hr/>	
TOTAL CELLS/ml	22,182
NUMBER OF SPECIES	43
DEPTH COLLECTED (ft.)	0.6

Organisms	Cells/ml
<hr/>	
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	170
<u>Ankistrodesmus</u> sp.	57
<u>Chlorococcum</u> sp.	284
<u>Coelastrum</u> sp.	568
<u>Crucigenia quadrata</u>	227
<u>Crucigenia rectangularis</u>	227
<u>Crucigenia tetrapedia</u>	852
<u>Dictyosphaerium pulchellum</u>	341
<u>Elakatothrix viridis</u>	57
<u>Gloeocystis</u> sp.	568
<u>Oocystis</u> sp.	114
<u>Scenedesmus bijuga</u>	114
<u>Scenedesmus quadricauda</u> var. <u>maxima</u>	114
<u>Scenedesmus</u> sp.	568
<u>Schroederia setigera</u>	57
<u>Selenastrum minutum</u>	114
<u>Tetraedron minimum</u>	57
CYANOPHYTA (Blue-green algae)	
<u>Anabaena</u> sp.	341
<u>Aphanocapsa delicatissima</u>	4146
<u>Aphanocapsa elachista</u>	625
<u>Aphanothece saxicola</u>	1477
<u>Chroococcus multicolatus</u>	1306
<u>Chroococcus pallidus</u>	511
<u>Chroococcus turicensis</u>	114
<u>Dactylococcopsis raphidioides</u>	57
<u>Merismopedia tenuissima</u>	1022
<u>Microcystis</u> sp.	2102
<u>Rhabdoderma sigmoidea</u>	966
<u>Synechococcus aeruginosa</u>	170
<u>Synechococcus elongatus</u>	1704
<u>Synechococcus lineare</u>	114
<u>Synechococcus</u> sp.	1590
EUGLENOPHYTA (Euglenoids)	
<u>Phacus</u> sp.	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella meneghiniana</u>	477
<u>Cyclotella stelligera</u>	375
Order Pennales	
<u>Asterionella formosa</u>	57
<u>Diploneis elliptica</u>	57
<u>Navicula canalis</u>	57
<u>Navicula cryptocephala</u>	28
<u>Navicula schroeteri</u> var. <u>escambia</u>	28
<u>Nitzschia amphibia</u>	57
<u>Nitzschia filiformis</u>	28
<u>Nitzschia palea</u>	227

## LAKE WHITNEY NEAR WHITNEY, TX--Continued

Lake Whitney P-11 (320401097291301)

Phytoplankton Analyses October 1984 to September 1985

Date	8-6-85
Time	1401

TOTAL CELLS/ml	649,146
NUMBER OF SPECIES	51
DEPTH COLLECTED (ft.)	1.4

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus nanoselene</u>	227
<u>Carteria</u> sp.	57
<u>Closterium</u> sp.	57
<u>Crucigenia tetrapedia</u>	227
<u>Mesotaenium</u> sp.	57
<u>Oocystis borgei</u>	57
<u>Phacotus</u> sp.	227
<u>Scenedesmus serratus</u>	568
<u>Spondylosium planum</u>	114
<u>Tetraedron trigonum</u> var. <u>tetragonum</u>	114
CYANOPHYTA (Blue-green algae)	
<u>Anabaenopsis circularis</u>	20448
<u>Anabaenopsis raciborskii</u>	30672
<u>Aphanocapsa delicatissima</u>	251056
<u>Aphanocapsa elachista</u>	2272
<u>Aphanothece saxicola</u>	10224
<u>Chroococcus limneticus</u>	5680
<u>Chroococcus multicoloratus</u>	12496
<u>Chroococcus turgidus</u>	15904
<u>Chroococcus varius</u>	2272
<u>Dactylococcopsis acicularis</u>	28
<u>Dactylococcopsis fascicularis</u>	2272
<u>Gloeotheca linearis</u>	1136
<u>Lyngbya nana</u>	136320
<u>Lyngbya</u> sp. 1	11360
<u>Lyngbya</u> sp. 2	46576
<u>Merismopedia tenuissima</u>	28
<u>Oscillatoria angustissima</u>	22720
<u>Oscillatoria limnetica</u>	43168
<u>Oscillatoria</u> sp.	7952
<u>Pseudoanabaena catenata</u>	6816
<u>Rhabdoderma linearis</u>	14
<u>Spirulina laxa</u>	6816
<u>Spirulina</u> sp.	1136
<u>Synechococcus elongatus</u>	2272
<u>Synechococcus lineare</u>	1136
<u>Synechococcus lineare</u> var. <u>spirale</u>	3408
<u>Synechocystis</u> sp.	1136
EUGLENOPHYTA (Euglenoids)	
<u>Euglena</u> sp.	114
<u>Trachelomonas hispida</u> var. <u>crenulatocollis</u>	57
<u>Trachelomonas volvocina</u>	57
<u>Trachelomonas</u> sp.	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Chaetoceros muelleri</u>	114
<u>Cyclotella meneghiniana</u>	96
<u>Cyclotella stelligera</u>	302
<u>Rhizosolenia eriensis</u>	398
Order Pennales	
<u>Navicula canalis</u>	28
<u>Navicula falaisensis</u> var. <u>lanceola</u>	28
<u>Navicula</u> sp.	14
<u>Nitzschia amphibia</u>	28
<u>Nitzschia palea</u>	450
<u>Nitzschia paleacea</u>	380



## BRAZOS RIVER MAIN STEM

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 upstream from gaging station near Whitney, 4.0 mi upstream from Iron Creek, and 7.4 mi southwest of Whitney.

DRAINAGE AREA.--26,190 mi<sup>2</sup>, of which 9,566 mi<sup>2</sup> 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 microsiemens Aug. 24, 1978; minimum daily, 203 microsiemens 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, 2,350 microsiemens Sept. 28, 30; minimum daily, 1,700 microsiemens Dec. 31. WATER TEMPERATURES: Maximum daily, 26.0°C on several days during August and September; minimum daily, 5.0°C Feb. 4.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JAN 02...	0910	80	1790	11.0	360	250	100	26	240
MAY 13...	1410	4330	2020	19.0	370	260	100	28	260

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
JAN 02...	6	6.9	103	220	390	.30	3.8	1000
MAY 13...	6	6.6	110	240	430	.30	4.5	1100

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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. 1984	2419	1800	1020	6630	380	2490	190	1270	330
NOV. 1984	1359	1810	1020	3750	380	1410	200	718	330
DEC. 1984	3114	1780	1000	8440	380	3160	190	1610	330
JAN. 1985	35000	1830	1040	97800	390	36800	200	18800	340
FEB. 1985	27279	1890	1070	78600	400	29700	210	15100	350
MAR. 1985	32604	1920	1090	95600	410	36200	210	18400	350
APR. 1985	47823	1880	1060	137000	400	51700	200	26300	340
MAY 1985	101314	1970	1120	306000	430	116500	220	59200	360
JUNE 1985	60777	2040	1160	191000	440	72900	230	36900	370
JULY 1985	23633	2140	1220	77800	470	30000	240	15200	380
AUG. 1985	31389	2170	1240	105000	480	40500	240	20500	390
SEPT 1985	18956	2280	1300	66600	510	26000	260	13100	400
TOTAL	385667	**	**	1174000	**	447000	**	227000	**
WTD.AVG.	1057	1990	1130	**	430	**	220	**	360

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	EQUIVALENT MEAN											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1800	1780	1820	1790	1880	1930	1870	1940	1990	2080	2130	2200
2	1800	1800	1820	1790	1880	1940	1870	1950	2000	2090	2130	2190
3	1810	1810	1820	1800	1880	1930	1870	1950	2000	2080	2150	2190
4	1810	1810	1820	1800	1880	1930	1870	1950	2000	2110	2150	2180
5	1830	1820	1820	1800	1880	1930	1870	1950	2010	2090	2150	2190
6	1830	1810	1820	1800	1880	1930	1870	1950	2000	2120	2140	2180
7	1800	1810	1820	1800	1880	1930	1870	1960	2010	2130	2170	2210
8	1830	1810	1830	1800	1880	1930	1870	1960	2010	2120	2150	2220
9	1820	1810	1830	1810	1880	1930	1870	1960	2020	2130	2160	2240
10	1820	1810	1830	1800	1890	1930	1870	1960	2010	2120	2150	2280
11	1820	1810	1830	1810	1890	1940	1870	1980	2030	2140	2150	2250
12	1820	1820	1830	1820	1890	1940	1870	1990	2040	2150	2170	2240
13	1830	1810	1820	1820	1890	1940	1870	1990	2040	2150	2170	2250
14	1820	1820	1820	1820	1890	1930	1870	1990	2050	2170	2160	2230
15	1830	1820	1830	1820	1890	1930	1870	1990	2050	2150	2170	2320
16	1830	1820	1830	1820	1890	1930	1870	1990	2050	2160	2170	2320
17	1810	1820	1820	1820	1890	1930	1870	1990	2050	2160	2180	2320
18	1810	1810	1800	1840	1890	1940	1870	1990	2050	2160	2170	2320
19	1800	1820	1800	1830	1890	1930	1870	2000	2040	2160	2170	2320
20	1810	1820	1810	1830	1900	1920	1870	1990	2050	2160	2180	2320
21	1800	1820	1810	1840	1900	1910	1870	1990	2040	2150	2190	2330
22	1800	1830	1820	1840	1910	1920	1880	2000	2040	2150	2190	2330
23	1800	1830	1800	1840	1820	1920	1880	1990	2050	2160	2180	2330
24	1800	1830	1810	1880	1900	1920	1900	1990	2050	2150	2190	2330
25	1800	1830	1800	1880	1900	1910	1910	1990	2040	2150	2180	2340
26	1800	1840	1800	1860	1900	1920	1910	2000	2050	2170	2190	2340
27	1720	1820	1810	1900	1900	1920	1900	2000	2050	2170	2200	2340
28	1790	1830	1810	1860	1900	1920	1780	2000	2130	2170	2190	2350
29	1790	1840	1810	1890	---	1920	1900	2000	2100	2170	2200	2270
30	1790	1840	1780	1890	---	1910	1900	2000	2080	2170	2200	2350
31	1780	---	1700	1880	---	1910	---	2000	---	2170	2200	---
MEAN	1810	1820	1810	1830	1890	1930	1870	1980	2040	2140	2170	2280

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	ONCE-DAILY											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	20.0	14.0	13.0	6.0	11.0	16.0	19.0	22.0	24.0	25.0	24.0
2	21.0	19.0	15.0	11.0	6.0	12.0	16.0	20.0	22.0	24.0	24.0	24.0
3	21.0	19.0	13.0	11.0	6.0	12.0	16.0	20.0	22.0	24.0	24.0	25.0
4	21.0	19.0	13.0	11.0	5.0	11.0	16.0	19.0	23.0	23.0	24.0	25.0
5	21.0	18.0	12.0	12.0	6.0	11.0	16.0	19.0	22.0	24.0	25.0	25.0
6	23.0	18.0	12.0	12.0	6.0	11.0	16.0	19.0	21.0	24.0	25.0	24.0
7	23.0	18.0	12.0	11.0	6.0	11.0	16.0	20.0	22.0	24.0	25.0	25.0
8	23.0	19.0	12.0	11.0	6.0	12.0	16.0	20.0	22.0	25.0	25.0	25.0
9	21.0	19.0	13.0	12.0	8.0	13.0	16.0	20.0	22.0	24.0	25.0	26.0
10	21.0	23.0	13.0	10.0	9.0	13.0	16.0	20.0	24.0	25.0	25.0	26.0
11	21.0	17.0	12.0	10.0	6.0	13.0	16.0	20.0	23.0	25.0	24.0	26.0
12	21.0	17.0	12.0	8.0	6.0	13.0	16.0	21.0	23.0	24.0	25.0	26.0
13	22.0	17.0	13.0	10.0	6.0	13.0	17.0	21.0	23.0	24.0	25.0	26.0
14	21.0	17.0	12.0	8.0	6.0	13.0	18.0	20.0	23.0	24.0	25.0	---
15	22.0	18.0	14.0	9.0	6.0	14.0	17.0	20.0	24.0	25.0	24.0	25.0
16	22.0	17.0	12.0	9.0	9.0	14.0	17.0	21.0	24.0	25.0	25.0	26.0
17	21.0	22.0	13.0	9.0	8.0	15.0	17.0	20.0	24.0	25.0	24.0	26.0
18	22.0	17.0	13.0	9.0	9.0	13.0	17.0	21.0	24.0	25.0	24.0	25.0
19	21.0	16.0	13.0	10.0	8.0	14.0	18.0	21.0	23.0	25.0	25.0	25.0
20	22.0	16.0	---	8.0	9.0	14.0	18.0	21.0	24.0	24.0	25.0	26.0
21	21.0	16.0	---	7.0	9.0	14.0	18.0	21.0	23.0	24.0	25.0	26.0
22	20.0	15.0	13.0	8.0	9.0	14.0	19.0	20.0	23.0	25.0	26.0	25.0
23	20.0	15.0	13.0	8.0	9.0	14.0	18.0	20.0	23.0	25.0	26.0	24.0
24	20.0	15.0	13.0	8.0	10.0	14.0	17.0	21.0	24.0	25.0	25.0	24.0
25	20.0	16.0	---	8.0	9.0	14.0	17.0	21.0	24.0	25.0	24.0	25.0
26	20.0	15.0	12.0	12.0	9.0	14.0	17.0	21.0	24.0	25.0	25.0	23.0
27	20.0	15.0	13.0	10.0	9.0	15.0	18.0	21.0	23.0	24.0	25.0	23.0
28	20.0	14.0	13.0	8.0	10.0	16.0	18.0	21.0	25.0	25.0	24.0	24.0
29	20.0	15.0	16.0	8.0	---	16.0	19.0	22.0	24.0	25.0	24.0	25.0
30	19.0	14.0	15.0	8.0	---	15.0	20.0	22.0	23.0	25.0	25.0	21.0
31	20.0	---	14.0	8.0	---	15.0	---	23.0	---	25.0	24.0	---
MEAN	21.0	17.0	13.0	9.5	7.5	13.5	17.0	20.5	23.0	24.5	24.5	25.0

## BRAZOS RIVER MAIN STEM

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 highway embankment near right end of bridge on Farm Road 2114, 2.0 mi downstream from Tener Creek, 4.9 mi downstream from Iron Creek, 5.4 mi southwest of Aquilla, 9.0 mi downstream from Whitney Dam, and at mile 434.0.

DRAINAGE AREA.--27,244 mi<sup>2</sup>, of which 9,566 mi<sup>2</sup>, probably is noncontributing.

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1974, published as Brazos River near Whitney.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 404.29 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1948, nonrecording gage at site 13.9 mi upstream at datum 27.77 ft higher. Oct. 1, 1948, of Feb. 12, 1975, at site 5.6 mi upstream at datum 13.10 ft higher.

REMARKS.--Estimated daily discharges: Mar. 31 to Apr. 10. Records fair except those for estimated daily discharges, which are poor. Most of flow is released from Lake Whitney (station 08092500). The Brazos River at Whitney (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 ft<sup>3</sup>/s (1,306,000 acre-ft/yr); 34 years (water-years 1952-85) regulated, unadjusted, 1,400 ft<sup>3</sup>/s (1,014,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft<sup>3</sup>/s May 18, 1949 (gage height, 31.03 ft), at site and datum then in use (Oct. 1, 1948, to Feb. 12, 1975); minimum daily, 0.4 ft<sup>3</sup>/s May 9, 1953. Maximum discharge since construction of Whitney Dam in 1951, 58,200 ft<sup>3</sup>/s May 28, 1957 (gage height, 27.34 ft), at site and datum in use (Oct. 1, 1948, to Feb. 12, 1975).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1853, 45 ft 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, 5,520 ft<sup>3</sup>/s June 18 at 1330 hours (gage height, 12.78 ft); minimum daily, 14 ft<sup>3</sup>/s Oct. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	198	29	136	2950	741	3200	4510	547	751	886	581
2	17	198	30	84	2830	427	2000	4510	557	725	909	566
3	19	57	29	77	2840	72	1500	4470	734	736	926	571
4	44	46	29	72	1200	47	1200	4410	555	746	901	577
5	22	41	34	966	689	42	1000	4390	567	711	916	587
6	19	36	35	1210	706	587	3200	4370	678	734	899	590
7	76	35	29	1150	707	60	3200	4370	577	736	956	936
8	22	35	30	891	538	47	1500	4360	562	742	951	490
9	177	35	32	914	52	46	1500	4350	570	954	939	557
10	118	33	32	952	38	47	1000	4330	1970	755	934	598
11	27	30	31	2720	923	47	2800	4330	4470	1180	1390	826
12	52	29	32	2790	1260	43	2860	4320	4470	1230	707	612
13	19	29	56	2810	895	51	2570	4320	4490	1360	1180	619
14	31	30	48	1450	756	300	2840	4370	4510	1340	745	678
15	19	29	40	870	904	75	2810	4270	4490	1330	717	330
16	16	28	287	736	1110	57	694	4280	4530	786	1170	318
17	14	28	153	997	1140	53	580	4280	4530	507	1350	2340
18	313	34	409	783	912	298	557	3170	3790	552	1560	1280
19	452	34	137	107	574	64	561	3180	2050	645	2150	566
20	33	30	105	2230	764	611	562	3070	2630	476	1390	397
21	23	30	85	2700	577	109	561	2180	1930	583	1600	336
22	50	30	65	1560	590	490	565	2260	1380	788	1310	346
23	67	30	58	1010	453	2780	554	2110	1220	557	1710	403
24	331	30	57	537	248	3200	520	2150	1190	560	603	358
25	96	52	48	538	570	3180	539	2150	1180	559	555	541
26	40	42	45	1050	452	3170	543	2140	1350	553	808	328
27	153	39	45	1050	591	3200	968	2130	1320	556	956	363
28	59	30	48	707	2010	3180	209	979	1330	559	604	1650
29	34	31	46	537	---	3180	2670	603	1300	549	542	335
30	30	30	136	666	---	3200	4560	410	1300	634	558	277
31	30	---	874	2700	---	3200	---	542	---	739	567	---
TOTAL	2419	1359	3114	35000	27279	32604	47823	101314	60777	23633	31389	18956
MEAN	78.0	45.3	100	1129	974	1052	1594	3268	2026	762	1013	632
MAX	452	198	874	2810	2950	3200	4560	4510	4530	1360	2150	2340
MIN	14	28	29	72	38	42	209	410	547	476	542	277
AC-FT	4800	2700	6180	69420	54110	64670	94860	201000	120600	46880	62260	37600
CAL YR 1984	TOTAL	88394	MEAN	242	MAX	1490	MIN	13	AC-FT	175300		
WTR YR 1985	TOTAL	385667	MEAN	1057	MAX	4560	MIN	14	AC-FT	765000		

## BRAZOS RIVER BASIN

275

08093160 AQUILLLA CREEK NEAR PEORIA, TX  
(RECONNAISSANCE PARTIAL-RECORD STATION)

LOCATION.--Lat 31°58'40", long 97°14'44", Hill County, Hydrologic Unit 12060202, at bridge on State Highway 22 and 1.4 mi west of Peoria.

DRAINAGE AREA.--83.8 mi<sup>2</sup>.

PERIOD OF RECORD.--Periodic discharge measurements: October 1983 to September 1984.  
Chemical and biochemical analyses: October 1984 to September 1985.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)
OCT. 17	1800	0	MAY 1	0745	0
NOV. 28	1340	0	JUN. 5	1230	0
JAN. 9	0750	0	JUL. 9	1415	0
FEB. 7	1530	0	AUG. 20	1537	0
MAR. 20	1537	0			

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

									OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CaCO3)	
DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)				
OCT 25...	1445	12	196	8.0	13.0	2500	700	9.9	96	2.0	84	
DEC 17...	1515	7.6	360	7.5	13.0	500	350	8.7	84	5.3	140	
JAN 30...	1315	1.3	1140	8.0	9.0	5	1.8	10.6	94	1.0	290	
MAR 06...	0900	2.6	1000	8.0	11.0	25	4.4	9.6	88	1.3	410	
APR 09...	1545	2.4	1400	8.0	18.0	10	50	8.0	86	2.5	570	
MAY 15...	1330	1.8	1100	7.8	21.0	30	5.9	8.0	92	2.5	450	
DATE		HARD-NESS, NONCARBONATE (MG/L CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
OCT 25...	13	32		1.0	6.5	.3	2.1	71	25	2.4	.30	9.1
DEC 17...	36	50		2.6	18	.7	6.0	100	67	9.1	.30	9.4
JAN 30...	50	78		23	130	3	2.9	240	250	52	.60	13
MAR 06...	210	150		8.7	76	2	3.5	200	260	50	.60	1.4
APR 09...	240	200		17	92	2	4.3	328	310	77	.60	6.8
MAY 15...	180	160		12	76	2	6.1	267	230	67	.60	8.7
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (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 25...	120	976		294	--	<.010	.30	<.010	--	1.6	.510	18
DEC 17...	220	276		88	1.0	.060	1.1	.040	2.5	2.5	.570	--
JAN 30...	690	9		8	1.2	.010	1.2	.030	.47	.50	.010	--
MAR 06...	670	8		1	2.5	.030	2.5	.060	.64	.70	.030	5.5
APR 09...	900	5		1	--	<.010	<.10	.090	.81	.90	.060	6.9
MAY 15...	720	13		7	.28	.020	.30	.140	.36	.50	.080	6.8

## BRAZOS RIVER BASIN

08093160 AQUILLA CREEK NEAR PEORIA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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 25...	1445	4	35	<1	<10	1	73
JAN 30...	1315	1	120	<1	20	2	<3
MAR 06...	0900	<1	110	<1	<10	2	23

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 25...	5	4	<.1	<1	<1	<3
JAN 30...	<1	2	<.1	2	<1	9
MAR 06...	4	68	<.1	2	<1	<3



## BRAZOS RIVER BASIN

277

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 upstream from Little Hackberry Creek and 1.2 mi west of county courthouse in Hillsboro.

DRAINAGE AREA.--57.9 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 546.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. No known diversion above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,050 ft<sup>3</sup>/s June 16, 1981 (gage height, 18.95 ft); no flow at times.

AVERAGE DISCHARGE.--6 years (water years 1980-85) 18.6 ft<sup>3</sup>/s; 13,480 acre-ft/yr.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1936, 18.3 ft September 1936, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Dec. 16	0830	804	12.45	Feb. 23	1130	2,220	14.59
Dec. 18	0645	2,900	14.14	Mar. 14	0715	1,840	14.28
Dec. 30	1415	1,970	14.18	Mar. 20	1000	2,680	14.90
Dec. 31	1615	*5,420	*15.95				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	9.5	2.1	281	9.1	42	13	6.9	.00	.00	.00	.00
2	.00	19	2.0	58	7.3	32	12	4.2	.00	.00	.00	.00
3	.00	7.2	2.0	46	7.9	30	11	2.7	.00	.00	.00	.00
4	.00	1.5	4.9	40	8.6	34	9.0	1.9	.00	.00	.00	.00
5	.00	.02	25	31	12	26	7.7	1.6	.00	.00	.00	.00
6	.40	.00	20	24	14	23	5.9	1.6	.49	.00	.00	.00
7	7.5	.00	8.3	20	12	22	4.5	.86	.00	.00	.00	.00
8	.00	.00	4.6	18	10	22	3.3	4.5	.00	.00	.00	.00
9	.00	.00	3.1	17	9.8	21	3.6	6.4	.00	.00	.00	.00
10	.26	.00	1.5	16	10	20	3.1	5.7	.00	.00	.00	.00
11	16	.00	.63	13	8.5	20	3.7	2.6	.00	.00	.00	.00
12	17	.00	.18	10	7.1	18	4.2	1.4	.00	.00	.00	.00
13	.65	.00	13	10	6.9	18	3.6	8.2	.00	.00	.00	.00
14	29	.00	14	12	6.5	929	4.8	7.4	.00	.00	.00	.00
15	5.3	.00	11	12	6.4	74	2.9	1.6	.00	.00	.00	.00
16	.00	.00	293	36	6.4	44	1.4	.01	.00	.00	.00	.00
17	.00	.00	307	30	6.6	34	.34	.00	.00	.00	.00	.00
18	.00	.86	1550	18	6.9	27	.04	.00	.00	.00	.00	.00
19	.00	.53	57	14	7.2	24	.02	.00	.00	.00	.00	.00
20	.00	.02	35	11	7.1	1180	.02	.00	.00	.00	.00	.00
21	.00	.02	27	8.7	7.5	88	.01	2.0	.00	.00	.00	.00
22	3.9	.01	18	8.3	17	43	.05	2.9	.00	.00	.00	.00
23	2.5	.01	15	9.2	1150	30	4.9	5.3	.00	.00	.00	.00
24	100	.11	13	9.5	130	23	.51	.55	.00	.00	.00	.00
25	53	7.9	9.6	8.8	56	19	.01	.00	.00	.00	.00	.00
26	16	4.9	8.7	6.9	43	17	.00	.00	.00	.00	.00	.00
27	95	6.8	9.2	6.7	33	152	.00	.00	.00	.00	.00	.00
28	23	3.2	11	6.6	32	30	145	.00	.00	.00	.00	.00
29	6.4	3.2	9.7	5.6	---	20	24	.00	.00	.00	.00	.00
30	.43	2.7	980	6.5	---	28	12	.00	.00	.00	.00	.00
31	.01	---	1750	6.1	---	17	---	.00	---	.00	.00	---
TOTAL	376.35	67.48	5205.51	799.9	1638.8	3107	280.60	68.32	.49	.00	.00	.00
MEAN	12.1	2.25	168	25.8	58.5	100	9.35	2.20	.016	.000	.000	.000
MAX	100	19	1750	281	1150	1180	145	8.2	.49	.00	.00	.00
MIN	.00	.00	.18	5.6	6.4	17	.00	.00	.00	.00	.00	.00
AC-FT	746	134	10330	1590	3250	6160	557	136	1.0	.00	.00	.00
CAL YR 1984	TOTAL	7471.46	MEAN 20.4	MAX 1750	MIN .00	AC-FT 14820						
WTR YR 1985	TOTAL	11544.45	MEAN 31.6	MAX 1750	MIN .00	AC-FT 22900						

## BRAZOS RIVER BASIN

08093250 HACKBERRY CREEK AT HILLSBORO, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1979 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	
OCT 25...	1700	33	608	7.7	14.0	350	200	9.4	93	1.5	180	
DEC 18...	1140	2330	330	7.8	12.0	500	380	9.2	86	2.5	120	
JAN 29...	1315	5.5	540	8.2	6.0	10	6.0	12.2	100	1.0	210	
MAR 05...	1045	26	600	7.7	14.0	70	40	10.6	104	1.3	250	
APR 09...	1245	3.5	710	7.6	21.0	3	28	12.2	139	1.2	250	
MAY 15...	1030	1.7	724	8.0	24.0	25	21	10.4	126	2.0	250	
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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 25...	85	66	3.0	41	1	19	93	160	19	.40	9.8	
DEC 18...	28	45	1.8	17	.7	3.4	92	54	6.2	.50	12	
JAN 29...	53	80	3.0	23	.7	4.8	160	85	18	.30	.8	
MAR 05...	74	96	3.4	35	1	4.7	180	120	23	.50	4.0	
APR 09...	84	94	3.7	46	1	3.0	166	150	25	.50	2.9	
MAY 15...	110	94	3.9	54	2	4.9	140	170	28	.70	4.6	
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (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 25...	370	197	36	1.2	.010	1.2	.020	.98	1.0	.210	6.6	
DEC 18...	200	1360	196	1.7	.080	1.8	.060	2.9	3.0	.660	--	
JAN 29...	310	16	11	1.1	.010	1.1	.050	.75	.80	.020	--	
MAR 05...	390	57	25	2.0	.040	2.0	.060	1.0	1.1	.090	4.9	
APR 09...	420	34	3	1.4	.020	1.4	.030	.67	.70	.080	4.0	
MAY 15...	440	43	11	1.2	.040	1.2	.070	.63	.70	.090	6.9	
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 25...	1700	4	54	<1	<10	3	41					
JAN 29...	1315	1	43	<1	20	2	5					
MAR 05...	1045	2	60	<1	<10	2	10					
DATE	TIME	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 25...		8	7	<.1	<1	<1	3					
JAN 29...		<1	25	<.1	<1	<1	<3					
MAR 05...		1	11	<.1	1	1	<3					

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 downstream from Little Hackberry Creek, 0.8 mi downstream from State Highway 22, and 1.4 mi southwest of county courthouse in Hillsboro.

PERIOD OF RECORD.--Periodic discharge measurements and chemical analyses: October 1979 to current year.

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)
OCT 03...	0915	.43	1120	7.7	18.0	50	1.2	4.5	48	25	170
NOV 14...	0900	.80	954	7.4	16.0	35	--	6.1	63	1.7	190
JAN 29...	0900	10	745	7.9	7.0	10	8.0	11.4	96	1.1	270
MAR 05...	1345	25	690	8.1	15.0	70	32	10.0	100	4.0	250
APR 09...	0900	7.8	720	7.9	14.0	5	20	9.7	95	1.4	270
JUN 26...	1145	1.1	1020	7.3	27.0	25	3.5	1.8	23	4.0	220
AUG 06...	0900	.45	920	7.6	27.0	--	--	2.6	34	4.0	190

DATE	HARD- NESS, NONGAR- 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)	ALKA- LINITY FIELD (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 03...	0	58	7.0	160	6	18	230	170	96	.70	9.8
NOV 14...	0	70	4.8	120	4	14	207	170	72	.50	11
JAN 29...	85	100	3.7	49	1	4.1	180	150	32	.40	2.3
MAR 05...	70	94	3.7	49	1	4.8	180	140	30	.50	5.0
APR 09...	80	100	4.0	50	1	4.2	187	150	30	.50	4.5
JUN 26...	0	81	4.6	100	3	16	238	120	89	.40	13
AUG 06...	0	71	4.0	98	3	14	213	92	84	.40	10

[illegible]

## BRAZOS RIVER BASIN

08093260 HACKBERRY CREEK BELOW HILLSBORO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

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 14...	0900	3	34	<1	<10	5	15
JAN 29...	0900	1	53	<1	<10	2	6
JUN 26...	1145	4	35	<1	<10	2	37
AUG 06...	0900	4	32	<1	<10	5	19

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 14...	<1	58	<.1	<1	<1	28
JAN 29...	<1	32	<.1	1	<1	<3
JUN 26...	7	140	.3	<1	<1	26
AUG 06...	1	100	.1	<1	<1	52

## 08093350 AQUILLA LAKE ABOVE AQUILLA, TX

LOCATION.--Lat 31°53'59", long 97°12'09", Hill County, Hydrologic Unit 12060202, 450 ft upstream from Farm Road 310 that runs along top of Aquilla Dam on Aquilla Creek, and 3.4 miles north-northeast of Aquilla.

DRAINAGE AREA.--255 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to September 1985.

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

REMARKS.--The lake is formed by an earthfill dam with a crest length of 11,890 ft and a top width of 38.0 ft. A reinforced concrete inlet structure, near center of dam, houses the flood-control gates and operating equipment. Closure of the dam began Mar. 20, 1982, and dam was completed in January 1983. The dam was built and is owned by the U.S. Army Corps of Engineers. Deliberate impoundment began Apr. 29, 1983. The lake was built for water supply, flood control, and for recreation purposes. 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 .....	582.5	-
Spillway crest (uncontrolled) .....	564.5	213,700
Top of flood-control pool .....	556.0	146,000
Top of conservation pool .....	537.5	52,400
Invert, lowest gated outlet .....	503.0	932

COOPERATION.--Area and capacity tables provided by the Corps of Engineers. Records of elevations and contents provided by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed contents, 12,250 acre-ft, Apr. 10-15, 1984 (elevation, 518.96 ft); minimum observed 4,600 acre-ft, Oct. 6-10, 1983 (elevation, 511.31 ft on Oct. 6, 7 & 9, 10 & 511.30 ft on Oct. 8).

EXTREMES FOR 1984 WATER YEAR.--Maximum observed contents, 12,250 acre-ft Apr. 10-15, 1984 (elevation, 518.96 ft); minimum observed, 4,600 acre-ft, Oct. 6-10, 1983 (elevation, 511.31 ft on Oct. 6, 7 and 9, 10, and 511.30 ft on Oct. 8).

EXTREMES FOR CURRENT YEAR.--Maximum observed contents, 58,050 acre-ft Mar. 31 (elevation, 539.17 ft); minimum observed, 8,390 acre-ft Oct. 5 (elevation, 515.66 ft).

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

511.0	4,380	525.0	21,650	535.0	44,620
515.0	7,720	530.0	31,750	540.0	61,040
520.0	13,650				

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4680	5200	5190	5160	5360	5700	12090	11860	11380	10810	9890	9130
2	4660	5200	5200	5160	5360	5700	12090	11860	11350	10830	9850	9110
3	4650	5190	5220	5160	5360	5700	12090	11860	11330	10790	9830	9090
4	4630	5190	5220	5160	5360	5710	12090	11830	11300	10730	9830	9060
5	4620	5190	5230	5160	5340	5710	12070	11790	11330	10690	9780	9000
6	4600	5180	5230	5200	5340	5730	12070	11780	11380	10660	9740	8960
7	4600	5170	5220	5200	5340	5730	12070	11780	11350	10630	9670	8910
8	4600	5160	5200	5200	5340	5730	12120	11750	11330	10600	9650	8890
9	4600	5160	5200	5260	5360	5730	12220	11700	11330	10560	9630	8850
10	4600	5160	5190	5290	5360	5730	12250	11650	11280	10500	9600	8800
11	4620	5160	5190	5310	5360	6640	12250	11600	11280	10480	9580	8760
12	4630	5140	5180	5280	5360	7660	12250	11550	11230	10450	9560	8720
13	4630	5140	5170	5300	5380	10500	12250	11530	11230	10450	9650	8700
14	4630	5130	5160	5300	5380	10620	12250	11500	11230	10360	9680	8680
15	4620	5110	5160	5300	5380	10720	12250	11500	11200	10340	9660	8660
16	4620	5100	5190	5310	5380	10770	12220	11450	11150	10260	9640	8620
17	4620	5100	5190	5330	5380	10790	12170	11450	11130	10230	9590	8590
18	4620	5080	5190	5340	5380	10840	12120	11430	11120	10240	9590	8570
19	4620	5080	5190	5320	5380	10910	12120	11450	11080	10210	9540	8550
20	4620	5100	5190	5310	5380	10910	12090	11450	11030	10150	9520	8510
21	4630	5090	5190	5310	5380	10910	12090	11480	10990	10110	9480	8490
22	4630	5080	5190	5310	5380	10910	12090	11450	10980	10080	9450	8490
23	4630	5130	5190	5310	5380	11150	12070	11430	10930	10060	9440	8470
24	4630	5170	5190	5330	5380	11910	12040	11400	10910	10090	9410	8640
25	4630	5200	5180	5340	5380	12090	11990	11380	10900	10050	9370	8590
26	4630	5200	5170	5360	5380	12090	11960	11350	10870	10030	9300	8570
27	4630	5200	5170	5360	5500	12120	11960	11330	10920	10020	9390	8510
28	4630	5220	5160	5360	5580	12120	11940	11430	10860	10020	9260	8510
29	4630	5210	5160	5360	5660	12120	11910	11480	10850	9980	9220	8490
30	4630	5200	5160	5360	---	12120	11910	11480	10840	9930	9170	8490
31	4630	---	5160	5360	---	12090	---	11430	---	9910	9150	---
MAX	4680	5220	5230	5360	5660	12120	12250	11860	11380	10830	9890	9130
MIN	4600	5080	5160	5160	5340	5700	11910	11330	10840	9910	9150	8470
(+)	511.35	512.12	512.07	512.32	512.70	518.84	518.70	518.32	517.84	517.06	516.38	515.76
(+)	-40	+570	-40	+200	+300	+6430	-180	-480	-590	-760	-660	
CAL YR 1983	MAX	---	MIN	---	(+)	---						
WTR YR 1984	MAX	12250	MIN	4600	(+)	+3810						

(+) Elevation, in feet, at end of month.  
(+) Change in contents, in acre-feet.



## BRAZOS RIVER BASIN

08093350 AQUILLA LAKE ABOVE AQUILLA, TX--Continued

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8490	14420	14880	31890	37900	44190	57950	53550	52030	51030	49410	46820
2	8470	14800	14860	34060	37770	44300	57700	53290	51900	50960	49310	46730
3	8430	14950	14770	35760	37750	44360	57380	52860	51870	50930	49250	46580
4	8410	14950	14830	36150	37750	44510	56960	52720	51770	50900	49120	46460
5	8390	14950	14920	36380	37820	44560	56860	52560	51710	50840	48690	46400
6	8390	14920	14980	36430	37820	44740	56550	52490	52100	50740	48600	46370
7	8580	14890	15040	36580	37900	44710	56240	52390	52200	50680	48500	46280
8	8600	14890	15000	36700	37900	44710	55890	52390	52200	50580	48410	46250
9	8600	14860	15000	36700	37900	44770	55510	52390	52100	50520	48320	46820
10	9440	14860	15040	36780	37900	44800	55200	52390	52030	50480	48250	46820
11	9370	14860	15000	36830	38060	44830	54900	52230	51900	50480	48130	46760
12	9670	14860	15070	36860	38000	44940	54630	52200	51970	50420	48070	46700
13	10140	14800	15100	36830	38000	44860	54290	52160	51810	50360	47980	46670
14	10350	14800	15340	36830	38030	45150	54120	52690	51710	50320	47920	47490
15	10540	14770	15400	37010	38080	47360	53820	52560	51610	50260	47850	47430
16	10540	14770	16370	37110	38080	48280	53690	52490	51580	50200	47790	47360
17	10520	14720	17240	37410	38080	48350	53550	52490	51420	50130	47700	47270
18	10520	14800	19720	37570	38080	49720	53490	52460	51320	50070	47610	47180
19	10780	14800	22750	37490	38060	49750	53290	52430	51480	50040	47550	47180
20	10780	14850	22930	37490	38060	51480	53250	52330	51380	50010	47550	47150
21	10860	14740	22750	37570	38000	56620	53250	52460	51290	50130	47490	47090
22	10860	14720	22780	37310	38060	56930	53150	52460	51220	50070	47400	47000
23	11030	14720	22860	37570	38990	57100	53190	52490	51260	50040	47270	46940
24	11100	14690	22930	37570	43440	57170	53120	52490	51290	50010	47210	46850
25	13290	14800	22970	37590	43780	57240	52990	52460	51320	49980	47240	47120
26	13540	14800	23010	37640	43900	57240	52660	52390	51320	49910	47180	47060
27	13710	14830	23010	37620	44010	57490	52590	52200	51480	49850	47090	46910
28	14420	14910	23040	37720	44040	57950	52620	52200	51450	49750	47030	47060
29	14450	14880	23160	37720	---	57980	53690	52160	51350	49660	46940	47610
30	14450	14830	23490	37720	---	58020	53750	52100	51260	49530	46940	47670
31	14450	---	26770	37850	---	58050	---	52000	---	49440	46850	---
MAX	14450	14950	26770	37850	44040	58050	57950	53550	52200	51030	49410	47670
MIN	8390	14420	14770	31890	37750	44190	52590	52000	51220	49440	46850	46250
(†)	520.56	520.82	527.67	532.53	534.80	539.17	537.92	537.39	537.16	536.59	535.75	536.02
(‡)	-5960	+380	+11940	+11080	+6190	+14010	-4300	-1750	-740	-1820	-3690	+820
CAL YR 1984	MAX	26770	MIN	5160	(†)	+21610						
WTR YR 1985	MAX	58050	MIN	8390	(‡)	+39180						

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.

## BRAZOS RIVER BASIN

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08093350 AQUILLA LAKE ABOVE AQUILLA, TX

LOCATION.--Lat 31°53'58", long 97°12'26", Hill County, Hydrologic Unit 12060202, at Aquilla Dam on Aquilla Creek at Farm Road 310 and 3.3 mi north-northeast of Aquilla.

PERIOD OF RECORD.--Chemical and biochemical analyses: February to September 1984.

315354097125701 AQUILLA LAKE SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
27...	1110	1.00	456	7.8	11.0	10.0	90
27...	1112	10.0	457	7.8	11.0	10.0	90
JUN							
07...	1026	1.00	424	8.2	27.0	6.1	77
07...	1027	10.0	424	8.2	26.5	5.8	73
07...	1028	20.0	424	8.0	26.5	5.2	65
07...	1029	32.0	430	7.5	25.0	.7	9
AUG							
14...	0925	1.00	429	7.7	28.5	4.4	57
14...	0926	10.0	429	7.7	28.5	4.3	56
14...	0927	20.0	429	7.6	28.5	3.6	47
14...	0928	25.0	433	7.3	28.0	.3	4
14...	0929	30.0	446	7.3	27.0	.3	4

315358097122601 AQUILLA LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, (PER- CENT UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB										
27...	1040	1.00	450	7.8	11.0	.37	10.3	93	170	210
27...	1041	.60	--	--	--	--	--	--	--	--
27...	1042	10.0	450	7.8	11.0	--	10.3	93	--	--
27...	1044	15.0	450	7.8	11.0	--	10.3	93	--	--
27...	1046	20.0	450	7.8	11.0	--	10.3	93	--	--
27...	1048	30.0	450	7.8	11.0	--	10.2	92	--	--
JUN										
07...	0945	.80	--	--	--	--	--	--	--	--
07...	0946	1.00	423	8.1	27.0	1.07	5.7	72	420	160
07...	0947	10.0	423	8.0	26.0	--	5.1	64	--	--
07...	0948	20.0	431	8.0	26.0	--	4.6	57	--	--
07...	0949	25.0	432	7.9	26.0	--	4.5	56	--	--
07...	0950	30.0	432	7.5	25.0	--	1.3	16	--	--
07...	0951	35.0	447	7.5	23.5	--	.2	2	--	--
07...	0952	40.0	460	7.5	21.0	--	.2	2	--	--
07...	0953	47.0	468	7.4	20.0	--	.2	2	--	--
AUG										
14...	0840	1.00	428	7.7	28.5	1.00	4.6	60	K16	K40
14...	0841	1.70	--	--	--	--	--	--	--	--
14...	0842	10.0	428	7.6	28.5	--	4.3	56	--	--
14...	0843	20.0	428	7.6	28.0	--	3.8	49	--	--
14...	0844	25.0	440	7.3	27.5	--	.3	4	--	--
14...	0845	30.0	445	7.2	26.5	--	.3	4	--	--
14...	0846	40.0	490	7.0	24.0	--	.3	4	--	--
14...	0847	46.0	511	6.9	21.0	--	.3	3	--	--

## BRAZOS RIVER BASIN

## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

315358097122601 AQUILLA LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB										
27...	160	45	60	2.9	31	1	5.0	117	75	15
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	150	36	57	2.9	31	1	4.8	119	73	14
JUN										
07...	--	--	--	--	--	--	--	--	--	--
07...	160	29	59	3.3	26	.9	5.3	132	53	13
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	170	0	64	3.3	27	.9	5.3	177	41	14
AUG										
14...	160	9	57	3.5	28	1	5.9	148	48	15
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	190	0	69	3.7	29	1	5.8	241	21	15

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)
FEB									
27...	.40	8.1	270	1.1	1.5	2.6	.080	200	18
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	1.1	.80	1.9	.080	70	<10
27...	--	--	--	--	--	--	--	--	--
27...	--	6.9	260	1.0	1.3	2.3	.090	34	3
JUN									
07...	--	--	--	--	--	--	--	--	--
07...	.40	2.2	240	.20	.80	1.0	.020	7	2
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	.20	.90	1.1	.040	10	110
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	<.10	2.0	--	.170	70	4900
07...	--	9.0	280	<.10	2.7	--	.340	200	5100
AUG									
14...	.40	3.4	250	<.10	.70	--	.020	7	15
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.10	.60	--	.020	50	180
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.10	1.6	--	.050	520	2600
14...	--	--	--	--	--	--	--	--	--
14...	--	12	310	<.10	6.1	--	.790	240	6500

## BRAZOS RIVER BASIN

285

## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

315402097115401 AQUILLA LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
27...	1118	1.00	455	7.8	10.5	10.2	91
27...	1120	10.0	455	7.8	10.0	10.3	91
27...	1122	20.0	455	7.8	10.0	10.3	91
JUN							
07...	1011	1.00	426	8.2	27.5	6.0	77
07...	1012	10.0	426	8.0	26.5	5.2	65
07...	1013	23.0	426	7.9	26.5	4.3	54
AUG							
14...	0912	1.00	430	7.8	29.0	5.3	70
14...	0913	10.0	430	7.6	28.5	3.9	51
14...	0914	20.0	430	7.6	28.0	3.8	49

315601097111501 AQUILLA LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)
FEB										
27...	1230	1.00	427	7.6	13.5	.24	7.4	71	200	250
27...	1231	5.00	430	7.6	13.0	--	9.2	87	--	--
27...	1232	10.0	446	7.6	11.0	--	9.8	89	--	--
27...	1234	20.0	456	7.6	11.5	--	9.6	88	--	--
27...	1236	30.0	475	7.6	11.5	--	8.6	79	--	--
JUN										
07...	1311	1.00	434	8.5	29.5	1.07	6.9	92	--	--
07...	1312	10.0	434	8.2	27.0	--	5.7	72	--	--
07...	1313	20.0	440	7.8	26.5	--	3.6	45	--	--
07...	1314	25.0	440	7.7	26.5	--	2.8	35	--	--
07...	1315	30.0	440	7.6	26.0	--	2.1	26	--	--
07...	1316	39.0	440	7.6	26.0	--	1.3	16	--	--
AUG										
14...	1040	1.00	431	8.2	29.5	1.10	5.8	77	--	--
14...	1041	10.0	431	8.1	29.5	--	5.7	76	--	--
14...	1042	20.0	431	7.8	29.0	--	4.3	57	--	--
14...	1043	25.0	445	7.3	28.0	--	.2	3	--	--
14...	1044	34.0	445	7.3	28.0	--	.2	3	--	--

## BRAZOS RIVER BASIN

## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

## 315601097111501 AQUILLA LAKE SITE BC--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
FEB									
27...	140	45	54	2.3	25	1	4.6	100	74
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	160	57	59	2.9	31	1	5.0	103	71
JUN									
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
AUG									
14...	--	--	--	--	--	--	--	162	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	242	--

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)
FEB									
27...	13	8.2	240	3.3	2.3	5.6	.110	38	2
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	1.0	.50	1.5	.070	30	<10
27...	--	--	--	--	--	--	--	--	--
27...	12	7.2	250	.80	2.3	3.1	.080	35	9
JUN									
07...	--	--	--	.20	.70	.90	.020	10	<10
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	.20	.70	.90	.050	10	30
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	.20	.90	1.1	.050	60	10
07...	--	--	--	.10	1.3	1.4	.060	10	40
AUG									
14...	--	--	--	<.10	.70	--	.030	20	20
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.10	.60	--	.040	40	190
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.10	1.4	--	.070	90	530

## 315649097103701 AQUILLA LAKE SITE CC

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUN										
07...	1410	1.90	--	--	--	--	--	--	--	--
07...	1411	1.00	430	8.4	29.0	1.07	6.3	83	93	160
07...	1412	10.0	434	7.9	27.5	--	4.0	51	--	--
07...	1413	15.0	434	7.6	27.0	--	2.7	34	--	--
07...	1414	20.0	440	7.4	27.0	--	.2	3	--	--
07...	1415	25.0	440	7.3	26.5	--	.2	3	--	--
07...	1416	33.0	489	7.2	26.0	--	.2	2	--	--
AUG										
14...	1105	1.00	440	7.7	30.0	1.20	3.6	48	K56	K31
14...	1106	1.90	--	--	--	--	--	--	--	--
14...	1107	10.0	440	7.7	29.5	--	3.6	48	--	--
14...	1108	15.0	440	7.5	29.5	--	1.1	15	--	--
14...	1109	20.0	465	7.3	29.0	--	.2	3	--	--
14...	1110	25.0	470	7.2	28.5	--	.2	3	--	--
14...	1111	34.0	465	7.1	27.5	--	.2	3	--	--



## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

315649097103701 AQUILLA LAKE SITE CC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN									
07...	--	--	--	--	--	--	--	--	--
07...	160	27	58	3.2	27	1	5.4	131	56
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	180	12	66	3.4	31	1	5.8	167	54
AUG									
14...	160	12	57	3.5	28	1	6.1	145	51
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	160	0	60	3.4	28	1	5.9	176	37

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)
JUN									
07...	--	--	--	--	--	--	--	--	--
07...	13	2.0	240	.20	.70	.90	.030	<3	4
07...	--	--	--	.20	.90	1.1	.030	10	20
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	<.10	.90	--	.060	40	180
07...	--	--	--	--	--	--	--	--	--
07...	16	5.8	280	<.10	1.7	--	.170	450	450
AUG									
14...	14	3.3	250	<.10	1.0	--	.040	5	3
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.10	.70	--	.020	20	20
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.10	1.3	--	.130	620	380
14...	--	--	--	--	--	--	--	--	--
14...	16	5.8	260	<.10	1.8	--	.120	800	1100

315518097123401 AQUILLA LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
FEB										
27...	1140	1.00	438	7.8	12.0	.49	--	10.8	100	350
27...	1142	10.0	444	7.8	10.5	--	--	10.3	--	--
27...	1144	20.0	444	7.8	10.5	--	--	10.0	--	--
27...	1146	25.0	444	7.8	10.0	--	25	8.4	74	--
27...	1148	30.0	448	7.8	9.0	--	--	4.8	--	--
27...	1150	35.0	438	7.8	9.5	--	--	5.0	44	--
JUN										
07...	1235	2.00	--	--	--	--	--	--	--	--
07...	1236	1.00	426	8.4	30.0	1.22	--	7.0	94	K950
07...	1237	10.0	436	7.9	27.0	--	--	4.6	58	--
07...	1238	20.0	436	7.7	26.5	--	--	3.6	45	--
07...	1239	25.0	436	7.4	26.0	--	--	1.4	17	--
07...	1240	30.0	442	7.0	25.0	--	--	.2	2	--
07...	1241	37.0	450	7.0	25.0	--	--	.2	2	--
AUG										
14...	0946	1.00	428	8.1	29.0	1.80	--	6.0	79	--
14...	0947	10.0	428	8.0	29.0	--	--	5.8	76	--
14...	0948	20.0	431	7.8	29.0	--	--	4.8	63	--
14...	0949	25.0	436	7.4	28.0	--	--	1.8	23	--
14...	0950	32.0	465	7.0	25.5	--	--	.3	4	--

## BRAZOS RIVER BASIN

## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

315518097123401 AQUILLA LAKE SITE DC--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	STREP- TOCOC FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	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- LINIT FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)
FEB										
27...	200	140	23	52	2.8	30	1	5.0	119	67
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	160	39	58	3.4	28	1	5.0	120	66
JUN										
07...	--	--	--	--	--	--	--	--	--	--
07...	K16	160	25	57	3.2	26	1	5.3	131	59
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	170	0	62	3.8	26	.9	6.4	171	36
AUG										
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, 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 (MG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB									
27...	14	6.5	250	.80	1.3	2.1	.080	16	2
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	.70	.60	1.3	.070	30	70
27...	--	--	--	--	--	--	--	--	--
27...	13	7.9	250	.40	.80	1.2	.070	74	140
JUN									
07...	--	--	--	--	--	--	--	--	--
07...	13	1.7	240	.20	.90	1.1	.020	7	5
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	.20	.90	1.1	.030	20	30
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	<.10	1.8	--	.100	340	780
07...	13	5.4	260	<.10	2.2	--	.090	320	800
AUG									
14...	--	--	--	.10	.60	.70	.030	<10	<10
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.10	.60	--	.030	90	230
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.10	3.1	--	.330	1200	3000

315748097144901 AQUILLA LAKE SITE EC

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
AUG									
14...	1000	1.00	430	7.9	29.5	1.70	5.0	66	K23
14...	1001	2.80	--	--	--	--	--	--	--
14...	1002	10.0	430	7.9	29.5	--	5.0	66	--
14...	1003	20.0	430	7.7	29.0	--	4.8	63	--
14...	1004	25.0	456	6.9	28.0	--	.2	3	--
14...	1005	30.0	471	6.9	27.0	--	.2	3	--
14...	1006	35.0	480	6.9	27.0	--	.2	3	--

## BRAZOS RIVER BASIN

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## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

315748097144901 AQUILLA LAKE SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)
AUG									
14...	K4	150	6	54	3.5	27	1	6.0	144
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	180	0	64	3.9	27	.9	6.3	198
DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG									
14...	48	15	3.0	240	<.10	.60	.030	6	4
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	<.10	.80	.020	30	20
14...	--	--	--	--	<.10	.60	.030	30	40
14...	--	--	--	--	--	--	--	--	--
14...	27	17	7.4	270	<.10	2.4	.250	940	1300

## BRAZOS RIVER BASIN

## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

Aquilla Lake AC (315358097122601)

Phytoplankton Analyses October 1984 to September 1985

Date	2-27-85
Time	1041

TOTAL CELLS/ml	8,497
NUMBER OF SPECIES	25
DEPTH COLLECTED (ft.)	0.6

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	57
<u>Chlamydomonas</u> sp.	57
<u>Closterium</u> sp.	57
<u>Kirchneriella contorta</u>	1477
CHRYSTOPHYTA (Golden-brown algae)	
<u>Mallomonas</u> sp.	170
CYANOPHYTA (Blue-green algae)	
<u>Chroococcus varius</u>	341
<u>Dactylococcopsis fascicularis</u>	568
<u>Dactylococcopsis musicola</u>	170
<u>Synechococcus aeruginosa</u>	114
<u>Synechococcus elongatus</u>	341
CRYPTOPHYTA (Cryptomonads)	
<u>Chroomonas</u> sp.	455
<u>Cryptomonas ovata</u>	114
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella glomerata</u>	14
<u>Cyclotella ocellata</u>	284
<u>Cyclotella stelligera</u>	682
<u>Melosira lirata</u>	2841
<u>Stephanodiscus</u> sp.	398
Order Pennales	
<u>Hantzschia amphioxys</u>	7
<u>Navicula halophila</u>	57
<u>Nitzschia acicularis</u>	114
<u>Nitzschia thermalis</u>	57
<u>Surirella ovalis</u>	7
<u>Synedra rumpens</u> var. <u>meneghiniana</u>	57
<u>Synedra ulna</u>	29
<u>Synedra</u> sp.	29

BRAZOS RIVER BASIN

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AQUILLA LAKE ABOVE AQUILLA, TX--Continued

Aquilla Lake AC (315358097122601)

Phytoplankton Analyses October 1984 to September 1985

Date 6-7-85  
Time 0945

TOTAL CELLS/ml 245,864  
NUMBER OF SPECIES 36  
DEPTH COLLECTED (ft.) 1.8

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Chlamydomonas</u> sp.	284
<u>Chlorella</u> vulgaris	284
<u>Chlorococcum</u> sp.	852
<u>Franceia</u> sp.	568
<u>Pteromonas</u> sp.	284
<u>Scenedesmus</u> acuminatus	1136
<u>Scenedesmus</u> bijuga	568
<u>Scenedesmus</u> quadricauda	852
<u>Scenedesmus</u> sp. 1	568
<u>Scenedesmus</u> sp. 2	568
<u>Tetraedron</u> minimum	284
<u>Tetrastrum</u> staurogeniaeforme	1136
<u>Treubaria</u> sp.	568
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa</u> delicatissima	24992
<u>Aphanocapsa</u> elachista	11360
<u>Chroococcus</u> dispersus	7952
<u>Dactylococcopsis</u> fasciculata	568
<u>Lyngbya</u> sp.	3408
<u>Merismopedia</u> tenuissima	7950
<u>Microcystis</u> sp.	9088
<u>Oscillatoria</u> angustissima	6816
<u>Oscillatoria</u> limnetica	1704
<u>Synechococcus</u> elongatus	47144
<u>Synechococcus</u> lineare	16472
<u>Synechococcus</u> sigmoides	90312
<u>Synechococcus</u> sp.	6816
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella</u> ocellata	852
<u>Melosira</u> lirata	1136
<u>Stephanodiscus</u> dubius	284
Order Pennales	
<u>Navicula</u> cryptocephala	114
<u>Navicula</u> halophila	57
<u>Nitzschia</u> linearis	28
<u>Nitzschia</u> palea	284
<u>Nitzschia</u> paleacea	7
<u>Nitzschia</u> thermalis	284
<u>Synedra</u> ulna	284



## BRAZOS RIVER BASIN

## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

Aquila Lake AC (315358097122601)

Phytoplankton Analyses October 1984 to September 1985

Date	8-14-85
Time	0841

TOTAL CELLS/ml	192,383
NUMBER OF SPECIES	47
DEPTH COLLECTED (ft.)	1.7

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus nannoselene</u>	341
<u>Arthrodesmus</u> sp.	57
<u>Carteria</u> sp.	114
<u>Chlorococcum</u> sp.	114
<u>Cosmociadium</u> sp.	454
<u>Crucigenia tetrapedia</u>	454
<u>Gloeocystis</u> sp.	227
<u>Mesotaenium endlicherianum</u>	227
<u>Nephrocytium</u> sp.	227
<u>Oocystis</u> sp.	1818
<u>Scenedesmus</u> sp.	227
<u>Spondyliosium planum</u>	114
<u>Staurastrum orbiculare</u> var. <u>depressum</u>	454
<u>Tetraedron minimum</u>	114
CYANOPHYTA (Blue-green algae)	
<u>Anabaenopsis raciborskii</u>	9429
<u>Aphanocapsa delicatissima</u>	42373
<u>Aphanocapsa elachista</u>	14768
<u>Aphanocapsa elachista</u> var. <u>conferta</u>	4430
<u>Aphanothece saxicola</u>	7725
<u>Aphanothece</u> sp.	682
<u>Chroococcus pallidus</u>	454
<u>Chroococcus prescottii</u>	454
<u>Chroococcus turgidus</u>	909
<u>Dactylococcopsis acticularis</u>	114
<u>Dactylococcopsis fascicularis</u>	1022
<u>Lyngbya nana</u>	20221
<u>Lyngbya</u> sp.	1363
<u>Marssoniella elegans</u>	909
<u>Merismopedia tenuissima</u>	3862
<u>Microcystis marina</u>	1590
<u>Oscillatoria angustissima</u>	8974
<u>Oscillatoria subtilissima</u>	12496
<u>Pseudoanabaena</u> sp.	16018
<u>Spirulina laxa</u>	1818
<u>Synechococcus elongatus</u>	1022
<u>Synechococcus lineare</u>	32603
<u>Synechococcus</u> sp.	2158
PYRRROPHYTA (Dinoflagellates)	
<u>Ceratium hirundinella</u> var. <u>brachyceras</u>	227
<u>Peridinium aciculiferum</u>	57
CRYPTOPHYTA (Cryptomonads)	
<u>Chroomonas</u> sp.	114
<u>Cryptomonas</u> sp.	114
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella ocellata</u>	448
<u>Cyclotella stelligera</u>	7
<u>Stephanodiscus tenuis</u>	341
Order Pennales	
<u>Nitzschia acicularis</u>	114
<u>Nitzschia palea</u>	398
<u>Synedra rumpens</u> var. <u>meneghiniana</u>	227

BRAZOS RIVER BASIN

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AQUILLA LAKE ABOVE AQUILLA, TX--Continued

Aquilla Lake CC (315649097103701)

Phytoplankton Analyses October 1984 to September 1985

Date	6-7-85
Time	1410
<hr/>	
TOTAL CELLS/ml	251,070
NUMBER OF SPECIES	31
DEPTH COLLECTED (ft.)	1.9
<hr/>	
<u>Organisms</u>	<u>Cells/ml</u>
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus braunii</u>	285
<u>Carteria sp.</u>	285
<u>Chlorella vulgaris</u>	285
<u>Closterium sp.</u>	285
<u>Golenkinia paucispina</u>	285
<u>Oocystis sp.</u>	2840
<u>Scenedesmus abundans</u> var. <u>brevicauda</u>	1135
<u>Scenedesmus sp. 1</u>	1135
<u>Scenedesmus sp. 2</u>	1705
<u>Staurastrum sp.</u>	285
<u>Tetraedron minimum</u>	570
<u>Treubaria sp.</u>	285
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	152790
<u>Aphanothece saxicola</u>	2270
<u>Dactylococcopsis fasciculata</u>	285
<u>Oscillatoria limnetica</u>	4545
<u>Spirulina sp.</u>	3125
<u>Synechococcus elongatus</u>	59640
<u>Synechococcus sigmoides</u>	11930
EUGLENOPHYTA (Euglenoids)	
<u>Euglena acus</u>	285
<u>Trachelomonas hispida</u>	285
<u>Trachelomonas hispida</u> var. <u>crenulatocollis</u>	285
CRYPTOPHYTA (Cryptomonads)	
<u>Cryptomonas sp.</u>	1135
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella meneghiniana</u>	285
<u>Cyclotella ocellata</u>	850
<u>Melosira lirata</u>	2840
<u>Stephanodiscus dubius</u>	285
Order Pennales	
<u>Navicula cryptocephala</u>	85
<u>Navicula symmetrica</u>	200
<u>Nitzschia acicularis</u>	285
<u>Synedra ulna</u>	285

BRAZOS RIVER BASIN  
AQUILLA LAKE ABOVE AQUILLA, TX--Continued

Aquilla Lake CC (315649097103701)

Phytoplankton Analyses October 1984 to September 1985

Date 8-14-85  
Time 1106

TOTAL CELLS/ml 107,412  
NUMBER OF SPECIES 43  
DEPTH COLLECTED (ft.) 1.9

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Chlorococcum</u> sp.	341
<u>Crucigenia</u> tetrapedia	909
<u>Mesotaenium</u> endlicherianum	227
<u>Pteromonas</u> sp.	57
<u>Scenedesmus</u> dimorphus	454
<u>Scenedesmus</u> quadricauda	227
<u>Scenedesmus</u> sp.	1818
<u>Staurastrum</u> orbiculare var. <u>depressum</u>	227
<u>Tetraedron</u> minimum	454
<u>Treubaria</u> sp.	114
CYANOPHYTA (Blue-green algae)	
<u>Anabaenopsis</u> raciborskii	6362
<u>Aphanocapsa</u> delicatissima	26128
<u>Aphanocapsa</u> elachista	10451
<u>Aphanothece</u> saxicola	6362
<u>Chroococcus</u> minutus	795
<u>Chroococcus</u> multicoloratus	454
<u>Chroococcus</u> refractus	454
<u>Chroococcus</u> pallidus	454
<u>Dactylococcopsis</u> fascicularis	454
<u>Dactylococcopsis</u> raphidioides	114
<u>Lyngbya</u> nana	10224
<u>Merismopedia</u> tenuissima	13178
<u>Microcystis</u> marina	1818
<u>Oscillatoria</u> angustissima	5226
<u>Oscillatoria</u> limnetica	2499
<u>Oscillatoria</u> minnesotensis	4771
<u>Spirulina</u> laxa	682
<u>Synechococcus</u> aeruginosa	568
<u>Synechococcus</u> elongatus	6248
<u>Synechococcus</u> lineare	2272
EUGLENOPHYTA (Euglenoids)	
<u>Euglena</u> sp.	114
<u>Phacus</u> longicauda	57
<u>Trachelomonas</u> sp.	114
PYRRROPHYTA (Dinoflagellates)	
<u>Peridinium</u> africanum	114
<u>Peridinium</u> cinctum	114
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella</u> ocellata	966
<u>Melosira</u> lirata	795
<u>Stephanodiscus</u> tenuis	114
Order Pennales	
<u>Nitzschia</u> intermedia	114
<u>Nitzschia</u> palea	114
<u>Nitzschia</u> paleacea	227
<u>Synedra</u> delicatissima	73
<u>Synedra</u> rumpens var. <u>meneghiniana</u>	154

## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

Aquilla Lake DC (315518097123401)

Phytoplankton Analyses October 1984 to September 1985

Date	6-7-85
Time	1235

TOTAL CELLS/ml	188,613
NUMBER OF SPECIES	44
DEPTH COLLECTED (ft.)	2.0

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus braunii</u>	28
<u>Ankistrodesmus convolutus</u>	57
<u>Ankistrodesmus falcatulus</u>	57
<u>Chlorococcum</u> sp.	795
<u>Chodatella subsalsa</u>	284
<u>Closterium</u> sp.	57
<u>Crucigenia irregularis</u>	341
<u>Crucigenia</u> sp.	795
<u>Dysmorphococcus</u> sp.	57
<u>Francia</u> sp.	341
<u>Golenkinia paucispina</u>	57
<u>Kirchneriella lunaris</u>	114
<u>Kirchneriella obesa</u>	114
<u>Micratinium</u> sp.	1704
<u>Oocystis</u> sp.	114
<u>Scenedesmus abundans</u> var. <u>brevicauda</u>	227
<u>Scenedesmus bijuga</u>	341
<u>Scenedesmus dimorphus</u>	341
<u>Scenedesmus quadricauda</u>	1022
<u>Scenedesmus serratus</u>	1647
<u>Selenastrum minutum</u>	425
<u>Sphaerocystis Schroeteri</u>	341
<u>Tetraedron minimum</u>	227
<u>Treubaria</u> sp.	284
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	62480
<u>Microcystis</u> sp.	34080
<u>Oscillatoria angustissima</u>	7157
<u>Oscillatoria limnetica</u>	1250
<u>Synechococcus elongatus</u>	62480
<u>Synechococcus lineare</u>	6248
EUGLENOPHYTA (Euglenoids)	
<u>Trachelomonas hispida</u>	170
<u>Trachelomonas volvocina</u>	114
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella meneghiniana</u>	170
<u>Cyclotella ocellata</u>	2897
<u>Melosira lirata</u>	909
<u>Stephanodiscus dubius</u>	398
Order Pennales	
<u>Navicula symmetrica</u>	28
<u>Nitzschia linearis</u>	57
<u>Nitzschia paleacea</u>	114
<u>Nitzschia sigma</u>	28
<u>Nitzschia tryblionella</u>	7
<u>Synedra rumpens</u>	114
<u>Synedra tenera</u>	114
<u>Synedra</u> sp.	28

## BRAZOS RIVER BASIN

## AQUILLA LAKE ABOVE AQUILLA, TX--Continued

Aquila Lake EC (315748097144901)

Phytoplankton Analyses October 1984 to September 1985

Date	8-14-85
Time	1001
TOTAL CELLS/ml	126,892
NUMBER OF SPECIES	31
DEPTH COLLECTED (ft.)	2.8
<u>Organisms</u>	<u>Cells/ml</u>
CHLOROPHYTA (Green algae)	
<u>Gloeocystis</u> sp.	114
<u>Mesotaenium endlicherianum</u>	227
<u>Oocystis</u> sp.	454
<u>Sphaerocystis schroeteri</u>	682
<u>Spondylosium planum</u>	114
<u>Staurastrum orbiculare</u> var. <u>depressum</u>	341
<u>Tetraedron minimum</u>	114
CYANOPHYTA (Blue-green algae)	
<u>Anabaenopsis raciborskii</u>	6362
<u>Aphanocapsa delicatissima</u>	40101
<u>Aphanocapsa elachista</u>	8861
<u>Chroococcus multicoloratus</u>	1022
<u>Chroococcus turgidus</u>	1136
<u>Dactylococcopsis fascicularis</u>	568
<u>Lyngbya nana</u>	15790
<u>Merismopedia tenuissima</u>	2726
<u>Oscillatoria angustissima</u>	2045
<u>Oscillatoria limnetica</u>	1590
<u>Oscillatoria minnesotensis</u>	5680
<u>Oscillatoria subtilissima</u>	1590
<u>Pseudoanabaena</u> sp.	11474
<u>Spirulina laxa</u>	1363
<u>Synechococcus aeruginosa</u>	114
<u>Synechococcus elongatus</u>	1590
<u>Synechococcus lineare</u>	19880
<u>Synechococcus</u> sp.	1590
PYRRROPHYTA (Dinoflagellates)	
<u>Ceratium hirundinella</u> var. <u>brachyceras</u>	227
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella ocellata</u>	227
Order Pennales	
<u>Diploneis</u> sp.	341
<u>Nitzschia acicularis</u>	341
<u>Nitzschia intermedia</u>	114
<u>Synedra rumpens</u> var. <u>meneghiniana</u>	114



## BRAZOS RIVER BASIN

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08093360 AQUILLA CREEK ABOVE AQUILLA, TEX.

