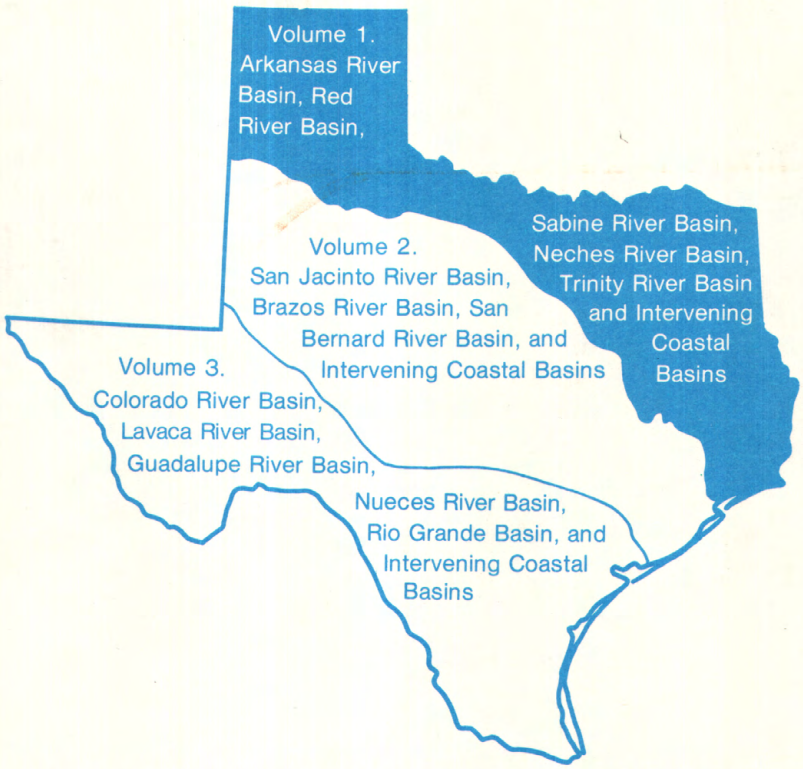
Water Resources Data Texas Water Year 1988

Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin and Intervening Coastal Basins



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-88-1
Prepared in cooperation with the State of Texas
and with other agencies

CALENDAR FOR WATER YEAR 1988

1987

OCTOBER

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1988

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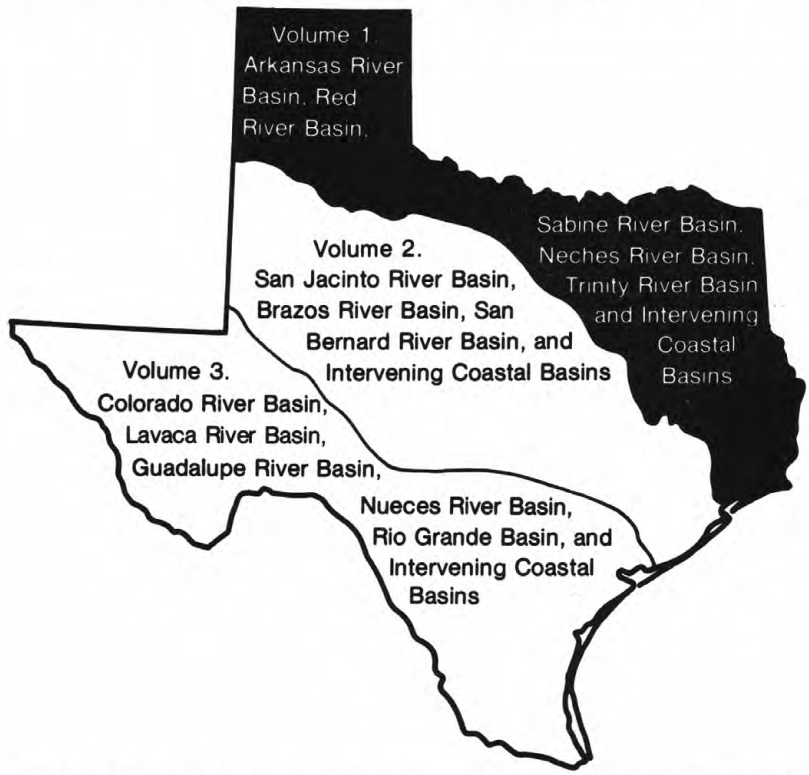
Water Resources Data
Texas
Water Year 1988

Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin and Intervening Coastal Basins

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-88-1
Prepared in cooperation with the State of Texas
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information write to
District Chief, Water Resources Division
U.S. Geological Survey
8011A Cameron Road
Austin, Texas 78753

1989

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

16. Abstract (Limit: 200 words)
Surface-water data for the 1988 water year for Texas are presented in three volumes, appropriately identified as to content by river basins. Data in each volume consist of records of stage, discharge, and water quality of streams and canals; and stage, contents, and water quality of lakes and reservoirs. Also included are crest-stage and flood-hydrograph partial-record stations, reconnaissance partial-record stations, and low-flow partial-record stations. Additional water data were collected at various sites, not part of the systematic data-collection program, and are published as miscellaneous measurements. Records for a few pertinent stations in bordering States also are included. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Texas.

17. Document Analysis a. Descriptors
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FOR WHICH RECORDS ARE PUBLISHED

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

WATER RESOURCES DATA - TEXAS, 1988

VOLUME 1
ARKANSAS RIVER BASIN, RED RIVER BASIN, SABINE RIVER BASIN, NECHES RIVER BASIN, TRINITY RIVER BASIN, AND INTERVENING AND ADJACENT 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 1 contains records for water discharge at 130 gaging stations; stage only at 4 gaging stations; stage and contents at 38 lakes and reservoirs; and water quality at 67 gaging stations. Also included are data for 21 partial-record stations. Additional water data were collected at 1 miscellaneous site not involved in the systematic data-collection program. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating City, 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-88-1." 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 District Chief at the address given on the back of the title page or by telephone (512) 832-5791.

COOPERATION

Federal agencies that assisted the Geological Survey in the collection of data in this report in the form of funds or services in 1988 are:

Corps of Engineers, U.S. Army.

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

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, M.R. Arnold II, Executive Administrator; the cities of Abilene, Arlington, Austin, Carrollton, Corpus Christi, Dallas, Gainesville, Garland, Georgetown, Graham, Houston, Lubbock, Nacogdoches, Runaway Bay, San Angelo, San Antonio, and Wichita Falls; Bexar, Medina, and Atascosa Counties Water Control and Improvement District No. 1; Brazos River Authority; Coastal Industrial Water Authority; Colorado River Municipal Water District; Dallas Public Works Department; 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; Lavaca-Navidad River Authority; Lower Colorado River Authority; Lower Neches Valley Authority; North Central Texas Municipal Water Authority; Northeast Texas Municipal Water District; Pecos River Commission; Red Bluff Water Power Control District; 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 Water Commission; Titus County Fresh Water Supply District No. 1; Trinity River Authority; Upper Guadalupe River Authority; Upper Neches River Municipal Water Authority; Upper Trinity Basin Water Quality Compact; West Central Texas Municipal Water District; and Wichita County Water Improvement District No. 2.

HYDROLOGIC CONDITIONS

Large variations in precipitation, runoff, and streamflow characterize the usual hydrologic conditions in Texas. In the eastern part of the State, streams typically are deep with wide alluvial flood plains, and streamflow is perennial. In the western part of the State, most streams flow through arroyos, and streamflow usually is ephemeral.

Precipitation for the first half of the water year 1988 was normal to above normal in the Panhandle, East Texas, and Lower Rio Grande Valley, and was below normal for the remainder of the State. For the second half of the water year, precipitation was slightly above normal in West Texas to substantially above normal in the Panhandle, and was below normal to substantially below normal for the remainder of the State. Total precipitation for the year was below normal to substantially below normal in South and Southeast Texas, above normal in the Panhandle, and near normal for the remainder of the State.

Although precipitation during the current water year was below normal to substantially below normal in several regions of Texas, streamflow was in the normal to above normal range at every index station for the entire year. This pattern of stream-flow was the result of above normal precipitation that occurred in the previous water year (1987).

Conservation storage in 71 selected reservoirs throughout the State, with a combined conservation capacity of 25,951,000 acre-feet, decreased from 88 percent at the end of September 1987 to 81 percent at the end of September 1988. Records from these reservoirs indicate that storage increased in 9, decreased in 61, and remained the same in 1.

The area for which water-resources data are presented in volume 1 includes the Texas Panhandle and extends across northern and eastern Texas to southeastern Texas. Normal annual precipitation in this area ranges from about 17 inches in the western part of the Texas Panhandle to more than 56 inches in the extreme southeastern part of the State. Annual runoff ranges from less than 1.0 inch in parts of the Panhandle to as much as 15 inches in southeastern Texas. The area described in volume 1 and the location of selected streamflow and water-quality stations in the area is shown in figure 1.

Streamflow

The most notable characteristic of streamflow in Texas during the 1988 water year was the lack of extreme hydrologic events. Streamflow was normal throughout most of the area described in volume 1 for the water year 1988. All five selected streamflow stations in the area indicate streamflow during the year to be in the normal range, although flow rates were above normal for some months at individual stations. This pattern of runoff was the result of near-normal precipitation over the area during the 1988 water year. The Panhandle area of the State had above-normal precipitation for the year, North Central and

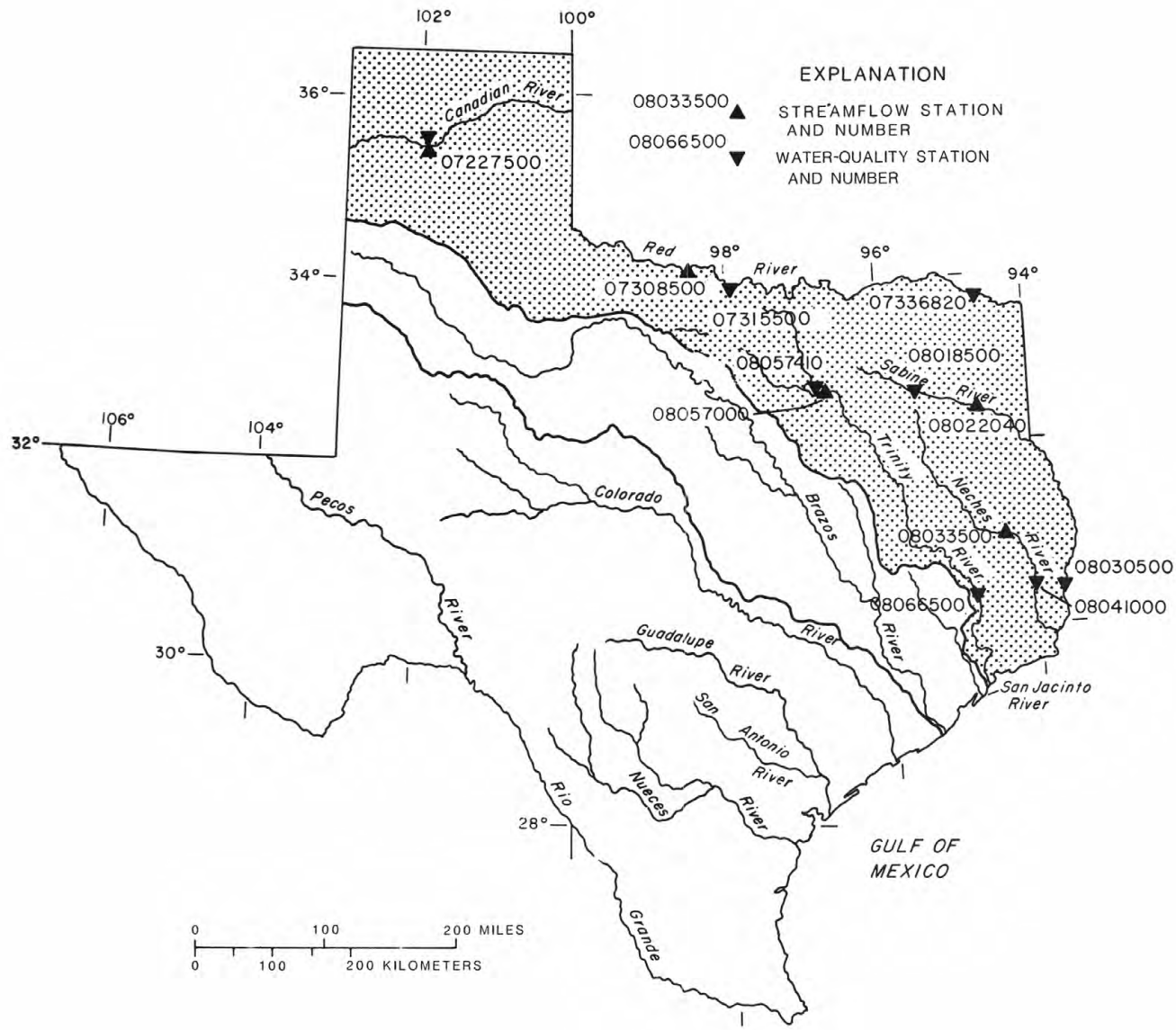

Figure 1.--Area of Texas covered by volume 1 (shaded) and location of selected streamflow and water-quality stations in volume 1.

East Texas had normal to slightly below normal precipitation, and the upper coast had below normal for the year.

Streamflow at the hydrologic index station Neches River near Rockland was within the highest 25 percent of record during the period November through January, and normal for the remainder of the year. A comparison of streamflow for the water year 1988 with streamflow for the period of record at five selected stations (fig. 1) for which data are included in volume 1 is presented in the following table:

Station no. and name	Discharge during 1988 water year (cubic feet per second)			Discharge during period of record (cubic feet per second)		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Arkansas River basin						
07227500 Canadian River near Amarillo, Tex.	26,600	1.5	234	135,000	0 (1925, 1939-88)	313
Red River basin						
07308500 Red River near Burkburnett, Tex.	23,500	95	1,020	166,000	0	1,015 (1961-88)
Sabine River basin						
08022040 Sabine River near Beckville, Tex.	12,800	32	1,999	123,000	2.4	2,211 (1961-88)
Neches River basin						
08033500 Neches River near Rockland, Tex. 1/	6,380	84	1,443	49,800	1.6	1,978 (1962-88)
Trinity River basin						
08057000 Trinity River at Dallas, Tex.	8,650	277	596	184,000	1.2	1,525 (1904-88)

1/ Hydrologic index station.

At the other three index stations in the State, streamflow during the water year 1988 was normal to above normal. Monthly mean discharges and median of the long-term monthly means for the water year 1951-80 for the four hydrologic index stations in the State are shown in figure 2. For the North Bosque River near Clifton, streamflow was greater than normal in June and normal during the other 11 months. The North Concho River near Carlsbad had greater than normal streamflow from November through April and during July and September, and normal streamflow during the remaining 4 months. The Guadalupe River near Spring Branch had greater than normal streamflow in November and July, and normal streamflow for the remainder of the year.

Conservation storage in 31 selected reservoirs in this area of the State, with a total combined conservation capacity of 19,109,750 acre-feet, decreased from 86 percent at the end of September 1987 to 80 percent at the end of September 1988. Records from these reservoirs indicate that storage increased in 5, decreased in 25, and remained the same in 1 during the water year 1988.

Water Quality

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

Records of discharge-weighted-average concentrations of dissolved solids for the water year 1988 are compared with those for the water years 1984-88 for selected long-term daily or continuous-record water-quality stations (fig. 1) in the Arkansas, Red, Sabine, Neches, and Trinity River basins. Results are shown in the following table:

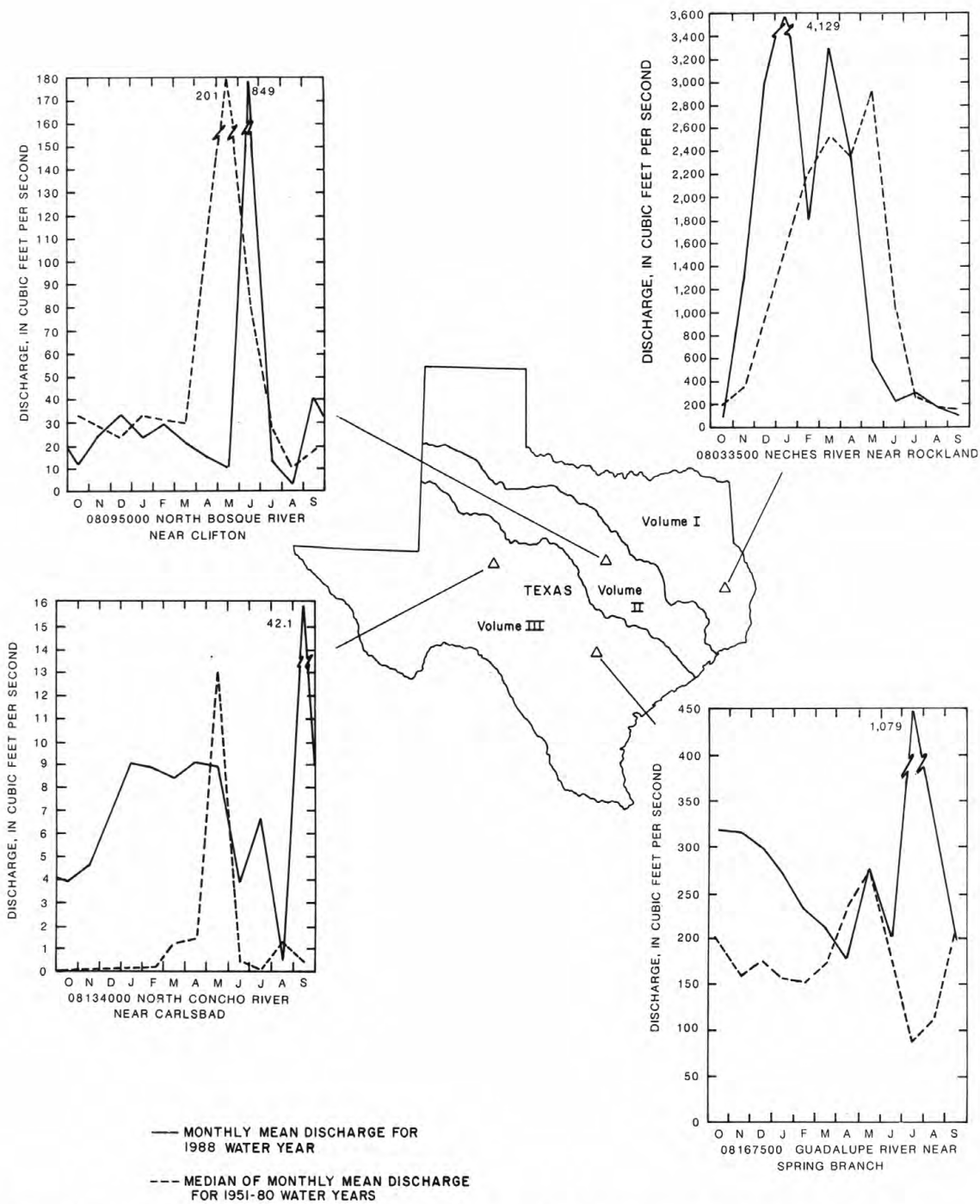

Figure 2.--Comparison of monthly mean discharges at four long-term hydrologic index gaging stations during the 1988 water year with median of the monthly mean discharges for 1951-80 water years.

Station no.	and name	Mean discharge (cubic feet per second) 1988	Mean discharge (cubic feet per second) 1984-88	Discharge-weighted-average concentration of dissolved solids (milligrams per liter) 1988	Discharge-weighted-average concentration of dissolved solids (milligrams per liter) 1984-88
Arkansas River basin					
07227500	Canadian River near Amarillo, Tex.	234	143	785	884
Red River basin					
07315500	Red River near Terral, Okla.	1,985	3,950	1,630	1,300
07336820	Red River near DeKalb, Tex.	12,280	16,240	471	500
Sabine River basin					
08018500	Sabine River near Mineola, Tex.	388	632	152	129
08030500	Sabine River near Ruliff, Tex.	6,826	7,590	79	75
Neches River basin					
08041000	Neches River at Evadale, Tex.	4,863	5,765	93	88
Trinity River basin					
08057410	Trinity River below Dallas, Tex.	923	1,790	354	301
08066500	Trinity River at Romayor, Tex.	3,286	6,788	224	196

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 1988 water year that began October 1, 1987, and ended September 30, 1988. 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 indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Texas, for surface-water stations where only miscellaneous measurements are made.

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 indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention 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^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/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 Texas District Office 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 Texas District Office.

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. These 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:

PRINTED OUTPUT	REMARK
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 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 (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 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 (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 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 [$(ft^3/s)/mi^2$] 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 µm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

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:

$$\bar{d} = -\sum_{i=1}^{s} \frac{n_i}{n} \log_2 \frac{n_1}{n}$$

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 ($CaCO_3$).

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 (µg/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, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

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

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

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic 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 (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells 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.time)] for periphyton and macrophytes and [mg C/(m^3.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/(m^2.time)] for periphyton and macrophytes and [mg O/(m^3.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 streambed.

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^3/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 µm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures 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 µm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial 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	Hexagenia
Species	Hexagenia limbata

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, 1988, is called the "water year 1988."

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, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (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 measurement, 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-A12. "Fluorometric procedures for dye tracing," by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS--TWRI Book 3, Chapter A12, 1986. 41 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-A16. "Measurement of discharge using tracers," by F.A. Kilpatrick and E.D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 p.

3-A17. "Acoustic velocity meter systems," by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 p.

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

3-C2. "Field methods for measurement of fluvial sediment," by H.P. Guy and V.W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 p.

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

4-A1. "Some statistical tools in hydrology," by H.C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 p.

4-A2. "Frequency curves," by H.C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 p.

4-B1. "Low-flow investigations," by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 p.

4-B2. "Storage analyses for water supply," by H.C. Riggs and C.H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 p.

4-B3. "Regional analyses of streamflow characteristics," by H.C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 p.

5-A1. "Methods for determination of inorganic substances in water and fluvial sediments," by M.W. Skougstad and others: USGS--TWRI Book 5, Chapter A1. 1979. 626 p.

5-A2. "Determination of minor elements in water by emission spectroscopy," by P.R. Barnett and E.C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 p.
5-A3. "Methods for analysis of organic substances in water," by D.F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 p.
5-A4. "Methods for collection and analysis of aquatic biological and microbiological samples," edited by P.E. Greeson, T.A. Ehlke, G.A. Irwin, B.W. Lium, and K.V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 p.
5-A5. "Methods for determination of radioactive substances in water and fluvial sediments," by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 p.
5-A6. "Quality assurance practices for the chemical and biological analyses of water and fluvial sediments," by L.C. Friedman and D.E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 p.
5-C1. "Laboratory theory and methods for sediment analysis," by H.P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 p.
7-C3. "A model for simulation of flow in singular and interconnected channels," by R.W. Schaffrannek, R.A. Baltzer, and D.E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1983. 110 p.
8-A2. "Installation and service manual for U.S. Geological Survey manometers," by J.D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 p.
8-B2. "Calibration and maintenance of vertical-axis type current meters," by G.F. Smoot and C.E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 p.

ARKANSAS RIVER BASIN

07227000 CANADIAN RIVER AT LOGAN, NM

LOCATION.--Lat 35°21'25", long 103°25'03", in NE1/4NE1/4 sec.15, T.13 N., R.33 E., Quay County, Hydrologic Unit 11080006, on left bank 1,100 ft upstream from bridge on U.S. Highway 54, 0.7 mi south of Logan, 1.4 mi upstream from Chicago, Rock Island & Pacific Railroad Co. bridge, 2.0 mi downstream from Ute Dam, 4.3 mi upstream from Revuelto Creek, and at mile 672.0.

DRAINAGE AREA.--11,141 mi², of which 1,100 mi² is probably noncontributing.

PERIOD OF RECORD.--June 1904 to November 1905 (gage heights and discharge measurements only), December 1908 to September 1909, February 1910, April to July 1910, August 1910 to September 1911 (gage heights and discharge measurements only), October 1911 to May 1914, January to May 1924, September 1924 to July 1925, January 1927 to April 1934, August 1934 to current year. Monthly discharge only for some periods, published in WSP 1311. Records for December 1909, January 1910, and May to July 1934, published in WSP 267, 287, and 762 are unreliable and should not be used. Published as South Canadian River June to September 1904.

REVISED RECORDS.--WSP 1087: 1935-36. WSP 1117: Drainage area. WSP 1281: 1912, 1932(M), 1934, 1945-47, 1949-50. WSP 1311: 1931(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 3,667.1 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1987, same site at datum 1 ft higher. See WSP 1311 or 1731 for history of changes prior to Oct. 1, 1934.

REMARKS.--Estimated daily discharges: Mar. 22 to Apr. 6, July 11-26, July 30 to Aug. 2 and Aug. 5-9. Records poor. Flow regulated by Conchas Lake, 45 mi upstream (station 07223500) and Ute Reservoir, 2 mi upstream (station 07226800). Diversions for irrigation of about 90,000 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years (water years 1909, 1912-13, 1927-38) prior to completion of Conchas dam, 392 ft³/s (284,000 acre-ft/yr); 24 years (water years 1939-62) prior to completion of Ute Dam, 257 ft³/s (186,200 acre-ft/yr); 26 years (water years 1963-88), 37.8 ft³/s (27,390 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD (SINCE 1925).--Maximum discharge, 219,000 ft³/s Sept. 22, 1941 (gage height, 29.3 ft, from floodmarks), from rating curve extended above 75,000 ft³/s; no flow at times prior to completion of Ute Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 278,000 ft³/s Sept. 30, 1904 (gage height, about 36.5 ft, site and datum used in 1909), from rating curve extended above 14,000 ft³/s, from Ninth Biennial Report of State Engineer.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 179 ft³/s Sept. 22 (gage height, 2.89 ft); minimum daily, 1.8 ft³/s May 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4.0	3.5	6.5	5.4	4.7	5.1	3.2	2.8	4.3	3.4	4.3
2	2.8	4.2	3.5	6.6	5.1	4.9	5.1	4.2	2.6	3.8	3.4	6.7
3	2.8	4.1	3.5	6.7	4.3	5.0	5.1	3.7	2.6	3.7	3.8	4.3
4	3.0	4.5	3.8	6.7	4.0	4.8	5.0	3.6	2.6	3.7	16	5.2
5	3.0	3.8	4.1	6.7	3.6	4.8	5.0	3.7	3.7	4.0	3.7	5.8
6	3.0	4.2	4.4	6.2	3.7	4.8	5.0	3.7	3.1	5.0	3.7	5.8
7	3.1	4.3	4.6	6.2	3.7	5.0	4.9	4.0	2.8	3.9	3.7	5.9
8	3.2	4.2	5.3	6.2	3.8	5.2	4.9	4.0	3.1	4.1	3.7	8.6
9	3.3	4.2	4.7	6.2	3.7	3.8	4.9	3.4	2.6	4.5	3.7	8.9
10	3.2	4.2	5.8	6.2	3.7	3.8	4.7	4.7	2.6	4.6	3.7	7.8
11	3.3	4.3	6.4	6.3	3.6	3.9	4.6	3.7	3.0	4.2	3.4	7.4
12	3.3	4.3	6.4	6.2	3.7	4.1	4.4	2.8	6.4	4.2	3.5	8.8
13	3.3	4.4	6.0	6.1	4.1	4.1	4.5	2.5	3.7	4.2	3.2	10
14	3.4	4.7	5.9	6.1	4.0	4.4	4.0	2.4	3.7	4.0	3.2	29
15	3.4	4.2	5.9	6.0	3.8	4.8	3.8	3.1	3.6	4.0	3.1	6.2
16	3.4	4.0	5.9	6.0	3.7	4.8	3.6	1.8	3.6	4.2	3.0	6.9
17	3.4	4.0	5.9	6.0	3.6	4.8	3.4	1.9	3.6	4.2	2.9	7.2
18	3.5	3.7	5.9	6.0	3.7	4.9	3.1	11	3.6	4.0	3.2	7.6
19	3.5	3.1	6.1	6.0	3.7	5.1	3.2	6.0	3.6	3.8	2.9	8.2
20	3.5	3.6	6.1	5.9	3.8	5.3	3.1	2.8	3.7	4.0	3.0	7.1
21	3.6	4.3	6.2	5.9	4.4	5.3	3.2	2.6	3.7	4.2	2.9	15
22	3.6	4.6	6.2	5.8	4.5	5.3	4.8	2.8	3.7	4.2	2.9	24
23	3.6	4.5	6.3	5.6	4.5	5.3	3.7	3.0	3.7	4.0	3.7	9.4
24	3.7	4.5	6.4	5.5	4.7	5.2	3.9	3.0	3.7	3.8	3.0	6.4
25	3.8	4.6	6.5	5.5	4.7	5.2	3.6	3.1	3.7	3.8	3.0	5.7
26	3.8	4.5	6.5	5.5	4.5	5.2	3.1	2.8	3.7	3.8	7.3	5.8
27	3.8	4.4	6.6	5.5	4.5	5.2	2.9	3.0	3.8	5.0	2.8	6.5
28	3.9	4.1	6.5	5.6	4.6	5.2	3.0	2.8	3.9	4.3	3.5	7.0
29	3.9	3.8	6.5	5.6	4.6	5.1	3.1	4.0	3.9	4.3	3.5	6.4
30	4.0	3.6	6.6	5.5	---	5.1	3.1	2.6	4.2	3.7	3.8	6.8
31	4.2	---	6.6	5.6	---	5.1	---	2.5	---	3.4	3.7	---
TOTAL	106.1	124.9	174.6	186.4	119.7	150.2	121.8	108.4	105.0	126.9	120.3	254.7
MEAN	3.42	4.16	5.63	6.01	4.13	4.85	4.06	3.50	3.50	4.09	3.88	8.49
MAX	4.2	4.7	6.6	6.7	5.4	5.3	5.1	11	6.4	5.0	16	29
MIN	2.8	3.1	3.5	5.5	3.6	3.8	2.9	1.8	2.6	3.4	2.8	4.3
AC-FT	210	248	346	370	237	298	242	215	208	252	239	505

CAL YR 1987	TOTAL	50562.99	MEAN	139	MAX	1890	MIN	.46	AC-FT	100300
WTR YR 1988	TOTAL	1699.0	MEAN	4.64	MAX	29	MIN	1.8	AC-FT	3370

07227100 REVUELTO CREEK NEAR LOGAN, NM

LOCATION.--Lat 35°20'29", long 103°23'37", in SW1/4NW1/4[sec.24, T.13 N., R.33 E., Quay County, Hydrologic Unit 11080008, on right bank 0.3 mi upstream from bridge on State Highway 39, 1.9 mi southeast of Logan, and at mile 2.3.

DRAINAGE AREA.--786 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 3,665 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 16, 1981, at site 320 ft upstream at datum 0.56 ft higher.

REMARKS.--Estimated daily discharges: Dec. 18 to Jan. 7 and May 25 to June 1. Records poor. Low flows supplemented by surface and ground-water return from irrigation in vicinity of Tucumcari. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years, 44.9 ft³/s (32,530 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft³/s July 9, 1960 (gage height, 14.3 ft, site and datum then in use); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD (1941-47).--Maximum discharge determined, about 13,400 ft³/s Sept. 18, 1946 (gage height, 9.04 ft), at site 180 ft downstream at different datum, from unpublished records collected by U.S. Bureau of Reclamation.

A peak of 26,100 ft³/s, date unknown (gage height, 12.9 ft), at former site and datum, was measured by slope-area method in May 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
June 14	0315	*18,000	*12.84	Sept. 14	1030	10,600	9.83
Aug. 26	0430	5,420	7.23				

Minimum discharge, 0.12 ft³/s Mar. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	9.5	3.6	2.7	1.5	.91	51	4.4	1.5	448	21	3.4
2	15	8.9	3.8	2.4	1.4	2.4	388	2.3	1.4	202	22	25
3	13	7.9	4.4	2.2	1.9	13	356	4.7	.30	134	18	90
4	16	14	4.4	2.0	1.8	35	197	5.9	.51	83	11	158
5	19	14	3.2	1.9	1.8	11	65	5.5	59	77	25	50
6	20	15	2.8	3.4	1.5	5.3	28	8.8	76	528	47	24
7	15	16	2.8	5.4	1.6	2.8	12	12	10	554	38	11
8	13	13	2.4	10	2.5	1.8	7.1	12	9.4	436	28	5.8
9	16	11	2.2	11	2.3	1.7	4.3	12	6.9	280	23	4.6
10	18	14	2.4	11	1.6	1.4	3.3	11	4.0	661	24	3.9
11	16	11	2.5	13	1.8	.88	9.3	14	4.8	189	30	2.5
12	17	9.8	2.5	17	2.2	.81	30	18	304	73	24	4.1
13	16	8.0	3.0	32	2.6	.95	23	11	889	37	21	6.4
14	16	6.0	4.9	18	1.6	1.2	29	9.9	6780	23	19	5100
15	18	6.7	5.1	9.7	1.4	1.4	21	7.6	458	11	17	1540
16	18	9.9	6.2	4.1	1.6	1.1	17	7.4	220	7.9	11	265
17	16	7.1	5.4	2.5	1.4	1.1	116	7.7	162	5.1	13	146
18	13	5.5	5.4	2.9	1.5	1.4	66	338	87	65	420	76
19	13	5.2	5.2	1.9	1.7	2.2	46	620	43	35	204	37
20	18	5.2	5.0	1.4	1.7	1.5	33	211	29	20	67	23
21	16	5.1	5.0	1.8	1.7	1.1	23	103	20	11	59	24
22	13	4.8	4.8	1.9	1.4	.85	12	47	14	6.7	71	225
23	11	4.5	4.6	4.5	.90	.62	9.9	21	11	5.2	322	57
24	12	4.1	4.5	2.8	.87	.43	11	2.3	9.3	4.5	186	52
25	9.8	3.1	5.4	1.8	1.1	.42	11	1.4	7.9	4.0	194	27
26	9.7	3.1	5.0	2.4	1.3	.37	5.5	1.6	24	5.0	1170	16
27	8.4	4.1	4.8	2.6	1.2	.35	7.2	1.7	457	6.7	210	17
28	9.4	3.3	4.5	2.4	1.1	.29	10	1.6	482	9.3	106	12
29	10	3.6	4.0	2.6	.86	.38	9.3	1.6	226	11	35	8.3
30	13	3.8	3.5	2.0	---	.33	8.3	1.5	133	18	15	7.7
31	10	---	3.0	1.5	---	.56	---	1.5	---	21	6.0	---
TOTAL	447.3	237.2	126.3	180.8	45.83	93.55	1609.2	1507.4	10530.01	3971.4	3457.0	8021.7
MEAN	14.4	7.91	4.07	5.83	1.58	3.02	53.6	48.6	351	128	112	267
MAX	20	16	6.2	32	2.6	35	388	620	6780	661	1170	5100
MIN	8.4	3.1	2.2	1.4	.86	.29	3.3	1.4	.30	4.0	6.0	2.5
AC-FT	887	470	251	359	91	186	3190	2990	20890	7880	6860	15910

CAL YR 1987	TOTAL	13201.65	MEAN	36.2	MAX	1290	MIN	.47	AC-FT 26190
WTR YR 1988	TOTAL	30227.69	MEAN	82.6	MAX	6780	MIN	.29	AC-FT 59960

07227500 CANADIAN RIVER NEAR AMARILLO, TX

LOCATION.--Lat 35°28'13", long 101°52'45", Potter County, Hydrologic Unit 11090105, on left bank at downstream side of southbound lane of bridge on U.S. Highways 87 and 287, 1,500 ft downstream from Pitcher Creek, 1.4 mi downstream from East Amarillo Creek, 1.7 mi downstream from Panhandle and Santa Fe Railway Co. bridge, 19 mi north of Amarillo, and 537.7 mi upstream from mouth.

DRAINAGE AREA.--19,445 mi², of which 4,069 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1924 to December 1925, January 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,989.16 ft above National Geodetic Vertical Datum of 1929. Jan. 16, 1924, to Dec. 31, 1925, and Apr. 3 to June 1, 1938, nonrecording gage at site of old bridge 20 ft upstream at same datum. June 2 to Dec. 5, 1938, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. There is some regulation by Conchas by and Ute Reservoirs in New Mexico, total capacity 439,700 acre-ft. Conchas Canal and Bell Ranch Canal divert water from Conchas Reservoir for irrigation.

AVERAGE DISCHARGE.--51 years (water years 1925, 1939-88), 313 ft³/s (226,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 135,000 ft³/s July 25, 1941 (gage height, 15.7 ft), from rating curve extended above 100,000 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1914 reached a stage of 24 ft; a higher stage probably occurred during flood in October 1904, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 14,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 31	1600	*26,600	*8.81	Sept. 15	1350	17,500	7.43
July 8	0610	14,700	6.88				

Minimum discharge, 1.5 ft³/s May 18, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	10	22	e35	36	e14	98	40	1140	553	17	129
2	57	9.9	20	e42	34	e1930	75	32	438	297	13	168
3	46	10	17	e39	36	e804	130	28	285	198	15	146
4	47	12	19	e37	36	e326	101	23	199	339	12	122
5	42	10	18	e34	36	267	835	19	155	237	8.8	111
6	38	14	16	e32	36	190	431	15	134	135	8.9	80
7	35	16	15	e30	36	106	472	10	115	610	6.8	58
8	29	33	14	e30	31	69	122	6.4	94	6240	4.9	66
9	26	24	14	e30	40	47	99	5.1	81	959	5.5	69
10	25	18	14	e50	36	46	63	4.4	90	3400	7.2	55
11	27	19	13	128	31	40	45	9.0	91	1560	6.0	40
12	35	19	13	148	29	32	31	22	131	669	6.0	32
13	24	17	12	136	26	e24	28	17	165	451	4.9	30
14	24	17	e7.6	124	25	e24	25	8.3	437	421	3.5	269
15	83	17	e6.4	99	25	30	19	4.1	4900	294	5.7	11900
16	82	17	e6.4	99	23	24	41	2.4	2920	177	8.6	3790
17	69	15	e10	96	23	e22	519	2.9	839	423	4.2	311
18	47	22	e24	109	21	e25	191	2.5	915	238	11	230
19	29	18	e24	e98	e21	42	127	7.4	728	154	13	208
20	27	18	e280	e95	e20	48	87	269	544	217	16	229
21	20	18	e87	e95	e19	34	72	302	416	155	10	217
22	21	18	e68	e110	e19	22	88	164	291	94	44	253
23	22	17	e70	e81	e18	17	68	131	194	70	310	265
24	20	18	e68	e68	e18	12	64	96	184	56	405	196
25	23	18	e59	e53	e17	10	59	139	147	45	133	274
26	16	18	e47	e44	e16	8.6	53	210	105	36	75	212
27	15	23	e40	e39	e15	7.3	46	107	137	31	416	166
28	13	23	e40	37	e14	5.9	39	90	248	33	451	126
29	11	22	e45	36	e14	6.0	45	581	130	23	337	105
30	12	22	e44	37	---	5.2	47	142	316	26	260	97
31	9.8	---	e37	37	---	4.4	---	11900	---	21	140	---
TOTAL	1034.8	532.9	1170.4	2128	751	4242.4	4120	14389.5	16569	18162	2759.0	19954
MEAN	33.4	17.8	37.8	68.6	25.9	137	137	464	552	586	89.0	665
MAX	83	33	280	148	40	1930	835	11900	4900	6240	451	11900
MIN	9.8	9.9	6.4	30	14	4.4	19	2.4	81	21	3.5	30
AC-FT	2050	1060	2320	4220	1490	8410	8170	28540	32860	36020	5470	39580

CAL YR 1987 TOTAL 82586.03 MEAN 226 MAX 2430 MIN .08 AC-FT 163800
WTR YR 1988 TOTAL 85813.0 MEAN 234 MAX 11900 MIN 2.4 AC-FT 170200

e Estimated.

07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1948 to October 1949, February 1950 to current year. Chemical and biochemical analyses: March 1968 to current year. Pesticide analyses: March 1968 to June 1981.

PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: October 1950 to current year.
WATER TEMPERATURE: August 1949 to current year.
SUSPENDED SEDIMENT DISCHARGE: August 1949 to September 1952.

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, 6,870 microsiemens July 11, 1983; minimum daily, 346 microsiemens Oct. 29, 1964.
WATER TEMPERATURE (1949-76): Maximum daily, 39.0°C July 7, 1973; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,780 microsiemens May 8; minimum daily, 440 microsiemens May 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC 01...	1205	22	3900	8.10	3.0	15.0	128	2.7	560	340
JAN 27...	0815	38	4230	8.30	0.5	12.8	100	0.7	580	370
MAR 08...	1140	75	2200	8.30	9.0	13.6	132	2.9	290	110
MAY 04...	1030	25	4140	8.30	13.0	12.1	129	4.1	510	330
JUL 19...	1840	142	2050	8.60	26.5	7.0	98	--	270	91
AUG 23...	0750	206	1090	8.10	23.5	6.3	83	1.9	150	36

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 WAT WH TOT FET 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)
DEC 01...	130	57	630	12	7.0	220	470	940	0.60	15
JAN 27...	140	57	650	12	7.5	216	480	930	0.80	15
MAR 08...	70	29	350	9	1.2	188	300	360	0.70	10
MAY 04...	110	58	690	14	6.6	187	540	930	0.60	13
JUL 19...	67	26	310	8	6.0	184	230	400	0.50	13
AUG 23...	35	14	160	6	5.8	109	130	200	0.40	8.8

DATE	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)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
DEC 01...	2380	0.380	0.020	0.400	0.120	0.38	0.50	0.400	2	100
JAN 27...	2410	0.080	0.020	0.100	1.00	0.60	1.6	0.500	--	--
MAR 08...	1230	--	<0.010	0.200	0.020	0.58	0.60	0.220	--	--
MAY 04...	2460	1.19	0.010	1.20	0.090	0.61	0.70	0.010	--	--
JUL 19...	1160	0.260	0.040	0.300	<0.010	--	0.30	0.410	4	340
AUG 23...	619	0.840	0.060	0.900	0.030	1.1	1.1	0.910	--	--

07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC 01...	1	2	2	10	<5	40	0.1	<1	<1.0	20
JAN 27...	--	--	--	--	--	--	--	--	--	--
MAR 08...	--	--	--	--	--	--	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--
JUL 19...	<1	<1	5	36	<5	3	0.1	<1	<1.0	9
AUG 23...	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	1034.8	2600	1560	4350	530	1490	340	947	390
NOV.	1987	532.9	3900	2340	3360	880	1270	500	724	580
DEC.	1987	1170.4	3610	2170	6850	810	2540	470	1480	540
JAN.	1988	2128	3440	2060	11800	750	4320	450	2560	510
FEB.	1988	751	4270	2560	5200	990	2010	550	1120	630
MAR.	1988	4242.4	1440	860	9850	280	3180	190	2160	220
APR.	1988	4120	2350	1400	15600	470	5280	310	3400	350
MAY	1988	14389.5	711	424	16500	130	5040	94	3630	110
JUNE	1988	16569	1570	937	41900	300	13400	210	9190	240
JULY	1988	18162	944	563	27600	170	8320	120	6090	140
AUG.	1988	2759.0	2020	1210	8990	400	2960	260	1970	300
SEPT	1988	19954	928	554	29800	170	9030	120	6580	140
TOTAL		85813.0	**	**	182000	**	58900	**	39800	**
WTD.AVG.		234	1310	785	**	250	**	170	**	200

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2410	3500	3900	3180	4120	4400	2000	3650	780	1700	2850	2300
2	2620	3500	4100	3280	4130	1010	2500	3800	1400	1590	3300	2000
3	2680	3500	3910	3300	4130	1050	3060	3900	2000	1590	3390	2300
4	2670	3560	4140	3400	4140	1080	2910	4000	2510	1590	2700	2450
5	2800	3760	3840	3500	4150	1100	1620	4100	2790	1770	3380	2600
6	2900	3470	4230	3700	4240	1590	2400	4200	3000	1390	3380	2750
7	2960	3650	4250	3900	4490	1740	2300	4250	3200	1510	3400	2900
8	3270	3500	4390	4000	4540	2530	2800	4780	3400	487	3410	3070
9	3090	3720	4400	4000	4280	2910	2900	3640	3550	1350	3390	3000
10	3200	3400	4420	3820	4280	3400	3000	4740	3400	750	3340	2650
11	2910	3500	4480	3100	4300	3800	3150	4540	3400	800	3960	2660
12	2940	3700	4470	3050	4310	4380	3270	4000	3000	850	3980	2420
13	3340	3930	4480	2810	3890	4130	3440	2900	2700	880	4210	2500
14	3340	4150	4500	2900	4280	4030	3730	3500	1400	1000	4110	1800
15	1860	4120	4500	3050	4370	3640	4080	4000	1230	1160	4660	660
16	1880	4060	4500	3050	4270	3590	4000	4240	1020	1430	4500	690
17	2020	4100	4500	3010	4220	3400	1360	4200	1160	1530	4700	770
18	2040	4000	4000	3440	4290	3400	2440	4220	1340	1840	3000	970
19	2480	4040	3950	3700	4290	3200	2700	2320	1600	2010	2070	1100
20	2370	4090	2710	3710	4300	3100	3070	2600	1910	1620	1740	1380
21	2690	4140	3700	4010	4300	3300	2980	2540	2290	1830	3500	1650
22	2670	4280	3900	3700	4320	3600	2900	2340	2500	2160	2500	1500
23	2660	4280	3880	3750	4330	3900	3000	2020	2700	2250	2000	1600
24	2840	4260	3900	3800	4330	4260	3100	2100	3060	2800	1320	2140
25	2790	4260	4000	3850	4340	4410	3240	1300	3220	3400	3000	2580
26	3200	4260	4100	3900	4360	4430	3260	1080	3480	3430	3800	1900
27	2980	4000	4200	4030	4380	4540	3290	1550	3240	3120	2240	2060
28	3250	3950	4200	4000	4400	4470	3300	1500	3570	3110	1480	1960
29	3590	3900	3000	3790	4400	4590	3450	1200	2670	3310	1740	2510
30	3440	3900	3000	4060	---	4550	3600	2000	2660	2840	2000	2700
31	3500	---	3160	3710	---	4600	---	440	---	2860	2200	---
MEAN	2820	3880	4020	3560	4280	3360	2960	3090	2470	1870	3070	2050

07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	---	---	4.0	---	---	---	---	11.0	---	21.0	---
2	16.0	---	8.0	5.0	7.0	---	---	---	---	21.0	22.0	---
3	---	---	12.0	5.0	---	---	18.0	---	---	---	21.0	---
4	---	22.0	14.0	---	---	---	21.0	---	18.0	24.0	21.0	---
5	---	17.0	13.0	---	3.0	14.0	11.0	---	19.0	25.0	23.0	---
6	---	15.0	12.0	---	5.0	16.0	21.0	---	---	24.0	---	---
7	21.0	19.0	14.0	---	8.0	15.0	---	9.0	---	22.0	---	---
8	23.0	---	14.0	---	14.0	14.0	---	10.0	---	19.0	---	26.0
9	24.0	13.0	---	---	13.0	18.0	---	12.0	---	---	---	27.0
10	18.0	18.0	---	3.0	8.0	---	---	14.0	---	---	31.0	25.0
11	16.0	---	11.0	4.0	---	---	---	15.0	---	---	32.0	25.0
12	22.0	---	6.0	2.0	---	4.0	8.0	15.0	---	---	32.0	25.0
13	22.0	15.0	---	2.0	.0	2.0	11.0	17.0	---	30.0	34.0	---
14	---	13.0	---	---	2.0	1.0	11.0	---	---	---	32.0	---
15	---	14.0	---	---	.0	5.0	12.0	---	23.0	30.0	31.0	19.0
16	13.0	10.0	---	3.0	2.0	3.0	---	---	26.0	31.0	---	23.0
17	19.0	---	---	2.0	4.0	---	---	---	29.0	28.0	---	25.0
18	22.0	---	---	4.0	1.0	---	---	28.0	29.0	31.0	---	25.0
19	16.0	---	---	1.0	---	---	---	22.0	29.0	26.0	32.0	---
20	19.0	---	3.0	.0	---	---	25.0	20.0	31.0	---	23.0	25.0
21	19.0	3.0	---	.0	---	---	22.0	15.0	31.0	---	22.0	26.0
22	---	5.0	---	.0	---	---	22.0	15.0	---	20.0	29.0	---
23	---	3.0	---	---	---	20.0	22.0	18.0	---	20.0	---	---
24	13.0	---	---	---	---	20.0	---	26.0	22.0	22.0	23.0	15.0
25	16.0	1.0	---	---	---	21.0	24.0	---	22.0	23.0	---	16.0
26	12.0	---	---	---	---	23.0	---	---	23.0	23.0	---	18.0
27	11.0	3.0	---	11.0	---	21.0	---	18.0	22.0	23.0	20.0	18.0
28	10.0	---	---	10.0	---	22.0	---	18.0	22.0	---	---	17.0
29	10.0	---	---	12.0	---	20.0	---	22.0	22.0	---	---	13.0
30	14.0	---	---	13.0	---	---	---	---	22.0	21.0	---	14.0
31	---	---	---	12.0	---	---	---	16.0	---	22.0	---	---
MEAN	17.0	11.5	10.5	5.0	5.0	14.0	17.5	17.0	23.5	24.5	26.5	21.0

07227920 DIXON CREEK NEAR BORGER, TX

LOCATION.--Lat 35°39'53", long 101°21'02", Hutchinson County, Hydrologic Unit 11090106, on right bank at downstream side of bridge on State Highway 152, 2.4 mi east of Borger, and 7.6 mi upstream from mouth.

DRAINAGE AREA.--134 mi².

PERIOD OF RECORD.--March 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,834.84 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records fair. No known diversions upstream from station.

AVERAGE DISCHARGE.--14 years, 2.39 ft³/s (1,730 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft³/s May 26, 1977 (gage height, 8.99 ft), from rating curve extended above 25 ft³/s on basis of slope-conveyance studies; maximum gage height 9.50 ft May 26, 1987; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 31	2030	1,120	8.44	July 7	1540	*2,210	*9.48

Minimum discharge, no flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.00	.74	1.8	1.2	.80	5.4	1.8	175	.00	.21	.00
2	.21	.00	.87	1.5	1.0	3.1	7.0	1.5	44	.00	.15	.17
3	.11	.00	.83	1.5	1.2	6.6	3.3	1.1	9.7	.00	.13	.04
4	.07	.00	.87	1.2	.97	11	2.1	.85	4.5	.00	.10	.00
5	.10	.00	.85	.94	1.2	9.9	1.5	.84	2.9	.00	.10	.00
6	.04	.00	.84	.63	.86	8.7	1.2	.80	2.0	.00	.12	.00
7	.07	.48	.75	.25	1.1	6.1	1.2	.54	1.4	321	.10	.00
8	.07	.06	.73	.63	1.4	3.6	1.0	.37	1.1	83	.10	.00
9	.09	.00	.58	.81	1.2	2.7	.85	.28	.75	24	.10	.00
10	.10	.67	.59	1.6	1.0	2.3	.84	.25	.49	37	.10	.00
11	.09	.93	.66	3.5	.34	1.8	.87	.62	.36	12	.10	.00
12	.02	.74	.69	6.3	1.3	1.5	.85	1.0	.25	5.5	.55	.00
13	.05	.65	.87	2.0	1.6	1.4	.84	.88	.19	2.6	.37	.00
14	.06	.62	.73	3.0	1.2	1.4	.77	.47	.46	1.6	.32	.00
15	6.9	.56	.39	3.0	.90	1.5	.75	.17	.40	1.2	.29	.29
16	1.6	.62	1.0	3.1	.99	1.3	1.3	.00	.34	.88	.21	.02
17	.62	1.0	2.1	2.5	.94	1.6	55	.00	.24	.73	.15	.00
18	.37	1.0	4.2	2.4	.90	3.8	17	.00	.10	.67	.30	.02
19	.23	1.2	9.9	1.8	.94	4.9	6.0	.01	.03	.63	.16	.05
20	.08	1.3	8.0	.85	.90	3.6	3.5	.14	.00	.54	.05	.05
21	.04	1.3	4.5	.74	.87	2.4	2.4	.10	.00	.44	.02	.05
22	.00	1.3	2.9	1.4	.90	1.9	1.8	.14	.00	.38	.00	.00
23	.00	.98	2.5	1.6	.65	1.5	1.4	.15	.00	.32	.00	.00
24	.00	.88	1.9	1.5	.68	1.4	1.4	.11	.00	.29	.06	.00
25	.00	.84	1.3	1.2	.74	1.0	1.4	.03	.00	.31	.08	.00
26	.00	.87	1.0	1.3	.79	.99	1.3	.00	.00	.32	.00	.00
27	.00	1.1	.83	1.3	.81	1.0	1.1	.0	.00	.34	.00	.00
28	.00	1.1	1.3	1.3	.80	.99	1.1	.08	.00	.27	.00	.00
29	.00	.97	1.7	1.4	.70	.83	1.4	.00	.00	.25	.01	.00
30	.00	.87	2.7	1.3	---	.89	1.8	.00	.00	.25	.01	.00
31	.00	---	2.7	1.2	---	.89	---	317	---	.25	.00	---
TOTAL	11.25	20.04	59.52	53.55	28.08	91.39	126.37	329.23	244.21	494.77	3.89	0.69
MEAN	.36	.67	1.92	1.73	.97	2.95	4.21	10.6	8.14	16.0	.13	.023
MAX	6.9	1.3	9.9	6.3	1.6	11	55	317	175	321	.55	.29
MIN	.00	.00	.39	.25	.34	.80	.75	.00	.00	.00	.00	.00
AC-FT	22	40	118	106	56	181	251	653	484	981	7.7	1.4

CAL YR 1987 TOTAL 2816.92 MEAN 7.72 MAX 480 MIN .00 AC-FT 5590
WTR YR 1988 TOTAL 1462.99 MEAN 4.00 MAX 321 MIN .00 AC-FT 2900

07228000 CANADIAN RIVER NEAR CANADIAN, TX
(National stream-quality accounting network)

LOCATION.--Lat 35°56'06", long 100°22'13", Hemphill County, Hydrologic Unit 11090106, on left abutment at downstream side of upstream of bridge on U.S. Highways 60 and 83, 600 ft downstream from Panhandle and Santa Fe Railway Co. bridge, 1.2 mi downstream from Red Deer Creek, 1.6 mi northeast of Canadian, and 433.9 mi upstream from mouth.

DRAINAGE AREA.--22,866 mi², of which 4,688 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to August 1925 (gage heights only), January 1938 to current year. Prior to April 1938, monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,301.50 ft above National Geodetic Vertical Datum of 1929. July 1, 1924, to Aug. 31, 1925, and Apr. 21 to Dec. 15, 1938, nonrecording gage; Dec. 16, 1938, to Sept. 30, 1953, water-stage recorder and nonrecording gages; all at site 300 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Extreme low flow is maintained by springs that enter the river about 600 ft upstream from the gage. There is some regulation and diversions from Lake Meredith (07227900) 75 mi upstream. Gage-height telemeter at station via Sutron data collection platform.

AVERAGE DISCHARGE.--26 years (water years 1939-64) prior to completion of Lake Meredith, 549 ft³/s (397,800 acre-ft/yr); 24 years (water years 1965-88) regulated, 89.2 ft³/s (64,630 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 122,000 ft³/s Sept. 23, 1941 (gage height, 9.8 ft), from graph based on gage readings, and from rating curves for two channels extended above 8,000 and 54,000 ft³/s; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 20.0 ft Oct. 2, 1904. Floods of May 2, 1914, and Oct. 5, 1923, reached stages of 12 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,760 ft³/s June 1 at 0720 hours (gage height, 5.35 ft); minimum, 21 ft³/s Sept. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	59	75	130	108	140	279	253	1550	e67	48	19
2	59	58	63	130	97	369	329	239	545	e59	45	31
3	54	54	56	127	103	579	310	204	260	e53	41	50
4	52	50	60	103	103	506	280	185	258	e48	37	41
5	48	47	58	100	103	642	267	184	199	e45	35	40
6	46	44	58	e95	100	473	255	181	153	e42	34	35
7	42	50	54	e90	105	355	248	175	128	48	32	29
8	41	52	54	e80	107	261	233	165	117	83	29	26
9	40	54	53	e90	115	214	228	161	107	100	31	25
10	40	52	55	e180	e105	196	231	161	99	210	34	25
11	42	49	56	e250	e100	208	233	161	93	401	31	24
12	45	50	53	320	e110	218	228	164	93	428	27	23
13	44	47	59	295	116	199	223	163	89	658	26	21
14	37	47	e50	344	131	194	212	153	88	380	25	24
15	56	52	e45	385	117	203	208	146	96	116	32	62
16	65	53	e45	324	118	208	210	143	91	90	28	85
17	81	54	e45	286	115	222	319	140	88	74	24	79
18	95	58	e55	258	111	223	805	130	86	82	25	79
19	82	61	e80	228	111	240	453	130	83	127	24	64
20	71	59	e140	203	109	332	322	130	78	122	23	60
21	67	58	182	165	110	275	282	130	72	100	22	60
22	65	59	174	136	108	271	257	129	67	84	21	59
23	63	58	138	120	106	249	227	127	63	74	33	57
24	59	57	113	136	108	251	217	129	63	73	30	58
25	58	57	103	130	117	237	247	130	63	70	27	50
26	58	59	e90	124	120	230	255	125	63	62	26	48
27	55	70	e80	108	123	226	236	120	76	78	24	45
28	59	71	e80	116	127	217	214	114	77	104	24	43
29	62	75	e120	114	129	208	218	111	78	76	23	40
30	63	76	e150	114	---	210	252	108	74	59	22	40
31	61	---	185	113	---	205	---	681	---	52	20	---
TOTAL	1778	1690	2629	5394	3232	8561	8278	5272	4997	4065	903	1342
MEAN	57.4	56.3	84.8	174	111	276	276	170	167	131	29.1	44.7
MAX	95	76	185	385	131	642	805	681	1550	658	48	85
MIN	37	44	45	80	97	140	208	108	63	42	20	19
AC-FT	3530	3350	5210	10700	6410	16980	16420	10460	9910	8060	1790	2660

CAL YR 1987 TOTAL 36989.7 MEAN 101 MAX 889 MIN 6.4 AC-FT 73370
WTR YR 1988 TOTAL 48141 MEAN 132 MAX 1550 MIN 19 AC-FT 95490

e Estimated.

07228000 CANADIAN RIVER NEAR CANADIAN, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: August 1966 to current year. Pesticide analyses: October 1970 to June 1982.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to September 1981.
WATER TEMPERATURE: October 1974 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,480 microsiemens Aug. 12, 1979; minimum daily, 461 microsiemens Sept. 8, 1980.
WATER TEMPERATURE: Maximum daily, 39.0°C June 28, 1979; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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)
DEC											
02...	1130	61	3180	8.00	4.0	12	14.6	124	2.1	K20	84
JAN											
26...	1015	125	3030	8.10	3.0	19	12.9	105	0.4	80	1200
MAR											
09...	1300	219	2820	8.20	12.0	23	15.0	154	3.2	380	K65
MAY											
04...	1500	173	3220	8.40	22.0	5.1	11.4	147	3.8	90	K5
JUL											
20...	0935	123	3150	8.50	23.0	34	8.7	111	--	200	160
AUG											
23...	1255	31	2440	8.50	26.0	10	7.9	107	2.8	K720	500

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET 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)
DEC											
02...	580	320	140	55	440	8	7.6	259	230	730	0.80
JAN											
26...	600	360	150	54	410	8	7.4	234	230	730	2.0
MAR											
09...	520	240	120	53	380	7	7.4	279	190	590	1.8
MAY											
04...	620	360	150	60	460	8	7.8	261	250	760	2.3
JUL											
20...	540	300	130	53	480	9	8.6	241	210	780	1.8
AUG											
23...	410	280	90	44	360	8	7.7	124	210	590	1.7

DATE	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, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (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)
DEC										
02...	24	1810	1790	0.880	0.820	0.020	0.010	0.900	0.830	0.040
JAN										
26...	25	1730	1750	0.660	0.650	0.040	0.020	0.700	0.670	0.210
MAR										
09...	24	1580	1540	0.390	--	0.010	<0.010	0.400	0.440	0.050
MAY										
04...	20	1860	1870	--	--	<0.010	<0.010	0.400	0.380	0.040
JUL										
20...	21	1870	1830	--	--	<0.010	<0.010	<0.100	<0.100	0.040
AUG										
23...	9.3	1400	1390	--	--	<0.010	<0.010	<0.100	<0.100	<0.010

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC										
02...	0.040	0.56	0.60	0.080	0.040	0.030	0.09	41	6.8	91
JAN										
26...	0.190	0.59	0.80	0.100	0.060	0.050	0.15	98	33	67
MAR										
09...	0.050	0.75	0.80	0.080	0.040	0.030	0.09	39	23	97
MAY										
04...	0.070	0.26	0.30	0.060	0.050	0.050	0.15	46	21	57
JUL										
20...	0.020	0.86	0.90	0.110	0.020	0.020	0.06	318	106	12
AUG										
23...	0.010	--	0.80	0.860	0.010	0.020	0.06	31	2.6	91

07228000 CANADIAN RIVER NEAR CANADIAN, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
DEC 02...	<10	2	300	<10	1	3	<1	1	20	<5
JAN 26...	--	--	--	--	--	--	--	--	--	--
MAR 09...	30	2	300	<10	2	1	<1	3	60	<5
MAY 04...	<10	3	200	<10	<1	2	2	<1	20	<5
JUL 20...	--	--	--	--	--	--	--	--	--	--
AUG 23...	10	2	100	<10	<1	<1	<1	1	20	<5

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
DEC 02...	90	30	0.1	3	3	3	<1.0	2300	7	10
JAN 26...	--	--	--	--	--	--	--	--	--	--
MAR 09...	100	30	<0.1	6	6	1	<1.0	2000	10	20
MAY 04...	100	20	0.2	4	6	1	<1.0	2400	12	<10
JUL 20...	--	--	--	--	--	--	--	--	--	--
AUG 23...	70	20	<0.1	3	1	<1	<1.0	1500	9	10

07235000 WOLF CREEK AT LIPSCOMB, TX

LOCATION.--Lat 36°14'19", long 100°16'31", Lipscomb County, Hydrologic Unit 11100203, on right bank at downstream side of State Highway 305, 0.3 mi north of Lipscomb, 0.6 mi downstream from Sand Creek, 2 mi upstream from Plum Creek, and 61.2 mi upstream from mouth.

DRAINAGE AREA.--697 mi², of which 222 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1937 to September 1942, October 1961 to current year. Prior to 1941, monthly discharges only, published in WSP 1311.
Water-quality records.--Chemical and biochemical analyses: May 1980.

REVISED RECORDS.--WSP 1311: 1938-39, drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 2,371.29 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 25, 1938, nonrecording gage, Feb. 25, 1938, to Sept. 30, 1942, water-stage recorder at present site at datum 5.77 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Small diversions upstream from station for irrigation and recreation.

AVERAGE DISCHARGE.--32 years (water years 1938-42, 1962-88), 14.0 ft³/s (0.40 in/yr), 10,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft³/s Oct. 21, 1941 (gage height, 11.57 ft, present datum), from rating curve extended above 14,000 ft³/s on basis of velocity-area studies; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1890, 15.5 ft June 23, 1957, present site and datum, from flood-marks. A flood in May 1955 reached a stage of 12.1 ft, present site and datum, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 31	2200	*26	*3.19				

Minimum discharge, 0.40 ft³/s Aug. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.1	3.3	e4.0	5.5	5.9	16	21	20	5.8	.77	.86
2	1.5	2.1	3.3	e3.5	5.5	8.8	20	20	12	5.5	.77	1.3
3	1.3	2.1	3.3	e3.5	5.2	11	18	19	10	5.0	.76	1.1
4	1.3	2.1	3.3	e4.0	4.9	12	17	18	9.1	4.5	.72	.96
5	1.2	2.1	3.5	4.2	4.8	16	16	18	9.3	3.9	.72	.94
6	1.2	2.4	3.5	e3.5	e4.0	17	15	18	7.4	3.4	.70	.90
7	1.7	2.6	3.6	e3.0	5.7	16	15	18	6.7	3.4	.65	.85
8	1.4	2.7	3.6	e2.5	5.6	15	14	18	6.5	3.4	.67	.83
9	1.3	2.7	3.5	e2.0	5.4	14	14	17	6.3	3.7	.81	.93
10	1.3	2.8	3.5	e2.0	5.5	14	13	16	6.0	4.0	.88	.85
11	1.4	2.6	3.5	e3.0	e4.5	13	13	16	5.5	3.6	.85	.82
12	1.5	2.5	3.5	e3.5	5.2	12	13	15	5.1	3.2	.86	.77
13	1.6	2.6	3.6	e4.0	5.5	11	13	15	4.8	2.8	.83	.84
14	1.8	2.7	e3.4	e4.5	5.7	11	13	14	4.5	2.5	.80	.90
15	2.7	2.9	e3.0	5.4	5.8	11	13	14	4.4	2.1	.77	3.0
16	3.1	3.1	e2.5	5.8	5.6	10	13	14	4.9	1.9	.72	3.5
17	2.7	3.0	e3.0	6.1	5.6	e9.0	17	14	6.3	1.9	.73	3.2
18	2.3	2.9	3.9	6.2	5.6	12	19	14	5.5	2.0	.84	2.5
19	2.1	2.9	4.7	6.5	5.6	14	18	14	4.7	2.0	.91	2.2
20	1.8	3.1	5.2	e6.0	5.6	19	18	14	4.2	1.8	.86	1.9
21	1.8	3.1	5.2	e5.0	5.7	19	18	14	3.9	1.6	.77	1.6
22	1.9	3.1	5.3	5.3	5.7	17	17	14	3.5	1.4	.87	1.6
23	2.0	3.0	5.4	5.6	5.8	15	16	15	3.0	1.1	1.0	1.6
24	2.0	2.9	5.0	5.5	5.7	15	16	15	2.8	1.1	.85	1.5
25	1.9	3.1	4.8	5.6	5.8	14	20	15	2.5	1.1	.91	1.6
26	1.9	3.1	e4.5	5.4	5.8	13	19	14	2.8	1.0	.95	1.4
27	1.9	3.1	e4.0	5.4	5.8	13	18	14	3.5	.98	.96	1.5
28	1.8	3.1	e3.5	5.3	5.9	13	17	14	3.7	.94	.90	2.3
29	1.8	3.1	e4.0	5.4	5.9	12	18	14	3.4	.83	.85	1.6
30	1.8	3.3	4.3	5.5	---	12	21	14	3.6	.73	.86	1.5
31	1.9	---	e4.0	5.5	---	12	---	19	---	.74	.80	---
TOTAL	55.5	82.9	120.7	142.7	158.9	406.7	488	489	175.9	77.92	25.34	45.35
MEAN	1.79	2.76	3.89	4.60	5.48	13.1	16.3	15.8	5.86	2.51	.82	1.51
MAX	3.1	3.3	5.4	6.5	5.9	19	21	21	20	5.8	1.0	3.5
MIN	1.2	2.1	2.5	2.0	4.0	5.9	13	14	2.5	.73	.65	.77
AC-FT	110	164	239	283	315	807	968	970	349	155	50	90
CFSM	.00	.00	.01	.01	.01	.02	.02	.02	.01	.00	.00	.00
IN.	.00	.00	.01	.01	.01	.02	.03	.03	.01	.00	.00	.00

CAL YR 1987 TOTAL 2116.9[illegible] MEAN 5.80 MAX 32 MIN .52 AC-FT 4200 CFSM .01 IN. .11
WTR YR 1988 TOTAL 2268.91 MEAN 6.20 MAX 21 MIN .65 AC-FT 4500 CFSM .01 IN. .12

e Estimated.

07297910 PRAIRIE DOG TOWN FORK RED RIVER NEAR WAYSIDE, TX
(National stream-quality accounting network)

LOCATION.--Lat 34°50'15", long 101°24'49", Armstrong County, Hydrologic Unit 11120103, on left bank at downstream side of bridge on Farm Road 284, 13 mi northeast of Wayside, 26 mi south of Claude, and at mile 1,145.

DRAINAGE AREA.--4,211 mi², of which 3,281 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,463.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. There are several small diverions upstream from station. Sewage effluent released into river above station by city of Amarillo.

AVERAGE DISCHARGE.--21 years, 27.7 ft³/s (20,070 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,000 ft³/s Aug. 28, 1968 (gage height, 13.0 ft, from floodmark); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 15	0850	*3,650	*9.40				

Minimum discharge, 1.8 ft³/s May 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	39	24	34	21	5.4	44	8.8	45	174	1.9	80
2	6.1	38	24	34	21	32	28	7.3	15	42	5.5	88
3	5.5	36	17	34	21	27	9.4	7.3	29	23	180	20
4	5.5	35	11	32	21	15	5.3	7.3	36	16	16	11
5	4.9	34	12	22	21	11	3.7	8.6	36	14	14	11
6	4.5	43	16	12	17	8.7	4.8	10	24	13	9.4	9.5
7	4.2	52	16	e12	14	6.9	6.4	9.4	21	30	6.1	7.5
8	4.3	39	17	e12	12	6.4	6.0	9.4	18	218	17	6.2
9	3.8	29	16	e12	10	6.4	7.2	9.4	15	119	18	5.8
10	7.5	23	16	e13	9.8	8.7	7.3	9.2	13	115	37	4.9
11	13	18	16	e17	e8.0	11	7.1	11	10	84	41	4.1
12	15	21	16	e25	e8.0	11	6.2	10	10	71	15	3.6
13	15	30	20	39	11	11	4.7	6.9	9.7	62	10	5.9
14	23	32	25	32	7.7	12	3.1	6.2	220	56	8.2	8.4
15	221	31	e14	35	6.9	12	2.5	6.4	352	56	10	767
16	79	30	e12	32	7.5	9.5	12	6.8	50	124	8.4	32
17	54	23	e12	31	7.3	12	159	7.0	21	76	14	13
18	48	20	e20	28	7.3	12	22	6.4	11	289	13	10
19	45	29	e32	21	7.3	13	17	28	8.2	64	14	8.3
20	43	31	54	22	7.0	15	12	65	6.1	12	58	12
21	41	32	36	26	6.4	15	8.9	12	5.0	5.9	12	9.5
22	40	32	29	28	6.4	14	8.9	5.1	4.4	4.3	7.5	10
23	45	32	27	28	6.4	12	8.9	3.1	3.7	3.8	63	13
24	52	31	23	22	6.4	12	9.8	2.0	3.5	4.0	22	9.4
25	45	28	e18	22	6.4	12	10	4.5	9.5	4.2	10	7.5
26	42	22	e12	24	6.3	11	7.3	3.8	20	3.6	7.3	6.3
27	36	21	e12	25	6.5	16	7.3	3.2	74	3.7	6.6	4.1
28	35	22	e12	25	6.0	19	7.3	22	67	3.4	8.7	3.0
29	33	24	e15	24	4.8	8.9	11	62	35	2.6	8.2	2.2
30	40	24	e21	22	---	8.9	11	29	25	2.2	7.2	4.2
31	41	---	35	21	---	8.9	---	156	---	2.2	8.7	---
TOTAL	1059.2	901	630	766	301.4	383.7	458.1	543.1	1197.1	1697.9	657.7	1177.4
MEAN	34.2	30.0	20.3	24.7	10.4	12.4	15.3	17.5	39.9	54.8	21.2	39.2
MAX	221	52	54	39	21	32	159	156	352	289	180	767
MIN	3.8	18	11	12	4.8	5.4	2.5	2.0	3.5	2.2	1.9	2.2
AC-FT	2100	1790	1250	1520	598	761	909	1080	2370	3370	1300	2340

CAL YR 1987 TOTAL 18239.3 MEAN 50.0 MAX 2500 MIN 1.6 AC-FT 36180
WTR YR 1988 TOTAL 9772.6 MEAN 26.7 MAX 767 MIN 1.9 AC-FT 19380

e Estimated.

07297910 PRAIRIE DOG TOWN FORK RED RIVER NEAR WAYSIDE, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year. Chemical and biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1968 to September 1981.
WATER TEMPERATURE: October 1968 to September 1981.

INSTRUMENTATION.--Specific conductance was recorded continuously at this station from April 1968 to September 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 51,100 microsiemens July 30, 1978; minimum daily, 417 microsiemens July 10, 1975
WATER TEMPERATURE: Maximum daily, 38.0°C Oct. 14, 1968, June 13, 1975; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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 TOTAL (MG/L AS CACO3)
NOV 30...	1630	23	4410	8.30	10.0	32	11.8	117	5.4	130	K45	800
JAN 27...	1305	25	3970	8.20	11.0	59	10.3	105	6.0	K11	K70	930
MAR 07...	1605	6.6	7090	8.10	17.0	16	11.1	131	2.8	240	<1	1400
MAY 03...	1520	18	8060	8.20	22.0	6.4	12.3	140	3.0	100	<1	1600
JUL 19...	1415	30	4300	8.20	27.0	2800	7.9	111	0.6	<1	<1	690
AUG 22...	1315	6.7	4410	8.50	33.5	250	6.0	95	0.3	K800	20	1200

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET 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, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV 30...	550	210	66	540	9	18	250	880	600	1.8	18	2860
JAN 27...	710	260	67	490	7	19	221	940	550	1.9	22	2530
MAR 07...	1200	390	91	1000	12	15	150	1800	1100	1.6	23	5170
MAY 03...	1500	460	110	1300	15	17	142	1900	1600	1.6	27	5730
JUL 19...	560	200	46	640	11	10	129	770	800	0.90	15	2700
AUG 22...	1000	360	78	590	8	16	188	1300	700	1.6	1.1	3300

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)
NOV 30...	2490	0.300	0.020	0.320	0.030	0.030	1.8	1.8	1.10	0.800	0.680	2.1
JAN 27...	2490	0.370	0.020	0.390	2.40	2.20	2.8	5.2	1.90	1.50	1.20	3.7
MAR 07...	4520	--	<0.010	<0.100	0.100	0.100	1.2	1.3	0.070	0.040	0.030	0.09
MAY 03...	5510	--	<0.010	<0.100	0.130	0.130	0.67	0.80	0.020	0.030	0.020	0.06
JUL 19...	2560	--	<0.010	0.580	0.090	0.090	0.11	0.20	0.730	0.070	0.060	0.18
AUG 22...	3180	2.18	0.020	2.20	0.150	0.150	1.4	1.6	0.670	0.520	0.470	1.4

DATE	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	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)
NOV 30...	103	6.4	64	<10	5	<100	<10	2	3	<1	4	40
JAN 27...	224	15	52	--	--	--	--	--	--	--	--	--
MAR 07...	27	0.48	99	<10	4	100	<10	2	3	1	<1	30
MAY 03...	35	1.7	93	<10	<1	100	<10	<1	3	2	<1	30
JUL 19...	4880	395	95	--	--	--	--	--	--	--	--	--
AUG 22...	601	11	99	20	10	400	<10	<1	<1	<1	6	30

07297910 PRAIRIE DOG TOWN FORK RED RIVER NEAR WAYSIDE, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	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											
30...	<5	120	40	<0.1	6	5	<1	<1.0	4900	16	60
JAN											
27...	--	--	--	--	--	--	--	--	--	--	--
MAR											
07...	<5	170	40	<0.1	7	3	1	<1.0	6300	21	10
MAY											
03...	<5	160	60	0.4	4	6	1	1.0	7000	27	30
JUL											
19...	--	--	--	--	--	--	--	--	--	--	--
AUG											
22...	<5	140	20	<0.1	3	1	<1	<1.0	6800	27	20

07299540 PRAIRIE DOG TOWN FORK RED RIVER NEAR CHILDRESS, TX

LOCATION.--Lat 34°34'09", long 100°11'37", Childress County, Hydrologic Unit 11120105, on left bank at downstream side of bridge on U.S. Highways 62 and 83, 3.1 mi downstream from Salt Creek, 10.0 mi north of Childress, and at mile 1,061.