LOCATION.--Lat 31°53'43", long 97°12'10", Hill County, Hydrologic Unit 12060202, on right bank of excavated outlet channel, 0.2 mi downstream from Aquilla Dam on Aquilla Creek and Farm Road 310 that is located on top of Aquilla Dam, and 3.3 mi north-northeast of Aquilla.

DRAINAGE AREA.--255 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1982 to current year (operated as low-water record only). Prior to Mar. 16, 1982, operated as a full range discharge station.

GAGE.--Water-stage recorder and concrete weir with sharp-crested, 90 degree v-notch weir section for low-flows. Datum of gage is 478.71 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Mar. 15, 1982, at site about 0.2 mi to left of current location at same datum.

REMARKS.--Estimated daily discharges: May 7-13 and July 29 to Aug. 5. Records poor except those greater than 50 ft<sup>3</sup>/s, which are fair. Daily discharges above 135 ft<sup>3</sup>/s are not published. Flow is regulated by Aquilla Lake 0.2 mi upstream (station 08093350). Deliberate impoundment of water began Apr. 29, 1983.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,100 ft<sup>3</sup>/s June 16, 1981 (gage height, 26.98 ft); no flow for many days in 1980-85.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 8.10 ft Apr. 6, 9-10; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.03	.03	.39	.00	.00	---	131	.21	.04	.13	.03
2	.00	.00	.04	.35	.00	.00	---	132	.19	.03	.13	.02
3	.00	.00	.04	.32	.00	.00	---	99	.19	.03	.13	.01
4	.00	.00	.08	.32	.00	.00	---	27	.18	.03	.12	.01
5	.00	.00	.08	.32	.00	.00	---	27	.17	.03	.12	.08
6	.00	.00	.03	.32	.00	.00	---	13	.16	.03	.12	.04
7	.00	.00	.04	.27	.02	.00	---	.53	.10	.04	.15	.04
8	.00	.00	.05	.08	.00	.00	---	.53	.09	.03	.15	.04
9	.48	.00	.07	.03	.00	.00	---	.53	.08	.02	.17	.04
10	.05	.00	.08	.01	.00	.00	---	.53	.08	.02	.16	.04
11	.21	.00	.11	.01	.00	.00	118	.53	.08	.01	.11	.04
12	.54	.00	.14	.01	.00	.00	119	.53	.07	.01	.09	.03
13	.11	.00	.22	.01	.00	.00	118	.53	.08	.01	.12	.01
14	.28	.00	.19	.01	.00	.00	119	.76	.09	.02	.06	.01
15	.03	.00	.27	.01	.00	.00	85	.77	.09	.02	.07	.00
16	.02	.00	.22	.01	.00	.00	27	.64	.08	.02	.06	.02
17	.03	.00	.41	.00	.00	.00	27	.55	.07	.01	.06	.01
18	.16	.01	.47	.00	.00	.00	27	.23	.10	.09	.06	.01
19	.03	.00	.36	.00	.00	.00	27	.23	.08	.13	.06	.01
20	.02	.00	.39	.00	.00	.00	27	.19	.07	.18	.06	.01
21	.02	.00	.42	.00	.00	.00	27	.13	.08	.19	.06	.02
22	.02	.00	.39	.00	.00	.00	27	.15	.08	.17	.06	.02
23	.00	.00	.37	.00	.01	.00	27	.13	.08	.22	.04	.01
24	.05	.00	.40	.00	.00	.00	27	.18	.08	.22	.04	.07
25	.00	.00	.38	.00	.00	32	76	.21	.06	.21	.04	.13
26	.00	.01	.35	.00	.00	63	64	.21	.04	.22	.04	.19
27	.00	.02	.32	.00	.00	63	.02	.18	.04	.21	.04	.41
28	.00	.02	.33	.00	.00	63	.06	.19	.04	.18	.04	.47
29	.00	.02	.32	.00	---	64	.02	.22	.04	.14	.04	.84
30	.00	.02	.52	.00	---	64	64	.25	.04	.14	.04	.38
31	.00	---	.58	.00	---	64	---	.25	---	.14	.03	---
TOTAL	2.05	.13	7.70	2.47	.03	413.00	---	438.18	2.84	2.84	2.60	3.04
MEAN	.066	.004	.25	.080	.001	13.3	---	14.1	.095	.092	.084	.10
MAX	.54	.03	.58	.39	.02	64	---	132	.21	.22	.17	.84
MIN	.00	.00	.03	.00	.00	.00	---	.13	.04	.01	.03	.00
AC-FT	4.1	.3	15	4.9	.06	819	---	869	5.6	5.6	5.2	6.0
CAL YR 1984	TOTAL	11.69	MEAN	.032	MAX	.58	MIN	.00	AC-FT	23		
WTR YR 1985	TOTAL	-	MEAN	-	MAX	-	MIN	-	AC-FT	-		

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 southeast of Aquilla, 1.2 mi downstream from Cobb Creek, 4.7 mi below Aquilla Dam, and 18.2 mi upstream from mouth.

DRAINAGE AREA, --308 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Estimated daily discharges: Dec. 25, 26, Jan. 1-8, 10-15, 17-26, Jan. 31 to Feb. 8, Feb. 10-13, and 16. Records good except those for estimated daily discharges, which are poor. Since May 1983, flow from 252 mi<sup>2</sup> above this station has been regulated by Aquilla Lake, located 4.7 mi upstream on Aquilla Creek, which began impounding water Apr. 24, 1983.

AVERAGE DISCHARGE.--43 years (water years 1940-82), prior to regulation, 119 ft<sup>3</sup>/s (5.25 in/yr), 86,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,300 ft<sup>3</sup>/s June 16, 1981 (gage height, 31.35 ft), from rating curve extended above 25,900 ft<sup>3</sup>/s on basis of slope-area measurement of 74,200 ft<sup>3</sup>/s, adjusted to gage site; no flow at times.

REMARKS.--Estimated daily discharges: Dec. 25, 26, Jan. 1-8, 10-15, 17-26, Jan. 31 to Feb. 8, Feb. 10-13, and 16. Records good except those for estimated daily discharges, which are poor. Since May 1983, flow from 252 mi<sup>2</sup> above this station has been regulated by Aquilla Lake, located 4.7 mi upstream on Aquilla Creek, which began impounding water Apr. 24, 1983.

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EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 31, 1887, reached a stage of 34 ft, from information by local resident. Flood of Sept. 27, 1936, was the highest since 1887 and reached a stage of 33 ft, from floodmark; discharge 84,500 ft<sup>3</sup>/s (by slope-area measurements at site 9 mi downstream) and 74,200 ft<sup>3</sup>/s (adjusted to gage site).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,060 ft<sup>3</sup>/s Oct. 24 at 1945 hours (gage height, 25.87 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	413	2.9	93	5.6	18	102	161	.79	.02	.00	.15
2	.00	184	2.9	36	5.6	13	166	155	.72	.00	.00	.12
3	.00	14	2.3	26	5.6	12	166	121	.66	.00	.00	.10
4	.00	7.6	1.7	23	6.2	14	165	25	.58	.00	.00	.08
5	.00	4.9	7.3	18	7.7	10	164	25	.53	.00	.00	.04
6	.01	4.2	4.2	16	8.4	8.0	161	17	26	.00	.01	.02
7	30	4.7	2.8	13	7.7	7.7	161	2.0	.55	.01	.01	.00
8	.78	4.5	4.2	11	7.0	7.7	161	2.1	.37	.02	.02	.00
9	332	4.2	4.5	10	5.9	7.7	161	3.4	.31	.02	.04	2.1
10	40	4.1	4.3	10	6.2	7.4	146	4.0	.29	.02	.05	47
11	165	3.7	2.9	9.2	5.2	7.3	169	4.4	.28	.06	.03	.03
12	368	6.9	2.9	8.8	3.5	6.2	173	5.1	.28	.10	.04	.02
13	1.9	3.6	226	8.4	3.9	5.9	172	8.2	.26	.06	.04	.08
14	352	3.3	46	12	4.2	394	167	23	.24	.03	.05	117
15	4.4	4.4	20	8.4	3.9	33	126	12	.21	.02	.03	.24
16	.77	4.7	416	66	4.2	19	25	6.9	.18	.03	.04	.09
17	.54	4.2	330	25	4.7	15	25	5.6	.14	.02	.06	.05
18	610	11	1300	14	5.0	12	26	5.9	.25	.01	.06	.03
19	728	6.9	92	12	5.2	11	26	5.4	.17	.00	.07	.05
20	13	3.4	53	10	5.2	543	26	5.1	.09	.00	.07	.06
21	15	2.4	39	10	5.2	40	26	7.2	.05	.04	.09	.08
22	95	2.2	21	9.6	7.7	21	26	6.8	.04	.06	.11	.09
23	73	2.7	16	9.6	267	16	25	6.2	.02	.05	.11	.10
24	1520	2.9	14	8.8	35	13	27	4.0	.07	.05	.12	.11
25	441	17	13	8.4	16	30	89	3.3	.01	.02	.21	.27
26	36	14	12	7.7	13	68	95	2.5	.00	.00	.19	.26
27	311	38	11	7.3	10	110	1.5	1.8	.00	.00	.17	.26
28	35	3.2	14	5.9	9.8	75	198	1.4	.00	.00	.17	.29
29	9.9	3.5	13	5.9	---	73	14	1.1	.00	.00	.16	573
30	5.8	3.1	243	6.6	---	74	72	1.0	.02	.00	.17	10
31	4.6	---	776	5.9	---	70	---	.88	---	.00	.16	---
TOTAL	5192.70	786.3	3697.9	515.5	474.6	1741.9	3061.5	633.28	33.11	.64	2.28	751.72
MEAN	168	26.2	119	16.6	17.0	56.2	102	20.4	1.10	.021	.074	25.1
MAX	1520	413	1300	93	267	543	198	161	26	.10	.21	573
MIN	.00	2.2	1.7	5.9	3.5	5.9	1.5	.88	.00	.00	.00	.00
CFSM	.55	.09	.39	.05	.06	.18	.33	.07	.004	.000	.000	.08
IN.	.63	.09	.45	.06	.06	.21	.37	.08	.00	.00	.00	.09
AC-FT	10300	1560	7330	1020	941	3460	6070	1260	66	1.3	4.5	1490
CAL YR 1984	TOTAL	10448.96	MEAN	28.5	MAX	1520	MIN	.00	CFSM	.09	IN	1.26
WTR YR 1985	TOTAL	16891.43	MEAN	46.3	MAX	1520	MIN	.00	CFSM	.15	IN	2.04
									AC-FT	20730		
									AC-FT	33500		

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 September 1982.

WATER TEMPERATURES: October 1965 to June 1966, October 1967 to September 1982.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
NOV 14...	1400	3.0	612	7.9	15.0	25	--	9.4	95	1.2	240
DEC 19...	1130	86	470	8.0	12.0	100	140	9.9	93	1.1	200
JAN 30...	1045	6.7	760	8.1	9.0	5	3.2	11.1	98	.3	290
MAR 06...	1300	6.9	690	8.3	12.5	15	15	11.4	108	.9	290
APR 10...	1015	165	442	8.1	16.5	25	43	9.6	99	1.5	160
MAY 14...	1145	26	747	7.6	20.0	25	59	7.6	85	3.0	280

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 14...	56	90	3.6	24	.7	3.2	184	100	18	.40	9.2
DEC 19...	43	77	2.5	13	.4	2.9	160	55	10	.30	11
JAN 30...	100	110	4.3	34	.9	1.9	190	130	27	.40	4.3
MAR 06...	110	110	4.2	37	1	2.4	180	130	29	.50	4.2
APR 10...	19	58	3.0	26	.9	5.1	138	66	13	.40	3.7
MAY 14...	120	99	7.6	44	1	5.1	162	140	48	.40	5.7

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDEDED (MG/L)	SOLIDS, VOLATILE, SUS- PENDEDED (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)
NOV 14...	360	--	--	4.5	.020	4.5	.030	.57	.60	.020	4.0
DEC 19...	270	198	54	4.8	.100	4.9	.060	.94	1.0	.150	--
JAN 30...	430	11	5	5.8	.010	5.8	.030	.87	.90	.020	--
MAR 06...	430	35	29	4.6	.040	4.6	.080	1.7	1.8	.040	5.7
APR 10...	260	99	12	1.5	.050	1.5	.070	1.1	1.2	.160	7.9
MAY 14...	450	113	20	1.2	.050	1.2	.240	.66	.90	.130	7.1

## BRAZOS RIVER BASIN

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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 14...	1400	1	65	<1	<10	2	9
JAN 30...	1045	<1	67	<1	<10	<1	<3
MAR 06...	1300	<1	73	<1	<10	2	12

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 14...	<1	62	<.1	2	<1	8
JAN 30...	1	60	<.1	2	<1	<3
MAR 06...	2	45	<.1	1	<1	<3

## 08094800 NORTH BOSQUE RIVER AT HICO, TX

LOCATION.--Lat 31°58'41", long 98°02'04", Hamilton County, Hydrologic Unit 12060204, on left bank at downstream side of bridge on U.S. Highway 281 near south boundary of Hico, 2.6 mi downstream from Gilmore Creek, 5.0 mi upstream from Honey Creek, and 92.4 mi upstream from mouth.

DRAINAGE AREA.--359 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: July 5-7. Records good. 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. These structures control runoff from 202 mi<sup>2</sup> in North Bosque River and Green Creek drainage basins. The city of Stephenville discharges a small amount of sewage effluent into river above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years (water years 1963-85), 37.4 ft<sup>3</sup>/s (27,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,900 ft<sup>3</sup>/s Apr. 30, 1977 (gage height, 22.27 ft), from rating curve extended above 9,000 ft<sup>3</sup>/s; no flow at times in 1962-65, 1967-68, 1971, 1974, 1976, and 1978-85.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 27.6 ft May 23, 1952, from floodmarks (discharge, 87,800 ft<sup>3</sup>/s, by contracted-opening measurement).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 6	0900	*2,900	*9.65	No other peak greater than base discharge.			

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	15	1.9	491	5.5	11	13	255	3.3	3.7	.06	.00
2	.00	9.2	2.0	148	5.5	12	12	165	2.8	3.2	.04	.00
3	2.0	5.1	2.0	80	5.5	10	12	105	2.7	2.9	.04	.00
4	23	4.2	2.2	55	5.5	10	11	53	2.3	110	.04	.00
5	23	3.3	2.9	39	5.3	9.0	11	37	2.1	33	.03	.00
6	6.5	2.7	4.1	30	5.2	8.6	9.6	26	991	10	.00	.00
7	.75	2.3	7.3	23	5.2	8.3	8.6	21	287	5.5	.00	.00
8	.35	2.6	4.0	20	5.1	8.0	8.1	19	129	4.6	.15	.00
9	.15	2.6	3.2	14	4.9	7.5	8.0	24	92	3.1	.16	.00
10	.14	2.3	2.5	11	4.8	7.2	7.7	22	76	2.1	.07	.00
11	.42	2.6	2.3	9.4	4.6	6.9	8.0	16	65	1.6	.06	.00
12	.19	2.5	2.3	8.0	4.4	6.4	8.6	15	71	1.2	.04	.00
13	.09	2.5	2.5	6.9	4.4	5.9	8.0	320	57	.84	.01	.00
14	.07	4.1	27	6.9	4.4	16	6.9	344	37	.60	.00	.00
15	.03	4.9	37	6.7	4.6	28	6.6	140	23	.73	.00	.00
16	2.6	5.2	220	6.7	4.7	31	6.4	76	15	.76	.00	.00
17	2.1	6.2	174	6.9	4.7	31	6.0	38	11	.76	.00	.00
18	1.8	9.6	96	7.9	4.6	31	5.5	24	7.5	.74	.00	.00
19	2.0	6.4	46	7.9	4.2	99	5.5	16	5.5	.55	.00	.00
20	2.1	4.8	24	6.5	4.3	199	5.5	13	5.2	.42	.00	.00
21	186	3.3	16	5.7	4.4	108	5.5	50	4.8	.90	.00	.00
22	68	2.4	9.7	5.2	4.4	77	5.1	81	4.1	.73	.00	.00
23	31	2.2	6.6	5.2	124	52	5.5	74	4.1	.56	.00	.00
24	24	2.1	4.9	4.8	43	37	5.0	53	3.7	.48	.00	.00
25	51	3.0	4.0	4.0	28	28	4.7	36	3.3	.42	.00	.00
26	159	5.4	3.9	3.7	17	26	4.4	20	2.8	.34	.00	.00
27	161	5.1	3.9	3.7	13	23	4.3	14	3.9	.34	.00	.00
28	121	3.1	3.9	3.7	9.8	21	213	9.8	27	.29	.00	.00
29	62	2.0	3.9	3.7	---	20	727	5.7	14	.22	.00	.00
30	45	1.9	11	3.8	---	17	512	4.8	5.2	.14	.00	.00
31	22	---	428	4.6	---	14	---	4.1	---	.10	.00	---
TOTAL	997.29	128.6	1159.0	1032.9	341.0	968.8	1654.5	2081.4	1958.3	190.82	.70	.00
MEAN	32.2	4.29	37.4	33.3	12.2	31.3	55.2	67.1	65.3	6.16	.023	.000
MAX	186	15	428	491	124	199	727	344	991	110	.16	.00
MIN	.00	1.9	1.9	3.7	4.2	5.9	4.3	4.1	2.1	.10	.00	.00
CFSM	.09	.01	.10	.09	.03	.09	.15	.19	.18	.02	.000	.000
IN.	.10	.01	.12	.11	.04	.10	.17	.22	.20	.02	.00	.00
AC-FT	1980	255	2300	2050	676	1920	3280	4130	3880	378	1.4	.00

CAL YR 1984	TOTAL	4268.60	MEAN 11.7	MAX 962	MIN .00	CFSM .03	IN .44	AC-FT 8470
WTR YR 1985	TOTAL	10513.31	MEAN 28.8	MAX 991	MIN .00	CFSM .08	IN 1.09	AC-FT 20850



## 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 northeast of Clifton, 2.5 mi downstream from Meridian Creek, and 42.0 mi upstream from mouth.

DRAINAGE AREA.--968 mi<sup>2</sup>.

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 above 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 upstream at datum 17.02 ft 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.--Estimated daily discharges Sept. 4-10. Records good. The city of Clifton diverts water from the river upstream from this station for municipal use. The cities of Clifton and Meridian discharge sewage effluent into the river upstream and downstream, respectively, from the station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08094800. Several observations of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter located at station.

AVERAGE DISCHARGE.--44 years (water years 1924-67) unregulated, 195 ft<sup>3</sup>/s (141,300 acre-ft/yr); 18 years (water years 1968-85) regulated, 153 ft<sup>3</sup>/s (110,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,800 ft<sup>3</sup>/s Oct. 4, 1959 (gage height, 34.88 ft), from rating curve extended above 34,000 ft<sup>3</sup>/s on basis of contracted-opening measurement of 92,800 ft<sup>3</sup>/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, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharges of 8,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 18	2100	*4,500	*9.82	No peak greater than base discharge.			

Minimum daily discharge, 0.09 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	37	4.0	1080	13	56	70	517	20	6.7	1.5	3.5
2	.12	58	3.6	528	13	51	64	351	17	6.3	1.5	3.5
3	.14	86	3.4	337	13	53	58	255	15	10	1.4	3.5
4	.15	32	3.9	215	14	51	55	183	14	9.6	1.3	3.4
5	.17	18	5.7	143	15	44	51	111	12	7.5	1.2	3.4
6	.24	12	7.0	104	16	41	46	74	187	34	1.0	3.4
7	1.4	9.6	6.9	81	16	42	43	58	909	25	.97	3.2
8	.25	8.4	6.0	64	17	38	40	47	378	13	1.1	3.4
9	.43	7.0	5.2	54	18	35	39	41	219	7.9	1.0	3.1
10	86	4.9	4.9	45	19	34	39	36	149	5.2	1.3	3.1
11	13	3.8	4.6	39	18	33	39	32	114	4.4	1.1	2.8
12	10	2.8	4.7	33	17	31	39	35	95	4.2	1.2	2.9
13	6.9	2.5	5.0	30	16	30	42	47	77	3.8	1.1	3.2
14	169	2.1	5.3	29	15	375	44	429	84	2.9	1.1	4.5
15	12	2.0	7.2	26	13	272	43	380	61	2.4	1.2	2.6
16	5.1	1.7	73	31	14	132	39	209	44	1.8	2.0	4.5
17	3.7	1.6	408	43	14	97	34	121	34	3.0	2.2	8.4
18	483	3.0	343	36	14	84	32	78	27	1.5	2.0	4.6
19	319	3.1	178	31	13	72	30	54	19	1.3	2.2	3.1
20	96	5.5	101	24	14	1230	30	42	15	1.4	2.3	2.9
21	32	3.9	62	21	14	639	29	39	13	1.5	2.4	2.9
22	61	2.8	39	20	14	338	29	44	17	7.1	2.5	3.7
23	60	2.3	28	19	583	244	30	97	22	16	2.4	3.7
24	142	4.5	22	18	501	188	26	115	19	2.9	2.2	3.3
25	52	12	16	17	174	146	25	94	12	1.9	2.6	3.2
26	38	8.3	13	17	101	122	23	67	10	1.6	2.9	3.5
27	133	7.6	12	18	74	130	23	51	9.1	1.6	3.8	3.6
28	166	7.1	11	18	58	107	61	38	8.3	1.6	3.5	3.7
29	135	5.7	10	16	---	97	478	31	7.4	1.5	2.4	7.9
30	73	4.9	86	17	---	90	959	31	7.2	1.7	3.0	8.9
31	44	---	457	14	---	77	---	26	---	1.8	3.4	---
TOTAL	2142.69	360.1	1936.4	3168	1821	4979	2560	3733	2615.0	191.1	59.77	117.4
MEAN	69.1	12.0	62.5	102	65.0	161	85.3	120	87.2	6.16	1.93	3.91
MAX	483	86	457	1080	583	1230	959	517	909	34	3.8	8.9
MIN	.09	1.6	3.4	14	13	30	23	26	7.2	1.3	.97	2.6
AC-FT	4250	714	3840	6280	3610	9880	5080	7400	5190	379	119	233
CAL YR 1984	TOTAL	8659.26	MEAN	23.7	MAX	1050	MIN	.06	AC-FT	17180		
WTR YR 1985	TOTAL	23683.46	MEAN	64.9	MAX	1230	MIN	.09	AC-FT	46980		

## 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 downstream from Thompson Hollow, 0.8 mi north of intersection of State Highway 6 and Farm Road 56 in Valley Mills, and 28.0 mi upstream from mouth.

DRAINAGE AREA.--1,146 mi<sup>2</sup>.

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

Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 524.55 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 29, 1959, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 27, and Apr. 30 to June 25. Records good except those for estimated discharges, which are 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. These structures control runoff from 207 mi<sup>2</sup>. 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 ft<sup>3</sup>/s (190,500 acre-ft/yr); 18 years (water years 1968-85) regulated, 190 ft<sup>3</sup>/s (137,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft<sup>3</sup>/s Oct. 4, 1959 (gage height, 40.22 ft, from floodmarks), from rating curve extended above 28,200 ft<sup>3</sup>/s on basis of slope-area measurement of 107,000 ft<sup>3</sup>/s; no flow Oct. 5-12, 1965, many days in 1984, and Oct. 1-5, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1868, 43 ft in May 1908. Floods in September 1936 and April 1945 reached a stage of about 38 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 19	0030	*5,310	*14.76				

Minimum discharge, no flow Oct. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	64	8.4	1090	26	84	104	900	46	13	2.0	5.4
2	.00	76	7.3	676	25	77	94	680	39	12	4.0	4.1
3	.00	149	5.6	425	26	75	89	500	34	11	6.8	4.6
4	.00	74	6.2	294	26	74	82	390	29	18	6.2	5.0
5	.00	44	8.9	199	27	65	78	290	25	16	5.7	5.0
6	.98	31	14	146	29	61	71	230	240	16	5.6	5.2
7	34	24	11	114	29	61	67	160	1200	51	12	5.1
8	11	20	11	91	28	59	64	120	850	32	17	4.8
9	17	16	10	79	28	56	63	92	550	20	7.3	4.8
10	98	13	8.7	69	30	54	62	70	380	11	7.6	4.0
11	55	10	7.9	61	28	52	63	54	250	9.6	7.2	4.6
12	57	9.4	7.5	52	26	50	62	130	170	8.8	7.4	5.0
13	18	8.8	8.1	50	26	49	67	350	120	6.3	7.2	5.0
14	297	8.5	6.9	50	25	464	69	600	140	4.9	7.2	18
15	52	8.2	6.6	46	23	367	64	440	110	3.5	7.2	12
16	19	7.4	33	58	22	208	58	310	82	2.9	7.0	8.2
17	7.2	7.2	438	66	23	148	54	220	60	2.0	6.6	6.0
18	239	10	576	62	23	119	50	160	45	8.4	5.9	16
19	1080	9.4	281	53	23	104	47	110	34	2.7	6.1	14
20	266	9.0	167	45	22	1540	47	82	25	1.3	5.6	10
21	91	12	106	39	23	910	47	60	20	1.1	5.0	7.5
22	90	12	69	38	25	475	74	85	25	1.3	4.6	5.9
23	131	10	54	38	415	344	60	110	30	23	4.4	5.7
24	246	9.2	45	37	764	270	47	140	27	12	4.6	5.0
25	216	23	35	34	263	234	42	120	24	3.7	5.6	5.0
26	65	22	31	32	145	192	41	105	19	1.9	5.7	4.6
27	146	14	29	32	105	204	40	92	18	1.5	4.6	4.4
28	274	12	28	32	86	171	171	79	17	1.1	4.3	5.0
29	236	11	26	36	---	146	386	70	15	.80	4.9	33
30	140	9.8	84	32	---	134	1100	62	13	.84	5.5	30
31	88	---	504	28	---	116	---	60	---	1.1	5.4	---
TOTAL	3974.18	733.9	2634.1	4104	2341	6963	3363	6871	4637	298.74	196.2	252.9
MEAN	128	24.5	85.0	132	83.6	225	112	222	155	9.64	6.33	8.43
MAX	1080	149	576	1090	764	1540	1100	900	1200	51	17	33
MIN	.00	7.2	5.6	28	22	49	40	54	13	.80	2.0	4.0
AC-FT	7880	1460	5220	8140	4640	13810	6670	13630	9200	593	389	502
CAL YR 1984	TOTAL	12345.27	MEAN	33.7	MAX	1080	MIN	.00	AC-FT	24490		
WTR YR 1985	TOTAL	36369.02	MEAN	99.6	MAX	1540	MIN	.00	AC-FT	72140		

## BRAZOS RIVER BASIN

08095300 MIDDLE BOSQUE RIVER NEAR MCGREGOR, TX

LOCATION.--Lat 31°30'33", long 97°21'56", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on county road, 1,100 ft downstream from Pecan Creek, 5.2 mi northeast of McGregor, and 7.4 mi upstream from mouth.

DRAINAGE AREA.--182 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 530.51 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gage at same site and datum.

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

AVERAGE DISCHARGE.--26 years, 78.4 ft<sup>3</sup>/s (56,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,300 ft<sup>3</sup>/s Oct. 31, 1974 (gage height, 24.62 ft); no flow at times in 1960-64, 1967, 1971, 1978-79, and 1981-84.

EXTREMES OUTSIDE PERIOD OF RECORD.--Historical flood information begins with a flood in 1889, which reached a stage of 28.5 ft. A flood in 1957 reached a stage of 28.2 ft; and floods in 1913 and 1942 or 1943 reached a stage of about 28 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 24	1600	*7,930	*10.50				

Minimum daily discharge, no flow Oct. 1-6.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

## MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	80	51	281	55	85	85	53	8.3	7.4	.24	.30
2	.00	101	47	205	56	77	82	48	6.6	6.1	.33	.30
3	.00	63	43	190	57	69	79	46	5.5	155	.36	.34
4	.00	56	48	185	57	66	72	41	5.0	26	.37	.26
5	.00	44	65	160	60	61	68	36	4.5	7.5	.30	.33
6	.00	40	59	145	62	58	61	33	405	5.4	.29	.32
7	156	40	54	130	62	57	59	32	88	4.1	.48	.29
8	7.9	37	53	116	55	57	54	30	33	3.9	.62	.22
9	17	35	53	111	55	55	53	30	25	3.9	.59	.53
10	23	32	50	102	55	52	53	27	19	3.0	.57	2.8
11	122	26	48	88	51	50	53	25	16	3.0	.56	.39
12	199	28	48	84	46	52	53	22	15	3.5	.46	.25
13	17	26	54	82	46	55	53	25	13	2.4	.38	.21
14	599	25	51	87	45	461	64	36	12	1.9	.41	75
15	38	26	49	88	42	164	54	31	12	1.8	.44	8.2
16	16	22	310	158	42	120	46	25	12	1.6	.50	3.0
17	8.8	22	172	172	41	102	44	24	12	1.3	.54	1.7
18	48	38	653	114	39	89	40	23	100	1.2	.44	1.4
19	413	30	304	95	38	85	37	20	31	1.6	.37	1.4
20	35	25	246	82	37	1530	36	19	17	1.4	.41	1.4
21	25	22	209	72	37	298	35	27	14	1.1	.39	1.2
22	22	20	158	73	37	229	318	26	11	.99	.36	.89
23	20	20	142	77	241	189	106	25	12	.95	.35	.82
24	1740	21	140	77	136	156	43	22	12	.88	.46	.66
25	273	58	110	77	78	137	36	19	9.9	.62	.46	.66
26	100	145	100	70	70	119	32	15	8.5	.66	.37	.66
27	142	113	100	68	67	184	32	13	10	.66	.37	.66
28	85	66	112	67	64	131	638	13	11	.54	.33	.89
29	62	60	106	62	---	110	111	13	9.3	.38	.37	173
30	55	54	158	63	---	109	70	11	8.3	.29	.37	7.8
31	49	---	586	61	---	92	---	9.6	---	.24	.34	---
TOTAL	4272.70	1375	4379	3442	1731	5099	2567	819.6	945.9	249.31	12.83	285.88
MEAN	138	45.8	141	111	61.8	164	85.6	26.4	31.5	8.04	.41	9.53
MAX	1740	145	653	281	241	1530	638	53	405	155	.62	173
MIN	.00	20	43	61	37	50	32	9.6	4.5	.24	.24	.21
AC-FT	8470	2730	8690	6830	3430	10110	5090	1630	1880	495	25	567
CAL YR 1984	TOTAL	10369.57	MEAN 28.3	MAX 1740	MIN .00	AC-FT 20570						
WTR YR 1985	TOTAL	25179.22	MEAN 69.0	MAX 1740	MIN .00	AC-FT 49940						

## BRAZOS RIVER BASIN

305

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 east of Crawford, and 9.8 mi upstream from South Bosque River.

DRAINAGE AREA.--78.2 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1959 to September 1985 (converted to crest-stage partial-record station Oct. 1, 1985).

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 560.54 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow is affected at times by discharge from the flood-detention pools of two floodwater-retarding structures with a detention capacity of 9,600 acre-ft. These structures control runoff from 42.0 mi<sup>2</sup> in the Hog Creek drainage basin. Several observations of water temperature were made during the year. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--26 years, 32.3 ft<sup>3</sup>/s (23,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft<sup>3</sup>/s Oct. 4, 1959 (gage height, 14.31 ft); no flow at times in 1959, 1963-64, 1971, 1978-79, and 1983-85.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 17.5 ft Sept. 26, 1936. Flood in April or May 1957 reached a stage of 15.7 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,070 ft<sup>3</sup>/s Apr. 28 at 0900 hours (gage height, 6.70 ft); no flow Oct. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	27	8.1	86	20	30	31	26	4.4	4.4	.47	.12
2	.00	15	7.9	59	20	28	29	22	4.0	4.1	.46	.13
3	.00	12	7.0	53	20	28	28	19	3.5	8.8	.43	.11
4	.00	10	8.7	51	21	26	26	17	2.9	5.1	.32	.10
5	.00	8.8	12	45	22	23	24	15	2.7	4.4	.28	.09
6	6.0	7.9	10	41	22	22	22	14	44	4.2	.27	.09
7	88	7.4	10	37	22	22	21	13	16	3.7	.31	.09
8	1.1	6.9	9.9	34	20	22	20	13	12	3.3	.33	.09
9	3.8	6.6	9.6	33	20	21	19	13	9.8	2.8	.31	.16
10	1.8	5.9	9.1	30	20	21	19	12	7.7	2.8	.29	1.7
11	14	5.4	8.8	28	19	20	19	11	6.7	4.0	.27	.55
12	11	5.2	8.8	26	17	19	19	10	5.6	4.0	.27	.54
13	1.5	5.1	11	27	16	19	21	12	5.0	3.1	.27	.55
14	52	5.1	10	28	15	95	21	13	4.4	2.7	.26	56
15	2.5	5.0	10	27	15	61	19	16	4.1	2.5	.26	2.0
16	1.1	4.5	51	40	15	47	17	14	3.5	2.3	.27	1.0
17	1.1	4.5	38	47	15	40	15	12	3.0	2.2	.28	.89
18	10	8.2	162	37	15	35	14	10	136	2.0	.26	.82
19	27	7.0	82	32	14	33	13	9.7	14	2.0	.26	.77
20	5.1	5.4	56	27	14	426	13	9.2	7.8	2.0	.24	.87
21	5.7	4.9	45	25	14	189	13	11	6.6	2.0	.22	.88
22	5.8	4.6	37	25	15	127	165	11	7.4	1.7	.21	.88
23	6.1	4.7	33	26	48	92	48	11	9.1	1.7	.21	.85
24	217	5.2	30	26	55	69	23	9.9	8.3	1.5	.21	.89
25	48	11	26	25	38	55	19	9.2	6.9	1.4	.19	.95
26	26	17	25	23	31	47	16	8.3	6.3	1.3	.16	.92
27	22	11	26	23	28	51	14	7.6	6.3	1.2	.16	.94
28	19	8.9	27	22	27	45	322	7.3	5.6	1.1	.14	1.3
29	13	9.3	25	22	---	41	46	6.6	5.2	.90	.12	83
30	11	8.4	32	22	---	39	33	5.8	4.8	.65	.12	9.3
31	10	---	114	21	---	35	---	5.1	---	.54	.12	---
TOTAL	609.60	247.9	949.9	1048	618	1828	1109	373.7	363.6	84.39	7.97	166.58
MEAN	19.7	8.26	30.6	33.8	22.1	59.0	37.0	12.1	12.1	2.72	.26	5.55
MAX	217	27	162	86	55	426	322	26	136	8.8	.47	.83
MIN	.00	4.5	7.0	21	14	19	13	5.1	2.7	.54	.12	.09
AC-FT	1210	492	1880	2080	1230	3630	2200	741	721	167	16	330
CAL YR 1984	TOTAL	1903.67	MEAN	5.20	MAX	217	MIN	.00	AC-FT	3780		
WTR YR 1985	TOTAL	7406.64	MEAN	20.3	MAX	426	MIN	.00	AC-FT	14690		



## BRAZOS RIVER BASIN

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 upstream from mouth.

DRAINAGE AREA.--1,652 mi<sup>2</sup>.

PERIOD OF RECORD.--February 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 U.S. Army Corps of Engineers).

REMARKS.--The lake is formed by a rolled earthfill dam 24,618 ft 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 tainter gates. The outlet works consists of three gate-controlled outlets, 6.7 by 20.0 ft, opening into a 20.0-foot-diameter concrete conduit and two 54-inch concrete pipes. Low-flow releases are made through two 54-inch butterfly valves. Flow into two wet wells is controlled by four 5.0- by 6.0-foot 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. These structures control runoff from 248 mi<sup>2</sup> in the Bosque River and Hog Creek drainage basins. An unknown amount of water was diverted for municipal and industrial uses. 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 U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 292,100 acre-ft May 15, 1968 (elevation, 470.86 ft); minimum since initial filling, 86,360 acre-ft Oct. 8, 1984 (elevation, 445.10 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 168,700 acre-ft Mar. 24 (elevation, 457.64 ft); minimum daily, 86,360 acre-ft Oct. 8, 1984 (elevation, 445.10 ft).

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

445.0	85,820	451.0	121,400	457.0	163,900
447.0	96,940	453.0	135,000	459.0	179,200
449.0	108,600	455.0	149,200		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87070	117400	122800	160600	151200	159700	159100	154800	151900	154400	146400	135600
2	86850	118400	122800	162900	151400	159400	157200	154600	151700	154000	145900	135400
3	86740	118800	122900	163600	151400	159100	155800	153600	151400	153800	145700	135000
4	86580	119200	123400	163500	151500	158800	154100	153000	151200	153600	145400	134600
5	86410	119400	124100	163200	151700	158300	152500	153000	150900	153500	144900	134200
6	86360	119400	124300	162800	152000	157700	150600	153200	156200	160600	144600	133800
7	89760	119500	124400	162100	152400	157400	148800	153400	157700	153000	144200	133500
8	89880	119800	124500	161400	152600	157000	148300	153600	158800	152800	143700	133100
9	90040	119900	124700	160700	152800	156500	148400	153600	159100	152500	143200	133100
10	90210	119800	124900	160000	153100	156000	148500	153600	159100	152300	142900	133100
11	91540	119800	125100	159100	153200	155500	148700	153600	158600	152500	142500	132900
12	92490	119800	125300	158000	153300	154900	148900	153600	157900	152300	142200	132600
13	93050	119700	126700	157300	153400	155200	149600	154600	157200	152100	141900	134000
14	95020	119800	127000	156600	153600	156900	150100	155200	156600	151800	141500	135600
15	95810	119800	127700	155800	153600	157700	150200	155400	156000	151500	141100	135500
16	95810	119800	130000	155500	153800	157800	150200	155500	155500	151200	140800	135400
17	95810	120100	137400	155000	153800	157800	150300	155000	155000	151000	140400	135100
18	96430	120300	143500	154300	153900	157700	150300	154400	155400	150800	140000	134800
19	99800	120300	145600	153400	154000	158300	150400	153800	155200	150600	139600	134700
20	100400	120400	147000	152500	154100	164400	150500	153300	155000	150300	139200	134600
21	100800	120300	148100	151700	154300	167600	150600	153300	154600	150000	138800	134500
22	100900	120200	148900	151100	154400	168400	156900	153200	156000	149800	138500	134300
23	101100	120100	149300	150900	157400	168700	156300	152600	156700	149600	138300	134200
24	106800	120100	149900	149500	159300	168700	153000	152500	157300	149300	138100	133900
25	111000	120800	150600	149800	160100	168100	150900	152600	157600	148900	137900	133800
26	112100	122000	151100	150000	160300	166500	150500	152400	157000	148600	137700	133500
27	113700	122500	151600	150300	159900	166200	150100	152400	156200	148200	137400	133300
28	114600	122600	152100	150500	159800	165000	152800	152300	155500	147900	137000	133400
29	115400	122800	152500	150700	---	163800	153300	152300	155200	147500	136600	136800
30	116000	122800	153000	150900	---	162700	154700	152200	154900	147100	136400	136800
31	116300	---	157700	151000	---	161700	---	152000	---	146700	136000	---
MAX	116300	122800	157700	163600	160300	168700	159100	155500	159100	160600	146400	136800
MIN	86360	117400	122800	149500	151200	154900	148300	152000	150900	146700	136000	132600
(†)	450.23	451.21	456.17	455.25	456.45	456.71	455.75	455.39	455.78	454.66	453.14	453.26
(‡)	+29010	+6500	+34900	-6700	-8800	+1900	-7000	-2700	+2900	-8200	-10700	+800

CAL YR 1984 MAX 157700 MIN 86360 (†) +44300  
WTR YR 1985 MAX 168700 MIN 86360 (†) +49510

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



08095600 BOSQUE RIVER NEAR WACO, TX

LOCATION.--Lat 31°36'04", long 97°11'36", McLennan County, Hydrologic Unit 12060203, at downstream side of bridge on Farm Road 1637, 1.8 mi downstream from Waco Lake Dam, 2.8 mi upstream from mouth, and 4.7 mi northwest of courthouse in Waco.

DRAINAGE AREA.--1,656 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1959 to September 1981, October 1981 to September 1985 (discontinued), daily mean discharges above 2,000 ft<sup>3</sup>/s only.

Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 365.44 ft above 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 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 downstream at datum 4.66 ft lower. Since Aug. 30, 1967, auxiliary water-stage recorder 0.7 mi downstream at datum 4.66 ft lower.

REMARKS.--No estimated daily discharges. Records good. Backwater from the Brazos River affects the stage-discharge relationship. Daily mean discharges below 2,000 ft<sup>3</sup>/s not determined. Flow is regulated by Waco Lake (see station 08095550). The city of Waco diverts water from Waco Lake for municipal use upstream from station.

AVERAGE DISCHARGE.--22 years (water years 1960-81), 416 ft<sup>3</sup>/s (301,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,000 ft<sup>3</sup>/s Oct. 4, 1959 (gage height, 39.8 ft, from floodmark), from rating curve extended above 51,000 ft<sup>3</sup>/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 Sept. 27, 1936 (discharge 96,000 ft<sup>3</sup>/s, from information by local resident. Maximum stage may be the result of backwater from the Brazos River since the discharges on Apr. 22, 1945, 140,000 ft<sup>3</sup>/s, and Apr. 20, 1957, 103,000 ft<sup>3</sup>/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.--No daily discharge above 2,000 ft<sup>3</sup>/s; maximum gage height, 6.25 ft Apr. 24, backwater from Brazos River; minimum discharge not determined.

## BRAZOS RIVER MAIN STEM

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 downstream from bridge on La Salle Avenue and at mile 400.7.

DRAINAGE AREA.--29,573 mi<sup>2</sup>, approximately, of which 9,566 mi<sup>2</sup> 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 above 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 upstream at datum 7.46 ft higher.

REMARKS.--Estimated daily discharges: Feb. 10-11, Apr. 4-23. Records good except those for estimated daily discharges, which are poor. Flow is largely regulated by Lake Whitney and by Waco Lake (stations 08092500 and 08095550). Combined capacity of 18 reservoirs above station, 4,135,000 acre-ft, of which 2,194,000 acre-ft is flood-control storage in Lake Whitney and in Waco Lake. The city of Waco diverts water above station for municipal use, and the Brazos River Authority returns treated sewage effluent to river above station. Many other small diversions above station for municipal supply, irrigation and oilfield operations will not appreciably affect flow. Several observations of water temperature were made during the year. Gage-height telemeter at station. Flow is affected at times by discharge from flood-detention pools of eleven floodwater-retarding structures with a combined detention capacity of 6,420 acre-ft. These structures control runoff from 20.4 mi<sup>2</sup> in the Aquilla and Hackberry Creeks drainage basins.

AVERAGE DISCHARGE.--42 years (water years 1899-1940) unregulated, 2,560 ft<sup>3</sup>/s (1,855,000 acre-ft/yr); 45 years (water years 1940-85) regulated, 2,178 ft<sup>3</sup>/s (1,578,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft<sup>3</sup>/s Sept. 27, 1936 (gage height, 40.90 ft), 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 May 28, 1885, from floodmark at site 3.9 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,300 ft<sup>3</sup>/s Dec. 18 at 1630 hours (gage height, 14.93 ft); minimum daily, 9.6 ft<sup>3</sup>/s Oct. 1, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	297	91	3170	2890	2780	2380	5200	537	1390	629	554
2	10	1270	83	568	2970	1480	3020	5110	532	747	860	570
3	9.6	600	80	515	2940	1060	2200	5110	532	712	895	555
4	159	318	104	946	3200	563	2100	5040	570	713	907	570
5	34	236	129	889	1720	466	2000	4790	520	709	929	568
6	96	205	115	2070	943	441	1950	4490	2040	680	933	575
7	1360	189	117	2140	927	980	1850	4480	798	629	916	572
8	598	173	98	2230	908	499	1750	4670	571	637	962	875
9	253	167	89	1980	659	438	1350	4480	534	632	971	599
10	437	151	89	1960	215	425	1000	4490	605	866	979	959
11	468	144	88	1900	160	423	1450	4480	3410	772	1000	588
12	1400	136	87	3350	1200	410	1950	4480	4670	1050	1280	822
13	531	135	2200	3620	1700	431	2200	4870	4710	1270	948	547
14	722	135	2930	3640	966	2070	2300	4650	4750	1330	1120	1850
15	646	127	593	2350	885	1930	2250	4660	4740	1340	945	1070
16	216	119	2470	1930	1160	630	1350	4860	4780	1350	623	351
17	133	121	2580	2040	1410	475	900	4850	4750	549	1250	301
18	152	281	11600	2050	1320	463	750	4120	4800	461	1570	2470
19	4810	139	4150	1580	1140	630	640	3830	2890	465	1710	1210
20	1060	142	1690	768	640	2740	560	3820	3500	492	2200	468
21	397	128	1070	3110	875	2160	1000	3490	1510	442	1530	370
22	249	116	564	3260	665	810	1700	2880	2950	474	1750	297
23	274	112	405	2200	1970	1330	3000	3090	1610	643	1490	305
24	1550	115	319	1150	1920	3570	2930	2610	1380	464	1970	348
25	5700	263	268	650	466	3900	2130	2370	1310	453	700	345
26	1050	292	243	596	726	4280	953	2350	1480	450	589	369
27	1250	629	226	1170	1150	4470	885	2350	1810	455	916	318
28	1680	188	229	1130	1380	4410	1830	2330	1720	450	1080	402
29	534	116	226	738	---	4330	1680	954	1440	450	625	3110
30	322	97	221	576	---	4230	4620	589	1390	449	541	2680
31	266	---	1740	760	---	3070	---	519	---	586	554	---
TOTAL	26376.2	7141	34894	55036	37105	55894	54678	116012	66839	22110	33372	24618
MEAN	851	238	1126	1775	1325	1803	1823	3742	2228	713	1077	821
MAX	5700	1270	11600	3640	3200	4470	4620	5200	4800	1390	2200	3110
MIN	9.6	97	80	515	160	410	560	519	520	442	541	297
AC-FT	52320	14160	69210	109200	73600	110900	108500	230100	132600	43860	66190	48830
CAL YR 1984	TOTAL	180108.3	MEAN	492	MAX	11600	MIN	8.5	AC-FT	357200		
WTR YR 1985	TOTAL	534075.2	MEAN	1463	MAX	11600	MIN	9.6	AC-FT	1059000		

## BRAZOS RIVER MAIN STEM

309

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 downstream from bridge on Farm Road 413, 1.4 mi downstream from Highbank Slough and Spring Branch, 2.6 mi south of Highbank, and at mile 346.6.

DRAINAGE AREA.--30,436 mi<sup>2</sup>, of which 9,566 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated discharges, Oct. 30 to Nov. 14, and May 10 to June 3, which are poor. 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. Water is diverted from the river upstream from this station by Texas Power and Light Co. to Tradinghouse Reservoir. Flow is affected at times by discharge from the flood-detention pools of 76 floodwater-retarding structures with a combined detention capacity of 83,290 acre-ft. These structures control runoff from 238 mi<sup>2</sup> in the Aquilla, Tehuacana, Castleman Creeks, and Cow Bayou drainage basins. Gage-height telemeter at station.

AVERAGE DISCHARGE.--20 years, 2,427 ft<sup>3</sup>/s (1,758,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,900 ft<sup>3</sup>/s May 11, 1968 (gage height, 21.88 ft); minimum daily, 32 ft<sup>3</sup>/s Oct. 4-5, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1909, 42 ft in December 1913 and 40 ft in September 1936, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,200 ft<sup>3</sup>/s Feb. 23 at 1800 hours (gage height, 14.03 ft); minimum daily, 32 ft<sup>3</sup>/s Oct. 4-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	1800	391	5600	1020	2280	2540	6570	920	1370	673	554
2	38	2000	294	5740	2480	2690	2130	5610	820	1370	754	557
3	34	1700	232	2470	2590	1670	2450	5310	730	1010	864	561
4	32	1250	210	1340	2620	1310	2050	5060	673	939	901	552
5	32	950	243	1540	2490	1090	2030	4910	580	917	894	549
6	54	620	673	1480	1470	922	1940	4370	2760	912	913	561
7	232	550	1160	2180	1260	813	1950	3870	5300	890	921	558
8	2250	420	638	2300	1210	868	1890	4160	2030	845	915	562
9	2670	360	359	2390	1130	906	1630	4320	1150	827	913	712
10	1370	290	301	2080	1050	779	1140	4900	797	818	922	674
11	397	250	243	1940	1190	711	1100	5500	747	999	912	863
12	1470	230	221	2140	876	666	1220	6000	3100	974	919	682
13	2430	210	2490	3470	1020	629	2210	6500	4240	1100	1110	725
14	2350	190	8600	3570	1340	1210	2220	5600	4320	1200	852	700
15	1200	185	6650	3270	1060	2790	2280	5800	4390	1250	1010	1480
16	1230	185	6920	2430	891	2060	2280	5400	4400	1250	866	1090
17	516	195	8000	2560	920	1170	2160	5100	4470	1260	750	645
18	289	204	13200	2770	1180	885	863	4900	4380	826	938	337
19	3390	321	17200	2210	1180	768	678	4500	4740	658	1200	1610
20	8690	305	8470	1700	955	3050	634	4300	2480	668	1320	1070
21	5100	232	5030	1320	762	5970	619	3800	3050	675	1630	706
22	2840	202	3620	2990	923	4090	607	3600	1630	624	1240	461
23	1620	180	2430	2800	10800	1690	976	3200	2870	636	1330	411
24	788	163	1850	2010	12400	1740	1530	2800	1880	751	1170	278
25	3380	185	1440	1370	8440	3250	2030	2700	1580	682	1450	427
26	7950	318	1200	1000	4620	3670	1740	2600	1450	608	833	378
27	2570	566	1030	917	2540	4950	1020	2600	1470	599	644	399
28	2830	1790	898	1210	1930	4740	948	2300	1680	595	743	407
29	2830	1050	816	1260	---	4420	1640	1500	1620	597	881	752
30	1350	589	747	1060	---	4240	1660	1300	1430	592	694	3330
31	1600	---	907	842	---	3750	---	1050	---	597	580	---
TOTAL	61575	17490	96463	69959	70347	69777	48165	130130	71687	27039	29742	22591
MEAN	1986	583	3112	2257	2512	2251	1606	4198	2390	872	959	753
MAX	8690	2000	17200	5740	12400	5970	2540	6570	5300	1370	1630	3330
MIN	32	163	210	842	762	629	607	1050	580	592	580	278
AC-FT	122100	34690	191300	138800	139500	138400	95540	258100	142200	53630	58990	44810
CAL YR 1984	TOTAL	285662	MEAN	780	MAX	17200	MIN 23	AC-FT	566600			
WTR YR 1985	TOTAL	714965	MEAN	1959	MAX	17200	MIN 32	AC-FT	1418000			

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1967 to current year.

WATER TEMPERATURES: November 1967 to February 1984.

INSTRUMENTATION.--Beginning October 1980, specific conductance is recorded continuously at this station.

From October 1980 to February 1984 water temperature was recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. 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, 3.000 microsiemens Aug. 24, 1978; minimum daily, 140 microsiemens Mar. 8, 1984.

WATER TEMPERATURES (1967-84): Maximum daily, 35.5°C July 15, 16, 1978; minimum daily, 0.0°C Dec. 29-31, 1983.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2.340 microsiemens Sept. 21; minimum daily, 160 microsiemens Oct. 19.

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO-CHEM- ICAL, 5 DAY (MG/L)	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)
NOV 28...	1240	1960	592	6.7	12.5	99	9.0	85	6.0	2400	1800	170
FEB 13...	1230	1110	1280	8.2	9.5	75	12.2	108	1.8	1000	1500	310
MAY 08...	1355	4570	1860	8.2	25.5	84	8.6	106	.8	900	2300	340
JUL 31...	1330	509	1940	8.1	31.5	16	10.4	143	1.1	K18	180	360
SEP 11...	0900	910	--	--	27.0	--	--	--	--	--	--	--
		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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 28...	39	56	6.8	46	2	4.3	130	57	54	.30	7.5	
FEB 13...	150	97	17	140	4	5.1	162	160	230	.30	5.4	
MAY 08...	220	98	23	240	6	6.1	117	210	390	.30	4.1	
JUL 31...	230	100	26	260	6	6.6	125	230	420	.40	4.6	
SEP 11...	--	--	--	--	--	--	--	--	--	--	--	--
		SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
NOV 28...	319	310	1.5	.590	2.3	.420	.320	.200	--	--	--	
FEB 13...	769	750	.95	.130	1.1	.200	.100	.080	310	929	67	
MAY 08...	1080	1000	.25	.070	.50	.250	.040	.040	972	12000	29	
JUL 31...	1190	1100	<.10	.050	.60	.130	.120	.070	15	21	95	
SEP 11...	--	--	--	--	--	--	--	--	37	91	99	

## BRAZOS RIVER MAIN STEM

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08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 28...	1240	3	79	<.5	<1	22	<3	2	10	9
FEB 13...	1230	1	120	<.5	<1	<1	<3	<1	6	1
MAY 08...	1355	<1	140	<.5	<1	<1	<3	2	<3	<1
JUL 31...	1330	3	140	<.5	<1	<1	<3	<1	<3	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 28...	9	<1	<.1	<10	13	<1	1	500	<6	9
FEB 13...	16	11	<.1	<10	3	<1	<1	1100	<6	13
MAY 08...	27	3	<.1	<10	1	<1	<1	1300	<6	26
JUL 31...	28	12	<.1	<10	<1	<1	<1	1400	<6	14

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	61575	375	210	34900	52	8620	39	6540	100
NOV.	1984	17490	531	298	14100	76	3590	56	2640	140
DEC.	1984	96463	342	191	49800	45	11800	36	9330	93
JAN.	1985	69959	1050	593	112000	180	34900	110	21000	240
FEB.	1985	70347	1010	570	108000	180	34100	110	20300	230
MAR.	1985	69777	1060	599	113000	180	34700	110	21100	240
APR.	1985	48165	1620	923	120000	320	41200	170	22500	330
MAY	1985	130130	1740	994	349000	350	123700	190	65500	350
JUNE	1985	71687	1670	952	184000	340	65300	180	34500	330
JULY	1985	27039	1740	994	72600	350	25600	190	13600	350
AUG.	1985	29742	1970	1120	90300	420	33500	210	16900	370
SEPT	1985	22591	1810	1040	63200	380	22900	190	11800	350
TOTAL		714965	**	**	1311000	**	440000	**	246000	**
WTD.AVG.		1959	1190	679	**	230	**	130	**	250



## BRAZOS RIVER MAIN STEM

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1680	1660	1670	440	410	425	510	490	500	590	300	436
2	1680	1650	1660	480	310	387	510	490	500	420	290	332
3	1670	1650	1660	530	390	489	530	500	515	370	300	328
4	1670	1640	1660	390	370	383	560	530	544	430	370	401
5	1660	1600	1630	390	370	375	580	560	568	500	440	468
6	1650	1610	1620	450	390	420	620	490	573	510	460	478
7	1620	1390	1490	530	450	486	480	470	478	510	460	470
8	1480	600	1000	590	530	563	560	480	521	1160	530	907
9	670	380	476	630	590	610	640	550	595	1210	1090	1150
10	780	420	578	650	630	640	710	650	687	1230	1130	1180
11	1010	800	911	680	650	662	700	660	680	1180	1090	1140
12	1010	390	698	700	670	685	670	650	665	1220	1110	1160
13	510	290	370	730	700	717	720	210	583	1580	1130	1400
14	400	300	345	770	730	750	380	210	282	1580	1320	1490
15	390	310	367	800	770	785	330	240	284	1590	1330	1500
16	360	290	323	820	800	808	330	250	288	1600	1150	1350
17	430	360	395	820	810	818	340	250	295	1230	1070	1170
18	430	410	418	820	790	803	520	190	319	1120	990	1050
19	510	160	341	950	800	848	280	210	244	1120	990	1030
20	680	270	371	940	790	897	310	280	297	1210	1090	1170
21	250	230	238	800	790	797	450	310	410	1220	1080	1180
22	250	230	237	810	760	782	500	450	474	1610	820	1180
23	370	280	322	770	760	769	500	380	428	1670	1410	1580
24	450	380	421	790	770	780	410	380	395	1640	1500	1570
25	520	270	439	800	790	795	450	410	429	1650	1530	1610
26	250	200	215	890	790	813	480	450	465	1520	1460	1500
27	290	230	260	930	650	860	520	480	502	1450	1250	1350
28	320	280	301	710	370	488	550	520	535	1540	1420	1480
29	340	290	312	490	370	438	590	550	569	1690	1530	1620
30	350	300	320	510	490	500	610	580	597	1690	1640	1670
31	410	350	384	---	---	---	620	590	606	1680	1650	1660
MONTH	1680	160	691	950	310	652	720	190	478	1690	290	1130

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1660	1530	1620	970	810	901			1480	---	---	1110
2	1880	1580	1750	1340	880	1090			1510	---	---	1570
3	1880	1740	1800	1350	1170	1270			1470	---	---	1640
4	1790	1690	1750	1170	1110	1150			1550	---	---	1690
5	1770	1690	1740	1100	950	1000			1580	---	---	1780
6	1730	1540	1650	1030	970	1010			1640	---	---	1850
7	1570	1520	1540	960	860	895			1620	---	---	1910
8	1550	1500	1530	860	800	830			1690	---	---	1860
9	1520	1480	1500	800	750	769			1720	1860	1620	1810
10	1530	1370	1460	800	770	786			1840	1920	1830	1890
11	1500	750	1150	840	800	822			1890	1950	1910	1930
12	1120	750	966	870	830	851			1870	1970	1940	1950
13	1320	1130	1240	870	810	845			1710	1990	1870	1940
14	1620	1130	1340	820	720	791			1680	1880	1260	1540
15	1680	1620	1660	680	550	628			1650	1900	1450	1790
16	1680	1630	1660	750	650	714			1670	2000	1890	1940
17	1640	1550	1600	750	720	735			1700	2000	1930	1950
18	1720	1580	1640	760	740	752			1740	1960	1930	1950
19	1720	1690	1700	750	730	740			1790	1960	1770	1830
20	1690	1640	1670	730	540	653			1830	1760	1630	1710
21	1680	1550	1590	690	510	572			1850	1710	1560	1670
22	1610	1520	1580	630	560	599			1880	1680	1390	1540
23	1520	290	792	640	610	633			1800	1560	1360	1470
24	570	350	450	690	640	650			1520	1600	1320	1510
25	560	400	489	1540	620	1090			1410	1610	1400	1530
26	530	480	500	---	---	1470			1500	1670	1570	1610
27	670	540	629	---	---	1560			1610	1810	1620	1750
28	800	640	730	---	---	1530			1690	1830	1730	1790
29	---	---	---	---	---	1510			1400	1850	1760	1810
30	---	---	---	---	---	1500			1390	1850	1820	1840
31	---	---	---	---	---	1460				1830	1710	1780
MONTH	1880	290	1350	1540	510	961			1660	2000	1260	1740

BRAZOS RIVER MAIN STEM

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08098290 BRAZOS RIVER NEAR Highbank, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1820	1710	1770	1910	1600	1770	1970	1820	1900	2180	1960	2100
2	1810	1720	1750	1850	1660	1750	1940	1820	1890	2120	1950	2030
3	1770	1720	1750	1760	1650	1700	1960	1830	1900	2110	1980	2030
4	1790	1700	1750	1780	1560	1740	1940	1790	1870	2140	1970	2030
5	1800	1690	1750	1690	1490	1620	1960	1840	1900	2120	1970	2040
6	1780	770	1410	1790	1490	1650	1980	1860	1920	2150	2000	2050
7	880	360	612	1780	1480	1630	1910	1840	1870	2180	1990	2060
8	1000	380	657	1730	1450	1620	1900	1830	1860	2160	2010	2070
9	1180	1020	1110	1750	1460	1620	2000	1850	1930	2170	2000	2070
10	1420	1190	1320	1820	1520	1680	2040	1920	1980	2110	2000	2040
11	1560	1350	1410	1750	1560	1690	2050	1940	1990	2050	1890	1980
12	2010	1580	1790	1740	1510	1660	2080	1890	2010	2030	1610	1870
13	2000	1960	1980	1760	1440	1670	2040	1960	2000	1760	1240	1520
14	2030	1980	2010	1730	1500	1640	2080	1990	2030	1820	1650	1710
15	2020	1680	1880	1780	1710	1750	2080	1930	2020	1890	1610	1760
16	2010	1970	2000	1790	1720	1750	2060	1950	2000	1740	880	1140
17	2020	1730	1920	1820	1710	1760	2050	1970	2010	1460	1200	1350
18	1970	1750	1830	1810	1740	1770	2040	1930	1990	1310	1230	1270
19	1990	1950	1970	1890	1800	1850	2010	1850	1930	1840	1170	1440
20	2000	1610	1830	1820	1670	1760	2030	1940	1990	2280	1870	2130
21	2000	1370	1630	1800	1730	1770	2020	1910	1950	2340	2140	2250
22	2010	1950	1980	1830	1740	1790	2060	1900	1960	2270	2150	2210
23	1940	1440	1730	1860	1750	1820	2010	1860	1940	2260	2170	2220
24	1620	890	1180	1880	1810	1840	2060	1950	2000	2290	2190	2230
25	1740	1410	1580	1870	1830	1850	2060	1970	2010	2240	2150	2190
26	1790	1540	1670	1900	1860	1880	2100	1930	2020	2160	2020	2090
27	1920	1650	1790	1920	1800	1890	2140	1820	2030	2070	1970	2010
28	2030	1590	1830	1920	1790	1860	1990	1780	1900	2100	2000	2040
29	1870	1450	1690	1950	1790	1880	2050	1970	2000	2000	1680	1850
30	1780	1410	1640	1990	1840	1920	2180	2000	2090	1750	1110	1520
31	---	---	---	1940	1850	1880	2180	2060	2120	---	---	---
MONTH	2030	360	1640	1990	1440	1760	2180	1780	1970	2340	880	1910

## BRAZOS RIVER BASIN

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 upstream from Flat Creek, 4.4 mi northeast of De Leon, 6 mi downstream from Hog Creek, and 250.1 mi upstream from mouth.

DRAINAGE AREA.--479 mi<sup>2</sup>.

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

Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,209.93 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1960, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: July 24-31. Records good. Flow is partly regulated by Leon Reservoir (station 08099000) about 17.5 mi upstream. There are numerous diversions above station for municipal, steam powerplant operation and other uses. Recording rain gage was discontinued May 31, 1978.

AVERAGE DISCHARGE.--25 years, 40.2 ft<sup>3</sup>/s (29,120 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,540 ft<sup>3</sup>/s Jan. 21, 1968 (gage height, 15.50 ft); no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 19.3 ft occurred in May 1908 at a point 2,000 ft downstream from present gage site and is the highest since that time, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 3,160 ft<sup>3</sup>/s Jan. 1 at 0600 hours (gage height, 13.30 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	180	1.2	2120	12	16	62	107	7.0	4.2	.00	.00
2	.00	327	1.1	402	13	18	45	72	6.2	2.8	.00	.00
3	.00	54	.88	268	13	17	34	50	5.4	2.2	.00	.00
4	.00	22	1.0	201	11	17	24	31	5.0	2.5	.00	.00
5	.00	14	2.2	156	11	19	18	19	6.0	1.8	.00	.00
6	.00	10	3.2	126	11	15	12	9.7	294	1.4	.00	.00
7	.00	7.7	2.6	105	11	12	5.9	4.7	85	1.1	.00	.00
8	.00	5.8	2.2	89	13	10	3.0	2.7	44	.83	.00	.00
9	.00	4.7	2.1	81	13	9.1	1.8	2.1	32	.67	.00	.00
10	.00	3.3	1.7	68	14	9.0	1.3	1.6	24	.53	.00	.00
11	.00	2.6	1.4	57	14	8.8	1.1	1.2	45	.47	.00	.00
12	.00	2.3	1.2	50	13	10	1.2	.87	26	.46	.00	.00
13	.00	2.0	152	46	11	9.5	.75	1100	16	.36	.00	.00
14	.00	1.8	87	43	7.6	335	.60	896	11	.19	.00	.00
15	.00	1.8	77	39	7.3	340	.48	231	8.3	.15	.00	.00
16	.00	1.4	327	40	7.6	250	.37	108	6.6	.15	.00	.00
17	.00	1.5	76	39	6.7	174	.27	152	5.2	.13	.00	.00
18	.00	1.8	32	37	6.6	123	.20	115	4.1	.11	.00	.00
19	.00	1.8	20	33	6.7	94	.17	67	3.6	.11	.00	.00
20	519	1.3	15	29	6.9	789	.16	48	3.1	.48	.00	.00
21	583	1.2	11	25	7.8	611	.43	121	2.9	.38	.00	.00
22	24	1.2	9.2	22	8.4	416	.45	78	2.6	.15	.00	.00
23	45	1.2	10	21	42	284	.33	95	2.4	.15	.00	.00
24	351	1.5	8.3	21	57	194	.32	58	2.2	.15	.00	.00
25	555	19	5.9	19	32	140	.41	38	2.0	.10	.00	.00
26	961	21	5.5	18	23	105	.21	28	1.8	.10	.00	.00
27	1060	6.9	5.5	17	20	85	33	22	34	.05	.00	.00
28	303	3.5	5.7	18	16	73	1230	17	43	.05	.00	.00
29	575	2.5	6.2	17	---	61	381	13	13	.03	.00	.00
30	631	1.5	16	14	---	88	174	10	7.3	.02	.00	.00
31	126	---	1080	12	---	94	---	8.2	---	.01	.00	---
TOTAL	5733.00	706.3	1970.08	4233	415.6	4426.4	2032.45	3507.07	748.7	21.83	.00	.00
MEAN	185	23.5	63.6	137	14.8	143	67.7	113	25.0	.70	.000	.000
MAX	1060	327	1080	2120	57	789	1230	1100	294	4.2	.00	.00
MIN	.00	1.2	.88	12	6.6	8.8	.16	.87	1.8	.01	.00	.00
AC-FT	11370	1400	3910	8400	824	8780	4030	6960	1490	43	.00	.00
CAL YR 1984	TOTAL	9238.45	MEAN 25.2	MAX 1080	MIN .00	AC-FT 18320						
WTR YR 1985	TOTAL	23794.43	MEAN 65.2	MAX 2120	MIN .00	AC-FT 47200						

## BRAZOS RIVER BASIN

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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 downstream from Spring Branch, 4.0 mi west of De Leon, 4.2 mi upstream from Turkey Creek, and 12.2 mi upstream from mouth.

DRAINAGE AREA.--264 mi<sup>2</sup>.

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 above 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.--Estimated daily discharges: Oct. 30 to Nov. 6, June 21-26, July 7-20, and July 22 to Aug. 2. Records good except those for periods of estimated daily discharges, which are poor. Flow is affected by Nabors Lake (capacity unknown) on Spring Branch. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 27.1 ft<sup>3</sup>/s (1.39 in/yr), 19,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft<sup>3</sup>/s June 12, 1967 (gage height, 22.05 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 24 ft in May 1908, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Oct. 24	2200	1,900	16.42	Dec. 31	2200	*6,960	*21.32
Oct. 27	1730	1,640	15.36	Mar. 20	1130	1,880	16.34

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	120	1.9	2290	10	8.5	12	13	1.9	4.3	.02	.00
2	.00	245	1.7	182	9.6	8.5	11	9.0	1.8	3.6	.01	.00
3	.00	65	1.6	89	8.7	8.5	12	6.4	1.5	3.0	.00	.00
4	.00	15	1.5	66	8.5	8.5	10	4.7	1.6	2.3	.00	.00
5	.00	7.0	2.0	53	8.5	8.1	9.6	4.3	2.5	1.8	.00	.00
6	.00	5.8	6.3	43	9.5	8.3	8.9	4.3	36	1.3	.00	.00
7	.00	5.3	5.0	36	11	7.7	8.2	4.2	28	1.0	.00	.00
8	.00	3.5	3.5	31	9.3	7.1	7.0	4.0	12	1.0	.00	.00
9	.00	2.9	2.9	28	9.2	6.1	6.7	4.0	5.9	.90	.00	.00
10	.00	2.9	2.7	25	8.5	6.0	6.1	4.0	4.0	.80	.00	.00
11	.00	2.6	2.6	22	7.0	6.0	6.1	4.0	40	.80	.00	.00
12	.00	2.4	2.4	20	6.5	6.0	6.1	4.0	12	.60	.00	.00
13	.00	2.0	120	19	6.5	6.0	6.4	182	4.6	.50	.00	.00
14	.00	1.7	59	18	6.5	76	5.6	36	3.4	.50	.00	.00
15	.00	1.7	28	18	6.5	78	5.6	14	3.2	.50	.00	.00
16	.00	1.7	150	19	6.5	30	5.5	7.6	2.9	.40	.00	.00
17	.00	1.7	49	19	6.5	17	4.3	4.7	2.0	.30	.00	.00
18	.00	2.1	24	18	6.5	15	4.3	13	1.7	.30	.00	.00
19	.00	2.1	17	17	6.5	13	4.3	9.6	1.6	.20	.00	.00
20	.00	2.1	13	15	6.1	885	4.3	5.7	1.4	2.0	.00	.00
21	177	2.0	12	14	6.1	172	6.0	10	1.2	2.5	.00	.00
22	28	1.5	10	12	6.1	67	5.8	13	1.0	.70	.00	.00
23	68	1.3	8.1	12	15	44	5.3	12	1.0	.40	.00	.00
24	474	1.4	7.1	12	27	32	3.7	8.1	.90	.40	.00	.00
25	319	35	5.3	12	15	26	3.7	4.6	.80	.30	.00	.00
26	916	15	5.3	12	11	22	3.7	3.7	.80	.30	.00	.00
27	1050	6.9	5.3	12	9.3	20	3.7	2.8	59	.20	.00	.00
28	272	4.0	5.3	11	8.5	18	183	2.6	52	.10	.00	.00
29	390	2.6	5.8	11	---	17	35	2.6	14	.10	.00	.00
30	128	2.1	16	10	---	15	19	2.4	6.8	.05	.00	.00
31	25	---	2470	10	---	14	---	1.9	---	.05	.00	---
TOTAL	3847.00	564.3	3044.3	3156	255.9	1656.3	412.9	402.2	305.50	31.20	.03	.00
MEAN	124	18.8	98.2	102	9.14	53.4	13.8	13.0	10.2	1.01	.001	.000
MAX	1050	245	2470	2290	27	885	183	182	59	4.3	.02	.00
MIN	.00	1.3	1.5	10	6.1	6.0	3.7	1.9	.80	.05	.00	.00
CFSM	.47	.07	.37	.39	.04	.20	.05	.05	.04	.004	.000	.000
IN.	.54	.08	.43	.44	.04	.23	.06	.06	.04	.00	.00	.00
AC-FT	7630	1120	6040	6260	508	3290	819	798	606	62	.06	.00
CAL YR 1984	TOTAL	11318.74	MEAN	30.9	MAX	2830	MIN	.00	CFSM	.12	IN	1.59
WTR YR 1985	TOTAL	13675.63	MEAN	37.5	MAX	2470	MIN	.00	CFSM	.14	IN	1.93
									AC-FT	22450		
									AC-FT	27130		

## BRAZOS RIVER BASIN

## 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 upstream from U.S. Highways 67 and 377, 3.5 mi west of Proctor, and 228.1 mi upstream from mouth.

DRAINAGE AREA.--1,259 mi<sup>2</sup>.

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, non-recording gage at same site and datum.

REMARKS.--The lake is formed by a reinforced concrete gated structure and rolled earthfill dam with a total length of 13,460 ft. The lake was operated as a detention basin from Jan. 30 to July 5, 1963. The gates were closed July 6, 1963, but the lake was operated to elevation 1,156.0 ft 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 tainter gates. The spillway was designed to discharge 431,800 ft<sup>3</sup>/s at an elevation of 1,201.0 ft. The lake is operated for flood control and for water conservation. Inflow is partly regulated by one major reservoir (see station 08099000). Inflow is also affected at times by discharge from the flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 43,690 acre-ft. These structures control runoff from 172 mi<sup>2</sup> 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. A gage-height telemeter is located 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.....	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 U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,500 acre-ft Jan. 26, 1968 (elevation, 1,174.84 ft); minimum since first filling of lake, 18,900 acre-ft Oct. 4, 1984 (elevation, 1,149.37 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 82,220 acre-ft Jan. 4 at 1600 hours (elevation, 1,166.46 ft); minimum daily, 18,900 acre-ft Oct. 4 at 0800 hours (elevation, 1,149.37 ft).

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

1,149.0	18,210	1,158.0	42,790	1,164.0	69,060
1,152.0	24,570	1,161.0	54,890	1,167.0	85,300
1,155.0	32,710				

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19010	46790	47460	75850	67800	61630	69570	66960	60790	61820	56530	48700
2	18950	47380	47380	80660	67200	61540	69220	67050	60690	61730	56440	48500
3	18930	47780	47300	81880	66760	61770	68710	67000	60460	61580	56180	48260
4	19090	47900	47500	82170	66360	61680	68410	66900	60410	61400	55910	47900
5	19160	47900	47540	81940	65870	61540	67950	66860	62580	61210	55640	47620
6	19180	47820	47500	81720	65480	61490	67550	66860	65570	61110	55380	47380
7	19200	47780	47420	81320	65080	61490	67050	66860	66510	60970	55200	47220
8	19200	47780	47500	80710	64600	61440	66610	66760	66710	60830	54980	46980
9	19160	47740	47460	80320	64400	61400	66110	66110	66710	60650	54720	46790
10	19160	47740	47380	79820	64210	61490	65720	65040	66660	60460	54500	46520
11	19160	47700	47380	79220	63680	61490	65380	64450	66660	60230	54190	46280
12	19140	47620	47380	78560	63340	61400	64940	63540	66900	59990	53760	46090
13	19120	47540	47980	77790	63150	61870	64600	64020	67050	59760	53280	45970
14	19160	47540	48740	77250	62960	62290	64260	64940	66160	59530	53160	45850
15	19110	47500	49680	76760	62670	63100	63730	65330	65770	59300	52940	45740
16	19070	47460	51670	76330	62480	63780	63490	65040	65330	59070	52640	45350
17	19010	47420	52730	75690	62200	64160	63250	64790	64740	58840	52430	45120
18	18970	47540	53160	75150	65100	64400	63010	64360	63970	58610	52260	44930
19	18970	47500	53200	74780	61920	64990	62860	63870	63250	58380	52010	44780
20	19220	47420	53280	73980	61680	66760	62910	63390	62670	58200	51710	44670
21	19830	47420	53460	73460	61490	69720	62910	63440	62100	58060	51420	44480
22	21180	47420	53410	72930	61350	70700	62860	63780	61870	58290	51210	44290
23	21910	47380	53410	72460	61870	71260	62770	63490	61580	58290	50870	44140
24	22570	47420	53630	71830	61770	71470	62440	63150	61300	58160	50620	43980
25	25060	47500	53500	71370	61770	71420	62200	62770	61160	58060	50380	43870
26	28850	47540	53410	70850	61770	71320	62100	62290	60970	57880	50040	43680
27	34250	47500	53460	70340	61680	71110	62010	62060	61540	57750	49800	43500
28	39840	47460	53540	69780	61770	70800	61960	61630	61870	57520	49630	43240
29	42240	47500	53670	69370	---	70590	65620	61300	61960	57300	49390	43870
30	44590	47500	54320	69060	---	70340	66560	61110	61920	57030	49100	43650
31	46010	---	59390	68460	---	69980	---	60970	---	56850	48940	---
MAX	46010	47900	59390	82170	67800	71470	69570	67050	67050	61820	56530	48700
MAX	18930	46790	47300	68460	61350	61400	61960	60970	60410	56850	48940	43240
(†)	1158.85	1159.23	1162.00	1163.88	1162.51	1164.18	1163.50	1162.34	1162.54	1161.44	1159.59	4458.23
(‡)	+26890	+1490	+11890	+9070	-6690	-8210	-3420	-5590	+950	-5070	-7910	-5290
CAL YR 1984	MAX	59390	MIN	18930	(†)	+28920						
WTR YR 1985	MAX	82170	MIN	18930	(‡)	+24530						

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.



## BRAZOS RIVER BASIN

317

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 upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 0.3 mi upstream from Walnut Creek, 2.0 mi downstream from Proctor Lake, 2.1 mi northeast of Hasse, and 225.2 mi upstream from mouth.

DRAINAGE AREA.--1,261 mi<sup>2</sup>.

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

Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Since October 1963, flow has been regulated by Proctor Lake (station 08099400). There are numerous diversions above station for municipal, steam powerplant operation, and other uses. Gage-height telemeter is located at station.

AVERAGE DISCHARGE.--24 years (water years 1940-63), prior to completion of Proctor Lake, 151 ft<sup>3</sup>/s (109,400 acre-ft/yr); 22 years (water years 1964-85); regulated, 82.7 ft<sup>3</sup>/s (59,920 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,500 ft<sup>3</sup>/s May 24, 1952 (gage height, 21.49 ft); maximum gage height, 21.72 ft 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 a site about 2.5 mi upstream, flood of May 1908 was 9.1 ft higher than that of May 24, 1952, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,140 ft<sup>3</sup>/s June 6 at 0400 hours (gage height, 9.59 ft); minimum daily, 0.71 ft<sup>3</sup>/s Dec. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	1.8	.96	9.9	303	51	253	77	4.8	9.1	35	46
2	5.3	1.7	.77	70	291	50	250	78	4.7	8.2	42	46
3	5.1	2.4	.71	58	281	48	247	81	4.1	15	51	46
4	5.4	2.7	1.4	271	273	51	247	86	5.4	29	51	47
5	5.8	1.6	3.8	528	267	47	247	72	21	23	51	47
6	5.6	1.1	2.3	521	261	42	241	2.2	315	11	50	48
7	5.6	1.4	1.5	515	255	41	235	11	23	10	50	48
8	5.2	1.5	1.4	509	245	19	232	82	23	10	53	47
9	5.0	1.1	1.7	499	226	2.6	235	220	23	13	52	47
10	3.7	2.4	3.9	500	215	2.6	229	639	44	26	51	46
11	3.6	5.0	4.5	493	202	2.3	229	556	74	40	51	46
12	3.8	5.4	5.3	485	182	2.5	217	466	72	41	123	44
13	3.5	4.3	8.4	471	170	3.3	217	358	123	40	147	38
14	3.5	4.4	7.0	456	158	5.4	220	492	216	41	26	39
15	2.7	4.5	11	448	149	3.1	223	558	210	35	51	39
16	3.2	4.5	10	440	138	2.6	155	465	207	23	50	101
17	3.1	4.9	2.9	432	132	2.7	73	437	249	24	49	122
18	3.3	6.1	1.6	422	123	3.1	71	414	343	33	47	20
19	3.3	4.9	1.7	416	118	2.6	69	370	282	44	46	28
20	3.3	5.3	1.4	422	111	66	69	307	229	41	46	28
21	3.0	5.3	1.1	392	101	194	73	304	188	43	47	29
22	3.2	5.3	1.2	377	85	191	69	304	157	55	50	28
23	4.2	2.7	1.2	366	53	191	66	310	134	39	57	29
24	4.2	2.5	1.2	358	55	179	64	279	69	3.5	57	27
25	4.9	4.8	1.1	352	54	211	64	247	10	1.6	58	28
26	4.5	3.0	1.1	348	55	276	61	215	9.1	9.1	57	28
27	4.0	2.4	1.3	338	52	260	59	188	12	32	54	28
28	2.0	2.3	1.4	332	51	253	61	159	10	32	47	27
29	4.3	1.4	2.2	320	---	253	74	134	10	32	46	19
30	2.3	1.6	3.3	310	---	257	78	82	9.7	29	46	2.4
31	2.0	---	14	314	---	257	---	6.0	---	30	45	---
TOTAL	123.9	98.3	101.34	11772.9	4606	2969.8	4628	7999.2	3081.8	822.5	1686	1218.4
MEAN	4.00	3.28	3.27	380	165	95.8	154	258	103	26.5	54.4	40.6
MAX	5.8	6.1	14	528	303	276	253	639	343	55	147	122
MIN	2.0	1.1	.71	9.9	51	2.3	59	2.2	4.1	1.6	26	2.4
AC-FT	246	195	201	23350	9140	5890	9180	15870	6110	1630	3340	2420
CAL YR 1984	TOTAL	5269.59	MEAN	14.4	MAX 212	MIN .20	AC-FT	10450				
WTR YR 1985	TOTAL	39108.14	MEAN	107	MAX 639	MIN .71	AC-FT	77570				

## BRAZOS RIVER BASIN

08100000 LEON RIVER NEAR HAMILTON, TX

LOCATION.--Lat 31°47'19". Long 98°07'16", Hamilton County, Hydrologic Unit 12070201, at downstream side of bridge on U.S. Highway 281, 2.2 mi upstream from Mesquite Creek, 3.6 mi downstream from Bear Creek, 5.9 mi north of Hamilton, and 172.9 mi upstream from mouth.

DRAINAGE AREA.--1,891 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929. Jan. 7, 1925, to Sept. 30, 1931, nonrecording gage 1.4 mi downstream at datum 1.87 ft higher. Sept. 1, to Nov. 22, 1960, nonrecording gage at same site and at 5.00-foot higher datum. Nov. 22, 1960, to Sept. 30, 1972, recording gage at same site and at 5.00-foot higher datum.

REMARKS.--Estimated daily discharges: May 11-15. Records good. Since 1960, at least 10 percent of the 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. These structures control runoff from 43.9 mi<sup>2</sup> in the (northeast tributaries) drainage basin. Gage-height telemeter was removed on Mar. 7. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years (water years 1926-31) unregulated, 130 ft<sup>3</sup>/s (94,180 acre-ft/yr); 25 years (water years 1961-85) regulated, 127 ft<sup>3</sup>/s (92,010 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,600 ft<sup>3</sup>/s Sept. 9, 1962 (gage height, 31.93 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1858, 38.4 ft in May 1908 and December 1913; flood in September 1911 reached a stage of 37.0 ft, all at present site and datum, from information by local residents. The flood in October 1959 reached a stage of 34.1 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,750 ft<sup>3</sup>/s Oct. 18 at 2200 hours (gage height, 15.58 ft); no flow Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	14	2.0	599	271	68	236	100	56	10	7.5	2.4
2	.89	78	1.9	221	270	65	236	82	23	8.6	4.1	2.6
3	.68	30	1.7	104	267	64	232	76	12	7.2	1.8	9.7
4	.56	4.0	1.7	99	259	61	229	76	7.0	6.9	.56	8.4
5	.50	1.7	2.0	133	252	56	226	78	4.4	6.0	.12	9.2
6	.46	1.0	2.0	352	250	56	225	76	241	21	.23	7.0
7	38	.83	2.0	376	245	55	221	61	608	16	8.8	2.9
8	5.4	.74	2.0	373	240	53	222	29	164	8.2	15	.93
9	1.1	.59	2.0	370	235	50	214	18	66	3.9	7.5	.23
10	1.0	.45	1.9	364	221	44	216	61	41	2.4	10	.00
11	5.1	.32	1.9	362	207	31	214	348	33	2.2	9.1	.71
12	1.9	.32	1.9	359	201	24	210	419	49	1.5	10	4.3
13	.74	.21	2.5	359	186	24	208	380	66	.79	12	12
14	.83	.21	240	358	170	58	201	345	66	12	97	22
15	.66	.18	49	352	160	49	201	345	175	13	55	19
16	.45	.15	247	347	151	44	201	404	185	13	13	25
17	.36	.18	223	343	140	38	195	422	184	11	6.6	26
18	269	.83	63	340	129	32	105	396	187	7.1	16	94
19	220	.92	16	334	121	29	72	343	277	2.5	14	51
20	20	1.5	7.1	325	114	488	68	322	259	.94	11	11
21	10	1.1	4.2	326	110	409	69	356	221	.40	7.4	5.4
22	2.9	1.0	2.7	322	96	218	74	337	187	.94	4.3	7.6
23	1.7	.83	2.3	313	538	216	76	343	156	20	2.3	5.8
24	1.7	.83	2.1	307	216	207	66	318	126	201	1.7	4.8
25	1.6	1.2	2.1	301	98	199	61	280	107	92	2.7	5.3
26	4.3	2.4	2.1	296	77	190	59	252	47	21	14	3.8
27	12	5.4	2.2	295	68	252	58	223	26	7.3	19	2.4
28	7.6	2.6	2.3	289	65	266	66	198	15	3.2	15	1.8
29	2.3	2.5	2.5	286	---	248	61	170	19	1.3	12	1.4
30	2.1	2.2	6.6	282	---	239	71	137	17	11	7.4	6.8
31	9.3	---	236	272	---	232	---	106	---	9.4	4.1	---
TOTAL	624.23	156.19	1135.7	9759	5357	4065	4593	7101	3624.4	521.77	389.21	353.47
MEAN	20.1	5.21	36.6	315	191	131	153	229	121	16.8	12.6	11.8
MAX	269	78	247	599	538	488	236	422	608	201	97	94
MIN	.36	.15	1.7	99	65	24	58	18	4.4	.40	.12	.00
AC-FT	1240	310	2250	19360	10630	8060	9110	14080	7190	1030	772	701
CAL YR 1984	TOTAL	4040.41	MEAN	11.0	MAX 295	MIN .00	AC-FT	8010				
WTR YR 1985	TOTAL	37679.97	MEAN	103	MAX 608	MIN .00	AC-FT	74740				

## BRAZOS RIVER BASIN

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## 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 downstream from U.S. Highway 84 bridge in Gatesville, 0.3 mi downstream from Dodds Creek, 5.2 mi upstream from Cottonwood Creek, and 99.0 mi upstream from mouth.

DRAINAGE AREA.--2,342 mi<sup>2</sup>.

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 above 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 upstream at same datum.

REMARKS.--No estimated daily discharges. Records good except those for period Apr. 4 to Sept. 23, which are poor. Some upstream regulation by Proctor Lake (08099400) and other smaller reservoirs. Flow at times is slightly affected by discharge from 18 floodwater-retarding structures, having a combined detention capacity of 12,600 acre-ft. These structures control runoff from 47.0 mi<sup>2</sup> in the northeast tributaries and Pecan Creek drainage basins. Numerous diversions above station for irrigation, municipal supply and oilfield operation. The city of Hamilton, located about 70 mi upstream from this station, diverts flow from the river for municipal use and returned sewage effluent to the stream. The city of Gatesville discharged sewage effluent to the Leon River downstream from this station. The city of Gatesville obtains all of their municipal water supply from groundwater wells. Several observations of water temperature made during the year. U.S. Army Corps of Engineers satellite telemeter located at station.

AVERAGE DISCHARGE.--35 years, 222 ft<sup>3</sup>/s (160,8000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,200 ft<sup>3</sup>/s Oct. 4, 1959 (gage height, 34.14 ft), from rating curve extended above 41,000 ft<sup>3</sup>/s; no flow at times in 1951-52, 1954-55, 1971, 1978-79, and 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, about 35 ft in May 1908, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,460 ft<sup>3</sup>/s June 6 at 1300 hours (gage height, 19.68 ft); no flow Oct. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.1	.54	30	251	45	260	113	133	23	2.8	.08
2	.00	1.1	.60	486	247	42	249	91	108	19	1.6	.07
3	.00	.60	.62	429	245	44	251	102	71	141	.96	.07
4	.00	.71	.84	153	251	38	249	90	42	39	.87	.04
5	.00	45	1.2	61	249	34	247	78	25	8.6	.62	.03
6	.03	11	1.2	58	239	32	244	77	2510	6.7	.33	.20
7	17	3.1	1.2	148	231	29	232	78	531	5.8	.27	.22
8	1.2	1.3	1.2	340	226	26	230	84	590	4.4	.18	.16
9	10	.72	1.2	347	221	26	228	77	386	3.9	.16	.14
10	6.5	.45	1.2	344	215	26	217	51	168	3.1	.12	.12
11	23	.36	1.2	337	203	24	217	28	96	4.6	.12	.11
12	46	.29	1.2	332	200	21	221	38	70	8.3	.14	.11
13	15	.25	1.4	332	166	16	268	377	56	6.8	.22	.11
14	15	.25	1.3	333	159	69	230	473	52	5.2	.16	8.5
15	7.5	.23	1.5	335	135	146	224	363	81	3.5	.14	.90
16	4.9	.27	64	340	117	85	214	293	89	3.0	.16	.44
17	5.1	.35	93	335	101	42	210	327	193	2.0	.20	.27
18	4.5	.64	406	328	93	28	208	370	198	1.7	.18	.22
19	3.5	.53	173	320	81	24	184	388	197	1.5	.20	.18
20	426	.50	48	303	70	1030	120	338	234	1.2	.20	.14
21	118	.55	18	295	62	792	108	318	297	1.3	.20	.14
22	19	.65	8.8	293	56	586	89	310	278	1.4	.18	.12
23	7.9	.86	5.9	301	227	321	88	358	245	1.6	.14	.12
24	13	1.4	4.5	297	514	275	81	316	209	1.4	.12	.37
25	5.5	1.3	3.4	290	470	253	81	314	176	1.4	.12	2.4
26	1.6	.32	2.9	284	160	238	76	290	143	47	.11	1.4
27	1.5	.67	2.5	288	67	232	68	257	124	100	.09	.85
28	.84	.68	2.3	275	48	232	100	233	78	38	.11	.67
29	.92	.53	2.0	272	---	280	152	208	42	16	.09	22
30	.72	.53	5.2	269	---	271	210	185	31	7.5	.08	1.7
31	1.9	---	29	259	---	259	---	159	---	4.7	.09	---
TOTAL	756.11	77.24	884.90	8814	5304	5566	5556	6784	7453	512.6	10.96	41.88
MEAN	24.4	2.57	28.5	284	189	180	185	219	248	16.5	.35	1.40
MAX	426	45	406	486	514	1030	268	473	2510	141	2.8	22
MIN	.00	.23	.54	30	48	16	68	28	25	1.2	.08	.03
AC-FT	1500	153	1760	17480	10520	11040	11020	13460	14780	1020	22	83

CAL YR 1984	TOTAL	3579.63	MEAN	9.78	MAX	426	MIN	.00	AC-FT	7100
WTR YR 1985	TOTAL	41760.69	MEAN	114	MAX	2510	MIN	.00	AC-FT	82830

## BRAZOS RIVER BASIN

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 downstream from bridge on Farm Road 116, 0.1 mi downstream from Beehouse Creek, 0.6 mi northeast of Pidcoke, 4.9 mi upstream from Table Rock Creek, and 34.6 mi upstream from mouth.

DRAINAGE AREA.--455 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No known diversion above station. Several observations of water temperatures were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--35 years, 80.3 ft<sup>3</sup>/s (2.40 in/yr), 58,180 acre-ft/yr. The figure published in the 1984 report was in error: The correct figure is 34 years, 81.2 ft<sup>3</sup>/s (2.42 in/yr), 58,830 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,200 ft<sup>3</sup>/s Oct. 4, 1959 (gage height, 40.1 ft, from floodmark); from rating curve extended above 30,000 ft<sup>3</sup>/s on basis of slope-area measurement of 55,800 ft<sup>3</sup>/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 greater than base discharge of 3,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 20	0500	4,520	12.31	June 6	0800	*25,800	*31.18

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.67	.05	360	2.0	20	33	75	3.3	3.5	.00	.00		
2	.00	.74	.05	114	1.8	21	27	33	2.6	2.9	.00	.00		
3	.00	.32	.04	60	1.8	25	24	19	2.2	1.78	.00	.00		
4	.00	.18	.04	36	1.8	17	21	14	1.8	.94	.00	.00		
5	.00	.11	.06	28	1.8	14	20	11	.52	4.5	.00	.00		
6	.00	.11	.06	20	1.8	12	18	9.4	7110	2.3	.00	.00		
7	230	.06	.05	15	1.5	12	17	8.2	545	1.6	.00	.00		
8	120	.08	.05	12	2.3	11	16	7.3	202	1.3	.00	.00		
9	331	.02	.05	11	1.3	9.5	17	7.3	114	1.1	.00	.00		
10	106	.02	.05	5.8	1.3	8.8	16	6.5	75	.90	.00	.00		
11	10	.02	.05	7.7	1.4	8.5	15	5.8	53	.95	.00	.00		
12	4.4	.02	.05	6.3	1.4	7.8	15	5.3	37	1.1	.00	.00		
13	2.8	.02	.07	6.0	2.5	8.3	20	31	27	.98	.00	.00		
14	7.2	.04	5.3	5.4	2.5	132	16	158	22	.85	.00	.00		
15	1.8	.03	3.0	4.9	2.1	147	16	66	18	.63	.00	.00		
16	1.6	.02	1.5	5.6	1.9	72	13	23	15	.48	.00	.00		
17	.49	.02	.25	6.7	1.7	45	11	15	12	.36	.00	.00		
18	.24	.08	188	9.1	1.5	31	9.9	152	13	.27	.00	.00		
19	.19	.06	23	10	1.4	24	8.9	50	9.8	.19	.00	.00		
20	.13	.08	10	8.5	1.3	1380	8.5	22	8.4	.98	.00	.00		
21	.13	.06	6.6	5.8	1.2	389	8.3	18	6.9	1.3	.00	.00		
22	.13	.05	4.3	4.8	1.3	171	8.1	19	6.4	.41	.00	.00		
23	.13	.03	3.1	4.3	482	115	7.5	61	41	.24	.00	.00		
24	22	.05	2.5	3.8	328	87	6.7	79	28	.15	.00	.00		
25	115	.63	1.8	3.3	100	70	6.9	40	13	.06	.00	.00		
26	74	.20	1.6	3.0	49	58	5.9	20	9.5	.01	.00	.00		
27	8.0	.13	1.4	2.5	28	136	5.6	13	9.5	.00	.00	.00		
28	3.8	.09	1.2	2.3	21	80	387	9.5	6.8	.00	.00	.00		
29	2.2	.07	1.1	2.0	---	58	534	7.2	5.0	.00	.00	.00		
30	1.3	.06	7.9	1.8	---	50	240	5.4	4.1	.00	.00	.00		
31	.86	---	304	1.9	---	39	---	4.2	---	.00	.00	---		
TOTAL	1043.40	4.07	591.97	767.5	1045.6	3258.9	1552.3	995.1	8401.82	299.06	.00	.00		
MEAN	33.7	.14	19.1	24.8	37.3	105	51.7	32.1	280	9.65	.000	.000		
MAX	331	.74	304	360	482	1380	534	158	7110	178	.00	.00		
MIN	.00	.02	.04	1.8	1.2	7.8	5.6	4.2	.52	.00	.00	.00		
CFSM	.07	.000	.04	.06	.08	.23	.11	.07	.62	.02	.000	.000		
IN.	.09	.00	.05	.06	.09	.27	.13	.08	.69	.02	.00	.00		
AC-FT	2070	8.1	1170	1520	2070	6460	3080	1970	16660	593	.00	.00		
CAL YR 1984	TOTAL	4066.24	MEAN	11.1	MAX	1200	MIN	.00	CFSM	.02	IN	.33	AC-FT	8070
WTR YR 1985	TOTAL	17959.72	MEAN	49.2	MAX	7110	MIN	.00	CFSM	.11	IN	1.47	AC-FT	35620



## 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 upstream from bridge on State Highway 317, 3.5 mi north of Belton, 8.9 mi upstream from Nolan Creek, and 16.7 mi upstream from mouth.

DRAINAGE AREA.--3,531 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1954 to current year. Prior to October 1970, published as Belton Reservoir.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army 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 long, including a 1,300-foot uncontrolled broad-crested spillway in a saddle near left end of dam and a 418-foot-long 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 conduit that is controlled by three 7.0- by 22.0-foot broome-type gates. The service outlet consists of a 36- by 36-inch 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 U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 870,300 acre-ft June 6, 1957 (elevation, 620.45 ft); minimum since initial filling, 113,400 acre-ft Dec. 16, 1956 (elevation, 553.06 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 422,500 acre-ft Oct. 1 at 1600 hours (elevation, 595.95 ft); minimum daily, 325,300 acre-ft Oct. 6 at 1600 hours (elevation, 583.65 ft).

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

583.0	318,700	589.0	371,600	595.0	442,000
586.0	349,900	592.0	417,600	596.0	467,300

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	327100	344100	346600	364900	386500	413400	457500	464500	443000	449700	434200	420700
2	326400	344500	346500	365400	386900	413700	457700	464100	442700	448500	433800	420300
3	326100	344400	346500	366100	387200	414700	457600	463700	442600	447700	433300	419500
4	325600	344400	346700	367300	388200	415300	458000	463300	442500	447000	432700	419100
5	325400	344100	347000	367700	388800	415500	458500	463000	442700	446500	432200	418700
6	325700	343800	346800	368200	389500	415700	458600	462300	445800	445800	431600	418100
7	327000	343700	346500	368700	389900	416000	458900	461900	445500	445500	431300	417500
8	326800	343700	346600	369000	390300	416600	458600	461700	445300	444800	430800	417200
9	329000	344100	346600	369900	390900	416800	458600	461300	446000	444100	430300	417500
10	330400	343800	346500	370700	393000	417300	458700	460000	446400	443400	429700	417900
11	330400	343500	346600	371400	393200	417800	459000	457000	446700	443200	429100	417600
12	332600	343100	346800	372000	393700	418000	459100	453800	446400	443000	428300	417300
13	333200	342900	347100	373000	394200	419400	461200	459000	446000	442700	428000	417200
14	334400	342800	347100	373600	394900	423000	461700	460100	446500	442400	427600	417300
15	334300	342800	347700	374300	395100	424100	461800	459900	446900	442000	427100	416900
16	334000	342500	348800	376100	395500	425100	461900	459000	446400	441600	426900	416600
17	333500	342900	353500	377100	395800	425600	461700	458200	446200	441200	426400	416100
18	333300	343100	356600	378100	396300	425900	461600	456700	446200	440700	425800	415800
19	332800	343100	358000	379900	396600	426600	461700	454900	446100	440500	425400	415400
20	333100	342900	358800	379100	396800	437000	461700	454400	4460300	440200	425000	415100
21	333700	342600	359300	379700	397200	441000	461400	453800	459100	439900	424500	415000
22	333900	342400	359800	380300	397800	443500	461700	452600	459000	439600	423900	414700
23	333800	342000	359800	381000	405200	445600	461900	451400	458100	439100	423400	414200
24	339900	343300	355900	381500	407500	447000	461700	450100	457600	438600	423500	413700
25	341800	343800	360200	382300	408700	447900	461000	448900	456800	437500	423500	413200
26	342100	345700	360300	382800	410400	450100	460800	447400	456300	436800	423100	412800
27	342500	346600	360400	383700	411100	452600	460800	446000	455300	436400	422800	412400
28	342700	346600	360800	384300	412300	454000	461400	445000	453900	436200	422400	412300
29	342700	346600	361100	384800	---	455400	462800	444200	452600	435700	421900	413700
30	342600	346600	361200	386200	---	456300	464400	443400	451400	435200	421500	413900
31	342500	---	363000	386200	---	457000	---	443000	---	434600	421100	---
MAX	342700	346600	363000	386200	412300	457000	464400	464500	466700	449700	434200	420700
MIN	325400	342000	346500	364900	386500	413400	457500	443000	442500	434600	421100	412300
(†)	585.30	585.69	587.21	589.30	591.55	595.19	595.77	594.08	594.75	593.40	592.29	591.69
(‡)	+14900	+4100	+16400	+23200	+26100	+44700	+7400	-21400	+8400	-16800	-13500	-7200

CAL YR 1984 MAX 410300 MIN 325400 ‡ -44300  
WTR YR 1985 MAX 466700 MIN 325400 ‡ +86300

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



## BRAZOS RIVER BASIN

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 upstream from bridge on Farm Road 817, 2,000 ft upstream from concrete dam, 1.0 mi upstream from bridge on Interstate Highway 35 and U.S. Highway 81, 1.6 mi northeast of Belton, 3.2 mi downstream from Belton Dam, 5.2 mi upstream from Nolan Creek, and 13.1 mi upstream from mouth.

DRAINAGE AREA.--3,542 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929. Prior to May 21, 1931, nonrecording gage.

REMARKS.--No estimated daily discharges. Records good. The city of Temple diverts water from the pool at gage and returns sewage effluent to Little Elm Creek downstream from station. The Brazos River Authority returns sewage effluent to the Leon River downstream from station from their Temple-Belton plant. Flow regulated by Belton Lake (station 08102000) since Mar. 8, 1954. 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 ft<sup>3</sup>/s (477,400 acre-ft/yr); 32 years (water years 1954-85) regulated, 475 ft<sup>3</sup>/s (344,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,500 ft<sup>3</sup>/s Apr. 22, 1945 (gage height, 24.41 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1913 reached a stage of 25 ft, and flood in September 1921 reached a stage of 21 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,580 ft<sup>3</sup>/s May 13 at 1300 hours (gage height, 5.50 ft); no flow Nov. 16 and Dec. 10-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	12	9.7	20	4.7	14	89	253	66	579	43	45
2	102	13	9.2	20	3.6	13	245	254	66	577	46	42
3	98	9.1	16	17	2.1	14	245	252	50	583	47	42
4	99	9.2	17	15	1.7	14	243	256	32	592	47	41
5	96	8.7	23	17	1.5	10	242	254	36	426	46	42
6	122	11	14	16	1.6	11	243	252	77	212	44	46
7	161	8.0	3.8	16	2.0	13	246	255	40	212	42	48
8	164	8.3	.92	16	2.0	11	246	255	39	215	41	43
9	172	5.1	.31	16	2.7	7.6	245	255	37	213	42	42
10	176	3.7	.00	15	5.6	7.3	247	945	34	170	41	50
11	179	3.0	.00	16	7.1	7.7	244	1530	35	55	55	59
12	181	2.9	.00	16	4.9	6.6	244	1520	33	24	43	57
13	185	3.0	2.3	15	4.2	7.2	254	1040	119	22	42	59
14	188	2.0	9.6	16	4.9	24	247	270	238	15	41	67
15	180	.60	11	15	4.1	13	244	682	276	12	41	63
16	181	.00	16	19	4.1	9.0	247	1070	277	10	48	66
17	169	1.0	32	16	4.8	9.7	249	1070	373	7.7	44	62
18	156	4.6	57	16	5.1	8.6	246	1070	569	5.2	44	46
19	163	7.5	17	19	5.2	8.6	253	1070	569	5.3	30	9.3
20	143	7.9	15	13	5.7	71	252	1060	567	8.2	35	6.7
21	118	7.9	16	13	6.4	19	250	1070	569	11	38	5.6
22	94	10	20	12	6.8	15	253	1070	579	9.8	40	6.1
23	28	6.2	23	15	99	15	258	1060	579	9.5	38	4.2
24	14	6.2	26	15	15	14	250	1070	573	37	42	5.2
25	12	12	27	14	11	12	251	1060	575	66	52	29
26	9.7	8.8	25	17	9.5	12	252	1060	580	60	49	48
27	9.8	8.0	15	19	10	22	251	1060	583	54	32	54
28	9.0	5.3	17	14	16	15	255	766	582	53	45	51
29	8.7	5.6	15	15	---	13	254	532	582	53	46	63
30	9.5	5.7	17	12	---	12	260	531	580	41	45	34
31	11	---	23	5.6	---	11	---	349	---	31	47	---
TOTAL	3342.7	196.30	477.83	480.6	251.3	440.3	7305	23241	9315	4368.7	1336	1236.1
MEAN	108	6.54	15.4	15.5	8.98	14.2	244	750	311	141	43.1	41.2
MAX	188	13	57	20	99	71	260	1530	583	592	55	67
MIN	8.7	.00	.00	5.6	1.5	6.6	89	252	32	5.2	30	4.2
AC-FT	6630	389	948	953	498	873	14490	46100	18480	8670	2650	2450
CAL YR 1984	TOTAL	28819.19	MEAN	78.7	MAX	742	MIN	.00	AC-FT	57160		
WTR YR 1985	TOTAL	51990.83	MEAN	142	MAX	1530	MIN	.00	AC-FT	103100		

## 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 upstream from centerline of U.S. Highway 190, 0.6 mi upstream from Mesquite Creek, 0.8 mi west of Kempner, 0.9 mi downstream from Sulphur Creek, and 72.3 mi upstream from mouth.

DRAINAGE AREA.--818 mi<sup>2</sup>.

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

Water-quality records: Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 828.38 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 4, 1967, at site 800 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 25 to Nov. 29, Dec. 18-21, and Dec. 31 to Jan. 7. Records good except those for estimated daily discharges, which are poor. 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. These structures control runoff from 131 mi<sup>2</sup> in the Sulphur and Bennett Creeks drainage basins. There are many small diversions above the station for irrigation and municipal supply. The city of Lampasas diverts water upstream from this station and returns sewage effluent to Sulfur Creek, also upstream from this station. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--23 years, 116 ft<sup>3</sup>/s (84,040 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,000 ft<sup>3</sup>/s May 16, 1965 (gage height, 32.98 ft); minimum daily, 1.4 ft<sup>3</sup>/s July 17, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1871, occurred in September 1873 (stage about 45 ft). Flood of May 13, 1957, reached a stage of 37 ft, and flood of Oct. 4, 1959, reached a stage of 34 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 4,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 25	Unknown	4,370	8.50	Apr. 29	1400	6,430	9.91
Mar. 20	0600	5,690	9.44	June 6	1100	*29,300	*21.59
May 13	1530	4,990	8.96				

Minimum daily discharge, 6.5 ft<sup>3</sup>/s Sept. 1-2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	21	13	72	18	59	80	155	35	22	8.6	6.5
2	7.6	19	12	60	16	60	74	103	30	19	8.9	6.5
3	7.5	17	11	55	16	51	72	82	27	16	8.6	8.8
4	7.7	15	11	55	16	48	69	69	24	19	8.5	8.6
5	8.2	14	12	52	16	43	67	59	21	23	8.9	8.0
6	9.3	14	13	46	16	37	61	48	9420	19	8.8	9.9
7	502	13	12	42	18	34	56	45	940	17	8.3	13
8	89	13	12	37	19	34	52	43	373	17	8.3	10
9	42	13	12	34	20	33	51	38	195	16	8.1	10
10	44	12	11	30	20	34	49	35	132	15	8.7	11
11	477	12	12	24	26	32	50	33	90	14	8.6	10
12	131	12	12	22	18	32	51	32	70	11	8.3	11
13	34	12	40	22	18	30	58	1320	60	12	8.3	11
14	20	12	20	22	18	221	60	592	55	13	7.7	16
15	14	12	14	22	16	151	48	250	49	13	7.3	23
16	12	12	23	26	16	80	44	141	46	12	8.2	14
17	11	25	25	51	16	67	42	109	42	11	12	13
18	13	18	66	45	16	58	37	81	36	11	9.4	13
19	7.3	14	26	34	17	53	32	73	32	10	9.2	12
20	8.9	13	22	25	18	2250	32	69	30	11	9.1	11
21	15	13	20	20	18	469	35	73	27	13	7.8	12
22	13	13	17	20	17	261	41	76	25	15	10	12
23	12	13	15	19	51	189	104	131	128	14	7.7	12
24	27	13	14	19	189	151	57	101	54	11	8.5	11
25	995	35	14	20	84	131	46	74	40	9.8	8.7	11
26	538	25	14	20	62	114	43	62	38	9.7	9.8	11
27	131	20	14	21	52	305	40	56	26	10	9.3	10
28	72	17	14	19	48	169	801	51	25	10	8.6	11
29	42	16	13	19	---	131	1550	49	23	10	9.1	35
30	32	15	15	19	---	110	440	44	23	9.6	8.3	23
31	25	---	280	18	---	96	---	41	---	8.7	9.0	---
TOTAL	3355.2	473	809	990	875	5533	4242	4135	12116	421.8	270.6	374.3
MEAN	108	15.8	26.1	31.9	31.3	178	141	133	404	13.6	8.73	12.5
MAX	995	35	280	72	189	2250	1550	1320	9420	23	12	35
MIN	7.3	12	11	18	16	30	32	32	21	8.7	7.3	6.5
AC-FT	6660	938	1600	1960	1740	10970	8410	8200	24030	837	537	742
CAL YR 1984	TOTAL	7119.5	MEAN	19.5	MAX	995	MIN	2.0	AC-FT	14120		
WTR YR 1985	TOTAL	33594.9	MEAN	92.0	MAX	9420	MIN	6.5	AC-FT	66640		

## BRAZOS RIVER BASIN

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 above confluence with North Fork Rocky Creek, 7 mi west of Briggs, and 12.9 mi above mouth.

DRAINAGE AREA.--33.3 mi<sup>2</sup>.

## 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 gages. Datum of gage is 955.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records good. Recording rain gage located at station.

AVERAGE DISCHARGE.--22 years, 10.7 ft<sup>3</sup>/s (4.36 in/yr), 7,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft<sup>3</sup>/s June 19, 1976 (gage height, 22.70 ft), from rating curve extended above 1,000 ft<sup>3</sup>/s on basis of slope-area measurements of 3,580 and 8,510 ft<sup>3</sup>/s and conveyance-slope study; no flow for many days each year for 1963-74 and 1976-85. Maximum stage since at least 1904, 22.70 ft June 19, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 20	0415	*922	*5.03				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.11	1.3	19	10	41	25	7.7	2.8	1.3	.00	.00
2	.00	.00	1.3	16	10	29	23	5.8	2.8	1.3	.00	.00
3	.00	.00	1.2	16	11	27	21	4.8	2.6	1.5	.00	.00
4	.00	.00	1.2	16	11	24	19	4.6	2.5	1.5	.00	.00
5	.00	.00	1.7	16	13	21	19	4.3	2.5	1.5	.00	.00
6	.00	.00	2.0	15	13	21	16	3.7	1.3	1.3	.00	.00
7	.00	.00	1.8	14	11	21	16	3.5	5.4	1.4	.00	.00
8	.00	.00	1.8	13	10	21	15	3.3	3.7	1.6	.00	.00
9	.00	.00	1.8	13	10	20	14	2.9	2.8	1.5	.00	.00
10	.00	.00	1.7	13	20	19	15	2.8	2.6	1.3	.00	.00
11	.00	.00	1.7	11	20	18	15	2.8	2.4	1.1	.00	.00
12	.00	.00	1.7	10	12	16	15	2.6	2.2	.80	.00	.00
13	.00	.00	4.6	11	12	17	14	3.4	2.1	.58	.00	.00
14	.00	.00	9.0	12	11	76	13	37	2.1	.26	.00	.00
15	.00	.00	6.0	14	10	31	12	7.2	2.1	.11	.00	.00
16	.00	.00	3.4	59	10	29	9.9	5.5	2.1	.00	.00	.00
17	.00	.00	15	30	9.4	27	9.1	5.4	2.1	.00	.00	.00
18	.00	.00	16	24	9.3	25	8.6	4.5	2.1	.00	.00	.00
19	.00	.00	14	20	9.3	24	8.0	4.6	2.0	.00	.00	.00
20	.00	.24	13	16	9.3	141	8.0	4.2	1.9	.00	.00	.00
21	.00	.25	12	15	9.3	39	9.2	7.0	2.1	.00	.00	.00
22	1.2	.13	10	15	9.4	34	9.0	7.9	2.1	.00	.00	.00
23	.22	.00	9.6	15	9.2	31	17	8.6	2.1	.00	.00	.00
24	35	.05	9.5	15	29	29	8.7	5.3	2.0	.00	.00	.00
25	4.5	.72	8.0	15	25	28	7.0	4.8	1.9	.00	.00	.00
26	1.2	19	7.7	14	23	26	6.5	4.1	1.8	.00	.00	.00
27	.72	4.4	7.7	14	21	65	6.3	4.1	1.9	.00	.00	.00
28	.67	1.8	8.1	13	38	32	7.2	3.7	1.8	.00	.00	.00
29	.35	1.5	8.3	12	---	29	15	3.5	1.6	.00	.00	.00
30	.21	1.3	8.8	12	---	40	9.6	3.4	1.5	.00	.00	.00
31	.18	---	30	11	---	27	---	3.1	---	.00	.00	---
TOTAL	44.25	29.50	291.9	509	478.0	1028	391.1	206.7	80.6	17.05	.00	.00
MEAN	1.43	.98	9.42	16.4	17.1	33.2	13.0	6.67	2.69	.55	.000	.000
MAX	35	19	46	59	92	141	25	37	13	1.6	.00	.00
MIN	.00	.00	1.2	10	9.3	16	6.3	2.6	1.5	.00	.00	.00
CFSM	.04	.03	.28	.49	.51	1.00	.39	.20	.08	.02	.000	.000
IN.	.05	.03	.33	.57	.53	1.15	.44	.23	.09	.02	.00	.00
AC-FT	88	59	579	1010	948	2040	776	410	160	34	.00	.00

CAL YR 1984	TOTAL	823.30	MEAN	2.25	MAX	374	MIN	.00	CFSM	.07	IN	.92	AC-FT	1630
WTR YR 1985	TOTAL	3076.10	MEAN	8.43	MAX	141	MIN	.00	CFSM	.25	IN	3.44	AC-FT	6100

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1961 to January 1964. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: July 1971 to September 1982. Sediment records: February 1968 to current year. Radiochemical analyses: January 1968 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
DATE	TIME										
OCT 22...	1210	1.1	332	7.9	16.5	6.5	8.3	87	2500	1300	170
MAR 20...	1345	77	358	7.8	18.0	26	7.8	86	2900	5400	190
JUN 24...	1330	2.3	1110	8.1	29.0	1.2	7.5	101	84	264	220
	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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
DATE											
OCT 22...	39	43	15	4.3	.1	3.1	132	25	6.4	.30	9.1
MAR 20...	16	50	17	5.0	.2	1.6	179	15	7.9	.30	7.6
JUN 24...	11	49	24	150	5	8.1	212	38	210	1.7	9.7
	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
DATE											
OCT 22...	182	190	1.3	.070	1.1	.020	.030	<.010	14	.04	86
MAR 20...	192	210	.20	.070	.70	.030	.090	.020	42	8.7	98
JUN 24...	605	620	<.10	.060	.30	<.010	.040	.010	--	--	--
			ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
DATE	TIME										
OCT 22...	1210		5	36	<.0	<1	<1	<3	1	54	2
JUN 24...	1330		<1	65	<.5	<1	<1	<3	1	<3	3
	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	
DATE											
OCT 22...	7		3	<.1	<10	<1	<1	<1	1200	<6	7
JUN 24...	92		4	<.1	<10	3	<1	<1	1700	<6	7
			GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)	
DATE	TIME										
OCT 22...	1210		<3.6	<.4	4.2	.5	3.6	.5	.06	2.2	

## BRAZOS RIVER BASIN

## 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 southwest of Belton, and 16.0 mi upstream from mouth.

DRAINAGE AREA.--1,313 mi<sup>2</sup>.