DRAINAGE AREA.--7,725 mi², of which 4,769 mi² probably is noncontributing.

PERIOD OF RECORD.--December 1964 to March 1965 (gage heights only), April 1965 to current year.
Water-quality records: September 1948 to April 1963, January 1969 to September 1986. Chemical and biochemical analyses: January 1978 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 1,628.4 ft above National Geodetic Vertical Datum of 1929 (from Texas State Department of Highways and Public Transportation bench mark).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Many small diversions upstream from station. Flow is affected at times by discharge from the flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 20,010 acre-ft. These structures control runoff from 95.2 mi² in the drainage basin above station.

AVERAGE DISCHARGE.--23 years (water years 1966-88), 114 ft³/s (82,590 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,400 ft³/s May 28, 1978 (gage height, 13.47 ft, from floodmark), from rating curve extended above 33,000 ft³/s; maximum gage height, 13.94 ft May 21, 1977; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 16.9 ft in May or June 1957, from information by local residents and State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 16	1200	*6,620	*9.79				

Minimum discharge, no flow June 7-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	31	29	134	26	14	903	5.8	340	51	2.6	8.5
2	7.0	23	33	128	32	1120	1310	5.1	271	49	3.5	20
3	4.1	18	37	119	38	563	1360	3.7	6.7	49	3.3	200
4	3.1	18	36	110	38	558	684	2.7	1.8	81	2.7	121
5	2.3	16	38	81	38	115	310	1.6	.51	106	2.9	33
6	2.1	19	40	33	26	92	222	1.2	.31	36	2.8	11
7	2.0	48	35	19	26	60	163	.96	.0	35	2.5	5.5
8	2.2	41	26	39	32	37	83	.70	.00	1160	2.3	3.1
9	1.6	33	21	144	35	37	e71	.76	.00	2010	2.9	2.2
10	1.3	35	16	93	35	42	e65	.75	.00	532	88	2.2
11	1.2	33	17	106	e20	26	e60	.68	.00	233	29	1.9
12	1.9	24	16	282	e20	23	e63	.66	.00	147	7.6	1.8
13	2.8	20	19	577	e25	21	e60	.58	.00	112	3.5	1.8
14	3.4	18	84	103	32	26	e48	.49	.57	82	2.4	2.2
15	3.1	18	69	120	32	30	e38	.46	125	69	2.1	31
16	4.0	14	63	84	18	48	e32	.52	2290	67	1.9	1990
17	4.8	13	64	90	15	215	e2060	.52	250	69	2.2	26
18	32	12	185	108	14	166	e890	.39	9.5	e264	4.1	12
19	21	14	885	86	14	156	e98	.35	4.9	e118	3.9	8.4
20	14	15	699	57	14	123	e65	.25	4.5	e83	3.5	9.5
21	11	16	162	38	13	127	e56	.21	4.3	75	2.5	7.5
22	11	14	77	32	12	113	e44	.16	4.1	56	1.7	6.4
23	756	14	69	42	10	101	10	1.4	4.1	48	1.6	6.0
24	168	15	59	35	10	89	6.8	2.5	4.4	44	1.6	6.4
25	36	18	60	37	12	84	8.8	.68	4.8	343	1.7	5.7
26	25	20	e50	42	14	76	5.3	.74	1180	44	2.0	5.4
27	17	34	e50	38	15	76	3.2	.26	2600	9.4	2.0	5.4
28	13	37	e50	30	14	88	2.4	.15	2290	4.7	7.6	5.4
29	11	32	e70	27	13	89	9.8	2.1	2150	2.9	8.2	5.4
30	23	29	124	26	---	95	6.3	.13	337	3.0	4.7	5.4
31	34	---	129	26	---	110	---	.04	---	3.2	2.9	---
TOTAL	1236.9	692	3312	2886	643	4520	8737.6	36.54	11883.49	5986.2	210.2	2550.1
MEAN	39.9	23.1	107	93.1	22.2	146	291	1.18	396	193	6.78	85.0
MAX	756	48	885	577	38	1120	2060	5.8	2600	2010	88	1990
MIN	1.2	12	16	19	10	14	2.4	.04	.00	2.9	1.6	1.8
AC-FT	2450	1370	6570	5720	1280	8970	17330	72	23570	11870	417	5060

CAL YR 1987 TOTAL 56568.7 MEAN 155 MAX 4570 MIN 1.2 AC-FT 112200
WTR YR 1988 TOTAL 42694.03 MEAN 117 MAX 2600 MIN .00 AC-FT 84680

e Estimated.

07299570 RED RIVER NEAR QUANAH, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 34°24'47", long 99°44'03", Hardeman County, on right bank at downstream side of bridge on State Highway 6 8 mi north of Quanah, 30 mi upstream from Salt Fork Red River, and at mile 1,030.

DRAINAGE AREA.--8,321 mi², of which 4,769 mi² is probably noncontributing.

PERIOD OF RECORD.--November 1959 to September 1982 (continuous-record station), October 1983 to current year.

REMARKS.--Gage-height telemeter at station.

EXTREMES.--Maximum discharge, 4,600 ft³/s Sept. 19 (gage height, 8.91 ft).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1969 to August 1978. Pesticide analyses: March 1968 to September 1973. Sediment records: May 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR							
08...	0750	69	22700	--	636	118	49
APR							
22...	1130	100	19100	--	1140	308	84
JUL							
13...	0710	125	16300	26.0	2630	888	69
17...	0710	125	16300	--	3010	1020	62

07299670 GROESBECK CREEK AT STATE HIGHWAY 6 NEAR QUANAH, TX

LOCATION.--Lat 34°21'16", long 99°44'24", Hardeman County, Hydrologic Unit 11130101, near left bank at downstream side of bridge on State Highway 6, 2 mi downstream from confluence of North and South Groesbeck Creeks, 4 mi north of Quanah, and 9 mi upstream from mouth.

DRAINAGE AREA.--303 mi².

PERIOD OF RECORD.--November 1961 to current year. Prior to October 1974, published as "at State Highway 283".

GAGE.--Water-stage recorder. Datum of gage is 1,425.69 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are several diversions upstream from station for farm and ranch use and for a gypsum plant. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years (water years 1963-88), 15.6 ft³/s (0.70 in/yr), 11,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft³/s Oct. 20, 1983 (gage height, 24.78 ft), from rating curve extended above 7,970 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--The highest stage known occurred in June 1891; and the highest stage since 1891 occurred in September 1929, stages unknown. Other large floods are reported to have occurred in 1912, 1936, 1946, 1951, 1955, and 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 16	0800	2,030	16.55	Sept. 19	0300	*3,030	*17.83

Minimum discharge, 6.2 ft³/s Dec. 3 (due to pumpage).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	10	9.3	9.1	10	10	17	15	9.3	24	8.7	8.6
2	8.9	9.6	9.3	8.7	9.9	21	17	14	9.2	19	9.0	10
3	9.0	9.4	8.9	8.8	10	49	16	14	9.5	38	9.1	12
4	9.3	9.4	8.6	9.1	10	18	16	14	9.5	25	8.7	10
5	9.0	9.0	8.5	8.9	10	12	16	14	9.3	18	8.4	10
6	9.0	9.2	8.8	9.3	9.9	11	15	14	9.2	15	8.3	9.3
7	9.0	9.3	9.2	9.7	9.9	11	15	14	9.3	16	8.5	9.3
8	9.1	9.2	9.1	9.7	9.9	11	15	13	9.1	16	8.6	9.0
9	9.0	9.3	8.9	9.7	10	10	16	13	9.1	14	8.4	9.0
10	9.1	9.3	8.8	9.7	10	10	17	13	9.0	17	8.7	9.0
11	8.8	9.3	8.9	9.8	10	11	17	13	9.0	22	8.5	8.6
12	8.8	9.3	8.9	10	10	11	17	13	9.0	24	8.8	9.0
13	8.9	9.3	8.8	11	10	11	17	13	8.9	16	8.5	9.3
14	9.1	9.7	9.2	11	10	12	17	12	8.8	13	8.1	10
15	9.3	10	9.7	10	10	12	17	12	9.0	12	7.9	12
16	9.2	9.5	9.6	10	10	13	17	12	9.0	11	7.9	836
17	8.8	11	9.4	10	10	13	37	12	9.2	11	7.8	373
18	8.9	10	9.5	10	10	14	106	11	9.3	11	7.7	392
19	8.8	9.0	10	10	9.9	14	48	11	9.2	10	7.9	2020
20	8.8	9.1	10	10	9.9	14	30	11	8.9	10	7.9	392
21	8.7	9.0	9.7	9.7	9.6	15	21	11	8.6	10	7.8	56
22	8.9	9.2	9.3	9.5	9.6	16	18	11	8.6	9.7	7.4	25
23	10	9.4	9.3	9.7	9.5	17	16	11	8.2	9.4	7.3	22
24	11	9.4	9.2	9.9	9.5	17	16	11	8.0	9.1	7.7	19
25	10	9.1	10	10	9.3	18	16	10	8.4	9.4	7.7	18
26	15	9.3	11	10	9.5	18	17	9.9	392	10	7.7	16
27	12	9.6	10	9.6	9.6	18	15	9.5	294	9.7	7.7	14
28	9.8	9.2	9.8	9.7	9.7	18	15	9.7	273	9.5	8.3	13
29	9.3	9.5	9.4	10	9.7	18	15	9.7	80	9.3	8.6	13
30	9.3	9.3	9.3	10	---	17	15	9.7	60	9.2	8.6	12
31	10	---	9.3	10	---	17	---	9.5	---	8.8	8.6	---
TOTAL	293.8	282.9	289.7	302.6	285.4	477	647	370.0	1323.6	446.1	254.8	4366.1
MEAN	9.48	9.43	9.35	9.76	9.84	15.4	21.6	11.9	44.1	14.4	8.22	146
MAX	15	11	11	11	10	49	106	15	392	38	9.1	2020
MIN	8.7	9.0	8.5	8.7	9.3	10	15	9.5	8.0	8.8	7.3	8.6
AC-FT	583	561	575	600	566	946	1280	734	2630	885	505	8660
CFSM	.03	.03	.03	.03	.03	.05	.07	.04	.15	.05	.03	.48
IN.	.04	.03	.04	.04	.04	.06	.08	.05	.16	.05	.03	.54

CAL YR 1987 TOTAL 8922.8 MEAN 24.4 MAX 2130 MIN 8.2 AC-FT 17700 CFSM .08 IN. 1.10
WTR YR 1988 TOTAL 9339.0 MEAN 25.5 MAX 2020 MIN 7.3 AC-FT 18520 CFSM .08 IN. 1.15

07299840 GREENBELT LAKE NEAR CLARENDON, TX

LOCATION.--Lat 35°00'02", long 100°53'40", Donley County, Hydrologic Unit 11120201, on upstream side near right end of dam on Salt Fork Red River and 4.3 mi north of Clarendon.

DRAINAGE AREA.--457 mi², of which 191 mi² probably is noncontributing.

PERIOD OF RECORD.--August 1967 to current year. Prior to October 1973, published as Greenbelt Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Freese and Nichols, Inc., Consulting Engineers bench mark).

REMARKS.--The lake is formed by a rolled earthfill dam 5,800 ft long. Deliberate impoundment began Dec. 5, 1966, and the dam was completed in August 1967. The dam is the property of Greenbelt Municipal and Industrial Water Authority and was built to impound water for municipal and industrial uses by the cities of Childress, Clarendon, Crowell, Hedley, and Quanah. The spillway is an uncontrolled open cut through natural ground, 1,450 ft wide and located at the left end of dam, designed to discharge 184,000 ft³/s at an elevation of 2,684.0 ft. A morning-glory-type drop inlet with a 26-foot 8.5-inch-diameter opening at crest discharges into a 7- by 7-foot concrete conduit. The outlet works consists of a 36-inch pipe that is controlled by two 20-inch valves that control the discharge into a stilling basin and to a water treatment plant. The capacity table, dated April 1964, is based on Geological Survey topographic maps dated 1962. 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	2,686.0	-
Design flood	2,683.0	105,600
Crest of spillway	2,674.0	81,760
Crest of morning-glory-type drop inlet	2,663.65	59,110
Lowest gated outlet (invert)	2,597.0	900

COOPERATION.--Records of diversion and capacity table provided by Greenbelt Municipal and Industrial Water Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 44,650 acre-ft June 26-28, 1975 (elevation, 2,655.71 ft); minimum, 2,950 acre-ft Aug. 29, 30, 1967 (elevation, 2,607.37 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 35,870 acre-ft Apr. 21 at 2000 hours (elevation, 2,650.07 ft); minimum, 33,220 acre-ft Sept. 14 (elevation, 2,648.17 ft).

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

2,648.0	32,990	2,650.0	35,770
2,649.0	34,360	2,651.0	37,230

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34840	34360	34140	34610	34980	35110	35470	35600	35400	35230	34440	33400
2	34770	34370	34180	34640	34980	35280	35500	35520	35390	35210	34390	33580
3	34730	34370	34180	34640	34990	35300	35640	35500	35380	35190	34360	33620
4	34730	34360	34180	34640	34990	35380	35610	35470	35360	35190	34360	33550
5	34670	34320	34210	34640	34990	35380	35570	35470	35350	35150	34310	33540
6	34660	34320	34180	34680	35010	35400	35590	35430	35330	35120	34280	33500
7	34610	34390	34180	34680	35020	35400	35630	35420	35320	35060	34200	33460
8	34640	34370	34150	34700	35040	35390	35570	35400	35290	35110	34210	33430
9	34570	34320	34150	34730	35040	35400	35540	35380	35260	35220	34170	33390
10	34490	34290	34150	34750	34980	35430	35530	35360	35210	35250	34130	33350
11	34460	34290	34140	34830	34980	35390	35530	35350	35160	35280	34100	33330
12	34470	34290	34150	34800	35050	35350	35560	35320	35120	35330	34070	33310
13	34490	34290	34210	34810	35090	35350	35560	35300	35060	35290	34030	33240
14	34460	34290	34200	34850	35050	35380	35560	35290	35150	35220	33960	33220
15	34500	34280	34200	34910	35060	35350	35540	35260	35180	35210	33920	33390
16	34470	34220	34210	34880	35050	35350	35610	35250	35220	35160	33930	33500
17	34430	34240	34240	34910	35050	35400	35760	35230	35220	35160	33880	33540
18	34460	34210	34280	34940	35060	35400	35740	35220	35140	35150	33800	33620
19	34420	34220	34440	34910	35060	35460	35800	35280	35180	35140	33850	33660
20	34390	34220	34490	34880	35050	35470	35810	35420	35140	35080	33830	33630
21	34370	34250	34520	34910	35110	35490	35800	35540	35110	35050	33780	33630
22	34370	34220	34540	34910	35050	35470	35760	35540	35060	34980	33670	33620
23	34390	34220	34560	34940	35050	35490	35700	35530	35020	34910	33670	33620
24	34390	34210	34500	34910	35050	35470	35710	35520	34970	34840	33630	33610
25	34400	34210	34540	34920	35080	35490	35690	35500	34900	34840	33630	33590
26	34400	34210	34570	34940	35080	35460	35630	35490	35150	34750	33510	33590
27	34360	34210	34590	34940	35060	35490	35610	35470	35210	34780	33480	33550
28	34390	34180	34590	34980	35110	35490	35590	35460	35260	34670	33470	33540
29	34370	34200	34590	35010	35090	35450	35610	35450	35250	34570	33440	33430
30	34370	34140	34630	35020	---	35450	35600	35430	35250	34570	33410	33430
31	34370	---	34610	34990	---	35460	---	35420	---	34500	33400	---
MAX	34840	34390	34630	35020	35110	35490	35810	35600	35400	35330	34440	33660
MIN	34360	34140	34140	34610	34980	35110	35470	35220	34900	34500	33400	33220
(†)	2649.01	2648.84	2649.18	2649.45	2649.52	2649.78	2649.88	2649.75	2649.63	2649.10	2648.30	2648.32
(Φ)	-480	-230	+470	+380	+100	+370	+140	-180	-170	-750	-1100	+30
(††)	277	233	243	252	221	242	255	351	431	394	465	310

CAL YR 1987 MAX 36850 MIN 34140 (Φ) +360 (††) 3509
WTR YR 1988 MAX 35810 MIN 33220 (Φ) -1420 (††) 3674

(†) Elevation, in feet, at end of month.
(Φ) Change in contents, in acre-feet.
(††) Diversions, in acre-feet, for municipal and industrial uses by Greenbelt Municipal Water Authority.

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX

LOCATION.--Lat 34°57'27", long 100°13'14", Collingsworth County, Hydrologic Unit 11120202, near center of stream at downstream side of bridge on U.S. Highway 83, 4 mi downstream from Fort Worth and Denver (Burlington) Railway Co. bridge, 4.5 mi south of Lutie, and 7.2 mi north of Wellington.

DRAINAGE AREA.--1,222 mi², of which 209 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,941.41 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several small diversions upstream from gage for irrigation. There is some regulation for municipal use by Greenbelt Lake (station 07299840), capacity 59,100 acre-ft 42 mi upstream.

AVERAGE DISCHARGE.--14 years (water years 1953-66) prior to completion of Greenbelt Lake, 72.6 ft³/s (52,600 acre-ft/yr) 22 years (water years 1967-88) regulated, 45.6 ft³/s (33,040 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 146,000 ft³/s May 16, 1957 (gage height, 19.00 ft), from rating curve extended above 11,000 ft³/s on basis of slope-area measurement of 63,400 ft³/s; minimum, 0.1 ft³/s June 19, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft³/s Sept. 18 at 1845 hours (gage height 5.69 ft); minimum, 1.2 ft³/s Aug. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	21	29	58	43	64	110	37	74	12	2.4	4.2
2	11	25	27	51	45	241	94	29	35	8.6	2.7	125
3	12	25	27	51	57	229	43	13	17	6.9	2.6	119
4	13	25	27	43	61	180	31	5.9	13	6.0	2.8	35
5	13	25	25	e43	59	162	22	7.1	12	5.6	2.9	14
6	14	27	29	e38	53	157	15	6.2	8.2	14	2.7	6.2
7	14	48	27	e30	60	123	14	5.4	8.2	13	2.5	4.3
8	13	69	25	e30	81	85	13	5.1	7.9	9.2	2.5	3.5
9	13	27	25	e30	73	61	10	5.4	6.9	9.8	2.5	3.3
10	12	21	e25	e35	63	44	9.4	5.6	6.2	62	2.3	3.5
11	14	21	25	e50	e45	36	8.8	6.1	6.0	68	3.0	3.4
12	15	e21	25	69	48	29	7.5	6.9	5.6	32	3.3	3.0
13	18	27	e27	92	124	27	7.2	7.0	5.2	14	2.3	2.4
14	15	31	e25	82	87	28	7.4	6.5	5.4	7.2	1.9	5.1
15	20	31	e20	78	68	28	6.7	6.6	16	4.8	1.8	10
16	20	29	e20	78	68	28	6.8	6.2	37	4.2	1.9	58
17	20	31	e25	78	64	45	217	6.2	20	4.0	2.1	122
18	17	35	e50	73	55	62	187	6.2	11	5.7	2.9	295
19	17	27	61	65	58	39	92	6.4	8.6	8.6	4.3	219
20	17	27	54	e65	60	30	61	7.3	7.8	6.8	11	59
21	17	e27	48	e65	65	29	39	9.4	7.8	5.2	4.4	27
22	17	27	48	e65	66	25	27	8.4	7.0	4.5	2.9	22
23	18	25	54	e58	58	23	19	8.2	5.9	3.2	2.4	50
24	20	25	e54	e51	65	23	21	7.9	5.5	2.9	1.9	62
25	25	31	e48	51	72	21	25	7.7	6.0	4.3	1.7	37
26	29	29	e30	45	75	19	20	8.2	16	3.9	1.9	25
27	27	38	e30	48	71	18	15	8.0	20	2.9	2.4	20
28	27	35	e33	45	66	20	14	7.5	143	2.6	5.3	15
29	25	e31	38	e45	61	21	15	8.4	52	2.4	4.9	11
30	25	29	69	48	---	17	29	8.1	24	2.5	4.0	11
31	27	---	58	48	---	19	---	17	---	2.5	3.6	---
TOTAL	556	890	1108	1708	1871	1933	1186.8	283.9	598.2	339.3	95.8	1374.9
MEAN	17.9	29.7	35.7	55.1	64.5	62.4	39.6	9.16	19.9	10.9	3.09	45.8
MAX	29	69	69	92	124	241	217	37	143	68	11	295
MIN	11	21	20	30	43	17	6.7	5.1	5.2	2.4	1.7	2.4
AC-FT	1100	1770	2200	3390	3710	3830	2350	563	1190	673	190	2730

CAL YR 1987 TOTAL 19859.3 MEAN 54.4 MAX 1780 MIN 3.2 AC-FT 39390
WTR YR 1988 TOTAL 11944.9 MEAN 32.6 MAX 295 MIN 1.7 AC-FT 23690

e Estimated.

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1951 to October 1954, October 1967 to current year. Chemical and biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1952 to September 1954, October 1967 to current year.
WATER TEMPERATURE: June 1952 to September 1954, October 1967 to current year.

INSTRUMENTATION.--From September 1968 to September 1974, specific conductance was continuously recorded 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, 4,340 microsiemens July 15, 1984; minimum daily, 330 microsiemens July 30, 1982.
WATER TEMPERATURE: Maximum daily, 40.0°C July 20, 1981; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,220 microsiemens Aug. 26; minimum daily, 2,040 microsiemens Jan. 16.
WATER TEMPERATURE: Maximum daily, 33.0°C July 25; minimum daily, 0.0°C Jan. 7.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	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)
DEC 03...	1130	27	3120	7.80	12.0	11.5	116	1.9	200	500
JAN 25...	1430	45	2790	8.00	9.0	16.4	153	0.2	K25	200
MAR 10...	1315	43	2770	7.90	18.0	10.1	118	3.0	90	130
MAY 04...	1900	7.5	3120	8.10	25.0	9.5	129	3.0	110	K33
JUL 20...	1415	6.8	3250	8.20	30.0	7.5	107	--	<1	<1
AUG 24...	0715	7.8	3170	8.10	18.5	7.8	90	0.1	400	360

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
DEC 03...	1300	1100	390	74	240	3	4.6	169	1200	310
JAN 25...	1300	1100	400	72	220	3	4.7	172	1100	280
MAR 10...	1100	960	330	74	220	3	1.4	167	1000	300
MAY 04...	1300	1200	400	84	220	3	4.6	152	1300	290
JUL 20...	1600	1500	490	90	180	2	4.2	132	1500	270
AUG 24...	1700	1500	520	87	160	2	4.0	137	1600	220

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, 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-PHOROUS TOTAL (MG/L AS P)
DEC 03...	0.80	21	2340	1.29	0.010	1.30	0.030	0.47	0.50	0.010
JAN 25...	0.70	21	2200	0.890	0.010	0.900	0.110	0.29	0.40	0.020
MAR 10...	0.70	19	2050	0.790	0.010	0.800	0.080	0.42	0.50	0.010
MAY 04...	0.70	20	2410	--	<0.010	<0.100	0.020	0.18	0.20	0.070
JUL 20...	0.50	21	2630	1.48	0.020	1.50	0.170	1.4	1.6	0.010
AUG 24...	0.50	21	2690	1.78	0.020	1.80	0.140	0.66	0.80	0.010

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	556	3330	2730	4090	300	451	1500	2260	1700
NOV.	1987	890	3190	2590	6220	290	698	1400	3400	1600
DEC.	1987	1108	3000	2400	7170	280	823	1300	3880	1400
JAN.	1988	1708	2700	2100	9690	250	1160	1100	5130	1300
FEB.	1988	1871	2900	2300	11600	270	1360	1200	6220	1400
MAR.	1988	1933	2680	2090	10900	250	1310	1100	5750	1200
APR.	1988	1186.8	2830	2230	7140	260	842	1200	3810	1300
MAY	1988	283.9	3050	2440	1870	280	214	1300	1020	1500
JUNE	1988	598.2	2810	2220	3580	260	421	1200	1920	1300
JULY	1988	339.3	2970	2360	2160	270	250	1300	1170	1400
AUG.	1988	95.8	3310	2700	699	300	77	1500	386	1600
SEPT	1988	1374.9	2720	2130	7920	250	941	1100	4210	1300
TOTAL		11944.9	**	**	73000	**	8550	**	39100	**
WTD.AVG.		33	2860	2260	**	270	**	1200	**	1400

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3380	3400	3170	2570	2900	3030	2790	2730	2690	3270	3210	3260
2	3390	3400	3160	2720	2970	2400	2560	2870	2820	3190	3240	2170
3	3340	3360	3270	2700	2840	2530	2710	3010	2970	3190	3260	2610
4	3330	3340	3080	2770	2800	2410	2920	3140	3190	3170	3240	3150
5	3390	3310	3180	2760	2850	2610	2870	3120	3210	3150	3250	3670
6	3300	3360	3070	2700	3060	2620	3140	3200	3230	3320	3250	3610
7	3330	3450	3080	3120	2920	2750	3060	3210	3250	2720	3260	3510
8	3370	2870	3180	3360	2580	2870	3200	3220	3210	3120	3280	3570
9	3380	3060	3240	3500	2770	2920	3260	3150	3240	3120	3700	3330
10	3370	3150	3240	3200	2830	2920	3130	3120	3220	2760	3240	3340
11	3370	3200	3360	2860	3340	2980	3190	3150	3200	2580	3220	3440
12	3180	3200	3280	2700	3150	3070	3210	3100	3230	3020	3200	3310
13	3190	3250	3260	2540	2560	3000	3180	3040	3200	3190	3170	2840
14	3410	3180	2870	2450	2790	3110	3180	3220	3180	3190	3370	3170
15	2960	3150	2870	2430	2880	2940	3100	3200	3490	3200	3390	3340
16	3380	3240	3280	2040	3020	2940	3270	3200	3200	3200	3620	3240
17	3390	3140	3430	2400	2990	2740	2830	3200	3210	3150	3240	2410
18	3300	3350	3170	2510	3020	2620	2570	3200	3430	2860	3670	2400
19	3420	3070	2480	2600	3040	2640	2780	3100	3270	3390	3150	2510
20	3320	3180	2310	2800	2990	2640	2850	3180	3270	3310	2950	3070
21	3370	3280	2580	3190	3030	2830	2900	3300	3200	3190	3330	3130
22	3420	3170	2710	2750	3040	2840	2940	3200	3210	3140	3460	4040
23	3340	3040	2640	2710	2980	2820	3020	3180	3210	3340	3570	3240
24	3310	3120	2770	2720	2950	2800	3100	3130	3220	3340	3350	2880
25	3460	3130	3400	2780	3010	2880	3170	3080	3220	3360	3120	3380
26	3400	3210	3460	2740	2970	3060	3150	3180	3310	3260	4220	3360
27	3290	3100	3480	2820	2840	2960	3130	3180	3490	3190	3210	3330
28	3160	3110	3480	2740	2870	2940	3190	3040	2180	3200	3210	3480
29	3350	3190	3080	2760	2870	2900	3110	3190	2390	3230	3590	3390
30	3350	3200	2980	2790	---	3130	3010	3270	2900	3260	3290	3370
31	3360	---	2680	2770	---	2960	---	2800	---	3280	3520	---
MEAN	3330	3210	3070	2760	2930	2830	3020	3130	3130	3160	3350	3190

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	22.0	11.0	3.0	5.0	13.0	14.0	20.0	---	26.0	23.0	18.0
2	18.0	24.0	2.0	4.0	4.0	---	8.0	16.0	20.0	21.0	23.0	20.0
3	17.0	25.0	7.0	7.0	3.0	8.0	10.0	17.0	19.0	---	27.0	21.0
4	12.0	26.0	15.0	4.0	2.0	13.0	11.0	19.0	---	---	21.0	16.0
5	24.0	13.0	10.0	---	1.0	15.0	16.0	14.0	---	30.0	30.0	25.0
6	26.0	18.0	17.0	---	2.0	9.0	23.0	26.0	---	23.0	---	29.0
7	13.0	19.0	6.0	.0	2.0	---	10.0	---	19.0	22.0	27.0	25.0
8	12.0	11.0	14.0	2.0	11.0	17.0	26.0	27.0	32.0	27.0	29.0	16.0
9	24.0	12.0	8.0	---	14.0	19.0	13.0	26.0	22.0	25.0	23.0	31.0
10	15.0	15.0	---	---	1.0	7.0	9.0	22.0	---	27.0	25.0	17.0
11	---	14.0	12.0	4.0	1.0	16.0	16.0	21.0	21.0	25.0	22.0	28.0
12	13.0	---	3.0	8.0	15.0	12.0	20.0	15.0	26.0	31.0	---	13.0
13	15.0	7.0	---	7.0	9.0	7.0	19.0	27.0	22.0	29.0	27.0	22.0
14	23.0	15.0	2.0	---	---	17.0	---	17.0	24.0	26.0	24.0	---
15	14.0	13.0	---	12.0	6.0	15.0	20.0	---	25.0	---	23.0	19.0
16	22.0	12.0	4.0	2.0	17.0	5.0	14.0	---	---	28.0	25.0	32.0
17	11.0	15.0	6.0	12.0	10.0	---	21.0	---	27.0	28.0	26.0	---
18	16.0	7.0	4.0	9.0	---	12.0	17.0	6.0	25.0	26.0	22.0	22.0
19	20.0	2.0	6.0	19.0	14.0	18.0	---	20.0	23.0	29.0	30.0	22.0
20	21.0	14.0	4.0	6.0	8.0	15.0	---	25.0	24.0	24.0	29.0	25.0
21	18.0	15.0	12.0	1.0	15.0	23.0	---	19.0	24.0	16.0	30.0	29.0
22	10.0	16.0	12.0	9.0	18.0	11.0	19.0	16.0	29.0	24.0	28.0	19.0
23	18.0	16.0	15.0	3.0	16.0	---	14.0	19.0	---	19.0	23.0	20.0
24	18.0	15.0	---	5.0	11.0	12.0	18.0	23.0	26.0	---	---	22.0
25	16.0	12.0	---	7.0	4.0	21.0	21.0	25.0	26.0	33.0	19.0	---
26	17.0	7.0	---	2.0	17.0	24.0	20.0	17.0	26.0	29.0	26.0	24.0
27	19.0	8.0	---	11.0	12.0	15.0	11.0	24.0	23.0	23.0	22.0	28.0
28	14.0	12.0	5.0	3.0	18.0	21.0	26.0	23.0	24.0	---	---	21.0
29	---	---	6.0	---	17.0	16.0	27.0	---	31.0	---	25.0	13.0
30	22.0	12.0	9.0	13.0	---	14.0	---	21.0	23.0	---	26.0	23.0
31	17.0	---	5.0	13.0	---	6.0	---	24.0	---	31.0	27.0	---
MEAN	17.0	14.0	8.0	6.5	9.5	14.0	17.0	20.5	24.5	26.0	25.5	22.0

07300500 SALT FORK RED RIVER AT MANGUM, OK

LOCATION.--Lat 34°51'32", long 99°30'28", in SW1/4SE1/4 sec.34. T.5 N, R.22 W., Greer County, Hydrologic Unit 11120202, near left bank on downstream side of pier of bridge on State Highway 34, 0.5 mi south of Mangum, 13.0 mi downstream from Fish Creek, and at mile 35.5.

DRAINAGE AREA.--1,566 mi², of which 209 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1905 to June 1906, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1241: 1938.

GAGE.--Water-stage recorder. Datum of gage is 1,490.87 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Apr. 11, 1905 to June 30, 1906, nonrecording gage at site 0.2 mi upstream at different datum. Oct. 1, 1937 to Nov. 8, 1938, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature, specific conductance, and pH were made during the year.

AVERAGE DISCHARGE.--51 years (water years 1938-88), 85.8 ft³/s (62,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft³/s May 16, 1957 (gage height, 14.55 ft); maximum gage height 14.7 ft June 16, 1938; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage Height (ft)	Date	Time	Discharge (ft³/s)	Gage Height (ft)
Sept. 19	0030	*2,880	*9.26				

Minimum discharge, no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	40	63	114	61	52	105	89	e35	45	.00	.00
2	21	35	50	117	61	238	106	98	e40	32	.00	8.6
3	20	32	50	106	62	344	170	96	e35	23	.00	5.0
4	20	29	161	99	62	176	133	86	e25	16	.00	.00
5	19	28	199	98	61	187	103	e67	e21	9.8	.00	.38
6	18	28	212	96	59	162	92	e62	e18	3.2	.00	6.7
7	18	30	70	95	e55	146	86	e58	17	e2.4	.00	.82
8	17	33	47	92	e57	127	81	e54	14	e36	.00	.00
9	16	39	44	91	61	113	79	e50	11	e87	.00	.00
10	16	87	44	90	69	105	90	e47	9.0	e71	.00	.00
11	16	40	43	90	54	99	81	e45	7.2	e47	.00	.00
12	16	38	42	98	e52	95	79	e42	5.2	e49	.00	.00
13	17	37	43	122	e60	95	78	e40	3.5	e59	.00	.00
14	17	39	51	144	69	93	79	e37	2.4	e47	.00	.22
15	18	40	46	190	75	90	78	e34	20	e15	.00	.00
16	19	40	42	198	62	93	77	e32	33	e15	.00	.00
17	18	39	43	184	58	108	285	e30	14	e9.7	.00	.00
18	20	38	73	141	57	117	336	e29	8.0	e4.8	.00	136
19	20	38	125	133	57	134	220	e27	12	e2.2	.00	861
20	20	38	206	107	56	135	211	e30	6.9	2.2	.00	193
21	20	38	108	89	56	124	166	e40	2.2	.75	.00	87
22	20	37	101	70	55	111	146	e30	.22	.59	.00	42
23	21	39	98	66	53	103	120	e25	.00	.18	.00	18
24	31	43	90	72	54	95	107	e23	.00	.00	.00	e8.0
25	26	44	92	74	53	88	95	e21	.0	1.3	.00	e2.0
26	27	46	76	68	51	88	91	e19	43	3.2	.00	e.80
27	26	51	72	63	51	87	85	e18	51	.57	.00	e.50
28	26	51	76	62	51	85	80	e17	29	.15	.00	e.30
29	26	51	87	65	51	81	84	e16	24	.00	.00	e.20
30	30	50	95	65	---	81	111	e16	43	.00	.00	e.15
31	99	---	106	63	---	83	---	e50	---	.00	.00	---
TOTAL	721	1218	2655	3162	1683	3735	3654	1328	529.62	583.04	0.00	1370.67
MEAN	23.3	40.6	85.6	102	58.0	120	122	42.8	17.7	18.8	.00	45.7
MAX	99	87	212	198	75	344	336	98	51	87	.00	861
MIN	16	28	42	62	51	52	77	16	.00	.00	.00	.00
AC-FT	1430	2420	5270	6270	3340	7410	7250	2630	1050	1160	.0	2720

CAL YR 1987 TOTAL 37034 MEAN 101 MAX 1960 MIN 13 AC-FT 73460
WTR YR 1988 TOTAL 20639.33 MEAN 56.4 MAX 861 MIN .00 AC-FT 40940

e Estimated.

07301300 NORTH FORK RED RIVER NEAR SHAMROCK, TX

LOCATION.--Lat 35°15'51", long 100°14'29", Wheeler County, Hydrologic Unit 11120302, on left bank at downstream side of bridge on U.S. Highway 83, 2.5 mi north of Shamrock, 16 mi upstream from Texas-Oklahoma State line, and 23 mi downstream from McClellan Creek.

DRAINAGE AREA.--1,082 mi², of which 379 mi² probably is noncontributing.

PERIOD OF RECORD.--1951-63 (occasional low-flow measurements), February 1964 to current year.
Water-quality records.--Chemical analyses: October 1964 to September 1981.

Gage.--Water-stage recorder. Datum of gage is 2,165.55 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. There is some regulation by Lake McClellan (capacity 5,000 acre-ft) 41 mi upstream. Flow is affected at times by discharge from the flood-detention pools of 11 floodwater-retarding structures with a combined detention capacity of 18,290 acre-ft. These structures control runoff from 165 mi². Gage-height telemeter at station.