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 long, including a 1,650-foot spillway and 5,894-foot 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 long located near right end of dam. The flood-control outlet consists of a 12.0-foot-diameter conduit controlled by two 5.67- by 12.0-foot slide gates at an invert elevation of 515.0 ft. The capacity curve is based on maps prepared by Brazos River Authority in 1937 and supplemented by contour maps prepared by the U.S. Army Corps of Engineers in 1958. There are many small diversions upstream for irrigation, municipal supply and oilfield operation. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08103800. 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 U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 347,100 acre-ft May 2, 3, 1977 (elevation, 637.26 ft); minimum since conservation storage was reached on Apr. 12, 1969, 178,300 acre-ft Oct. 5, 1984 (elevation, 612.18 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 255,000 acre-ft June 12 at 0800 hours (elevation, 624.93 ft); minimum daily, 178,300 acre-ft Oct. 5 at 2400 hours (elevation, 612.18 ft).

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

612.0	177,300	618.0	210,900	624.0	248,800
614.0	188,000	620.0	223,100	625.0	255,500
616.0	199,200	622.0	235,700		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178600	187500	188200	193500	200200	212400	245000	250800	236000	235700	232600	227900
2	178500	187400	188200	194000	200300	213100	244700	250900	235800	235700	232500	227700
3	178400	187400	188000	194300	200500	214000	244500	250900	235800	235900	232400	227500
4	178300	187400	188200	194700	200700	214400	244200	250700	235800	236000	232200	227200
5	178300	187400	188200	194900	200900	214800	244000	250400	236000	235800	232000	227200
6	178300	187400	188200	195100	201000	215100	243600	250100	247100	235800	231800	227100
7	178800	187400	188200	195200	201100	215600	243000	249800	253100	235800	231700	227000
8	179200	187400	188200	195500	201200	215800	242600	249500	254100	235700	231500	226800
9	179300	187400	188200	195700	201400	216100	242100	249100	254600	235600	231400	227100
10	179400	187300	188300	195800	202400	216300	241700	248000	254600	235600	231100	227800
11	180000	187200	188300	195800	202500	216400	241300	246200	255000	235600	230800	227800
12	180100	187100	188500	195900	202500	217600	241100	244600	255000	235500	230600	227600
13	180200	187100	188600	196000	202700	218400	241700	245100	255000	235400	230400	227800
14	181500	187000	188700	196200	202900	219700	241400	248400	254900	235300	230200	228000
15	181600	187000	189100	196400	203000	220900	241500	248300	254900	235100	230300	228000
16	181600	186900	189400	197000	203200	221700	241700	246800	254900	235000	230200	227900
17	181500	187200	189900	197300	203300	222200	241900	245300	254100	234900	230000	227800
18	181800	187200	190400	197700	203400	222600	242100	243700	252100	234800	229800	227600
19	181700	187100	190700	198000	203600	223300	242300	241500	249900	234700	229700	227600
20	181900	187000	190900	198200	203800	231400	242600	240200	247800	234500	229500	227500
21	182200	187000	191100	198300	204000	233700	242800	238500	245500	234500	229300	227400
22	182200	187000	191200	198500	204400	235100	243200	237800	243700	234400	229200	227200
23	182100	186900	191300	198600	207800	236300	244600	237800	241700	234200	229000	227100
24	184300	187100	191400	198900	208900	237200	245000	237700	239800	234000	229000	226900
25	185100	187400	191400	199000	209500	238100	245100	237600	238100	233800	228900	226700
26	186000	187700	191400	199300	210100	239300	245300	237300	237000	233700	228800	226500
27	186900	188000	191500	199500	210600	241200	245500	237000	236400	233500	228600	226300
28	187000	188000	191700	199600	211600	242500	245600	236700	236000	233400	228400	226600
29	187000	188100	191900	199800	---	243400	247500	236500	236000	233200	228300	227400
30	187100	188100	192000	200000	---	244300	250300	236100	235800	233000	228100	227200
31	187200	---	192600	200200	---	244900	---	236000	---	232800	228000	---
MAX	187200	188100	192600	200200	211600	244900	250300	250900	255000	236000	232600	228000
MIN	178300	186900	188000	193500	200200	212400	241100	236000	235800	232800	228000	226300
(+)	613.85	614.02	614.84	616.17	618.12	623.41	624.22	622.04	622.02	621.55	620.79	620.66
(#)	+8500	+900	+4500	+7600	+11400	+33300	+5400	-14300	-200	-4800	-4800	-800

CAL YR 1984 MAX 225100 MIN 178300 (+) -30300  
WTR YR 1985 MAX 255000 MIN 178300 (+) +48500

(+) Elevation, in feet, at end of month.  
(#) Change in contents, in acre-feet.



## BRAZOS RIVER BASIN

327

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 upstream from upstream bridge of three bridges on Interstate Highway 35 and U.S. Highway 81, 3.5 mi downstream from Stillhouse Hollow Dam, 4.1 mi southwest of Belton, and 12.7 mi upstream from mouth.

DRAINAGE AREA.--1,321 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1963 to current year.

Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 476.58 ft above National Geodetic Vertical Datum of 1929 (from Texas State Department of Highways and Public Transportation levels, run from a Santa Fe Railroad bench mark.

REMARKS.--No estimated daily discharges. 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). Gage-height telemeter located at station.

AVERAGE DISCHARGE.--3 years (water year 1964-66) unregulated, 368 ft<sup>3</sup>/s (266,600 acre-ft/yr); 19 years (water years 1967-85) regulated, 208 ft<sup>3</sup>/s (150,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,900 ft<sup>3</sup>/s May 17, 1965 (gage height, 43.58 ft); no flow Aug. 9, 10, 12-15, and Sept. 5, 6, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1877, 45 ft September 1921, from information by local residents. Flood of May 1957 reached a stage of 44.4 ft (discharge, 83,500 ft<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,230 ft<sup>3</sup>/s May 17 at 0300 hours (gage height, 9.91 ft); minimum daily, 1.9 ft<sup>3</sup>/s Oct. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.8	5.5	4.8	4.2	13	176	89	17	10	8.2	7.0
2	1.9	2.8	5.9	5.2	4.1	11	432	91	16	11	8.6	7.0
3	1.9	2.8	5.2	4.4	3.5	11	434	189	15	12	8.7	7.0
4	1.9	2.8	5.6	4.7	4.1	11	436	261	14	11	8.2	7.2
5	1.9	3.1	7.3	4.7	4.1	11	437	261	15	11	8.4	7.2
6	2.1	3.4	5.5	4.7	3.9	11	437	261	29	11	8.6	7.7
7	2.2	3.5	5.1	4.4	3.7	11	436	261	16	10	8.4	7.2
8	2.2	3.7	6.0	4.5	4.1	11	436	264	16	9.9	8.2	7.0
9	2.4	3.9	6.4	5.1	5.2	11	436	263	16	9.7	8.2	6.9
10	2.2	3.6	6.3	4.8	21	11	437	658	16	9.6	8.0	10
11	2.7	3.5	6.5	4.1	6.2	12	439	1030	19	9.9	8.0	8.0
12	2.2	3.7	7.0	4.0	3.7	11	439	1020	21	10	8.2	8.1
13	2.2	3.7	7.4	4.5	3.6	11	452	677	22	9.9	8.2	7.5
14	2.2	4.1	5.8	4.7	3.5	16	440	25	23	9.7	8.2	9.8
15	2.2	4.4	6.5	3.7	3.5	10	254	592	23	9.6	8.4	8.2
16	2.2	4.2	8.9	5.5	3.6	10	37	1180	23	9.8	8.7	7.9
17	2.2	4.6	15	4.5	3.4	10	32	1180	433	9.2	8.2	7.9
18	2.4	7.3	17	4.3	3.5	11	32	1180	1200	9.4	8.1	8.6
19	2.5	3.6	6.4	4.1	3.7	11	29	1170	1190	9.5	7.9	8.2
20	3.5	3.3	5.9	2.8	3.2	86	28	1170	1180	9.5	7.7	8.2
21	8.6	3.2	5.8	3.7	3.3	15	28	1170	1190	9.3	7.2	8.2
22	2.5	3.2	4.9	4.1	3.5	15	47	686	1190	9.2	7.0	8.4
23	2.5	3.4	5.5	3.7	145	15	89	245	1180	9.5	7.0	8.0
24	2.5	4.3	5.4	4.2	13	16	87	244	1180	9.1	9.9	7.9
25	2.5	7.4	4.9	4.6	12	17	86	245	996	8.8	8.3	8.9
26	2.7	4.1	4.7	4.2	11	18	87	245	640	8.6	7.6	8.7
27	2.7	4.0	4.9	4.5	11	21	87	243	351	8.3	7.6	8.7
28	2.8	4.4	5.2	4.2	13	19	88	243	145	8.4	7.5	10
29	2.8	5.3	5.4	4.6	---	20	88	244	12	8.2	12	14
30	2.8	5.4	4.4	4.6	---	20	90	244	11	8.2	7.1	6.9
31	2.8	---	6.3	4.0	---	20	---	158	---	8.3	7.0	---
TOTAL	80.1	119.5	202.6	135.9	307.6	496	7056	15789	11199	297.6	253.3	246.3
MEAN	2.58	3.98	6.54	4.38	11.0	16.0	235	509	373	9.60	8.17	8.21
MAX	8.6	7.4	17	5.5	145	86	452	1180	1200	12	12	14
MIN	1.9	2.8	4.4	2.8	3.2	10	28	25	11	8.2	7.0	6.9
AC-FT	159	237	402	270	610	984	14000	31320	22210	590	502	489
CAL YR 1984	TOTAL	20188.7	MEAN 55.2	MAX 744	MIN 1.9	AC-FT 40040						
WTR YR 1985	TOTAL	36182.9	MEAN 99.1	MAX 1200	MIN 1.9	AC-FT 71770						

## 08104310 SALADO CREEK BELOW SALADO SPRINGS AT SALADO, TX

LOCATION.--Lat 30°57'07", long 92°21'26", Bell County, Hydrologic Unit 12070205, on right bank downstream from low-water crossing in the Mill Creek Country Club and subdivision at Salado.

PERIOD OF RECORD.--October 1984 to September 1985.

GAGE.--Water-stage recorder. Elevation of gage is 545 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharge: Oct. 1-2. Records good. Discharges are not published above 100 ft<sup>3</sup>/s. No known regulation above station. Several observations of water temperature made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 2.87 ft Feb. 23 (maximum discharge not determined); minimum daily discharge, 15 ft<sup>3</sup>/s Oct. 4 and Aug. 23-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	25	24	59	31	---	65	46	32	27	20	17
2	16	23	24	46	34	75	62	38	32	27	21	17
3	16	22	27	45	33	74	63	40	31	---	21	16
4	15	22	25	50	33	66	61	40	31	30	21	17
5	16	21	32	46	36	57	61	39	34	25	20	16
6	19	20	37	42	36	57	61	39	46	26	20	16
7	19	20	29	38	34	55	57	38	37	25	20	16
8	19	20	27	36	31	57	59	38	36	26	20	16
9	24	21	27	36	31	56	61	38	35	25	20	16
10	17	20	27	34	---	56	58	38	35	24	19	18
11	20	21	28	32	99	57	56	38	33	23	19	19
12	23	21	29	31	60	57	55	36	33	24	18	19
13	24	22	31	31	54	58	---	61	32	25	19	17
14	35	23	31	33	51	---	---	47	31	24	18	19
15	37	22	31	36	49	91	52	40	32	23	18	17
16	19	23	39	38	47	76	48	36	31	23	18	17
17	16	23	50	53	47	70	48	36	31	23	19	18
18	16	27	87	40	46	65	47	36	30	23	20	18
19	18	24	53	37	47	63	48	36	31	22	18	17
20	40	23	43	34	46	---	49	35	31	23	16	17
21	---	22	40	32	46	---	50	42	30	23	16	18
22	52	21	37	31	47	85	50	43	32	23	16	17
23	27	21	35	32	---	79	---	42	36	23	15	17
24	---	22	35	33	---	71	59	36	34	22	15	17
25	76	39	34	32	79	69	48	35	32	21	16	17
26	33	37	32	32	67	66	47	34	31	21	16	17
27	28	27	33	34	62	70	45	33	30	21	15	16
28	29	24	34	32	---	71	44	33	29	20	17	18
29	---	25	34	31	---	71	45	34	27	20	17	29
30	38	24	34	35	---	70	46	32	28	20	17	22
31	25	---	61	33	---	66	---	32	---	20	16	---
TOTAL	---	705	1110	1154	---	---	---	1191	973	---	561	531
MEAN	---	23.5	35.8	37.2	---	---	---	38.4	32.4	---	18.1	17.7
MAX	---	39	87	59	---	---	---	61	46	---	21	29
MIN	---	20	24	31	---	---	---	32	27	---	15	16
AC-FT	---	1400	2200	2290	---	---	---	2360	1930	---	1110	1050

## BRAZOS RIVER BASIN

329

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 downstream from State Highway 95, 2.4 mi southeast of Little River, 5 mi downstream from confluence of Leon and Lampasas Rivers, and 95.8 mi. upstream from mouth.

DRAINAGE AREA.--5,228 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1923 to May 1929, August 1962 to current year.  
Water-quality records.--Chemical analyses: October 1964 to September 1982.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 400.11 ft above National Geodetic Vertical Datum of 1929. From Oct. 5, 1923, to May 27, 1929, nonrecording gage at railroad bridge 0.5 mi upstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 20, 23, 26, 28-30. Records good. Many small diversions upstream for irrigation and municipal supply affect 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. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08102600. Several observations of water temperature were made during the year. Satellite telemeter located at station.

AVERAGE DISCHARGE.--5 years (water years 1924-28) unregulated, 709 ft<sup>3</sup>/s (513,700 acre-ft/yr); 23 years (water years 1963-85) regulated, 803 ft<sup>3</sup>/s (581,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,600 ft<sup>3</sup>/s May 17, 1965 (gage height, 42.85 ft); minimum daily, 8.2 ft<sup>3</sup>/s Aug. 6, 19, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 46.8 ft in September 1921, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,700 ft<sup>3</sup>/s Feb. 23 at 1300 hours (gage height, 26.00 ft); maximum gage height, 26.94 ft Feb. 23 at 1400 hours; minimum daily discharge, 66 ft<sup>3</sup>/s Nov. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156	95	90	291	114	802	257	1010	217	530	85	83
2	153	432	90	199	116	363	812	487	164	522	89	80
3	144	146	88	184	116	311	839	481	157	774	88	80
4	143	111	87	188	121	303	835	591	135	676	87	82
5	142	93	147	177	150	257	834	584	129	511	89	84
6	143	84	149	163	135	232	828	576	905	253	89	89
7	442	80	107	155	125	228	824	576	240	241	87	92
8	266	79	96	145	118	225	823	574	160	264	85	91
9	247	78	90	140	114	220	823	572	146	243	84	90
10	408	72	88	145	121	208	823	1010	138	232	84	132
11	291	67	87	134	661	204	822	2600	134	151	82	113
12	614	66	114	126	215	197	822	2610	130	124	85	159
13	279	68	183	129	168	233	1000	2800	132	98	85	114
14	580	68	142	151	153	1260	1230	796	261	91	82	189
15	329	68	113	140	142	431	838	829	317	86	82	212
16	273	71	403	227	135	309	466	2320	313	83	89	125
17	256	72	223	288	132	271	434	2520	337	81	95	120
18	224	196	1160	183	129	246	427	2350	1580	79	87	118
19	274	119	278	160	129	232	421	2310	1660	75	83	99
20	325	81	229	147	127	3850	427	2300	1650	76	71	83
21	695	76	198	135	128	732	425	2460	1660	99	74	79
22	482	74	175	126	131	429	439	2260	1690	80	74	80
23	207	74	156	124	6540	364	904	1520	1690	76	74	80
24	448	73	151	126	1060	329	545	1390	1710	77	74	78
25	676	389	142	135	459	307	457	1360	1610	105	123	79
26	210	161	136	137	357	287	451	1340	1270	108	93	120
27	254	276	140	135	292	690	443	1330	932	102	79	120
28	190	126	141	133	297	373	437	1170	765	99	71	124
29	508	104	140	131	---	314	449	782	561	98	82	643
30	169	97	136	130	---	292	848	765	535	96	86	369
31	110	---	341	120	---	268	---	715	---	84	83	---
TOTAL	9638	3596	5820	4904	12485	14767	19983	42988	21328	6214	2621	4007
MEAN	311	120	188	158	446	476	666	1387	711	200	84.5	134
MAX	695	432	1160	291	6540	3850	1230	2800	1710	774	123	643
MIN	110	66	87	120	114	197	257	481	129	75	71	78
AC-FT	19120	7130	11540	9730	24760	29290	39640	85270	42300	12330	5200	7950
CAL YR 1984	TOTAL	78561	MEAN 215	MAX 1780	MIN 42	AC-FT 155800						
WTR YR 1985	TOTAL	148351	MEAN 406	MAX 6540	MIN 66	AC-FT 294300						

## BRAZOS RIVER BASIN

08104645 NORTH FORK SAN GABRIEL RIVER NEAR LIBERTY HILL, TX

LOCATION.--Lat 30°42'11", long 95°52'37", Williamson County, Hydrologic Unit 12070205, at upstream side of U.S. Highway 183 bridge, 0.4 mi upstream from Hamilton Branch, 3.8 mi northeast of Liberty Hill.

DRAINAGE AREA.--202 mi<sup>2</sup>.

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
OCT 22...	1440	178	7.8	15.0	350	98	9.0	91	1.9	88	13
DEC 14...	1130	291	8.1	16.0	100	80	8.4	87	1.8	140	15
MAR 20...	1010	360	7.9	15.0	50	260	8.6	88	2.8	180	17
APR 18...	1015	484	8.1	23.0	3	.70	9.0	107	.3	250	30
JUN 24...	1000	435	8.0	27.0	4	34	8.9	114	.4	210	26

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 FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 22...	28	4.4	1.4	.0	2.5	75	14	2.2	.20	6.8
DEC 14...	43	9.0	4.1	.2	2.2	130	17	6.2	.20	8.2
MAR 20...	55	10	7.0	.2	1.7	162	18	10	.20	8.9
APR 18...	69	18	10	.3	1.2	217	27	12	.30	8.2
JUN 24...	58	17	11	.3	1.4	189	19	15	.30	11

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, SUS- PENDED (MG/L)	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...	100	128	21	<.010	.30	<.010	--	1.0	.110	6.1
DEC 14...	170	105	19	<.010	.10	.020	.68	.70	.090	7.6
MAR 20...	210	806	156	<.010	.30	<.010	--	3.3	.310	15
APR 18...	280	7	4	<.010	.20	.030	.17	.20	<.010	1.7
JUN 24...	250	13	7	<.010	.10	.040	.16	.20	<.010	1.9

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 22...	1440	<1	18	<1	<10	1	47
JUN 24...	1000	1	49	<1	<10	1	4

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 22...	4	4	<.1	<1	<1	7
JUN 24...	3	4	<.1	<1	<1	7

## BRAZOS RIVER BASIN

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08104650 LAKE GEORGETOWN NEAR GEORGETOWN, TX

LOCATION.--Lat 30°40'03", long 97°43'38", Williamson County, Hydrologic Unit 12070205, at North San Gabriel Dam, on North Fork San Gabriel River, 2.5 mi upstream from Middle Fork San Gabriel River, 3.7 mi northwest of Georgetown, and 4.4 mi upstream from confluence with South Fork San Gabriel River.

DRAINAGE AREA.--247 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army 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 long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Mar. 3, 1980. The spillway is an ungated broad-crested weir 1,000 ft long, located near right end of dam. The spillway for normal flood releases is a gated, 11-foot-diameter conduit, controlled by two 5- by 11 foot slide gates, located near the center of dam. The invert for the floodgate is 720.0 ft. A low-flow outlet, consisting of four 3- by 4-foot gates is located near the center of dam. These gates are inverts of 735.0, 749.0, 763.0, and 777.0 ft. Figures given herein represent total content. 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 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, 89,730 acre-ft June 22, 1981 (elevation, 819.44 ft); minimum, 466 acre-ft Mar. 4, 1980 (elevation, 724.46 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 36,330 acre-ft Mar. 2 at 0800 hours (elevation, 798.63 ft); minimum daily, 32,370 acre-ft Oct. 6 at 1600 hours (elevation, 787.19 ft).

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

787.0	32,150	791.0	37,080
789.0	34,540		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32510	38340	38730	37770	41680	48070	39390	38020	37150	37300	36230	34760
2	32470	38340	38740	37770	41810	48050	38020	37970	37130	37250	36190	34730
3	32440	38340	38760	37770	41920	48020	37570	37910	37110	37210	36140	34660
4	32400	38330	38730	37790	42120	47860	37340	37850	37100	37190	36080	34600
5	32380	38330	38680	37710	42310	47670	37210	37770	37150	37150	36030	34570
6	32370	38310	38730	37620	42500	47450	37280	37700	37480	37130	35970	34530
7	32530	38310	38720	37520	42660	47280	37610	37610	37580	37230	35920	34480
8	32520	38310	38510	37300	42790	47100	37670	37540	37640	37230	35860	34430
9	32500	38330	38330	37210	42940	46900	37580	37460	37660	37210	35820	34390
10	32470	38310	38190	37380	43160	46680	37480	37450	37690	37200	35750	34440
11	32520	38300	38020	37520	43330	46460	37380	37460	37700	37190	35700	34430
12	32510	38270	37850	37650	43460	46210	37420	37500	37690	37160	35650	34390
13	32530	38260	37870	37830	43610	46040	37870	37940	37690	37110	35580	34360
14	32800	38260	37820	38020	43720	46260	38100	38580	37690	37070	35530	34320
15	32790	38260	37740	38220	43850	46200	38050	38700	37690	37000	35490	34280
16	32770	38250	37930	38700	43950	46040	37870	38920	37700	36950	35450	34250
17	32740	38310	37940	39110	44070	45840	37290	39350	37690	36920	35390	34210
18	32720	38340	37910	39380	44210	45630	37270	39420	37690	36900	35350	34170
19	32710	38330	37870	39570	44330	45770	37270	39480	37660	36870	35300	34140
20	33530	38330	37780	39750	44460	47480	37250	39480	37650	36830	35250	34110
21	34740	38300	37690	39910	44220	47450	37270	39520	37640	36780	35200	34060
22	34840	38300	37560	40090	43850	46650	37340	39490	37660	36740	35150	34040
23	34840	38290	37480	40270	46090	45050	37970	38960	37660	36690	35100	33990
24	36470	38390	37300	40450	46680	43460	38010	38220	37650	36640	35110	33960
25	36740	38460	37150	40630	47090	42220	38010	38070	37650	36590	35050	33910
26	36810	38510	37020	40800	47480	41330	37990	37910	37610	36550	35000	33870
27	36890	38640	36900	40940	47560	40600	37990	37750	37560	36500	34960	33820
28	36920	38680	36900	41080	47690	39790	38010	37600	37500	36440	34910	33850
29	38220	38700	37080	41230	---	39240	38030	37420	37440	36390	34860	33930
30	38260	38720	37210	41370	---	39190	38050	37250	37380	36330	34830	33940
31	38300	---	37700	41500	---	39120	---	37150	---	36280	34800	---
MAX	38300	38720	38760	41500	47690	48070	39390	39520	37700	37300	36230	34760
MIN	32370	38250	36900	37210	41680	39120	37210	37150	37100	36280	34800	33820
(†)	791.92	792.23	791.47	794.25	798.37	792.53	791.73	791.05	791.23	790.38	789.21	788.51
(‡)	+5740	+420	-1020	-3800	+6190	-8570	-1070	-900	+230	-1100	-1480	-860

CAL YR 1984 MAX 38760 MIN 32370 (‡) +2400  
WTR YR 1985 MAX 48070 MIN 32370 (‡) +1380

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.



## BRAZOS RIVER BASIN

08104650 LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to current year.

304016097433101 LAKE GEORGETOWN SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
JAN											
08...	1045	1.00	330	7.9	13.0	2.40	8.6	83	K2	K1	
08...	1046	4.00	--	--	--	--	--	--	--	--	
08...	1047	10.0	330	7.9	12.5	--	8.5	81	--	--	
08...	1049	20.0	330	7.8	12.5	--	8.5	81	--	--	
08...	1051	30.0	330	7.8	12.5	--	8.4	80	--	--	
08...	1053	40.0	338	7.6	12.5	--	8.0	76	--	--	
08...	1055	50.0	406	7.6	12.0	--	7.9	75	--	--	
08...	1057	60.0	407	7.8	10.5	--	8.1	74	--	--	
08...	1059	70.0	412	7.8	10.5	--	8.2	75	--	--	
08...	1101	80.0	412	7.8	10.5	--	8.2	75	--	--	
08...	1103	91.0	412	7.9	10.5	--	8.1	74	--	--	
APR											
24...	1010	1.00	396	8.4	23.0	2.80	9.2	110	<1	<1	
24...	1011	4.60	--	--	--	--	--	--	--	--	
24...	1012	10.0	397	8.3	22.5	--	9.1	107	--	--	
24...	1014	20.0	400	8.3	21.0	--	8.1	93	--	--	
24...	1016	30.0	414	8.0	19.0	--	5.6	62	--	--	
24...	1018	40.0	418	7.9	18.0	--	3.8	41	--	--	
24...	1020	50.0	408	7.8	16.0	--	2.2	23	--	--	
24...	1022	60.0	404	7.8	14.0	--	.7	7	--	--	
24...	1024	70.0	398	7.8	11.5	--	.1	0	--	--	
24...	1026	80.0	398	7.7	11.0	--	.0	0	--	--	
24...	1028	90.0	400	7.6	11.0	--	.0	0	--	--	
JUL											
31...	1030	1.00	352	8.2	29.0	2.35	7.1	94	<1	K4	
31...	1031	3.80	--	--	--	--	--	--	--	--	
31...	1032	10.0	352	8.2	28.5	--	7.1	93	--	--	
31...	1034	20.0	352	8.1	28.5	--	7.0	92	--	--	
31...	1036	30.0	395	7.4	24.5	--	.2	2	--	--	
31...	1038	40.0	421	7.4	20.0	--	.3	3	--	--	
31...	1040	50.0	426	7.4	18.0	--	.3	3	--	--	
31...	1042	60.0	421	7.4	16.5	--	.3	3	--	--	
31...	1044	70.0	410	7.4	14.5	--	.4	4	--	--	
31...	1046	80.0	411	7.4	14.0	--	.3	3	--	--	
31...	1048	90.0	417	7.3	13.5	--	.3	3	--	--	
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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN											
08...	170	18	49	11	7.5	.3	2.5	150	13	9.8	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	210	24	64	13	8.5	.3	1.8	190	18	11	--
APR											
24...	200	20	57	13	7.9	.3	1.9	176	18	12	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	200	22	57	13	8.0	.3	2.2	174	17	11	--

## BRAZOS RIVER BASIN

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## LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

304016097433101 LAKE GEORGETOWN SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JUL										
31...	160	12	42	14	8.9	.3	1.9	151	18	11
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	210	3	61	13	7.8	.2	2.4	203	9.1	11

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									
08...	.20	8.4	190	.10	.50	.60	.010	98	22
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	.20	.30	.50	.010	20	<10
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	7.8	240	.30	.70	1.0	.020	8	21
APR									
24...	--	5.0	220	.20	.40	.60	.020	4	5
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	30	20
24...	--	--	--	--	--	--	--	30	90
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	8.0	220	.30	.90	1.2	.050	160	640
JUL									
31...	.30	5.3	190	<.10	.30	--	<.010	7	4
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	<.10	.30	--	<.010	30	10
31...	--	--	--	<.10	.40	--	.010	40	50
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	13	240	<.10	2.1	--	.090	1500	830

304006097452501 LAKE GEORGETOWN SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
08...	1145	1.00	334	7.9	12.5	1.80	8.9	85	K10	<1
08...	1147	10.0	334	8.0	12.5	--	8.8	84	--	--
08...	1149	20.0	335	8.0	12.0	--	8.7	82	--	--
08...	1151	30.0	336	8.0	12.0	--	8.8	83	--	--
08...	1153	40.0	341	7.8	12.5	--	7.8	75	--	--

## BRAZOS RIVER BASIN

## LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

304006097452501 LAKE GEORGETOWN SITE BC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, SATURATION (%)	COLIFORM, FECA, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECA, KF AGAR (COLS. PER 100 ML)
APR										
24...	1050	1.00	412	8.3	23.5	1.80	8.9	107	K1	<1
24...	1052	10.0	411	8.3	22.5	--	8.8	104	--	--
24...	1054	20.0	419	8.0	20.5	--	6.4	73	--	--
24...	1056	30.0	440	7.7	19.0	--	2.6	29	--	--
24...	1058	40.0	448	7.7	18.5	--	1.4	15	--	--
24...	1100	50.0	436	7.6	16.0	--	.0	0	--	--
24...	1102	60.0	425	7.6	15.5	--	.0	0	--	--
JUL										
31...	1125	1.00	356	8.1	29.0	--	6.6	88	<1	K10
31...	1128	10.0	356	8.1	28.5	--	6.5	86	--	--
31...	1130	20.0	361	7.8	28.0	--	4.7	61	--	--
31...	1132	30.0	397	7.3	24.0	--	.2	2	--	--
31...	1134	40.0	435	7.3	20.0	--	.3	3	--	--
31...	1136	50.0	440	7.3	18.0	--	.3	3	--	--
31...	1138	56.0	440	7.3	18.0	--	.3	3	--	--

DATE	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM DIS-SOLVED (MG/L AS Mg)	SODIUM DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
JAN									
08...	170	7	47	12	7.1	.2	2.5	160	14
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	170	10	48	12	7.2	.2	2.5	160	15
APR									
24...	210	29	62	14	8.5	.3	1.9	184	18
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	210	24	64	13	8.0	.2	2.0	190	18
JUL									
31...	160	10	42	14	8.9	.3	2.0	153	19
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	220	5	65	13	8.0	.2	2.1	211	8.9

DATE	CHLORIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (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, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)
JAN									
08...	10	4.5	190	.10	.50	.60	.010	8	4
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	.10	.40	.50	.010	20	<10
08...	--	--	--	--	--	--	--	--	--
08...	10	4.8	200	.10	1.0	1.1	.100	37	34
APR									
24...	12	5.6	230	.20	.60	.80	.040	8	5
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	.20	.50	.70	<.010	20	30
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	.20	.70	.90	.020	30	530
24...	11	8.5	240	.20	.80	1.0	.030	25	630
JUL									
31...	11	5.5	190	<.10	.30	--	<.010	<3	6
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	<.10	.30	--	<.010	30	30
31...	--	--	--	<.10	.60	--	.020	210	430
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	10	11	250	<.10	1.1	--	.020	610	480

## BRAZOS RIVER BASIN

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## LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

304055097471301 LAKE GEORGETOWN SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
08...	1220	1.00	346	7.9	12.0	1.50	9.6	91	K8	K1
08...	1221	2.40	--	--	--	--	--	--	--	--
08...	1222	10.0	348	7.9	11.0	--	9.5	88	--	--
08...	1224	20.0	388	7.9	11.0	--	9.3	86	--	--
08...	1226	31.0	484	8.3	10.5	--	9.9	91	--	--
APR										
24...	1130	1.00	438	8.1	23.5	1.20	7.7	93	K16	26
24...	1131	2.00	--	--	--	--	--	--	--	--
24...	1132	10.0	455	7.9	22.5	--	6.0	71	--	--
24...	1134	20.0	431	7.8	21.0	--	4.8	55	--	--
24...	1136	25.0	346	7.7	20.5	--	5.0	57	--	--
24...	1138	30.0	273	7.7	20.0	--	5.8	65	--	--
24...	1140	33.0	360	7.6	20.0	--	3.9	44	--	--
JUL										
31...	1215	1.00	380	8.1	30.5	1.04	6.4	87	K5	20
31...	1216	1.70	--	--	--	--	--	--	--	--
31...	1218	10.0	376	8.1	30.0	--	6.0	81	--	--
31...	1220	15.0	373	7.6	29.5	--	2.2	29	--	--
31...	1222	20.0	370	7.4	28.5	--	.1	1	--	--
31...	1224	30.0	435	7.1	25.0	--	.2	2	--	--

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
08...	170	15	50	12	7.1	.2	2.4	160	14
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	250	16	77	13	8.0	.2	1.3	230	21
APR									
24...	220	29	65	15	9.0	.3	1.6	195	19
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	220	57	66	14	8.7	.3	1.7	166	18
JUL									
31...	170	10	45	15	9.3	.3	2.1	164	19
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	210	4	58	15	8.7	.3	2.0	203	9.3

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									
08...	10	4.9	200	.10	.60	.70	.010	24	5
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	.20	.60	.80	.010	30	<10
08...	11	8.6	280	.50	.40	.90	.020	6	15
APR									
24...	13	6.6	250	.20	.50	.70	.020	4	3
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	.20	.50	.70	.020	30	10
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	11	8.0	230	.30	.80	1.1	.080	4	73
JUL									
31...	11	6.9	210	<.10	.50	--	.020	4	3
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	<.10	.40	--	.030	110	<10
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	<.10	.60	--	.030	60	60
31...	12	10	240	<.10	1.2	--	.060	1500	510

## BRAZOS RIVER BASIN

## LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

Lake Georgetown AC (304016097433101)

Phytoplankton Analyses October 1984 to September 1985

Date	1-8-85
Time	1046

TOTAL CELLS/ml	42,886
NUMBER OF SPECIES	25
DEPTH COLLECTED (ft.)	4.0

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Closterium</u> sp.	114
<u>Crucigenia</u> <u>tetrapedia</u>	227
<u>Pediastrum</u> <u>duplex</u>	1818
<u>Pediastrum</u> <u>duplex</u> var. <u>gracillimum</u>	3182
<u>Pediastrum</u> sp.	625
<u>Scenedesmus</u> <u>quadricauda</u>	341
<u>Scenedesmus</u> <u>serratus</u>	227
<u>Scenedesmus</u> sp.	398
<u>Selenastrum</u> <u>minutum</u>	114
<u>Tetraedron</u> <u>minutum</u>	114
Resting spore	57
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa</u> <u>delicatissima</u>	27443
<u>Aphanothece</u> sp.	1818
<u>Chroococcus</u> <u>dispersus</u>	341
<u>Chroococcus</u> <u>limneticus</u>	114
<u>Dactylococcopsis</u> <u>fascicularis</u>	114
<u>Microcystis</u> sp.	1477
<u>Oscillatoria</u> <u>limnetica</u>	1818
<u>Rhabdoderma</u> <u>sigmoidea</u>	57
<u>Synechococcus</u> <u>aeruginosa</u>	107
<u>Synechococcus</u> <u>elongatus</u>	1023
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella</u> <u>ocellata</u>	227
<u>Melosira</u> <u>islandica</u>	909
Order Pennales	
<u>Synedra</u> <u>radians</u>	114
<u>Synedra</u> sp.	107



BRAZOS RIVER BASIN

337

LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

Lake Georgetown AC (304016097433101)

Phytoplankton Analyses October 1984 to September 1985

Date	4-24-85
Time	1011
<hr/>	
TOTAL CELLS/ml	42,366
NUMBER OF SPECIES	32
DEPTH COLLECTED (ft.)	4.6

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Chlamydomonas</u> sp. 1	57
<u>Chlamydomonas</u> sp. 2	57
<u>Chlorella</u> sp.	57
<u>Crucigenia irregularis</u>	454
<u>Crucigenia tetrapedia</u>	227
<u>Dysmorphococcus</u> sp.	114
<u>Elakatothrix</u> sp.	57
<u>Mesotaenium</u> sp.	1136
<u>Oocystis</u> sp.	1363
<u>Pediastrum duplex</u> var. <u>reticulatum</u>	10451
<u>Pediastrum simplex</u>	1420
<u>Pediastrum simplex</u> var. ?	454
<u>Scenedesmus brasiliensis</u>	511
<u>Scenedesmus quadricauda</u>	227
<u>Scenedesmus serratus</u>	227
<u>Selenastrum minutum</u>	227
<u>Sphaerocystis schroeteri</u>	1477
<u>Tetradron minimum</u>	227
Resting spores	227
CHRYSTOPHYTA (Golden-brown algae)	
<u>Chrysochromulina parva</u>	114
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	6418
<u>Aphanocapsa elachista</u>	738
<u>Chroococcus limneticus</u>	682
<u>Synechococcus aeruginosa</u>	227
<u>Synechococcus elongatus</u>	2897
<u>Synechococcus lineare</u>	51
<u>Synechococcus</u> sp.	11076
EUGLENOPHYTA (Euglenoids)	
<u>Euglena</u> sp.	57
<u>Gonyostomum semen</u>	57
PYRRROPHYTA (Dinoflagellates)	
<u>Peridinium inconspicua</u>	114
CRYPTOPHYTA (Cryptomonads)	
<u>Chroomonas</u> sp.	738
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella ocellata</u>	227

## BRAZOS RIVER BASIN

LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

Lake Georgetown AC (304016097433101)

Phytoplankton Analyses October 1984 to September 1985

Date	7-31-85
Time	1031

TOTAL CELLS/ml	151,074
NUMBER OF SPECIES	38
DEPTH COLLECTED (ft.)	3.8

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus falcatus</u>	114
<u>Chlorococcum sp.</u>	114
<u>Closterium sp.</u>	114
<u>Crucigenia tetrapedia</u>	114
<u>Pediastrum simplex</u>	114
<u>Scenedesmus brasiliensis</u>	227
<u>Scenedesmus dimorphus</u>	227
<u>Scenedesmus serratus</u>	114
<u>Schroederia setigera</u>	57
<u>Selenastrum minutum</u>	284
<u>Staurastrum cerastes</u>	57
<u>Staurastrum chaetoceros</u>	57
CHRYSTOPHYTA (Golden-brown algae)	
<u>Dinobryon sp.</u>	57
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	6589
<u>Aphanothece saxicola</u>	113032
<u>Chroococcus giganteus</u>	227
<u>Chroococcus refractus</u>	1363
<u>Gloethece linearis</u>	114
<u>Lyngbya nana</u>	7725
<u>Microcystis sp.</u>	1818
<u>Oscillatoria angustissima</u>	5226
<u>Oscillatoria limnetica</u>	568
<u>Schizothrix sp.</u>	5169
<u>Spirulina sp.</u>	284
<u>Synechococcus aeruginosa</u>	682
<u>Synechococcus elongatus</u>	909
<u>Synechococcus lineare</u>	568
<u>Synechococcus sp. 1</u>	3635
EUGLENOPHYTA (Euglenoids)	
<u>Euglena sp.</u>	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella ocellata</u>	14
<u>Cyclotella stelligera</u>	454
Order Pennales	
<u>Anomoeoneis vitrea</u>	28
<u>Navicula cryptocephala</u>	166
<u>Navicula elginensis</u>	114
<u>Synedra acus</u>	114
<u>Synedra delicatissima</u>	142
<u>Synedra rumpens</u>	71
<u>Synedra sp.</u>	355

BRAZOS RIVER BASIN

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LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

Lake Georgetown CC (304055097471301)

Phytoplankton Analyses October 1984 to September 1985

Date	1-8-85
Time	1221
TOTAL CELLS/ml	23,409
NUMBER OF SPECIES	20
DEPTH COLLECTED (ft.)	2.4

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	57
<u>Closterium</u> sp.	57
<u>Uocystis borgei</u>	455
<u>Pediastrum simplex</u>	1307
<u>Pediastrum simplex</u> var. <u>duodenarium</u>	682
<u>Pediastrum</u> sp.	227
<u>Scenedesmus denticulatus</u>	455
<u>Scenedesmus quadricauda</u>	341
<u>Scenedesmus serratus</u>	341
<u>Selenastrum minutum</u>	568
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	13693
<u>Dactylococcopsis fascicularis</u>	170
<u>Merismopedia tenuissima</u>	1818
<u>Spirulina laxissima</u>	454
<u>Synechococcus elongatus</u>	1875
<u>Synechococcus</u> sp.	170
EUGLENOPHYTA (Euglenoids)	
<u>Phacus caudata</u>	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella ocellata</u>	284
Order Pennales	
<u>Synedra radians</u>	284
<u>Synedra</u> sp.	114

## BRAZOS RIVER BASIN

LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

Lake Georgetown CC (304055097471301)

Phytoplankton Analyses October 1984 to September 1985

Date	4-24-85
Time	1131
<hr/>	
TOTAL CELLS/ml	44,761
NUMBER OF SPECIES	34
DEPTH COLLECTED (ft.)	2.0

Organisms	Cells/ml
<hr/>	
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus braunii</u>	57
<u>Ankistrodesmus falcatus</u>	57
<u>Chlorella</u> sp.	170
<u>Coelastrum reticulatum</u>	227
<u>Cosmarium</u> sp.	57
<u>Gloeocystis</u> sp.	114
<u>Pediastrum duplex</u> var. <u>gracillimum</u>	1818
<u>Pediastrum simplex</u>	1363
<u>Scenedesmus quadricauda</u>	227
<u>Scenedesmus serratus</u>	1136
<u>Scenedesmus</u> sp.1	114
<u>Scenedesmus</u> sp.2	114
<u>Selenastrum minutum</u>	57
<u>Tetraedron minimum</u>	57
CHRYSTOPHYTA (Golden-brown algae)	
<u>Mallomonas</u> sp.	57
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	5339
<u>Aphanocapsa elachista</u>	568
<u>Aphanothece</u> sp.	1420
<u>Dactylococcopsis fascicularis</u>	341
<u>Synechococcus aeruginosa</u>	170
<u>Synechococcus</u> sp.	29536
PYRRROPHYTA (Dinoflagellates)	
<u>Ceratium hirundinella</u>	57
<u>Peridinium biceps</u>	170
<u>Peridinium inconspicua</u>	170
<u>Peridinium</u> sp.	57
EUGLENOPHYTA (Euglenoids)	
<u>Gonyostomum semen</u>	57
CRYPTOPHYTA (Cryptomonads)	
<u>Cryptomonas</u> sp.	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella ocellata</u>	398
<u>Rhizosolenia</u> sp.	284
Order Pennales	
<u>Navicula elginensis</u>	57
<u>Nitzschia palea</u>	114
<u>Nitzschia paleacea</u>	57
<u>Nitzschia</u> sp.	114
<u>Synedra</u> sp.	170

## LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

Lake Georgetown CC (304055097471301)

Phytoplankton Analyses October 1984 to September 1985

Date	7-31-85
Time	1216

TOTAL CELLS/ml	164,355
NUMBER OF SPECIES	40
DEPTH COLLECTED (ft.)	1.7

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	57
<u>Ankistrodesmus nannoselene</u>	284
<u>Chlamydomonas</u> sp.	57
<u>Chlorococcum</u> sp.	511
<u>Cosmarium</u> sp.	114
<u>Crucigenia tetrapedia</u>	682
<u>Gloeocystis</u> sp.	57
<u>Kirchneriella lunaris</u>	114
<u>Mesotaenium</u> sp.	57
<u>Pediastrum simplex</u>	227
<u>Scenedesmus brasiliensis</u>	227
<u>Scenedesmus serratus</u>	114
<u>Schroederia setigera</u>	114
<u>Selenastrum</u> sp.	57
<u>Tetraedron minimum</u>	57
<u>Tetraedron trigonum</u>	114
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	15336
<u>Aphanocapsa elachista</u>	2045
<u>Aphanotheca saxicola</u>	93720
<u>Gloeotheca linearis</u>	114
<u>Lyngbya nana</u>	15563
<u>Schizothrix</u> sp.	1079
<u>Synechococcus aeruginosa</u>	795
<u>Synechococcus lineare</u>	909
<u>Synechococcus</u> sp. 1	25106
<u>Synechocystis</u> sp. 2	4203
PYRROPHYTA (Dinoflagellates)	
<u>Peridinium</u> sp. 1	114
<u>Peridinium</u> sp. 2	227
EUGLENOPHYTA (Euglenoids)	
<u>Euglena</u> sp.	114
<u>Trachelomonas</u> sp.	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella stelligera</u>	1306
Order Pennales	
<u>Navicula cryptocephala</u>	57
<u>Navicula elginensis</u>	57
<u>Navicula orbiculata</u>	28
<u>Nitzschia acicularis</u>	57
<u>Nitzschia paleacea</u>	170
<u>Nitzschia</u> sp.	57
<u>Synedra acus</u>	133
<u>Synedra delicatissima</u>	208
<u>Synedra</u> sp.	57



## BRAZOS RIVER BASIN

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 5,000 ft downstream from North Fork dam, 1.5 mi upstream from Middle Fork San Gabriel River, 2.7 mi upstream from Interstate Highway 35, 2.7 mi northwest of Georgetown, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--248 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records good. Beginning on Mar. 3, 1980, flow is largely regulated by Lake Georgetown (station 08104650) located about 1 mi upstream from gage.

AVERAGE DISCHARGE.--11 years (water years 1969-79) unregulated, 88.1 ft<sup>3</sup>/s (63,830 acre-ft/yr); 6 years (water years 1980-85) regulated, 63.4 ft<sup>3</sup>/s (45,930 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft<sup>3</sup>/s Sept. 17, 1974 (gage height, 26.20 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 39.5 ft in September 1921. Flood in April 1957 reached a stage of 34.5 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft<sup>3</sup>/s Mar. 22 at 1600 hours (gage height, 7.77 ft); minimum daily, 1.2 ft<sup>3</sup>/s Feb. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	9.2	9.2	141	2.0	271	331	95	27	30	8.5	8.1
2	7.5	8.9	9.2	141	2.0	273	490	96	27	30	8.5	8.1
3	7.5	8.9	9.2	141	1.8	274	354	96	27	30	8.5	8.7
4	7.5	8.6	54	166	1.8	271	241	96	19	30	8.5	8.1
5	7.5	8.5	111	183	1.8	270	167	98	9.8	21	8.5	6.5
6	7.5	8.4	2.0	184	1.8	271	12	98	15	8.1	8.5	6.2
7	10	8.1	39	183	1.8	271	11	97	8.7	9.2	8.5	6.2
8	8.1	8.1	126	223	1.8	271	85	97	8.1	8.9	6.0	6.6
9	8.1	8.1	125	177	1.9	271	146	97	7.9	8.5	6.9	6.8
10	8.1	8.1	93	9.7	2.2	271	155	55	7.8	8.5	7.1	7.1
11	9.1	8.1	123	9.6	2.0	270	155	25	7.8	8.5	7.3	7.3
12	8.6	8.1	124	9.6	1.9	270	85	25	7.7	8.5	7.5	7.1
13	8.6	8.1	124	9.6	2.1	269	11	43	7.5	8.5	7.5	7.1
14	13	8.5	124	9.6	2.1	267	9.1	28	7.5	8.5	7.5	7.1
15	8.8	8.7	124	9.6	1.8	266	112	26	7.5	8.5	7.5	6.8
16	8.5	8.9	123	9.9	1.8	267	295	26	7.4	8.5	7.7	7.0
17	7.9	9.3	125	9.6	1.8	266	239	25	8.5	8.5	7.1	7.0
18	7.7	9.7	125	9.6	1.7	267	88	25	10	8.5	6.7	6.8
19	7.9	9.0	125	9.6	1.5	101	89	25	10	8.5	6.2	6.8
20	48	8.9	125	9.5	1.2	101	88	56	10	8.5	6.5	6.2
21	12	8.9	125	9.8	214	322	89	95	10	8.5	7.3	5.1
22	9.1	8.9	124	10	526	692	89	94	11	8.5	7.5	5.1
23	8.3	8.9	124	10	254	1160	90	370	10	8.5	7.5	5.1
24	9.6	9.6	123	10	7.6	1140	90	552	11	8.5	7.9	5.1
25	8.8	9.8	122	10	6.5	883	90	137	11	8.5	7.8	5.3
26	8.8	8.9	122	10	6.0	655	90	138	19	8.5	7.8	5.3
27	9.0	9.2	124	10	117	649	93	139	30	8.5	7.8	5.1
28	8.6	8.9	53	10	270	645	93	137	30	8.5	7.8	5.2
29	9.0	8.9	11	10	---	478	93	138	30	8.5	7.8	8.6
30	8.9	9.2	11	10	---	191	94	139	30	8.5	7.9	5.9
31	8.9	---	78	6.5	---	191	---	93	---	8.5	8.1	---
TOTAL	308.9	263.4	2836.6	1751.2	1437.9	12064	4074.1	3261	433.2	362.7	236.2	197.4
MEAN	9.96	8.78	91.5	56.5	51.4	389	136	105	14.4	11.7	7.62	6.58
MAX	48	9.8	126	223	526	1160	490	552	30	30	8.5	8.7
MIN	7.5	8.1	2.0	6.5	1.2	101	9.1	25	7.4	8.1	6.0	5.1
AC-FT	613	522	5630	3470	2850	23930	8080	6470	859	719	469	392

CAL YR 1984 TOTAL 5841.8 MEAN 16.0 MAX 126 MIN 2.0 AC-FT 11590  
WTR YR 1985 TOTAL 27226.6 MEAN 74.6 MAX 1160 MIN 1.2 AC-FT 54000

08104700 NORTH FORK SAN GABRIEL RIVER NEAR GEORGETOWN, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
JAN 08...	1345	217	340	8.1	12.5	5	3.2	10.7	102	.9	160
APR 24...	1325	86	388	8.2	22.5	5	1.3	8.9	105	.8	200
JUL 31...	1400	8.5	360	8.2	31.0	5	1.7	8.0	110	.5	170

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN 08...	7	43	12	7.2	.3	2.4	150	14	9.7	.20	4.5
APR 24...	22	58	13	8.0	.3	2.1	177	19	12	.20	5.3
JUL 31...	17	46	14	8.7	.3	1.9	156	17	12	.30	6.9

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, 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 08...	180	10	8	<.010	.10	.070	.23	.30	.010	3.0
APR 24...	220	1	<1	<.010	.20	.030	.47	.50	.020	1.9
JUL 31...	200	5	4	<.010	.20	.110	.29	.40	<.010	3.2

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 08...	1345	<1	30	<1	<10	2	5
APR 24...	1325	<1	38	<1	10	1	<3
JUL 31...	1400	1	35	<1	<10	1	4

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 08...	<1	4	<.1	<1	<1	7
APR 24...	3	5	<.1	<1	<1	<3
JUL 31...	<1	37	<.1	<1	<2	8

## BRAZOS RIVER BASIN

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 southwest of the courthouse at Georgetown, and 2.4 mi upstream from mouth.

DRAINAGE AREA.--133 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Several observations of water temperature were made during the year. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--17 years (water years 1969-85), 47.3 ft<sup>3</sup>/s (4.83 in/yr), 34,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft<sup>3</sup>/s Sept. 3, 1981 (gage height, 24.60 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, about 41 ft Apr. 24, 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 14	0630	2,000	6.80	Oct. 24	1700	3,530	8.34
Oct. 20	1530	*5,560	*9.92	Feb. 23	0830	4,230	8.93
Oct. 21	1230	5,400	9.81	Apr. 23	1030	3,300	8.14

Minimum daily discharge, 0.01 ft<sup>3</sup>/s Oct. 1-3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	28	12	109	49	276	86	59	26	8.9	.90	.13
2	.01	24	13	82	50	129	79	54	26	7.3	.63	.25
3	.01	23	11	80	46	114	76	51	23	7.1	.40	.25
4	.02	26	11	94	47	108	74	48	20	8.1	.29	.19
5	.02	23	17	80	56	95	73	48	18	8.7	.21	.20
6	.02	20	16	73	63	92	72	46	119	8.7	.19	.21
7	3.5	17	13	68	58	90	71	44	54	10	.13	.20
8	.20	17	13	64	53	91	71	43	36	35	.09	.13
9	1.2	16	14	64	50	89	76	42	33	23	.08	.12
10	.68	15	14	64	59	88	68	41	26	11	.07	.31
11	2.1	15	12	62	61	88	71	40	23	7.8	.05	.94
12	.41	13	12	62	52	85	71	41	20	7.0	.05	.95
13	.36	13	68	61	50	83	97	108	19	6.0	.06	.77
14	329	13	66	64	49	167	125	227	15	5.8	.10	.59
15	19	12	44	65	47	118	79	82	15	7.1	.17	.45
16	6.0	11	134	66	47	99	66	55	18	5.2	1.1	.37
17	2.3	11	81	84	47	96	66	52	15	4.5	.76	.32
18	1.4	15	72	65	47	86	60	49	12	4.1	.22	.27
19	1.1	16	67	63	45	83	61	47	12	3.8	.09	.24
20	1450	13	65	61	45	357	60	44	12	3.7	.07	.21
21	1100	11	63	56	47	162	64	71	12	4.6	.04	.21
22	71	12	60	55	48	127	67	63	15	4.8	.04	.21
23	35	12	60	56	1550	116	552	50	15	3.3	.04	.19
24	458	13	60	56	209	110	112	45	13	3.0	.63	.13
25	120	25	57	56	136	106	75	43	12	2.3	.55	.12
26	48	20	54	53	109	99	68	43	10	2.1	.25	.08
27	39	15	57	53	94	104	66	41	8.6	2.0	.12	.06
28	36	15	60	50	112	104	68	37	9.0	2.4	.07	.41
29	142	13	60	48	---	99	68	35	8.1	5.0	.06	4.6
30	41	12	58	49	---	98	68	32	9.0	2.0	.06	1.4
31	30	---	162	50	---	93	---	28	---	1.4	.06	---
TOTAL	3937.34	489	1506	2013	3326	3652	2710	1709	653.7	215.7	7.58	14.51
MEAN	.127	16.3	48.6	64.9	119	118	90.3	55.1	21.8	6.96	.24	.48
MAX	1450	28	162	109	1550	357	552	227	119	35	1.1	4.6
MIN	.01	11	11	48	45	83	60	28	8.1	1.4	.04	.06
CFSM	.96	.12	.37	.49	.90	.89	.68	.41	.16	.05	.002	.004
IN.	1.10	.14	.42	.56	.93	1.02	.76	.48	.18	.06	.00	.00
AC-FT	7810	970	2990	3990	6600	7240	5380	3390	1300	428	15	29

CAL YR 1984	TOTAL	6499.76	MEAN 17.8	MAX 1450	MIN .00	CFSM .13	IN 1.82	AC-FT 12890
WTR YR 1985	TOTAL	20233.83	MEAN 55.4	MAX 1550	MIN .01	CFSM .42	IN 5.66	AC-FT 40130

## BRAZOS RIVER BASIN

345

08105000 SAN GABRIEL RIVER AT GEORGETOWN, TX

LOCATION.--Lat 30°39'14", long 97°39'18", Williamson County, Hydrologic Unit 12070203, on left bank 100 ft downstream from Missouri-Kansas Railroad bridge, 1.2 mi below confluence of North and South Forks, about 1.5 mi below bridges on State Highway 418, and 1.8 mi northeast of Williamson County Courthouse in Georgetown.

DRAINAGE AREA.--399 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1924 to August 1925, July 1934 to September 1973, and October 1984 to September 1985.

GAGE.--Water stage recorder and concrete control. Datum of gage is 643.24 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-31. Records good except those for estimated daily discharge, which are poor. Daily discharges are not published above 200 ft<sup>3</sup>/s. Flow is partially regulated by Lake Georgetown (station 08104650) and at times by gates in a recreation dam 3,000 ft upstream. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 155,000 ft<sup>3</sup>/s Apr. 24, 1957 (gage height, 31.89 ft in gage well, 34.10 ft, from outside floodmarks), from rating curve extended above 24,000 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; no flow at times in 1954-57.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 8.83 ft, Feb. 23, 1985 (maximum discharge not determined); minimum daily discharge, 18 ft<sup>3</sup>/s on Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	74	56	287	70	.00	---	175	73	60	23	20
2	32	71	57	235	71	469	---	169	74	57	23	20
3	32	69	56	232	70	438	---	163	53	59	24	19
4	32	69	73	277	72	425	---	160	64	59	23	20
5	32	65	166	281	73	408	---	159	58	58	23	22
6	32	62	60	274	74	402	103	154	---	40	21	22
7	53	58	64	267	69	399	102	152	108	46	20	22
8	35	58	169	290	66	398	167	148	77	64	19	20
9	39	60	172	281	64	392	---	145	70	60	18	20
10	37	59	141	94	72	389	---	119	65	46	20	25
11	44	56	166	89	75	385	---	85	62	41	21	41
12	38	54	167	87	67	---	---	86	58	38	20	29
13	38	51	216	92	64	---	161	172	57	38	20	25
14	---	49	233	93	63	---	185	---	53	33	21	25
15	82	51	185	94	61	---	---	153	51	35	20	24
16	53	48	319	103	62	---	---	113	55	34	23	24
17	41	49	246	124	63	---	---	109	54	31	28	24
18	37	63	227	99	62	---	171	103	52	31	23	24
19	37	61	217	92	61	---	171	97	52	32	20	23
20	---	55	208	88	60	---	172	110	51	34	20	22
21	---	53	204	84	198	---	181	191	52	32	20	20
22	123	52	200	82	538	---	187	181	59	31	20	19
23	99	54	198	84	.00	---	---	---	58	29	19	19
24	---	60	198	84	352	---	---	---	56	28	23	19
25	150	81	193	82	217	---	---	191	52	27	26	19
26	107	72	192	79	175	---	194	188	52	26	22	19
27	103	61	194	81	234	---	189	185	65	26	22	19
28	100	61	140	78	450	---	188	183	62	25	22	20
29	176	58	80	77	---	---	190	177	60	25	21	50
30	104	56	80	76	---	---	186	173	61	24	21	32
31	95	---	257	75	---	---	---	142	---	22	21	---
TOTAL	---	1790	5134	4361	3503.00	---	---	---	---	1191	667	707
MEAN	---	59.7	166	141	125	---	---	---	---	38.4	21.5	23.6
MAX	---	81	319	290	538	---	---	---	---	64	28	50
MIN	---	48	56	75	.00	---	---	---	---	22	18	19
AC-FT	---	3550	10180	8650	6950	---	---	---	---	2360	1320	1400

## BRAZOS RIVER BASIN

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 north of the county courthouse at Georgetown, and 63.2 mi upstream from mouth.