AVERAGE DISCHARGE.--24 years, 32.2 ft³/s (23,330 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,400 ft³/s May 29, 1975 (gage height, 7.47 ft), from rating curve extended above 3,800 ft³/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1915, 16.1 ft in May 1957, from information by State Department of Highways and Public Transportation and by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,590 ft³/s July 19 at 0345 hours (gage height, 3.38 ft); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.05	9.6	203	71	100	287	112	194	.00	.00	.53
2	.00	.04	12	118	56	377	232	48	68	.00	.00	140
3	.00	.03	12	106	82	334	163	8.5	22	.00	.00	19
4	.00	.02	14	132	101	286	124	.82	8.0	.00	.00	3.9
5	.00	.03	17	115	105	198	77	.91	3.3	.00	.00	1.6
6	.00	.04	17	e105	116	164	50	.84	1.2	26	.00	.81
7	.00	10	17	e100	128	149	51	.57	.21	6.8	.00	.39
8	.00	11	14	e100	137	32	39	.39	.05	.36	.00	.25
9	.00	3.6	11	e100	105	39	32	.18	.02	6.5	.00	.25
10	.00	1.1	9.6	e100	88	53	34	.12	.01	25	.41	.21
11	.00	1.1	11	e120	46	29	38	.23	.0	22	.0	.11
12	.00	1.5	12	e160	90	11	35	.65	.00	5.3	.0	.11
13	.00	1.7	21	e200	164	8.6	35	.91	.00	.28	.00	.20
14	.00	2.1	27	e300	107	29	35	.60	.19	.01	.00	.64
15	.0	3.5	30	e400	63	45	34	.05	.77	.00	.00	223
16	.00	2.6	25	699	90	47	30	.01	.21	.00	.00	352
17	.00	1.9	e20	553	102	137	315	.0	.03	.00	.03	54
18	.00	2.4	e25	268	87	210	214	.0	.01	.79	.50	45
19	.00	4.5	e35	140	88	181	94	.00	.00	236	.00	37
20	.00	6.0	e45	128	82	238	58	.0	.00	61	.00	16
21	.00	6.9	56	83	92	156	54	.0	.00	5.8	.00	12
22	.00	4.7	104	96	103	100	36	.00	.00	.42	.00	10
23	.0	3.5	90	78	88	86	14	.00	.00	.02	.00	19
24	.0	4.4	82	53	93	81	19	.00	.00	.91	.00	30
25	.00	6.2	32	29	101	74	153	.65	.00	1.7	.00	14
26	.13	8.3	10	35	109	60	67	.50	.05	.11	.00	8.0
27	.10	13	e10	48	114	58	17	.08	.0	.01	.00	5.7
28	.01	13	52	83	108	95	12	.02	.02	.00	.03	3.4
29	.00	9.9	89	106	100	70	35	1.4	.01	.00	.0	1.5
30	.0	9.2	144	84	---	37	120	.26	.00	.00	.00	1.1
31	.03	---	196	68	---	43	---	49	---	.00	.00	---
TOTAL	0.27	132.31	1249.2	4910	2816	3527.6	2504	226.69	298.08	399.01	0.97	999.70
MEAN	.009	4.41	40.3	158	97.1	114	83.5	7.31	9.94	12.9	.031	33.3
MAX	.13	13	196	699	164	377	315	112	194	236	.50	352
MIN	.00	.02	9.6	29	46	8.6	12	.00	.00	.00	.00	.11
AC-FT	.5	262	2480	9740	5590	7000	4970	450	591	791	1.9	1980

CAL YR 1987 TOTAL 10328.54 MEAN 28.3 MAX 311 MIN .00 AC-FT 20490
WTR YR 1988 TOTAL 17063.83 MEAN 46.6 MAX 699 MIN .00 AC-FT 33850

e Estimated.

07301410 SWEETWATER CREEK NEAR KELTON, TX

LOCATION.--Lat 35°28'23", long 100°07'14", Wheeler County, Hydrologic Unit 11120302, near center of stream at downstream side of bridge on Farm Road 592, 5 mi north of Kelton, 8 mi upstream from Texas-Oklahoma State line, and 8.5 mi northeast of Wheeler.

DRAINAGE AREA.--287 mi², of which 20 mi² probably is noncontributing.

PERIOD OF RECORD.--November 1961 to current year.
Water-quality records.--Chemical analyses: October 1969 to June 1985.

GAGE.--Water-stage recorder. Elevation of gage is 2,230 ft above National Geodetic Vertical datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are many small diversions upstream from station for ranch use. Gage-height telemeter at station via Sutron data collection platform.

AVERAGE DISCHARGE.--26 years (water years 1963-88), 13.5 ft³/s (0.69 in/yr), 9,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,890 ft³/s May 20, 1977 (gage height, 15.73 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1882, about 20 ft May 16, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 3	0030	517	12.38	Sept. 15	2150	*627	*12.90

Minimum discharge, 0.78 ft³/s Aug. 25-27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	8.5	12	19	19	17	31	22	20	5.9	2.8	1.3
2	5.2	8.7	12	19	19	52	51	22	19	6.2	2.5	122
3	5.1	8.6	12	18	19	199	31	20	14	6.0	2.4	142
4	5.4	8.7	12	18	19	89	24	18	11	5.5	2.3	16
5	5.3	8.7	12	18	19	73	21	18	11	5.0	2.2	9.1
6	5.2	8.9	12	e17	18	55	20	18	10	5.7	2.0	7.1
7	5.2	10	12	e15	19	42	19	17	10	7.1	1.8	5.7
8	5.5	10	12	e14	19	36	19	16	9.3	7.7	1.7	4.7
9	5.2	10	12	e14	18	33	18	16	8.3	9.1	2.5	4.3
10	5.0	9.8	12	e14	17	29	18	15	7.9	16	2.4	4.2
11	5.5	10	12	e16	e15	26	18	15	7.6	11	2.1	4.0
12	6.1	10	12	e18	e15	24	18	16	7.3	8.5	1.9	3.9
13	6.3	10	13	e20	e18	22	18	15	7.1	7.4	1.6	3.9
14	6.3	10	13	e23	21	22	18	14	7.2	6.4	1.4	4.5
15	6.5	11	e12	e26	19	21	17	14	38	5.7	1.3	257
16	6.8	11	e11	31	20	22	17	13	17	5.2	1.2	359
17	6.6	11	e11	33	19	23	36	13	12	5.0	1.1	53
18	6.8	11	e14	31	18	24	101	12	9.8	5.6	1.3	30
19	6.7	11	28	28	18	26	45	12	8.6	6.1	1.5	27
20	6.8	12	37	23	18	27	30	12	7.7	5.5	1.4	21
21	6.8	12	25	22	18	27	27	12	7.1	5.0	1.1	18
22	7.2	12	22	21	18	24	25	12	6.6	4.6	.94	16
23	7.3	12	20	21	18	22	22	13	6.2	4.3	.97	16
24	7.5	12	18	20	18	21	21	13	5.8	4.1	.95	17
25	7.6	12	17	19	18	20	25	13	5.5	4.7	.88	16
26	7.9	12	17	20	18	20	27	12	6.2	4.2	.86	15
27	7.7	13	e16	20	18	19	23	12	7.0	4.0	.90	14
28	7.8	13	e16	19	18	20	21	12	7.3	3.9	1.4	13
29	8.0	13	e17	19	17	20	21	12	7.1	3.5	1.5	11
30	8.2	12	e18	19	---	19	22	11	6.4	3.2	1.3	11
31	8.4	---	21	19	---	19	---	11	---	3.0	1.3	---
TOTAL	201.3	321.9	490	634	528	1093	804	451	308.0	185.1	49.50	1226.7
MEAN	6.49	10.7	15.8	20.5	18.2	35.3	26.8	14.5	10.3	5.97	1.60	40.9
MAX	8.4	13	37	33	21	199	101	22	38	16	2.8	359
MIN	5.0	8.5	11	14	15	17	17	11	5.5	3.0	.86	1.3
AC-FT	399	638	972	1260	1050	2170	1590	895	611	367	98	2430

CAL YR 1987 TOTAL 6183.13 MEAN 16.9 MAX 152 MIN .87 AC-FT 12260
WTR YR 1988 TOTAL 6292.50 MEAN 17.2 MAX 359 MIN .86 AC-FT 12480

e Estimated.

07307800 PEASE RIVER NEAR CHILDRESS, TX

LOCATION.--Lat 34°13'39", long 100°04'24", Cottle County, Hydrologic Unit 11130105, near right bank at downstream side of bridge on Farm Road 104, 0.8 mi upstream from Catfish Creek, 4.4 mi downstream from confluence of North and Middle Forks, 17 mi southeast of Childress, and 71.0 mi upstream from mouth.

DRAINAGE AREA.--2,754 mi², of which 559 mi² probably is noncontributing.

PERIOD OF RECORD.--December 1959 to September 1962, and October 1967 to current year.
Water-quality records.--Chemical analyses: July 1968 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,492.98 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 21, 1959, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are three small diversions for irrigation above station. Flow is affected at times by discharge from the flood-detention pools of six flood-water-retarding structures with a combined detention capacity of 1,360 acre-ft. These structures control runoff from 6.27 mi² in the Kent Creek drainage basin.

AVERAGE DISCHARGE.--23 years (water years 1961-62, 1967-88), 61.3 ft³/s (0.38 in/yr), 44,410 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s June 9, 1960 (gage height, 13.59 ft), from rating curve extended above 4,000 ft³/s on basis of runoff comparisons with nearby stations; maximum gage height, 14.83 ft Oct. 20, 1983; no flow Aug. 10-22, 1969, May 25, 26, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1909, 22 ft June 1, 1957; flood in May 1935 reached a stage of 18 ft and was the second highest, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 16	0350	*2,240	*9.89	No other peak greater than base discharge.			

Minimum daily discharge, 1.10 ft³/s Aug. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	13	11	15	12	15	19	e28	e8.0	24	9.8	14
2	14	12	11	14	e14	32	18	e27	e6.5	e279	9.2	44
3	14	11	11	16	14	37	16	e26	7.5	e100	10	50
4	14	11	10	18	14	40	15	e25	5.9	e13	10	32
5	14	11	10	17	14	31	14	e25	5.1	e11	9.1	29
6	13	11	9.7	e10	15	24	13	e24	4.6	e9.1	8.7	30
7	14	15	9.6	e9.0	16	20	13	e24	4.7	e15	e8.8	32
8	14	13	9.2	e9.0	15	17	13	e23	4.7	e9.5	e5.5	35
9	14	12	8.6	e9.0	14	17	13	e23	3.6	e28	e5.1	38
10	14	12	8.4	e9.0	14	16	15	e23	3.2	e46	e4.7	42
11	13	11	8.9	e13	e13	14	14	e26	3.4	e28	e4.4	46
12	14	12	9.1	21	e13	13	13	e24	3.4	e72	e4.2	50
13	15	12	8.9	28	16	12	14	e24	3.0	80	e4.0	60
14	15	12	15	36	14	13	14	e23	3.2	57	e3.6	80
15	16	13	e11	25	13	13	14	e22	4.1	33	e3.7	83
16	17	12	e9.0	21	14	13	13	e21	5.0	23	e3.0	635
17	16	12	e9.0	20	13	19	107	e20	4.7	20	e2.8	121
18	16	12	14	21	13	19	318	e18	4.6	19	e2.5	275
19	17	12	26	23	14	17	134	e18	4.0	30	e2.4	872
20	17	13	23	17	13	16	75	e19	3.6	24	e2.2	296
21	17	12	17	16	13	14	44	e19	3.3	20	e1.9	171
22	17	12	16	15	13	13	e42	e18	3.1	22	e1.7	75
23	220	12	14	14	12	13	e36	e18	2.6	17	e1.5	53
24	196	12	12	13	13	13	e34	e16	2.4	16	e1.7	47
25	52	12	16	12	14	12	e32	e14	3.2	31	2.7	42
26	22	12	e12	12	15	12	e30	e15	62	21	2.8	28
27	17	14	e11	12	15	12	e28	e14	92	16	3.6	19
28	15	13	e10	11	15	13	e28	e13	70	14	4.7	15
29	13	12	e10	12	14	11	e28	e12	86	12	7.9	12
30	14	12	e11	12	---	11	e28	e10	35	12	8.9	12
31	19	---	15	12	---	12	---	e8.7	---	12	10	---
TOTAL	898	365	376.4	492.0	402	534	1195	620.7	452.4	1113.6	161.1	3338
MEAN	29.0	12.2	12.1	15.9	13.9	17.2	39.8	20.0	15.1	35.9	5.20	111
MAX	220	15	26	36	16	40	318	28	92	279	10	872
MIN	13	11	8.4	9.0	12	11	13	8.7	2.4	9.1	1.5	12
AC-FT	1780	724	747	976	797	1060	2370	1230	897	2210	320	6620
CFSM	.01	.00	.00	.01	.01	.01	.01	.01	.01	.01	.00	.04
IN.	.01	.00	.01	.01	.01	.01	.02	.01	.01	.02	.00	.05

CAL YR 1987 TOTAL 23949.8 MEAN 65.6 MAX 2250 MIN 8.4 AC-FT 47500 CFSM .02 IN. .32
WTR YR 1988 TOTAL 9948.2 MEAN 27.2 MAX 872 MIN 1.5 AC-FT 19730 CFSM .01 IN. .13

e Estimated.

07308500 RED RIVER NEAR BURKBURNETT, TX

LOCATION.--Lat 34°06'36", long 98°31'53", Cotton County, Okla., Hydrologic Unit 11130102, on left bank at downstream side of bridge on U.S. Highways 277 and 281, 2.5 mi northeast of Burkburnett, and at mile 933.

DRAINAGE AREA.--20,570 mi², of which 5,936 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to August 1925 (monthly discharge only), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 952.57 ft above National Geodetic Vertical Datum of 1929. July 11, 1924, to Aug. 31, 1925, nonrecording gage at site 1,000 ft downstream at same datum. Dec. 16, 1959, to Jan. 11, 1960, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for estimated daily discharge, which are fair. There are many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--28 years (water years 1961-88), 1,015 ft³/s (735,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 166,000 ft³/s Oct. 21, 1983 (gage height, 16.90 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 3, 1957, reached a stage of 13.54 ft, from levels to floodmarks. According to local residents, higher stages occurred in 1891 and June 1941.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 5	0350	12,500	8.15	Sept. 19	2100	*23,500	*9.88

Minimum discharge, 95 ft³/s Oct. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1980	2360	269	596	700	505	925	1970	409	1060	250	238
2	1120	4150	277	616	672	845	949	2940	432	864	248	246
3	791	1770	281	642	647	3440	908	4480	416	1400	245	271
4	536	910	289	641	613	10800	1350	3360	471	1490	274	315
5	402	490	299	707	609	9750	1720	2640	1160	583	288	340
6	329	332	294	e600	597	4030	1300	1910	934	451	316	584
7	286	262	294	e510	600	2430	1090	1230	662	256	276	451
8	258	217	299	e500	588	1940	1010	918	523	166	237	373
9	223	205	295	e500	709	1730	914	738	414	132	210	330
10	192	193	302	e510	795	1830	842	726	361	174	200	283
11	181	184	316	e600	748	1800	820	733	328	1620	214	247
12	172	177	334	e750	803	1670	854	733	296	1930	202	206
13	158	179	324	976	755	1510	831	626	287	1720	240	189
14	149	184	386	1160	788	1290	832	558	289	923	231	402
15	146	208	414	1170	830	1200	806	521	292	591	224	522
16	143	211	429	1320	783	983	774	550	313	442	220	398
17	135	186	441	1370	779	1020	933	565	340	373	220	565
18	125	178	450	2710	780	959	1150	537	295	328	234	2640
19	118	191	622	3200	672	908	4130	483	361	312	222	16600
20	108	200	613	2700	589	1150	5130	428	1040	303	216	16900
21	111	212	671	2550	562	1230	3920	391	632	318	253	10700
22	106	217	1540	1250	557	1220	2960	353	429	310	245	8140
23	100	217	1830	1000	499	1160	2280	348	338	290	259	4920
24	132	253	1240	818	503	1120	1820	342	288	276	333	4130
25	279	243	1090	735	483	991	1460	343	272	272	239	4400
26	2990	243	1270	714	468	971	1120	345	349	293	213	4400
27	2240	248	1720	675	470	1090	993	345	567	318	212	2920
28	1040	255	1200	676	495	1040	898	320	3210	378	205	2060
29	497	256	850	731	497	907	1040	299	4720	331	228	1400
30	341	257	709	676	---	822	987	280	2750	327	236	1060
31	275	---	619	673	---	783	---	311	---	287	230	---
TOTAL	15663	15188	19967	32276	18591	61124	44746	30323	23178	18518	7420	86230
MEAN	505	506	644	1041	641	1972	1492	978	773	597	239	2874
MAX	2990	4150	1830	3200	830	10800	5130	4480	4720	1930	333	16900
MIN	100	177	269	500	468	505	774	280	272	132	200	189
AC-FT	31070	30130	39600	64020	36880	121200	88750	60150	45970	36730	14720	171000

CAL YR 1987 TOTAL 983888 MEAN 2696 MAX 88100 MIN 100 AC-FT 1952000
WTR YR 1988 TOTAL 373224 MEAN 1020 MAX 16900 MIN 100 AC-FT 740300

e Estimated.

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1968 to September 1974. Chemical and biochemical analyses: October 1974 to current year. Pesticide analyses: October 1973 to September 1982.

PERIOD OF DAILY RECORD.--
SECIFIC CONDUCTANCE: July 1968 to September 1981.
WATER TEMPERATURE: July 1968 to September 1981.

INSTRUMENTATION.--From December 1968 to September 1979, specific conductance was continuously recorded at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 17,400 microsiemens July 30, 1972; minimum daily, 889 microsiemens Sept. 24, 1970.
WATER TEMPERATURE: Maximum daily, 35.5°C June 29, 1980; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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 TOTAL (MG/L AS CACO3)
DEC 04...	1435	252	8500	8.20	14.0	16	13.4	139	1.2	400	140	1300
JAN 29...	0840	890	6370	8.20	8.0	130	15.5	138	0.8	430	340	1200
MAR 16...	0900	1140	3950	7.90	7.5	230	12.2	107	3.4	120	140	820
MAY 11...	1520	649	4910	8.30	25.0	70	10.8	138	8.9	80	K120	1000
JUL 21...	1415	47	8050	8.20	31.0	45	7.7	110	1.4	<1	<1	1600
AUG 24...	1245	337	5190	8.10	30.0	42	7.7	108	2.8	K56	K40	1100

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET 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, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
DEC 04...	1100	340	110	1200	15	9.1	171	1200	1900	0.50	8.0	5390
JAN 29...	970	310	95	930	12	9.0	192	940	1300	0.40	11	4050
MAR 16...	650	210	72	530	8	6.1	177	810	670	0.40	8.4	2620
MAY 11...	940	250	100	690	10	8.1	104	930	1100	0.50	5.6	3180
JUL 21...	1600	420	140	1300	15	10	69	1300	2100	0.40	7.3	5480
AUG 24...	1000	270	100	670	9	8.9	60	1000	1000	0.40	3.2	3220

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	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-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)
DEC 04...	4880	1.38	0.020	1.40	<0.010	0.010	--	0.40	<0.010	<0.010	<0.010	--
JAN 29...	3720	1.49	0.010	1.50	0.130	0.120	0.77	0.90	0.120	0.050	0.050	0.15
MAR 16...	2420	0.860	0.010	0.870	0.050	0.070	0.75	0.80	0.060	0.030	0.030	0.09
MAY 11...	3150	--	<0.010	<0.100	0.050	0.080	0.55	0.60	0.110	<0.010	<0.010	--
JUL 21...	5320	--	<0.010	<0.100	0.110	0.120	0.69	0.80	0.070	<0.010	<0.010	--
AUG 24...	3090	--	<0.010	<0.100	0.050	0.080	1.0	1.1	0.080	0.010	0.010	0.03

DATE	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	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)
DEC 04...	46	31	93	20	2	100	<10	<1	3	<1	2	20
JAN 29...	157	377	99	--	--	--	--	--	--	--	--	--
MAR 16...	804	2480	41	30	2	100	<10	1	1	<1	2	30
MAY 11...	125	219	98	<10	2	100	<10	1	1	<1	2	20
JUL 21...	112	14	82	--	--	--	--	--	--	--	--	--
AUG 24...	97	88	32	20	2	200	<10	<1	<1	1	1	30

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	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)
DEC											
04...	<5	90	20	2.2	2	2	4	<1.0	5200	32	10
JAN											
29...	--	--	--	--	--	--	--	--	--	--	--
MAR											
16...	<5	60	10	0.1	3	<1	3	1.0	3100	17	10
MAY											
11...	<5	60	<10	0.2	4	1	3	<1.0	3500	20	10
JUL											
21...	--	--	--	--	--	--	--	--	--	--	--
AUG											
24...	<5	60	10	0.1	4	3	2	<1.0	3400	21	<10

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX

LOCATION.--Lat 33°47'52", long 99°50'11", Knox County, Hydrologic Unit 11130204, in gage house on top and near center of dam on Bluff Creek, 3.0 mi northeast of Truscott, and 3.6 mi upstream from mouth.

DRAINAGE AREA.--26.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--The lake is formed by a rolled-filled earthen structure with a 2-foot thick blanket of soil cement normal to the upstream slope. The dam is 16,080 ft long with a maximum height of 107 ft above the streambed. The uncontrolled spillway is a saddle type sodded spillway on right end of dam 1,000 ft wide. Elevation-spillway discharge points furnished by U.S. Army Corps of Engineers show a discharge of 13,200 and 35,400 ft³/s at elevations of 1,502.00 and 1,508.00 ft, respectively. The lake is operated and maintained by the U.S. Army Corps of Engineers for the purpose of storage and evaporation of water pumped from the South and Middle Wichita Rivers as part of Red River Chloride project. 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	1,512.5	-
Crest of spillway	1,499.0	107,000

COOPERATION.--The area and capacity tables 1-A and 1-C are provided by the U.S. Army Corps of Engineers, Tulsa District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 9,990 acre-ft Sept. 25-28, 1988 (elevation, 1,448.05 ft); minimum, 1,190 acre-ft Oct. 18, 19, 1984 (elevation, 1,429.47 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,990 acre-ft Sept. 25-28 (elevation, 1,448.05 ft); minimum, 7,830 acre-ft Oct. 13 (elevation, 1,445.23 ft).

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

1,445.0	7,660	1,448.0	9,950
1,446.0	8,380	1,449.0	10,800
1,447.0	9,140		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7880	7940	8040	8520	8790	9120	9400	9440	9330	9340	9480	9370
2	7860	7940	8050	8530	8800	9170	9410	9450	9340	9510	9490	9380
3	7860	7950	8060	8560	8820	9170	9420	9430	9340	9550	9470	9380
4	7860	7970	8070	8560	8820	9180	9420	9420	9350	9560	9460	9370
5	7860	7960	8080	8570	8850	9200	9400	9420	9350	9570	9460	9370
6	7860	7960	8100	8640	8870	9220	9410	9420	9350	9560	9460	9370
7	7860	7980	8110	8660	8880	9240	9420	9430	9360	9560	9460	9360
8	7860	7960	8110	8680	8900	9230	9410	9400	9350	9570	9450	9350
9	7860	7990	8110	8690	8910	9240	9410	9410	9340	9580	9460	9350
10	7860	7980	8130	8690	8910	9250	9400	9410	9320	9610	9460	9360
11	7850	7980	8140	8700	8920	9250	9390	9400	9310	9620	9500	9350
12	7860	7990	8140	8670	8940	9250	9400	9410	9300	9620	9520	9340
13	7850	7970	8150	8660	8970	9250	9420	9410	9280	9640	9530	9340
14	7860	7990	8170	8660	8970	9250	9420	9400	9280	9630	9530	9340
15	7880	7990	8180	8670	8980	9260	9420	9410	9270	9620	9510	9370
16	7880	7990	8190	8670	8990	9260	9430	9410	9290	9610	9500	9380
17	7880	7990	8220	8670	9000	9290	9530	9390	9290	9600	9500	9430
18	7890	7990	8240	8680	9000	9300	9520	9380	9290	9590	9500	9870
19	7880	8000	8260	8660	9010	9300	9540	9380	9280	9580	9500	9910
20	7860	8000	8280	8650	9010	9330	9510	9430	9270	9570	9490	9920
21	7880	8000	8290	8660	9010	9330	9510	9380	9270	9570	9490	9930
22	7860	8000	8300	8680	9030	9340	9500	9350	9250	9540	9490	9950
23	7870	7990	8320	8690	9030	9340	9470	9350	9230	9530	9480	9970
24	7890	8000	8320	8710	9030	9340	9470	9340	9220	9510	9480	9980
25	7900	8000	8430	8720	9040	9360	9460	9340	9250	9540	9460	9980
26	7910	8010	8440	8720	9070	9360	9420	9350	9270	9550	9460	9990
27	7900	8010	8450	8740	9070	9380	9420	9350	9290	9550	9440	9980
28	7910	8020	8460	8750	9080	9380	9420	9360	9300	9540	9420	9980
29	7920	8030	8470	8770	9080	9360	9420	9340	9300	9530	9410	9980
30	7930	8040	8500	8780	---	9370	9430	9340	9320	9530	9400	9970
31	7940	---	8510	8790	---	9370	---	9340	---	9520	9380	---
MAX	7940	8040	8510	8790	9080	9380	9540	9450	9360	9640	9530	9990
MIN	7850	7940	8040	8520	8790	9120	9390	9340	9220	9340	9380	9340
(↑)	1445.38	1445.52	1146.17	1446.54	1446.92	1447.28	1447.36	1447.24	1447.22	1447.47	1447.30	1448.03
(ϕ)	+60	+100	+470	+280	+290	+290	+60	-90	-20	+200	-140	+590

CAL YR 1987 MAX 8510 MIN 4890 (ϕ) +3610
WTR YR 1988 MAX 9990 MIN 7850 (ϕ) +2090

(↑) Elevation, in feet, at end of month.
(ϕ) Change in contents, in acre-feet.

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1984 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1984 to current year.
WATER TEMPERATURE: October 1984 to current year.

INSTRUMENTATION.--Beginning October 1, 1984 specific conductance and water temperature are recorded continuously at this station.

REMARKS.--Where maximum and minimum specific conductance values are not shown, mean values are estimated. Comprehensive surveys at 15 different points in Truscott Brine Lake were made during May and August.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 18,200 microsiemens Sept. 6, 9, 1988; minimum, 1,340 microsiemens Oct. 23, 1985.
WATER TEMPERATURE: Maximum, 34.0°C Aug. 11, 1987; minimum, 0.0°C Jan. 11, 15, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 18,200 microsiemens Sept. 6, 9; minimum, 8,210 microsiemens Oct. 1.
WATER TEMPERATURE: Maximum, 33.5°C July 5; minimum, 0.0°C Jan. 11, 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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									
02...	1235	8220	8.00	23.0	1300	1200	350	96	1400
NOV									
24...	1410	10500	7.80	14.0	1500	1400	430	110	1800
FEB									
02...	0955	11400	8.30	6.5	1700	1600	480	120	1900
APR									
20...	1400	14000	7.90	19.0	2000	1900	550	140	2500
JUL									
11...	1425	16000	7.90	29.5	2600	2500	710	200	3000

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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								
02...	18	14	92	1200	2100	0.40	8.1	5220
NOV								
24...	21	18	105	1300	2900	0.30	5.3	6630
FEB								
02...	21	17	102	1500	2900	0.30	5.4	6980
APR								
20...	26	16	89	1700	4100	0.50	5.1	9060
JUL								
11...	27	25	104	2000	4800	0.30	6.0	10800

334747099495001 - TRUSCOTT BRINE LAKE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
MAY							
17...	1220	1.00	14700	7.90	24.5	7.3	95
17...	1222	10.0	14700	7.80	24.0	7.4	95
17...	1224	20.0	14700	7.60	22.0	7.3	91
AUG							
16...	1100	1.00	16400	8.20	29.0	7.4	108
16...	1102	10.0	16300	8.10	29.0	6.7	98
16...	1104	20.0	16300	7.90	28.0	4.3	62

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

334752099501101 - TRUSCOTT BRINE LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)
MAY											
17...	1235	1.00	14300	8.00	25.0	--	6.8	89	1900	1800	530
17...	1237	10.0	14900	8.00	25.0	--	5.6	73	--	--	--
17...	1239	20.0	14300	7.90	20.0	--	5.6	67	1900	1800	530
17...	1241	27.0	14800	7.80	19.5	--	2.7	32	2000	1800	540
AUG											
16...	1115	1.00	16600	8.20	29.0	1.20	7.1	103	2300	2200	610
16...	1117	10.0	16600	8.20	29.0	--	6.7	98	--	--	--
16...	1119	20.0	16700	7.70	28.0	--	2.6	37	2300	2200	610
16...	1121	28.0	17400	7.30	25.0	--	0.1	1	2300	2100	620

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	ARSENIC DISSOLVED (UG/L AS AS)
MAY											
17...	150	2600	27	12	112	1800	4300	0.40	4.4	9460	2
17...	--	--	--	--	--	--	--	--	--	--	--
17...	150	2600	27	12	115	1700	4200	0.40	4.5	9270	--
17...	150	2700	27	13	120	1700	4400	0.40	5.0	9580	1
AUG											
16...	180	3100	29	16	105	2000	4900	0.40	6.7	10900	2
16...	--	--	--	--	--	--	--	--	--	--	--
16...	180	3100	29	17	110	2000	4900	0.40	6.9	10900	--
16...	180	3500	33	18	147	2000	5200	0.40	9.8	11600	8

DATE	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
MAY											
17...	<100	1	2	14	30	<5	20	0.4	<1	<1.0	20
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	<100	2	2	6	50	<5	590	1.7	<1	<1.0	30
AUG											
16...	400	<1	2	9	50	<5	20	0.1	<1	<1.0	20
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	100	<1	3	<1	120	<5	1000	0.1	<1	<1.0	20

334753099502201 - TRUSCOTT BRINE LAKE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1255	1.00	14800	8.10	24.5	7.2	94
17...	1257	10.0	14800	8.10	24.0	7.0	90
17...	1259	19.0	14800	8.10	22.0	6.9	86
AUG							
16...	1145	1.00	16600	8.20	29.0	7.0	102
16...	1147	10.0	16600	8.20	29.0	6.8	99
16...	1149	19.0	16700	7.80	28.0	4.3	62

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

334724099500001 - TRUSCOTT BRINE LAKE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1340	1.00	14900	8.10	25.0	6.6	87
17...	1342	10.0	14800	8.10	24.5	5.8	75
17...	1344	20.0	15000	8.00	21.0	4.8	58
17...	1346	30.0	15300	7.90	20.0	2.9	35
AUG							
16...	1245	1.00	16700	8.20	29.0	6.9	101
16...	1247	10.0	16700	8.20	28.5	6.4	93
16...	1249	20.0	17000	7.50	27.0	0.8	11
16...	1251	29.0	17500	7.40	25.0	0.5	7

334730099501801 - TRUSCOTT BRINE LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1321	1.00	14900	8.10	25.0	6.6	87
17...	1323	10.0	14800	8.10	24.0	6.9	89
17...	1325	20.0	14900	7.90	21.5	6.4	79
17...	1327	25.0	15100	7.90	20.5	4.7	57
17...	1329	30.0	15400	7.80	20.5	2.3	28
17...	1331	35.0	15700	7.80	20.0	1.5	18
17...	1333	37.0	15700	7.90	19.5	1.0	12
AUG							
16...	1225	1.00	16700	8.20	29.0	7.1	104
16...	1227	10.0	16700	8.20	28.5	7.0	101
16...	1229	20.0	16900	7.60	27.5	1.9	27
16...	1231	30.0	17700	7.30	25.0	0.4	5
16...	1233	35.0	17700	7.30	24.5	0.6	8

334735099503201 - TRUSCOTT BRINE LAKE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1305	1.00	14900	8.10	25.0	6.8	89
17...	1307	10.0	14800	8.10	24.0	7.4	95
17...	1309	20.0	14800	8.10	21.0	6.2	75
17...	1311	26.0	14900	8.10	20.5	5.3	64
AUG							
16...	1210	1.00	16700	8.20	29.0	7.1	104
16...	1212	10.0	16700	8.20	28.5	6.7	97
16...	1214	20.0	16800	7.70	27.5	2.9	41
16...	1216	25.0	17500	7.40	26.5	0.8	11

334707099503701 - TRUSCOTT BRINE LAKE CR

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1355	1.00	14900	8.10	24.0	7.2	93
17...	1357	10.0	14800	8.10	23.0	6.5	82
17...	1359	20.0	14800	8.00	22.0	6.6	82
17...	1401	32.0	15900	7.90	21.5	3.2	39
AUG							
16...	1300	1.00	16700	8.20	29.0	6.9	101
16...	1302	10.0	16700	8.20	28.5	6.6	95
16...	1304	20.0	16900	7.50	27.5	0.9	13
16...	1306	31.0	17800	7.40	25.0	0.6	8

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

334714099504801 - TRUSCOTT BRINE LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	
MAY												
17...	1407	1.00	14300	8.10	24.0	--	6.9	89	1900	1800	520	
17...	1409	10.0	14800	8.10	23.0	--	6.9	87	--	--	--	--
17...	1411	20.0	14300	8.10	22.0	--	6.5	80	1900	1800	520	
17...	1413	27.0	14800	8.10	20.5	--	4.4	53	1900	1800	530	
AUG												
16...	1315	1.00	16700	8.20	29.0	0.90	6.9	101	2400	2300	650	
16...	1317	10.0	16700	8.20	28.5	--	6.5	94	--	--	--	--
16...	1319	20.0	16900	7.60	27.5	--	1.6	23	2200	2100	600	
16...	1321	29.0	17900	7.40	25.5	--	0.6	8	2500	2400	670	

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
MAY										
17...	140	2600	27	8.0	114	1800	4200	0.40	4.3	9340
17...	--	--	--	--	--	--	--	--	--	--
17...	140	2700	28	12	115	1700	4200	0.40	4.5	9350
17...	150	2700	28	12	117	1700	4300	0.40	4.5	9470
AUG										
16...	190	3200	29	18	105	2000	5000	0.40	6.6	11100
16...	--	--	--	--	--	--	--	--	--	--
16...	180	3200	30	17	112	2000	4900	0.40	7.3	11000
16...	200	3500	32	18	135	2000	5500	0.40	9.1	12000

334723099505801 - TRUSCOTT BRINE LAKE CL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1422	1.00	14900	8.10	24.5	7.3	95
17...	1424	10.0	14800	8.10	23.5	7.5	96
17...	1426	20.0	14800	8.10	22.0	6.7	83
17...	1428	29.0	15300	8.00	21.0	4.3	52
AUG							
16...	1345	1.00	16700	8.20	29.0	6.5	95
16...	1347	10.0	16700	8.20	29.0	6.3	92
16...	1349	23.0	16800	7.70	27.5	2.2	31

334700099505501 - TRUSCOTT BRINE LAKE DR

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1452	1.00	14800	8.20	24.0	6.8	88
17...	1454	10.0	14800	8.20	22.5	6.9	86
17...	1456	17.0	14900	8.20	22.0	6.7	83
AUG							
16...	1423	1.00	16600	8.20	29.0	6.3	92
16...	1425	10.0	16700	8.20	28.5	6.1	88
16...	1427	15.0	16800	8.10	28.0	5.8	83

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

334705099510101 - TRUSCOTT BRINE LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1445	1.00	14900	8.10	24.5	7.1	92
17...	1447	10.0	14800	8.20	23.0	6.7	85
17...	1449	15.0	14800	8.20	22.0	7.0	87
AUG							
16...	1405	1.00	16600	8.20	29.5	6.3	93
16...	1407	10.0	16700	8.20	29.0	6.3	92
16...	1409	16.0	16700	8.10	28.5	5.2	75

334711099510801 - TRUSCOTT BRINE LAKE DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1434	1.00	14900	8.20	24.5	7.2	94
17...	1436	11.0	14900	8.20	23.0	6.7	85
AUG							
16...	1355	1.00	16700	8.20	29.5	6.3	93
16...	1357	12.0	16700	8.20	29.5	6.2	91

334652099511201 - TRUSCOTT BRINE LAKE ER

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1501	1.00	14900	8.10	25.0	5.1	67
17...	1503	10.0	14900	8.00	23.5	5.3	68
17...	1505	15.0	15400	8.00	22.5	4.6	58
AUG							
16...	1500	1.00	16700	8.20	29.0	6.4	93
16...	1502	12.0	16700	7.90	27.5	4.6	65

334655099511701 - TRUSCOTT BRINE LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1512	1.00	14800	8.10	24.5	5.2	68
17...	1514	13.0	15000	8.10	23.5	5.4	69
AUG							
16...	1520	1.00	16600	8.20	29.5	6.4	94
16...	1522	11.0	16700	8.10	28.5	5.3	77

334700099512201 - TRUSCOTT BRINE LAKE EL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
17...	1520	1.00	15000	8.10	26.0	5.6	75
17...	1522	10.0	14900	8.10	23.5	5.7	73
AUG							
16...	1445	1.00	16700	8.20	29.5	6.3	93
16...	1447	9.00	16800	8.00	28.0	5.4	77

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

334648099513501 - TRUSCOTT BRINE LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)
MAY											
17...	1534	1.00	14800	8.10	28.5	--	5.6	78	2000	1900	540
17...	1536	5.00	17100	8.10	26.5	--	6.4	87	2000	1900	560
AUG											
16...	1533	1.00	17000	8.20	30.5	0.60	6.4	96	2500	2400	660
16...	1535	5.00	20800	8.00	29.5	--	5.6	84	2400	2300	650