DRAINAGE AREA.--83.1 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1967 to current year.

Water-quality records: Sediment records: October 1976 to September 1981.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 659.97 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversions. U.S. Army Corps of Engineers satellite telemeter located at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 25.2 ft<sup>3</sup>/s (4.20 in/yr), 18,260 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft<sup>3</sup>/s Oct. 31, 1974 (gage height, 19.33 ft); no flow at times in 1967, 1971-72, 1978-79, and 1982-85.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1921 occurred September 1921, 25 ft, from information by State Department of Highways and Public Transportation and local residents (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 21	1300	1,020	6.49	Mar. 20	0800	2,380	8.79
Oct. 29	0500	4,770	11.86	Apr. 23	0930	1,170	6.78
Feb. 23	0730	*4,800	*11.90	May 17	0100	1,640	7.65

Minimum daily discharge, no flow Oct. 1-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	9.1	9.1	41	18	143	36	30	22	8.1	3.7	.97
2	.00	8.4	8.6	25	18	65	35	28	22	8.1	3.4	.88
3	.00	8.1	8.2	26	18	58	34	27	21	8.0	3.2	.80
4	.00	7.5	8.2	35	18	52	33	26	20	8.0	3.0	.80
5	.00	6.9	9.7	29	21	46	33	26	19	8.0	3.0	.72
6	.00	6.6	8.2	25	24	44	31	25	24	7.6	2.7	.72
7	.00	6.0	8.9	24	22	43	30	24	21	7.4	2.6	.66
8	.00	5.4	11	21	20	44	30	23	20	7.5	2.2	.59
9	.00	5.2	10	21	18	42	31	22	19	7.2	2.2	.54
10	.00	4.8	9.4	20	18	40	30	22	18	7.0	2.1	.88
11	.00	4.6	9.2	18	23	40	29	22	18	6.8	2.0	1.2
12	.00	4.6	9.2	18	22	39	30	22	17	6.7	1.8	1.1
13	.00	4.4	9.7	18	19	37	91	60	16	6.5	1.6	.88
14	1.2	4.4	9.6	19	18	80	57	40	15	6.4	1.6	.80
15	.90	4.6	9.9	23	18	58	36	28	14	6.5	1.7	.80
16	.67	4.7	12	23	18	49	33	28	14	6.3	1.6	.80
17	.52	4.7	17	42	18	46	30	364	13	6.1	1.5	.72
18	.49	5.4	22	26	18	41	29	42	12	5.9	1.4	.66
19	.49	4.7	20	22	18	41	29	33	12	5.9	1.4	.59
20	96	4.6	16	20	18	447	27	31	12	5.9	1.4	.54
21	168	4.8	15	18	18	77	28	37	12	5.8	1.3	.49
22	19	4.9	14	18	18	59	28	41	11	5.5	1.3	.44
23	6.4	4.9	14	18	1310	53	248	37	11	5.3	1.2	.40
24	37	5.3	14	19	86	48	48	34	11	5.1	1.4	.40
25	37	7.3	14	19	60	45	36	31	10	5.0	1.4	.44
26	11	4.8	14	17	54	43	33	29	9.8	4.9	1.3	.40
27	8.3	7.0	14	17	49	43	32	27	11	4.8	1.3	.40
28	7.1	9.3	14	16	87	44	30	26	9.5	4.5	1.3	.44
29	585	9.5	17	17	---	41	30	26	8.9	4.5	1.2	1.5
30	20	9.4	16	17	---	40	33	25	8.5	4.1	1.1	.88
31	11	---	51	18	---	38	---	24	---	3.8	.97	---
TOTAL	1010.07	181.9	422.9	690	2067	1986	1260	1260	451.7	193.2	57.87	21.44
MEAN	32.6	6.06	13.6	22.3	73.8	64.1	42.0	40.6	15.1	6.23	1.87	.71
MAX	585	9.5	51	42	1310	447	248	364	24	8.1	3.7	1.5
MIN	.00	4.4	8.2	16	18	37	27	22	8.5	3.8	.97	.40
CFSM	.39	.07	.16	.27	.89	.77	.51	.49	.18	.08	.02	.009
IN.	.45	.08	.19	.31	.93	.89	.56	.56	.20	.09	.03	.01
AC-FT	2000	361	839	1370	4100	3940	2500	2500	896	383	115	43
CAL YR 1984	TOTAL	1618.98	MEAN	4.42	MAX	585	MIN	.00	CFSM	.05	IN	.72
WTR YR 1985	TOTAL	9602.08	MEAN	26.3	MAX	1310	MIN	.00	CFSM	.32	IN	4.30
									AC-FT			3210
									AC-FT			19050



## BRAZOS RIVER BASIN

347

08105200 BERRY CREEK AT STATE HIGHWAY 971 NEAR GEORGETOWN, TX

LOCATION.--Lat 30°40'33", long 97°36'51". Williamson County, Hydrologic Unit 12070203, at downstream side of State Highway 971 bridge and 4.7 mi northeast of Georgetown.

PERIOD OF RECORD.--November 1964 to September 1973 (periodic discharge measurements only), October 1984 to September 1985, (discharges below 100 ft<sup>3</sup>/s only).

GAGE.--Water-stage recorder. Elevation of gage is 617 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1-5, Jan. 23-29, Feb. 23 to Mar. 2, Apr. 13-25, and May 17 to June 4. Daily discharges are not published above 100 ft<sup>3</sup>/s. No known regulation above station. Several observations of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum gage height not determined; minimum daily discharge, no flow Oct. 1-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	23	22	60	30	---	87	43	33	17	12	4.2
2	.00	21	21	45	30	---	86	40	32	17	10	3.9
3	.00	20	21	44	30	94	84	38	32	17	8.7	3.6
4	.00	19	22	51	30	84	82	37	31	17	8.6	3.4
5	.00	18	40	46	31	78	81	36	28	17	8.1	3.5
6	.00	16	27	42	32	74	84	36	---	16	8.5	3.9
7	.00	16	26	41	31	70	87	35	35	16	8.9	3.7
8	.00	16	27	38	31	68	88	34	30	17	7.3	3.4
9	.00	16	27	37	30	66	94	34	29	15	7.8	3.3
10	.00	15	26	37	30	64	99	34	28	15	7.8	5.1
11	5.5	14	25	35	32	63	99	33	27	15	7.3	5.1
12	11	15	26	34	32	62	100	32	26	14	6.8	5.0
13	1.9	14	26	34	30	70	---	97	25	13	6.6	4.8
14	26	14	27	35	30	98	98	51	24	14	6.4	4.7
15	4.0	15	26	38	30	85	94	26	23	13	6.6	4.6
16	1.5	15	35	42	29	77	88	41	22	13	6.4	4.3
17	.93	16	35	58	29	72	82	---	21	13	5.7	4.2
18	.93	18	48	44	29	70	77	100	20	13	5.6	4.0
19	.80	17	41	40	29	67	71	68	20	13	5.3	3.9
20	---	17	37	37	29	---	66	52	19	13	4.8	3.9
21	---	16	36	35	29	100	62	57	19	12	4.2	3.7
22	41	17	34	37	29	87	58	62	20	11	4.4	3.7
23	32	17	34	36	---	90	58	66	19	11	4.2	3.4
24	45	18	34	35	---	93	---	55	19	10	5.2	3.2
25	58	30	34	33	---	93	48	49	19	9.4	5.3	3.3
26	23	21	33	32	---	94	45	45	19	8.3	4.6	3.1
27	26	20	33	31	---	89	43	44	21	9.3	4.6	1.9
28	20	21	33	31	---	91	43	40	18	11	4.6	2.9
29	---	21	33	30	---	86	43	38	18	10	4.7	5.3
30	45	21	34	30	---	87	46	36	18	10	4.7	4.6
31	27	---	65	30	---	87	---	34	---	9.8	4.5	---
TOTAL	---	537	988	1198	---	---	---	---	---	409.8	200.2	117.6
MEAN	---	17.9	31.9	38.6	---	---	---	---	---	13.2	6.46	3.92
MAX	---	30	65	60	---	---	---	---	---	17	12	5.3
MIN	---	14	21	30	---	---	---	---	---	8.3	4.2	1.9
AC-FT	---	1070	1960	2380	---	---	---	---	---	813	397	233

## BRAZOS RIVER BASIN

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 upstream from Manske Branch, 4.7 mi east of Georgetown, and 54.8 mi upstream from mouth.

DRAINAGE AREA.--563 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 582.04 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow partially regulated by Lake Georgetown (station 08104650) since March 1980. The city of Georgetown releases sewage effluent into the river 6.5 mi upstream from this station.

AVERAGE DISCHARGE.--2 years (water years 1978-79) prior to regulation by Lake Georgetown, 165 ft<sup>3</sup>/s (119,500 acre-ft/yr); 6 years (water years 1980-85) regulated, 173 ft<sup>3</sup>/s (125,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,100 ft<sup>3</sup>/s Sept. 3, 1981 (gage height, 21.85 ft); minimum daily, 0.45 ft<sup>3</sup>/s Aug. 22, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1852, about 37 ft Sept. 10, 1921, from information by local residents. The second highest flood since 1852, about 32 ft, occurred Apr. 24, 1957, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,200 ft<sup>3</sup>/s Feb. 23 at 0700 hours (gage height, 18.07 ft); minimum daily, 11.0 ft<sup>3</sup>/s Oct. 1-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	107	66	471	110	1360	511	207	110	73	29	22
2	11	94	67	331	107	763	861	196	106	71	28	22
3	11	89	65	328	107	664	711	193	102	72	26	21
4	11	87	69	391	111	617	444	189	88	72	25	21
5	11	83	243	379	118	564	414	188	97	71	25	23
6	11	76	95	362	123	547	177	184	709	54	24	24
7	43	73	69	346	114	542	170	182	173	52	26	23
8	18	72	186	382	105	537	208	179	123	75	23	23
9	14	71	203	404	99	521	306	174	109	72	22	22
10	19	66	169	157	103	512	309	162	102	57	23	30
11	115	64	195	139	125	501	314	122	96	50	23	38
12	66	61	196	133	111	489	289	120	92	46	23	35
13	23	59	217	136	102	483	479	861	89	45	23	27
14	536	59	301	143	100	721	428	554	86	41	23	27
15	100	58	219	149	96	636	253	215	83	41	25	26
16	39	55	440	298	96	539	446	168	84	40	27	26
17	24	54	317	244	97	524	601	883	83	36	30	25
18	22	76	314	179	98	498	227	171	80	35	26	25
19	21	67	286	156	94	375	224	148	80	36	24	24
20	2990	61	266	138	91	1370	222	150	76	39	22	24
21	2180	58	253	129	175	888	232	264	78	38	21	24
22	440	53	244	125	730	992	253	261	85	36	22	22
23	183	55	241	127	7580	1650	1470	376	81	34	20	22
24	494	59	241	130	801	1630	393	1030	79	32	23	21
25	560	139	233	128	380	1440	245	232	74	31	29	21
26	162	102	231	119	296	1130	229	212	70	30	24	20
27	163	75	238	121	321	1150	220	213	83	31	24	19
28	124	75	206	120	830	1130	213	208	80	31	23	20
29	1220	72	117	117	---	995	218	200	75	29	23	44
30	212	67	113	119	---	402	217	196	75	30	24	38
31	125	---	405	115	---	388	---	184	---	29	23	---
TOTAL	9959	2187	6505	6616	13220	24558	11284	8622	3348	1429	753	759
MEAN	321	72.9	210	213	472	792	376	278	112	46.1	24.3	25.3
MAX	2990	139	440	471	7580	1650	1470	1030	709	75	30	44
MIN	11	53	65	115	91	375	170	120	70	29	20	19
AC-FT	19750	4340	12900	13120	26220	48710	22380	17100	6640	2830	1490	1510
CAL YR 1984	TOTAL	23559.6	MEAN	64.4	MAX	2990	MIN	8.1	AC-FT	46730		
WTR YR 1985	TOTAL	89240.0	MEAN	244	MAX	7580	MIN	11	AC-FT	177000		

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 September 1982.

INSTRUMENTATION.--Continuous recording of water temperature station was discontinued September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 35.5°C July 27, 1982; minimum daily, 2.5°C Jan. 22, 1978, Jan. 2, 1979.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 30...	1640	220	370	7.9	23.0	250	90	8.1	96	1.2	180
DEC 14...	1340	260	415	8.2	16.0	15	14	8.6	89	1.0	210
MAR 21...	0925	750	378	7.7	16.0	70	47	8.4	87	2.4	180
APR 18...	1300	217	460	8.2	24.0	5	5.5	--	--	.6	230
JUN 25...	0941	67	509	7.9	27.0	4	9.8	7.5	96	1.0	240
AUG 13...	1150	21	466	7.6	28.0	10	26	6.5	85	2.3	210

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 30...	27	59	7.1	7.9	.3	2.8	150	23	11	.20	11
DEC 14...	16	61	13	10	.3	2.0	190	22	14	.20	6.8
MAR 21...	16	56	10	8.4	.3	2.0	165	19	12	.20	6.8
APR 18...	29	70	13	11	.3	1.7	200	22	15	.20	7.0
JUN 25...	30	74	14	14	.4	1.6	213	21	22	.20	10
AUG 13...	34	57	16	19	.6	2.0	175	17	38	.20	11

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (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...	210	182	26	1.5	.010	1.5	.020	.88	.90	.180	5.0
DEC 14...	240	25	8	--	<.010	.60	.050	.65	.70	.080	3.1
MAR 21...	210	66	14	.69	.010	.70	.070	.63	.70	.070	4.8
APR 18...	260	15	7	.99	.010	1.0	.060	.34	.40	.080	2.3
JUN 25...	280	24	11	1.8	.030	1.8	.060	.54	.60	.190	2.5
AUG 13...	270	35	15	.48	.020	.50	.060	.64	.70	.170	3.6

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...	1640	<1	40	<1	<10	2	17
JUN 25...	0941	1	48	<1	<10	6	<3
AUG 13...	1150	2	40	<1	<10	2	<3

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...	4	8	<.1	<1	<1	9
JUN 25...	3	5	<.1	<1	<1	10
AUG 13...	<1	3	<.1	<1	<1	4

## BRAZOS RIVER BASIN

08105600 GRANGER LAKE NEAR GRANGER, TX

LOCATION.--30°41'34", long 97°19'34", Williamson County, Hydrologic Unit 12070205, at Granger Dam on San Gabriel River, 1.5 mi south of Friendship, 2.2 mi upstream from Willis Creek, 7.1 mi east of Granger, and at mile 31.9.

DRAINAGE AREA.--730 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1980 to current year.

GAGE--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army 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 long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Jan. 21, 1980. The spillway is an ungated 950-foot long ogee weir, located near right end of dam. The spillway for normal flood releases is a gated 18-foot-diameter conduit, controlled by two 8- by 18-foot slide gates, located near the center of dam. The invert for the floodgate is 457.0 ft. A low-flow outlet consists of three 3- by 4-foot gated openings, with invert elevations of 486.0, 494.0, and 502.0 ft. 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 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 U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 186,200 acre-ft June 19, 1981 (elevation, 522.25 ft); minimum, 615 acre-ft Jan. 21, 1980 (elevation, 462.60 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 103,200 acre-ft Feb. 28 at 1600 hours (elevation, 511.28 ft); minimum daily, 45,120 acre-ft Oct. 6 at 1600 hours (elevation, 498.54 ft).

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

498.0	43,420	504.0	65,510	510.0	95,670
500.0	49,960	506.0	74,610	512.0	107,700
502.0	57,280	508.0	84,650		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45240	77220	65640	67940	73850	102300	76640	75620	66830	66260	65950	63900
2	45210	76690	65730	68260	74040	101900	75720	75960	66210	65900	65900	63900
3	45210	76300	65860	68260	74280	100600	74560	76300	66610	66120	65860	63820
4	45180	75760	66120	67990	74560	99360	73100	76690	66480	66120	65820	63690
5	45150	75280	66920	67460	74900	98000	71560	77030	66430	66170	65730	63640
6	45120	74760	67320	66970	75190	96660	69790	77370	68750	66210	65680	63600
7	45760	74230	67410	66300	75480	95440	67810	77670	69060	66300	65600	63520
8	45790	73800	67720	65110	75760	94180	67140	77760	69060	66390	65510	63470
9	45860	73380	68170	64810	76100	92760	67500	77960	69060	66430	65420	63430
10	45860	72770	68570	65200	76880	91520	67900	77760	68930	66390	65330	63560
11	46480	72300	69020	65460	77180	90140	67940	77560	68800	66340	65240	63520
12	46940	71700	69380	65730	77470	88660	67810	73760	68620	66300	65200	63520
13	47330	71100	71010	66170	77720	87630	68570	72820	68440	66300	65110	63520
14	48360	70650	71660	66520	77910	86240	69790	80260	68300	66260	65020	63470
15	48740	70420	72490	66880	78160	85120	69560	79860	68170	66260	64980	63430
16	48840	69560	75230	68300	78360	83810	68800	77910	68030	66300	65070	63430
17	48840	69160	76100	69020	78610	83600	67940	77130	67900	66480	65020	63350
18	48800	69160	76830	69520	78810	83910	66120	75230	67720	66480	64980	63260
19	48800	68350	77270	69920	79060	82870	65680	73290	67590	66480	64940	63260
20	60330	67900	78110	70150	79310	84120	66120	71330	67460	66480	64810	63260
21	69160	67320	77270	70470	79310	83500	66700	69700	67320	66480	64680	63260
22	70920	66790	75430	70780	79110	82720	67540	68890	67540	66480	64630	63220
23	71660	66300	74230	71150	100700	82980	70650	68570	67540	66430	64590	63090
24	72160	66170	71800	71430	101900	83180	71520	68710	67460	66390	64500	63050
25	73520	66120	69650	71800	102900	83340	72120	68710	67360	66390	64420	63010
26	74090	65900	67680	72070	103100	82770	72540	68620	67190	66340	64370	62880
27	74760	65380	65820	72440	101700	82360	73140	68530	67050	66260	64290	62800
28	75090	65290	64940	72680	101900	81740	73620	68210	66790	66260	64160	62920
29	77860	65420	65380	72960	---	81230	74180	67720	66610	66170	64120	63220
30	77760	65510	65680	73290	---	79760	75090	67140	66430	66120	64120	63350
31	77520	---	67590	73520	---	78160	---	66830	---	66080	64070	---
MAX	77860	77220	78110	73520	103100	102300	76640	80260	69060	66480	65950	63900
MIN	45120	65290	64940	64810	73850	78160	65680	66830	66430	66080	64070	62800
(†)	506.60	504.00	504.47	505.77	511.06	506.73	506.10	504.30	504.21	504.13	503.67	503.50
(‡)	+32210	-12010	-2080	+5930	+28380	-23740	-3070	-8260	-400	-350	-2010	-720
CAL YR 1984	MAX	78110	MIN	45120	(†)							
WTR YR 1985	MAX	103100	MIN	45120	(‡)	+18040						

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.

## BRAZOS RIVER BASIN

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08105600 GRANGER LAKE NEAR GRANGER, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to current year.

304132097200801 GRANGER LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

		SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS. / 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. / 100 ML)	
DATE	TIME										
JAN											
07...	1130	1.00	349	7.9	10.5	.30	10.1	91	23	K7	
07...	1131	.50	--	--	--	--	--	--	--	--	
07...	1132	10.0	349	7.9	10.5	--	10.1	91	--	--	
07...	1134	20.0	349	7.8	10.5	--	10.1	91	--	--	
07...	1136	30.0	350	7.8	10.5	--	10.1	91	--	--	
07...	1138	40.0	350	7.8	10.0	--	10.1	90	--	--	
07...	1140	50.0	401	7.8	10.0	--	9.5	84	--	--	
APR											
22...	1040	1.00	412	8.1	21.5	.60	7.7	89	K3	K1	
22...	1041	1.00	--	--	--	--	--	--	--	--	
22...	1042	10.0	412	8.1	21.5	--	7.7	89	--	--	
22...	1044	20.0	414	8.1	21.0	--	7.3	84	--	--	
22...	1046	30.0	420	7.9	19.5	--	5.4	60	--	--	
22...	1048	40.0	425	7.7	18.5	--	2.8	31	--	--	
JUL											
29...	1115	1.00	330	8.2	29.5	.85	7.6	100	K1	K2	
29...	1116	1.40	--	--	--	--	--	--	--	--	
29...	1118	10.0	330	8.1	29.5	--	7.3	96	--	--	
29...	1120	20.0	338	7.9	29.0	--	5.3	69	--	--	
29...	1122	30.0	346	7.4	28.0	--	.5	6	--	--	
29...	1124	40.0	357	7.2	27.5	--	.2	3	--	--	
29...	1126	50.0	362	7.2	27.0	--	.2	3	--	--	
		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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
DATE											
JAN											
07...	160	26	50	7.5	13	.5	3.1	130	22	16	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	180	21	57	9.3	12	.4	2.9	160	21	16	--
APR											
22...	200	33	65	9.6	12	.4	3.3	169	22	14	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	210	34	69	9.8	12	.4	2.8	179	23	14	--
JUL											
29...	140	17	39	9.2	14	.5	2.9	118	22	16	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	150	14	46	9.4	14	.5	2.9	140	21	15	--



## BRAZOS RIVER BASIN

## GRANGER LAKE NEAR GRANGER, TX--Continued

304132097200801 GRANGER LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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									
07...	.20	7.4	200	.60	.30	.90	.040	100	8
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	.60	.40	1.0	.040	20	<10
07...	--	--	--	--	--	--	--	--	--
07...	--	7.2	220	.90	.30	1.2	.050	12	9
APR									
22...	.20	6.8	230	1.0	.60	1.6	.020	170	19
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	1.0	.70	1.7	.030	160	20
22...	--	--	--	1.0	.70	1.7	.030	250	70
22...	--	9.2	250	1.0	.70	1.7	.050	370	55
JUL									
29...	.30	6.1	180	.10	.50	.60	.020	10	7
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	.20	.50	.70	.030	50	10
29...	--	--	--	.30	.40	.70	.030	20	50
29...	--	--	--	--	--	--	--	--	--
29...	--	9.2	200	<.10	.80	--	.040	620	1000

304209097195101 GRANGER LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
07...	1115	1.00	350	8.0	10.5	10.1	91
07...	1117	10.0	350	7.9	10.5	10.1	91
07...	1119	20.0	350	7.9	10.5	10.2	92
07...	1121	30.0	350	7.9	10.5	10.2	92
07...	1123	40.0	350	8.0	10.5	10.2	92
07...	1125	45.0	350	8.0	10.5	10.2	92
APR							
22...	1015	1.00	412	8.2	22.0	8.0	94
22...	1017	10.0	412	8.2	22.0	8.0	94
22...	1019	20.0	412	8.2	21.5	7.9	92
22...	1021	30.0	413	8.2	21.5	7.8	91
22...	1023	40.0	425	7.8	19.0	3.4	38
22...	1025	46.0	425	7.8	19.0	2.5	28
JUL							
29...	1050	1.00	326	8.1	30.0	7.7	102
29...	1052	10.0	326	8.1	30.0	7.7	102
29...	1054	20.0	330	8.0	29.5	6.9	91
29...	1056	30.0	340	7.5	28.5	1.8	23
29...	1100	45.0	362	7.2	27.5	.0	0
29...	1158	40.0	360	7.2	27.5	.1	1

## BRAZOS RIVER BASIN

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08105600 GRANGER LAKE NEAR GRANGER, TX--Continued

304206097215001 GRANGER LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JAN							
07...	1210	1.00	355	7.9	9.5	.30	10.6
07...	1212	10.0	356	7.9	9.0	--	10.6
07...	1214	20.0	357	7.9	9.0	--	10.6
07...	1216	29.0	357	8.2	9.0	--	10.6
APR							
22...	1110	1.00	410	8.1	22.5	.30	7.8
22...	1112	10.0	410	8.1	22.0	--	7.7
22...	1114	17.0	410	8.1	22.0	--	7.6
JUL							
29...	1200	1.00	326	8.2	30.0	.90	7.6
29...	1202	10.0	330	8.1	29.5	--	7.2
29...	1204	20.0	347	7.5	28.5	--	2.2
29...	1206	26.0	349	7.5	28.5	--	.8

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								
07...	93	.60	.60	1.2	.040	50	<10	
07...	92	--	--	--	--	--	--	
07...	92	.60	.30	.90	.050	20	<10	
07...	92	.60	.50	1.1	.060	20	<10	
APR								
22...	92	1.0	.80	1.8	.060	340	30	
22...	90	1.0	.90	1.9	.060	420	40	
22...	89	1.0	.80	1.8	.080	1100	100	
JUL								
29...	101	<.10	.50	--	.030	20	<10	
29...	95	<.10	.50	--	.030	40	10	
29...	28	--	--	--	--	--	--	
29...	10	<.10	.80	--	.060	70	140	

304108097215101 GRANGER LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
07...	1235	1.00	394	7.9	10.0	.50	10.4	92	K110	K8
07...	1239	20.0	398	7.9	9.5	--	10.3	90	--	--
07...	1241	30.0	399	7.9	9.5	--	10.2	90	--	--
07...	1243	42.0	404	7.9	9.5	--	10.1	89	--	--
APR										
22...	1130	1.00	426	8.0	21.5	.30	7.8	91	K4	K5
22...	1132	10.0	426	8.0	21.5	--	7.7	89	--	--
22...	1134	20.0	426	8.0	21.5	--	7.7	89	--	--
22...	1136	30.0	426	8.0	21.5	--	7.7	89	--	--
22...	1138	36.0	427	8.0	21.0	--	6.8	78	--	--
JUL										
29...	1230	1.00	340	7.9	29.0	--	5.9	77	<1	<1
29...	1232	10.0	342	7.9	28.5	--	5.9	76	--	--
29...	1234	20.0	342	7.7	28.5	--	4.2	54	--	--
29...	1236	30.0	354	7.3	28.0	--	.3	4	--	--
29...	1238	42.0	363	7.3	27.5	--	.2	3	--	--

## BRAZOS RIVER BASIN

## GRANGER LAKE NEAR GRANGER, TX--Continued

304108097215101 GRANGER LAKE SITE CC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
07...	180	27	56	9.0	12	.4	2.7	150	22
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	190	26	59	9.3	12	.4	2.6	160	21
APR									
22...	210	30	66	10	12	.4	2.5	176	21
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	200	25	64	10	12	.4	2.1	176	22
JUL									
29...	140	13	40	9.0	13	.5	2.9	124	22
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	150	9	43	9.2	13	.5	3.3	136	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)	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									
07...	16	6.8	210	.90	.30	1.2	.050	7	4
07...	--	--	--	.90	.40	1.3	.050	40	<10
07...	--	--	--	--	--	--	--	--	--
07...	15	7.1	220	.90	.80	1.7	.190	8	5
APR									
22...	14	6.5	240	1.0	.60	1.6	.050	6	5
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	1.0	.70	1.7	.080	30	20
22...	--	--	--	1.0	.70	1.7	.050	10	<10
22...	14	6.5	240	1.0	.60	1.6	.060	9	4
JUL									
29...	16	6.3	180	.20	.60	.80	.040	<3	6
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	.20	.50	.70	.050	40	40
29...	--	--	--	--	--	--	--	--	--
29...	15	7.7	200	<.10	.80	--	.040	80	630

303947097231401 GRANGER LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
07...	1305	1.00	444	7.7	10.5	.40	9.7	87	K310	80
07...	1306	.50	--	--	--	--	--	--	--	--
07...	1307	10.0	446	7.6	9.5	--	9.6	84	--	--
07...	1309	20.0	450	7.8	9.0	--	9.5	82	--	--
07...	1311	27.0	450	8.0	8.5	--	9.4	81	--	--
APR										
22...	1200	1.00	467	7.7	22.0	.40	5.4	63	K65	21
22...	1201	.60	--	--	--	--	--	--	--	--
22...	1202	10.0	440	7.5	20.5	--	3.1	35	--	--
22...	1204	20.0	460	7.3	19.0	--	.3	3	--	--
22...	1206	26.0	482	7.3	19.0	--	.2	2	--	--
JUL										
29...	1305	1.00	364	7.5	29.0	.49	2.6	34	K2	63
29...	1308	10.0	368	7.4	29.0	--	1.6	21	--	--
29...	1309	15.0	362	7.4	28.0	--	1.6	21	--	--
29...	1310	20.0	361	7.5	28.0	--	2.6	33	--	--
29...	1312	25.0	367	7.4	28.0	--	2.2	28	--	--

BRAZOS RIVER BASIN

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GRANGER LAKE NEAR GRANGER, TX--Continued

303947097231401 GRANGER LAKE SITE DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
07...	220	28	69	11	11	.3	2.0	190	20
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	210	16	61	13	8.2	.3	2.1	190	22
APR									
22...	230	36	72	12	12	.4	2.7	194	23
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	230	30	73	12	12	.4	2.2	202	28
JUL									
29...	150	12	43	9.6	14	.5	2.9	135	23
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	150	9	43	9.7	14	.5	2.9	139	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)	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									
07...	14	7.4	250	1.1	.30	1.4	.050	5	7
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	1.1	.20	1.3	.060	100	20
07...	--	--	--	--	--	--	--	--	--
07...	14	7.5	240	1.1	.50	1.6	.090	10	28
APR									
22...	16	7.2	260	1.0	.70	1.7	.050	5	11
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	1.0	1.0	2.0	.070	80	30
22...	--	--	--	--	--	--	--	--	--
22...	15	7.7	270	.70	1.1	1.8	.100	52	630
JUL									
29...	18	7.3	200	.30	.60	.90	.050	10	8
29...	--	--	--	.20	.50	.70	.040	30	20
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	.20	.60	.80	.040	100	40
29...	18	7.3	200	.20	.60	.80	.030	7	190

BRAZOS RIVER BASIN  
GRANGER LAKE NEAR GRANGER, TX--Continued

Granger Lake AC (304132097200801)

Phytoplankton Analyses October 1984 to September 1985

Date	1-7-85
Time	1131
<hr/>	
TOTAL CELLS/ml	4,941
NUMBER OF SPECIES	17
DEPTH COLLECTED (ft.)	0.5

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Chlorococcum humicola</u>	57
<u>Chodatella subsalsa</u>	227
<u>Oocystis</u> sp.	682
<u>Scenedesmus</u> sp.	227
<u>Selenastrum minutum</u>	170
<u>Tetrastrum staurogeniaeforme</u>	227
CYANOPHYTA (Blue-green algae)	
<u>Dactylococcopsis fascicularis</u>	170
<u>Dactylococcopsis irregularis</u>	170
<u>Synechocystis</u> sp.	170
EUGLENOPHYTA (Euglenoids)	
<u>Phacus brevicauda</u>	57
CRYPTOPHYTA (Cryptomonads)	
<u>Chroomonas</u> sp.	284
<u>Cryptomonas ovata</u>	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella stelligera</u>	2102
<u>Melosira islandica</u>	57
Order Pennales	
<u>Achnanthes</u> sp.	57
<u>Navicula elginensis</u>	170
<u>Nitzschia subacicularis</u>	57



BRAZOS RIVER BASIN

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GRANGER LAKE NEAR GRANGER, TX--Continued

Granger Lake AC (304132097200801)

Phytoplankton Analyses October 1984 to September 1985

Date 4-22-85  
Time 1041

TOTAL CELLS/ml 8,693  
NUMBER OF SPECIES 14  
DEPTH COLLECTED (ft.) 1.0

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Closterium</u> sp.	57
<u>Scenedesmus</u> sp.	114
<u>Selenastrum minutum</u>	57
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	5339
<u>Chroococcus dispersus</u>	625
<u>Dactylococcopsis</u> sp.	57
<u>Synechococcus aeruginosa</u>	114
<u>Synechococcus elongatus</u>	227
<u>Synechococcus</u> sp.	511
CRYPTOPHYTA (Cryptomonads)	
<u>Chroomonas</u> sp.	114
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella ocellata</u>	682
<u>Melosira granulata</u>	477
<u>Melosira granulata</u> var. <u>angustissima</u>	205
Order Pennales	
<u>Navicula</u> sp.	114

## BRAZOS RIVER BASIN

GRANGER LAKE NEAR GRANGER, TX--Continued

Granger Lake AC (304132097200801)

Phytoplankton Analyses October 1984 to September 1985

Date	7-29-85
Time	1116

TOTAL CELLS/ml	184,365
NUMBER OF SPECIES	49
DEPTH COLLECTED (ft.)	1.4

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Actinastrum</u> sp.	227
<u>Ankistrodesmus braunii</u>	57
<u>Ankistrodesmus convolutus</u>	114
<u>Carteria</u> sp.	57
<u>Chlorococcum</u> sp.	170
<u>Chlorogonium</u> sp.	227
<u>Closterium</u> sp.	57
<u>Coelastrum sphaericum</u>	454
<u>Cosmarium</u> sp.	57
<u>Crucigenia tetrapedia</u>	454
<u>Franceia ovalis</u>	57
<u>Gloeocystis</u> sp.	227
<u>Nephrocytium</u> sp.	454
<u>Scenedesmus quadricauda</u>	57
<u>Scenedesmus</u> sp.	57
<u>Schroederia judayi</u>	57
<u>Sphaerocystis schroeteri</u>	341
<u>Tetradron gracile</u>	57
<u>Tetradron trigonum</u>	114
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	33398
<u>Aphanocapsa elachista</u>	6930
<u>Aphanocapsa elachista</u> var. <u>conferta</u>	11701
<u>Aphanothece saxicola</u>	65888
<u>Chroococcus giganteus</u>	568
<u>Chroococcus pallidus</u>	454
<u>Chroococcus turgidus</u>	454
<u>Chroococcus turicensis</u>	795
<u>Dactylococcopsis acicularis</u>	170
<u>Merismopedia punctata</u>	3635
<u>Merismopedia tenuissima</u>	5907
<u>Microcystis marina</u>	909
<u>Pseudoanabaena</u> sp.	284
<u>Raphidiopsis curvata</u>	6930
<u>Spirulina laxa</u>	1590
<u>Synechococcus aeruginosa</u>	1818
<u>Synechococcus elongatus</u>	795
<u>Synechococcus lineare</u>	1931
<u>Synechococcus lineare</u> var. <u>spirale</u>	1136
<u>Synechococcus</u> sp.	34534
EUGLENOPHYTA (Euglenoids)	
<u>Trachelomonas volvocina</u>	57
PYRRROPHYTA (Dinoflagellates)	
<u>Ceratium hirundinella</u>	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella stelligera</u>	341
<u>Melosira italica</u>	178
<u>Stephanodiscus</u> sp.	28
Order Pennales	
<u>Nitzschia acicularis</u>	14
<u>Nitzschia subacicularis</u>	57
<u>Nitzschia</u> sp.	170
<u>Synedra delicatissima</u>	273
<u>Synedra rumpens</u>	68

BRAZOS RIVER BASIN  
GRANGER LAKE NEAR GRANGER, TX--Continued

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Granger Lake DC (303947097231401)

Phytoplankton Analyses October 1984 to September 1985

Date	1-7-85
Time	1306
<hr/>	
TOTAL CELLS/ml	15,128
NUMBER OF SPECIES	16
DEPTH COLLECTED (ft.)	0.5
<hr/>	

<u>Organisms</u>	<u>Cells/ml</u>
 CHLOROPHYTA (Green algae)	
<u>Chlorococcum humicola</u>	114
<u>Closterium</u> sp.	57
<u>Uocystis</u> sp.	227
<u>Scenedesmus</u> sp.	227
 CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	1364
<u>Aphanocapsa elachista</u>	568
<u>Aphanothece</u> sp.	5795
<u>Chroococcus pallidus</u>	682
<u>Microcystic marina</u>	1420
<u>Oscillatoria subtilissima</u>	1023
<u>Rhabdoderma sigmoidea</u>	739
<u>Synechococcus aeruginosa</u>	57
<u>Synechococcus elongatus</u>	170
<u>Synechococcus lineare</u>	2614
 BACILLARIOPHYTA (Diatoms)	
Order Pennales	
<u>Achnanthes deflexa</u>	14
<u>Navicula cryptocephala</u>	57

## BRAZOS RIVER BASIN

GRANGER LAKE NEAR GRANGER, TX--Continued

Granger Lake DC (303947097231401)

Phytoplankton Analyses October 1984 to September 1985

Date	4-22-85
Time	1201

TOTAL CELLS/ml	11,590
NUMBER OF SPECIES	26
DEPTH COLLECTED (ft.)	0.6

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	57
<u>Ankistrodesmus nannoselene</u>	57
<u>Chlamydomonas</u> sp.	114
<u>Chodatella longiseta</u>	170
<u>Gloeocystis</u> sp.	57
<u>Mesotaenium</u> sp.	57
<u>Scenedesmus denticulatus</u>	227
<u>Scenedesmus quadrifida</u>	114
<u>Selenastrum minutum</u>	57
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	1818
<u>Aphanothece</u> sp.	57
<u>Chroococcus giganteus</u>	284
<u>Chroococcus multicoloratus</u>	1136
<u>Chroococcus</u> sp.	454
<u>Dactylococcopsis fascicularis</u>	284
<u>Dactylococcopsis raphidioides</u>	57
<u>Synechococcus elongatus</u>	1306
<u>Synechococcus</u> sp.	4260
EUGLENOPHYTA (Euglenoids)	
<u>Euglena</u> sp.	114
<u>Phacotus</u> sp.	57
CRYPTOPHYTA (Cryptomonads)	
<u>Chroomonas</u> sp.	57
<u>Cryptomonas</u> sp.	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella ocellata</u>	398
Order Pennales	
<u>Diploneis</u> sp.	57
<u>Navicula</u> sp.	227
<u>Nitzschia palea</u>	57

## GRANGER LAKE NEAR GRANGER, TX--Continued

Granger Lake DC (303947097231401)

Phytoplankton Analyses October 1984 to September 1985

Date	7-29-85
Time	1306
<hr/>	
TOTAL CELLS/ml	98,560
NUMBER OF SPECIES	47
DEPTH COLLECTED (ft.)	0.8

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	57
<u>Chlamydomonas</u> sp.	114
<u>Chlorococcum</u> sp.	738
<u>Chlorogonium</u> sp.	57
<u>Chodatella subsala</u>	57
<u>Crucigenia tetrapedia</u>	341
<u>Uocystis</u> sp.	57
<u>Pediastrum simplex</u>	2386
<u>Phacotus</u> sp.	57
<u>Scenedesmus dimorphus</u>	227
<u>Scenedesmus quadricauda</u>	227
<u>Scenedesmus</u> sp.	852
<u>Staurastrum americanum</u>	170
<u>Tetraedron gracile</u>	57
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	33512
<u>Aphanocapsa elachista</u>	3806
<u>Aphanothece saxicola</u>	3181
<u>Chroococcus multicoloratus</u>	114
<u>Chroococcus pallidus</u>	1363
<u>Chroococcus varius</u>	1250
<u>Chroococcus turicensis</u>	454
<u>Dactylococcopsis raphidioides</u>	114
<u>Dactylococcopsis</u> sp.	1590
<u>Gloeotheca linearis</u>	114
<u>Merismopedia punctata</u>	1818
<u>Merismopedia tenuissima</u>	7725
<u>Microcystis marina</u>	2954
<u>Microcystis</u> sp.	4544
<u>Pseudoanabaena</u> sp.	227
<u>Spirulina laxa</u>	454
<u>Spirulina</u> sp.	114
<u>Synechococcus aeruginosa</u>	1704
<u>Synechococcus elongatus</u>	795
<u>Synechococcus lineare</u>	227
<u>Synechococcus lineare</u> var. <u>spirale</u>	3181
<u>Synechococcus</u> sp.	22606
EUGLENOPHYTA (Euglenoids)	
<u>Euglena acus</u>	114
<u>Euglena</u> sp.	57
PYRRROPHYTA (Dinoflagellates)	
<u>Ceratium hirundinella</u>	57
CRYPTOPHYTA (Cryptomonads)	
<u>Cryptomonas ovata</u>	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella stelligera</u>	398
<u>Melosira italica</u>	341
Order Pennales	
<u>Navicula schroeteri</u> var. <u>escambia</u>	57
<u>Nitzschia acicularis</u>	7
<u>Nitzschia paleacea</u>	57
<u>Nitzschia subacicularis</u>	114
<u>Nitzschia</u> sp.	57



## BRAZOS RIVER BASIN

08105700 SAN GABRIEL RIVER AT LANEPORT, TX

LOCATION.--Lat 30°41'39", long 97°16'43", Williamson County, Hydrologic Unit 12070205, on right bank at upstream (revised) side of county bridge, 0.2 mi north of Laneport, 3.4 mi downstream from Willis Creek, 7.5 mi northwest of Thrall, and 26.2 mi upstream from mouth.

DRAINAGE AREA.--738 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 11-18. Records good. Flow partly regulated by Granger Lake (station 08105600) since Jan. 21, 1980. Gage-height telemeter at station.

AVERAGE DISCHARGE.--14 years (water years 1966-79) unregulated, 289 ft<sup>3</sup>/s (209,400 acre-ft/yr); 6 years (water years 1980-85) regulated, 192 ft<sup>3</sup>/s (139,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft<sup>3</sup>/s Oct. 31, 1974 (gage height, 30.80 ft); no flow Aug. 21 to Oct. 6, Oct. 13-15, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1910, occurred during September 1921, 39.6 ft; in April 1957, 34.6 ft; and in October 1959, 33.8 ft; from floodmarks at present site and datum. Discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft<sup>3</sup>/s Dec. 21 at 1930 hours (gage height, 10.31 ft); no flow Oct. 1-6, 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	360	10	304	2.6	1240	1160	3.6	136	132	5.7	5.5
2	.00	363	9.5	301	2.7	1230	1150	2.5	135	132	5.2	5.2
3	.00	366	7.6	300	2.5	1240	1160	2.2	135	133	5.2	4.9
4	.00	371	8.6	498	2.5	1240	1160	2.2	135	134	5.2	5.1
5	.00	371	9.7	667	2.5	1230	1150	2.1	136	98	5.2	5.6
6	.00	371	3.0	668	2.5	1230	1140	1.9	139	3.4	4.9	5.8
7	.13	372	2.3	667	2.4	1230	1140	1.9	137	1.4	4.8	5.8
8	.02	373	1.7	875	2.0	1230	647	1.9	137	1.0	4.6	5.8
9	.03	374	2.3	719	2.0	1220	144	1.5	137	.80	4.3	5.2
10	.03	374	3.0	10	2.2	1220	141	348	135	5.3	4.4	6.1
11	.30	370	4.9	5.1	2.2	1220	280	1130	136	6.1	4.6	6.3
12	.03	366	6.0	4.0	2.2	1220	469	1120	135	6.1	4.6	6.1
13	.00	367	81	3.6	2.0	1220	10	827	134	6.1	4.3	5.7
14	.00	368	12	3.4	2.0	1220	5.8	12	134	6.1	4.3	5.5
15	.00	368	4.5	3.0	2.0	1210	249	465	134	5.8	4.5	5.2
16	.01	367	27	5.5	1.9	1210	697	1140	134	5.8	4.8	5.2
17	.04	361	7.1	5.6	1.9	762	959	1190	132	5.8	4.9	5.2
18	.04	363	3.3	3.7	1.9	327	1120	1190	132	5.8	4.9	5.4
19	.09	357	2.6	2.8	1.9	925	609	1140	132	5.8	4.9	5.5
20	27	356	2.2	2.9	1.7	1110	10	1170	132	5.8	4.9	5.9
21	61	355	498	2.9	135	1090	6.7	1210	132	5.8	4.8	3.3
22	11	354	1220	2.5	704	1130	5.4	916	135	5.8	5.1	2.4
23	8.4	353	1200	2.5	1070	1200	5.5	329	133	5.7	5.0	2.1
24	3.3	356	1220	2.5	601	1190	4.0	759	132	4.6	5.2	.49
25	1.8	359	1210	2.5	7.5	1190	4.4	272	132	4.5	5.5	.11
26	1.1	358	1220	2.5	348	1190	5.1	272	132	4.8	5.5	.05
27	.82	358	1200	2.8	932	1190	3.5	271	132	5.3	5.5	.04
28	.92	213	850	3.1	1240	1180	3.1	349	132	5.5	5.3	.05
29	117	14	12	3.1	---	1180	2.9	478	132	5.5	5.4	3.5
30	355	11	5.8	3.2	---	1170	2.9	472	132	5.5	5.7	.84
31	359	---	193	3.4	---	1160	---	351	---	5.7	5.7	---
TOTAL	947.06	10069	9037.1	5079.6	5081.1	35604	13444.3	15430.8	4021	758.80	154.9	123.88
MEAN	30.6	336	292	164	181	1149	448	498	134	24.5	5.00	4.13
MAX	359	374	1220	875	1240	1240	1160	1210	139	134	5.7	6.3
MIN	.00	11	1.7	2.5	1.7	327	2.9	1.5	132	.80	4.3	.04
AC-FT	1880	19970	17930	10080	10080	70620	26670	30610	7980	1510	307	246
CAL YR 1984	TOTAL	31858.16	MEAN	87.0	MAX	1220	MIN	.00	AC-FT	63190		
WTR YR 1985	TOTAL	99751.54	MEAN	273	MAX	1240	MIN	.00	AC-FT	197900		

## BRAZOS RIVER BASIN

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08105700 SAN GABRIEL RIVER AT LANEPOR, 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 March 1982.

INSTRUMENTATION.--Continuous recording of water temperature was discontinued March 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 37.5°C July 9, 1978; minimum daily, 1.5°C Jan. 28, 1978.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 30...	1440	357	288	8.0	19.0	250	78	9.2	100	1.2	120
DEC 17...	1435	6.4	515	7.3	17.0	100	62	6.5	68	1.5	190
MAR 22...	1435	1090	377	8.0	16.5	50	31	8.6	89	1.5	160
APR 19...	1600	43	431	8.0	25.0	4	21	8.4	103	1.0	200
JUN 26...	1400	135	356	8.0	29.0	7	31	4.9	65	1.0	160
AUG 15...	1200	5.5	362	7.9	29.0	10	18	6.9	91	.8	160

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)	ALKA- LILITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 30...	24	39	6.1	12	.5	4.2	99	22	15	.20	7.2
DEC 17...	67	62	7.7	27	.9	3.9	120	86	29	.20	11
MAR 22...	15	51	7.7	12	.4	3.0	144	22	16	.20	6.3
APR 19...	30	64	9.7	13	.4	2.7	170	24	15	.20	6.4
JUN 26...	24	48	9.4	12	.4	2.8	135	21	16	.30	7.2
AUG 15...	28	46	10	15	.5	3.1	128	24	20	.30	7.5

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, 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...	170	122	13	.51	.090	.60	.020	.68	.70	.130	4.1
DEC 17...	300	78	13	.87	.030	.90	.030	.77	.80	.100	7.3
MAR 22...	200	34	8	1.1	.040	1.1	.100	.60	.70	.060	4.0
APR 19...	240	35	8	.97	.030	1.0	.070	.43	.50	.040	3.4
JUN 26...	200	55	16	.58	.020	.60	.030	.57	.60	.050	5.1
AUG 15...	200	17	5	--	<.010	.40	.050	.35	.40	.030	2.6

## BRAZOS RIVER BASIN

08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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...	1440	3	37	<1	20	2	20
JUN 26...	1400	3	54	<1	<10	2	7
AUG 15...	1200	3	52	<1	<10	2	3

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...	4	9	<.1	<1	<1	8
JUN 26...	2	3	<.1	<1	<1	19
AUG 15...	<1	3	<.1	<1	<1	11

BRAZOS RIVER BASIN

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08106310 SAN GABRIEL RIVER NEAR ROCKDALE, TX

LOCATION.--Lat 30°43'29", long 97°02'19", Milam County, Hydrologic Unit 12070204, on left bank at downstream side of Farm Road 486, 1.2 mi downstream from Brushy Creek, 4.3 mi upstream from mouth, and 5.3 mi north of Rockdale.

DRAINAGE AREA.--1,359 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1974 to current year. Prior to October 1980, gage-height record only (not published).

GAUGE.--Water-stage recorder. Datum of gage is 311.59 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow is largely regulated by Granger Lake (station 08105600). Flow is affected at times by discharge from the flood-detention pools of 46 floodwater-retarding structures with a combined detention capacity of 46,140 acre-ft. These structures control runoff from 144 mi<sup>2</sup> in the Brushy Creek drainage basin. U.S. Army Corps of Engineers satellite telemeter at station. Several observations of water temperature were made during the year. Backwater from Little River will occur at times.

AVERAGE DISCHARGE.--5 years, 409 ft<sup>3</sup>/s (296,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 32.91 ft July 27, 1979 (discharge not determined, but may have been in backwater from Little River). Maximum discharge, 15,600 ft<sup>3</sup>/s June 14, 1981 (gage height, 32.11 ft), minimum daily, 0.08 ft<sup>3</sup>/s July 13, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,400 ft<sup>3</sup>/s Oct. 22 at 0300 hours (gage height, 30.78 ft); minimum daily, 0.76 ft<sup>3</sup>/s Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.89	669	92	3010	86	2890	1210	385	213	159	18	8.1
2	.98	589	82	841	83	2190	1200	134	176	155	16	7.1
3	.91	567	74	730	81	1700	1200	89	173	149	14	6.8
4	.87	521	83	1060	82	1590	1200	66	169	190	12	6.5
5	.86	499	247	1080	87	1480	1200	51	168	178	11	6.4
6	.76	476	292	927	109	1400	1200	44	413	99	11	6.8
7	1.8	459	199	860	116	1360	1190	39	2190	39	9.0	7.0
8	2.1	453	129	875	106	1350	1070	37	1120	30	8.8	7.2
9	38	444	105	1190	95	1350	259	34	595	26	8.0	6.4
10	162	439	94	314	186	1330	237	33	450	22	8.0	6.4
11	355	432	85	163	809	1320	225	919	365	22	8.1	8.7
12	1160	424	80	135	399	1310	614	1090	286	26	7.4	9.8
13	425	420	894	123	198	1300	216	1110	248	26	7.4	14
14	906	420	1700	118	152	1290	131	1210	229	24	7.3	12
15	1280	420	361	122	126	1300	205	819	214	22	7.1	9.4
16	252	415	1210	230	109	1300	664	1220	204	22	7.1	8.3
17	135	419	1610	824	103	1200	888	2110	193	21	7.6	7.4
18	73	429	724	462	97	430	1110	1560	183	19	7.5	6.9
19	46	445	386	275	90	730	1050	1260	176	18	6.8	7.2
20	926	455	289	202	85	1920	151	1210	174	18	6.5	7.3
21	8120	422	238	163	83	2290	83	1320	172	20	6.5	6.8
22	11900	413	1250	133	414	1370	78	1350	172	25	6.4	6.4
23	3570	408	1300	123	1210	1330	614	410	178	19	6.5	5.2
24	2410	402	1280	121	4590	1290	586	953	189	17	6.5	3.6
25	1440	442	1290	119	3010	1270	135	433	185	15	6.5	3.2
26	1000	782	1260	113	999	1260	88	355	179	13	6.4	2.9
27	794	489	1250	106	1430	1250	77	343	174	16	6.1	2.4
28	859	436	1220	100	1810	1250	69	342	168	22	5.6	2.7
29	758	181	272	97	---	1250	61	529	161	22	8.5	10
30	987	104	136	93	---	1240	58	538	160	19	8.7	31
31	768	---	1830	90	---	1220	---	535	---	18	8.3	---
TOTAL	38373.17	13474	20062	14799	16745	43760	17069	20528	9677	1471	264.6	233.9
MEAN	1238	449	647	477	598	1412	569	662	323	47.5	8.54	7.80
MAX	11900	782	1830	3010	4590	2890	1210	2110	2190	190	18	31
MIN	.76	104	74	90	81	430	58	33	160	13	5.6	2.4
AC-FT	76110	26730	39790	29350	33210	86800	33860	40720	19190	2920	525	464
CAL YR 1984	TOTAL	85666.04	MEAN	234	MAX	11900	MIN	.08	AC-FT	169900		
WTR YR 1985	TOTAL	196456.67	MEAN	538	MAX	11900	MIN	.76	AC-FT	389700		

LOCATION.--Lat 30°45'38", long 97°00'49", Milam County, Hydrologic Unit 12070204, on right bank downstream from Alcoa pumping station, 200 ft downstream from mouth of San Gabriel River, and 6.8 mi north of Rockdale.

PERIOD OF RECORD.--February 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is 299.12 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: May 3-7. Records good. Daily discharges are not published above 1,000 ft<sup>3</sup>/s. There are numerous diversions for irrigation and municipal supply above station. For statement regarding regulation by the Soil Conservation Service floodwater-retarding structures, see station No. 08106310. The Aluminum Co. of America diverts water from Little River to their plant reservoir. Satellite telemetry located at station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 35.67 ft June 15, 1981 (maximum discharge not determined); minimum daily discharge, 13 ft<sup>3</sup>/s May 9, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 32.41 ft Oct. 22 (maximum discharge not determined); minimum daily discharge, 23 ft<sup>3</sup>/s Sept. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

[illegible]



## 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 upstream from bridge on U.S. Highway 77, 1.1 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2 mi southeast of Cameron, and 33.6 mi upstream from mouth.

DRAINAGE AREA.--7,065 mi<sup>2</sup>.

## 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 above 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 upstream at different datum. Oct. 1, 1922, to Apr. 8, 1926, nonrecording gage at McCowan Bridge 30 ft downstream at same datum. Apr. 9, 1926, to Oct. 9, 1933, nonrecording gage at bridge on U.S. Highway 77, 2,020 ft downstream at 1.58 ft lower datum.

REMARKS.--No estimated daily discharges. Records good. Many small diversions for irrigation and municipal supply affect 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. The Aluminum Co. of America diverts water 10.9 mi upstream from the gage for use at their Rockdale plant. The city of Cameron diverts water 2.1 mi upstream from the gage. Treated effluent is returned to the river upstream from gage. 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. These structures control runoff from 209 mi<sup>2</sup> in the Nolan, Donahoe, and Brushy Creeks drainage basins. Satellite telemeter located at station.

AVERAGE DISCHARGE.--36 years (water years 1918-53) unregulated, 1,807 ft<sup>3</sup>/s (1,309,000 acre-ft/yr); 32 years (water years 1954-85) regulated, 1,528 ft<sup>3</sup>/s (1,108,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 647,000 ft<sup>3</sup>/s Sept. 10, 1921 (gage height, 53.2 ft, present datum, from floodmark), from rating curve extended above 110,000 ft<sup>3</sup>/s on basis of slope-area measurement of 647,000 ft<sup>3</sup>/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. Stages based on information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,500 ft<sup>3</sup>/s Feb. 24 at 1800 hours (gage height, 29.44 ft); minimum daily, 16 ft<sup>3</sup>/s Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	804	225	6270	279	4700	1590	1180	1110	722	113	72
2	105	670	204	2010	269	4380	1550	1480	582	687	85	72
3	99	892	179	1140	262	2740	1980	663	433	693	84	58
4	98	670	176	1330	253	2320	2080	596	391	695	88	71
5	93	575	403	1440	242	2120	2060	678	388	956	84	83
6	92	530	653	1230	293	1920	2070	666	453	692	80	81
7	116	495	536	1110	314	1830	2040	646	3180	394	87	53
8	253	477	331	1040	289	1790	2010	622	2120	291	78	57
9	295	468	262	1330	268	1780	1240	616	836	309	90	54
10	226	456	231	744	358	1760	1060	614	627	296	81	52
11	561	442	201	357	1270	1720	1040	1510	538	277	78	60
12	1230	432	156	324	1350	1690	1320	3260	453	239	82	142
13	1270	418	811	297	560	1670	1200	3400	390	173	75	128
14	789	415	4590	291	406	1660	1130	4200	353	144	88	131
15	1970	417	1140	300	347	2740	1460	3170	418	116	85	90
16	725	413	1810	419	315	2050	1410	2110	512	110	74	232
17	390	408	3820	1790	323	1820	1400	3970	534	99	81	124
18	301	425	1720	1290	310	1030	1550	4450	556	98	80	93
19	267	456	1670	640	301	972	1580	3520	1500	93	87	101
20	862	566	790	467	294	2450	799	3360	1690	69	84	82
21	7530	460	569	408	287	6780	563	3420	1690	69	77	58
22	12400	432	1240	350	457	2960	551	3630	1690	72	85	33
23	6680	420	1540	307	2080	2070	727	2860	1840	90	71	24
24	3460	413	1490	304	13100	1890	1680	2310	1790	76	68	21
25	2140	432	1480	304	8680	1780	820	1960	1770	83	82	60
26	1790	991	1450	308	2260	1720	604	1700	1690	68	73	27
27	1110	795	1440	314	2140	1680	565	1660	1400	94	115	16
28	1390	714	1430	301	2540	2040	554	1630	1120	104	87	73
29	1200	432	769	308	---	1800	543	1680	966	102	88	142
30	1550	258	336	295	---	1690	559	1390	757	100	79	363
31	1240	---	1110	282	---	1620	---	1370	---	100	70	---
TOTAL	50346	15776	32762	27300	39847	69172	37735	64321	31777	8311	2579	2653
MEAN	1624	526	1057	881	1423	2231	1258	2075	1059	268	83.2	88.4
MAX	12400	991	4590	6270	13100	6780	2080	4450	3180	956	115	363
MIN	92	258	156	282	242	972	543	596	353	68	68	16
AC-FT	99860	31290	64980	54150	79040	137200	74850	127600	63030	16480	5120	5260
CAL YR 1984	TOTAL	162725	MEAN	445	MAX	12400	MIN 11	AC-FT	322800			
WTR YR 1985	TOTAL	382579	MEAN	1048	MAX	13100	MIN 16	AC-FT	758800			

08106500 LITTLE RIVER AT CAMERON, TX--Continued

## WATER-QUALITY RECORDS

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 microsiemens Sept. 25, 26, 1963; minimum daily, 154 microsiemens Sept. 13, 1974.

WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 6, 1964, Aug. 1, 1969; minimum daily, 0.0 °C Dec. 25, 26, 29, 30, 1983.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 766 microsiemens Aug. 3; minimum daily, 232 microsiemens Oct. 22.