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
MAY										
17...	150	2700	27	13	118	1800	4300	0.40	4.6	9580
17...	150	3100	31	15	116	1900	5100	0.40	4.9	10900
AUG										
16...	200	3300	30	18	106	2000	5400	0.40	7.3	11600
16...	190	3600	33	17	111	2100	5400	0.40	8.0	12000

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8310	8210	8240	9630	9570	9590	10600	10400	10500	11000	10800	10900
2	8310	8220	8260	9660	9620	9640	10500	10200	10400	10900	10800	10900
3	8340	8240	8300	9660	9570	9610	10500	10200	10400	11000	10800	10900
4	8440	8310	8360	9650	9530	9600	10500	10200	10400	11000	10900	10900
5	8530	8350	8430	9760	9550	9640	10500	10000	10300	11000	10900	10900
6	8600	8490	8540	9770	9660	9680	10500	10100	10300	11000	10800	10900
7	8700	8500	8590	9790	9670	9710	10500	10300	10400	11000	10900	10900
8	8630	8530	8570	9800	9680	9780	10500	10300	10400	11100	10900	11000
9	8790	8650	8710	10000	9800	9920	10500	10100	10400	11000	10900	11000
10	8890	8720	8820	10000	9910	10000	10500	10400	10400	11000	10900	11000
11	8940	8840	8890	10100	9930	10000	10500	10400	10500	11000	10500	10900
12	9060	8830	8940	10200	10000	10100	10600	10500	10500	11000	10200	10700
13	9030	8910	8960	10200	10100	10100	10700	10500	10600	11100	10600	10900
14	9100	8960	9010	10200	10100	10100	10800	10500	10600	11000	10800	10900
15	9070	8970	9030	10300	10000	10200	10800	10700	10700	11000	10600	10900
16	9140	9020	9090	11200	10100	10300	10800	10600	10700	10900	10800	10900
17	9200	9100	9130	10400	10100	10300	10800	10600	10700	11000	10600	10900
18	9210	9130	9150	10500	10300	10400	10700	10600	10700	10900	10500	10900
19	9230	9060	9180	10500	10400	10500	10700	10200	10600	11000	10900	10900
20	9290	9190	9250	10600	10300	10500	10700	10600	10700	11100	11000	11000
21	9310	9250	9260	11000	10000	10400	10700	10600	10700	11100	11000	11000
22	9360	9230	9290	10600	10400	10500	10800	10600	10700	11100	11000	11000
23	9400	9320	9340	10700	10400	10600	10800	10300	10700	---	---	11000
24	9420	9290	9370	10600	10500	10500	10800	10700	10800	---	---	11000
25	9470	9360	9420	10600	10500	10600	10800	10500	10700	---	---	11000
26	9500	9350	9440	10700	10300	10600	10800	10700	10800	---	---	11000
27	9470	9440	9450	10600	10400	10500	10900	10500	10800	---	---	11100
28	9540	9460	9480	10600	10400	10500	10900	10800	10800	---	---	11100
29	9590	9490	9510	10600	10500	10500	10900	10700	10800	---	---	11100
30	9690	9490	9540	10600	10500	10500	10900	10500	10800	11300	10500	11100
31	9620	9540	9560	---	---	---	10900	10800	10900	11300	10700	11200
MONTH	9690	8210	9000	11200	9530	10200	10900	10000	10600	11300	10200	11000

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11400	11200	11300	12000	11700	11900	---	---	13400	13900	13500	13800
2	11500	11300	11400	12000	11700	11800	---	---	13400	14000	13000	13800
3	11500	11400	11400	12200	11900	12100	---	---	13400	13900	13800	13900
4	11500	11400	11500	12200	11000	12100	---	---	13500	14000	13600	13900
5	11500	11400	11500	12200	12100	12100	---	---	13500	14100	13900	14000
6	11600	11400	11500	12200	12100	12100	13600	13300	13500	14100	13600	14000
7	11500	11300	11500	12300	12100	12200	13700	13500	13600	14200	13600	14000
8	11600	11400	11500	12500	12200	12400	13700	13500	13600	14100	13500	14000
9	11500	11400	11500	12500	12300	12500	13700	13600	13600	14100	13800	14000
10	11600	10000	11500	12600	12400	12500	13800	13600	13700	14100	13900	14000
11	11700	11600	11600	12700	12500	12500	13800	13700	13800	14200	13900	14100
12	11700	11500	11600	12700	12500	12600	13800	13400	13700	14300	14000	14100
13	11600	10800	11500	12800	12600	12700	13900	13600	13800	14500	14000	14300
14	11700	10800	11500	12800	12600	12700	14000	13500	13900	14500	14200	14300
15	11800	10600	11600	12800	12500	12700	13900	13700	13800	14600	13700	14300
16	11800	11100	11700	12800	12500	12700	13900	13800	13800	14600	14300	14400
17	11800	11700	11800	12900	12600	12800	13900	13800	13800	14600	14400	14500
18	11900	11700	11800	13000	12800	12900	13900	13700	13800	14600	13900	14500
19	11900	11700	11800	13000	12800	12900	14000	13100	13900	14500	13300	14400
20	11900	11700	11800	13000	12000	12900	14100	13500	14000	14600	14100	14500
21	11900	11000	11700	13000	12600	12900	14100	13800	14000	14500	14400	14500
22	11900	11400	11700	13000	12200	12800	14000	13800	13900	14600	14400	14600
23	12000	11800	11900	13200	12800	13000	13900	13800	13900	14700	14500	14600
24	12000	11900	11900	13100	12500	13000	14000	13800	13800	14700	14400	14700
25	12000	11700	11900	13200	13000	13100	13900	13600	13800	14800	14600	14700
26	11900	10700	11800	13200	13000	13100	13900	13700	13900	14800	14400	14700
27	12000	11700	11900	13200	13100	13200	14000	13700	13900	15000	14200	14800
28	12000	11800	11900	13600	13100	13200	---	---	13900	15000	14300	14800
29	12000	11800	11900	13400	13300	13300	14000	13700	13800	15000	14400	14800
30	---	---	---	13500	13300	13400	13900	13800	13800	15000	14200	14800
31	---	---	---	13500	13300	13400	---	---	---	15100	14100	14900
MONTH	12000	10000	11700	13600	11000	12700	14100	13100	13700	15100	13000	14300

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15100	14800	15000	16500	15000	16000	16500	15900	16300	17900	17400	17500
2	15200	14400	14900	16100	15300	16000	16400	16200	16300	17600	17100	17500
3	15100	14900	15000	16000	15500	15900	16500	16200	16300	17800	17400	17500
4	15100	14900	15000	16100	15800	15900	16500	16100	16300	17800	17500	17600
5	15200	14900	15100	16100	15800	15900	16400	16100	16300	17800	17500	17600
6	15200	15000	15100	16000	15700	15900	16700	16400	16500	18200	17600	17800
7	15500	15100	15300	16000	15800	15900	16600	16300	16500	18000	17700	17900
8	15600	15300	15400	16000	15800	15900	16800	16200	16500	18100	17800	17900
9	15400	15200	15400	16200	15900	16000	16500	15600	16300	18200	17700	17800
10	15500	15300	15400	16000	15400	15900	16500	16300	16400	18000	17700	17800
11	15600	14500	15500	16000	15900	15900	16600	16000	16400	18000	17600	17800
12	15700	15200	15500	16400	15900	16000	16600	16400	16500	18100	17700	17900
13	15800	14600	15500	16500	16000	16300	16800	16400	16600	17800	17500	17700
14	15800	14600	15600	16700	16300	16400	16900	16500	16600	17800	17100	17600
15	15700	15500	15600	16500	16400	16400	16800	16500	16600	17900	17500	17600
16	15700	15400	15600	16700	16300	16500	16700	16400	16500	17900	17100	17600
17	15900	15600	15700	16800	16000	16500	16600	16300	16500	17700	16400	17500
18	16100	15700	15800	16800	16400	16500	16600	16200	16400	17000	14900	16200
19	16300	15800	15900	16600	16400	16500	16700	16300	16500	17000	16200	16700
20	16100	15100	15900	16500	16400	16400	16700	16400	16600	17300	16900	17100
21	16300	14800	15900	16600	16400	16500	16800	16500	16600	17300	16200	17100
22	16400	15800	16000	16700	16300	16500	16900	16400	16600	17400	17100	17300
23	16200	15800	16000	16500	16200	16400	16700	16200	16500	17300	17000	17200
24	16200	15800	16000	16600	16400	16500	16500	16200	16400	17400	17100	17200
25	16100	15200	15900	16500	16000	16400	16800	16300	16500	17400	17200	17300
26	15900	15000	15700	16600	16100	16400	17300	16500	16800	17700	17200	17400
27	16000	15700	15900	16600	16400	16400	17400	17000	17200	17400	16200	17300
28	16000	15500	15900	16800	16300	16500	17300	17100	17200	17500	17200	17300
29	16200	15900	16000	16600	16300	16400	17400	17200	17300	17400	17300	17300
30	16300	16000	16100	16600	16300	16300	17600	17300	17400	17500	17200	17400
31	---	---	---	16600	16300	16400	17700	17400	17500	---	---	---
MONTH	16400	14400	15600	16800	15000	16200	17700	15600	16600	18200	14900	17400

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	25.5	22.0	23.5	20.0	18.5	19.5	13.0	9.5	10.5	4.5	4.0	4.0
2	23.5	21.5	22.5	20.5	18.5	19.0	13.5	9.5	11.0	5.0	3.5	4.0
3	24.0	21.0	22.0	21.0	18.5	19.5	13.5	9.5	10.5	5.5	3.5	4.5
4	24.5	21.0	22.0	23.5	18.5	20.0	13.0	9.5	10.5	4.0	3.5	3.5
5	23.0	20.5	21.5	19.5	18.0	18.5	11.5	10.0	11.0	3.5	3.0	3.5
6	23.5	20.0	21.5	18.5	17.5	18.0	13.0	10.5	11.5	3.0	1.0	1.5
7	25.0	20.0	21.5	20.0	17.0	18.0	14.0	10.5	11.5	3.0	1.0	2.0
8	22.0	19.0	21.0	18.0	17.0	17.5	12.0	10.5	11.0	2.0	1.5	1.5
9	22.5	20.0	21.5	17.0	16.0	16.5	11.5	10.0	11.0	1.5	.5	1.0
10	22.0	19.5	20.5	16.5	14.5	15.5	12.5	10.0	11.0	1.0	.5	1.0
11	21.0	19.0	19.5	16.0	14.0	14.5	13.0	10.0	11.0	1.5	.0	1.0
12	22.5	18.0	20.0	17.0	14.0	15.0	11.5	10.0	10.5	4.5	1.0	2.0
13	21.0	19.0	19.5	15.5	13.5	14.5	10.0	9.0	9.5	3.5	.5	1.5
14	21.0	18.5	19.5	15.0	13.0	14.0	9.0	7.5	8.5	4.0	1.0	2.5
15	19.5	18.0	19.0	14.5	13.0	14.0	8.0	6.5	7.5	3.0	.0	2.0
16	21.0	18.5	19.5	15.0	12.5	13.0	9.0	6.5	7.5	4.5	3.0	3.5
17	22.0	18.0	19.5	16.0	12.0	13.5	7.0	6.5	7.0	7.0	2.5	4.5
18	21.5	18.5	20.0	13.0	11.5	12.5	7.0	6.0	6.5	5.5	4.5	5.0
19	20.5	18.0	19.0	14.0	11.0	12.5	7.5	6.5	7.0	5.5	3.5	4.5
20	20.0	17.5	18.5	15.5	11.5	13.0	9.0	6.5	7.5	5.0	3.0	4.0
21	18.5	17.0	17.5	13.0	11.0	12.0	7.5	6.0	7.0	6.0	3.0	4.0
22	19.0	16.5	18.0	14.5	11.0	12.5	10.0	7.0	8.0	6.0	3.0	4.0
23	19.0	17.0	18.0	17.0	11.5	13.0	9.0	7.0	8.0	---	---	---
24	19.5	17.5	18.5	14.5	12.0	13.0	8.5	7.5	8.0	---	---	---
25	21.0	17.5	18.5	13.0	11.5	12.0	7.5	6.0	6.5	---	---	---
26	20.5	18.0	19.0	11.5	11.0	11.5	6.0	5.0	6.0	---	---	---
27	20.0	18.0	18.5	11.5	10.0	11.0	5.5	5.0	5.5	---	---	---
28	20.5	17.5	18.5	12.5	9.5	10.5	5.5	4.0	5.0	---	---	---
29	22.0	17.5	19.0	11.5	9.5	10.5	7.0	4.0	5.5	---	---	---
30	23.5	18.5	20.0	12.5	9.0	10.0	5.0	4.5	4.5	---	---	---
31	21.0	18.5	19.5	---	---	---	4.5	4.0	4.5	---	---	---
MONTH	25.5	16.5	20.0	23.5	9.0	14.5	14.0	4.0	8.5	7.0	.0	3.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	13.0	10.0	11.5	---	---	---	20.0	18.0	18.5
2	7.0	6.0	6.5	11.5	10.5	11.0	---	---	---	19.0	18.0	18.5
3	6.0	5.5	6.0	10.0	9.5	10.0	---	---	---	19.5	16.5	18.0
4	5.5	5.0	5.5	11.5	9.0	10.0	---	---	---	20.0	17.5	18.5
5	5.0	4.5	5.0	12.0	9.5	10.0	---	---	---	22.5	17.5	19.5
6	5.0	4.0	4.5	13.0	9.5	11.0	19.0	14.5	16.0	22.0	18.5	20.0
7	8.0	3.5	5.0	13.5	10.0	11.5	21.5	16.5	18.5	24.0	19.0	21.5
8	8.0	4.0	5.5	12.0	10.0	11.0	18.5	16.0	17.0	21.5	18.5	20.0
9	6.5	5.0	5.5	12.5	9.5	11.0	16.5	15.0	16.0	24.5	18.5	21.0
10	5.5	4.0	5.0	13.0	11.0	12.0	17.0	14.5	15.5	22.5	19.0	20.5
11	6.0	3.5	4.5	13.0	11.0	11.5	16.5	14.0	15.0	21.0	19.5	20.0
12	7.0	3.5	5.0	12.5	11.0	11.5	17.5	14.5	15.5	25.5	19.5	21.5
13	6.5	4.0	5.0	11.5	10.0	11.0	20.5	15.0	17.0	27.0	21.5	23.5
14	6.5	5.0	6.0	11.5	10.0	10.5	22.5	17.0	18.0	26.0	21.0	23.0
15	7.5	4.5	6.0	12.5	10.0	11.0	19.0	15.5	16.5	28.0	21.0	24.0
16	10.0	6.0	7.0	10.5	10.5	10.5	18.0	16.0	16.5	27.0	22.5	24.5
17	7.5	6.0	6.5	10.5	8.5	9.5	18.5	16.0	17.0	29.0	23.0	25.5
18	8.0	6.5	7.0	10.5	8.5	9.0	17.5	16.0	16.5	27.0	23.5	25.0
19	8.0	6.0	6.5	11.0	8.0	9.5	19.0	16.0	17.0	24.5	23.0	23.5
20	8.5	5.5	7.0	12.0	9.5	10.5	20.5	16.0	18.0	27.5	22.5	24.0
21	10.5	7.0	8.5	16.5	10.0	12.0	22.5	17.5	19.5	23.0	20.5	21.5
22	10.0	7.5	8.5	13.5	11.0	12.0	20.0	17.5	18.5	21.0	19.5	20.0
23	11.0	7.0	8.0	14.5	11.5	13.0	19.0	17.0	18.0	21.5	18.5	20.0
24	10.5	7.5	8.5	15.5	13.0	13.5	20.0	17.5	18.0	23.5	19.0	20.5
25	13.0	7.5	10.0	19.5	12.5	15.0	20.5	17.0	18.0	23.5	20.5	21.5
26	11.5	9.5	10.5	15.0	12.5	13.5	20.0	17.5	18.0	25.5	20.5	22.5
27	13.0	9.0	10.5	16.0	13.0	14.0	19.5	17.0	18.0	27.0	21.5	23.5
28	13.5	9.0	11.0	19.5	15.0	16.5	21.0	16.5	18.5	24.5	21.5	23.0
29	12.5	10.0	11.0	16.5	14.0	15.0	25.0	17.5	19.5	24.0	21.5	22.5
30	---	---	---	16.0	14.0	14.5	19.5	18.0	18.5	23.0	21.0	22.0
31	---	---	---	14.5	14.0	14.0	---	---	---	23.0	21.5	22.0
MONTH	13.5	3.5	7.0	19.5	8.0	12.0	25.0	14.0	17.5	29.0	16.5	21.5

07311669 TRUSCOTT BRINE LAKE NEAR TRUSCOTT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	27.5	21.0	23.5	29.5	26.5	28.0	---	---	---	---	---	---
2	28.5	22.0	24.0	28.0	25.5	27.0	---	---	---	25.5	24.5	25.0
3	24.5	22.0	23.0	32.0	26.5	28.0	---	---	---	---	---	---
4	25.0	22.0	23.0	32.0	27.0	29.5	---	---	---	25.0	22.5	23.0
5	27.0	22.0	23.5	33.5	28.0	30.0	---	---	---	---	---	---
6	27.0	22.0	24.0	31.5	28.0	29.0	32.0	27.0	29.0	---	---	---
7	30.5	24.0	26.5	31.0	28.0	29.0	---	---	---	---	---	---
8	30.0	25.0	27.0	29.5	27.5	28.0	---	---	---	---	---	---
9	27.5	24.0	25.5	32.0	27.0	28.5	---	---	---	28.5	22.5	25.0
10	28.0	23.5	25.0	29.0	26.5	28.0	---	---	---	27.5	23.5	25.0
11	27.5	23.5	25.0	30.0	27.0	28.0	---	---	---	28.0	24.0	25.5
12	27.5	23.5	25.0	32.0	27.0	29.5	---	---	---	28.5	24.0	25.5
13	27.0	23.5	24.5	---	---	---	---	---	---	25.5	23.5	24.5
14	28.5	23.5	25.5	32.5	26.5	29.5	---	---	---	26.5	23.0	24.0
15	26.0	24.0	25.0	---	---	---	---	---	---	27.0	23.5	24.5
16	29.0	24.5	26.0	---	---	---	---	---	---	28.0	24.0	25.5
17	29.0	24.0	26.0	---	---	---	---	---	---	26.0	24.5	25.5
18	31.0	25.0	27.0	---	---	---	---	---	---	24.5	23.5	24.0
19	32.5	26.0	28.0	30.5	27.5	28.5	---	---	---	25.5	23.0	24.0
20	30.0	26.5	27.5	---	---	---	---	---	---	26.5	23.0	24.5
21	33.0	26.0	28.0	---	---	---	---	---	---	25.5	24.0	24.5
22	33.0	26.5	28.5	---	---	---	---	---	---	28.0	24.0	25.5
23	31.5	27.0	28.5	---	---	---	---	---	---	27.0	24.0	25.0
24	31.0	26.5	28.0	---	---	---	---	---	---	26.5	24.0	25.0
25	30.0	25.5	27.5	---	---	---	---	---	---	26.5	23.5	24.5
26	28.0	25.5	26.5	---	---	---	---	---	---	28.0	24.0	25.0
27	29.0	26.0	27.0	---	---	---	---	---	---	26.5	24.0	25.0
28	29.5	26.5	27.5	---	---	---	---	---	---	27.0	23.0	24.5
29	31.0	26.5	28.0	---	---	---	---	---	---	23.0	22.5	23.0
30	30.5	27.0	28.5	31.0	26.0	27.5	25.5	18.0	23.5	25.0	22.5	23.5
31	---	---	---	---	---	---	25.0	18.0	22.0	---	---	---
MONTH	33.0	21.0	26.0	33.5	25.5	28.5	32.0	18.0	25.0	28.5	22.5	24.5

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX

LOCATION.--Lat 33°49'14", long 99°47'10", Foard-Knox County line, Hydrologic Unit 11130204, near right bank at downstream side of bridge on State Highway 6, 4.5 mi north of Truscott, about 47.6 mi upstream from confluence with South Wichita River, and 188.4 mi upstream from mouth.

DRAINAGE AREA.--937 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1952-57 (occasional low-flow measurements), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,351.78 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 2, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There is one small diversion for irrigation upstream from station. Gage-height telemeter at station via Sutron data collection platform.

AVERAGE DISCHARGE.--28 years (water years 1961-88), 62.1 ft³/s (0.90 in/yr), 44,990 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,900 ft³/s Sept. 19, 1965 (gage height, 21.96 ft); minimum, 0.01 ft³/s July 25, 1964, and Aug. 22, 23, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900 occurred in September 1919; the next highest flood occurred in May 1954, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 19	0430	*1,670	*12.84	No other peak greater than base discharge.			

Minimum discharge, 6.6 ft³/s June 21-22

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	24	28	29	28	21	41	102	18	31	11	16
2	22	24	28	29	26	48	44	41	30	290	11	40
3	22	23	28	29	26	46	38	29	37	139	12	49
4	22	22	28	29	25	37	35	26	21	81	23	35
5	22	22	28	29	27	29	33	23	18	30	13	28
6	22	22	28	e25	28	27	32	22	16	20	67	23
7	22	24	27	e24	26	24	32	22	15	16	43	21
8	22	24	25	e23	26	24	33	27	14	20	18	19
9	22	26	27	e23	26	24	31	20	13	32	13	20
10	21	28	27	e26	25	24	32	18	11	112	38	20
11	20	28	27	e30	23	23	33	17	11	44	39	20
12	21	27	27	37	26	21	34	18	10	34	39	20
13	22	26	27	35	24	21	34	18	9.6	26	22	25
14	23	27	29	32	22	22	34	17	9.1	21	18	74
15	24	28	31	30	22	22	34	16	9.3	18	16	79
16	24	28	31	29	21	23	34	15	11	16	13	50
17	24	28	30	29	22	26	119	15	12	15	12	39
18	24	27	29	29	22	28	63	14	12	13	11	527
19	22	28	30	29	21	28	45	14	12	12	14	1010
20	22	28	32	27	24	28	34	16	8.9	13	15	394
21	22	28	31	26	23	27	26	18	8.0	13	16	109
22	22	28	29	26	22	27	22	18	7.1	12	14	72
23	23	28	28	26	21	26	19	17	7.3	12	13	64
24	33	28	28	25	21	26	19	15	7.3	11	15	52
25	29	29	42	25	21	26	21	15	44	15	11	48
26	26	29	51	25	21	26	16	16	91	20	11	43
27	25	30	36	24	21	25	14	16	27	20	12	38
28	23	29	34	24	20	28	14	15	26	16	12	33
29	22	28	32	21	20	29	14	23	27	13	14	30
30	23	28	29	21	---	29	56	19	16	16	17	28
31	24	---	29	24	---	30	---	17	---	14	18	---
TOTAL	719	799	936	840	680	845	1036	679	558.6	1145	601	3026
MEAN	23.2	26.6	30.2	27.1	23.4	27.3	34.5	21.9	18.6	36.9	19.4	101
MAX	33	30	51	37	28	48	119	102	91	290	67	1010
MIN	20	22	25	21	20	21	14	14	7.1	11	11	16
AC-FT	1430	1580	1860	1670	1350	1680	2050	1350	1110	2270	1190	6000
CFSM	.02	.03	.03	.03	.03	.03	.04	.02	.02	.04	.02	.11
IN.	.03	.03	.04	.03	.03	.03	.04	.03	.02	.05	.02	.12

CAL YR 1987 TOTAL 39096 MEAN 107 MAX 10900 MIN 19 AC-FT 77550 CFSM .11 IN. 1.55
WTR YR 1988 TOTAL 11864.6 MEAN 32.4 MAX 1010 MIN 7.1 AC-FT 23530 CFSM .03 IN. .47

e Estimated.

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1954 to March 1959, July 1966 to current year. Sediment analyses: April 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to current year.
WATER TEMPERATURE: July 1968 to current year.

INSTRUMENTATION.--Since August 1968, specific conductance is recorded continuously at this station. Since June 1982, water temperature is recorded continuously at this station.

REMARKS.--Where maximum and minimum specific conductance values are not shown, mean values are 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, 35,800 microsiemens Oct. 9, 1982; minimum, 400 microsiemens June 7, 8, 1985.
WATER TEMPERATURE: Maximum, 39.0°C Aug. 21, 23, 1969, Aug. 22, 1973; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 21,500 microsiemens June 23, 24; minimum, 1,450 microsiemens July 2.
WATER TEMPERATURE: Maximum, 36.5°C July 13; minimum, 0.0°C many days during December and January.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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
OCT											
02...	1400	22	--	--	22.5	--	--	--	--	--	--
NOV											
03...	0725	24	16100	7.60	17.0	2100	2000	620	140	3000	29
DEC											
08...	1450	27	15300	--	12.5	--	--	--	--	--	--
JAN											
12...	1005	35	14100	8.10	0.5	2100	2000	620	140	2600	25
FEB											
02...	1215	26	15400	8.20	3.5	2400	2300	680	160	2700	25
MAR											
08...	1350	24	15300	--	--	--	--	--	--	--	--
JUN											
01...	1335	18	14200	--	24.5	--	--	--	--	--	--
JUL											
11...	1810	41	4900	7.80	31.0	820	750	250	48	740	12
26...	1400	19	17300	7.90	33.0	2500	2500	710	180	3200	29
AUG											
23...	1610	12	19500	8.10	33.0	2500	2500	740	170	4100	37
SEP											
19...	1355	565	4690	7.80	23.0	910	850	300	39	630	9

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
02...	--	--	--	--	--	--	--	30	1.8	98
NOV										
03...	16	113	2200	4700	0.40	7.7	10800	11	0.71	93
DEC										
08...	--	--	--	--	--	--	--	10	0.73	77
JAN										
12...	17	156	2200	3900	0.40	9.9	9580	--	--	--
FEB										
02...	13	102	2400	4200	0.30	4.9	10200	--	--	--
MAR										
08...	--	--	--	--	--	--	--	93	6.0	33
JUN										
01...	--	--	--	--	--	--	--	29	1.4	70
JUL										
11...	8.9	78	720	1200	0.40	6.2	3020	57	6.4	91
26...	13	54	2600	4800	0.40	1.5	11500	--	--	--
AUG										
23...	11	48	2900	5900	0.40	1.6	13900	56	1.8	96
SEP										
19...	6.9	59	870	1100	0.20	7.8	2990	--	--	--

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)S)	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.	1987	719	16200	10900	21100	4700	9080	2200	4180	*
NOV.	1987	799	16000	10800	23200	4600	9960	2100	4590	*
DEC.	1987	936	14800	9910	25000	4200	10600	2000	5010	*
JAN.	1988	840	14400	9630	21800	4100	9250	1900	4390	*
FEB.	1988	680	15600	10500	19300	4500	8240	2100	3830	*
MAR.	1988	845	15400	10300	23600	4400	10100	2100	4690	*
APR.	1988	1036	14600	9750	27300	4100	11600	2000	5450	*
MAY	1988	679	14700	9820	18000	4200	7650	2000	3600	*
JUNE	1988	558.6	15100	10200	15400	4400	6630	2000	3010	*
JULY	1988	1145	9300	6160	19000	2600	7890	1300	3920	1500
AUG.	1988	601	14400	9670	15700	4100	6730	1900	3100	*
SEPT	1988	3026	6330	4150	33900	1700	13700	880	7160	1000
TOTAL		11864.6	**	**	263000	**	111000	**	53000	**
WTD.AVG.		32	12300	8220	**	3500	**	1700	**	**

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16000	14800	15800	16100	15800	15900	15700	15500	15500	13800	13600	13700
2	16100	15800	15900	16200	16000	16100	15600	15500	15500	14100	13800	13900
3	16200	16000	16100	16400	16100	16200	15600	15400	15500	14300	14000	14100
4	16300	16000	16100	16400	16300	16400	15600	15400	15500	14400	14200	14200
5	16500	16100	16300	16400	16400	16400	15500	15300	15400	14700	14400	14500
6	16500	16200	16300	16400	16400	16400	15500	15400	15500	14700	14600	14600
7	16500	16200	16300	16400	16300	16300	15500	15300	15400	14900	14600	14700
8	16600	16300	16400	16500	16300	16400	15500	15300	15400	15100	14800	15000
9	16700	16300	16500	16500	15900	16200	15900	15500	15700	15400	15000	15200
10	16600	16400	16500	16300	15900	16200	16000	15300	15900	15800	14700	15200
11	16600	16500	16600	16200	15900	16100	15400	15100	15300	15100	13800	14600
12	16600	16500	16500	16100	15900	16000	15600	15400	15500	14300	12900	13600
13	16600	16400	16500	16100	15800	16000	15700	15500	15700	13700	12800	13300
14	16700	16400	16500	16000	15800	16000	15600	15100	15300	13500	12800	13200
15	16500	16400	16500	16100	15800	16000	15400	15100	15300	13700	13300	13500
16	16600	16300	16400	16100	15900	16100	15400	14900	15200	13800	13400	13600
17	16500	16300	16300	16200	16000	16100	15400	15200	15300	14000	13700	13800
18	16500	16300	16300	16200	16000	16100	15200	14800	15100	14200	13900	14100
19	16500	16300	16300	16100	15900	16000	14800	14700	14800	14300	14100	14200
20	16500	16400	16400	16000	15800	15900	14800	14700	14800	14400	14100	14200
21	16500	16400	16400	16000	15900	15900	14900	14700	14800	14700	14400	14500
22	16400	16200	16300	16100	15800	16000	15000	14800	15000	14800	14700	14700
23	16300	16200	16300	15900	15800	15900	15000	14700	14900	14800	14700	14800
24	16400	16100	16300	15900	15700	15800	15200	14800	15000	15000	14800	14900
25	17000	16200	16600	15900	15700	15800	16600	6650	13300	15200	15000	15000
26	16700	16200	16400	15800	15600	15800	13900	13400	13700	15300	15100	15200
27	16200	14000	15400	15700	15600	15700	13900	13400	13700	15400	15100	15300
28	15100	13900	14400	15700	15500	15600	14300	12500	13400	15500	15300	15400
29	15700	15100	15400	15700	15500	15600	13900	13000	13400	15400	15200	15300
30	16000	15700	15800	15700	15500	15600	13400	12800	13200	15300	15200	15300
31	15900	15700	15800	---	---	---	13700	13300	13500	15400	15200	15300
MONTH	17000	13900	16200	16500	15500	16000	16600	6650	14900	15800	12800	14500

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	15500	15300	15400	16500	15400	16300	16200	13000	15300	16300	12300	13700
2	15500	15300	15400	15800	7670	13500	15200	13700	14700	13300	11000	11700
3	15400	15300	15400	15600	12600	14500	15100	14700	14900	11800	10900	11300
4	15500	15300	15400	15600	13500	14600	15200	14800	15000	13200	11900	12500
5	15500	15000	15200	15100	14400	14800	15400	15100	15300	14200	12300	13200
6	15300	15100	15200	14400	13700	14000	15500	15300	15500	14300	12300	13500
7	15200	14900	15000	14900	14000	14400	16100	15500	15800	13800	13500	13700
8	15100	14900	15000	15000	14800	14900	16700	16000	16400	14300	12300	13300
9	15100	15000	15100	15500	14900	15200	16700	16300	16600	13900	12600	13200
10	15300	15100	15200	15800	15400	15600	16600	16300	16500	14500	13900	14100
11	15500	15200	15300	16000	15800	15900	16700	16500	16600	14600	14200	14400
12	15300	15100	15300	15900	15800	15800	16600	16500	16600	14500	13900	14200
13	15400	15100	15200	16100	15900	16000	16700	16500	16600	15000	14300	14600
14	15500	15100	15300	16100	15800	15900	16900	16500	16700	15800	15000	15400
15	15700	15500	15600	16000	15900	15900	16900	16500	16700	16400	15600	16000
16	15700	15500	15600	16100	15800	16000	16900	16300	16700	16900	16200	16500
17	15800	15600	15700	15800	15500	15600	16800	4330	9780	17000	16500	16800
18	15900	15700	15800	15500	15100	15300	10300	8660	9510	17300	16700	17000
19	16100	15900	16000	15500	15200	15300	14700	10200	12900	17300	16900	17100
20	16100	15800	16000	15500	15300	15400	14700	14200	14400	17000	16700	16900
21	16100	15900	15900	15600	15400	15500	14400	13600	14000	17100	16900	17000
22	16200	16000	16100	15600	15400	15500	15400	14500	15100	17000	16900	16900
23	16400	16200	16300	15800	15600	15700	15800	15300	15600	17300	16900	17000
24	16500	16300	16400	16000	15700	15900	15900	15500	15700	17500	17000	17200
25	16400	16200	16300	16000	15800	15900	15600	12200	14400	17400	17200	17300
26	16300	16200	16300	16200	15900	16100	15200	14500	14900	17300	15500	16700
27	16400	16200	16300	16100	15900	16100	16200	15000	15500	16300	15800	16000
28	16500	16300	16400	16200	15900	16100	16400	15900	16200	16200	15800	16000
29	16500	16400	16500	16300	16200	16200	16600	16200	16300	16400	16000	16200
30	---	---	---	16400	16200	16300	16400	16100	16300	16200	15900	16100
31	---	---	---	16400	16200	16300	---	---	---	16200	14600	15600
MONTH	16500	14900	15700	16500	7670	15500	16900	4330	15200	17500	10900	15200

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16500	14200	15000	19000	15800	17900	18700	17700	18200	19200	18500	18800
2	17700	7910	16700	19100	1450	5870	19100	18100	18600	18700	6040	16000
3	16400	5000	11900	4560	4240	4380	19200	18300	18700	15000	8080	12800
4	16300	12100	14800	4560	3430	4020	19200	18800	19000	16800	14300	15100
5	15100	12000	13800	6770	3430	3970	20100	18200	18900	18400	17000	17800
6	16900	14800	15700	8550	6870	7740	20200	7600	17200	18200	17700	18000
7	18100	16900	17500	11800	8760	10200	7120	5480	5930	17700	16600	17400
8	18900	17900	18300	14100	11900	12800	8360	6150	7140	16400	14500	15300
9	19000	18200	18600	18300	14100	15200	10300	8450	9380	16100	14300	15000
10	19300	18500	18800	20700	5190	14000	12800	10200	11300	17700	16100	17000
11	19600	18600	19000	5490	4030	4600	10600	3070	8810	18500	17500	18000
12	19700	18800	19200	8370	5590	7010	9210	4220	6110	19000	18100	18500
13	19900	19000	19400	9740	8360	8950	12300	5850	9880	19000	18100	18700
14	20000	19200	19600	10400	9740	10100	15000	11900	13400	17200	4630	12600
15	19700	19200	19500	10400	9910	10200	15700	14800	15300	14300	7500	11200
16	19800	19000	19300	11400	10300	10700	17000	15600	16300	10500	5040	6300
17	19700	17300	19100	12800	11400	12100	17500	16600	17000	7660	6040	7130
18	19900	19000	19400	14300	12800	13600	17500	16700	17100	7560	1590	3980
19	20000	19100	19600	15200	14200	14600	17700	17000	17400	8210	2400	4230
20	---	---	20000	15400	14600	15000	17900	13100	16200	4420	2210	3480
21	---	---	20400	15900	14900	15400	19100	18000	18400	3840	3430	3560
22	---	---	20700	16400	15300	15800	19600	18500	19000	4960	3840	4350
23	21500	20400	21000	17000	16000	16400	19800	19000	19300	5580	3750	4970
24	21500	20600	21100	17000	16400	16700	19500	18500	19100	6710	5690	6270
25	21400	5210	19500	17000	15900	16500	18900	14900	17700	8050	6920	7410
26	9520	2660	4840	17100	16100	16600	19100	15300	18000	9290	8050	8650
27	14800	9320	12400	17600	16600	17000	19300	18800	19100	10400	9190	9780
28	16500	12700	14300	17800	16900	17400	19000	18700	18800	11400	10300	10800
29	19500	16700	18300	17900	17100	17600	18900	18600	18700	11900	11300	11500
30	18800	15600	18200	18400	17400	17800	19200	18500	18800	12900	11900	12300
31	---	---	---	18500	17800	18100	19100	18500	18800	---	---	---
MONTH	21500	2660	17500	20700	1450	12500	20200	3070	15700	19200	1590	11600