WATER TEMPERATURES: Maximum daily, 31.5°C Aug. 10; minimum daily, 3.0°C Feb. 3, 4

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

[illegible]

## BRAZOS RIVER BASIN

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08106500 LITTLE RIVER AT CAMERON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
NOV 27...	34	.30	8.0	271	260	1.3	.020	1.3	1.3	.040
JAN 08...	27	.30	7.7	269	260	1.2	.020	1.2	1.1	.080
FEB 12...	42	.40	5.1	364	340	2.4	.130	2.5	2.6	.410
MAY 07...	50	.30	6.7	301	290	1.1	.020	1.1	1.1	.090
JUN 18...	34	.30	8.3	283	280	1.1	.020	1.1	1.1	.040
JUL 30...	61	.50	7.1	433	420	1.5	.030	1.5	1.5	.020
SEP 11...	--	--	--	--	--	--	--	--	--	--

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (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)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 27...	.080	1.3	1.3	.590	.360	.300	--	--	--
JAN 08...	.090	.72	.80	.210	.130	.120	117	316	98
FEB 12...	.160	2.1	2.5	.850	.420	.390	747	2080	98
MAY 07...	.060	.91	1.0	.220	.170	.140	128	224	99
JUN 18...	.040	.86	.90	.300	.200	.180	106	147	98
JUL 30...	.030	1.3	1.3	.650	.600	.540	27	7.1	90
SEP 11...	--	--	--	--	--	--	31	4.0	99

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 27...	1515	4	61	<.5	<1	9	<3	2	26	7
FEB 12...	1620	2	68	.7	<1	<1	<3	3	27	1
MAY 07...	1310	1	56	<.5	<1	<1	<3	1	5	<1
JUL 30...	1345	6	82	<.5	<1	<1	<3	1	6	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 27...	8	2	<.1	<10	8	<1	<1	430	<6	9
FEB 12...	9	3	<.1	<10	2	<1	1	600	<6	22
MAY 07...	13	4	<.1	<10	4	<1	1	580	<6	19
JUL 30...	19	3	<.1	<10	4	1	<1	720	10	12

## BRAZOS RIVER BASIN

08106500 LITTLE RIVER AT CAMERON, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	50346	289	157	21400	18	2430	17	2260	120
NOV.	1984	15776	427	235	10000	28	1190	27	1160	170
DEC.	1984	32762	423	233	20600	28	2440	27	2390	170
JAN.	1985	27300	470	260	19200	32	2320	32	2330	180
FEB.	1985	39847	393	217	23300	26	2780	25	2730	160
MAR.	1985	69172	439	241	45100	29	5360	28	5270	170
APR.	1985	37735	497	275	28000	33	3390	33	3390	190
MAY	1985	64321	448	247	42900	29	5120	29	5040	180
JUNE	1985	31777	474	261	22400	31	2700	31	2690	190
JULY	1985	8311	499	276	6200	34	753	34	759	190
AUG.	1985	2579	665	373	2600	47	329	50	348	250
SEPT	1985	2653	596	333	2380	41	297	43	308	230
TOTAL		382579	**	**	244000	**	29100	**	28700	**
WTD.AVG.		1048	429	236	**	28	**	28	**	170

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	465	333	518	310	691	399	466	543	460	455	688	667
2	468	347	548	383	723	404	469	356	486	440	685	657
3	467	363	577	427	716	410	508	398	512	438	766	656
4	471	425	574	458	725	414	500	459	523	445	694	670
5	486	430	570	424	729	429	491	503	530	458	676	682
6	488	434	468	454	738	445	481	529	520	409	668	630
7	493	398	517	465	733	452	477	540	465	468	667	625
8	466	393	527	466	736	454	474	538	331	475	668	633
9	447	406	565	433	734	459	512	545	366	492	660	632
10	580	415	575	460	726	458	539	560	392	516	655	644
11	487	420	620	628	546	461	547	539	422	522	669	660
12	386	425	646	666	557	465	541	500	439	521	664	645
13	321	424	525	674	536	475	502	446	473	550	665	532
14	375	427	375	690	527	490	548	440	499	552	660	545
15	314	433	387	702	529	526	547	382	520	558	663	627
16	346	438	427	701	566	408	509	400	550	575	663	610
17	388	442	369	577	620	429	478	449	556	604	654	572
18	338	453	360	501	654	492	461	398	494	620	660	534
19	379	491	382	522	675	550	456	436	465	635	664	545
20	325	528	398	570	698	454	501	445	496	640	646	597
21	249	470	469	562	705	378	544	447	500	658	648	614
22	232	452	429	586	660	371	550	450	498	663	651	589
23	258	448	404	626	489	418	558	464	495	670	652	552
24	274	443	407	644	282	444	425	459	493	704	656	546
25	289	447	407	673	283	459	496	438	498	705	660	622
26	315	456	412	693	381	466	442	443	505	695	661	666
27	352	454	408	703	426	476	494	445	493	702	660	640
28	355	462	411	720	412	510	521	444	484	684	652	615
29	371	409	463	721	---	474	536	450	475	736	634	570
30	340	440	623	709	---	449	540	445	473	738	626	529
31	332	---	569	732	---	463	---	462	---	709	655	---
MEAN	382	430	482	577	600	451	504	463	480	582	664	610

## BRAZOS RIVER BASIN

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08106500 LITTLE RIVER AT CAMERON, TX--Continued

DAY	TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985											
	OCT	NOV	DEC	JAN	FEB	ONCE-DAILY MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	21.5	13.0	15.5	6.0	14.0	18.0	22.5	25.0	22.5	30.0	28.5
2	17.0	19.5	13.5	12.0	3.5	15.0	18.0	20.5	25.0	24.0	29.5	29.0
3	18.5	18.0	12.0	8.5	3.0	17.5	18.0	21.0	26.0	24.5	30.0	28.5
4	20.0	19.0	11.5	7.5	3.0	17.0	18.5	21.5	27.0	24.0	29.5	28.5
5	21.0	17.0	10.0	7.5	3.5	15.0	19.0	22.0	27.0	22.0	30.0	28.5
6	23.0	16.5	8.0	9.0	4.0	15.5	17.5	21.5	25.0	24.0	30.0	27.5
7	23.0	16.5	7.0	9.0	4.0	16.0	19.5	21.5	25.0	24.5	30.0	28.0
8	23.0	18.0	8.5	9.0	4.5	17.0	18.0	22.5	26.0	25.5	30.0	28.0
9	23.0	20.0	10.5	10.5	7.0	17.5	16.0	22.0	26.5	26.0	30.0	28.0
10	23.0	19.0	10.5	10.0	10.0	18.0	16.0	22.5	27.5	27.0	31.5	28.0
11	22.0	18.0	13.0	9.0	9.0	19.0	16.0	23.0	28.0	28.0	29.5	27.0
12	22.0	15.0	15.0	7.0	8.5	19.5	17.0	22.0	27.0	26.0	29.5	26.5
13	22.5	15.0	16.0	6.0	9.0	19.5	18.0	20.5	25.5	26.5	29.5	25.5
14	21.5	16.5	17.5	5.5	9.0	18.0	18.5	17.5	25.0	27.5	28.0	26.5
15	21.0	18.0	18.0	5.5	9.5	17.0	18.0	19.5	26.5	28.0	28.0	26.0
16	22.0	18.5	16.5	8.0	10.0	16.0	19.5	22.5	27.0	28.0	29.0	25.5
17	21.0	17.0	15.0	8.0	12.0	15.5	20.5	22.0	27.5	28.5	29.0	25.0
18	23.0	18.5	16.0	8.0	12.0	15.5	21.0	20.0	28.0	28.0	29.0	26.0
19	22.0	16.0	16.0	9.0	13.5	15.5	22.0	20.0	25.5	29.0	29.5	26.0
20	23.5	13.5	17.5	8.0	15.0	16.5	22.0	20.0	20.5	28.0	29.5	26.0
21	20.0	12.5	18.0	5.0	16.0	15.5	22.0	20.0	20.5	28.0	29.0	25.5
22	18.0	12.0	17.0	4.5	17.0	15.0	22.0	20.0	22.0	28.5	30.0	25.5
23	17.0	11.5	15.5	5.5	15.5	17.0	22.5	20.0	22.0	29.0	29.5	26.0
24	15.5	12.0	17.0	6.5	14.5	17.5	21.0	19.5	22.0	29.5	29.5	24.0
25	16.0	14.0	13.0	8.0	14.0	18.0	21.0	21.0	21.0	29.0	28.0	25.5
26	17.5	15.0	13.0	8.5	15.0	18.5	22.0	21.0	21.5	29.0	28.0	23.0
27	19.0	13.5	14.0	10.0	14.5	20.0	23.0	21.0	22.5	29.0	28.5	22.5
28	21.0	12.0	16.0	10.0	14.0	20.5	24.0	20.5	22.0	29.5	28.0	23.0
29	20.5	11.5	19.0	10.0	---	20.5	23.0	21.0	22.0	29.5	27.0	23.0
30	21.5	12.0	18.5	11.5	---	19.0	23.0	23.0	22.5	29.5	27.0	19.5
31	21.0	---	18.5	9.0	---	17.5	---	24.5	---	30.0	27.5	---
MEAN	20.5	16.0	14.5	8.5	10.0	17.0	20.0	21.0	24.5	27.0	29.0	26.0



## BRAZOS RIVER MAIN STEM

08109000 BRAZOS RIVER NEAR BRYAN, TX

LOCATION (REVISED).--Lat 30°36'50", long 96°29'11", Brazos-Burleson County line, Hydrologic Unit 12070101, on left bank 2.4 mi downstream from Little Brazos River, 5 mi downstream from Texas and New Orleans Railroad Co. bridge, 9 mi southwest of Bryan, and at mile 281.1.

DRAINAGE AREA.--39,515 mi<sup>2</sup>, approximately, of which 9,566 mi<sup>2</sup> 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 above 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 downstream at different datum. Sept. 11, 1925, to Oct. 24, 1932, nonrecording gage at site 3,000 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 17-19, and 23-29. Records good except those for estimated daily discharges, which are poor. Flow is partly regulated by four upstream reservoirs with a combined capacity of 4,447,600 acre-ft, of which 3,200,800 acre-ft 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 145 floodwater-retarding structures with a combined detention capacity of 152,800 acre-ft. These structures control runoff from 450 mi<sup>2</sup>. Since 1941, at least 10 percent of drainage area is regulated by upstream reservoirs. Several observations of water temperature were made during the year. Satellite telemeter located at station.

AVERAGE DISCHARGE.--24 years (water years 1900-1902, 1919-25, 1927-40) unregulated, 5,652 ft<sup>3</sup>/s (4,095,000 acre-ft/yr); 45 years (water years 1941-85) regulated, 4,787 ft<sup>3</sup>/s (3,468,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 54 ft Sept. 12, 1921, present site and datum (discharge not determined); minimum daily, 89 ft<sup>3</sup>/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, present site and datum, from information by Texas and New Orleans Railroad Co. at their bridge 5 mi 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, 34,400 ft<sup>3</sup>/s Feb. 24 at 1700 hours (gage height, 19.92 ft); minimum daily, 187 ft<sup>3</sup>/s Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	253	2710	1320	6820	1400	8620	5490	3020	2680	2550	789	786
2	216	2120	1030	14400	1410	11400	4630	6850	2230	2390	790	711
3	204	2790	862	7690	2660	8330	4140	6870	1670	2350	868	694
4	194	3630	959	4550	2960	5540	4770	5670	1390	2170	893	689
5	190	3070	1210	3520	3010	4460	4490	5330	1290	2050	1020	696
6	187	1930	1790	3320	2930	3870	4480	5280	1370	2240	1030	698
7	219	1490	2000	2970	2200	3400	4380	5030	3230	1910	1030	723
8	258	1290	2080	3220	1960	3190	4340	5230	8520	1620	1040	725
9	637	1160	1630	3340	1840	3250	4260	5430	4690	1390	1050	696
10	2820	1080	1150	3620	1960	3180	3490	5140	2840	1320	1020	704
11	2170	1010	943	3020	2870	2990	2850	4800	2090	1300	1050	919
12	1550	963	833	2500	3710	2900	2720	5520	1760	1320	1040	938
13	2610	918	902	2570	3050	2830	2940	7640	3070	1460	1040	957
14	4210	885	6170	3460	2120	2750	3890	13500	4450	1370	1120	850
15	3730	869	15600	3590	2130	3230	3920	14700	4560	1440	1180	947
16	3600	886	9930	3750	1900	6200	4170	8640	4640	1510	1160	1180
17	1770	847	14600	6270	1570	4710	4160	7430	4720	1470	1180	1530
18	590	851	14300	5510	1520	3540	4040	9100	4790	1480	1080	1130
19	473	863	20000	5260	1730	2610	3110	9090	4800	1320	945	737
20	4800	872	17200	3690	1800	3200	2800	7400	5790	965	1280	1050
21	19100	1100	7980	2730	1530	10100	2150	7040	4790	879	1470	1480
22	24400	977	5020	2170	1470	14700	1750	7400	4540	895	1760	1110
23	10000	885	4550	3170	3960	7500	1670	7380	4030	898	1570	750
24	5800	847	3930	3210	27700	4670	1890	5830	4820	852	1490	601
25	2400	985	3280	2610	30000	4170	3430	5330	4230	878	1440	524
26	1900	1020	2920	2110	17300	5220	3320	4630	3620	962	1510	448
27	4500	1880	2660	1690	8740	5580	3040	4160	3410	849	1390	528
28	9500	1730	2450	1540	6300	6750	2230	4050	3110	808	918	537
29	20000	2350	2270	1670	---	7180	1960	3990	3070	810	837	688
30	8760	1980	1780	1820	---	6270	2370	3970	2920	805	952	884
31	4130	---	1630	1680	---	5930	---	3040	---	783	995	---
TOTAL	141171	43988	152979	117470	141730	168270	102880	198490	109120	43044	34937	24910
MEAN	4554	1466	4935	3789	5062	5428	3429	6403	3637	1389	1127	830
MAX	24400	3630	20000	14400	30000	14700	5490	14700	8520	2550	1760	1530
MIN	187	847	833	1540	1400	2610	1670	3020	1290	783	789	448
AC-FT	280000	87250	303400	233000	281100	333800	204100	393700	216400	85380	69300	49410
CAL YR 1984	TOTAL	540624	MEAN	1477	MAX	24400	MIN	162	AC-FT	1072000		
WTR YR 1985	TOTAL	1278989	MEAN	3504	MAX	30000	MIN	187	AC-FT	2537000		

## BRAZOS RIVER BASIN

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## 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 upstream from centerline of State Highway 21, 4.5 mi upstream from West Yegua Creek, 5.0 mi southwest of Dime Box, and 17.5 mi upstream from mouth.

DRAINAGE AREA.--236 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 295.4 ft above State Department of Highways and Public Transportation datum. June 30 to July 21, 1970, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharge: Jan. 2-9. Records fair. Several observations of water temperature made during the year. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--23 years, 50.0 ft<sup>3</sup>/s (2.88 in/yr) 36,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft<sup>3</sup>/s May 24, 1975 (gage height, 15.16 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1851, 16 ft in December 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 29	1500	*764	*9.88	No other peak greater than base discharge.			
Minimum daily discharge, no flow for many days.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	320	9.5	125	23	99	23	21	12	5.6	.06	.00		
2	.00	204	6.7	96	22	124	20	37	11	5.4	.01	.00		
3	.00	115	5.0	88	23	137	18	45	11	6.1	.00	.00		
4	.00	65	43	95	23	113	16	26	9.2	6.0	.00	.00		
5	.00	45	107	110	23	60	15	17	8.4	6.3	.00	.00		
6	.00	34	136	80	24	41	13	13	8.9	4.3	.00	.00		
7	.00	27	150	63	24	33	13	10	20	2.9	.00	.00		
8	.00	23	106	48	23	30	11	8.1	113	5.7	.00	.00		
9	.00	20	50	37	22	28	10	7.2	247	6.0	.00	.00		
10	.00	18	33	30	79	26	10	7.1	358	5.0	.00	.00		
11	.00	17	25	26	208	24	10	6.9	403	4.2	.00	.00		
12	.00	16	20	25	142	23	12	6.2	115	3.0	.00	.00		
13	.00	15	112	25	138	22	12	4.0	37	3.4	.00	.00		
14	.00	15	198	26	101	23	15	22	22	3.0	.00	.00		
15	.00	14	180	27	47	25	16	51	17	2.5	.00	.00		
16	.00	21	378	41	35	24	17	103	14	1.5	.00	.69		
17	.00	12	459	119	30	24	16	150	12	1.4	.00	3.0		
18	.00	12	404	133	27	23	13	156	11	1.3	.00	.43		
19	.00	11	266	145	26	22	11	122	11	1.2	.00	.07		
20	2.9	8.7	153	82	25	148	9.7	157	9.8	1.1	.00	.01		
21	76	7.7	68	44	25	195	9.7	182	8.9	1.1	.00	.00		
22	50	6.3	43	34	25	191	13	92	8.4	1.0	.00	.00		
23	156	5.6	34	28	79	272	15	72	8.6	.70	.00	.00		
24	239	5.3	28	26	113	324	39	55	7.8	.82	.00	.00		
25	295	52	23	26	96	159	76	37	7.8	.64	.00	.00		
26	318	71	20	24	68	55	47	25	7.5	.46	.00	.00		
27	320	181	19	25	43	40	25	19	7.1	.33	.00	.00		
28	387	47	19	25	41	36	18	17	6.5	.23	.00	.00		
29	704	24	19	24	---	32	16	15	6.5	.16	.00	.00		
30	621	14	17	24	---	29	14	14	6.2	.12	.00	.00		
31	408	---	71	24	---	26	---	12	---	.08	.00	---		
TOTAL	3576.90	1426.6	3202.2	1725	1555	2408	553.4	1509.5	1525.6	81.54	.07	4.20		
MEAN	115	47.6	103	55.6	55.5	77.7	18.4	48.7	50.9	2.63	.002	.14		
MAX	704	320	459	145	208	324	76	182	403	6.3	.06	3.0		
MIN	.00	5.3	5.0	24	22	22	9.7	4.0	6.2	.08	.00	.00		
CFSM	.49	.20	.44	.24	.24	.33	.08	.21	.22	.01	.000	.001		
IN.	.56	.22	.50	.27	.25	.38	.09	.24	.24	.01	.00	.00		
AC-FT	7090	2830	6350	3420	3080	4780	1100	2990	3030	162	.1	8.3		
CAL YR 1984	TOTAL	8732.67	MEAN	23.9	MAX	704	MIN	.00	CFSM	.10	IN	1.38	AC-FT	17320
WTR YR 1985	TOTAL	17568.01	MEAN	48.1	MAX	704	MIN	.00	CFSM	.20	IN	2.77	AC-FT	34850

## BRAZOS RIVER BASIN

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 upstream from centerline of State Highway 21, 0.8 mi downstream from Buffalo Creek, 3.5 mi north of Dime Box, and 12.2 mi upstream from mouth.

DRAINAGE AREA.--244 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 284.00 ft above State Department of Highways and Public Transportation datum. Nov. 6 to Dec. 10, 1970, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Diversions above station for irrigation. Gage-height telemeter at station.

AVERAGE DISCHARGE.--23 years, 56.1 ft<sup>3</sup>/s (40,640 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft<sup>3</sup>/s May 24, 1975 (gage height, 13.91 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1886, 17 ft in 1899 and 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 23	2000	1,480	9.82	Dec. 31	2400	1,160	9.48
Oct. 28	1900	*1,520	*9.86	Mar. 20	1000	1,030	9.31
Dec. 16	0700	1,330	9.67	Mar. 22	1100	1,050	9.34

Minimum discharge, no flow Oct. 1-7 and Aug. 6 to Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	87	19	650	23	200	23	9.7	6.1	1.8	.02	.00
2	.00	55	17	296	22	295	20	9.6	7.4	.98	.02	.00
3	.00	45	18	147	22	346	16	12	7.9	1.7	.02	.00
4	.00	29	57	156	23	120	15	10	5.1	3.1	.01	.00
5	.00	20	191	178	24	54	15	7.9	4.1	4.3	.01	.00
6	.00	16	259	98	26	37	14	6.1	3.6	3.1	.00	.00
7	.00	14	162	50	26	30	15	4.9	56	2.2	.00	.00
8	.06	14	45	36	24	28	16	4.0	166	4.2	.00	.00
9	.06	12	31	30	23	27	15	4.0	266	5.0	.00	.00
10	.05	11	25	30	85	27	15	3.8	143	4.3	.00	.00
11	.07	10	22	29	264	26	14	3.6	28	3.4	.00	.00
12	.57	9.6	20	29	202	25	14	3.5	15	2.6	.00	.00
13	.25	9.3	89	27	116	24	16	6.7	9.8	2.7	.00	.00
14	6.9	9.0	270	25	41	25	20	41	7.3	3.1	.00	.00
15	12	9.2	660	26	32	25	25	126	6.1	2.7	.00	.00
16	10	11	1060	49	28	25	19	114	9.2	1.7	.00	.00
17	5.5	14	389	200	27	25	14	49	7.6	1.1	.00	.00
18	5.3	15	265	293	26	24	12	108	5.5	1.1	.00	.00
19	4.5	15	177	232	26	24	10	208	4.8	1.1	.00	.00
20	16	15	88	59	25	506	12	171	3.9	.96	.00	.00
21	99	15	51	34	26	519	12	47	3.3	1.0	.00	.00
22	257	15	35	28	27	993	16	48	3.6	.67	.00	.00
23	1240	13	27	27	278	435	15	51	4.3	.48	.00	.00
24	973	12	24	26	303	78	14	41	3.4	.64	.00	.00
25	403	29	22	26	240	44	13	31	3.7	.56	.00	.00
26	395	88	22	25	96	39	12	19	4.7	.36	.00	.00
27	183	155	21	25	49	35	10	14	4.8	.22	.00	.00
28	910	56	20	26	54	35	9.8	13	3.3	.07	.00	.00
29	1330	31	19	24	---	35	11	13	3.6	.05	.00	.54
30	1170	23	29	24	---	31	11	9.4	2.9	.03	.00	.54
31	493	---	459	25	---	28	---	6.8	---	.03	.00	---
TOTAL	7514.26	857.1	4593	2930	2158	4165	443.8	1196.0	800.0	55.25	.08	1.08
MEAN	242	28.6	148	94.5	77.1	134	14.8	38.6	26.7	1.78	.003	.036
MAX	1330	155	1060	650	303	993	25	208	266	5.0	.02	.54
MIN	.00	9.0	17	24	22	24	9.8	3.5	2.9	.03	.00	.00
AC-FT	14900	1700	9110	5810	4280	8260	880	2370	1590	110	.2	2.1
CAL YR 1984	TOTAL	15778.45	MEAN	43.1	MAX	1330	MIN	.00	AC-FT	31300		
WTR YR 1985	TOTAL	24713.57	MEAN	67.7	MAX	1330	MIN	.00	AC-FT	49020		

## BRAZOS RIVER BASIN

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08109800 EAST YEGUA CREEK NEAR DIME BOX, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 30...	1115	1160	303	6.9	23.5	220	40	3.3	39	2.2	92
DEC 17...	1140	354	558	6.8	17.0	100	55	5.1	53	1.4	180
MAR 22...	1035	1010	468	7.2	15.0	100	50	7.0	70	3.0	150
APR 19...	1030	16	1420	7.6	24.0	25	19	7.7	92	1.6	460
JUN 26...	0945	6.0	1220	7.3	27.0	20	8.5	6.5	82	.6	440

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 30...	52	25	7.1	20	.9	6.7	40	57	30	.40	14
DEC 17...	130	48	14	38	1	6.8	46	120	61	.30	15
MAR 22...	110	41	12	34	1	6.0	40	100	55	.20	10
APR 19...	360	120	40	110	2	7.0	100	370	180	.30	21
JUN 26...	350	120	34	84	2	7.3	89	310	150	.60	14

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, 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...	180	24	6	.010	<.10	.040	.96	1.0	.240	12
DEC 17...	330	36	19	.020	<.10	.090	.81	.90	.160	11
MAR 22...	280	48	36	.020	<.10	.040	.96	1.0	.130	--
APR 19...	910	58	13	<.010	.30	.110	.79	.90	.060	7.1
JUN 26...	770	21	4	<.010	<.10	.070	.53	.60	.030	9.2

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...	1115	<1	44	<1	40	2	270
JUN 26...	0945	<1	87	<1	<10	2	5

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...	4	48	<.1	<1	<1	11
JUN 26...	1	94	<.1	<1	<1	30

## BRAZOS RIVER BASIN

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 upstream from mouth.

DRAINAGE AREA.--1,007 mi<sup>2</sup>.

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 long, with a 4,715-foot-long dike and a 1,250-foot long uncontrolled spillway. Deliberate impoundment began Jan. 3, 1967, and the dam was completed Oct. 27, 1967. The spillway is an uncontrolled ogee weir 1,250 ft wide located near right end of dam. The low-flow outlet consists of one 10.0-foot-diameter conduit that is controlled by two 5.0- by 10.0-foot tractor-type gates. Capacity table is based on Geological Survey topographic maps dated 1959. The lake was designed for flood control and water conservation. 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 U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 311,000 acre-ft June 9, 1979 (elevation, 248.55 ft); minimum, 88,800 acre-ft Oct. 5, 1984 (elevation, 230.70 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 167,000 acre-ft Mar. 1 at 2400 hours (elevation, 240.10 ft); minimum daily, 88,800 acre-ft Oct. 5 at 1600 hours (elevation, 230.70 ft).

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

230.0	83,140	234.0	118,100	238.0	160,100
232.0	99,800	236.0	138,200	239.0	171,800

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89130	134800	151000	172900	161300	185300	169100	164500	161800	159500	149000	138700
2	89050	136100	151100	176500	160900	184900	167300	164300	161300	159500	148700	138600
3	88880	137000	150900	178100	160900	184800	165200	164200	160700	160000	148400	138400
4	88880	137400	151800	178700	161000	183500	163300	164000	160500	160000	148100	138100
5	88800	137700	153500	178700	161300	181900	162200	163900	160300	160000	147900	137800
6	89210	137600	154600	178100	161100	180400	162000	163700	160300	159900	147700	137800
7	89620	137600	155600	176800	161400	179000	162100	163700	160300	159800	147400	137600
8	89870	137800	156200	175200	161400	177200	162200	163900	160300	159800	147200	137400
9	90370	138100	156700	173600	161500	175500	162100	164700	160300	159800	146700	137200
10	90370	137700	156900	171900	162600	174100	162100	164400	161100	159500	146400	137100
11	90950	137400	157000	169900	163800	172300	162400	163900	161800	159400	145800	136900
12	90860	137200	157100	168200	165400	170500	162600	163200	162200	159300	145400	137200
13	91450	137100	158700	166700	166500	168800	163100	163100	162100	159000	145000	137100
14	91530	137200	160800	165000	167200	167500	163300	163200	162000	158700	144600	136800
15	91450	137200	163800	164000	167300	166000	163300	163000	161800	158600	144200	136700
16	91360	137400	167300	168000	167100	164300	163300	163000	161600	158400	143800	136500
17	91200	139700	172600	170900	166600	162500	163500	164200	161500	158300	143400	136300
18	91200	141600	177400	171900	166100	161300	163300	164400	162300	158200	143100	136100
19	92450	141600	179000	171100	165400	160800	163200	164500	162100	157900	142700	136000
20	93540	141700	179400	170000	164800	166500	163300	164600	161800	157500	142300	135800
21	97460	141600	177900	168400	164500	171000	163600	165300	161700	156900	142000	135600
22	101300	141500	176000	166800	163900	174200	163900	165500	161600	156500	141600	135500
23	106200	141500	174700	165100	176600	175800	164200	165300	161500	156200	141200	135100
24	110100	141600	172300	163500	182300	177100	164200	165200	161300	155900	141000	134800
25	113900	142900	169800	162300	184400	177000	164000	165100	161100	155700	140700	134700
26	117100	145700	167500	162500	184400	176300	164400	164500	161000	155300	140300	134200
27	119900	147800	166700	163000	183400	176800	164400	164000	160900	154200	139900	133800
28	121600	149700	166800	163000	183800	175800	164400	163700	160200	153100	139500	134500
29	123900	150600	167200	162800	---	174200	164400	163200	160100	152000	139300	136400
30	127700	150900	167800	162300	---	172500	164500	162800	159900	150900	139100	136700
31	131400	---	170100	161700	---	170600	---	162300	---	149800	139000	---
MAX	131400	150900	179400	178700	184400	185300	169100	165500	162300	160000	149000	138700
MIN	88800	134800	150900	161700	160900	160800	162000	162300	159900	149800	139000	133800
(†)	235.34	237.18	238.86	238.14	239.98	238.90	238.38	238.19	237.98	237.08	236.08	235.86
(‡)	+42020	+19500	+19200	-8400	+22100	-13200	-6100	-2200	-2400	-10100	-10800	-2300

CAL YR 1984 MAX 179400 MIN 88800 (†) +12000  
WTR YR 1985 MAX 185300 MIN 88800 (†) +47320

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.



## BRAZOS RIVER BASIN

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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 AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PEK- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN											
09...	1130	1.00	383	7.6	12.0	.60	10.1	94	K9	72	
09...	1131	1.00	--	--	--	--	--	--	--	--	
09...	1132	10.0	384	7.6	12.0	--	10.1	94	--	--	
09...	1134	20.0	384	7.6	12.0	--	10.1	94	--	--	
09...	1136	34.0	384	7.7	12.0	--	10.7	100	--	--	
APR											
23...	1050	1.00	398	7.6	23.0	.70	7.4	87	K2	K2	
23...	1051	1.20	--	--	--	--	--	--	--	--	
23...	1052	10.0	400	7.4	22.5	--	6.6	77	--	--	
23...	1054	20.0	400	7.4	22.0	--	6.2	72	--	--	
23...	1056	25.0	400	7.3	22.0	--	6.0	69	--	--	
23...	1058	32.0	401	7.0	22.0	--	3.8	44	--	--	
AUG											
01...	1040	1.00	462	8.6	30.5	.70	7.8	104	K1	<1	
01...	1041	1.10	--	--	--	--	--	--	--	--	
01...	1042	10.0	462	8.5	30.5	--	7.7	103	--	--	
01...	1044	20.0	462	8.5	30.5	--	7.6	102	--	--	
01...	1046	25.0	462	8.4	30.0	--	7.5	99	--	--	
01...	1048	29.0	462	8.2	30.0	--	6.8	90	--	--	

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	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 FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN										
09...	110	61	33	7.7	27	1	6.8	53	65	42
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	110	62	33	7.7	27	1	6.9	52	67	42
APR										
23...	120	75	36	8.4	28	1	6.0	50	72	45
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	120	61	36	8.4	29	1	5.9	64	69	45
AUG										
01...	130	67	37	9.7	36	1	6.4	66	71	55
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	130	67	37	9.8	36	.1	6.4	66	75	56

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									
09...	.20	8.4	220	<.10	1.0	--	.040	89	370
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	<.10	.70	--	.040	30	20
09...	--	8.7	220	<.10	1.0	--	.050	26	9
APR									
23...	.20	5.4	230	.40	1.0	1.4	.040	22	5
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	.40	.90	1.3	.040	30	20
23...	--	--	--	--	--	--	--	--	--
23...	--	5.9	240	.50	1.3	1.8	.090	13	98
AUG									
01...	.20	10	260	<.10	1.3	--	.070	3	5
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	<.10	.70	--	.060	10	10
01...	--	--	--	--	--	--	--	--	--
01...	--	11	270	<.10	.90	--	.090	12	230

BRAZOS RIVER BASIN  
SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301940096315801 SOMERVILLE LAKE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
09...	1200	1.00	382	7.5	12.0	9.9	92
09...	1202	10.0	382	7.5	12.0	9.8	91
09...	1204	18.0	382	7.6	12.0	9.8	91
APR							
23...	1120	1.00	400	7.7	23.0	7.9	93
23...	1122	10.0	400	7.6	23.0	7.5	88
23...	1124	20.0	400	7.3	22.0	5.9	68
23...	1126	28.0	400	7.2	22.0	4.5	52
AUG							
01...	1105	1.00	462	8.6	30.5	7.5	100
01...	1107	10.0	462	8.6	30.5	7.7	103
01...	1109	17.0	462	8.6	30.5	7.9	106

302026096341501 SOMERVILLE LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
09...	1210	1.00	375	7.4	12.5	10.9	103
09...	1212	10.0	376	7.4	12.5	10.8	102
09...	1214	15.0	380	7.3	12.5	10.7	101
APR							
23...	1135	1.00	400	7.9	24.0	8.2	98
23...	1138	10.0	400	7.6	23.0	7.0	82
23...	1140	13.0	400	7.5	23.0	6.6	78
AUG							
01...	1130	1.00	462	8.6	31.0	7.6	102
01...	1132	12.0	462	8.1	30.5	4.9	65

301805096332501 SOMERVILLE LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
09...	1400	1.00	379	7.7	12.5	11.2	105
09...	1402	12.0	379	7.5	12.0	10.7	100
APR							
23...	1320	1.00	400	7.7	23.5	7.8	93
23...	1322	13.0	400	7.4	22.5	5.7	66
AUG							
01...	1315	1.00	461	8.5	31.0	8.4	113
01...	1318	11.0	467	7.5	29.0	3.4	44

## BRAZOS RIVER BASIN

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## SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301847096334601 SOMERVILLE LAKE DR

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
09...	1250	1.00	376	7.5	12.0	9.8	91
09...	1252	10.0	376	7.5	12.0	9.7	90
09...	1254	20.0	376	7.5	12.0	9.7	90
09...	1256	25.0	376	7.6	12.0	9.5	88
APR							
23...	1205	1.00	404	7.9	23.5	8.2	97
23...	1208	10.0	404	7.7	23.0	7.7	91
23...	1210	20.0	400	7.5	22.5	6.9	80
23...	1212	24.0	400	7.4	22.5	6.3	73
AUG							
01...	1205	1.00	463	8.5	30.5	7.6	102
01...	1208	10.0	463	8.4	30.0	7.2	95
01...	1210	23.0	465	7.8	29.5	4.7	62

301904096335601 SOMERVILLE LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
09...	1230	1.00	379	7.5	12.0	.60	9.9	92	K16	92
09...	1232	10.0	379	7.5	12.0	--	9.9	92	--	--
09...	1234	20.0	379	7.5	12.0	--	9.8	91	--	--
09...	1236	27.0	379	7.6	12.0	--	9.7	90	--	--
APR										
23...	1145	1.00	408	8.0	23.5	.70	8.6	102	<1	<1
23...	1148	10.0	406	7.9	23.5	--	8.5	101	--	--
23...	1150	20.0	401	7.4	22.5	--	6.7	78	--	--
23...	1152	27.0	399	7.4	22.5	--	6.2	72	--	--
AUG										
01...	1145	1.00	465	8.6	30.5	.70	8.0	107	K1	K1
01...	1148	10.0	466	8.1	30.0	--	5.6	74	--	--
01...	1152	27.0	467	7.9	30.0	--	5.0	66	--	--

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)	ALKA- LILITY FIELD (MG/L AS CaCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
09...	110	62	33	7.6	26	1	6.6	52	65
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	110	58	31	7.8	25	1	6.8	52	65
APR									
23...	110	64	36	5.6	29	1	6.0	49	72
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	120	74	36	8.5	29	1	5.9	51	69
AUG									
01...	130	66	37	9.6	35	1	6.8	66	73
01...	--	--	--	--	--	--	--	--	--
01...	130	67	37	9.7	34	1	6.7	66	73

## BRAZOS RIVER BASIN

## SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301904096335601 SOMERVILLE LAKE DC--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, 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									
09...	42	8.8	220	<.10	.70	--	.050	34	4
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	<.10	.90	--	.050	30	<10
09...	42	11	220	<.10	.90	--	.050	170	8
APR									
23...	46	4.8	230	.30	1.1	1.4	.040	8	4
23...	--	--	--	.30	1.0	1.3	.040	50	10
23...	--	--	--	--	--	--	--	--	--
23...	44	5.6	230	.40	1.4	1.8	.060	14	69
AUG									
01...	54	10	260	<.10	1.0	--	.040	7	5
01...	--	--	--	--	--	--	--	--	--
01...	54	11	270	<.10	1.0	--	.080	<3	78

301817096364101 SOMERVILLE LAKE EC

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
09...	1305	1.00	368	7.4	11.5	10.0	92
09...	1307	10.0	368	7.5	11.5	10.0	92
09...	1309	20.0	368	7.5	11.5	10.0	92
09...	1311	24.0	368	7.5	11.5	9.8	90
APR							
23...	1230	1.00	400	7.7	23.5	7.7	91
23...	1232	10.0	400	7.5	23.0	7.1	83
23...	1234	18.0	400	7.4	22.5	6.4	75
AUG							
01...	1220	1.00	464	8.4	30.5	7.6	102
01...	1222	10.0	465	7.5	29.5	4.0	53
01...	1224	23.0	465	7.6	29.5	4.0	53

301754096380801 SOMERVILLE LAKE FC

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, (PER- CENT UM-MF 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
09...	1330	1.00	367	7.5	11.5	.40	10.6	98	K72	140
09...	1331	.60	--	--	--	--	--	--	--	--
09...	1332	12.0	371	7.1	10.5	--	9.7	87	--	--
APR										
23...	1245	1.00	457	8.1	24.0	.50	8.7	104	K3	<1
23...	1246	.80	--	--	--	--	--	--	--	--
23...	1248	8.00	466	7.6	23.5	--	6.9	82	--	--
AUG										
01...	1245	1.00	481	8.4	30.5	.40	8.5	114	<1	1
01...	1246	.60	--	--	--	--	--	--	--	--
01...	1247	10.0	474	7.4	29.5	--	3.4	45	--	--

## BRAZOS RIVER BASIN

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## SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301754096380801 SOMERVILLE LAKE FC--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
09...	110	65	31	8.5	26	1	6.2	48	66
09...	--	--	--	--	--	--	--	--	--
09...	160	120	46	12	7.1	.3	5.7	44	70
APR									
23...	140	85	40	9.8	33	1	6.0	55	82
23...	--	--	--	--	--	--	--	--	--
23...	150	99	43	11	35	1	6.0	54	83
AUG									
01...	140	71	39	10	38	1	6.5	68	77
01...	--	--	--	--	--	--	--	--	--
01...	140	75	40	10	34	1	6.5	66	75
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									
09...	41	13	220	.10	.80	.90	.070	320	37
09...	--	--	--	--	--	--	--	--	--
09...	44	4.2	220	.10	.80	.90	.090	3	<1
APR									
23...	53	4.1	260	.20	2.2	2.4	.060	5	2
23...	--	--	--	--	--	--	--	--	--
23...	55	4.3	270	.10	1.2	1.3	.080	13	14
AUG									
01...	59	11	280	<.10	.90	--	.080	5	12
01...	--	--	--	--	--	--	--	--	--
01...	57	11	270	<.10	.70	--	.120	7	180



## BRAZOS RIVER BASIN

## SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

Somerville Lake AC (301908096313101)

Phytoplankton Analyses October 1984 to September 1985

Date	1-9-85
Time	1131

TOTAL CELLS/ml	79,141
NUMBER OF SPECIES	51
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	114
<u>Ankistrodesmus nannoselene</u>	114
<u>Chodatella longiseta</u>	57
<u>Chodatella subsalsa</u>	341
<u>Closterium</u> sp.	57
<u>Franceia ovalis</u>	57
<u>Gloeocystis gigas</u>	455
<u>Gloeocystis</u> sp.	852
<u>Golenkinia radiata</u>	57
<u>Mesotaenium</u> sp.	57
<u>Nephrocystium</u> sp.	227
<u>Oocystis borgei</u>	682
<u>Scenedesmus armatus</u> var. <u>bicaudatus</u>	445
<u>Scenedesmus</u> sp.	341
<u>Tetraedron</u> sp.	57
<u>Tetrastrum staurogeniaeforme</u>	227
<u>Tetrastrum heteracanthum</u>	57
<u>Tetrastrum</u> sp.	227
CYANOPHYTA (Blue-green algae)	
<u>Anabaena catenula</u>	738
<u>Anabaena circinalis</u>	341
<u>Aphanocapsa delicatissima</u>	8750
<u>Aphanocapsa elachista</u>	3409
<u>Chroococcus multicoloratus</u>	57
<u>Chroococcus varius</u>	739
<u>Dactylococcopsis fascicularis</u>	455
<u>Dactylococcopsis musicola</u>	57
<u>Gloeocapsa</u> sp.	57
<u>Lyngbya</u> sp.	1136
<u>Merismopedia minima</u>	12557
<u>Merismopedia punctata</u>	27841
<u>Merismopedia</u> sp.	2727
<u>Microcystis marina</u>	1534
<u>Microcystis</u> sp.	7102
<u>Oscillatoria limnetica</u>	2159
<u>Oscillatoria</u> sp.	341
<u>Pseudoanabaena catenata</u>	114
<u>Rhabdoderma sigmoides</u>	114
<u>Synechococcus</u> sp.	114
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Chaetoceros</u> sp.	57
<u>Cyclotella stelligera</u> var. <u>tenuis</u>	1136
<u>Melosira granulata</u>	511
<u>Melosira granulata</u> var. <u>angustissima</u> f. <u>spiralis</u>	795
<u>Melosira lirata</u>	682
<u>Stephanodiscus tenuis</u>	284
Order Pennales	
<u>Diploneis</u> sp.	341
<u>Navicula minuscula</u>	227
<u>Navicula symmetrica</u>	114
<u>Nitzschia acicularis</u>	57
<u>Nitzschia palea</u>	57
<u>Nitzschia thermalis</u>	57
<u>Nitzschia</u> sp.	57

## SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

Somerville Lake AC (301908096313101)

Phytoplankton Analyses October 1984 to September 1985

Date	4-23-85
Time	1051
<hr/>	
TOTAL CELLS/ml	201,869
NUMBER OF SPECIES	36
DEPTH COLLECTED (ft.)	1.2

Organisms	Cells/ml
<hr/>	
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus convolutus</u>	57
<u>Chlorogonium</u> sp.	170
<u>Chodatella subsalsa</u> ?	227
<u>Closterium</u> sp.	114
<u>Crucigenia apiculata</u>	227
<u>Crucigenia irregularis</u>	1818
<u>Gloeocystis</u> sp.	227
<u>Nephrocystium</u> sp.	568
<u>Oocystis</u> sp.	682
<u>Pediastrum biradiatum</u>	341
<u>Quadrigula</u> sp.	114
<u>Scenedesmus abundans</u>	398
<u>Scenedesmus dimorphus</u>	454
<u>Scenedesmus quadricauda</u>	227
<u>Scenedesmus</u> sp.1	454
<u>Scenedesmus</u> sp.2	227
<u>Tetrastrum staurogeniaeforme</u>	966
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	155064
<u>Aphanocapsa elachista</u>	454
<u>Chroococcus multicoloratus</u>	4317
<u>Chroococcus varius</u>	341
<u>Dactylococcopsis fascicularis</u>	1818
<u>Gloeotheca linearis</u> var. <u>composita</u>	284
<u>Merismopedia punctata</u>	1761
<u>Merismopedia tenuissima</u>	6021
<u>Microcystis aeruginosa</u>	2726
<u>Microcystis</u> sp.	1818
<u>Rhabdoderma linearis</u> var. <u>spirale</u>	6930
<u>Synechococcus aeruginosa</u>	114
<u>Synechococcus elongatus</u>	511
<u>Synechococcus</u> sp.	5226
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella meneghiniana</u>	1193
<u>Cyclotella stelligera</u>	3465
<u>Melosira lirata</u>	2158
Order Pennales	
<u>Diploneis elliptica</u>	170
<u>Navicula tenera</u>	227

## BRAZOS RIVER BASIN

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

Somerville Lake AC (301908096313101)

Phytoplankton Analyses October 1984 to September 1985

Date	8-1-85
Time	1041

TOTAL CELLS/ml	362,211
NUMBER OF SPECIES	56
DEPTH COLLECTED (ft.)	1.1

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus braunii</u>	57
<u>Ankistrodesmus falcatus</u>	170
<u>Ankistrodesmus sp.</u>	57
<u>Carteria sp.</u>	57
<u>Chlamydomonas sp.</u>	57
<u>Chlorococcum sp.</u>	114
<u>Chodatella Tongiseta</u>	170
<u>Closterium parvulum var. angustum</u>	57
<u>Coelastrum sphaericum</u>	227
<u>Cosmarium sp.</u>	57
<u>Dictyosphaerium pulchellum</u>	909
<u>Euastrum sp.</u>	57
<u>Francela ovalis</u>	57
<u>Gloeocystis sp.</u>	227
<u>Golenkinia radiata</u>	57
<u>Kirchneriella lunaris</u>	341
<u>Mesotaenium macrococcum var. micrococcum</u>	170
<u>Nephrocitium limneticum</u>	170
<u>Pediastrum simplex</u>	454
<u>Scenedesmus abundans</u>	398
<u>Scenedesmus bijuga</u>	227
<u>Scenedesmus hystrix</u>	114
<u>Scenedesmus quadricauda</u>	227
<u>Scenedesmus serratus</u>	341
<u>Schroederia setigera</u>	170
<u>Sphaerocystis schroeteri</u>	454
<u>Spondyliostium planum</u>	170
<u>Tetraedron muticum</u>	284
<u>Tetraedron trigonum var. tetragonum</u>	227
<u>Tetrastrum heteracanthum</u>	454
<u>Tetrastrum staurogeniaeforme</u>	227
CYANOPHYTA (Blue-green algae)	
<u>Anabaena circinalis</u>	9088
<u>Anabaenopsis philippinensis ?</u>	10224
<u>Aphanocapsa delicatissima</u>	102240
<u>Aphanocapsa elachista</u>	2272
<u>Chroococcus varius</u>	9088
<u>Dactylococcopsis fascicularis</u>	1136
<u>Lyngbya nana</u>	84064
<u>Oscillatoria limnetica</u>	86336
<u>Oscillatoria sp.</u>	29536
<u>Raphidiopsis sp.</u>	2272
<u>Spirulina sp.</u>	1136
<u>Synechococcus lineare</u>	10224
<u>Synechococcus sigmoides</u>	5680
EUGLENOPHYTA (Euglenoids)	
<u>Trachelomonas euchora</u>	57
<u>Trachelomonas ensifera</u>	57
<u>Trachelomonas volvocina</u>	57
<u>Trachelomonas sp.</u>	57
PYRRROPHYTA (Dinoflagellates)	
<u>Peridinium sp.</u>	170
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella stelligera var. tenuis</u>	650
<u>Melosira lipata</u>	200
<u>Stephanodiscus tenuis</u>	454
Order Pennales	
<u>Nitzschia acicularis</u>	34
<u>Nitzschia palea</u>	57
<u>Nitzschia paleacea</u>	250
<u>Nitzschia sp.</u>	114

## SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

Somerville Lake FC (301754096380801)

Phytoplankton Analyses October 1984 to September 1985

Date	1-9-85
Time	1331

TOTAL CELLS/ml	34,763
NUMBER OF SPECIES	48
DEPTH COLLECTED (ft.)	0.6

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Botryococcus</u> sp.	795
<u>Chodatella</u> subsalsa	284
<u>Franceia</u> ovalis	114
<u>Nephrocystium</u> sp.	625
<u>Oocystis</u> borgei	341
<u>Pediastrum</u> tetras var. <u>tetraodon</u>	227
<u>Scenedesmus</u> acuminatus	227
<u>Scenedesmus</u> armatus var. <u>bicaudatus</u>	227
<u>Scenedesmus</u> dimorphus	909
<u>Scenedesmus</u> quadricauda var. <u>maxima</u>	114
<u>Selenastrum</u> minutum	284
<u>Tetraedron</u> minimum	57
<u>Tetrastrum</u> heteracanthum	227
<u>Tetrastrum</u> staurogeniaeforme	568
CYANOPHYTA (Blue-green algae)	
<u>Anabaena</u> circinalis	909
<u>Aphanocapsa</u> delicatissima	227
<u>Aphanocapsa</u> elachista	6818
<u>Chroococcus</u> limneticus	57
<u>Chroococcus</u> multicoloratus	170
<u>Chroococcus</u> varius	682
<u>Dactylococcopsis</u> fascicularis	57
<u>Dactylococcopsis</u> musicola	57
<u>Dactylococcopsis</u> raphidoides	170
<u>Merismopedia</u> minima	11193
<u>Merismopedia</u> punctata	1818
<u>Oscillatoria</u> limnetica	739
<u>Oscillatoria</u> subtilissima	341
<u>Oscillatoria</u> sp.	568
<u>Rhabdoderma</u> sigmoidea	796
<u>Spirulina</u> laxissima	46
<u>Synechococcus</u> lineare	1250
<u>Synechococcus</u> sp.	57
<u>Synechocystis</u> sp.	170
<u>Treubaria</u> sp.	57
CHRYSTOPHYTA (Golden-brown algae)	
<u>Mallomonas</u> sp.	57
EUGLENOPHYTA (Euglenoids)	
<u>Euglena</u> sp.	57
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella</u> meneghiniana	761
<u>Cyclotella</u> stelligera var. <u>tenuis</u>	1000
<u>Melosira</u> granulata var. <u>angustissima</u> f. <u>spiralis</u>	682
<u>Stephanodiscus</u> <u>tenuis</u>	57
Order Pennales	
<u>Ulponeis</u> sp.	57
<u>Navicula</u> cryptocephala	57
<u>Navicula</u> minuscula	114
<u>Nitzschia</u> acicularis	341
<u>Nitzschia</u> obtusa	114
<u>Nitzschia</u> palea	57
<u>Nitzschia</u> paleacea	114
<u>Nitzschia</u> sp.	114

## BRAZOS RIVER BASIN

## SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

Somerville Lake FC (301754096380801)

Phytoplankton Analyses October 1984 to September 1985

Date	4-23-85
Time	1246
<hr/>	
TOTAL CELLS/ml	64,696
NUMBER OF SPECIES	32
DEPTH COLLECTED (ft.)	0.8

Organisms	Cells/ml
<hr/>	
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus braunii</u>	57
<u>Ankistrodesmus convolutus</u>	170
<u>Ankistrodesmus nannoseleone</u>	170
<u>Chodatella subsalsa ?</u>	170
<u>Scenedesmus abundans</u>	114
<u>Scenedesmus dimorphus</u>	227
<u>Scenedesmus quadricauda</u>	341
<u>Scenedesmus serratus</u>	114
<u>Scenedesmus sp.1</u>	114
<u>Scenedesmus sp.2</u>	114
<u>Schroederia setigera</u>	57
<u>Tetraedron sp.1</u>	57
<u>Tetraedron sp.2</u>	57
<u>Tetrastrum staurogeniaeforme</u>	568
CYANOPHYTA (Blue-green algae)	
<u>Aphanocapsa delicatissima</u>	30956
<u>Aphanocapsa elachista</u>	2954
<u>Aphanothece castagnei</u>	1136
<u>Aphanothece saxicola</u>	1193
<u>Chroococcus pallidus</u>	1761
<u>Dactylococcopsis fascicularis</u>	568
<u>Merismopedia tenuissima</u>	6362
<u>Rhabdoderma linearis var. spirale</u>	2840
<u>Rhabdoderma sigmoidea</u>	57
<u>Synechococcus elongatus</u>	227
CRYPTOPHYTA (Cryptomonads)	
<u>Cryptomonas sp.</u>	28
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
<u>Cyclotella meneghiniana</u>	568
<u>Cyclotella stelligera</u>	12439
<u>Melosira lirata</u>	738
Order Pennales	
<u>Diploneis elliptica</u>	284
<u>Navicula heufleri</u>	170
<u>Navicula odiosa</u>	57
<u>Navicula tenera</u>	28



## SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

Somerville Lake FC (301754096380801)

Phytoplankton Analyses October 1984 to September 1985

Date	8-1-85
Time	1246

TOTAL CELLS/ml	798,130
NUMBER OF SPECIES	78
DEPTH COLLECTED (ft.)	0.6

Organisms	Cells/ml
CHLOROPHYTA (Green algae)	
<u>Ankistrodesmus braunii</u>	114
<u>Ankistrodesmus convolutus</u>	284
<u>Ankistrodesmus falcatus</u>	114
<u>Ankistrodesmus falcatus</u> var. <u>mirabilis</u>	57
<u>Ankistrodesmus nannoselene</u>	398
<u>Ankistrodesmus</u> sp.	170
<u>Carteria</u> sp.	57
<u>Chlamydomonas</u> sp.	170
<u>Chlorococcum</u> sp.	454
<u>Chodatella longiseta</u>	114
<u>Closterium gracile</u>	57
<u>Closterium parvulum</u> var. <u>angustum</u>	398
<u>Cosmarium</u> sp.	57
<u>Crucigenia tetrapedia</u>	227
<u>Dictyosphaerium pulchellum</u>	1420
<u>Euastrum</u> sp.	57
<u>Francia ovalis</u>	284
<u>Gloeocystis</u> sp.	398
<u>Golenkinia radiata</u>	57
<u>Kirchneriella lunaris</u>	341
<u>Mesotaenium macrococcum</u> var. <u>micrococcum</u>	170
<u>Micractinium pusillum</u>	511
<u>Nephrocium limneticum</u>	114
<u>Pediastrum tetras</u> f. <u>evoluta</u>	227
<u>Scenedesmus abundans</u>	682
<u>Scenedesmus acuminatus</u>	227
<u>Scenedesmus armatus</u> var. <u>bicaudatus</u>	341
<u>Scenedesmus bijuga</u>	284
<u>Scenedesmus denticulatus</u> var. <u>recurvatus</u>	227
<u>Scenedesmus minimus</u>	114
<u>Scenedesmus quadricauda</u>	341
<u>Schroederia setigera</u>	114
<u>Sphaerocystis schroeteri</u>	341
<u>Tetraedron trigonum</u> var. <u>longispinatum</u>	57
<u>Tetraedron trigonum</u> var. <u>tetragonum</u>	114
<u>Tetraedron</u> sp.	57
<u>Tetrastrum heteracanthum</u>	227
CYANOPHYTA (Blue-green algae)	
<u>Anabaena circinalis</u>	5794
<u>Anabaena spirodes</u> var. <u>crassa</u>	1250
<u>Anabaena</u> sp.	7952
<u>Anabaenopsis philippinensis</u>	7952
<u>Aphanocapsa delicatissima</u>	163584
<u>Aphanocapsa elachista</u>	20448
<u>Aphanocapsa elachista</u> var. <u>conferta</u>	37488
<u>Aphanothece saxicola</u>	3408
<u>Chroococcus varius</u>	35216
<u>Dactylococcopsis acicularis</u>	3408
<u>Dactylococcopsis fascicularis</u>	5680
<u>Lyngbya nana</u>	11360
<u>Lyngbya subtilis</u>	12496
<u>Merismopedia tenuissima</u>	6816
<u>Microcystis</u> sp.	24992
<u>Oscillatoria angustissima</u>	24992
<u>Oscillatoria limnetica</u>	293088
<u>Oscillatoria</u> sp.	45440
<u>Pseudoanabaena</u> sp.	34080
<u>Raphidiopsis</u> sp.	11360
<u>Spirulina laxa</u>	3408
<u>Spirulina</u> sp.	12496
<u>Synechococcus elongatus</u>	1136
<u>Synechococcus lineare</u>	11360

## BRAZOS RIVER BASIN

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

## Somerville Lake FC (Cont.)

## EUGLENOPHYTA (Euglenoids)

<u>Trachelomonas ensifera</u>	57
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## BACILLARIOPHYTA (Diatoms)

## Order Centrales

<u>Melosira granulata</u>	227
<u>Melosira granulata</u> var. <u>angustissima</u> f. <u>spiralis</u>	170
<u>Melosira islandica</u>	227
<u>Melosira italica</u>	114
<u>Melosira lirata</u>	170
<u>Stephanodiscus tenuis</u>	114

## Order Pennales

<u>Anomoeoneis vitrea</u>	28
<u>Diploneis</u> sp.	454
<u>Navicula cryptocephala</u>	114
<u>Navicula schroeteri</u> var. <u>escambia</u>	57
<u>Navicula symmetrica</u>	227
<u>Nitzschia acicularis</u>	114
<u>Nitzschia longissima</u> var. <u>reversa</u>	114
<u>Nitzschia palea</u>	160
<u>Nitzschia paleacea</u>	1077
<u>Nitzschia</u> sp.	126

## BRAZOS RIVER BASIN

389

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 downstream from bridge on State Highway 36, 860 ft downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.0 mi downstream from Somerville Lake, 2.0 mi south of Somerville, 5.0 mi upstream from Davidson Creek, and 18.4 mi upstream from mouth.

DRAINAGE AREA.--1,009 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929. Prior to Jan. 30, 1934, nonrecording gage at railway bridge 860 ft upstream at datum 34.30 ft higher. Jan. 30, 1934, to Nov. 30, 1970, water-stage recorder at highway bridge 100 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 27 to Nov. 30, Feb. 1. Records good above 1.0 ft<sup>3</sup>/s and fair below, except those for estimated daily discharges, which are poor. Flow regulated by Somerville Lake (station 08109900) since Feb. 3, 1965.

AVERAGE DISCHARGE.--41 years (water years 1925-65) unregulated, 290 ft<sup>3</sup>/s (210,100 acre-ft/yr); 20 years (water years 1966-85) regulated, 279 ft<sup>3</sup>/s (202,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,800 ft<sup>3</sup>/s July 1, 1940 (gage height, 19.27 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 22 ft Dec. 5, 1913, present site and datum, from information by Gulf, Colorado, and Santa Fe Railway Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,260 ft<sup>3</sup>/s Dec. 24 at 1300 hours (gage height, 7.32 ft); no flow Oct. 1-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	8.5	.51	15	436	1060	968	23	172	8.7	444	4.7
2	.00	12	.45	7.0	36	1060	967	23	171	9.1	24	4.8
3	.00	9.0	.59	284	8.4	1050	967	24	95	9.4	10	4.8
4	.00	6.3	2.6	984	7.1	1040	966	24	4.7	9.3	7.4	4.7
5	.00	5.5	6.6	1020	6.7	1030	770	24	1.0	9.0	5.5	4.4
6	.00	4.6	6.5	1030	6.0	1040	37	23	.70	8.7	4.6	4.2
7	.00	4.0	6.5	1030	5.2	1040	3.9	23	1.0	8.1	4.5	3.9
8	.00	3.5	5.0	1030	4.8	1040	2.1	24	1.4	8.0	4.6	3.3
9	.00	3.0	4.1	1020	4.7	1050	1.7	78	1.9	8.3	12	2.6
10	.00	2.7	3.6	1020	4.9	1050	1.1	174	2.5	8.7	60	1.9
11	.00	2.4	3.1	1020	6.3	1050	1.1	176	3.3	8.8	63	1.5
12	.07	2.1	2.7	1010	5.7	1050	1.3	176	3.3	8.9	62	1.5
13	.12	1.9	4.6	1010	5.2	1040	1.6	177	2.7	9.0	62	1.6
14	.27	1.7	6.1	1020	4.6	1030	1.8	185	2.2	9.3	61	1.5
15	.28	1.5	4.0	848	4.2	1020	1.8	181	1.7	9.3	62	1.4
16	.26	1.4	4.4	100	222	1010	1.9	180	1.4	9.4	61	1.4
17	.20	1.3	4.7	40	563	1000	2.2	180	1.3	9.3	61	1.4
18	.18	1.2	4.6	268	581	845	2.6	176	1.4	9.5	60	1.5
19	.42	1.1	329	985	583	281	2.7	177	3.1	9.4	59	1.7
20	.66	.98	902	1020	581	301	2.5	178	5.3	9.5	57	1.8
21	6.7	.91	1110	1020	581	241	3.3	179	7.2	9.3	52	1.6
22	4.8	.83	1230	1020	581	227	4.0	179	8.2	8.8	45	1.4
23	2.6	.77	1250	1010	664	224	4.7	177	9.0	8.5	58	1.3
24	19	.70	1250	1010	623	220	8.3	175	9.4	8.3	53	1.3
25	6.0	1.4	1240	858	605	452	10	175	9.7	7.9	33	1.2
26	4.9	1.0	1240	72	784	954	13	176	8.8	99	31	1.2
27	12	2.0	978	12	1030	1040	16	174	7.9	499	31	1.2
28	9.6	1.3	84	8.0	1040	990	20	172	8.0	553	31	1.3
29	8.0	.90	11	173	---	976	22	172	8.7	564	22	2.3
30	12	.68	5.8	547	---	973	22	173	8.7	566	6.3	2.1
31	10	---	13	569	---	967	---	173	---	566	4.9	---
TOTAL	98.06	85.17	9713.45	21060.0	8983.8	26351	4826.6	4151	562.50	3069.5	1551.8	69.5
MEAN	3.16	2.84	313	679	321	850	161	134	18.8	99.0	50.1	2.32
MAX	19	12	1250	1030	1040	1060	968	185	172	566	444	4.8
MIN	.00	.68	.45	7.0	4.2	220	1.1	23	.70	7.9	4.5	1.2
AC-FT	195	169	19270	41770	17820	52270	9570	8230	1120	6090	3080	138
CAL YR 1984	TOTAL	42084.44	MEAN	115	MAX	1250	MIN	.00	AC-FT	83470		
WTR YR 1985	TOTAL	80522.38	MEAN	221	MAX	1250	MIN	.00	AC-FT	159700		

## BRAZOS RIVER BASIN

08110000 YEGUA CREEK NEAR SOMERVILLE, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: September 1961 to September 1967, October 1968 to September 1980. Chemical and biochemical analyses: October 1980 to current year. Water temperatures: September 1961 to September 1967.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
JAN 09...	1500	1020	390	7.9	12.5	40	9.3	11.2	105	2.8	120
APR 23...	1415	4.9	968	7.6	25.5	35	19	6.2	77	5.9	290
AUG 01...	1437	632	456	8.5	31.5	30	7.0	8.0	109	2.2	140

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN 09...	65	34	7.8	28	1	6.6	52	63	49	.20	8.5
APR 23...	240	90	16	83	2	2.2	52	180	170	.20	9.1
AUG 01...	73	39	9.7	34	1	6.4	65	73	55	.20	11

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	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 09...	230	19	11	.020	<.10	.070	.73	.80	.050	8.3
APR 23...	580	41	3	<.010	<.10	.060	1.4	1.5	.060	7.1
AUG 01...	270	22	18	<.010	<.10	.030	.87	.90	.040	11

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 09...	1500	<1	98	<1	<10	1	15
APR 23...	1415	2	140	<1	10	<1	7
AUG 01...	1437	2	94	<1	<10	<1	4

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 09...	<1	5	<.1	<1	<1	20
APR 23...	<1	500	.1	<1	<1	4
AUG 01...	<1	9	<.1	<1	<1	13

## BRAZOS RIVER BASIN

391

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 downstream from Farm Road 60, 1.2 mi downstream from Berry Creek, 2.8 mi northeast of Lyons, and 10.7 mi upstream from mouth.

DRAINAGE AREA.--195 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 23 to Apr. 16. Records good except those for estimated daily discharges, which are poor. The city of Caldwell discharges sewage effluent into creek above this station. Several observations of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter located at station.

AVERAGE DISCHARGE.--23 years, 66.9 ft<sup>3</sup>/s (4.66 in/yr), 48,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,200 ft<sup>3</sup>/s June 24, 1968 (gage height, 18.67 ft); 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, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 29	1900	1,720	14.85	Mar. 1	1130	2,320	15.26
Feb. 23	2000	*2,840	*15.53				

a Estimated from graph based on fragmentary gage-height record.

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	81	21	588	18	522	12	3.4	1.6	.15	.00	.00
2	.00	59	16	412	17	229	11	3.2	1.5	.08	.00	.00
3	.00	69	12	417	16	51	10	3.0	1.4	.32	.00	.00
4	.00	34	132	452	15	40	9.3	2.7	1.2	.29	.00	.00
5	.00	21	634	204	16	32	8.5	2.5	1.2	.27	.00	.00
6	.00	15	264	96	18	28	8.3	2.5	1.0	.39	.00	.00
7	.00	12	85	59	19	25	7.8	2.4	.97	.49	.00	.00
8	.00	11	44	42	19	24	7.8	2.4	.93	3.0	.00	.00
9	.00	9.3	30	33	17	23	8.5	2.5	1.9	1.8	.00	.00
10	.00	7.9	23	28	122	23	8.0	2.9	4.3	1.2	.00	.00
11	.00	7.2	18	26	777	22	7.8	3.1	3.1	.78	.00	.00
12	.19	6.6	15	24	329	21	7.9	2.6	2.1	.50	.00	.00
13	.84	6.2	51	21	91	21	8.7	2.4	1.6	.32	.00	.00
14	1.0	5.9	210	21	48	20	9.6	27	1.2	.24	.00	.65
15	1.4	5.8	297	22	32	20	11	92	.97	.20	.00	.75
16	1.2	6.5	606	146	25	19	8.9	36	.88	.17	.00	.45
17	1.0	12	884	515	21	20	8.2	17	.82	.17	.00	.23
18	.63	8.7	530	242	19	20	6.8	12	.73	.24	.00	.14
19	6.7	7.5	355	95	17	100	5.8	8.9	.70	.49	.00	.07
20	35	6.9	148	49	16	263	5.3	7.8	.69	.20	.00	.01
21	619	6.3	74	32	16	797	5.2	8.4	.58	.17	.00	.00
22	515	5.8	49	25	15	459	5.0	11	.62	.21	.09	.00
23	204	5.5	35	22	1390	97	4.8	12	.70	.41	.29	.00
24	606	5.4	27	22	1620	43	4.7	19	.57	.30	.40	.00
25	438	62	23	21	698	36	4.6	9.3	.70	.20	.51	.00
26	456	113	20	20	136	32	4.5	5.7	.87	.17	.44	.00
27	102	576	18	20	64	28	4.1	4.0	.83	.13	.30	.00
28	232	275	17	21	97	23	4.0	3.0	.64	.09	.15	.00
29	1100	65	16	22	---	14	3.9	2.4	.44	.06	.05	.06
30	1270	35	17	22	---	13	3.6	2.0	.27	.02	.00	3.6
31	491	---	109	19	---	13	---	1.8	---	.00	.00	---
TOTAL	6080.96	1541.5	4780	3738	5688	3078	215.6	314.9	35.01	13.06	2.23	5.96
MEAN	196	51.4	154	121	203	99.3	7.19	10.2	1.17	.42	.072	.20
MAX	1270	576	884	588	1620	797	12	92	4.3	3.0	.51	3.6
MIN	.00	5.4	12	19	15	13	3.6	1.8	.27	.00	.00	.00
CFSM	1.01	.26	.79	.62	1.04	.51	.04	.05	.006	.002	.000	.001
IN.	1.16	.29	.91	.71	1.09	.59	.04	.06	.01	.00	.00	.00
AC-FT	12060	3060	9480	7410	11280	6110	428	625	69	26	4.4	12
CAL YR 1984	TOTAL	14823.66	MEAN	40.5	MAX	1270	MIN	.00	CFSM	.21	IN	2.83
WTR YR 1985	TOTAL	25493.22	MEAN	69.8	MAX	1620	MIN	.00	CFSM	.36	IN	4.86
									AC-FT	29400		
										50570		

## 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 upstream from Navasota River, 2.5 mi north of Washington, and at mile 228.8.

DRAINAGE AREA.--41,192 mi<sup>2</sup>, approximately, of which 9,566 mi<sup>2</sup> probably is noncontributing.

PERIOD OF RECORD.--November 1965 to September 1983. Stage only site October 1983 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated gage-height record: Oct. 24-28. Records good. Backwater at times from the 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. Flow is also affected at times by discharge from the flood-detention pools of 147 floodwater-retarding structures with a combined detention capacity of 153,200 acre-ft. These structures control runoff from 451 mi<sup>2</sup> above station. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--17 years (1965-83), 5,153 ft<sup>3</sup>/s (3,733,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 82,500 ft<sup>3</sup>/s Jan. 24, 1968 (gage height, 33.60 ft); maximum gage height, 36.74 ft Apr. 28, 1966 (backwater from Navasota River); minimum discharge, 170 ft<sup>3</sup>/s Oct. 22, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1856, 62.0 ft Dec. 6, 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 23.59 ft Feb. 25 at 1100 hours; minimum, 1.72 ft Oct. 5-7.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.96	15.01	5.61	8.74	5.26	16.18	10.81	6.41	6.24	5.63	3.52	3.12
2	1.91	13.30	4.70	15.52	4.72	18.05	9.83	9.05	5.78	5.31	3.00	2.94
3	1.81	12.20	4.12	13.49	5.93	16.98	9.04	10.46	5.14	5.24	2.95	2.86
4	1.74	12.04	4.15	11.63	6.70	14.74	9.40	9.30	4.42	5.18	3.05	2.81
5	1.72	11.45	5.78	10.23	6.80	12.99	9.23	8.91	4.22	4.77	3.17	2.88
6	1.74	9.69	5.94	9.54	6.83	11.71	8.42	8.83	4.14	5.22	3.26	2.85
7	1.83	8.36	6.36	9.01	5.92	10.55	8.19	8.73	4.58	4.75	3.23	2.87
8	1.97	7.31	6.05	8.83	5.43	9.55	8.08	8.67	11.00	4.62	3.27	2.93
9	1.90	6.48	5.67	9.01	5.24	8.92	8.04	9.47	8.92	4.15	3.27	2.91
10	4.77	5.89	4.72	9.17	7.56	8.69	7.50	9.01	6.51	3.94	3.34	2.92
11	5.54	5.51	4.10	8.91	8.92	8.24	6.53	8.60	5.33	3.89	3.41	3.18
12	5.12	5.23	3.76	7.92	8.98	7.94	6.21	8.69	4.81	3.81	3.39	3.31
13	4.97	4.81	6.32	7.48	8.74	7.76	6.16	10.44	5.05	4.04	3.39	3.47
14	8.50	4.37	6.14	8.21	7.56	7.58	7.39	14.13	7.58	3.89	3.36	3.27
15	8.70	4.11	15.43	8.50	7.05	7.48	7.47	14.72	7.84	3.97	3.64	3.20
16	8.14	4.06	14.19	10.49	6.36	10.13	7.79	12.06	7.89	4.12	3.32	3.23
17	6.72	3.89	15.68	10.77	5.84	9.76	7.67	10.97	7.97	4.14	3.50	4.20
18	5.05	3.77	16.09	12.51	5.59	8.41	7.68	12.07	8.18	4.15	3.32	3.83
19	5.25	3.75	17.78	11.71	5.83	6.90	6.99	12.59	8.11	4.14	3.19	3.33
20	6.12	3.70	17.41	10.18	5.98	8.31	6.27	11.44	8.65	3.65	3.39	2.85
21	18.87	3.84	13.25	8.77	5.55	12.15	5.80	10.97	8.81	3.31	3.79	4.29
22	21.75	3.96	11.15	7.75	5.41	15.89	5.06	10.93	7.41	3.19	3.99	3.73
23	22.22	3.65	10.42	8.14	14.23	12.64	4.89	11.41	7.99	3.16	4.29	3.31
24	21.30	3.48	10.30	8.80	22.58	9.83	4.85	10.19	7.40	3.06	4.02	2.93
25	21.85	3.66	10.27	8.17	22.91	8.72	6.65	9.27	8.01	3.04	4.01	2.67
26	20.00	4.27	10.18	6.99	18.20	9.99	6.83	8.81	6.91	3.12	3.84	2.35
27	20.45	5.83	9.90	6.47	15.18	12.78	6.61	8.03	6.70	3.52	4.17	2.28
28	21.50	6.56	8.64	5.63	14.57	12.05	5.76	7.83	6.30	3.55	3.42	2.47
29	21.58	6.37	7.83	5.30	---	12.70	5.14	7.68	6.18	3.56	3.17	2.92
30	19.73	6.73	7.12	5.77	---	11.92	5.16	7.65	6.01	3.56	3.12	3.23
31	17.34	---	8.35	5.65	---	11.30	---	6.88	---	3.54	3.28	---
MAX	22.22	15.01	17.78	15.52	22.91	18.05	10.81	14.72	11.00	5.63	4.29	4.29
MIN	1.72	3.48	3.76	5.30	4.72	6.90	4.85	6.41	4.14	3.04	2.95	2.28

WTR YR 1985 MAX 22.91 MIN 1.72



## BRAZOS RIVER BASIN

393

08110300 LAKE MEXIA NEAR MEXIA, TX

LOCATION.--Lat 31°38'37", long 96°34'43", Limestone County, Hydrologic Unit 12070103, 550 ft downstream from Cedar Creek, 610 ft upstream from spillway of dam on Navasota River, 1.0 mi upstream from Echo Dam, 1.6 mi upstream from Jacks Creek, 6 mi southwest of Mexia, and 180.0 mi upstream from mouth.

DRAINAGE AREA.--196 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 420.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by an earthfill dam, 1,645 ft long, including a 520-foot uncontrolled concrete ogee-type spillway near the center of dam. The dam was completed and deliberate impoundment of water began June 5, 1961. 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 May 11, 1979 (gage height, 35.36 ft); minimum, 3,730 acre-ft Jan. 15, 1964 (gage height, 21.40 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,240 acre-ft Feb. 23 at 1800 hours (gage height, 31.35 ft); minimum, 5,960 acre-ft Oct. 4 at 1500 hours (gage height, 25.23 ft).

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

25.0	5,760	31.0	16,620
27.0	7,720	33.0	17,420
29.0	10,400		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6030	9790	9530	10430	9440	9600	9460	9570	9210	8690	7780	6840
2	6010	9910	9500	9830	9430	9580	9430	9510	9170	8660	7720	6820
3	5980	9730	9260	9660	9430	9580	9380	9480	9130	8630	7700	6780
4	5960	9610	9510	9610	9470	9560	9380	9460	9080	8590	7660	6740
5	5980	9560	10090	9560	9660	9540	9370	9430	9080	8570	7620	6710
6	6460	9510	9810	9540	9740	9530	9340	9400	9340	8530	7600	6790
7	7260	9480	9670	9530	9670	9530	9330	9370	9430	8490	7550	6760
8	7280	9470	9600	9510	9600	9540	9300	9360	9410	8470	7550	6740
9	7280	9480	9570	9540	9570	9530	9270	9340	9400	8430	7510	6850
10	7280	9430	9540	9500	9600	9510	9270	9310	9340	8410	7480	6810
11	7380	9400	9530	9500	9470	9530	9260	9280	9330	8480	7450	6820
12	7910	9380	9510	9460	9470	9480	9260	9260	9270	8430	7420	6810
13	8040	9340	10260	9470	9480	9540	9280	9910	9230	8390	7380	6790
14	8190	9360	11170	9470	9500	9800	9260	9800	9200	8360	7360	6770
15	8240	9360	10980	9470	9460	9790	9240	9630	9170	8330	7330	6760
16	8260	9330	11580	9830	9440	9660	9210	9570	9140	8310	7300	6740
17	8210	9310	10270	9840	9460	9580	9180	9560	9100	8270	7270	6700
18	8980	9460	11450	9700	9460	9540	9160	9510	9110	8230	7250	6680
19	11450	9430	10310	9640	9460	9510	9130	9470	9080	8190	7220	6660
20	10040	9430	9830	9510	9430	10330	9130	9470	9040	8170	7170	6640
21	9710	9410	9700	9500	9440	9840	9100	9530	9000	8140	7140	6620
22	9640	9400	9630	9500	9460	9670	9160	9510	8980	8130	7100	6600
23	9580	9380	9580	9500	13780	9600	9160	9480	8970	8110	7080	6580
24	9610	9370	9570	9500	10870	9560	9140	9470	8960	8070	7080	6550
25	9740	9470	9530	9480	9870	9530	9100	9440	8920	8030	7050	6530
26	9640	9630	9510	9480	9690	9530	9100	9380	8890	8010	7010	6510
27	9610	9960	9510	9480	9600	9560	9080	9370	8860	7940	6980	6460
28	9670	9730	9530	9460	9610	9560	9430	9360	8810	7930	6950	6500
29	9610	9630	9530	9440	---	9530	9460	9310	8770	7880	6930	6200
30	9560	9570	9530	9470	---	9530	9510	9280	8730	7840	6920	9230
31	9530	---	10670	9440	---	9470	---	9260	---	7810	6890	---
MAX	11450	9960	11580	10430	13780	10330	9510	9910	9430	8690	7780	9230
MIN	5960	9310	9260	9440	9430	9470	9080	9260	8730	7810	6890	6460
(†)	28.39	28.42	29.17	28.33	28.45	28.35	28.38	28.20	27.81	27.07	26.22	28.18
(‡)	+3490	+40	+1100	-1230	+170	-140	+40	-250	-530	-920	-920	+2340

CAL YR 1984 MAX 11580 MIN 5960 (†) +1740  
WTR YR 1985 MAX 13780 MIN 5960 (†) +3190

(†) Gage height, in feet, at end of month.  
(‡) Change in contents, in acre-feet.

## BRAZOS RIVER BASIN

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX

LOCATION.--Lat 31°34'27", long 96°31'14", Limestone County, Hydrologic Unit 12070103, in city of Groesbeck at water supply pumping plant, 1.2 mi downstream from Springfield Lake, 3.7 mi north of Groesbeck, and 161.4 mi upstream from mouth.

DRAINAGE AREA.--239 mi<sup>2</sup>.

## 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 and concrete control. Datum of gage is 396.65 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow is partly regulated by Lake Mexia (station 08110300), 7.4 mi upstream (capacity, 9,400 acre-ft) and by Springfield Lake 1.2 mi upstream (approximate capacity, 3,100 acre-ft). There are several diversions above station for irrigation, municipal supply, and oilfield operation (total amount unknown). The city of Groesbeck diverts water from pool at gage for municipal use and returns washwater and sewage effluent into river downstream from gage. Gage-height telemeter at station.

AVERAGE DISCHARGE.--7 years, 80.5 ft<sup>3</sup>/s (58,320 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,200 ft<sup>3</sup>/s May 11, 1979 (gage height, 15.06 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1910, 26 ft in 1910 and 1944, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,100 ft<sup>3</sup>/s Feb. 23 at 2300 hours (gage height, 9.88 ft); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	57	51	1150	9.5	81	25	19	.69	.11	.00	.00
2	.00	311	40	655	9.9	73	17	21	.68	.07	.00	.00
3	.00	204	25	193	8.3	57	12	15	.64	.02	.00	.06
4	.00	111	20	95	9.1	68	8.3	10	.61	.15	.00	.15
5	.00	68	138	66	14	50	11	7.0	.51	.22	.22	.00
6	18	45	299	48	44	37	5.3	4.7	4.7	.12	.52	.00
7	12	32	164	38	79	29	4.9	3.4	4.3	.03	.51	.00
8	1.4	25	91	29	77	27	3.1	3.0	3.0	.08	.01	.00
9	2.0	17	64	22	60	24	2.2	2.4	1.9	.12	.00	.00
10	2.4	18	50	24	59	22	1.9	1.7	1.1	.19	.00	.00
11	2.9	8.8	36	18	68	22	2.0	1.4	.76	.61	.00	.00
12	3.1	6.0	29	14	35	19	1.9	1.2	.71	.68	.00	.10
13	2.3	3.9	97	12	26	18	2.0	8.3	.41	.55	.00	.59
14	3.2	2.7	952	10	20	31	2.7	168	.41	.42	.00	.13
15	2.9	3.0	1500	8.3	17	86	2.2	144	.39	.35	.00	.01
16	2.4	2.5	1980	24	11	137	2.1	77	.37	.19	.02	.00
17	1.9	1.6	1810	142	9.9	98	1.8	54	.32	.13	.00	.00
18	4.5	23	1120	169	8.7	69	1.7	39	.54	.01	.00	.00
19	887	27	1780	106	8.0	50	1.6	26	.59	.00	.00	.00
20	1350	18	590	82	6.7	323	1.6	18	.46	.00	.00	.00
21	374	13	203	44	5.2	584	1.6	24	.37	.00	.00	.00
22	140	8.8	103	32	7.0	227	2.8	21	.40	.00	.00	.05
23	91	6.8	68	24	3930	119	4.0	17	.50	.00	.00	.00
24	72	4.8	57	20	5420	79	2.6	11	.55	.00	.19	.00
25	79	13	44	16	1060	60	1.8	8.0	.47	.00	.98	.00
26	95	21	30	12	284	43	1.8	5.1	.34	.18	.74	.00
27	87	92	24	16	130	57	1.8	3.1	.38	.78	.05	.00
28	78	167	19	12	84	48	7.8	2.5	.22	1.1	.00	.00
29	75	116	18	8.8	---	35	15	2.0	.20	.77	.00	1.4
30	61	73	18	9.0	---	45	16	1.3	.16	.03	.00	.26
31	44	---	58	12	---	32	---	.84	---	.00	.00	---
TOTAL	3492.00	1499.9	11478	3111.1	11500.3	2650	165.5	719.94	26.68	6.91	3.24	2.75
MEAN	113	50.0	370	100	411	85.5	5.52	23.2	.89	.22	.10	.092
MAX	1350	311	1980	1150	5420	584	25	168	4.7	1.1	.98	1.4
MIN	.00	1.6	18	8.3	5.2	18	1.6	.84	.16	.00	.00	.00
AC-FT	6930	2980	22770	6170	22810	5260	328	1430	53	14	6.4	5.5

CAL YR 1984	TOTAL	22733.10	MEAN	62.1	MAX	1980	MIN	.00	AC-FT	45090
WTR YR 1985	TOTAL	34656.32	MEAN	94.9	MAX	5420	MIN	.00	AC-FT	68740

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 microsiemens Oct. 8, 9, 1969; minimum daily, 71 microsiemens 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, 487 microsiemens Apr. 29; minimum daily, 157 microsiemens Feb. 24.

WATER TEMPERATURES: Maximum daily, 30.0°C July 28, 29; minimum daily, 3.5°C Feb. 7.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 29...	1100	76	224	23.0	86	6	30	2.6	10
DEC 03...	1540	24	278	13.0	110	8	37	3.2	14
FEB 25...	1345	903	169	15.0	68	6	24	2.0	6.8
APR 08...	1230	2.9	353	20.0	140	2	50	3.5	14
JUN 27...	1205	.35	410	28.0	180	11	66	3.6	16

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
OCT 29...	.5	4.4	80	15	12	.20	7.8	130
DEC 03...	.6	4.4	98	14	19	.20	6.8	160
FEB 25...	.4	3.9	62	14	7.5	.10	7.7	100
APR 08...	.5	3.7	138	14	16	.20	6.5	190
JUN 27...	.5	3.1	169	11	22	.20	12	240

## BRAZOS RIVER BASIN

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX--Continued

## MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	3492.00	219	122	1150	12	115	12	117	83
NOV.	1984	1499.9	246	137	555	14	56	13	54	94
DEC.	1984	11478	202	112	3470	11	345	12	361	76
JAN.	1985	3111.1	221	123	1030	12	104	12	105	84
FEB.	1985	11500.3	196	109	3380	11	337	11	352	74
MAR.	1985	2650	265	148	1060	15	109	14	100	100
APR.	1985	165.0	379	215	96	23	10	16	7.1	160
MAY	1985	719.84	333	187	364	20	39	16	30	130
JUNE	1985	26.68	374	211	15	23	1.6	16	1.2	150
JULY	1985	6.91	427	243	4.5	27	0.5	17	0.3	180
AUG.	1985	3.25	466	267	2.3	30	0.3	17	0.1	200
SEPT	1985	2.75	444	253	1.9	28	0.2	17	0.1	190
TOTAL		34655.73	**	**	11100	**	1120	**	1130	**
WTD.AVG.		95	214	119	**	12	**	12	**	81

## SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	EQUIVALENT MEAN											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	240	279	209	315	196	308	436	345	430	---	---
2	---	227	280	208	318	221	303	353	352	432	---	---
3	---	238	280	208	310	218	306	313	358	435	---	470
4	---	230	281	213	306	215	323	301	363	419	470	461
5	---	229	276	219	302	220	320	290	371	432	466	---
6	310	228	248	226	306	226	344	296	364	435	454	---
7	325	233	251	227	284	236	350	307	368	440	457	---
8	362	239	254	236	268	250	356	314	377	433	468	---
9	358	249	260	238	267	272	357	324	360	430	---	---
10	353	250	265	245	276	290	355	335	355	419	---	---
11	354	260	272	253	280	289	360	350	364	416	---	---
12	347	257	271	260	284	287	363	360	368	406	---	458
13	349	254	265	264	287	289	377	365	375	410	---	447
14	345	256	247	265	301	297	383	395	385	410	---	453
15	360	267	221	272	302	293	402	292	384	406	---	465
16	366	271	197	276	313	254	404	303	377	404	475	---
17	372	272	182	250	314	259	416	311	375	409	---	---
18	366	276	178	231	316	293	424	309	383	420	---	---
19	235	286	172	240	330	297	432	331	385	---	---	---
20	213	308	178	259	354	284	435	319	388	---	---	---
21	195	284	182	255	343	276	437	317	396	---	---	---
22	196	269	187	254	329	240	448	319	408	---	---	471
23	211	274	194	258	249	255	462	323	411	---	---	---
24	212	275	204	264	157	289	477	316	413	---	478	---
25	215	278	210	274	162	273	482	303	415	---	470	---
26	210	284	215	290	170	288	485	298	419	458	472	---
27	220	279	227	287	178	284	480	314	410	449	475	---
28	226	246	230	297	187	285	477	322	419	435	---	---
29	223	256	238	304	---	279	487	326	422	453	---	435
30	230	271	246	302	---	289	462	336	423	456	---	451
31	235	---	245	311	---	294	---	341	---	---	---	---
MEAN	284	260	233	255	279	266	401	326	384	428	469	457

## BRAZOS RIVER BASIN

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08110325 NAVASOTA RIVER ABOVE GROESBECK, TX--Continued

DAY	TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985										
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	---	22.5	12.5	15.5	7.5	15.0	18.5	24.5	27.5	27.0	---
2	---	22.0	13.5	11.5	6.0	16.0	18.5	24.0	27.0	27.5	---
3	---	19.5	13.0	9.0	5.0	16.5	19.0	24.0	27.5	28.0	---
4	---	19.5	13.0	8.5	5.0	17.0	19.0	23.5	27.5	27.5	---
5	---	18.5	12.0	8.0	5.0	17.0	20.0	24.0	27.5	27.0	---
6	---	18.0	9.0	8.0	4.5	17.0	20.5	23.5	27.0	27.5	---
7	21.5	17.5	8.0	8.5	3.5	17.0	20.5	24.0	27.0	---	---
8	22.0	18.0	8.5	8.5	4.0	17.5	20.5	25.0	28.0	27.5	---
9	22.0	18.5	9.5	9.0	5.0	18.0	19.5	25.0	28.5	28.0	---
10	22.0	19.5	11.0	9.0	7.0	19.0	19.5	25.0	28.5	28.5	---
11	22.0	18.0	11.5	9.0	7.0	19.5	19.0	25.0	28.5	29.0	---
12	22.0	17.5	12.5	8.0	7.5	20.5	19.5	25.0	28.0	28.5	---
13	22.5	17.0	13.0	8.0	7.5	20.0	20.5	25.0	27.0	29.0	---
14	22.5	17.0	15.0	7.5	9.0	20.0	20.0	25.0	26.5	28.5	---
15	22.0	17.5	16.0	7.0	9.0	18.0	20.5	24.5	26.5	29.0	---
16	22.5	18.0	16.5	6.5	9.0	17.0	21.0	24.0	27.5	29.0	---
17	22.5	17.5	16.5	6.5	9.5	16.0	21.0	24.0	28.0	29.0	---
18	22.5	17.5	16.0	7.0	10.5	16.0	21.5	25.5	28.5	---	---
19	23.0	17.0	15.5	9.0	12.5	16.5	22.0	24.5	27.5	---	---
20	23.0	16.0	16.0	8.5	13.0	17.0	22.0	25.0	27.0	---	---
21	22.0	15.0	16.5	6.0	13.0	16.5	22.0	24.5	27.0	---	---
22	20.5	13.5	17.0	4.0	13.0	17.0	22.0	24.5	27.0	---	---
23	19.0	13.0	16.5	4.5	16.0	17.0	22.5	25.0	27.5	---	---
24	18.0	12.0	16.5	5.0	16.0	18.0	23.0	25.0	27.0	---	---
25	18.0	12.5	16.0	6.5	15.0	19.5	23.0	25.5	27.5	---	---
26	18.5	13.0	15.0	8.0	15.5	20.0	23.0	26.0	27.5	29.0	---
27	19.0	13.5	14.0	7.0	16.0	20.5	23.5	26.0	28.0	29.5	---
28	20.5	12.5	13.5	8.5	15.0	21.0	24.5	25.5	28.0	30.0	---
29	22.5	12.0	15.5	8.5	---	22.0	24.0	25.5	27.0	30.0	---
30	23.0	12.5	17.0	9.0	---	21.5	24.5	26.0	27.0	29.5	23.0
31	22.0	---	17.5	9.0	---	19.5	---	27.0	---	---	---
MEAN	21.5	16.5	14.0	8.0	9.5	18.0	21.0	25.0	27.5	28.5	23.0

## BRAZOS RIVER BASIN

08110430 BIG CREEK NEAR FREESTONE, TX

LOCATION.--Lat 31°30'25", long 96°19'31". Limestone County, Hydrologic Unit 12070103, 16 ft to left and 62 ft downstream from left end of bridge on State Highway 164, 5.1 mi southwest of Freestone, and 8.2 mi upstream from mouth.

DRAINAGE AREA.--57.1 mi<sup>2</sup>.

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 above National Geodetic Vertical Datum of 1929. Prior to Apr. 25, 1985, at site 62 ft upstream at same datum.

REMARKS.--Estimated daily discharges: July 16 to Aug. 12. Records good. Several observations of water temperature were made during the year. Satellite telemeter located at station.

AVERAGE DISCHARGE.--7 years, 34.0 ft<sup>3</sup>/s (8.09 in/yr), 24,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,160 ft<sup>3</sup>/s Dec. 3, 1983 (gage height, 14.13 ft); no flow at times in 1978, 1980, 1983, and 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1950, 19 ft in April 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 7	2230	829	12.67	Jan. 17	1000	748	12.52
Oct. 20	2330	847	12.70	Feb. 23	2200	*1,210	*13.21
Oct. 25	2000	717	12.44	Mar. 21	1000	637	12.22
Nov. 2	0430	553	11.88				

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	121	9.0	218	12	87	25	5.7	.38	.01	.00	.00		
2	.00	505	7.2	123	11	74	16	5.0	.29	.00	.00	.00		
3	.00	457	6.2	56	13	41	12	3.5	.19	.00	.00	.00		
4	.00	150	5.8	36	13	30	10	2.7	.13	.00	.00	.00		
5	.00	35	86	25	38	27	8.7	2.2	.11	.00	.00	.00		
6	55	18	236	20	90	17	7.5	1.6	.36	.00	.00	.00		
7	537	12	110	17	73	13	6.5	1.3	2.4	.00	.00	.00		
8	572	10	26	16	34	11	5.8	1.1	4.7	.00	.00	.00		
9	164	8.9	15	14	20	11	5.7	1.2	3.3	.00	.00	.00		
10	43	8.1	11	20	33	11	5.3	2.5	1.9	.00	.00	.00		
11	39	7.2	9.2	26	315	9.7	5.3	2.1	1.0	.20	.00	.00		
12	182	6.7	8.3	17	329	9.0	5.4	1.7	.64	.30	.00	.00		
13	134	5.7	122	15	88	8.2	5.4	2.8	.52	.09	.00	.00		
14	37	5.4	245	15	38	45	5.2	58	.36	.00	.00	.00		
15	26	5.4	162	15	23	110	5.1	25	.20	.00	.00	.00		
16	11	5.6	292	243	18	38	5.0	7.4	.13	.00	.00	.00		
17	6.7	6.6	423	648	15	21	4.3	4.4	.09	.00	.00	.00		
18	5.7	7.8	304	310	13	14	3.8	3.2	.10	.00	.00	.00		
19	133	33	309	83	12	10	3.6	2.6	.15	.00	.00	.00		
20	484	20	205	40	11	217	3.9	2.5	.10	.00	.00	.00		
21	754	9.7	74	23	11	546	3.8	2.9	.06	.00	.00	.00		
22	360	7.1	43	16	11	253	4.2	5.2	.03	.00	.00	.00		
23	189	5.8	29	14	636	64	9.7	5.0	.05	.00	.00	.00		
24	257	5.4	22	14	1030	34	8.3	3.6	.14	.00	.00	.00		
25	601	7.1	19	13	476	23	5.7	2.4	.08	.00	.00	.00		
26	531	19	17	12	95	18	4.4	1.8	.05	.00	.00	.00		
27	203	131	15	13	55	19	3.5	1.4	.03	.00	.00	.00		
28	374	140	15	34	35	25	3.6	1.0	.02	.00	.00	.00		
29	453	27	15	20	---	23	18	.71	.02	.00	.00	.32		
30	158	13	15	15	---	23	9.7	.51	.02	.00	.00	.00		
31	35	---	75	13	---	26	---	.45	---	.00	.00	---		
TOTAL	6344.40	1793.5	2930.7	2144	3548	1857.9	220.4	161.47	17.55	.60	.00	.32		
MEAN	205	59.8	94.5	69.2	127	59.9	7.35	5.21	.59	.019	.000	.011		
MAX	754	505	423	648	1030	546	25	58	4.7	.30	.00	.32		
MIN	.00	5.4	5.8	12	11	8.2	3.5	.45	.02	.00	.00	.00		
CFSM	3.59	1.05	1.66	1.21	2.22	1.05	.13	.09	.01	.000	.000	.000		
IN.	4.13	1.17	1.91	1.40	2.31	1.21	.14	.11	.01	.00	.00	.00		
AC-FT	12580	3560	5810	4250	7040	3690	437	320	35	1.2	.00	.6		
CAL YR 1984	TOTAL	12608.03	MEAN	34.4	MAX	754	MIN	.00	CFSM	.60	IN	8.21	AC-FT	25010
WTR YR 1985	TOTAL	19018.84	MEAN	52.1	MAX	1030	MIN	.00	CFSM	.91	IN	12.39	AC-FT	37720



## BRAZOS RIVER BASIN

399

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 northwest of Marquez, and 124 mi upstream from mouth.

DRAINAGE AREA.--675 mi<sup>2</sup>.

## 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 long, including the spillway. The lake was built for water conservation. Deliberate impoundment began on Oct. 16, 1978. The spillway is an uncontrolled broad-crested weir 3,000 ft 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 tainter gates. There are two 4- by 8-foot slide gates located in each of the two center piers of the 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 cast iron pipe, is located in the left end of pier. In addition, there are two 36-inch (outside diameter) steel cylinder pipes located in the right end pier for water supply releases. The lowest invert for low flow and water supply releases is at elevation 325.50 ft. The city of Mexia releases various amounts of sewage effluent into stream above lake. Gage-height telemeter at station. 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 spillway.....	369.6	327,760
Top of gates.....	365.0	253,905
Top of conservation pool.....	363.0	225,445
Concrete gated spillway.....	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 May 30, 1979 (elevation, 364.12 ft); minimum, 10,740 acre-ft Nov. 30, 1978 (elevation, 332.63 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 238,600 acre-ft Feb. 24 at 0700 hours (elevation, 363.94 ft); minimum, 190,500 acre-ft Sept. 27 at 2400 hours (elevation, 360.31 ft).

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

360.0	186,600
362.0	212,000
364.0	239,400

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191100	228000	225200	229900	225400	225600	223600	221900	222100	215500	208600	197400
2	190800	229100	225200	229500	224900	225400	222800	221500	221700	215200	208000	197300
3	190600	227500	224200	226300	224600	223400	222100	221300	221400	214700	207900	196400
4	190600	226400	225000	225300	225200	225000	221700	220900	221100	214700	207200	196100
5	190600	225200	228000	224500	225400	224200	222500	220500	220200	214600	207000	195800
6	193700	224200	227800	224900	226600	223600	222400	220500	221800	214400	206600	195800
7	207900	224400	227500	224900	226100	223600	222500	220300	222100	214200	205900	195600
8	212400	224200	227000	224900	225900	224100	222200	221000	221900	214000	205700	195300
9	214600	224600	226300	225600	225900	224200	221700	220700	221800	213800	205100	196200
10	213500	224800	225600	225400	229800	223700	221800	220500	221300	213600	205000	196200
11	215800	224500	225200	226300	230200	224400	221700	220600	221400	214800	204600	196400
12	217100	224200	225600	225000	228800	224500	221700	220100	221000	214700	204100	196300
13	217800	223700	227700	225200	227100	225600	221400	221700	220500	214300	203700	196100
14	217900	223400	228400	225300	225700	225200	221700	222800	220100	213900	203500	195800
15	217800	224500	230500	225200	224500	224900	221700	223000	219900	213800	203200	195200
16	218300	223800	233700	228900	224800	224600	221500	223400	219500	212700	202700	194700
17	217800	223600	233100	230500	224900	224100	221300	223300	219400	213300	202300	194300
18	218300	225000	230300	229900	225000	223300	221000	223200	219500	213100	201900	193900
19	222100	224900	226800	231300	224900	222200	220900	222600	219000	212900	201600	193800
20	230000	224500	225300	226000	224100	227400	220900	222900	218500	212500	201300	193600
21	232800	224200	224900	225200	224600	229100	220700	224000	218100	212300	200900	193100
22	227800	224100	224400	225200	224800	227700	221100	224000	218500	212000	200200	192900
23	224900	224100	224500	224900	226300	225900	221700	223800	218200	211900	199800	192600
24	226700	224000	225600	225200	224900	224800	221300	223600	217900	211400	200500	191400
25	229200	224500	224600	225300	226100	224100	220500	223400	217600	211100	200100	191900
26	230000	226100	224800	225000	225300	223200	220900	222900	217400	211000	199600	191200
27	229800	227000	224600	226000	224800	223300	221000	222800	217900	210600	198900	190500
28	233900	226300	225000	225300	225000	223600	220900	222500	216700	210200	198700	191100
29	230500	226600	225400	225600	---	223700	221000	222400	216400	209700	198600	194100
30	227100	226000	225600	227000	---	224800	221500	222400	215900	209200	198300	192900
31	225700	---	228200	225200	---	223200	---	222400	---	208900	197900	---
MAX	233900	229100	233700	231300	236300	229100	223600	224000	222100	215500	208600	197400
MIN	190600	223400	224200	224500	224100	222200	220500	220100	215900	208900	197900	190500
(†)	362.02	363.04	363.20	362.98	362.97	362.83	362.71	362.77	362.29	361.76	360.91	360.51
(‡)	+34300	+300	+2200	-3000	-200	-1800	-1700	+900	+6500	-7000	-11000	-5000

CAL YR 1984 MAX 233900 MIN 190600 ‡ +11500  
WTR YR 1985 MAX 236300 MIN 190500 ‡ +1500

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

## BRAZOS RIVER BASIN

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1979 to current year.

311937096194601 LAKE LIMESTONE SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
15...	1345	1.00	280	7.9	9.5	10.9	96
15...	1347	10.0	280	7.8	9.0	10.7	93
15...	1349	20.0	290	7.8	9.0	10.6	92
15...	1351	30.0	290	7.8	9.0	10.5	91
15...	1353	38.0	290	7.6	9.0	10.0	87
APR							
29...	1320	1.00	263	7.6	22.0	8.0	93
29...	1322	10.0	263	7.6	22.0	7.9	91
29...	1324	20.0	263	7.3	21.5	6.8	78
29...	1326	33.0	264	7.1	20.0	5.6	62
AUG							
05...	1340	1.00	293	7.3	30.5	4.5	61
05...	1342	10.0	293	7.0	29.0	.1	1
05...	1344	20.0	293	7.0	29.0	.2	3
05...	1346	31.0	296	7.0	28.5	.2	3

311941096191401 LAKE LIMESTONE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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									
15...	1405	1.00	276	7.9	9.5	.60	11.0	97	88
15...	1407	10.0	276	7.8	9.0	--	10.7	93	--
15...	1409	20.0	276	7.8	9.0	--	10.8	94	--
15...	1411	30.0	276	7.8	9.0	--	10.8	94	--
15...	1413	40.0	276	7.8	9.0	--	10.8	94	--
15...	1415	44.0	276	7.8	9.0	--	10.3	89	89
APR									
29...	1340	1.00	263	7.6	22.0	.80	8.1	94	77
29...	1342	10.0	263	7.6	22.0	--	8.0	93	--
29...	1344	20.0	264	7.4	21.0	--	7.0	79	--
29...	1346	30.0	264	7.2	20.0	--	5.8	65	--
29...	1348	40.0	267	6.9	18.5	--	1.8	19	--
29...	1350	44.0	270	7.0	18.5	--	.3	3	83
AUG									
05...	1355	1.00	295	7.5	30.5	1.20	4.9	66	90
05...	1358	5.00	294	7.9	30.0	--	6.9	92	--
05...	1400	10.0	294	7.9	29.5	--	6.9	91	--
05...	1402	20.0	294	7.1	29.0	--	.8	11	--
05...	1404	30.0	296	7.0	28.5	--	.2	3	--
05...	1406	40.0	310	7.0	26.0	--	.2	2	--
05...	1408	46.0	324	7.0	25.5	--	.2	2	110

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

[illegible]

BRAZOS RIVER BASIN  
LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312458096205101 LAKE LIMESTONE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- FLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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									
15...	1445	1.00	267	7.8	9.5	.50	10.9	96	88
15...	1447	10.0	267	7.8	8.5	--	10.6	91	--
15...	1449	20.0	261	7.8	8.5	--	10.5	90	--
15...	1451	30.0	260	7.8	8.5	--	10.5	90	--
15...	1453	36.0	256	7.8	8.5	--	10.1	87	85
APR									
29...	1430	1.00	266	7.8	23.0	.60	8.0	94	80
29...	1432	10.0	266	7.7	23.0	--	7.8	92	--
29...	1434	20.0	266	7.7	23.0	--	7.8	92	--
29...	1436	30.0	267	7.1	22.0	--	3.8	44	--
29...	1438	37.0	269	7.0	20.5	--	1.9	21	80
AUG									
05...	1430	1.00	303	8.3	31.5	1.20	7.6	104	93
05...	1432	10.0	304	7.8	30.5	--	5.8	78	--
05...	1434	20.0	305	7.9	30.5	--	5.9	79	--
05...	1436	30.0	308	7.5	30.0	--	3.8	51	--
05...	1438	35.0	324	7.1	28.0	--	.2	3	91

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
15...	22	27	5.0	20	1	4.9	66	19	29
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	19	26	4.8	19	.9	4.8	66	18	26
APR									
29...	13	24	4.8	18	.9	4.5	67	22	27
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	17	24	4.9	19	1	4.6	63	21	26
AUG									
05...	18	28	5.6	21	1	5.2	75	21	32
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	0	27	5.7	20	.9	4.7	97	17	30

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								
15...	4.8	150	.30	.60	.90	.040	66	<1
15...	--	--	--	--	--	--	--	--
15...	--	--	.30	.50	.80	.050	80	<10
15...	--	--	--	--	--	--	--	--
15...	5.6	140	.30	.50	.80	.050	63	4
APR								
29...	3.6	140	.30	.70	1.0	.040	9	<1
29...	--	--	--	--	--	--	--	--
29...	--	--	.30	.80	1.1	.040	40	10
29...	--	--	--	--	--	--	--	--
29...	5.5	140	.50	1.1	1.6	.060	26	46
AUG								
05...	3.0	160	<.10	.50	--	.030	<3	19
05...	--	--	--	--	--	--	--	--
05...	--	--	<.10	.50	--	.030	30	50
05...	--	--	<.10	.80	--	.040	40	420
05...	5.9	170	--	--	--	--	1600	3700

## LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312625096205901 LAKE LIMESTONE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
15...	1530	1.00	235	7.8	7.5	11.2	94
15...	1532	10.0	245	7.7	7.0	10.7	88
15...	1534	19.0	245	7.7	7.0	10.2	84
APR							
29...	1500	1.00	274	7.9	24.5	7.8	95
29...	1502	10.0	274	7.9	24.0	7.6	91
29...	1504	14.0	270	7.7	24.0	7.5	90
AUG							
05...	1520	1.00	306	8.6	32.0	8.5	117
05...	1522	10.0	310	8.2	31.0	6.5	88
05...	1524	17.0	310	7.5	31.0	4.3	58

312622096224201 LAKE LIMESTONE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
15...	1550	1.00	222	7.8	8.0	11.5	97
15...	1552	10.0	222	7.8	6.5	11.0	90
15...	1554	22.0	222	7.8	6.5	10.4	85
APR							
29...	1520	1.00	294	7.7	24.0	7.0	84
29...	1522	10.0	290	7.7	24.0	7.0	84
29...	1524	21.0	290	7.7	24.0	7.0	84
AUG							
05...	1540	1.00	324	8.6	31.5	8.9	122
05...	1542	10.0	340	8.0	30.5	6.4	86
05...	1544	23.0	355	7.3	30.0	1.6	21

312726096240001 LAKE LIMESTONE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (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									
15...	1605	1.00	227	7.7	7.5	.20	11.2	94	91
15...	1607	10.0	227	7.7	6.0	--	10.6	85	--
15...	1609	17.0	229	7.7	6.0	--	10.2	82	91
APR									
29...	1530	1.00	298	7.6	24.5	.30	6.9	84	98
29...	1532	10.0	298	7.4	24.0	--	5.3	64	--
29...	1534	17.0	303	7.1	23.5	--	1.3	15	96
AUG									
05...	1555	1.00	371	8.7	33.0	.55	10.4	146	110
05...	1557	10.0	365	7.4	30.5	--	2.5	34	--
05...	1559	18.0	401	7.1	30.5	--	.1	1	120

BRAZOS RIVER BASIN  
LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312726096240001 LAKE LIMESTONE SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
15...	17	30	3.9	12	.6	4.3	74	20	15
15...	--	--	--	--	--	--	--	--	--
15...	18	30	4.0	12	.6	4.3	74	20	14
APR									
29...	24	31	4.9	20	.9	4.5	74	24	29
29...	--	--	--	--	--	--	--	--	--
29...	20	30	5.0	19	.9	4.3	76	23	29
AUG									
05...	23	35	6.3	28	1	5.5	91	23	45
05...	--	--	--	--	--	--	--	--	--
05...	24	38	6.7	29	1	5.5	99	22	45

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, 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								
15...	12	140	.40	1.0	1.4	.110	530	41
15...	--	--	.40	.70	1.1	.120	640	50
15...	5.3	130	.40	.70	1.1	.120	510	48
APR								
29...	1.7	160	.10	1.0	1.1	.060	6	3
29...	--	--	.10	1.2	1.3	.060	30	20
29...	3.1	160	.20	1.2	1.4	.080	11	220
AUG								
05...	5.5	200	<.10	.90	--	.080	8	11
05...	--	--	<.10	.70	--	.050	30	70
05...	7.4	210	<.10	1.3	--	.100	620	1200



## BRAZOS RIVER BASIN

405

## 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 upstream from Missouri Pacific Railroad Co. bridge, 7 mi northeast of Easterly, and 105.7 mi upstream from mouth.

DRAINAGE AREA.--968 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929. Prior to June 11, 1932, nonrecording gage at railroad bridge 1.0 mi downstream at 19.86-foot higher datum. June 11, 1932, to Sept. 30, 1978, water-stage recorder 46 ft upstream at 5.00-foot higher datum.

REMARKS.--Estimated daily discharges: Dec. 25-27, Feb. 28 to Mar. 2, and Mar. 4-5. Records fair except those for estimated daily discharges, which are poor. Flow is largely regulated by Lake Mexia and Lake Limestone (stations 08110300 and 08110470). There are numerous diversions above station for irrigation, municipal supply, and oilfield operations. Satellite telemeter located at station.

AVERAGE DISCHARGE.--36 years (water years 1925-60) unregulated, 406 ft<sup>3</sup>/s (5.70 in/yr), 294,100 acre-ft/yr; 25 years (water years 1961-85) regulated, 428 ft<sup>3</sup>/s (6.00 in/yr), 310,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,300 ft<sup>3</sup>/s May 2, 1944 (gage height, 27.13 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1845, 29 ft in June 1899, from information by local residents (discharge, 90,000 ft<sup>3</sup>/s), from rating curve extended above 60,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,400 ft<sup>3</sup>/s Feb. 26 at 0900 hours (gage height, 21.92 ft); minimum daily, 0.92 ft<sup>3</sup>/s Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	2.8	1570	357	944	357	1360	407	51	4.2	8.5	50	45		
2	1.6	1350	347	1570	116	1050	120	175	3.7	8.5	50	44		
3	1.4	1890	340	2000	45	727	82	216	3.3	8.6	49	44		
4	1.6	2290	263	1900	48	498	87	66	3.1	9.0	49	43		
5	1.5	1560	115	1180	72	438	40	40	2.9	7.8	49	45		
6	2.7	734	362	322	83	408	35	28	5.3	4.9	49	47		
7	7.2	254	719	83	81	197	31	22	6.7	3.7	50	48		
8	13	93	611	60	320	62	28	20	12	3.2	50	49		
9	14	43	528	51	252	52	26	25	54	2.9	49	48		
10	70	32	502	45	240	48	24	20	32	2.9	48	50		
11	39	24	330	42	468	44	24	20	21	3.8	48	54		
12	45	24	160	39	858	42	25	18	17	5.8	49	58		
13	91	18	42	37	1480	41	25	79	14	6.2	48	55		
14	117	16	474	35	1480	40	25	282	13	5.6	47	49		
15	63	15	1360	35	846	252	24	197	12	3.7	47	44		
16	40	15	2470	254	266	344	22	73	11	2.9	47	44		
17	28	14	3330	1590	64	328	21	37	11	2.7	47	44		
18	21	15	4560	2260	46	309	20	24	11	2.6	46	44		
19	71	18	5270	2220	41	302	19	17	11	2.7	46	45		
20	155	17	4780	1510	161	829	18	14	11	4.5	45	49		
21	1360	17	3880	1090	247	1750	18	31	11	4.6	45	49		
22	4250	18	1920	405	133	2330	18	48	11	2.8	46	50		
23	6000	17	536	130	1290	2140	19	40	16	2.5	46	50		
24	4390	16	95	57	5730	1480	70	27	13	2.4	46	49		
25	1770	18	76	49	14300	745	52	18	11	2.2	46	50		
26	1510	24	70	43	12500	413	32	12	9.9	1.9	45	27		
27	1460	47	65	42	3520	623	24	9.2	9.5	1.8	44	2.2		
28	2350	197	62	42	1840	400	22	7.6	9.2	39	44	.92		
29	3920	477	57	43	---	145	24	6.6	8.9	48	43	5.0		
30	3440	392	52	42	---	93	27	5.5	8.6	49	44	12		
31	2680	---	115	210	---	335	---	4.6	---	49	45	---		
TOTAL	33915.8	11215	33848	18330	46884	17825	1409	1633.5	367.3	303.7	1457	1244.12		
MEAN	1094	374	1092	591	1674	575	47.0	52.7	12.2	9.80	47.0	41.5		
MAX	6000	2290	5270	2260	14300	2330	407	282	54	49	50	58		
MIN	1.4	14	42	35	41	40	18	4.6	2.9	1.8	43	.92		
CFSM	1.13	.39	1.13	.61	1.73	.59	.05	.05	.01	.01	.05	.04		
IN.	1.30	.43	1.30	.70	1.80	.69	.05	.06	.01	.01	.06	.05		
AC-FT	67270	22240	67140	36360	92990	35360	2790	3240	729	602	2890	2470		
CAL YR 1984	TOTAL	94864.00	MEAN	259	MAX	6000	MIN	1.3	CFSM	.27	IN	3.65	AC-FT	188200
WTR YR 1985	TOTAL	168432.42	MEAN	461	MAX	14300	MIN	.92	CFSM	.48	IN	6.47	AC-FT	334100

## BRAZOS RIVER BASIN

08110500 NAVASOTA RIVER NEAR EASTERLY, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1985 (discontinued). Sediment records: October 1968 to September 1973.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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 25...	1510	1490	284	20.0	87	20	26	5.4	20
DEC 05...	1030	129	326	8.5	96	62	25	8.2	22
JAN 15...	1500	30	500	7.5	140	80	37	11	43
FEB 25...	1200	9770	254	12.0	80	16	24	4.8	18
APR 09...	1015	26	620	17.0	170	96	44	14	58
MAY 21...	1400	40	439	25.0	120	79	29	11	37
JUN 28...	1015	9.0	408	27.0	110	41	30	8.2	39
AUG 13...	1010	48	302	29.5	94	19	28	5.8	22

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 25...	1	5.3	67	22	32	.20	6.0	160
DEC 05...	1	4.6	34	68	36	.10	9.8	190
JAN 15...	2	4.0	58	78	70	.10	16	290
FEB 25...	.9	4.8	64	21	26	.20	4.9	140
APR 09...	2	3.9	72	90	92	.20	17	360
MAY 21...	2	4.8	39	82	57	.20	13	260
JUN 28...	2	2.0	68	45	54	.20	8.6	230
AUG 13...	1	4.7	75	22	31	.20	3.7	160

## BRAZOS RIVER BASIN

407

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 upstream from Shepard Creek, 17 mi northeast of Bryan, and 68.4 mi upstream from mouth.

DRAINAGE AREA.--1,454 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1951 to current year.

Water-quality records: Chemical and biochemical analyses: October 1958 to September 1981. Sediment records: October 1973 to September 1981.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 224.64 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 23 to Feb. 27, and May 13-23. Records good except those for estimated daily discharges, which are poor. Flow is largely regulated by Lake Mexia and Lake Limestone (stations 08110300 and 08110470). There are numerous diversions above the station for irrigation, municipal, and oilfield operations. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years (water years 1952-60) unregulated, 437 ft<sup>3</sup>/s (316,600 acre-ft/yr); 25 years (water years 1961-85) regulated, 585 ft<sup>3</sup>/s (423,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,200 ft<sup>3</sup>/s Apr. 29, 1966 (gage height, 16.57 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1840, 19.5 ft in June 1899, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,900 ft<sup>3</sup>/s Feb. 26, time unknown (gage height, 15.56 ft, from flood-mark); minimum daily, 7.0 ft<sup>3</sup>/s Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	5620	495	516	170	6020	241	129	48	23	48	45
2	7.0	4880	446	602	260	3730	388	193	44	21	49	45
3	7.1	3830	406	1140	350	2530	341	235	40	19	47	45
4	7.4	2870	399	1780	250	2030	180	245	38	20	47	45
5	7.5	2550	618	2010	170	1510	149	192	36	20	47	45
6	7.6	2580	608	2120	200	1050	135	131	35	22	47	45
7	8.7	2540	637	1930	230	747	112	102	36	21	47	44
8	9.5	1970	774	1110	250	525	101	86	38	20	47	45
9	18	1000	874	415	300	261	96	79	44	18	47	46
10	26	336	853	229	340	171	91	87	45	16	47	46
11	22	194	753	184	290	149	87	93	55	15	47	59
12	509	154	644	167	600	140	87	85	48	15	47	68
13	502	132	506	152	800	134	86	78	38	16	47	67
14	178	118	593	142	1800	128	87	130	32	18	47	80
15	148	106	392	142	1700	124	86	250	29	19	47	73
16	135	114	817	246	1400	155	85	450	27	19	47	61
17	126	105	1450	1130	1100	258	81	230	25	18	48	53
18	82	97	1970	1200	600	308	75	150	25	17	50	49
19	123	95	2830	1610	350	296	70	110	25	16	51	47
20	245	99	4480	2150	200	569	68	90	25	15	50	46
21	2710	104	5600	2460	500	1180	76	200	26	15	48	45
22	4670	96	5660	2350	1200	1420	437	300	26	15	47	46
23	3210	89	5200	1800	2500	1880	143	244	26	23	47	47
24	4870	84	4000	900	5000	2360	106	199	30	24	47	47
25	6800	121	2280	550	10000	2520	94	140	32	20	46	47
26	7950	154	907	350	17000	2230	113	110	31	17	46	48
27	5140	736	320	280	13000	1540	108	92	28	15	47	50
28	8380	424	208	250	8720	956	92	78	26	14	47	47
29	10300	274	172	230	---	906	81	67	24	13	46	40
30	6770	440	155	210	---	702	76	60	23	14	45	40
31	6280	---	220	190	---	314	---	53	---	35	45	---
TOTAL	69256.0	31912	45267	28545	69280	36843	3972	4688	1005	573	1465	1511
MEAN	2234	1064	1460	921	2474	1188	132	151	33.5	18.5	47.3	50.4
MAX	10300	5620	5660	2460	17000	6020	437	450	55	35	51	80
MIN	7.0	84	155	142	170	124	68	53	23	13	45	40
AC-FT	137400	63300	89790	56620	137400	73080	7880	9300	1990	1140	2910	3000
CAL YR 1984	TOTAL	177630.5	MEAN	485	MAX	10300	MIN	3.3	AC-FT	352300		
WTR YR 1985	TOTAL	294317.0	MEAN	806	MAX	17000	MIN	7.0	AC-FT	583800		

## BRAZOS RIVER BASIN

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 downstream from Wickson Creek, 9.8 mi east of the post office in College Station, and 35.2 mi upstream from mouth.

DRAINAGE AREA.--1,809 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1977 to September 1985 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 178.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Apr. 4, 5, 7, 8, and 10. Records good. Since 1961, flow regulated to some extent by upstream reservoirs. There are numerous diversions above the station for irrigation, municipal, and oil-field operations. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years (water years 1978-85), 614 ft<sup>3</sup>/s (444,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft<sup>3</sup>/s Oct. 29, 1984 at 1900 hours (gage height, 21.89 ft); maximum gage height, 22.13 ft, June 2, 1979; minimum daily discharge, 0.07 ft<sup>3</sup>/s Aug. 31, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 41 ft (+3 ft) in 1899. Flood of 1913 reached a stage of about 36 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,000 ft<sup>3</sup>/s Oct. 29 at 1900 hours (gage height, 21.89 ft); minimum daily, 4.4 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	5210	660	1410	247	8580	880	153	79	27	11	26
2	4.7	4730	603	1390	226	6850	553	119	71	26	15	26
3	4.9	4410	594	1430	295	5370	517	203	65	25	21	26
4	5.0	4170	586	1720	418	4020	576	298	59	23	24	26
5	4.9	3610	1070	1930	388	2960	490	336	54	23	21	26
6	6.9	2930	1380	2010	289	2400	285	325	51	24	19	19
7	25	2500	1290	2040	331	1910	219	223	48	22	28	17
8	28	2300	1110	2010	378	1500	181	147	47	31	33	16
9	10	2200	926	1920	360	1120	152	164	48	36	26	20
10	7.9	2020	903	1550	401	774	137	123	51	28	18	27
11	12	1580	942	830	1350	479	129	118	54	23	17	39
12	698	802	929	423	2560	336	122	107	56	20	17	37
13	1330	357	1110	305	2630	278	117	101	62	18	30	82
14	1250	231	1600	259	1750	250	121	639	58	16	28	56
15	808	179	1630	227	1340	232	115	1490	48	16	26	50
16	327	166	1580	451	1280	220	113	1940	42	19	26	59
17	210	155	1640	1600	1400	222	112	1840	37	29	27	56
18	151	170	1640	2100	1480	329	107	1610	34	24	27	46
19	440	147	1790	2080	1330	445	101	1270	32	24	27	37
20	876	125	1990	1820	759	810	94	653	31	29	27	31
21	3340	117	2190	1700	371	1480	91	339	31	30	29	27
22	5400	117	2840	1800	265	1600	91	253	31	32	29	23
23	6530	114	3980	2020	666	1720	289	309	32	24	28	23
24	6080	106	4370	2170	2250	1700	370	409	32	23	27	30
25	15000	134	4060	1980	4890	1750	189	431	31	22	28	33
26	18600	260	3530	1460	5050	1930	129	317	32	25	33	37
27	8760	1170	2740	731	3900	2220	117	204	35	23	33	39
28	5940	1650	1820	404	8510	2250	126	149	36	19	26	40
29	18300	1660	900	316	---	1890	116	121	33	15	26	50
30	15400	1200	420	297	---	1450	104	103	29	14	27	105
31	6610	---	632	281	---	1200	---	89	---	12	27	---
TOTAL	116163.7	44520	51455	40664	45114	58275	6743	14583	1349	722	781	1129
MEAN	3747	1484	1660	1312	1611	1880	225	470	45.0	23.3	25.2	37.6
MAX	18600	5210	4370	2170	8510	8560	880	1940	79	36	33	105
MIN	4.4	106	420	227	226	220	91	89	29	12	11	16
AC-FT	230400	88310	102100	80660	89480	115600	13370	28930	2680	1430	1550	2240
CAL YR 1984	TOTAL	257359.2	MEAN	703	MAX	18600	MIN	3.0	AC-FT	510500		
WTR YR 1985	TOTAL	381498.7	MEAN	1045	MAX	18600	MIN	4.4	AC-FT	756700		

## BRAZOS RIVER MAIN STEM

409

08111500 BRAZOS RIVER NEAR HEMPSTEAD, TX

LOCATION.--Lat 30°07'44", long 96°11'15", Washington-Waller County line, Hydrologic Unit 12070101, at downstream side of bridge on U.S. Highway 290, 6,000 ft upstream from Texas and New Orleans Railroad Co. bridge, 6.5 mi northwest of Hempstead, 10.5 mi upstream from Caney Creek, and at mile 193.8.

DRAINAGE AREA.--43,880 mi<sup>2</sup>, approximately, of which 9,566 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929. Prior to Nov. 1, 1940, nonrecording gage at railroad bridge 6,000 ft downstream at datum 5.80 ft lower. Nov. 1, 1940, to Sept. 30, 1963, nonrecording gage at site 1,500 ft downstream at present datum. Oct. 1, 1964, to July 31, 1974, water-stage recorder 1,500 ft downstream at present datum. Telemetry at station.