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	24.5	16.0	20.0	20.5	17.5	19.5	7.5	2.5	5.5	2.5	.0	.5
2	23.0	17.0	22.0	22.5	16.5	19.5	9.5	4.5	6.5	3.0	.0	1.5
3	22.5	14.5	18.0	22.5	16.5	19.0	10.5	5.0	8.0	6.0	1.0	3.5
4	22.5	14.5	18.5	23.0	16.0	19.5	12.0	6.0	9.0	3.0	2.0	2.5
5	22.5	15.5	19.0	20.0	16.0	18.0	13.0	9.0	10.5	1.0	.0	.5
6	22.5	15.0	18.0	18.0	14.5	16.0	14.5	10.5	12.0	.0	.0	.0
7	22.5	15.0	18.5	20.0	15.0	16.5	13.0	7.5	10.5	1.0	.0	.0
8	24.0	15.0	19.0	17.0	12.0	15.0	13.0	8.0	10.0	.0	.0	.0
9	24.5	17.0	20.0	13.0	7.5	10.5	10.5	5.0	8.0	.0	.0	.0
10	22.0	15.5	19.0	10.5	5.5	8.0	10.5	5.0	7.5	.0	.0	.0
11	17.5	12.5	15.5	11.0	5.0	8.0	11.0	5.5	8.0	1.0	.0	.0
12	20.0	12.0	15.5	12.0	5.0	8.5	9.5	5.5	7.5	2.5	.0	.5
13	21.0	15.0	17.5	12.5	7.0	9.5	6.0	4.5	5.5	3.0	.0	.5
14	23.0	15.5	19.0	14.0	9.5	11.5	4.5	.0	1.5	4.5	.0	1.5
15	20.0	17.0	18.0	16.0	12.0	13.5	2.5	.0	.5	6.0	.0	3.0
16	22.5	15.5	19.0	13.0	9.5	11.5	3.0	.0	1.0	9.0	4.5	6.5
17	20.5	14.5	17.5	11.0	5.5	8.5	3.0	.0	1.5	10.0	5.0	7.0
18	22.0	15.0	18.0	9.0	5.0	7.0	5.0	.5	2.5	11.0	5.5	8.5
19	22.0	15.5	18.5	9.5	3.5	6.0	7.5	5.0	6.0	8.0	5.0	6.5
20	19.0	14.0	16.0	11.0	5.0	7.5	8.0	4.5	6.0	5.5	2.0	4.0
21	17.0	12.0	14.0	11.0	5.0	8.0	9.0	5.0	6.5	6.0	.0	2.5
22	19.5	12.0	15.5	12.5	7.0	9.5	9.5	5.0	7.0	6.0	.5	3.0
23	19.5	15.0	17.0	12.5	7.0	10.0	12.0	5.0	8.5	8.0	2.0	4.5
24	22.0	17.0	19.0	15.5	10.5	12.5	11.0	5.5	8.5	8.0	4.5	6.0
25	22.0	17.5	19.5	11.0	5.0	9.5	6.0	.0	2.5	7.5	2.0	4.5
26	22.5	17.0	19.5	8.0	7.0	7.5	.0	.0	.0	8.0	2.0	5.0
27	20.0	15.0	17.0	9.5	6.0	8.0	1.0	.0	.0	9.5	2.5	6.0
28	19.5	12.0	15.5	9.0	4.5	6.5	2.5	.0	1.0	11.0	5.0	8.0
29	20.5	15.0	17.5	7.5	4.5	6.0	3.0	.0	1.5	14.0	7.0	10.5
30	22.5	17.0	19.5	8.0	3.0	5.0	4.5	2.0	2.5	15.5	10.0	12.5
31	22.5	19.0	20.5	---	---	---	3.0	.5	2.0	15.5	10.0	13.0
MONTH	24.5	12.0	18.0	23.0	3.0	11.0	14.5	.0	5.5	15.5	.0	4.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.0	5.0	9.0	17.5	10.0	13.5	17.5	11.0	13.5	22.5	18.0	20.0
2	5.5	2.0	4.0	15.5	10.5	14.0	19.0	9.5	13.5	23.0	17.0	19.5
3	4.0	2.0	3.0	10.0	5.5	7.0	22.5	12.0	16.5	23.0	14.5	18.5
4	3.0	.5	2.0	12.5	4.5	8.0	24.0	15.0	19.0	25.5	15.0	20.0
5	2.5	.0	1.5	14.0	7.0	10.5	23.0	15.5	19.0	27.5	17.0	22.0
6	4.5	.0	1.5	16.0	7.5	12.0	24.0	12.5	18.0	27.5	19.0	22.0
7	8.0	.5	3.5	19.5	10.5	14.5	25.5	15.0	19.5	28.0	19.5	23.0
8	10.0	2.5	6.5	15.5	10.0	12.0	25.0	15.0	19.5	26.0	19.5	22.5
9	8.0	5.0	7.0	17.0	7.5	12.0	18.0	12.5	16.5	28.0	15.5	21.5
10	6.0	.5	4.5	18.0	10.5	14.0	19.5	10.0	14.5	27.5	17.0	22.5
11	5.0	.0	1.5	17.5	11.0	14.0	20.5	10.0	15.0	23.0	19.5	21.5
12	7.5	.0	3.5	16.0	5.5	12.5	22.5	10.5	16.0	29.5	16.0	22.5
13	12.0	4.0	7.5	13.0	5.0	9.5	24.5	12.5	18.5	30.0	20.0	24.5
14	12.5	7.0	9.5	14.5	5.0	9.5	26.0	15.0	20.0	30.0	20.0	24.5
15	12.0	5.0	8.5	16.0	7.0	11.0	25.5	17.0	21.0	31.0	20.5	26.0
16	14.0	7.0	9.5	11.0	9.5	10.0	24.5	16.0	20.0	31.0	22.0	27.0
17	11.0	7.5	9.5	10.0	4.5	7.5	21.0	17.0	19.0	30.5	22.0	26.5
18	10.5	7.0	8.5	11.0	2.0	6.5	19.0	15.0	16.5	30.5	22.0	25.5
19	12.5	5.0	8.5	15.5	5.0	10.0	22.0	12.5	17.0	25.5	20.0	22.5
20	13.0	5.0	9.0	19.0	9.5	13.5	26.0	15.0	20.5	28.0	19.5	22.5
21	14.5	7.0	10.0	21.0	10.5	15.5	26.0	19.5	22.5	21.0	17.0	19.5
22	16.0	7.5	11.5	20.5	12.5	16.0	25.5	18.0	21.5	21.0	14.5	17.0
23	13.0	7.0	10.0	22.5	15.0	18.0	25.5	17.0	20.5	25.5	15.0	19.5
24	12.5	5.0	9.0	22.5	15.0	18.5	24.0	15.0	19.0	29.0	17.0	23.0
25	15.5	7.0	10.5	22.5	12.5	17.0	26.0	15.0	19.5	26.0	20.0	22.5
26	17.0	10.0	13.0	22.0	12.5	17.0	23.0	16.0	19.5	29.5	17.0	23.0
27	18.0	12.0	14.5	23.0	13.0	18.0	23.0	12.5	18.0	29.5	19.5	24.0
28	17.5	10.0	13.5	25.5	17.0	20.5	26.0	15.0	19.5	27.5	20.0	24.0
29	17.5	10.5	13.5	20.0	12.5	16.5	28.0	17.5	22.0	28.0	20.0	24.0
30	---	---	---	20.0	10.0	14.5	22.5	19.5	21.0	26.0	21.0	23.5
31	---	---	---	14.5	12.0	13.0	---	---	---	25.5	20.5	23.0
MONTH	18.0	.0	7.5	25.5	2.0	13.0	28.0	9.5	18.5	31.0	14.5	22.5

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	29.0	20.0	23.5	33.5	26.0	29.5	32.5	24.5	27.5	29.0	22.0	25.0
2	30.5	22.0	26.0	29.0	22.0	25.0	33.0	24.0	28.0	26.0	23.5	24.5
3	26.0	20.5	23.0	30.0	25.0	26.5	33.5	25.0	29.0	26.5	22.0	24.0
4	29.5	21.0	25.0	33.0	26.0	29.0	33.5	25.5	29.0	27.0	20.0	23.0
5	29.5	20.5	25.0	35.5	27.0	30.5	34.5	25.0	29.0	28.5	19.0	23.5
6	31.5	20.5	25.5	32.0	27.0	29.5	32.0	25.0	28.5	29.5	19.5	24.0
7	34.0	23.0	27.5	33.0	25.5	28.5	33.0	26.0	29.5	28.0	20.0	24.0
8	35.5	24.0	29.5	30.0	25.5	27.5	34.5	25.0	29.5	29.5	19.5	24.0
9	32.0	25.0	28.0	33.0	25.0	29.0	35.5	25.5	29.5	30.0	20.5	25.0
10	32.5	22.0	26.5	29.5	26.5	28.0	31.0	26.5	28.5	30.0	21.0	25.5
11	32.0	22.0	26.5	30.5	24.5	27.5	34.5	26.5	29.0	30.5	21.5	26.0
12	31.0	21.5	25.5	36.0	26.5	30.5	32.5	25.5	28.5	30.5	21.0	25.5
13	32.0	21.0	25.5	36.5	27.5	31.5	35.0	26.0	30.0	31.5	24.0	26.5
14	32.0	22.5	26.5	35.5	27.5	31.0	35.5	26.5	30.5	29.5	23.5	26.0
15	29.0	23.0	26.0	34.5	26.5	30.0	35.5	27.0	30.5	29.5	23.0	26.0
16	32.0	22.0	26.5	35.5	26.0	30.0	34.5	25.5	30.0	31.0	24.0	27.5
17	33.5	23.0	27.5	36.0	26.5	31.0	33.5	26.0	29.5	27.0	24.0	26.0
18	34.5	24.5	29.0	35.5	26.5	30.5	34.5	25.0	29.0	24.5	22.5	23.0
19	35.0	24.0	29.0	35.0	26.5	30.5	32.0	25.5	28.0	24.0	22.0	23.0
20	---	---	---	31.5	24.0	28.0	32.0	25.5	28.5	25.0	20.5	22.5
21	---	---	---	33.5	22.0	27.5	34.0	25.0	29.0	28.5	23.5	25.5
22	---	---	---	33.5	23.0	27.5	34.5	25.5	29.5	30.0	24.0	26.5
23	34.5	24.0	29.0	32.5	22.5	27.0	34.5	26.0	30.0	28.0	23.5	26.0
24	33.0	24.0	28.5	32.0	24.0	27.0	34.0	26.5	30.0	26.5	20.5	23.5
25	32.5	23.5	27.5	30.5	23.5	26.5	32.5	24.0	28.5	27.5	20.5	24.0
26	26.0	22.0	23.5	34.5	25.5	30.0	32.0	24.5	28.0	28.5	21.5	25.0
27	29.5	24.5	27.0	35.5	26.0	30.5	31.0	24.0	27.0	28.5	22.5	25.5
28	32.0	25.5	28.5	34.5	26.0	30.0	24.0	21.0	22.0	29.5	22.5	25.5
29	34.0	26.0	29.5	34.0	25.0	29.0	23.5	20.0	21.5	23.0	18.5	20.0
30	33.0	26.5	29.5	34.5	25.0	29.0	29.5	20.5	24.0	23.0	16.0	19.5
31	---	---	---	33.5	25.0	28.5	30.5	23.0	26.0	---	---	---
MONTH	35.5	20.0	27.0	36.5	22.0	29.0	35.5	20.0	28.5	31.5	16.0	24.5

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX

LOCATION.--Lat 33°37'19", long 100°12'31", King County, Hydrologic Unit 11130205, on right bank 1.0 mi downstream from ranch road crossing, 2.9 mi upstream from Willow Creek, 6.6 mi east of Guthrie, and 91.5 mi upstream from confluence with North Wichita River.

DRAINAGE AREA.--223 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to September 1985, May 1987 to current year (discharge to 07311669 Truscott Brine Lake near Truscott).

GAGE.--Water-stage recorder. Datum of gage is 1,590.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Discharge represents flow diverted by pumping from South Wichita River at station 07311782 to Truscott Brine Lake near Truscott (station 07311669). Flow is determined from digital recorder monitoring flowmeter in pipeline. From May to September 1987, specific conductivity and discharge values collected at this station were used for computation of water quality loads for station 07311669. Gage-height telemeter at station.

COOPERATION.--Flow data furnished by the U.S. Army Corps of Engineers, Tulsa District.

EXTREMES FOR CURRENT YEAR.--Not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	7.5	6.8	10	7.9	5.8	7.3	7.4	5.6	5.1	4.3	.00
2	6.5	7.5	6.9	6.8	8.6	3.2	7.4	9.6	6.9	.00	6.7	3.9
3	7.1	7.5	6.9	7.9	7.6	9.4	7.4	7.5	4.9	4.9	6.7	3.5
4	7.1	7.5	6.9	9.0	7.6	11	7.4	7.0	5.7	7.3	6.8	9.8
5	7.1	7.5	8.5	6.5	7.6	11	7.4	5.6	5.6	12	6.6	7.3
6	7.1	7.5	8.1	6.1	7.6	7.1	7.4	4.5	6.8	8.6	6.7	7.3
7	7.1	7.5	6.9	12	7.6	6.7	7.4	7.4	3.6	5.1	6.6	7.3
8	7.2	7.5	7.1	8.1	7.5	8.1	5.9	7.4	3.4	7.4	4.2	7.3
9	7.4	7.4	7.4	5.0	5.7	6.7	5.7	6.6	4.6	11	3.9	7.2
10	7.4	6.6	7.3	1.7	7.6	6.7	3.0	4.7	7.4	9.2	9.2	7.2
11	7.4	7.4	7.4	.00	9.0	9.3	6.9	7.5	7.4	.00	2.4	3.7
12	7.4	7.4	7.5	.00	7.6	7.6	6.9	5.7	4.5	8.5	7.0	3.4
13	7.4	7.4	5.9	.00	7.5	7.1	8.9	5.9	3.7	11	12	1.8
14	7.4	7.4	6.0	.00	7.5	7.1	7.9	5.1	6.9	13	8.1	7.1
15	7.2	7.4	12	.00	7.5	7.1	7.5	6.9	6.9	9.4	7.2	12
16	7.5	7.4	7.9	.00	9.7	7.1	7.5	6.9	5.5	7.8	7.2	9.0
17	7.5	7.3	7.3	.00	7.9	7.1	7.5	4.0	4.4	7.4	7.2	6.8
18	4.6	7.4	7.3	.00	3.7	7.1	7.5	3.5	7.4	7.4	7.2	8.2
19	.30	7.3	7.4	.00	.00	7.1	7.5	6.9	4.1	7.4	4.3	6.7
20	7.6	7.3	9.7	3.2	2.4	7.1	3.6	4.7	6.9	6.9	4.4	11
21	10	7.3	7.2	7.4	7.4	7.0	.00	4.5	4.8	7.3	7.3	11
22	7.0	7.3	7.2	7.4	6.6	7.0	.00	7.3	6.1	7.2	7.2	8.0
23	6.9	7.3	7.2	9.3	7.5	7.4	.00	7.3	2.7	7.2	7.3	6.2
24	7.0	7.3	7.4	12	9.6	9.1	.00	7.3	4.5	5.0	5.4	9.7
25	7.0	7.3	11	7.5	12	6.9	.00	7.3	4.6	4.5	4.4	7.1
26	6.9	6.2	4.1	6.9	9.0	7.2	.00	7.2	.00	6.9	6.8	7.3
27	6.9	6.9	2.8	6.9	7.3	7.2	.00	6.5	6.0	6.9	6.8	7.0
28	6.9	6.9	12	6.9	7.3	7.2	2.2	5.2	8.9	7.3	5.4	7.1
29	6.9	6.9	12	6.9	7.3	7.2	10	6.2	6.1	7.1	.00	7.1
30	7.0	6.9	9.4	6.9	---	7.2	12	6.8	12	7.2	.00	7.2
31	7.0	---	6.9	6.8	---	7.2	---	6.5	---	1.6	.00	---
TOTAL	214.80	218.0	238.4	161.20	212.10	230.0	162.20	196.9	167.90	217.60	179.30	208.20
MEAN	6.93	7.27	7.69	5.20	7.31	7.42	5.41	6.35	5.60	7.02	5.78	6.94
MAX	10	7.5	12	12	12	11	12	9.6	12	13	12	12
MIN	.30	6.2	2.8	.00	.00	3.2	.00	3.5	.00	.00	.00	.00
AC-FT	426	432	473	320	421	456	322	391	333	432	356	413

CAL YR 1987	TOTAL -	MEAN -	MAX -	MIN -	AC-FT -
WTR YR 1988	TOTAL 2406.60	MEAN 6.58	MAX 13	MIN .00	AC-FT 4770

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1984 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1984 to current year. October 1986 to April 1987 published under station 07311783.
WATER TEMPERATURE: October 1984 to current year. October 1986 to April 1987 published under station 07311783.

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

REMARKS.--Interruptions in the record due to malfunction of the instrument or when the pumps were not running. Where maximum and minimum specific conductance values are not shown, mean value is sometime 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, 40,300 microsiemens June 28, 1986; minimum, 200 microsiemens July 3, 1986.
WATER TEMPERATURE: Maximum, 33.0°C Aug. 2, 7, 8, 1985; minimum, 1.0°C Feb. 2, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 39,200 microsiemens June 19; minimum, 8,210 microsiemens July 12.
WATER TEMPERATURE: Maximum, 32.0°C July 14 and Aug. 23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT 19...	1012	32400	7.70	19.5	3400	3300	990	220	6900
DEC 30...	1335	29700	7.60	8.0	3600	3400	1100	200	6000
MAR 30...	1030	35000	7.70	15.5	3200	3000	900	220	7400
JUL 11...	1305	8100	8.50	24.0	970	900	280	65	1300
AUG 23...	0823	33900	7.80	26.5	3100	3000	830	260	7700
SEP 26...	1010	29600	7.80	22.5	2900	2800	850	200	5600

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT 19...	54	26	102	2900	11000	0.50	7.9	22100
DEC 30...	45	28	138	2900	9500	0.40	9.5	19800
MAR 30...	60	25	111	3200	11000	0.40	6.2	22800
JUL 11...	19	9.8	69	770	2000	0.20	7.0	4470
AUG 23...	62	23	117	2800	12000	0.50	7.5	23700
SEP 26...	47	6.9	114	2700	9700	0.40	7.2	19100

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	214.80	31900	21700	12600	10700	6200	3000	1740	*
NOV.	1987	218.0	32400	22000	13000	10900	6400	3000	1790	*
DEC.	1987	238.4	31000	21000	13500	10300	6650	2900	1890	*
JAN.	1988	161.20	30900	20900	9090	10300	4470	2900	1270	*
FEB.	1988	212.10	32200	21900	12500	10800	6180	3000	1730	*
MAR.	1988	230.0	33000	22500	13900	11100	6890	3100	1910	*
APR.	1988	162.20	33500	22800	9990	11300	4940	3100	1360	*
MAY	1988	196.9	34900	23900	12700	11800	6290	3200	1700	*
JUNE	1988	167.90	34700	23800	10800	11800	5350	3200	1440	*
JULY	1988	217.60	27700	18700	11000	9200	5380	2700	1560	*
AUG.	1988	179.30	32800	22300	10800	11000	5340	3100	1480	*
SEPT	1988	208.20	27200	18300	10300	9000	5040	2600	1470	*
TOTAL		2406.60	**	**	140000	**	69100	**	19300	**
WTD.AVG.		6.6	31800	21600	**	11000	**	3000	**	**

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	31500	32500	32100	32300	31700	31500	31600	29900	29700	29800
2	31700	31400	31500	32500	32100	32300	31600	31400	31500	30300	29900	30200
3	31500	31200	31300	32600	32200	32400	31500	31300	31400	30300	30100	30200
4	31300	30800	31100	32900	32400	32700	31400	29200	31100	30200	30100	30200
5	31500	31200	31300	32900	32500	32800	31700	31400	31400	30200	30100	30100
6	31500	31000	31200	33000	32700	32800	31800	31600	31700	30100	29600	29900
7	31300	30800	31000	32900	32700	32800	31700	29300	31300	30600	30000	30300
8	32600	31100	31800	32900	32500	32700	32000	31600	31800	30500	29600	30100
9	32300	31900	32100	32600	32300	32400	32300	32000	32100	29700	29100	29300
10	32000	31700	31900	33400	32600	32900	---	---	32000	29200	28900	29100
11	32000	31500	31700	33500	32800	33200	---	---	31900	---	---	---
12	32400	31900	32200	32700	32100	32300	---	---	31800	---	---	---
13	32500	32200	32400	32300	32000	32100	---	---	31700	---	---	---
14	32200	31900	32000	32100	31900	32000	---	---	31600	---	---	---
15	32200	31800	32000	32200	31900	32100	---	---	31500	---	---	---
16	32300	31900	32100	32600	32000	32300	---	---	31400	---	---	---
17	32300	31900	32200	32600	32000	32500	---	---	31300	---	---	---
18	32400	32100	32200	33200	32500	32900	---	---	31200	---	---	---
19	32700	32300	32500	33300	32900	33100	---	---	31100	---	---	---
20	32700	32400	32600	33000	32900	32900	---	---	31000	31200	30900	31000
21	33000	32500	32700	32800	32400	32600	---	---	31000	31400	31200	31300
22	32800	32300	32600	32600	32300	32500	---	---	30900	31500	31300	31400
23	32400	31800	32000	32600	32300	32500	---	---	30900	31500	31200	31400
24	32200	31600	31900	32700	31800	32300	31300	30800	31200	32000	31300	31600
25	32300	31900	32000	32300	31300	31900	30800	29400	30300	31300	31000	31200
26	32400	32000	32100	32200	31500	31800	30900	30400	30700	31600	31200	31400
27	32300	32000	32200	32100	31700	31900	30900	29100	30500	31600	31300	31500
28	32100	31700	31900	32400	32000	32200	29300	28600	28900	32000	31600	31800
29	32400	31900	32100	32100	31700	31900	29700	28800	29200	32000	31600	31800
30	32200	32000	32100	31900	31600	31800	29800	29300	29600	32200	32000	32100
31	32300	31900	32000	---	---	---	29700	29500	29600	32300	32100	32100
MONTH	33000	30800	31900	33500	31300	32400	32300	28600	31100	32300	28900	30800

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	32300	32200	32200	33200	32800	33000	---	---	34400	34300	33100	33400
2	32300	31000	31500	33300	31400	32800	---	---	34100	33600	33300	33400
3	32800	32200	32500	32700	31900	32400	---	---	33800	33400	32900	33200
4	32400	32100	32300	31700	31200	31400	---	---	33600	33100	32700	32800
5	32200	31900	32100	31300	31000	31200	---	---	33500	34000	32900	33500
6	32000	31800	31900	31400	30400	30700	---	---	33500	34500	33700	34100
7	32200	31700	32000	31700	29800	31100	---	---	33400	35100	34000	34500
8	31700	31300	31600	31000	30500	30800	---	---	33400	34800	34200	34500
9	31500	31200	31400	31500	30600	31100	---	---	33200	34900	34100	34500
10	32000	31200	31500	32000	31500	31700	---	---	33300	35000	34300	34600
11	32100	31200	31800	31900	30400	31400	---	---	33200	35200	34500	34900
12	31400	31100	31300	31200	30400	30600	---	---	33200	35500	34900	35200
13	31500	31200	31300	32700	31300	32200	---	---	33100	35800	35100	35400
14	32300	31200	31700	32900	32700	32800	---	---	33100	36400	35400	35700
15	32300	32100	32200	33000	32900	33000	---	---	33000	36000	35300	35600
16	32200	29500	31400	33700	33000	33300	---	---	33000	36000	35300	35600
17	32600	29400	31300	33900	33500	33600	---	---	32900	36100	35400	35700
18	32800	32600	32700	33800	33600	33600	---	---	32900	36300	35700	36000
19	---	---	---	33700	33400	33600	---	---	32800	36300	35900	36100
20	33200	32900	33000	33900	33600	33700	---	---	32800	36200	35500	36000
21	33200	33100	33200	34000	33300	33700	---	---	---	35700	34800	35300
22	33400	33100	33200	34700	33900	34300	---	---	---	36700	35700	36100
23	33500	33200	33300	---	---	35000	---	---	---	37000	35600	36100
24	33200	32900	33000	35100	34600	34900	---	---	---	36200	35800	36000
25	33000	32700	32800	---	---	34400	---	---	---	35800	35000	35300
26	33200	32600	32800	---	---	34600	---	---	---	35300	34900	35100
27	33300	32700	32900	---	---	34600	---	---	---	35200	34500	34900
28	32800	32700	32700	---	---	34700	34300	33800	34100	35000	34300	34700
29	32900	32700	32700	---	---	34900	34600	34400	34500	35100	34400	34800
30	---	---	---	---	---	35000	34700	34400	34500	35500	34900	35200
31	---	---	---	---	---	34700	---	---	---	35700	35400	35500
MONTH	33500	29400	32200	35100	29800	33100	34700	33800	33400	37000	32700	35000

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	36100	35500	35700	31600	26300	30100	32000	31500	31800	---	---	---
2	36400	35700	36100	---	---	---	32800	32100	32400	38000	34700	36800
3	36400	35900	36200	32000	28100	31200	33500	32700	33000	37300	17500	29000
4	36700	36000	36400	31800	26300	29400	33500	32900	33100	18400	16400	17100
5	36700	36000	36400	29900	26000	28300	33900	32900	33100	20800	18500	19400
6	36500	35900	36200	31500	29100	30700	33500	32500	32900	26700	21200	24200
7	36900	35900	36200	32700	31200	31900	33800	32700	33000	29800	25000	27700
8	37000	36200	36500	33700	32600	33300	33900	32500	33000	32100	29400	30300
9	37100	36500	36700	36300	30600	34300	34300	33100	33400	32900	31100	31800
10	37700	36400	37000	31300	20300	25600	36000	32700	33600	33400	32300	32800
11	37400	36800	37100	---	---	---	36300	31400	34600	33300	33000	33200
12	37000	36500	36800	10300	8210	9360	36300	21800	32800	34200	32600	33500
13	37200	35700	36800	15600	10200	12700	29800	21700	24800	34300	34000	34100
14	37500	36500	36900	22000	15100	18000	32600	26100	29200	34900	33600	34400
15	37600	37000	37300	25400	17300	22100	35300	30500	32400	36400	30700	33700
16	37300	36700	37000	27500	25200	26600	35400	32400	33400	31900	30400	31000
17	37700	37000	37300	30300	26700	28700	34700	33200	33700	30500	29200	29800
18	38500	37200	37900	31400	30000	30600	34400	33700	34000	32500	24900	29900
19	39200	37600	37900	32300	30900	31600	35200	34000	34500	27400	15300	21300
20	37800	37100	37400	31700	29600	30800	34400	33000	33700	15200	14100	14500
21	37700	36900	37300	30600	29600	30100	34300	33100	33700	18300	15000	16900
22	37800	37200	37500	31300	30500	30800	35600	33400	34100	23200	17400	20700
23	38500	37400	37700	31100	30400	30700	35000	33900	34100	25300	20900	23900
24	38700	38200	38400	31200	30500	30800	35800	34000	34500	28800	24500	27400
25	38800	37800	38400	30800	30500	30700	36700	34400	34900	29500	28500	28900
26	---	---	---	32600	30700	31400	36900	35000	35500	30300	29300	29700
27	37600	16900	29600	32300	31800	32000	35800	34300	34800	30500	30100	30300
28	28300	14800	20600	32200	31000	31700	34500	34100	34300	31100	30300	30700
29	30100	21800	25900	32100	31300	31600	---	---	---	31600	30600	31100
30	30300	23100	26800	32400	31300	31500	---	---	---	31900	31400	31700
31	---	---	---	31800	31400	31600	---	---	---	---	---	---
MONTH	39200	14800	35400	36300	8210	28600	36900	21700	33200	38000	14100	28100

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	23.5	19.5	21.5	22.0	20.5	21.0	9.5	7.5	8.5	5.0	3.5	4.0
2	23.0	20.5	21.5	22.5	20.0	21.0	9.0	8.0	8.5	5.5	4.0	4.5
3	22.0	18.5	20.5	21.0	19.0	20.0	9.5	9.0	9.5	6.0	4.0	5.0
4	21.5	17.5	19.5	20.0	18.0	19.0	10.0	9.0	9.5	5.0	4.0	4.0
5	22.0	19.0	20.5	19.5	18.5	19.0	13.0	10.0	11.5	4.0	3.0	3.5
6	22.5	18.0	20.0	18.5	16.5	17.5	14.0	12.0	13.0	---	---	---
7	22.0	18.0	20.0	18.0	16.0	17.0	13.0	11.0	12.0	---	---	---
8	22.5	18.5	20.5	17.5	15.0	16.5	13.0	11.0	11.5	---	---	---
9	23.0	19.5	21.0	15.0	12.5	14.0	11.0	9.5	10.5	---	---	---
10	22.0	20.0	21.0	13.5	10.5	12.0	---	---	---	---	---	---
11	21.0	18.0	19.5	11.0	9.5	10.5	---	---	---	---	---	---
12	20.5	16.5	18.5	12.5	9.5	10.5	---	---	---	---	---	---
13	21.0	17.5	19.0	12.5	10.5	11.5	---	---	---	---	---	---
14	22.0	18.5	20.0	14.5	11.5	12.5	---	---	---	---	---	---
15	21.0	19.5	20.0	16.0	14.0	15.0	---	---	---	---	---	---
16	22.0	19.0	20.5	14.5	12.5	13.5	---	---	---	---	---	---
17	21.0	18.0	19.5	13.5	11.0	12.5	---	---	---	---	---	---
18	21.5	18.0	19.5	12.0	10.0	11.0	---	---	---	---	---	---
19	21.0	19.0	20.0	11.0	9.0	10.0	---	---	---	---	---	---
20	19.5	17.0	18.0	11.5	8.5	10.0	---	---	---	9.0	6.5	8.0
21	18.5	16.0	17.0	12.5	9.5	10.5	---	---	---	8.0	6.0	7.0
22	18.5	15.5	16.5	13.0	10.5	11.5	---	---	---	8.0	6.0	7.0
23	19.0	17.5	18.0	14.0	11.5	12.0	---	---	---	9.5	7.0	8.0
24	20.0	18.5	19.0	16.5	13.5	15.0	11.5	9.0	10.0	10.5	8.0	9.0
25	21.5	19.5	20.5	14.5	13.0	13.5	9.0	5.5	7.5	10.5	7.0	8.5
26	22.0	20.0	21.0	13.5	11.5	12.5	5.5	3.5	5.0	11.0	7.5	9.5
27	21.0	19.0	20.0	11.5	10.5	11.0	4.5	2.5	3.5	11.0	8.0	9.5
28	19.5	17.5	18.5	11.0	9.5	10.0	6.0	2.5	4.5	12.0	9.0	10.5
29	19.0	17.5	18.5	10.5	8.5	9.5	8.0	4.0	6.0	13.5	10.0	11.5
30	20.5	19.0	20.0	10.0	8.0	9.0	6.5	5.0	6.0	14.5	11.5	13.0
31	22.0	20.0	21.0	---	---	---	5.0	3.5	4.0	15.5	12.5	14.0
MONTH	23.5	15.5	19.5	22.5	8.0	13.5	14.0	2.5	8.5	15.5	3.0	8.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	14.0	11.5	12.5	17.0	12.5	14.5	17.0	11.5	14.0	22.5	20.5	21.5
2	11.5	9.0	10.0	17.0	14.0	16.0	---	---	---	22.5	19.5	21.0
3	9.0	7.0	8.0	13.5	10.0	11.0	19.5	12.5	15.5	22.0	18.0	20.0
4	7.5	6.0	7.0	13.0	9.5	11.0	20.5	14.5	17.5	23.0	18.0	20.5
5	7.0	5.5	6.5	15.0	10.0	12.0	21.0	16.0	18.5	24.0	19.0	21.0
6	8.5	5.0	7.0	16.5	11.0	13.5	22.0	16.5	19.0	23.5	20.0	22.0
7	10.5	5.5	7.5	17.5	13.0	15.0	21.5	16.5	19.0	25.5	20.5	22.5
8	12.0	7.5	9.5	14.5	12.0	13.5	21.5	17.0	19.0	24.5	20.5	22.5
9	11.0	9.0	10.5	---	---	---	19.0	17.0	18.0	24.5	19.5	22.0
10	10.5	7.0	9.0	16.5	12.0	14.5	18.0	15.0	16.5	24.5	21.0	22.5
11	8.5	5.5	6.5	17.0	13.5	15.0	18.0	14.0	16.0	23.0	21.0	22.0
12	10.5	5.0	7.0	16.0	13.0	14.5	21.5	14.0	17.0	25.0	19.5	22.5
13	12.5	7.0	9.5	---	---	---	21.5	15.0	18.0	26.0	21.0	23.5
14	12.5	9.5	11.0	---	---	---	22.0	17.0	19.5	25.5	21.5	23.0
15	13.0	9.0	11.0	---	---	---	24.0	18.0	20.5	27.5	22.0	24.5
16	14.5	10.0	12.0	---	---	---	22.0	18.5	20.0	29.0	24.0	26.0
17	12.5	11.0	12.0	---	---	---	21.5	17.5	19.5	29.0	24.5	26.5
18	12.0	10.0	10.5	---	---	---	19.5	16.5	18.0	27.5	25.0	26.5
19	---	---	---	---	---	---	20.5	15.0	18.0	25.5	20.5	23.5
20	11.5	9.0	10.0	---	---	---	---	---	---	25.5	20.5	23.5
21	12.0	9.0	10.5	17.5	13.0	15.5	---	---	---	24.0	19.5	21.0
22	13.5	10.0	11.5	18.0	14.5	16.5	---	---	---	19.5	17.0	18.5
23	13.0	10.0	11.5	20.0	16.0	18.0	---	---	---	20.5	17.0	18.5
24	12.0	9.5	11.0	21.0	16.5	18.5	---	---	---	23.0	19.5	21.0
25	14.5	9.5	12.0	---	---	---	---	---	---	23.0	21.5	22.5
26	15.5	12.0	13.5	20.0	15.5	17.5	---	---	---	25.5	21.0	23.0
27	17.5	13.5	15.0	19.5	14.5	17.5	---	---	---	27.0	21.5	24.0
28	17.5	13.0	15.0	21.0	16.5	18.5	21.5	19.5	20.5	26.5	23.0	24.5
29	17.0	13.0	15.0	18.0	13.5	16.0	23.0	20.0	21.5	26.5	23.0	24.5
30	---	---	---	18.0	13.0	15.5	24.0	22.0	23.0	26.0	22.5	24.0
31	---	---	---	16.5	14.0	15.5	---	---	---	25.0	23.0	24.0
MONTH	17.5	5.0	10.5	21.0	9.5	15.0	24.0	11.5	18.5	29.0	17.0	22.5

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.5	21.5	23.5	30.5	29.0	29.5	28.0	26.0	27.0	---	---	---
2	26.0	22.0	24.0	---	---	---	28.0	25.0	26.5	---	---	---
3	25.0	22.0	23.5	28.0	27.0	27.5	29.0	25.5	27.0	---	---	---
4	26.5	21.5	24.0	29.0	27.5	28.0	29.5	25.5	27.0	31.0	24.5	29.0
5	27.0	22.0	24.5	30.5	28.5	29.0	29.5	26.0	27.5	29.0	23.5	27.0
6	26.5	22.0	24.0	30.0	27.5	29.0	30.0	26.0	28.0	30.5	27.5	29.0
7	28.0	22.0	24.5	30.0	26.5	28.0	30.0	26.5	28.0	29.5	25.0	28.0
8	28.5	24.5	26.0	28.0	26.5	27.5	30.5	25.5	28.0	27.5	23.5	26.0
9	29.0	25.5	27.0	28.0	26.0	27.0	29.5	27.5	28.5	27.5	22.0	25.5
10	30.0	24.5	26.5	28.5	23.5	27.0	27.5	26.0	26.5	27.0	21.5	24.0
11	28.5	24.0	26.0	---	---	---	27.5	26.5	27.0	29.5	21.5	26.0
12	28.0	23.5	25.5	26.5	24.5	25.5	28.5	27.5	28.0	28.5	26.0	27.0
13	27.0	23.5	25.0	31.0	26.5	28.5	28.5	28.5	28.5	28.5	26.5	27.5
14	28.5	23.0	25.0	32.0	29.0	30.5	29.5	28.0	28.5	27.5	25.5	26.5
15	25.5	23.5	24.5	30.5	28.5	29.5	30.0	28.0	29.0	27.0	25.5	26.5
16	27.0	22.5	24.5	30.0	28.0	29.0	30.0	26.5	28.0	28.0	25.5	26.5
17	28.0	24.0	26.0	30.0	28.0	29.0	30.0	27.0	28.0	27.5	24.5	26.0
18	29.0	23.5	26.0	30.5	27.5	29.0	28.5	26.5	27.5	26.5	23.0	24.5
19	28.5	24.0	25.5	31.5	28.0	29.5	28.0	25.0	27.0	26.0	19.5	22.5
20	28.5	24.5	26.5	29.5	26.0	28.0	27.5	26.5	27.0	24.5	21.0	23.0
21	29.5	24.0	26.5	28.0	24.5	26.5	29.0	25.5	27.0	24.5	21.5	23.0
22	30.0	24.5	27.0	28.0	24.5	26.5	30.0	26.0	28.0	25.5	21.5	23.0
23	28.0	24.5	26.0	28.0	24.0	25.5	32.0	26.5	29.0	26.5	24.0	25.0
24	29.0	26.5	27.5	28.0	24.5	26.0	31.0	27.5	29.5	24.5	22.0	23.0
25	29.0	25.5	27.5	27.5	24.5	26.0	30.0	27.0	28.5	24.0	20.0	22.0
26	---	---	---	28.0	25.0	26.5	30.5	27.0	29.0	---	---	---
27	26.5	25.5	26.0	29.0	26.5	28.0	29.0	25.5	27.5	---	---	---
28	30.0	25.5	26.5	30.0	27.0	28.5	25.0	22.5	23.5	---	---	---
29	28.0	27.0	27.5	30.0	26.0	28.0	---	---	---	---	---	---
30	29.5	28.0	28.5	30.5	26.0	28.0	---	---	---	---	---	---
31	---	---	---	29.0	26.0	27.5	---	---	---	---	---	---
MONTH	30.0	21.5	25.5	32.0	23.5	28.0	32.0	22.5	27.5	31.0	19.5	25.5

07311783 SOUTH WICHITA RIVER BELOW DAM NEAR GUTHRIE, TX

LOCATION.--Lat 33°37'19", long 100°12'31", King County, Hydrologic Unit 11130205, on right bank 1.1 mi downstream from ranch road crossing, 2.8 mi upstream from Willow Creek, 6.6 mi east of Guthrie, and 91.4 mi upstream from confluence with North Wichita River.