REMARKS.--Estimated daily discharges: July 8-12, and July 14 to Aug. 21. Records fair except those for periods of no gage-height record, which are poor. 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 at Waco (station 08096500) and by reservoirs on the Lampasas and Little Rivers above Cameron. For statement regarding regulation by Soil conservation Service floodwater-structures, see station 08110200. Several observations of water temperature were made during the year. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--47 years, 6,457 ft<sup>3</sup>/s (4,678,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft<sup>3</sup>/s May 2, 1957 (gage height, 44.21 ft), at site 1,500 ft downstream; minimum daily, 137 ft<sup>3</sup>/s Nov. 6, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 56.1 ft Dec. 8, 1913, at site 1,500 ft downstream at present datum, from information by Texas and New Orleans Railroad Co., obtained at bridge 6,000 ft downstream. Flood of July 4, 1899, reached a stage of 53.6 ft, at site 1,500 ft downstream at present datum, from information by Texas and New Orleans Railroad Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,900 ft<sup>3</sup>/s Oct. 29 at 1700 hours (gage height, 22.24 ft); maximum gage height, 22.66 ft Feb. 25 at 2300 hours; minimum daily discharge, 300 ft<sup>3</sup>/s Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	419	24000	4620	10300	3150	19300	10600	2490	4160	3250	1150	1070
2	389	20200	3870	10400	2790	21100	9540	3300	3430	2990	1000	1070
3	366	16500	3070	17100	2380	22900	8300	5660	3010	2820	950	933
4	344	14400	2800	14100	2750	20600	7230	7920	2550	2820	850	864
5	311	13600	2890	11200	3680	16800	7100	6830	2040	2660	800	839
6	300	12200	3520	9370	3940	13800	7050	6200	1800	2460	850	830
7	336	9900	3950	8440	3980	11600	6180	6050	1710	2620	900	829
8	351	8060	4260	7770	3450	9750	5660	5940	2010	2460	900	827
9	461	6620	4040	7420	2920	8270	5410	6110	6640	2350	900	836
10	534	5430	3670	7480	2820	7160	5240	6800	6640	2120	900	859
11	863	4610	2960	7610	7000	6400	4760	6320	4090	1740	950	868
12	2220	4140	2440	7300	8260	5610	3910	5760	2870	1560	1100	942
13	2550	3800	2570	6150	7490	5040	3450	5820	2340	1520	1200	1090
14	3030	3320	5630	5330	7610	4660	3400	8170	2390	1480	1150	1200
15	5980	2700	8410	5530	6690	4440	4140	13800	4010	1440	1150	1180
16	7600	2220	16200	6060	5770	4410	4490	14700	4720	1400	1150	1060
17	7000	1990	15600	10400	4820	6820	4630	11100	4810	1400	1200	1050
18	5420	2070	18500	11200	4080	7320	4640	9500	5030	1550	1250	1340
19	3980	1940	18800	12300	3700	5700	4610	10900	5820	1600	1200	1480
20	4150	1630	22100	11500	3710	7090	4170	11800	5280	1550	1300	1190
21	7480	1500	19500	9500	3840	8880	3520	10400	5590	1400	1250	912
22	26300	1440	13200	7620	3580	12500	3260	9370	5910	1300	1250	1200
23	31300	1530	10300	6250	7510	16900	2800	9160	4710	1200	1340	1390
24	29400	1390	9430	6260	20600	12500	2710	9380	4950	1100	1490	1140
25	29600	1320	9470	6950	31800	8880	2510	8170	4480	1000	1730	892
26	29700	1430	9700	6510	32500	7420	3330	6960	5100	950	1620	804
27	27800	2070	9700	6920	23600	12200	3900	6360	4230	950	1480	722
28	28700	3390	9220	8040	17900	15100	3680	5430	3850	1150	1580	697
29	33500	4110	9170	4580	---	12500	3100	4970	3570	1100	1390	786
30	32400	4340	6750	3520	---	12800	2530	4710	3340	1000	1110	1020
31	28600	---	7510	3380	---	12000	---	4590	---	1050	1040	---
TOTAL	351384	181850	263850	256490	232320	340450	145850	234670	121080	53990	36130	29920
MEAN	11330	6062	8511	8274	8297	10980	4862	7570	4036	1742	1165	997
MAX	33500	24000	22100	17100	32500	22900	10600	14700	6640	3250	1730	1480
MIN	300	1320	2440	3380	2380	4410	2510	2490	1710	950	800	697
AC-FT	697000	360700	523300	508700	460800	675300	289300	465500	240200	107100	71660	59350
CAL YR 1984	TOTAL	1167523	MEAN	3190	MAX	33500	MIN	300	AC-FT	2316000		
WTR YR 1985	TOTAL	2247984	MEAN	6159	MAX	33500	MIN	300	AC-FT	4459000		



## BRAZOS RIVER BASIN

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 downstream from State Highway 36, 5.0 mi southeast of Bellville, 6.0 mi upstream from Brazos River, and 9.0 mi upstream from mouth.

DRAINAGE AREA.--376 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: June 13-17, July 16-19, July 22 to Aug. 28, Sept. 2-28. Water-discharge records good except for estimated daily discharges, which are fair. During the year, the city of Bellville discharged about 405 acre-ft of sewage effluent into a tributary of Mill Creek above gage.

AVERAGE DISCHARGE.--22 years, 234 ft<sup>3</sup>/s (8.45 in/yr), 169,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,400 ft<sup>3</sup>/s June 13, 1973 (gage height, 17.95 ft); minimum daily, 0.08 ft<sup>3</sup>/s July 22, 23, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1899, 22.8 ft in 1940, from information by local residents and the State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 24	1400	*12,100	*14.38	No other peak greater than base discharge.			

Minimum daily discharge (estimated), 2.0 ft<sup>3</sup>/s Sept. 26-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	37	23	2040	99	1850	102	50	16	9.5	3.7	3.0
2	3.1	65	20	584	86	1850	86	43	13	8.7	3.6	2.8
3	2.9	58	18	479	79	460	76	38	13	10	3.5	2.7
4	2.7	39	77	356	79	232	69	33	12	33	3.4	2.6
5	3.6	30	117	208	81	151	67	31	11	243	3.3	2.5
6	6.2	24	77	140	82	124	60	29	11	216	3.2	2.5
7	8.2	21	52	109	77	112	56	27	11	50	3.1	2.4
8	19	18	39	93	70	106	53	59	11	28	3.1	2.4
9	131	17	37	83	67	100	52	183	9.9	20	3.0	2.4
10	36	16	33	83	95	93	52	182	9.3	16	3.0	2.4
11	18	14	29	75	1520	89	61	73	8.4	13	2.9	2.3
12	13	13	28	78	1490	83	122	62	8.1	12	2.9	2.3
13	12	12	58	91	245	95	98	54	7.9	10	2.8	2.3
14	45	12	328	114	140	160	74	92	7.7	8.8	2.8	2.3
15	42	12	150	110	113	191	68	87	7.6	7.5	2.8	2.3
16	18	16	112	189	98	188	59	93	7.5	6.5	2.7	2.2
17	11	16	398	931	90	152	51	226	7.4	6.0	2.7	2.2
18	9.7	29	567	1170	84	113	46	131	19	5.5	2.7	2.2
19	34	33	206	311	80	91	43	66	305	19	2.6	2.2
20	40	25	118	145	76	1660	43	47	176	17	2.6	2.2
21	64	19	81	104	75	3250	54	47	64	9.2	2.6	2.1
22	134	16	62	88	75	602	56	46	46	7.6	2.6	2.1
23	303	15	55	83	691	199	55	45	38	6.5	2.7	2.1
24	179	15	51	83	8610	142	469	35	26	5.9	2.6	2.1
25	634	17	50	81	3160	121	897	29	22	5.4	2.6	2.1
26	795	21	47	76	435	108	208	26	18	5.0	2.5	2.0
27	445	32	43	126	334	112	116	23	16	4.7	2.5	2.0
28	176	79	43	670	479	327	86	21	14	4.4	2.5	2.0
29	100	44	43	476	---	243	67	20	11	4.2	5.0	9.9
30	60	29	320	157	---	151	56	18	10	4.0	8.0	74
31	42	---	2500	121	---	134	---	17	---	3.8	4.2	---
TOTAL	3390.6	794	5782	9454	18610	13289	3402	1933	936.8	800.2	98.2	148.6
MEAN	109	26.5	187	305	665	429	113	62.4	31.2	25.8	3.17	4.95
MAX	795	79	2500	2040	8610	3250	897	226	305	243	8.0	74
MIN	2.7	12	18	75	67	83	43	17	7.4	3.8	2.5	2.0
CFSM	.29	.07	.50	.81	1.77	1.14	.30	.17	.08	.07	.008	.01
IN.	.34	.08	.57	.94	1.84	1.31	.34	.19	.09	.08	.01	.01
AC-FT	6730	1570	11470	18750	36910	26360	6750	3830	1860	1590	195	295
CAL YR 1984	TOTAL	25521.3	MEAN	69.7	MAX	2860	MIN	2.7	CFSM	.19	IN	2.52
WTR YR 1985	TOTAL	58638.4	MEAN	161	MAX	8610	MIN	2.0	CFSM	.43	IN	5.80
									AC-FT	50620		
									AC-FT	116300	214	



## BRAZOS RIVER BASIN

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08111700 MILL CREEK NEAR BELLVILLE, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1985. Sediment records: October 1966 to September 1975.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	TEMPER- ATURE (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...	1230	41	437	25.5	160	4	60	3.4	22
JAN 10...	1330	83	608	13.5	250	31	93	4.4	31
FEB 27...	1220	318	491	15.0	210	21	78	3.6	23
APR 23...	1305	61	621	25.0	250	38	94	4.7	35
JUL 10...	1630	16	410	34.0	150	7	57	3.0	22
AUG 23...	1300	2.7	455	34.0	150	23	54	4.3	30

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 31...	.8	4.8	160	15	35	.20	21	260
JAN 10...	.9	3.6	220	18	53	.30	20	360
FEB 27...	.7	4.1	189	23	36	.20	16	300
APR 23...	1	2.8	217	19	60	.40	20	370
JUL 10...	.8	4.4	148	15	32	.20	19	240
AUG 23...	1	3.3	130	9.9	61	.20	24	260

## BRAZOS RIVER MAIN STEM

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 downstream from Texas and New Orleans Railroad Co. bridge, and at mile 92.0.

DRAINAGE AREA.--45,007 mi<sup>2</sup>, approximately, of which 9,566 mi<sup>2</sup> 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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1922, various types of nonrecording gages at railroad bridge 925 ft upstream at different datums. Oct. 1, 1922, to Sept. 30, 1931, nonrecording chain gage at Rosenberg 7.6 mi upstream at datum about 7 ft higher; Oct. 1, 1931, to Sept. 30, 1975, water-stage recorder at present site at datum 3.00 ft higher. Telemetry located at station.

REMARKS.--No estimated daily discharges. Records good. Considerable water is diverted above station for irrigation and municipal supply. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08110200.

AVERAGE DISCHARGE.--20 years (water years 1904-5, 1923-40) unregulated, 7,209 ft<sup>3</sup>/s (5,223,000 acre-ft/yr); 45 years (water years 1941-85) regulated, 7,138 ft<sup>3</sup>/s (5,171,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft<sup>3</sup>/s June 6, 1929 (gage height, 43.6 ft, from floodmarks), present site and datum; minimum daily, 35 ft<sup>3</sup>/s Aug. 23, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 51.2 ft Dec. 10, 1913, present datum, from floodmarks on right bank 1,000 ft 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; June 13, 1885, 47.7 ft; July 1899, 48.6 ft; May 2, 1915, 46.3 ft; and May 9, 1922, 43.9 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36,400 ft<sup>3</sup>/s Oct. 25 at 2100 hours (gage height, 21.62 ft); minimum daily, 411 ft<sup>3</sup>/s Oct. 4

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	570	28200	4250	9060	3950	21800	12200	3310	4770	3520	938	1200
2	472	24700	4580	12900	3730	23500	11100	2850	4610	3330	911	1060
3	429	20900	4580	12400	3360	23800	10100	2810	4070	3230	1000	1030
4	411	17400	4020	16800	3110	23500	9060	3580	3470	3280	922	1030
5	428	15100	3690	15400	2820	21100	7940	6250	3050	3180	854	1010
6	481	14100	3660	12200	3170	17700	7300	7210	2590	3040	712	986
7	499	13100	3510	9900	3840	15000	7320	6390	2160	2880	694	871
8	483	11200	3840	8780	4050	13100	6890	6130	1930	2460	715	864
9	572	9310	4280	8120	3870	11400	6220	6550	1840	2400	737	855
10	677	7750	4350	7640	3550	9950	5880	6430	2790	2270	734	912
11	693	6550	4230	7500	5140	8660	5720	6650	6670	2080	735	1010
12	677	5650	3810	7650	9430	7750	5580	6630	6230	1820	744	1010
13	737	5030	3170	7650	11400	7010	5040	6140	4020	1590	766	895
14	2190	4600	2730	7000	8740	7240	4390	5670	2950	1490	882	922
15	2970	4240	3750	6140	7910	6960	3980	6320	2510	1380	1010	995
16	3590	3990	6260	5860	7420	6540	4060	11200	2730	1350	985	1110
17	5890	3800	13200	6690	6500	6030	4610	14900	4140	1310	978	1130
18	6840	3410	15800	10200	5740	6480	4780	12700	4840	1260	1020	1060
19	6700	3000	17800	12400	4980	7990	4900	11300	6260	1280	1040	1050
20	5580	2780	18800	12100	4550	8230	4980	10300	7350	1370	1010	1130
21	4940	2450	20600	11600	4270	10900	5000	11700	6950	1410	1070	1350
22	5940	2060	19100	9980	4280	13900	4420	11300	6140	1390	1010	1230
23	21100	1880	14200	8330	4360	12900	3890	10000	6370	1320	980	1040
24	30300	1780	11400	7020	7810	16300	3580	9400	5960	1140	1110	1090
25	34600	1800	9920	6320	25300	13700	3740	9470	5130	997	1410	1370
26	34400	1740	9490	6710	33900	10300	4530	9040	5000	913	1630	1260
27	31700	1650	9660	6820	32800	8370	3890	7730	4830	844	1480	1060
28	28200	1700	9690	6570	25000	10000	4130	6800	4940	794	1460	866
29	29200	2290	9570	8590	---	14800	4360	6020	4200	768	1420	952
30	31700	3580	8920	7180	---	13000	4010	5290	3840	994	1440	1140
31	31500	---	8480	4630	---	12400	---	4940	---	932	1420	---
TOTAL	324469	225740	261340	280140	244980	390310	173600	235010	132340	56022	31817	31488
MEAN	10470	7525	8430	9037	8749	12590	5787	7581	4411	1807	1026	1050
MAX	34600	28200	20600	16800	33900	23800	12200	14900	7350	3520	1630	1370
MIN	411	1650	2730	4630	2820	6030	3580	2810	1840	768	694	855
AC-FT	643600	447800	518400	555700	485900	774200	344300	466100	262500	111100	63110	62460
CAL YR 1984	TOTAL	1216360	MEAN	3323	MAX	34600	MIN	411	AC-FT	2413000		
WTR YR 1985	TOTAL	2387256	MEAN	6540	MAX	34600	MIN	411	AC-FT	4735000		

PERIOD OF RECORD.--Chemical analyses: October 1945 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: February 1968 to September 1982.

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 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.

SPECIFIC CONDUCTANCE: Maximum daily, 2,600 microsiemens Sept. 4, 1978; minimum daily, 172 microsiemens Oct. 31, 1984.  
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, Sept. 20, and Oct. 6, 7, 1980.  
SEDIMENT LOADS: Maximum daily, 1,860,000 tons Apr. 4, 1979; minimum daily, 9.8 tons Oct. 11, 1983.

SPECIFIC CONDUCTANCE: Maximum daily, 1,920 microsiemens Sept. 3; minimum daily, 172 microsiemens Oct. 31.  
WATER TEMPERATURES: Maximum daily, 30.0°C on many days during July, August and September; minimum daily, 5.0°C on several days during February.  
SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,370 mg/L Oct. 24 minimum daily mean, 15 mg/L Sept. 19.  
SEDIMENT LOADS: Maximum daily, 378,000 tons Feb. 27; minimum daily, 24 tons Oct. 4.

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS. 100 ML)
OCT 10...	1026	676	--	--	23.5	--	--	--	--	--
NOV 14...	0857	4640	--	--	10.0	--	--	--	--	--
14...	1205	4600	327	7.8	18.0	74	9.6	101	2.0	140
JAN 07...	1335	9760	--	--	9.5	--	--	--	--	--
FEB 22...	1155	4300	682	8.3	17.0	98	9.4	97	1.7	88
22...	1230	4300	--	--	17.0	--	--	--	--	--
APR 02...	1315	11000	669	8.1	20.0	220	9.6	104	1.8	750
MAY 20...	1025	8820	--	--	25.0	--	--	--	--	--
20...	1410	10400	833	7.5	25.0	350	8.5	103	1.7	650
JUN 27...	0848	4850	--	--	29.0	--	--	--	--	--
27...	1118	4860	1210	8.1	29.0	160	7.9	102	1.5	150
AUG 06...	0855	712	1250	--	31.0	--	--	--	--	--
06...	1020	712	1280	8.3	31.0	26	7.2	97	2.6	650
SEP 25...	0918	1260	--	--	27.0	--	--	--	--	--

[illegible]

## BRAZOS RIVER MAIN STEM

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT 10...	--	--	--	--	--	--	--	--	--	--
NOV 14...	--	--	--	--	--	--	--	--	--	--
14...	27	.20	12	214	200	--	<.010	.30	.31	.030
JAN 07...	--	--	--	--	--	--	--	--	--	--
FEB 22...	91	.20	9.0	386	380	.77	.030	.80	.82	.070
22...	--	--	--	--	--	--	--	--	--	--
APR 02...	97	.30	7.7	410	380	.89	.010	.90	.91	<.010
MAY 20...	--	--	--	--	--	--	--	--	--	--
20...	150	.30	7.6	467	470	--	<.010	1.2	1.3	.050
JUN 27...	--	--	--	--	--	--	--	--	--	--
27...	220	.30	6.7	672	660	--	<.010	.40	.40	.020
AUG 06...	--	--	--	--	--	--	--	--	--	--
06...	230	.30	10	730	730	--	.010	<.10	<.10	.040
SEP 25...	--	--	--	--	--	--	--	--	--	--

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (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)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, SUS- PENDEED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 10...	--	--	--	--	--	--	43	78	91
NOV 14...	--	--	--	--	--	--	165	2070	97
14...	.030	1.1	1.1	.230	.120	.110	186	2310	97
JAN 07...	--	--	--	--	--	--	836	22000	86
FEB 22...	.030	.93	1.0	.210	.090	.090	173	2010	94
22...	--	--	--	--	--	--	113	1310	95
APR 02...	.050	--	1.3	.370	.080	.070	668	19800	86
MAY 20...	--	--	--	--	--	--	1090	26000	93
20...	.060	.65	.70	.110	.080	.060	1160	32600	85
JUN 27...	--	--	--	--	--	--	415	5430	88
27...	.010	.48	.50	.260	.090	.100	378	4960	95
AUG 06...	--	--	--	--	--	--	32	62	99
06...	.040	.36	.40	.110	.050	.050	31	60	95
SEP 25...	--	--	--	--	--	--	27	92	97

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 14...	1205	2	92	<.5	1	2	<3	7	83	6
FEB 22...	1155	1	110	2.0	1	<1	<3	2	35	<1
MAY 20...	1410	2	94	<.5	<3	<1	<3	4	43	7
AUG 06...	1020	5	160	<.5	<1	<1	<3	2	3	<1

## BRAZOS RIVER MAIN STEM

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08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 14...	8	18	<.1	<10	2	<1	<1	270	<6	11
FEB 22...	13	<1	<.1	<10	3	<1	<1	530	<6	19
MAY 20...	17	<1	<.1	<10	3	<1	<1	600	<6	19
AUG 06...	22	4	<.1	<10	<1	<1	<1	1000	<6	9

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1984 TO SEPTEMBER 1985

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.	1984	324469	280	156	137000	30	26000	27	23500	87
NOV.	1984	225740	275	153	93100	28	16900	26	16000	87
DEC.	1984	261340	349	194	137000	37	25900	33	23500	110
JAN.	1985	280140	476	265	201000	56	42400	46	34600	140
FEB.	1985	244980	583	326	215000	77	50600	56	37300	160
MAR.	1985	390310	377	210	221000	41	43000	36	38000	120
APR.	1985	173600	810	453	212000	110	53900	79	36900	220
MAY	1985	235010	1050	588	373000	170	106500	100	65300	260
JUNE	1985	132340	1160	649	232000	200	70500	110	40800	270
JULY	1985	56022	1140	640	96800	190	28700	110	17000	270
AUG.	1985	31817	1580	889	76300	310	26800	160	13500	310
SEPT	1985	31488	1620	911	77400	320	27600	160	13700	310
TOTAL		2387256	**	**	2072000	**	519000	**	360000	**
WTD.AVG.		6540	575	321	**	81	**	56	**	150

## BRAZOS RIVER MAIN STEM

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	EQUIVALENT MEAN											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	886	194	550	334	810	298	787	923	1040	1000	1480	1870
2	923	223	517	340	815	285	697	982	1100	735	1530	1900
3	906	232	400	284	819	249	751	956	1120	914	1400	1920
4	953	224	366	317	860	311	780	676	1160	955	1430	1820
5	982	219	400	364	823	328	785	800	1170	1100	1270	1810
6	972	224	424	320	833	352	791	770	1190	1190	1260	1750
7	940	251	405	322	904	374	805	859	1070	1000	1230	1700
8	901	265	379	316	1120	368	743	1040	1010	1030	1200	1640
9	883	275	409	318	1240	444	690	1270	997	1040	1200	1650
10	1120	292	438	340	1410	425	664	1340	932	1190	1180	1660
11	1130	302	356	361	1310	452	690	1370	1040	1300	1260	1630
12	1080	304	354	380	1050	468	708	1360	950	1220	1450	1600
13	974	315	416	401	727	460	721	1260	775	1200	1500	1540
14	854	330	413	412	562	444	708	1380	618	1150	1550	1610
15	970	341	400	574	592	455	722	1440	562	1070	1620	1630
16	750	351	378	607	582	462	763	1500	484	1000	1670	1640
17	453	348	353	652	550	466	762	1180	560	1050	1700	1550
18	460	355	331	701	529	508	749	848	787	1200	1750	1580
19	368	365	310	672	445	548	936	807	1360	1260	1710	1650
20	221	376	305	633	454	546	1110	791	1490	1280	1690	1620
21	329	400	301	600	555	430	1210	1050	1280	1320	1640	1530
22	303	450	329	550	689	344	1230	1060	1340	1410	1690	1520
23	307	465	290	508	701	310	1220	919	1570	1400	1680	1680
24	302	432	296	485	769	375	1200	1000	1660	1470	1700	1650
25	250	471	315	491	428	407	1140	992	1470	1440	1680	1520
26	225	515	327	540	414	339	812	1020	1520	1520	1600	1550
27	211	522	368	587	339	373	517	994	1260	1500	1450	1590
28	192	547	388	650	333	372	500	927	1080	1450	1760	1660
29	262	567	374	728	---	321	675	900	1160	1440	1810	1110
30	200	581	360	750	---	394	1020	1030	1180	1470	1790	990
31	172	---	342	790	---	602	---	913	---	1460	1870	---
MEAN	628	358	374	494	738	404	830	1040	1100	1220	1540	1620

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DAY	ONCE-DAILY											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	23.0	---	16.0	---	14.0	18.0	23.0	25.0	---	30.0	29.0
2	17.0	22.0	16.0	12.0	---	15.0	17.0	23.0	---	28.0	30.0	---
3	20.0	21.0	---	10.0	5.0	16.0	18.0	23.0	---	28.0	28.0	30.0
4	20.0	21.0	11.0	9.0	5.0	17.0	18.0	23.0	28.0	26.0	30.0	30.0
5	22.0	20.0	---	9.0	5.0	15.0	19.0	---	---	25.0	30.0	30.0
6	22.0	19.0	10.0	7.0	5.0	15.0	18.0	23.0	28.0	25.0	30.0	---
7	25.0	19.0	9.0	8.0	5.0	15.0	20.0	23.0	28.0	28.0	30.0	---
8	25.0	20.0	10.0	8.0	5.0	18.0	19.0	23.0	28.0	27.0	30.0	29.0
9	25.0	20.0	11.0	9.0	6.0	19.0	18.0	23.0	24.0	28.0	30.0	---
10	23.0	20.0	12.0	9.0	10.0	18.0	18.0	24.0	29.0	29.0	29.0	29.0
11	23.0	18.0	15.0	9.0	7.0	20.0	18.0	---	28.0	29.0	30.0	29.0
12	25.0	18.0	15.0	---	7.0	20.0	19.0	24.0	28.0	29.0	30.0	28.0
13	23.0	18.0	19.0	6.0	8.0	20.0	19.0	24.0	28.0	---	29.0	28.0
14	23.0	18.0	18.0	6.0	10.0	18.0	19.0	24.0	28.0	---	28.0	29.0
15	23.0	18.0	20.0	6.0	19.0	17.0	19.0	---	28.0	29.0	28.0	27.0
16	25.0	20.0	18.0	8.0	10.0	17.0	20.0	24.0	29.0	29.0	28.0	27.0
17	24.0	18.0	20.0	7.0	---	15.0	20.0	24.0	29.0	29.0	28.0	27.0
18	25.0	---	20.0	7.0	11.0	15.0	22.0	23.0	29.0	29.0	30.0	27.0
19	25.0	---	19.0	8.0	12.0	16.0	22.0	24.0	27.0	29.0	30.0	27.0
20	21.0	15.0	19.0	7.0	14.0	16.0	22.0	24.0	25.0	29.0	30.0	27.0
21	25.0	---	19.0	---	16.0	15.0	22.0	24.0	26.0	29.0	30.0	27.0
22	23.0	13.0	19.0	---	17.0	15.0	22.0	24.0	26.0	29.0	30.0	27.0
23	21.0	12.0	17.0	6.0	18.0	15.0	22.0	24.0	27.0	29.0	30.0	27.0
24	20.0	12.0	17.0	7.0	---	15.0	---	24.0	27.0	29.0	30.0	27.0
25	---	14.0	15.0	7.0	16.0	16.0	22.0	24.0	27.0	29.0	30.0	26.0
26	19.0	14.0	16.0	---	16.0	17.0	22.0	24.0	28.0	29.0	28.0	25.0
27	19.0	16.0	17.0	9.0	---	19.0	22.0	25.0	28.0	---	30.0	25.0
28	20.0	12.0	18.0	---	14.0	19.0	---	25.0	28.0	30.0	29.0	25.0
29	20.0	13.0	18.0	9.0	---	20.0	---	25.0	28.0	30.0	29.0	24.0
30	---	14.0	18.0	---	---	20.0	22.0	25.0	28.0	30.0	28.0	20.0
31	24.0	---	19.0	---	---	18.0	---	25.0	---	---	29.0	---
MEAN	22.0	17.5	16.5	8.5	10.5	17.0	20.0	24.0	27.5	28.5	29.5	27.0



## BRAZOS RIVER MAIN STEM

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08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

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	570	20	31	28200	1540	117000	4250	292	3350
2	472	21	27	24700	1900	127000	4580	327	4040
3	429	22	25	20900	1900	107000	4580	310	3830
4	411	22	24	17400	1000	47000	4020	267	2900
5	428	30	35	15100	770	31400	3690	215	2140
6	481	30	39	14100	650	24700	3660	180	1780
7	499	24	32	13100	590	20900	3510	227	2150
8	483	23	30	11200	520	15700	3840	290	3010
9	572	26	40	9310	530	13300	4280	215	2480
10	677	32	58	7750	410	8580	4350	220	2580
11	693	32	60	6550	320	5660	4230	220	2510
12	677	31	57	5650	260	3970	3810	160	1650
13	737	29	58	5030	240	3260	3170	140	1200
14	2190	235	1370	4600	185	2300	2730	200	1470
15	2970	216	1730	4240	135	1550	3750	265	2830
16	3590	297	3040	3990	205	2210	6260	561	9910
17	5890	689	11000	3800	460	4720	13200	2050	76800
18	6840	790	14600	3410	360	3310	15800	3390	144000
19	6700	770	13900	3000	230	1860	17800	2250	108000
20	5580	675	10200	2780	140	1050	18800	1900	96400
21	4940	630	8400	2450	115	761	20600	2040	113000
22	5940	826	13900	2060	105	584	19100	2120	109000
23	21100	3330	208000	1880	90	457	14200	2100	80500
24	30300	4370	356000	1780	100	481	11400	1600	49200
25	34600	3550	332000	1800	60	292	9920	1060	28400
26	34400	2500	232000	1740	47	221	9490	770	19700
27	31700	1850	158000	1650	45	200	9660	600	15600
28	28200	1650	126000	1700	50	229	9690	500	13100
29	29200	1750	138000	2290	85	526	9570	450	11600
30	31700	1870	160000	3580	210	2030	8920	470	11300
31	31500	2000	170000	---	---	---	8480	475	10900

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	9060	570	13900	3950	335	3570	21800	1950	115000
2	12900	970	33800	3730	190	1910	23500	1550	98300
3	12400	1060	35500	3360	110	998	23800	1370	88000
4	16800	1350	61200	3110	110	924	23500	1470	93300
5	15400	2020	84000	2820	110	838	21100	1470	83700
6	12200	1300	42800	3170	108	924	17700	1220	58300
7	9900	820	21900	3840	120	1240	15000	1000	40500
8	8780	550	13000	4050	131	1430	13100	700	24800
9	8120	435	9540	3870	161	1680	11400	520	16000
10	7640	385	7940	3550	210	2010	9950	420	11300
11	7500	330	6680	5140	530	7660	8660	370	8650
12	7650	320	6610	9430	924	24000	7750	365	7640
13	7650	300	6200	11400	1150	35400	7010	360	6810
14	7000	215	4060	8740	920	21700	7240	1070	20900
15	6140	190	3150	7910	720	15400	6960	700	13200
16	5860	170	2690	7420	600	12000	6540	350	6180
17	6690	220	3970	6500	500	8770	6030	270	4400
18	10200	420	11600	5740	450	6970	6480	250	4370
19	12400	785	26300	4980	370	4980	7990	310	6690
20	12100	822	26900	4550	300	3690	8230	550	12200
21	11600	738	23100	4270	240	2770	10900	1120	33000
22	9980	650	17500	4280	200	2310	13900	1400	52500
23	8330	530	11900	4360	180	2120	12900	1120	39000
24	7020	380	7200	7810	590	19600	16300	1460	64300
25	6320	295	5030	25300	3140	218000	13700	1850	68400
26	6710	250	4530	33900	3650	334000	10300	1350	37500
27	6820	230	4240	32800	4270	378000	8370	930	21000
28	6570	265	4700	25000	2670	180000	10000	950	25700
29	8590	410	9510	---	---	---	14800	1300	51900
30	7180	555	10800	---	---	---	13000	1100	38600
31	4630	485	6060	---	---	---	12400	700	23400

## BRAZOS RIVER MAIN STEM

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985--Continued

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	12200	650	21400	3310	240	2140	4770	231	2980
2	11100	620	18600	2850	400	3080	4610	230	2860
3	10100	450	12300	2810	250	1900	4070	225	2470
4	9060	420	10300	3580	235	2270	3470	220	2060
5	7940	430	9220	6250	380	6410	3050	205	1690
6	7300	450	8870	7210	800	15600	2590	190	1330
7	7320	360	7120	6390	1100	19000	2160	180	1050
8	6890	350	6510	6130	800	13200	1930	160	834
9	6220	315	5290	6550	650	11500	1840	122	606
10	5880	333	5290	6430	660	11500	2790	200	1860
11	5720	342	5280	6650	570	10200	6670	794	14500
12	5580	325	4900	6630	660	11800	6230	1300	21900
13	5040	292	3970	6140	1050	17400	4020	1320	14300
14	4390	270	3200	5670	600	9190	2950	850	6770
15	3980	210	2260	6320	583	10100	2510	550	3730
16	4060	235	2580	11200	1070	33600	2730	430	3170
17	4610	210	2610	14900	1840	73900	4140	450	5030
18	4780	218	2810	12700	1680	57900	4840	605	7910
19	4900	212	2800	11300	1400	42700	6260	870	14700
20	4980	198	2660	10300	1200	33400	7350	810	16100
21	5000	215	2900	11700	1050	33200	6950	840	15800
22	4420	212	2530	11300	860	26200	6140	640	10600
23	3890	172	1810	10000	820	22100	6370	495	8510
24	3580	170	1640	9400	660	16800	5960	470	7560
25	3740	180	1820	9470	650	16600	5130	440	6090
26	4530	300	3670	9040	600	14600	5000	458	6180
27	3890	395	4150	7730	610	12700	4830	450	5870
28	4130	335	3740	6800	475	8720	4940	462	6160
29	4360	260	3060	6020	340	5530	4200	412	4670
30	4010	200	2170	5290	260	3710	3840	440	4560
31	---	---	---	4940	250	3330	---	---	---

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	3520	400	3800	938	61	154	1200	40	130
2	3330	280	2520	911	72	177	1060	36	103
3	3230	270	2350	1000	90	243	1030	30	83
4	3280	260	2300	922	65	162	1030	35	97
5	3180	260	2230	854	52	120	1010	37	101
6	3040	275	2260	712	41	79	986	26	69
7	2880	365	2840	694	45	84	871	27	63
8	2460	165	1100	715	40	77	864	31	72
9	2400	115	745	737	35	70	855	30	69
10	2270	85	521	734	35	69	912	25	62
11	2080	60	337	735	37	73	1010	27	74
12	1820	65	319	744	32	64	1010	25	68
13	1590	62	266	766	27	56	895	20	48
14	1490	55	221	882	32	76	922	17	42
15	1380	52	194	1010	37	101	995	20	54
16	1350	45	164	985	30	80	1110	20	60
17	1310	40	141	978	30	79	1130	25	76
18	1260	40	136	1020	30	83	1060	25	72
19	1280	46	159	1040	27	76	1050	15	43
20	1370	48	178	1010	25	68	1130	25	76
21	1410	47	179	1070	30	87	1350	30	109
22	1390	50	188	1010	27	74	1230	30	100
23	1320	50	178	980	25	66	1040	22	62
24	1140	52	160	1110	30	90	1090	18	53
25	997	41	110	1410	47	179	1370	35	129
26	913	37	91	1630	57	251	1260	42	143
27	844	45	103	1480	55	220	1060	29	83
28	794	50	107	1460	48	189	866	23	54
29	768	46	95	1420	41	157	952	30	77
30	994	60	161	1440	41	159	1140	66	203
31	932	61	154	1420	45	173	---	---	---

## BRAZOS RIVER BASIN

419

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 downstream from Coon Creek, 5.5 mi north of Needville, and 10.5 mi upstream from Fairchild Creek, and 33.0 mi upstream from mouth.

DRAINAGE AREA.--42.8 mi<sup>2</sup>.

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 above 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 higher datum. March 1952 to May 28, 1959, and Mar. 30, 1960, to Sept. 30, 1967, water-stage recorder at 10.00 ft higher datum.

REMARKS.--Estimated daily discharges: Jan. 16 to Mar. 3. Records good except those for periods of no gage-height record, which are poor. Channel rectification was completed in April 1956. No diversion above station. Low flow supplemented by drainage from irrigated fields. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--35 years (water years 1948-49, 1953-85), 35.0 ft<sup>3</sup>/s (25,360 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft<sup>3</sup>/s June 26, 1960 (gage height, 23.81 ft); maximum gage height, 24.03 ft Oct. 31, 1959; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1913, 24.4 ft in August 1945 before channel rectification, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 19	1500	2,870	20.67	Mar. 20	1230	1,580	18.12
Oct. 25	1700	*3,560	*21.54				

Minimum daily discharge, 0.63 ft<sup>3</sup>/s Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	16	1.7	173	1.8	130	1.4	1.6	1.4	4.1	4.2	2.5
2	1.8	102	1.4	127	1.6	65	1.3	1.2	1.6	1.8	3.1	2.5
3	1.7	56	1.1	240	1.4	30	1.2	1.2	1.4	2.9	3.9	3.7
4	1.3	26	1.2	100	1.3	14	1.2	1.1	1.5	34	3.6	5.3
5	1.3	14	4.9	41	1.2	7.9	1.2	1.2	1.5	23	2.4	3.5
6	1.1	7.6	5.1	21	1.2	4.3	1.2	1.0	2.4	10	2.2	3.0
7	.63	4.5	4.2	12	1.1	2.6	1.1	1.2	2.8	8.3	2.1	2.9
8	.74	2.8	2.7	7.1	1.1	1.8	1.1	1.1	2.4	6.8	2.6	14
9	1.3	2.1	1.8	4.3	1.0	1.5	1.1	2.7	2.2	4.9	3.1	6.5
10	1.7	1.6	1.5	3.0	300	1.3	1.1	2.5	2.0	3.5	2.6	2.4
11	1.4	1.4	1.3	2.3	150	1.2	1.3	2.3	2.3	3.0	2.0	1.5
12	1.1	1.2	1.2	2.6	60	1.2	1.4	1.7	3.4	3.5	2.3	1.4
13	1.4	1.2	1.1	4.0	30	1.1	1.3	1.3	3.6	3.1	3.0	1.5
14	316	1.0	.91	13	15	358	1.2	1.3	3.2	3.8	3.4	1.7
15	127	.98	.95	15	9.0	219	1.1	1.5	2.4	3.3	4.0	1.6
16	38	1.9	21	40	5.0	182	1.1	1.4	2.4	3.0	3.2	1.6
17	21	16	24	100	3.0	85	1.1	55	2.1	2.6	2.3	1.6
18	17	50	15	50	2.0	30	1.0	47	32	3.0	3.0	1.4
19	1440	89	7.8	25	1.8	12	1.1	14	174	3.9	2.6	1.6
20	306	44	3.7	12	1.7	844	220	6.3	54	4.9	2.3	1.4
21	372	19	2.4	6.0	3.5	221	190	5.6	17	5.0	6.3	1.5
22	366	10	1.7	3.0	4.5	67	35	12	9.8	4.6	9.9	1.5
23	355	5.2	1.3	2.0	5.5	25	12	4.2	6.2	4.6	7.4	1.4
24	507	2.9	1.1	1.6	11	12	5.5	2.3	3.7	4.6	5.4	1.5
25	2340	2.2	1.0	1.4	60	6.0	3.6	1.7	2.6	4.9	4.7	1.5
26	1160	1.9	.89	1.4	40	3.3	26	1.4	2.6	5.3	5.4	2.1
27	184	5.4	.92	3.0	35	2.4	15	1.3	4.1	5.6	3.8	2.1
28	85	6.1	.85	3.0	40	1.8	7.7	1.4	7.6	4.8	3.3	1.9
29	44	3.9	.91	2.5	---	1.7	3.3	1.2	5.9	5.2	2.8	17
30	24	2.3	2.3	2.2	---	1.5	2.2	1.6	4.2	5.3	2.5	132
31	21	---	170	2.0	---	1.4	---	1.5	---	5.1	2.4	---
TOTAL	7740.67	498.18	285.93	1020.4	788.7	2335.0	542.8	180.8	362.3	188.4	111.8	224.1
MEAN	250	16.6	9.22	32.9	28.2	75.3	18.1	5.83	12.1	6.08	3.61	7.47
MAX	2340	102	170	240	300	844	220	55	174	34	9.9	132
MIN	.63	.98	.85	1.4	1.0	1.1	1.0	1.0	1.4	1.8	2.0	1.4
AC-FT	15350	988	567	2020	1560	4630	1080	359	719	374	222	445
CAL YR 1984	TOTAL	10294.23	MEAN	28.1	MAX	2340	MIN	.63	AC-FT	20420		
WTR YR 1985	TOTAL	14279.08	MEAN	39.1	MAX	2340	MIN	.63	AC-FT	28320		

NOTE: No gage-height record Jan. 16 to Mar. 3.

## BRAZOS RIVER MAIN STEM

08116650 BRAZOS RIVER NEAR ROSHARON, TX  
(National stream-quality accounting network)

LOCATION.--Lat 29°20'58", long 95°34'56", Fort Bend-Brazoria County line, Hydrologic Unit 12070104, on right bank at downstream side of bridge on Farm Road 1462, 2.0 mi downstream from Big Creek, 2.1 mi upstream from Cow Creek, and 7.3 mi west of Rosharon and at mile 56.7.

DRAINAGE AREA.--45,339 mi<sup>2</sup>, approximately, of which 9,566 mi<sup>2</sup> probably is noncontributing.

PERIOD OF RECORD.--April 1967 to September 1980, Apr. 25, 1984 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.--Estimated daily discharges: Apr. 9 to May 16. Records good except those for period of no elevation record, which are poor. 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. Gage-height telemeter at station.

AVERAGE DISCHARGE.--14 years (water years 1968-80, 1985), 7,665 ft<sup>3</sup>/s (5,553,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,900 ft<sup>3</sup>/s May 14, 1968 (elevation, 50.74 ft); minimum daily, 40 ft<sup>3</sup>/s Apr. 7-10, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1884, 56.4 ft about Dec. 11, 1913, from information by the State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45,200 ft<sup>3</sup>/s Oct. 26 at 1100 hours (elevation, 37.24 ft); minimum daily, 196 ft<sup>3</sup>/s Aug. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	694	32600	3460	11500	4550	27700	13700	3800	4130	2930	380	1210
2	625	30300	3950	12900	3780	27200	12800	3000	3920	2670	370	1020
3	545	26600	4240	14900	3780	27900	11500	2500	3660	2550	464	885
4	515	21800	4070	16700	3400	27700	10400	2200	3140	2790	445	791
5	502	17700	3660	19200	3140	26200	8970	2900	2600	3370	374	811
6	523	15300	3410	16100	2950	22200	7890	5700	2260	3060	316	877
7	539	14100	3330	12500	3500	18200	7470	6600	1870	2620	217	865
8	526	12300	3300	10200	4010	15400	7490	5900	1560	2280	196	781
9	627	10200	3650	9070	4150	13200	7030	5800	1380	1870	198	777
10	663	8370	3970	8330	3880	11300	6100	6100	1300	1800	206	781
11	738	7000	3920	7750	5800	9660	5800	6000	3070	1590	216	831
12	712	5960	3730	7750	8040	8470	5600	6200	5580	1440	252	902
13	709	5280	3260	7990	11300	7610	5500	6200	4510	1220	259	870
14	1400	4800	2730	7820	10700	11500	4900	5700	2860	1060	304	864
15	3360	4420	2570	6990	8520	15300	4200	5200	2140	990	577	895
16	3350	4060	4550	6200	7950	11700	3800	7100	1800	884	672	962
17	4030	3920	8930	6570	7190	8670	3800	13400	2290	854	599	1050
18	5730	3670	15300	8340	6260	7300	4200	15200	3540	820	574	1090
19	9450	3380	17700	12200	5390	8140	4400	12100	5710	853	608	1020
20	11600	3040	20500	13000	4740	12500	4700	10100	7900	819	615	901
21	9350	2820	22100	12900	4360	16400	6600	10900	7670	850	622	1010
22	10100	2480	23200	12000	4190	17600	6400	11800	6340	856	623	1160
23	14800	2190	18300	10100	5150	15100	4800	10700	5720	818	558	958
24	31300	2010	13400	8350	6510	17800	3700	9370	5830	736	570	846
25	38200	1950	10800	7100	19600	16700	3400	8850	4930	577	904	911
26	44800	1940	9830	6710	34700	12300	3500	8820	4300	470	1370	1140
27	42100	1870	9710	7130	38400	9160	4500	7840	3930	390	1280	1040
28	36800	1790	9850	6950	33700	10900	3800	6600	4040	333	1160	846
29	33300	1830	9810	7480	---	15800	4000	5810	3780	296	1180	755
30	34300	2500	9890	8850	---	14600	4200	5040	3230	268	1150	1150
31	35500	---	10300	6410	---	13800	---	4440	---	424	1210	---
TOTAL	377388	256180	267420	309990	259640	478010	185150	221870	114990	42488	18469	27999
MEAN	12170	8539	8626	10000	9273	15420	6172	7157	3833	1371	596	933
MAX	44800	32600	23200	19200	38400	27900	13700	15200	7900	3370	1370	1210
MIN	502	1790	2570	6200	2950	7300	3400	2200	1300	268	196	755
AC-FT	748500	508100	530400	614900	515000	948100	367200	440100	228100	84270	36630	55540

WTR YR 1985 TOTAL 2559594 MEAN 7013 MAX 44800 MIN 196 AC-FT 5077000

NOTE: No elevation record Apr. 9 to May 16.

## SAN BERNARD RIVER MAIN STEM

421

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 downstream from Snake Creek, and 4.5 mi northeast of Boling.

DRAINAGE AREA.--727 mi<sup>2</sup>.

## 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Part of low flow is drainage from areas irrigated with diversions from the Colorado River. There are many diversions above station for irrigation and for other uses.

AVERAGE DISCHARGE.--31 years, 498 ft<sup>3</sup>/s (360,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft<sup>3</sup>/s June 28, 1960 (gage height, 42.41 ft); minimum daily, 2.4 ft<sup>3</sup>/s Nov. 27-30, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 43.5 ft in 1913 (probably December). Flood in September 1938 reached a stage of 43.3 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 21	0900	5,440	24.83	Mar. 21	0800	3,630	19.93
Oct. 26	1400	*8,090	*29.70				

Minimum daily discharge, 29 ft<sup>3</sup>/s Dec. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	1760	66	1220	108	1780	98	665	44	98	115	96
2	80	1400	58	1150	94	1820	84	317	46	91	100	97
3	70	1350	49	1690	82	1750	80	190	41	94	94	98
4	70	1120	46	2070	71	2410	76	116	51	208	96	97
5	85	891	57	2160	61	2300	67	76	56	322	119	90
6	117	670	85	1900	55	1540	58	54	50	385	133	83
7	133	550	72	1500	51	1070	48	47	44	374	129	76
8	139	445	80	1140	51	777	42	51	50	312	140	77
9	131	330	80	832	53	535	35	50	48	248	144	79
10	174	254	72	586	54	351	32	54	49	201	142	115
11	224	191	63	387	1340	234	114	65	49	171	138	139
12	237	138	53	272	1740	167	260	78	83	142	136	178
13	304	100	45	267	1440	126	234	84	454	127	144	266
14	1020	75	37	327	1180	1170	447	79	452	125	145	300
15	1530	58	33	371	1230	2060	681	78	208	118	129	276
16	1270	52	62	348	1110	2010	745	77	138	125	124	217
17	1240	497	192	688	880	1810	750	96	109	140	100	171
18	1090	1000	254	983	636	1340	725	140	112	161	92	136
19	2360	1540	180	983	422	954	578	160	380	203	90	104
20	5250	1550	122	831	274	1840	606	157	1190	239	105	80
21	4130	1260	128	857	184	3430	2000	136	1650	277	108	70
22	4030	938	141	877	127	2460	1990	113	1880	270	94	66
23	3060	706	133	701	105	1900	1620	99	1650	219	87	73
24	2950	504	109	480	162	1990	1340	85	977	197	83	81
25	4510	335	81	309	518	1610	741	68	680	182	82	90
26	7860	218	61	211	720	1050	532	46	524	147	102	93
27	6980	171	46	166	882	696	1040	33	370	132	116	99
28	5380	150	37	142	1410	443	1310	36	240	121	118	115
29	4370	105	32	118	---	266	1360	58	175	119	118	134
30	3680	80	29	105	---	176	1280	45	128	118	103	166
31	2780	---	235	109	---	129	---	48	---	127	90	---
TOTAL	65356	18438	2738	23780	15040	40194	18973	3401	11928	5793	3516	3762
MEAN	2108	615	88.3	767	537	1297	632	110	398	187	113	125
MAX	7860	1760	254	2160	1740	3430	2000	665	1880	385	145	300
MIN	70	52	29	105	51	126	32	33	41	91	82	66
AC-FT	129600	36570	5430	47170	29830	79720	37630	6750	23660	11490	6970	7460
CAL YR 1984	TOTAL	135690	MEAN	371	MAX	7860	MIN	18	AC-FT	269100		
WTR YR 1985	TOTAL	212919	MEAN	583	MAX	7860	MIN	29	AC-FT	422300		



## SAN BERNARD RIVER MAIN STEM

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: February 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1978 to September 1981.

WATER TEMPERATURES: February 1978 to September 1981.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	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)
NOV 15...	1040	61	363	7.5	18.5	31	8.2	87	1.9	72	150	130
FEB 20...	1023	284	182	7.0	15.0	200	9.0	88	2.5	720	240	65
MAY 14...	1450	80	510	7.8	25.5	44	7.2	88	2.6	80	250	180
AUG 06...	1420	134	634	8.0	29.0	29	6.2	81	1.1	80	150	220

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)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 15...	18	37	9.0	24	1	4.8	112	13	39	.20	21
FEB 20...	13	19	4.3	12	.7	3.9	52	13	18	.10	8.4
MAY 14...	45	52	11	37	1	4.6	131	30	63	.30	14
AUG 06...	50	57	18	47	1	3.7	167	29	81	.30	18

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
NOV 15...	245	220	.26	.060	1.0	.260	.210	.170	32	5.3	94
FEB 20...	117	110	.41	.080	1.7	.220	.080	.070	44	34	98
MAY 14...	296	290	.62	.090	.70	.200	.100	.080	49	11	98
AUG 06...	372	360	.27	.040	.60	.110	.090	.080	28	10	92

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 15...	1040	3	98	2.0	2	3	<3	2	210	4
FEB 20...	1023	<1	61	1.8	2	<1	<3	4	170	2
MAY 14...	1450	1	150	<.5	<1	<1	<3	2	34	1
AUG 06...	1420	5	160	<.5	<1	<1	<3	1	17	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 15...	8	18	<.1	<10	3	<1	<1	190	<6	10
FEB 20...	<4	2	<.1	<10	2	<1	<1	83	<6	25
MAY 14...	11	14	.6	<10	3	<1	<1	250	<6	16
AUG 06...	7	9	<.1	<10	<1	<1	<1	420	<6	<3



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 ground-water 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 1985

Discharge measurements made at flow-measuring partial-record stations during water year 1985						
Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /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)	1951-85	10-11-84 1-28-85 4-23-85 7-18-85	0 .64 .39 .06
08082950	Elm Creek near Proffitt, Tex.	Lat 33°11'00", long 98°09'35", Crosby County, at bridge on U.S. Highway 82 and 4.5 mi east of Crosbyton.	275	1968-85	10-23-84 12-10-84 1-22-85 3- 4-85 4-15-85 5-28-85 7- 9-85	0 0 .02 21.1 2.05 .05 0
08104290	Salado Creek above Salado, Tex.	Lat 30°56'42", long 97°32'30", Bell County, 0.2 mi upstream from I.H. 35, at Salado.	-	1984-85	11- 6-84 1-18-85 1-30-85 3-13-85 4-23-85 6- 4-85 7-16-85 8-27-85	9.58 34.8 18.6 36.0 65.7 6.17 2.53 .70
08104750	Middle Fork San Gabriel River near Georgetown, Tex.	Lat 30°39'08", long 97°41'40", Williamson County, 0.1 mi upstream from mouth, and 1.4 mi west of Georgetown.	-	1984-85	11- 6-84 1-18-85 1-31-85 3-14-85 5- 1-85 6- 4-85 7-16-85 8-27-85	1.62 2.97 1.97 8.92 3.65 1.68 1.07 .56
08104795	North Fork San Gabriel River upstream from State Highway 418 at Georgetown, Tex.	Lat 30°38'44", long 97°40'49", Williamson County, 0.2 mi upstream from State Highway 418, at Georgetown.	-	1984-85	11- 6-84 1-18-85 1-31-85 3-14-85 5- 1-85 6- 4-85 7-16-85 8-27-85	12.6 16.7 13.4 278 92.6 30.4 9.51 7.72
08104950	South Fork San Gabriel River upstream from State Highway 418 at Georgetown, Tex.	Lat 30°38'38", long 97°40'50", Williamson County, 0.2 mi upstream from State Highway 418, at Georgetown.	-	1984-85	11- 6-84 1-18-85 1-31-85 3-14-85 5- 1-85 6- 4-85 7-16-85 8-27-85	24.4 69.9 45.2 103 59.4 23.8 6.19 .34
08105095	Berry Creek upstream from I.H. 35 near Georgetown, Tex.	Lat 30°42'11", long 97°39'58", Williamson County, 1.4 mi upstream from I.H. 35 near Georgetown.	-	1984-85	11-16-84 1-18-85 1-31-85 3-22-85 5- 1-85 6- 4-85 7-16-85 8-27-85	3.47 28.9 13.5 54.4 18.0 8.14 0 0

a Not applicable.

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 1985--Continued						
Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
Brazos River basin--Continued						
08105102	Berry Creek downstream from I.H. 35 near Georgetown.	Lat 30°41'27", long 97°39'17, Williamson County, at downstream side of the downstream bridge on I.H. 35 and 4.0 mi north of Georgetown.	-	1984-85	7-31-84	0
					11- 6-84	6.70
					1-18-85	31.6
					1-31-85	17.8
					3-22-85	69.0
					5- 1-85	25.3
					6- 4-85	22.6
					7-16-85	5.90
					8-27-85	1.29
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, 1964-85	10-31-84	3.7
					1-10-85	8.42
					4-23-85	9.9
					6- 3-85	3.0
					7- 9-85	3.3
					8-23-85	.36
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	1964-85	4-26-85	19
					6- 3-85	0
					7- 9-85	2.2
					8-28-85	0

## 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 occurring 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 1985							
Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft <sup>3</sup> /s)
San Jacinto River basin							
08067525	Goose Creek at Baytown, Tex.	Lat 29°46'14", long 94°59'58", Harris County, at bridge on Baker Road in Baytown, 1.1 mi up-stream from West Fork Goose Creek, and 2.0 mi upstream from East Fork Goose Creek.	17.3	1984-85	1984 3-14-85	(f) *15.18	- -
08068325	Willow Creek near Tomball, Tex.	Lat 30°06'19", long 95°32'47", Harris County, at bridge on Kuykendahl Road, 0.6 mi upstream from Cannon Gully, and 4.0 mi east of Tomball.	41.0	1984-85	7-27-84 10-25-84	e20.18 28.87	- -
08068400	Panther Branch near Conroe, Tex.	Lat 30°11'28", long 95°28'44", Montgomery County, 2,400 ft downstream from former gage site, 5.1 mi upstream from station 08068450, and 8 mi southwest of Conroe.	26.1	1974-76, 1980-85	10-25-84	10.23	(d)
08068438	Swale No. 8 at The Woodlands, Tex.	Lat 30°08'38", long 95°28'09", Montgomery County, at bridge on Grogans' Mill Road at The Wood-lands.	.55	1975-76, 1980-85	10-25-84	33.90	313
08068450	Panther Branch near Spring, Tex.	Lat 30°08'02", long 95°28'38", Montgomery County, at bridge on Sawdust Road, 3.0 mi upstream from Spring Creek, and 5.1 mi northwest of Spring.	34.5	1972-76, 1980-85	10-25-84	13.12	2,180
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, 1979-85	2-12-85	63.93	-
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	1974-85	2-11-85	b*96.8	-
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 Ad-dicks, and 4.6 mi upstream from Langham Creek.	32.3	1974-85	10-25-84	*107.02	-
08072760	Langham Creek at West Little York Road near Addicks, Tex.	Lat 29°52'01", long 95°38'47", Harris County, at bridge on West Little York Road, 500 ft up-stream from former site on State Highway 6, 2.1 mi downstream from Dinners Creek, and 5.7 mi north of Addicks.	25.2	1977-85	10-25-84	23.30	1,430
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	1974-85	10-25-84	*100.47	-
08074020	Whiteoak Bayou at Alabonson Road at Houston, Tex.	Lat 29°52'14", long 95°28'49", Harris County, at bridge on Alabonson Road, in northwest Houston, 1.0 mi upstream from Vogel Creek, and 2.5 mi upstream from Cole Creek.	34.5	1984-85	7-18-84 10-25-84	*42.86 *48.50	e2,210 7,100
08074250	Brickhouse Gully at Costa Rica Street, Houston, Tex.	Lat 29°49'40", long 95°28'09", Harris County, at bridge on Costa Rica Street in northwest Houston and 1.0 mi upstream from Whiteoak Bayou.	11.4	1965-85†	10-25-84	*64.41	2,850
08074540	Little Whiteoak Bayou at Trimble Street at Houston, Tex.	Lat 29°47'33", long 95°22'06", Harris County, at bridge on Trimble Street, Houston.	18.0	1979-85	10-25-84	*40.25	-
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	1977-85	10-25-84	13.29	-

\* Elevation.

† Operated as a regular streamflow station during some of these years.

b Estimated.

d Not determined; rating definition pending.

e Maximum for partial year; probably exceeded during year.

f No peaks above intake level.

Annual maximum stage and (or) discharge during water year 1985--Continued							
Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Elevation (feet)	Discharge (ft <sup>3</sup> /s)
San Jacinto River basin--Continued							
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, 1975-85	3-14-85	*77.09	-
08074800	Keegans Bayou at Roark Road near Houston, Tex.	Lat 29°39'23", long 95°33'43", Harris County, at bridge on Roark Road in southwest Houston.	11.5	1965-85	3-14-85	*71.76	2,220
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	1977-85	3-20-85	*56.01	6,240
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 (discontinued).	.32	1979-85	10-14-84	*57.83	89
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	1978-85	2-23-85	*29.93	-
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	1965-85	10-25-84	*116.85	2,110
Clear Creek basin							
08077505	Beamer Street Ditch at Houston, Tex.	Lat 29°35'30", long 95°13'19", Harris County, at bridge on Hughes Road in southeast Houston.	5.19	1984-85	8-12-84 3-14-85	e*26.19 28.11	- -
08077520	Turkey Creek near Friendswood, Tex.	Lat 29°35'02", long 95°11'13", Harris County, at bridge on Dixie Farm Road in southern Harris County, 2.4 mi upstream from Clear Creek, and 3.9 mi north-northeast of Friendswood.	6.78	1985	6-18-85	*18.45	-
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.	-	1966-85	3-14-85	*12.54	-
08077630	Horsepen Bayou at Bay Area Blvd., Houston, Tex.	Lat 29°35'00", long 95°06'12", Harris County, at upstream bridge on Bay Area Blvd., in southeast Houston, and 2.0 mi upstream from Armand Bayou.	17.8	1985	9-15-85	e*3.04	-
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.	-	1974-85	3-20-85	*2.87	-
Brazos River basin							
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 (discontinued).	-	1976-85	12- 3-84	457.57	-
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 (discontinued).	-	1976-85	5-16-80 6-16-81 3-21-82 2-20-83 3-12-84 12-18-84	a448.81 a454.62 a442.42 a443.70 a438.92 446.96	- - - - - -
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 (discontinued).	-	1976-85	12-18-84	432.56	-
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 (discontinued).	-	1976-85	12-18-84	400.06	-

\* Elevation.

a Revised.

e Maximum for partial year; probably exceeded during year.

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## FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	$2.54 \times 10^1$	millimeters (mm)
	$2.54 \times 10^{-2}$	meters (m)
feet (ft)	$3.048 \times 10^{-1}$	meters (m)
miles (mi)	$1.609 \times 10^0$	kilometers (km)
<i>Area</i>		
acres	$4.047 \times 10^3$	square meters (m <sup>2</sup> )
	$4.047 \times 10^{-1}$	square hectometers (hm <sup>2</sup> )
	$4.047 \times 10^{-3}$	square kilometers (km <sup>2</sup> )
square miles (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometers (km <sup>2</sup> )
<i>Volume</i>		
gallons (gal)	$3.785 \times 10^0$	liters (L)
	$3.785 \times 10^0$	cubic decimeters (dm <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic meters (m <sup>3</sup> )
million gallons	$3.785 \times 10^3$	cubic meters (m <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
cubic feet (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeters (dm <sup>3</sup> )
	$2.832 \times 10^{-2}$	cubic meters (m <sup>3</sup> )
acre-feet (acre-ft)	$1.233 \times 10^3$	cubic meters (m <sup>3</sup> )
	$1.233 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
	$1.233 \times 10^{-6}$	cubic kilometers (km <sup>3</sup> )
<i>Flow</i>		
cubic feet per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liters per second (L/s)
	$2.832 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$2.832 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
gallons per minute (gal/min)	$6.309 \times 10^{-2}$	liters per second (L/s)
	$6.309 \times 10^{-2}$	cubic decimeters per second (dm <sup>3</sup> /s)
	$6.309 \times 10^{-5}$	cubic meters per second (m <sup>3</sup> /s)
million gallons per day	$4.381 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$4.381 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
<i>Mass</i>		
tons (short)	$9.072 \times 10^{-1}$	megagrams (Mg) or metric tons



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