DRAINAGE AREA.--223 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,590.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diversions from station 07311782 via pipeline to station 07311669 began in May 1987. Specific conductance and water temperature for October 1986 to April 1987 were collected at station 07311782 but are published at this station and used for computation of water quality loads at this station. Mini-monitor installed at this station in May and specific conductivity values for this probe used to compute water quality loads since that time. Gage-height telemeter at station via Sutron data collection platform.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,100 ft³/s July 3, 1986 (gage height, 19.01 ft); no flow for several periods during year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage of 20.8 ft since at least 1950, occurred in May 1954, at station 07311780 located about 1.1 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 469 ft³/s July 10 at 1830 hours (gage height 6.98 ft); minimum, 0.02 ft³/s on several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.06	e.04	.02	.03	.03	.03	.02	.04	.04	.05	4.5
2	.05	.07	.03	.02	.03	.03	.03	.02	.04	11	.04	15
3	.06	.07	.03	.02	.03	.03	.02	.02	.04	6.3	.04	12
4	.07	.06	.03	e.02	.03	.03	.02	.03	.04	.91	.04	.02
5	.05	.05	.03	e.02	.03	.03	.02	.02	.04	.04	.05	.02
6	.05	.05	.03	e.03	.03	.03	.02	.03	.04	.04	.05	.02
7	.06	.06	.04	e.04	.03	.06	.02	.03	.04	.04	.05	.02
8	.06	.06	.03	e.06	.03	.07	.02	.04	.04	.04	.05	.02
9	.06	.05	.05	e.06	.03	.07	.02	.04	.05	.04	.05	.02
10	.05	.05	.05	e.06	.03	.09	.02	.04	.05	29	.05	.02
11	.05	.05	.08	e6.0	.03	.08	.02	.04	.05	33	.66	.02
12	.06	.05	.08	6.3	.03	.06	.02	.04	.05	.30	1.3	.02
13	.06	.05	.03	5.5	.03	.04	.03	.04	.05	.04	.04	.02
14	.06	.05	.03	5.7	.03	.04	.03	.04	.05	.04	.04	.02
15	.05	.04	e.05	7.9	.03	.05	.03	.05	.05	.04	.03	.02
16	.04	.05	e.06	8.3	.03	.04	.03	.06	.05	.05	.03	.02
17	.04	.04	.06	7.4	.03	.04	.02	.06	.05	.05	.03	.02
18	.05	.04	.06	8.3	.03	.03	.02	.06	.05	.04	.03	.02
19	.04	.04	.05	6.1	.03	.04	.04	.06	.06	.04	.03	12
20	.04	.04	.04	e2.3	3.4	.05	.03	.06	.06	.04	.02	.02
21	.06	.04	.03	e.04	.03	.05	.06	.06	.05	.04	.03	.02
22	.06	.04	.03	e.03	.03	.06	5.8	.06	.05	.05	.03	.02
23	.05	.04	.03	e.03	.03	.06	3.2	.06	.05	.06	.02	.02
24	.06	.04	e.02	e.03	.03	.07	3.5	.05	.05	.05	.02	.02
25	.06	.03	e.03	e.03	.03	.04	3.2	.05	.06	.04	.02	.02
26	.06	.04	e.03	e.03	.03	.04	3.1	.05	28	.04	.03	.02
27	.07	.03	e6.7	e.03	.03	.03	3.1	.05	8.5	.04	.03	.02
28	.06	.03	e.05	.02	.03	.03	1.9	.04	.04	.04	.03	.03
29	.06	.03	e.05	.02	.03	.03	.03	.04	.27	.04	.03	.02
30	.08	e.04	e.06	.02	---	.03	.03	.04	.04	.05	.03	.02
31	.06	---	.03	.03	---	.03	---	.04	---	.05	.03	---
TOTAL	1.74	1.39	7.96	64.46	4.24	1.41	24.41	1.34	38.05	81.59	2.98	44.03
MEAN	.056	.046	.26	2.08	.15	.045	.81	.043	1.27	2.63	.096	1.47
MAX	.08	.07	6.7	8.3	3.4	.09	5.8	.06	28	33	1.3	15
MIN	.04	.03	.02	.02	.03	.03	.02	.02	.04	.04	.02	.02
AC-FT	3.5	2.8	16	128	8.4	2.8	48	2.7	75	162	5.9	87

CAL YR 1987 TOTAL 2513.19 MEAN 6.89 MAX 1030 MIN .02 AC-FT 4980
WTR YR 1988 TOTAL 273.60 MEAN .75 MAX 33 MIN .02 AC-FT 543

e Estimated.

07311783 SOUTH WICHITA RIVER BELOW DAM NEAR GUTHRIE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1987 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1987 to current year.
WATER TEMPERATURE: May 1987 to current year.

INSTRUMENTATION.--Beginning May 1987, specific conductance and water temperature are recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunction of the instrument. Where maximum and minimum specific conductance values are not shown, mean value is sometimes 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 relationship 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: Maxmimum, 37,900 microsiemens June 26, Sept. 2-3, 1988; minimum, 350 microsiemens May 28, 1987.
WATER TEMPERATURE: Maximum, 34.5°C June 8, 1988; minimum, 0.5°C Jan. 7, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 37,900 microsiemens June 26, Sept. 2-3; minimum, 6,260 microsiemens July 11.
WATER TEMPERATURE: Maximum, 34.5°C June 8; minimum, 0.5°C Jan. 7.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT									
01...	0812	0.05	27100	8.10	20.0	3700	3500	1100	220
DEC									
30...	1330	0.06	29200	7.60	5.5	2800	2700	800	200
MAR									
30...	1035	0.03	31100	7.70	15.0	3900	3800	1100	290
JUL									
11...	1300	32	8050	8.80	24.5	820	780	230	60
AUG									
23...	0825	0.02	28600	7.60	27.0	3000	2900	820	240

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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									
01...	5400	40	27	157	2800	9200	0.50	14	18900
DEC									
30...	6100	52	29	144	2900	9600	0.40	9.9	19700
MAR									
30...	6300	45	27	134	3300	10000	0.30	7.5	21100
JUL									
11...	1300	20	10	46	760	2100	0.20	7.3	4500
AUG									
23...	6000	49	20	130	3000	9500	0.40	11	19700

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)S)	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.	1987	1.74	27600	18500	87	9000	43	2700	13	*
NOV.	1987	1.39	28700	19300	72	9400	35	2800	10	*
DEC.	1987	7.96	29200	19700	423	9700	208	2800	60	*
JAN.	1988	64.46	29300	19800	3440	9700	1690	2800	489	*
FEB.	1988	4.24	32600	22100	253	10900	125	3000	35	*
MAR.	1988	1.41	30500	20600	78	10100	39	2900	11	*
APR.	1988	24.41	33100	22500	1480	11100	733	3100	203	*
MAY	1988	1.34	32400	22000	80	10900	39	3000	11	*
JUNE	1988	38.05	25100	16800	1720	8200	838	2500	253	*
JULY	1988	81.59	19400	12900	2840	6200	1380	1900	426	*
AUG.	1988	2.98	26200	17500	141	8500	69	2600	21	*
SEPT	1988	44.03	30300	20500	2440	10100	1200	2900	341	*
TOTAL		273.60	**	**	13100	**	6400	**	1870	**
WTD.AVG.		0.75	26300	17700	**	8700	**	2500	**	**

07311783 SOUTH WICHITA RIVER BELOW DAM NEAR GUTHRIE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	27200	27000	27100	28200	28100	28100	29200	28600	28900	30000	26000	28700
2	27400	26900	27100	28400	28100	28200	29100	28800	28900	28900	24700	27900
3	27300	26900	27200	28300	27600	28000	29200	28600	28900	---	---	28000
4	27300	26800	27100	28000	27500	27800	29300	28800	28900	---	---	28200
5	27300	26700	27000	28000	27800	27900	29000	28600	28800	30100	23900	28400
6	27300	26700	27100	28100	27900	28000	28900	28600	28800	30400	26800	29700
7	27300	26600	27000	28400	28000	28100	29100	28500	28700	30300	24100	28800
8	27900	26800	27300	28300	28200	28300	28700	28100	28500	30300	29200	30000
9	27900	27500	27600	28500	28200	28300	28900	28000	28200	30300	26900	29700
10	27800	27500	27600	28500	28300	28400	28800	28100	28300	29300	24800	26800
11	27800	27400	27600	28600	28300	28500	28400	28000	28200	29800	28700	29400
12	27700	27400	27600	28700	28400	28600	28700	28100	28200	29900	27300	29200
13	27600	27300	27500	28800	28300	28700	28400	28100	28200	30300	22100	28200
14	27600	27300	27500	28800	28700	28800	28300	27800	28000	30600	23800	28100
15	27600	27400	27400	28900	28700	28800	28300	27800	28000	30800	19200	26800
16	27500	27200	27300	29100	28900	29000	28500	27600	28000	31000	26700	30100
17	27500	27200	27400	29200	29000	29100	28200	27700	27900	30400	29900	30300
18	27400	27200	27400	29200	29100	29200	27900	27600	27800	30600	30200	30400
19	27700	27300	27500	29400	28800	29300	27800	27400	27700	30700	30600	30600
20	28000	27600	27800	29400	29000	29300	27700	27400	27600	31000	28900	30700
21	27900	27600	27800	29400	29200	29300	27700	27300	27500	31000	28100	30800
22	28000	27700	27900	29400	29200	29300	27700	27500	27600	30900	30800	30800
23	28000	27700	27900	29500	29100	29300	27800	27500	27700	30900	30200	30500
24	28200	27700	27900	29500	29200	29300	28000	27700	27900	30400	30200	30300
25	27900	27700	27800	29400	29200	29300	28100	27800	28000	30400	30100	30300
26	28000	27500	27800	29300	29100	29200	28000	27700	27900	30300	30000	30200
27	28200	27700	27900	29200	29000	29100	30600	27600	29400	30400	30000	30200
28	28200	27900	28000	29200	28900	29100	30000	27600	29500	30400	29900	30200
29	28300	27900	28100	29200	29000	29100	29500	26700	28900	30400	30100	30200
30	28400	28000	28100	29100	28900	29000	30100	29100	29500	30400	30200	30300
31	28300	28000	28200	---	---	---	30200	27900	29900	30300	30000	30200
MONTH	28400	26600	27600	29500	27500	28700	30600	26700	28400	31000	19200	29500

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	30400	30100	30200			31500	---	---	30900	32600	31700	32200
2	30400	30300	30300			31400	---	---	30700	32100	31900	32000
3	30400	29500	30200			31300	---	---	30500	32100	31700	31900
4	30300	30200	30300			31200	---	---	30400	32100	31200	31800
5	30400	29900	30200			31100	---	---	30300	32000	31600	31800
6	30100	29800	30000			31000	---	---	30300	32000	31500	31800
7	30100	29500	29900			30700	---	---	30300	31700	30500	31100
8	30100	29500	29800			30300	---	---	30200	31800	30900	31400
9	---	---	29900			30200	---	---	30200	32400	31500	31900
10	---	---	29900			30200	---	---	30100	32500	32000	32300
11	---	---	30000			30100	---	---	30100	32400	32100	32200
12	---	---	30100			30100	---	---	30000	32600	31500	32100
13	---	---	30200			30100	---	---	30000	32900	31800	32300
14	---	---	30300			30000	---	---	29900	32800	31700	32300
15	---	---	30300			30000	---	---	29900	33200	32500	32700
16	---	---	30500			30100	---	---	29800	34800	31500	32900
17	---	---	30700			30200	---	---	29800	35400	31500	33500
18	---	---	30800			30200	---	---	29700	35300	31600	33800
19	---	---	30900			30300	---	---	29700	34300	33000	33400
20	---	---	33000			30300	---	---	29700	33200	32700	33000
21	---	---	32800			30300	---	---	29800	33100	32400	32700
22	---	---	32600			30400	33000	30700	32500	32500	32400	32400
23	---	---	32400			30500	33300	32600	32900	32800	32400	32600
24	---	---	32200			30600	33400	32800	33000	32800	32300	32600
25	---	---	32000			30600	33600	33100	33400	32600	32000	32400
26	---	---	31900			30700	33700	33300	33500	32500	31500	32100
27	---	---	31800			30800	33900	33500	33700	32800	31900	32400
28	---	---	31700			30900	---	---	33900	32800	31800	32400
29	---	---	31600			31000	---	---	33600	32300	31500	31900
30	---	---	---			31100	---	---	32300	31900	31100	31400
31	---	---	---			31000	---	---	---	31500	31000	31300
MONTH	30400	29500	30900			30600	33900	30700	31000	35400	30500	32300

07311783 SOUTH WICHITA RIVER BELOW DAM NEAR GUTHRIE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	32100	31000	31500	26700	23600	24500	30900	30300	30500	37200	32000	36500
2	32300	31600	31900	29100	10100	24600	31000	30400	30700	37900	34000	35600
3	31900	31400	31700	30600	25800	28100	31200	30500	30900	37900	23300	27500
4	32500	31500	32000	30300	23500	27100	31400	30700	31100	25200	23300	24300
5	32700	31700	32200	29200	27800	28400	31800	30900	31300	25300	23900	24500
6	32600	31800	32200	29700	28700	29200	31900	31100	31500	26000	24200	25200
7	33100	31800	32400	30600	29500	30000	32100	31200	31600	26800	24200	25800
8	33000	31900	32400	30800	30300	30500	32400	31400	31800	27800	26300	27100
9	33300	32100	32600	32100	30700	31400	32400	31200	31800	28300	27000	27600
10	33500	32200	32800	32100	15900	27600	31900	30700	31300	28300	27900	28100
11	33300	32400	32800	14400	6260	8400	31500	22600	26500	29200	28000	28500
12	33400	32300	32800	9780	8490	9220	24700	21200	23200	29300	28300	28800
13	33500	32500	32900	12200	9770	10900	25800	24700	25200	29300	28900	29100
14	34100	32600	33300	15000	12100	13700	26900	25600	26200	29300	29000	29200
15	33200	32600	33000	17800	15000	16500	27500	26600	27100	29300	28900	29100
16	33500	32300	32900	20900	17800	19300	28300	27300	27700	29300	28300	28800
17	33900	32500	33200	23000	20600	21900	28900	27900	28300	28300	28000	28200
18	34400	32600	33500	24600	22700	23800	28700	28300	28400	29200	28000	28400
19	35000	32700	33700	26000	24500	25500	28700	26300	27700	28300	21300	24400
20	34700	32900	33700	27100	25900	26600	27100	26200	26600	23000	22100	22400
21	35200	32900	34000	27900	27000	27400	27900	27100	27500	24300	23000	23600
22	35300	32900	34200	28300	27400	27800	29000	27800	28300	25900	24100	24900
23	35500	32900	34300	28800	27900	28300	29300	28500	28800	27100	25900	26300
24	35300	33200	34400	29300	28500	28700	30100	29000	29500	27900	26000	27000
25	35100	33200	34000	28800	27400	28400	30200	29000	29600	28300	27800	28000
26	37900	19800	27100	29600	28600	29000	30300	29300	29900	29300	28000	28600
27	19700	15800	17500	30000	28800	29400	30800	30000	30200	29300	29000	29200
28	18100	15900	17100	30100	29300	29600	30300	30000	30200	30200	29100	29500
29	22400	17700	19000	30400	29500	29900	30300	30200	30300	30000	29200	29700
30	24900	22100	23400	30800	29900	30300	31100	30000	30500	30300	29300	29900
31	---	---	---	31000	30100	30400	31200	30200	30600	---	---	---
MONTH	37900	15800	31000	32100	6260	25000	32400	21200	29200	37900	21300	27900

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	25.0	19.5	22.5	20.5	18.5	19.5	9.0	6.0	7.0	5.0	4.0	4.5
2	23.0	20.0	21.5	21.0	13.0	19.0	9.0	6.5	7.5	6.0	4.5	5.0
3	23.5	13.5	20.0	22.0	18.5	20.0	10.5	7.0	8.5	7.0	5.0	6.0
4	23.5	13.0	18.5	22.5	13.5	19.0	11.5	8.0	9.5	5.0	4.5	5.0
5	22.5	14.0	20.0	20.5	13.5	18.5	11.5	9.5	10.5	4.5	3.0	4.5
6	24.0	13.0	19.5	13.5	12.0	13.0	12.5	10.5	11.5	3.5	2.0	3.0
7	24.5	13.0	19.0	19.5	12.0	16.0	12.5	10.0	11.0	3.5	.5	2.5
8	23.5	13.0	19.5	17.0	11.0	15.5	12.0	9.5	11.0	3.5	3.0	3.0
9	24.0	19.5	21.5	14.5	11.5	13.0	11.0	8.0	9.5	3.5	2.5	3.0
10	21.5	14.0	19.5	12.5	10.0	11.0	10.5	8.5	9.5	6.0	3.0	3.5
11	20.0	12.0	15.0	12.5	9.5	11.0	11.0	8.5	9.5	5.5	3.0	4.5
12	22.5	12.5	17.5	13.0	9.0	11.0	10.0	8.5	9.0	7.5	5.0	6.0
13	21.5	12.5	16.5	13.5	9.5	11.0	8.5	6.5	8.0	7.5	5.5	6.5
14	22.5	13.5	19.0	13.0	10.5	12.0	7.0	4.0	6.0	8.5	6.0	7.0
15	21.0	14.0	19.5	14.0	12.5	13.0	5.0	3.0	4.0	9.0	6.5	7.5
16	22.5	14.0	19.5	13.0	11.0	12.0	5.5	3.0	4.0	10.0	8.0	9.0
17	22.0	12.5	18.0	12.0	9.5	11.0	5.0	3.0	4.5	11.0	9.0	10.0
18	22.0	13.0	18.0	10.5	8.5	9.5	6.0	5.0	5.5	12.0	10.0	11.0
19	21.0	19.0	20.0	11.0	7.0	8.5	8.0	6.0	7.0	11.5	9.5	10.5
20	20.0	12.5	15.0	12.0	7.5	9.5	8.0	5.5	7.0	9.5	6.5	8.0
21	16.5	12.0	14.0	11.0	8.0	9.5	9.0	5.5	7.5	8.0	5.5	7.0
22	20.0	12.5	16.5	12.5	8.5	10.5	9.5	6.0	8.0	8.0	6.5	7.5
23	19.5	12.5	16.0	13.5	9.5	11.0	11.0	7.0	9.0	9.0	6.0	7.5
24	24.0	13.5	19.5	13.5	11.5	12.0	9.0	8.0	8.5	9.5	7.0	8.5
25	22.0	19.5	20.5	12.0	10.5	11.0	8.0	7.0	7.5	8.5	6.5	7.5
26	21.5	19.5	20.5	10.0	9.0	9.5	7.0	6.0	6.5	9.5	6.5	8.0
27	20.5	13.0	18.0	9.5	8.5	9.0	5.5	1.5	4.0	10.5	6.5	8.5
28	20.0	12.0	14.5	10.0	7.5	8.5	5.0	3.0	4.0	11.5	7.5	9.5
29	21.5	11.5	17.0	8.5	7.0	7.5	6.0	3.0	4.5	13.5	9.0	11.0
30	23.0	13.5	19.0	8.5	6.0	7.0	6.0	4.5	5.0	14.5	10.5	12.5
31	22.5	19.0	20.5	---	---	---	5.5	4.5	5.0	15.0	11.5	13.0
MONTH	25.0	11.5	18.5	22.5	6.0	12.5	12.5	1.5	7.5	15.0	.5	7.0

07311783 SOUTH WICHITA RIVER BELOW DAM NEAR GUTHRIE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	13.0	9.5	11.5	16.5	10.0	13.5	16.5	11.5	14.5	23.5	21.5	22.5
2	9.0	5.0	7.0	16.0	12.0	15.5	17.0	10.0	13.0	23.5	21.0	22.0
3	7.0	5.0	6.5	11.5	9.5	10.0	21.0	11.5	16.0	23.0	16.5	20.0
4	6.0	5.0	5.5	11.0	5.5	8.0	20.5	15.0	17.5	21.5	17.5	19.5
5	5.5	4.0	5.0	14.0	10.0	11.0	20.0	15.0	17.5	21.5	19.0	20.0
6	6.0	1.5	3.5	16.0	10.0	12.0	21.5	15.0	18.0	24.5	20.0	21.0
7	9.0	4.5	5.5	16.5	10.5	13.0	22.0	15.0	18.0	25.5	20.0	22.0
8	11.5	5.0	7.5	12.0	10.0	11.0	21.0	15.0	18.0	22.0	20.0	21.0
9	9.5	5.5	7.0	16.0	10.0	12.5	17.0	15.0	16.0	25.0	19.5	21.0
10	7.0	5.0	5.5	16.0	10.0	12.5	16.5	14.5	15.5	25.5	20.0	22.5
11	6.5	1.0	4.0	16.0	10.5	13.0	17.0	14.0	15.5	22.0	20.0	21.0
12	10.0	2.0	6.0	14.5	10.0	11.5	20.5	14.0	16.5	25.5	20.0	22.0
13	12.0	5.0	8.0	12.0	10.0	11.0	22.0	15.0	18.0	27.0	20.0	23.5
14	11.0	6.5	9.5	12.0	9.5	11.0	21.5	15.5	18.5	27.0	20.0	23.5
15	12.0	6.0	9.0	14.0	10.0	11.0	22.0	16.5	20.0	27.0	20.5	23.5
16	12.0	6.5	9.5	12.0	10.0	11.5	21.5	17.0	20.0	29.5	22.0	25.5
17	11.5	9.5	10.5	11.5	5.0	8.5	22.0	17.0	20.0	30.0	25.0	26.5
18	11.0	9.5	10.0	10.0	5.0	7.5	19.5	15.0	16.5	27.0	24.5	25.5
19	11.5	6.5	9.0	12.0	5.5	8.5	21.0	15.0	17.5	25.5	20.0	22.0
20	12.0	9.5	10.0	16.5	10.0	12.5	22.0	15.5	19.0	24.5	20.0	22.0
21	14.5	9.5	11.0	16.5	10.5	13.5	22.0	19.5	21.0	21.5	19.0	20.5
22	14.0	10.0	11.5	17.0	11.0	14.5	22.0	20.0	21.0	17.0	10.5	16.0
23	14.5	10.0	11.5	20.0	15.0	16.5	24.0	19.5	21.0	22.0	10.0	17.5
24	12.0	10.0	10.5	20.0	15.0	17.0	21.5	19.0	20.5	25.0	19.5	21.5
25	16.5	10.0	12.0	20.5	15.0	17.5	24.0	16.0	19.5	22.0	20.0	21.0
26	16.0	10.0	12.5	20.5	15.0	17.0	21.5	17.0	20.0	27.5	20.5	23.5
27	17.0	10.0	13.5	20.0	15.0	17.5	21.5	16.5	19.5	27.5	20.5	24.0
28	16.5	10.0	13.5	22.0	16.5	19.5	22.5	19.5	21.0	27.5	21.0	24.5
29	17.0	10.5	14.0	20.0	15.0	16.5	27.5	20.0	23.0	27.5	21.5	24.5
30	---	---	---	16.5	14.5	15.5	23.0	21.0	22.0	27.5	22.0	24.5
31	---	---	---	16.5	15.0	15.5	---	---	---	26.0	22.5	23.5
MONTH	17.0	1.0	9.0	22.0	5.0	13.0	27.5	10.0	18.5	30.0	10.0	22.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	29.5	22.0	25.0	31.5	25.0	28.0	30.0	26.0	27.5	25.0	22.5	24.0
2	32.0	23.5	27.5	27.0	24.5	26.0	31.0	26.0	27.5	25.0	24.0	24.5
3	28.5	23.0	26.0	30.5	26.0	28.0	31.5	26.0	28.5	25.5	23.0	24.0
4	29.5	22.5	26.0	32.0	25.0	29.0	32.0	26.0	29.0	25.0	21.5	23.0
5	32.5	23.0	27.0	31.5	26.0	29.5	33.0	26.0	29.5	26.0	21.5	23.5
6	29.0	23.0	26.5	30.5	26.5	28.5	33.5	26.5	30.0	27.0	22.0	24.5
7	34.0	23.5	28.0	32.0	25.0	28.0	33.5	26.5	30.0	25.0	22.0	23.5
8	34.5	26.5	30.0	27.0	25.0	26.0	33.5	26.5	29.5	26.5	22.5	24.0
9	33.5	27.0	29.5	32.0	25.0	28.5	33.5	26.5	29.5	27.0	22.5	24.5
10	33.5	27.0	29.5	30.0	24.0	26.0	33.5	27.0	30.0	27.0	22.5	24.5
11	32.0	26.5	28.0	26.5	22.0	25.0	33.0	26.5	30.5	27.0	23.0	25.0
12	31.0	26.0	27.5	30.5	24.5	27.0	33.5	26.5	30.5	27.0	22.5	25.0
13	28.5	22.5	26.0	32.0	25.5	28.5	33.5	27.5	30.5	27.0	23.5	25.0
14	31.0	25.5	27.5	32.0	26.0	29.0	33.5	27.0	30.5	26.0	24.0	25.0
15	27.5	25.5	26.5	32.0	25.0	28.0	33.5	27.5	30.5	28.0	25.0	26.5
16	31.5	22.5	26.5	32.0	25.0	28.5	34.0	26.5	30.5	29.0	26.5	27.5
17	32.0	26.0	28.5	32.0	26.5	29.5	34.0	27.0	30.5	27.5	25.5	26.0
18	32.5	26.5	28.5	32.0	26.0	29.5	32.0	27.0	29.0	25.5	25.0	25.0
19	33.0	26.5	29.0	32.5	26.5	30.0	32.0	26.5	28.0	25.0	22.0	23.5
20	31.0	26.0	28.0	31.0	25.5	28.0	33.5	27.0	29.5	26.0	21.5	23.5
21	33.0	26.0	29.0	32.0	25.5	28.5	34.0	27.0	30.0	27.0	23.0	25.0
22	32.5	26.5	29.0	30.5	25.5	27.5	34.0	27.0	30.0	27.0	24.0	26.0
23	33.0	26.0	29.0	30.0	25.5	27.0	32.0	27.5	29.5	27.0	24.5	26.5
24	33.0	26.0	29.5	31.0	25.5	27.5	32.5	27.5	29.5	25.5	23.0	24.5
25	32.0	26.0	27.5	27.5	25.0	26.0	30.5	26.0	28.5	26.5	23.5	25.0
26	27.5	22.0	25.5	32.5	26.0	29.0	31.0	25.5	28.0	27.5	23.0	25.0
27	27.5	25.5	26.5	32.5	25.5	29.0	29.0	25.5	27.0	27.0	23.0	25.0
28	31.0	25.5	27.5	33.0	26.0	29.5	25.0	22.5	23.5	27.5	23.0	24.5
29	32.0	25.0	28.0	33.0	26.0	29.0	22.5	21.5	22.0	23.0	20.0	21.5
30	32.0	25.5	29.0	32.5	26.0	29.0	27.5	21.5	23.5	23.0	18.5	20.5
31	---	---	---	33.0	26.0	28.5	27.5	23.0	25.0	---	---	---
MONTH	34.5	22.0	27.5	33.0	22.0	28.0	34.0	21.5	28.5	29.0	18.5	24.5

07311790 SOUTH WICHITA RIVER AT ROSS RANCH NEAR BENJAMIN, TX

LOCATION.--Lat 33°39'18", long 100°00'49", King County, Hydrologic Unit 11130205, on left bank 170 ft (52 m) upstream from ranch road, 1.6 mi (2.6 km) downstream from Ox Yoke Creek, 13.7 mi (22.0 km) northwest of Benjamin, and 64.5 mi (103.8 km) upstream from mouth.

PERIOD OF RECORD.--Chemical analyses: August 1970 to September 1979, March to September 1988. Sediment analyses: April 1978 to September 1979.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1970 to September 1979.

INSTRUMENTATION.--From October 1970 to September 1979, specific conductance was continuously recorded at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 51,000 microsiemens July 28, 1978; minimum, 1,500 microsiemens May 28, 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
MAR									
07...	1545	2.7	16700	7.90	15.5	2700	2600	740	210
APR									
20...	1045	3.5	18400	8.00	20.5	2700	2700	720	230

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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)
MAR									
07...	3200	28	16	98	2800	4900	0.30	0.70	11900
APR									
20...	3300	28	16	69	2800	5200	0.40	1.3	12300

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX

LOCATION.--Lat 33°38'39", long 99°48'02", Knox County, Hydrologic Unit 11130205, on right bank at upstream side of bridge on State Highway 6, 2 mi downstream from Panhandle and Santa Fe Railway Co. bridge, 4 mi north of Benjamin, and 41 mi upstream from confluence with North Wichita River.

DRAINAGE AREA.--584 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1952-57 (occasional low-flow measurements), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,334.23 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 2, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are low flow diversions upstream at the South Wichita River at Low Flow Dam near Guthrie (station 07311782) to evaporation lake (station 07311669). There were other minor (daily) diversions upstream from station during the year. Gage-height telemeter at station via Sutron data collection platform.

AVERAGE DISCHARGE.--28 years (water years 1961-88), 39.3 ft³/s (0.91 in/yr), 28,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s Oct. 18, 1960 (gage height, 15.40 ft); maximum gage height, 16.70 ft Oct. 20, 1983; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1903 occurred in September 1919 (stage and discharge unknown), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
July 11	0430	1,280	11.76	Sept. 18	2400	*1,700	*13.24

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	e.71	1.9	5.0	3.3	2.0	1.7	4.3	.00	47	.00	.00
2	1.5	e.62	2.0	4.5	3.2	30	2.2	4.5	.00	514	.00	.00
3	1.3	.55	2.1	4.3	3.5	13	2.1	3.8	.00	58	.00	.00
4	1.3	.67	2.1	4.0	3.4	5.8	1.9	3.0	.00	25	.00	.00
5	1.3	.69	2.1	3.8	3.9	5.2	1.8	2.7	.00	15	.00	.00
6	1.3	.59	2.2	3.6	4.6	5.0	1.6	2.1	.00	28	.00	.00
7	1.2	.55	1.9	e3.5	4.1	4.5	1.5	1.5	.00	34	.00	.00
8	1.1	.59	2.0	e3.4	4.0	4.0	1.3	1.3	.00	29	.00	.00
9	1.1	.66	1.9	e3.4	3.8	3.6	1.3	.91	.00	96	.00	.00
10	1.1	.64	1.9	e3.4	3.6	3.3	1.9	.80	.00	49	132	.00
11	1.1	.67	2.0	e3.5	3.2	3.0	1.6	.58	.00	526	33	.00
12	1.2	.91	1.9	7.6	3.7	2.5	1.4	.55	.00	123	2.6	.00
13	1.4	1.1	1.9	5.9	3.3	2.2	1.4	.54	.00	47	.48	.00
14	1.3	1.3	2.8	5.5	3.1	2.3	1.3	.42	.00	22	.04	1.7
15	1.4	1.4	3.3	7.3	2.5	2.3	1.2	.25	.00	13	.00	.00
16	1.6	1.3	3.2	9.0	2.6	2.2	1.2	.20	.06	9.3	.00	.00
17	1.7	1.2	3.2	9.4	2.3	2.8	35	.15	.00	6.7	.00	12
18	1.9	1.3	3.5	9.8	2.2	2.7	15	.07	.00	5.0	.00	708
19	1.7	1.2	3.2	9.6	2.4	2.7	6.4	.00	.00	4.2	.24	584
20	1.3	1.2	3.6	8.9	2.5	2.5	5.0	.65	.00	3.0	.0	60
21	1.0	1.3	3.6	8.5	2.3	2.5	5.0	.22	.00	2.1	.00	27
22	1.1	1.4	3.3	7.6	2.5	2.3	4.4	.06	.00	1.5	.00	14
23	1.2	1.5	3.2	7.2	2.2	2.3	3.5	.04	.00	1.1	.00	28
24	1.4	1.6	3.2	5.9	1.9	2.0	2.7	.02	.00	.67	.00	13
25	1.5	1.6	11	4.8	2.4	1.7	2.3	.00	.00	9.2	.00	9.8
26	1.4	1.6	7.3	4.5	2.7	1.5	2.1	.00	37	4.0	.00	8.4
27	1.3	1.7	6.0	4.1	2.7	1.2	1.6	.00	3.5	1.7	.00	7.0
28	1.5	1.8	7.0	3.9	2.3	1.3	2.3	.00	14	.97	.00	5.3
29	1.6	1.9	6.7	3.6	2.2	1.2	3.7	.00	6.6	.43	.00	4.0
30	e1.3	2.0	5.3	3.3	---	1.1	4.1	.00	3.9	.18	.00	3.6
31	e.92	---	5.2	3.3	---	1.3	---	.00	---	.02	.00	---
TOTAL	41.62	34.25	110.5	172.1	86.4	120.0	118.5	28.66	65.06	1676.07	168.36	1485.80
MEAN	1.34	1.14	3.56	5.55	2.98	3.87	3.95	.92	2.17	54.1	5.43	49.5
MAX	1.9	2.0	11	9.8	4.6	30	35	4.5	37	526	132	708
MIN	.92	.55	1.9	3.3	1.9	1.1	1.2	.00	.00	.02	.00	.00
AC-FT	83	68	219	341	171	238	235	57	129	3320	334	2950
CFSM	.00	.00	.01	.01	.01	.01	.01	.00	.00	.09	.01	.08
IN.	.00	.00	.01	.01	.01	.01	.01	.00	.00	.11	.01	.09

CAL YR 1987 TOTAL 17888.27 MEAN 49.0 MAX 2530 MIN .55 AC-FT 35480 CFSM .08 IN. 1.14
WTR YR 1988 TOTAL 4107.32 MEAN 11.2 MAX 708 MIN .00 AC-FT 8150 CFSM .02 IN. .26

e Estimated.

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1949 to March 1959, July 1966 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURE: October 1967 to current year.

INSTRUMENTATION.--Since August 1968, specific conductance is recorded continuously at this station. Since April 1983, water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where 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, 48,900 microsiemens May 13, 1971; minimum, 500 microsiemens June 4, 1986.
WATER TEMPERATURE: Maximum, 38.5°C July 30, 1983; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 24,600 microsiemens May 18; minimum, 2,000 microsiemens, Sept. 20.
WATER TEMPERATURE: Maximum, 36.0°C June 16; minimum, 0.0°C on several days during December and January.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
NOV 17...	1207	1.0	18400	7.70	14.0	3100	2800	680	330
JAN 23...	1205	7.5	14100	8.00	5.0	2400	2300	660	190
MAR 07...	1703	4.3	16800	8.00	20.0	3300	3100	850	280
APR 20...	1154	4.8	12500	7.70	22.5	2400	2300	620	200
MAY 09...	1028	1.0	23200	8.00	18.5	4100	3900	970	400
JUL 13...	0930	52	6940	7.60	28.0	1600	1500	510	69

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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 17...	3200	26	23	220	3000	5000	0.10	5.1	12400
JAN 23...	2200	20	22	148	2500	3300	0.20	5.6	8970
MAR 07...	3000	24	16	144	2700	4800	0.20	4.0	11700
APR 20...	2000	18	17	85	2300	3000	0.40	5.7	8190
MAY 09...	3900	27	34	166	3700	6500	0.20	4.3	15600
JUL 13...	970	11	13	67	1200	1500	0.20	7.3	4310

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	41.62	16900	11600	1310	5200	588	2200	252	*
NOV.	1987	34.25	18700	12900	1200	5900	544	2400	223	*
DEC.	1987	110.5	17200	11900	3550	5400	1600	2300	675	*
JAN.	1988	172.1	15400	10600	4940	4700	2200	2100	973	*
FEB.	1988	86.4	18100	12500	2920	5700	1320	2400	550	*
MAR.	1988	120.0	13300	9190	2980	4100	1330	1800	586	*
APR.	1988	118.5	12400	8570	2740	3800	1230	1700	536	*
MAY	1988	28.66	21600	14900	1150	6900	532	2600	203	*
JUNE	1988	65.06	8150	5640	990	2500	433	1200	204	1400
JULY	1988	1676.07	4390	3050	13800	1300	5780	690	3130	780
AUG.	1988	168.36	3510	2440	1110	1000	458	570	260	640
SEPT	1988	1485.80	1980	1380	5530	560	2260	330	1320	360
TOTAL		4107.32	**	**	42200	**	18300	**	8920	**
WTD.AVG.		11	5500	3810	**	1600	**	800	**	930

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16600	15800	16200	17600	17200	17400	20300	18200	19700	15500	15100	15300
2	17000	15600	16300	18100	17200	17500	20300	18100	19500	15300	15000	15200
3	17000	16100	16500	17600	17000	17200	19900	18000	19400	15400	14800	15200
4	17000	16000	16500	17600	15700	17100	19900	18100	19400	15600	15400	15500
5	17300	16300	16700	17700	17000	17200	20000	18500	19300	15600	15400	15500
6	17200	16700	16900	17500	17000	17300	19600	18500	19300	15500	15200	15400
7	17100	16500	16800	18300	17400	17700	19700	18300	19400	17600	15400	16600
8	17000	16300	16700	17900	17600	17700	19700	19100	19500	17000	15400	16000
9	17500	16500	16900	17800	17300	17600	19700	19100	19500	16200	15700	16000
10	17400	16900	17100	18100	17000	17700	19700	19100	19500	16400	15700	15900
11	17300	16900	17000	18300	17000	17700	19700	19200	19500	15900	14500	15300
12	17600	16800	17100	18300	17200	17900	19600	19100	19500	15900	14700	15500
13	17200	16700	17000	18900	18100	18500	19700	19500	19600	16300	14700	15800
14	17600	16600	17000	19000	18600	18900	19700	19400	19600	16500	14700	15800
15	17000	16300	16700	19000	18500	18800	19900	18700	19200	16300	15000	15800
16	17400	16700	16900	19200	18000	18800	19600	19000	19300	16400	15100	15800
17	17600	16700	16900	19100	17200	18500	19600	19000	19300	15600	13900	14800
18	17900	16600	17200	19000	17100	17900	19000	18500	18800	14800	13700	14200
19	17200	14400	16500	19300	17200	18500	18500	17900	18200	14700	14200	14500
20	16900	16400	16700	19000	17200	18400	18300	17800	18100	14900	14100	14500
21	16500	16000	16300	19400	17800	18900	18200	17800	18100	14900	14000	14400
22	17300	16400	16800	19700	18100	19200	18200	17800	18100	14900	13700	14300
23	16900	16700	16800	19800	18200	19200	18200	17700	17900	16200	14000	14800
24	17100	16600	16900	19600	18700	19200	18000	17800	17900	16700	15900	16400
25	17200	16600	16900	20300	18800	19500	18100	16900	17700	17100	16200	16700
26	17800	16600	17100	19700	19500	19600	17400	14100	16600	17000	15800	16500
27	17700	16200	17100	19700	19100	19500	15300	12100	13500	16900	15600	16300
28	17700	16600	17100	20200	18200	19500	13800	9630	11600	16400	15300	16000
29	17800	16400	17200	20200	19000	19800	16300	14000	14800	16000	15300	15800
30	18000	16400	17300	20200	18400	19600	14500	14100	14400	16500	15700	16100
31	18200	17100	17400	---	---	---	15200	14300	14800	16700	15800	16400
MONTH	18200	14400	16900	20300	15700	18400	20300	9630	18100	17600	13700	15600

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	17200	16600	16900	19300	18000	18700	19500	18600	19200	21200	20600	20900
2	17800	17100	17500	18600	2500	8840	20100	19000	19600	21300	20800	21000
3	17900	17500	17700	---	---	3520	20200	19300	19800	22500	21400	21900
4	18000	17700	17900	---	---	7120	20100	19400	19800	22300	21600	22000
5	18000	17600	17700	---	---	11000	20400	19800	20100	22300	21600	21900
6	17600	16600	17300	---	---	14600	20300	19600	20000	23000	21600	22200
7	17800	16700	17300	---	---	16800	20000	19400	19700	22900	22200	22500
8	18000	17000	17600	17500	17000	17300	20600	19600	20100	23900	22300	23000
9	17900	17600	17800	17700	17000	17400	20800	19000	20300	23700	23200	23400
10	18800	17700	18200	18300	17700	17900	20000	19600	19800	23500	22400	23100
11	21600	18900	20500	18000	17600	17800	20400	19500	20000	22800	22100	22500
12	21300	18000	19300	18300	17900	18000	21300	20400	20800	22600	21600	22100
13	18400	16600	17800	18500	18200	18300	20600	20200	20400	22400	21200	21800
14	18500	17800	18200	18600	18400	18500	21000	20200	20600	22800	21200	22000
15	18700	17800	18300	18700	18500	18600	21200	20300	20600	23100	22200	22600
16	18600	17400	18200	18800	18500	18600	20900	20200	20500	23200	22300	22800
17	18500	17800	18200	18500	17400	17900	---	---	5250	23800	22400	23200
18	18500	17900	18200	18400	17000	18000	---	---	6000	24600	23100	23800
19	18600	17400	18200	18400	17800	18000	---	---	8000	---	---	---
20	18700	17300	18200	18700	18100	18300	---	---	11700	---	---	13100
21	18500	17200	18100	18700	18200	18400	16400	13900	15400	---	---	14000
22	19000	17500	18300	18900	18400	18600	17200	16500	16900	---	---	15000
23	19200	18100	18800	19400	18700	18900	17900	16700	17200	---	---	16000
24	19200	17600	18600	19600	18900	19100	18600	17100	17700	---	---	16200
25	18900	17500	18400	19500	18800	19100	19900	18600	19400	---	---	---
26	18800	17900	18500	19900	19200	19500	19800	19000	19600	---	---	---
27	19000	18300	18700	20000	19300	19500	19700	18500	19100	---	---	---
28	19100	17800	18700	20000	19300	19600	21600	18500	19200	---	---	---
29	19400	18200	18900	20000	19300	19800	20300	19700	20100	---	---	---
30	---	---	---	20100	19600	19900	21000	20000	20400	---	---	---
31	---	---	---	20000	19200	19600	---	---	---	---	---	---
MONTH	21600	16600	18200	20100	2500	17000	21600	13900	17900	24600	20600	20700

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	17700	4880	9930	---	---	---	---	---	---
2	---	---	---	---	---	4000	---	---	---	---	---	---
3	---	---	---	---	---	8000	---	---	---	---	---	---
4	---	---	---	---	---	9000	---	---	---	---	---	---
5	---	---	---	---	---	10300	---	---	---	---	---	---
6	---	---	---	10500	3290	9290	---	---	---	---	---	---
7	---	---	---	---	---	3900	---	---	---	---	---	---
8	---	---	---	---	---	7000	---	---	---	---	---	---
9	---	---	---	---	---	4000	---	---	---	---	---	---
10	---	---	---	---	---	6000	3530	2620	3010	---	---	---
11	---	---	---	---	---	1750	---	---	5000	---	---	---
12	---	---	---	---	---	4000	---	---	8000	---	---	---
13	---	---	---	---	---	8000	---	---	10000	---	---	---
14	---	---	---	11600	11300	11500	---	---	12000	---	---	8000
15	---	---	---	11500	11100	11300	---	---	---	---	---	---
16	24000	8600	15400	11200	10700	11000	---	---	---	---	---	---
17	---	---	---	10800	10500	10600	---	---	---	---	---	5000
18	---	---	---	10900	10300	10600	---	---	---	---	---	1500
19	---	---	---	11300	10800	11100	---	---	10000	---	---	2000
20	---	---	---	11300	11000	11100	---	---	---	3100	2000	2510
21	---	---	---	11500	10900	11100	---	---	---	---	---	3000
22	---	---	---	11800	11300	11500	---	---	---	---	---	3500
23	---	---	---	12200	11600	11900	---	---	---	---	---	2500
24	---	---	---	12500	11900	12100	---	---	---	---	---	4000
25	---	---	---	---	---	7800	---	---	---	---	---	5000
26	---	---	3340	---	---	12100	---	---	---	---	---	6000
27	---	---	6350	13900	12900	13300	---	---	---	---	---	6680
28	---	---	14200	12700	12000	12400	---	---	---	---	---	7220
29	19000	13600	16900	12000	11600	11800	---	---	---	---	---	7310
30	19100	17800	18700	11800	11200	11500	---	---	---	---	---	8000
31	---	---	---	12500	11700	12000	---	---	---	---	---	---
MONTH	24000	8600	12500	17700	3290	9350	3530	2620	8000	3100	2000	4810

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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

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

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	29.5	26.0	27.0	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	31.5	27.5	29.5	---	---	---	---	---	---
7	---	---	---	28.5	27.0	27.5	---	---	---	---	---	---
8	---	---	---	28.0	27.0	27.5	---	---	---	---	---	---
9	---	---	---	27.5	26.5	26.5	---	---	---	---	---	---
10	---	---	---	27.0	26.5	27.0	25.5	24.5	25.0	---	---	---
11	---	---	---	---	---	24.5	26.5	25.5	26.0	---	---	---
12	---	---	---	26.0	25.5	25.5	28.5	26.0	26.5	---	---	---
13	---	---	---	---	---	29.0	29.0	26.5	27.5	---	---	---
14	---	---	---	32.5	27.5	30.0	28.5	27.0	28.0	29.5	20.5	24.0
15	---	---	---	29.5	26.5	28.5	---	---	---	---	---	---
16	36.0	21.0	26.5	30.0	25.5	28.5	---	---	---	---	---	---
17	---	---	---	30.5	26.0	28.5	---	---	---	25.0	20.5	22.5
18	---	---	---	30.0	26.5	28.0	---	---	---	22.5	21.5	22.0
19	---	---	---	31.0	26.5	28.5	31.0	21.5	25.5	24.0	21.0	22.5
20	---	---	---	28.0	24.0	26.0	---	---	---	22.5	22.0	22.0
21	---	---	---	28.5	22.5	25.5	---	---	---	---	---	---
22	---	---	---	28.5	23.5	25.5	---	---	---	---	---	---
23	---	---	---	27.5	22.0	24.5	---	---	---	---	---	---
24	---	---	---	28.0	22.5	25.0	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	25.0	23.0	24.0	---	---	---	---	---	---	27.0	21.0	24.0
27	---	---	---	34.5	25.5	29.0	---	---	---	28.0	21.0	24.5
28	---	---	---	31.5	24.5	27.5	---	---	---	28.0	20.0	24.0
29	31.5	25.5	28.5	29.5	23.5	26.0	---	---	---	---	---	---
30	30.5	26.0	28.5	30.0	23.5	26.0	---	---	---	---	---	---
31	---	---	---	29.0	22.0	25.0	---	---	---	---	---	---
MONTH	36.0	21.0	27.0	34.5	22.0	27.0	31.0	21.5	26.5	29.5	20.0	23.0

07312000 LAKE KEMP NEAR MABELLE, TX

LOCATION.--Lat 33°45'30", long 99°09'03", Baylor County, Hydrologic Unit 11130206, in outlet gate tower near center of dam on Wichita River, 6.2 mi north of Mabelle, 13 mi northeast of Seymour, and 126.7 mi upstream from mouth.

DRAINAGE AREA.--2,086 mi².

PERIOD OF RECORD.--October 1922 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 Oct. 1, 1972, nonrecording gage at different site and at datum 2.40 ft higher.

REMARKS.--The lake is formed by a rolled earthfill dam 8,890 ft long. The original dam was completed Aug. 25, 1923, but deliberate impoundment had begun Oct. 1, 1922. Enlargement of the dam was completed in November 1973. The 3,000-foot-wide uncontrolled spillway is located approximately 600 ft to right and slightly upstream from right end of dam. The controlled outlet works near center of dam consist of two hydraulically operated slide gates 5 ft 8-in by 13 ft with a 13-foot-diameter conduit and spillway basin. The dam and lake are owned by the city of Wichita Falls and the Wichita County Water Improvement District No. 2. Water is used for irrigation in the Wichita River Valley, oil field operation, municipal, and industrial uses. The capacity table is based on a resurvey made in 1973. Data collection platform at station. Figures given herein represents total contents. Data regarding the dam and lake are given in the following table.

	Elevation (feet)	Capacity (acre-feet)
Top of dam	1,183.0	-
Crest of spillway	1,160.0	603,000
Top of flood-control pool	1,156.0	502,900
Top of conservation pool	1,144.0	268,000
Lowest gated outlet (invert)	1,090.0	1,400

COOPERATION.--Capacity table No. 4-C was provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 420,900 acre-ft June 30, 1941 (elevation, 1,152.0 ft), present datum; minimum since first appreciable storage, 26,160 acre-ft June 30, 1953 (elevation, 1,108.0 ft), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 249,300 acre-ft Oct. 1 at 0100 hours (elevation, 1,142.76 ft); minimum, 150,100 acre-ft Sept. 14-15 (elevation, 1,134.14 ft).

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

1,134.0	148,900	1,138.0	186,700	1,142.0	238,200
1,136.0	166,200	1,140.0	210,900	1,144.0	268,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248900	235700	227300	231100	234300	236700	238500	230100	211700	196100	184600	154800
2	247300	235700	227600	231100	234100	239700	237800	230200	212400	197400	183500	154800
3	246500	235400	227600	231200	234000	238900	237600	229700	211800	198400	182200	154400
4	245900	235000	227700	230900	233900	238800	238200	229200	211600	198800	181300	153600
5	245100	234100	228000	230800	233900	238900	237600	228500	211300	198600	180100	153200
6	244500	233700	228000	232000	234100	239400	237500	228000	210900	198000	179200	152900
7	243300	233700	227700	231900	234300	240000	237400	227700	210400	197300	178100	152400
8	243200	232700	227800	232000	234100	239500	237100	227600	210100	196800	177000	151900
9	243500	232000	227600	231900	234700	239400	236700	226700	209300	196300	175900	151700
10	241600	231300	227700	231900	234100	239400	236400	226400	208500	195700	175200	151400
11	240800	230900	227600	232300	234300	239500	236200	225700	207400	196600	174000	151000
12	240700	230900	227300	232600	234400	238600	236200	225600	206500	198000	173200	150400
13	240000	230800	226900	232900	235300	238200	236200	225000	205500	198700	172600	150100
14	239700	230600	227700	233200	235000	238100	235700	224500	204500	198300	171500	150400
15	239400	230800	227000	234000	235000	237800	235300	223900	203800	197800	170400	150400
16	239100	231100	226900	234100	234800	237500	234000	223800	203100	197500	169400	150500
17	238600	230400	226700	233900	234700	237600	235000	223100	202600	196900	168300	151400
18	238500	230400	227000	234400	234800	237500	235000	222300	201800	196600	167200	160600
19	237800	230400	228700	234400	235100	237500	234100	221800	200900	195900	166100	165700
20	236900	230200	228500	234000	235000	237500	234600	220700	200100	194800	165300	171200
21	236700	230200	228800	233900	235400	237500	235000	220300	199300	194100	164200	174800
22	236500	230400	228700	233900	234700	237900	234800	218900	198300	193000	163300	176600
23	236200	230200	229200	234000	234700	237900	234700	217900	197500	191900	162200	178700
24	236200	230200	228500	234000	234600	237900	234800	217000	196700	191000	161400	178700
25	236700	229200	231100	234000	234700	237800	233900	216500	195700	190400	160400	179300
26	236200	229000	231200	233900	235100	237600	233200	215600	195700	189800	159500	179000
27	236100	228700	231100	234000	234800	237500	232600	214600	196900	189100	158500	179400
28	236100	228300	231200	234300	235300	237800	231800	213800	197600	188200	157700	179500
29	236000	228000	231100	234600	234800	236700	230900	212600	197400	187200	157000	179500
30	236000	227600	231100	234700	---	237400	230900	211800	196800	186400	156200	179500
31	235800	---	231100	234700	---	237400	---	211600	---	185400	155500	---
MAX	248900	235700	231200	234700	235400	240000	238500	230200	212400	198800	184600	179500
MIN	235800	227600	226700	230800	233900	236700	230900	211600	195700	185400	155500	150100
(†)	1141.83	1141.24	1141.49	1141.75	1141.76	1141.94	1141.48	1140.05	1138.87	1137.88	1134.79	1137.33
(ϕ)	-13500	-8200	+3500	+3600	+100	+2600	-6500	-19300	-14800	-11400	-29900	+24000

CAL YR 1987 MAX 362000 MIN 226700 (ϕ) -44600
WTR YR 1988 MAX 248900 MIN 150100 (ϕ) -69800

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

07312100 WICHITA RIVER NEAR MABELLE, TX

LOCATION.--Lat 33°45'36", long 99°08'33", Baylor County, Hydrologic Unit 11130206, near left bank at downstream side of bridge on U.S. Highways 183 and 283, 0.3 mi downstream from Lake Kemp Dam, 6.2 mi north of Mabelle, and 13 mi northeast of Seymour.

DRAINAGE AREA.--2,086 mi², all of which is above Lake Kemp Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1952-58 (occasional discharge measurements), October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,062.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated discharges, which are fair. Flow regulated by Lake Kemp (see station 07312000). Water is released from Lake Kemp to supply Lake Diversion. Water from Lake Diversion is released for mining, recreation, and irrigation in the vicinity of Wichita Falls.

AVERAGE DISCHARGE.--29 years, 149 ft³/s (108,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,290 ft³/s Mar. 24, 1976 (gage height, 10.47 ft); minimum daily, 0.15 ft³/s June 22, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 367 ft³/s Aug. 2-6, 9 (gage height, 3.48 ft); minimum daily, 0.93 ft³/s Mar. 10, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260	3.0	54	1.7	1.8	5.2	1.1	130	188	254	252	245
2	262	3.2	3.1	1.6	1.7	21	.96	129	131	255	287	245
3	263	86	2.8	1.6	1.6	1.9	1.1	130	127	255	363	245
4	263	131	2.7	1.9	1.7	1.3	1.0	130	126	255	364	245
5	264	129	2.5	1.9	1.8	1.3	1.2	129	125	256	363	171
6	264	132	2.7	2.1	1.5	1.2	1.2	130	124	256	363	127
7	265	131	2.6	2.1	1.4	1.1	1.2	129	126	257	363	126
8	262	132	2.6	2.1	1.4	1.3	1.1	128	126	257	362	125
9	193	132	2.4	2.1	1.5	1.0	1.6	130	129	257	362	125
10	127	132	2.4	2.0	1.7	.93	1.8	129	203	258	362	125
11	128	132	2.5	2.0	1.6	.99	1.5	129	255	105	360	125
12	127	60	2.6	4.4	1.4	1.1	1.4	128	256	2.6	360	191
13	128	3.4	3.2	2.3	1.3	1.2	50	128	257	2.1	360	230
14	128	3.0	2.9	1.9	1.4	1.0	177	128	257	82	359	180
15	128	2.9	2.1	1.8	1.3	.99	264	129	256	126	357	136
16	129	3.0	2.2	1.7	1.3	1.0	265	130	256	126	358	80
17	129	2.9	2.2	1.7	1.6	1.4	264	127	255	126	357	16
18	130	3.5	2.4	1.7	1.6	1.2	107	125	256	201	356	30
19	131	2.8	2.9	1.7	1.4	1.0	2.8	201	256	254	356	22
20	133	2.9	2.4	1.7	1.2	.93	1.9	262	256	255	356	20
21	90	2.7	2.2	1.9	1.2	.97	1.8	257	255	254	356	20
22	46	2.7	2.2	1.9	1.0	1.0	1.7	260	255	253	355	20
23	128	73	2.0	1.8	1.4	1.1	1.8	261	255	253	355	20
24	100	129	2.3	1.9	1.1	1.2	1.7	262	255	254	355	20
25	4.2	130	7.3	1.7	1.1	1.2	74	262	254	254	355	20
26	3.1	130	2.9	1.6	.97	1.5	132	262	253	254	293	20
27	3.1	130	2.3	1.4	1.1	1.1	190	259	253	254	248	20
28	3.0	128	2.0	1.2	1.0	.95	256	259	253	254	250	20
29	2.9	128	1.7	1.2	1.2	1.7	257	259	253	254	248	20
30	2.9	124	1.7	1.4	---	1.2	178	256	254	254	247	e10
31	2.8	---	1.8	1.7	---	1.3	---	258	---	253	246	---
TOTAL	4100.0	2205.0	131.6	57.7	40.27	60.26	2240.86	5636	6505	6630.7	10328	2999
MEAN	132	73.5	4.25	1.86	1.39	1.94	74.7	182	217	214	333	100
MAX	265	132	54	4.4	1.8	21	265	262	257	258	364	245
MIN	2.8	2.7	1.7	1.2	.97	.93	.96	125	124	2.1	246	10
AC-FT	8130	4370	261	114	80	120	4440	11180	12900	13150	20490	5950

CAL YR 1987 TOTAL 121787.68 MEAN 334 MAX 2750 MIN .58 AC-FT 241600
WTR YR 1988 TOTAL 40934.39 MEAN 112 MAX 364 MIN .93 AC-FT 81190

e Estimated.

07312100 WICHITA RIVER NEAR MABELLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1965 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to current year.
WATER TEMPERATURE: July 1968 to current year.

INSTRUMENTATION.--From 1968 to 1975, specific conductance was continuously recorded 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, 7,110 microsiemens May 13, 14, 1980; minimum daily, 561 microsiemens May 28, 1975.
WATER TEMPERATURE: Maximum daily, 32.0°C Sept. 4, 1972, June 26, July 5, 1975; minimum daily, 0.0°C Dec. 20, 1973, and Feb. 9, 17, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,440 microsiemens Sept. 12, 13; minimum daily, 2,440 microsiemens Dec. 26.
WATER TEMPERATURE: Maximum daily, 29.0°C Aug. 19, 20; minimum daily, 1.0°C Jan. 6, Feb. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 08...	1540	260	5070	8.50	21.5	900	810	250	68
JAN 29...	1430	1.2	5580	8.10	16.0	920	780	250	71
MAR 10...	1320	1.0	5730	7.80	18.0	1000	860	270	83
JUL 14...	1220	123	6200	7.70	28.0	1100	1000	300	85
AUG 22...	1000	354	6340	7.90	28.0	1100	1100	310	86

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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 08...	900	14	10	95	770	1300	0.30	7.8	3360
JAN 29...	790	12	8.2	134	810	1200	0.40	7.1	3220
MAR 10...	900	13	6.4	159	850	1300	0.30	7.5	3510
JUL 14...	930	13	9.3	92	1000	1400	0.30	6.1	3790
AUG 22...	1000	13	9.7	78	990	1500	0.30	7.7	3950

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	4100.0	4960	3020	33500	1200	13300	680	7490	880
NOV.	1987	2205.0	5160	3160	18800	1300	7530	700	4180	910
DEC.	1987	131.6	5120	3130	1110	1300	447	700	247	900
JAN.	1988	57.7	5400	3310	516	1300	208	730	114	950
FEB.	1988	40.27	5360	3280	357	1300	144	730	79	940
MAR.	1988	60.26	4590	2800	455	1100	181	630	102	810
APR.	1988	2240.86	5610	3450	20900	1400	8470	760	4590	980
MAY	1988	5636	5820	3590	54600	1500	22300	790	11900	1000
JUNE	1988	6505	6110	3780	66400	1600	27300	820	14400	1100
JULY	1988	6630.7	6070	3760	67200	1500	27700	820	14600	1100
AUG.	1988	10328	6190	3830	107000	1600	44100	830	23100	1100
SEPT	1988	2999	6380	3960	32100	1600	13300	850	6910	1100
TOTAL		40934.39	**	**	403000	**	165000	**	87800	**
WTD.AVG.		112	5900	3640	**	1500	**	790	**	

07312100 WICHITA RIVER NEAR MABELLE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4910	5280	5290	5530	5440	5620	5590	5730	6030	6090	6150	6380
2	4910	5230	5530	5530	5160	2900	5630	5710	6040	6060	6140	6410
3	4910	5100	5420	5530	5360	3320	5630	5730	6020	6080	6140	6410
4	4910	5090	5370	5540	5400	4490	5650	5730	6020	6090	6140	6410
5	4920	5080	5340	5530	5390	5080	5650	5720	6020	6080	6130	6310
6	4930	5080	5480	5300	5390	5520	5680	5710	6030	6060	6140	6410
7	4930	5090	5390	5440	5420	5630	5650	5730	6030	6090	6150	6420
8	4930	5090	5470	5490	5400	5670	5660	5770	6030	6080	6150	6410
9	4940	5100	5420	5590	4290	5610	5690	5750	6040	6090	6170	6420
10	4960	5120	5420	5560	5430	5680	5620	5760	6070	6080	6170	6430
11	4970	5120	5550	5510	5440	5660	5630	5760	6070	5900	6180	6420
12	4970	5120	5400	4790	5480	5750	5650	5790	6070	6100	6170	6440
13	4970	5450	5450	4470	5410	5720	5640	5800	6070	6030	6160	6440
14	4980	5280	5300	5260	5440	5680	5550	5810	6080	6130	6160	6400
15	4980	5290	5410	5290	5400	5680	5550	5800	6090	6090	6170	6420
16	4990	5350	5420	5330	5380	5670	5560	5800	6100	6090	6180	6420
17	4990	5370	5400	5480	5380	5580	5550	5800	6110	6090	6170	6400
18	4980	5310	5300	5480	5400	5630	5580	5810	6120	6090	6160	6130
19	5000	5440	4600	5540	5380	5650	5650	5820	6110	6080	6190	6190
20	5000	5340	5320	5590	5400	5640	5680	5840	6130	6070	6210	6360
21	5010	5400	5440	5520	5420	5740	5670	5840	6130	6060	6230	6350
22	5550	5400	5410	5520	5460	5700	5670	5840	6140	6050	6220	6310
23	5050	5370	5390	5550	5440	5680	5690	5850	6150	6080	6220	5930
24	5050	5210	5460	5500	5430	5660	5640	5860	6160	6070	6230	5900
25	5260	5230	2500	5550	5410	5670	5670	5860	6160	6060	6240	5890
26	5200	5220	2440	5540	5410	5680	5630	5860	6180	6060	6250	5910
27	5120	5240	5430	5510	5420	5670	5640	5880	6190	6070	6260	6020
28	5120	5230	5330	5510	5420	5670	5680	5890	6180	6080	6240	5970
29	5180	5240	5430	5500	5420	5720	5670	5900	6170	6080	6240	6030
30	5240	5240	5480	5520	---	5690	5650	5920	6180	6080	6250	5990
31	5260	---	5530	5550	---	5680	---	5910	---	6080	6260	---
MEAN	5040	5240	5200	5440	5370	5440	5640	5810	6100	6070	6190	6260

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	18.0	11.0	3.0	11.0	11.0	13.0	17.0	21.0	27.0	27.0	25.0
2	22.0	17.0	9.0	6.0	3.0	13.0	9.0	18.0	21.0	28.0	27.0	25.0
3	21.0	18.0	9.0	8.0	6.0	6.0	12.0	17.0	22.0	27.0	27.0	25.0
4	21.0	19.0	9.0	6.0	4.0	6.0	13.0	17.0	22.0	27.0	27.0	24.0
5	21.0	18.0	11.0	5.0	5.0	9.0	16.0	18.0	22.0	27.0	27.0	23.0
6	20.0	18.0	15.0	1.0	5.0	12.0	12.0	18.0	22.0	27.0	28.0	24.0
7	20.0	18.0	10.0	4.0	6.0	11.0	13.0	19.0	22.0	27.0	28.0	24.0
8	20.0	18.0	10.0	3.0	7.0	11.0	14.0	19.0	23.0	26.0	28.0	23.0
9	20.0	16.0	8.0	4.0	7.0	9.0	13.0	19.0	23.0	27.0	28.0	24.0
10	20.0	16.0	8.0	5.0	8.0	10.0	14.0	18.0	22.0	27.0	28.0	23.0
11	19.0	15.0	9.0	5.0	1.0	10.0	10.0	19.0	23.0	27.0	28.0	24.0
12	19.0	15.0	8.0	6.0	4.0	10.0	11.0	19.0	24.0	25.0	28.0	23.0
13	19.0	11.0	8.0	5.0	8.0	9.0	12.0	20.0	23.0	27.0	28.0	24.0
14	19.0	13.0	7.0	6.0	11.0	5.0	14.0	21.0	23.0	26.0	28.0	24.0
15	19.0	16.0	2.0	---	7.0	7.0	15.0	21.0	24.0	28.0	28.0	23.0
16	19.0	12.0	4.0	10.0	8.0	10.0	15.0	21.0	24.0	28.0	28.0	24.0
17	19.0	8.0	5.0	8.0	10.0	10.0	15.0	20.0	25.0	28.0	27.0	24.0
18	19.0	10.0	7.0	10.0	10.0	4.0	15.0	21.0	25.0	28.0	27.0	24.0
19	19.0	8.0	11.0	8.0	7.0	9.0	11.0	21.0	25.0	28.0	29.0	24.0
20	18.0	9.0	7.0	4.0	7.0	11.0	14.0	21.0	25.0	28.0	29.0	22.0
21	18.0	10.0	7.0	4.0	8.0	10.0	17.0	21.0	25.0	28.0	28.0	23.0
22	14.0	12.0	7.0	4.0	9.0	12.0	16.0	20.0	25.0	28.0	28.0	23.0
23	18.0	11.0	8.0	5.0	8.0	15.0	16.0	20.0	25.0	27.0	28.0	24.0
24	19.0	14.0	11.0	7.0	8.0	15.0	16.0	20.0	25.0	27.0	28.0	23.0
25	18.0	12.0	5.0	4.0	9.0	12.0	14.0	21.0	25.0	26.0	27.0	23.0
26	17.0	12.0	2.0	5.0	12.0	13.0	17.0	21.0	25.0	27.0	28.0	25.0
27	14.0	12.0	4.0	6.0	12.0	14.0	16.0	20.0	26.0	27.0	28.0	23.0
28	13.0	11.0	3.0	7.0	11.0	18.0	17.0	21.0	26.0	27.0	27.0	23.0
29	15.0	12.0	4.0	10.0	12.0	12.0	17.0	21.0	26.0	27.0	26.0	22.0
30	17.0	11.0	6.0	13.0	---	10.0	16.0	21.0	27.0	27.0	25.0	21.0
31	19.0	---	5.0	13.0	---	13.0	---	21.0	---	27.0	25.0	---
MEAN	18.5	13.5	7.5	6.0	7.5	10.5	14.0	19.5	24.0	27.0	27.5	23.5

07312110 SOUTH SIDE CANAL NEAR DUNDEE, TX

LOCATION.--Lat 33°48'50", long 98°55'57", Archer County, Hydrologic Unit 11130206, on left bank 125 ft downstream from Lake Diversion headgates and 5.3 mi northwest of Dundee.

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

GAGE.--Water-stage recorder. Datum of gage is 1,039.70 ft above National Geodetic Vertical Datum of 1929 (Wichita County Water Improvement District bench mark).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Water diverted from Lake Diversion is used for mining, industrial, recreation, and irrigation. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--17 years, 80.5 ft³/s (58,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 374 ft³/s July 22, 1974; maximum gage height, 8.66 ft July 23, 1978; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 241 ft³/s Aug. 22; maximum gage height, 6.77 ft Aug. 22; minimum daily, 0.14 ft³/s Jan. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	2.2	30	2.1	.44	.62	32	58	161	177	192	224
2	120	2.3	30	1.9	.46	.81	16	55	152	176	199	209
3	120	35	31	1.9	.54	.91	1.4	65	152	176	205	157
4	121	60	15	1.9	.47	.91	1.2	78	152	178	221	108
5	122	62	2.0	1.9	.47	.91	14	80	152	178	236	110
6	122	63	1.4	1.9	.44	.91	64	82	152	169	237	112
7	123	63	1.4	.98	.41	1.0	74	82	152	160	240	132
8	123	62	1.4	.47	.43	9.8	50	77	151	160	235	132
9	123	62	1.4	.43	.49	14	48	80	154	161	229	131
10	125	63	1.5	.41	.54	15	49	91	161	161	230	132
11	124	63	1.6	.30	.54	4.8	48	110	169	164	229	140
12	123	63	1.6	.14	.54	.81	63	120	169	162	231	156
13	124	29	1.6	.16	.54	.81	78	126	178	162	232	159
14	124	2.8	1.6	.23	.50	.81	78	126	185	160	233	139
15	122	2.8	1.7	.23	.40	.81	79	126	187	159	237	e95
16	120	2.7	1.7	.19	.40	.81	81	126	188	162	237	e7.2
17	120	2.8	1.7	.23	.41	.91	81	138	185	168	237	3.0
18	120	3.0	1.7	.28	5.3	.91	53	147	175	171	234	2.8
19	120	17	1.9	.29	13	.91	25	147	174	187	234	2.8
20	120	28	1.9	.24	14	18	23	148	174	186	237	2.6
21	120	29	1.9	.24	14	40	22	148	173	187	238	2.6
22	119	29	1.9	.23	4.3	65	31	146	173	187	241	2.6
23	98	29	1.9	.30	.62	78	52	140	182	188	234	2.6
24	55	29	1.9	.32	.62	78	55	135	190	187	219	2.6
25	54	30	2.1	.39	.62	69	53	136	191	189	219	2.6
26	23	30	2.0	.62	.62	39	54	146	191	191	219	2.6
27	2.3	30	2.0	.64	.62	37	55	155	197	191	218	2.6
28	2.2	30	2.0	.63	.54	35	55	164	186	192	219	2.6
29	1.9	30	2.0	.53	.62	33	57	167	174	191	219	2.6
30	1.9	30	2.0	.46	---	35	57	169	174	191	221	2.6
31	2.0	---	2.1	.48	---	35	---	169	---	191	223	---
TOTAL	2913.3	984.6	153.9	21.02	62.88	618.45	1449.6	3737	5154	5462	7035	2180.4
MEAN	94.0	32.8	4.96	.68	2.17	19.9	48.3	121	172	176	227	72.7
MAX	125	63	31	2.1	14	78	81	169	197	192	241	224
MIN	1.9	2.2	1.4	.14	.40	.62	1.2	55	151	159	192	2.6
AC-FT	5780	1950	305	42	125	1230	2880	7410	10220	10830	13950	4320

CAL YR 1987 TOTAL 32222.41 MEAN 88.3 MAX 308 MIN .01 AC-FT 63910
WTR YR 1988 TOTAL 29772.15 MEAN 81.3 MAX 241 MIN .14 AC-FT 59050

e Estimated.

07312200 BEAVER CREEK NEAR ELECTRA, TX

LOCATION.--Lat 33°54'21", long 98°54'17", Wichita County, Hydrologic Unit 11130207, near right bank at downstream side of bridge on Farm Road 2326, 6.5 mi northwest of Kamay, 8 mi upstream from Wichita River, and 9 mi south of Electra.

DRAINAGE AREA.--652 mi².

PERIOD OF RECORD.--February 1960 to current year.
Water-quality records.--Chemical analyses: October 1968 to June 1970. Water temperatures: October 1968 to June 1970. Sediment records: April 1966 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 991.3 ft above National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation reference point).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Some regulation by Santa Rosa Lake (capacity, 11,570 acre-ft) about 30 mi upstream. There are several diversions above station.

AVERAGE DISCHARGE.--28 years, 67.4 ft³/s (1.40 in/yr), 48,830 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s Mar. 17, 1961 (gage height, 33.57 ft); maximum gage height, May 29, 1987, 34.94 ft; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1925, 36.0 ft, probably occurred Oct. 2, 1941 (partly caused by breaching of Santa Rosa Dam to avoid its failure), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 19	1800	*2,340	*25.49	No other peak greater than base discharge.			

Minimum discharge, 0.28 ft³/s Aug. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	7.0	6.2	4.1	8.2	11	6.2	4.0	25	8.4	1.5	1.9
2	28	6.9	6.2	3.8	8.2	401	6.7	4.1	16	90	1.4	2.5
3	36	6.9	6.3	3.6	7.9	267	5.2	4.2	5.3	240	1.3	30
4	34	6.9	6.1	3.1	7.6	56	4.1	3.9	3.5	47	1.3	29
5	37	6.7	6.0	e3.0	7.4	18	3.9	3.4	1.9	10	1.3	9.2
6	45	6.8	6.0	e3.0	7.4	11	3.7	3.2	1.1	5.4	1.4	5.2
7	70	6.6	5.8	e2.8	7.5	9.0	3.7	3.2	.74	3.8	1.3	4.6
8	190	6.5	5.7	e2.7	7.6	7.6	3.8	3.5	.57	3.2	1.1	4.4
9	41	6.6	5.6	e2.7	7.6	6.9	3.6	3.7	1.1	3.1	.74	2.8
10	24	6.6	5.5	e3.0	7.5	6.5	5.1	3.2	.76	8.9	.58	1.7
11	19	6.5	5.4	6.4	7.6	6.0	4.6	3.4	.70	16	.46	1.4
12	18	6.1	5.3	22	7.5	4.9	4.2	4.6	.66	5.8	.75	1.4
13	15	6.0	5.2	85	7.7	4.4	3.4	4.0	.47	5.8	2.5	1.5
14	13	5.9	5.0	31	7.7	3.8	2.3	2.8	.39	4.2	.99	167
15	11	e9.3	4.8	14	7.7	3.5	3.2	2.6	.80	3.2	.72	200
16	8.7	e10	4.4	7.5	7.5	5.2	3.0	2.6	.85	2.3	.50	23
17	7.1	e15	3.3	6.5	7.6	5.3	28	3.0	5.7	2.2	.38	10
18	e7.2	e10	2.9	7.6	7.6	4.6	44	3.2	2.7	2.0	7.7	364
19	e7.1	e8.4	23	16	7.5	4.2	23	3.0	2.5	2.5	16	2120
20	e7.0	7.1	16	9.0	7.4	3.9	9.6	2.5	1.9	2.0	5.7	1820
21	e7.2	6.9	9.2	7.8	7.3	4.0	6.4	1.7	1.7	1.7	4.2	266
22	e7.1	6.9	5.7	8.0	7.1	3.8	4.9	1.5	1.4	1.6	4.6	49
23	e7.2	6.9	4.2	6.4	6.8	3.5	4.0	2.1	1.2	1.8	3.1	26
24	e7.4	6.6	4.3	8.7	6.8	3.5	3.6	2.3	.77	1.6	1.5	29
25	e7.2	6.5	17	8.7	6.7	4.1	3.1	2.4	.70	1.8	1.2	20
26	7.4	6.6	81	8.7	6.7	4.8	2.9	2.7	74	2.2	1.1	14
27	7.2	6.5	25	8.8	5.8	4.7	3.0	3.3	96	2.8	1.1	8.4
28	7.1	6.4	12	8.8	5.6	3.4	3.2	3.1	29	2.6	1.0	7.0
29	7.1	6.3	8.6	9.0	5.8	2.9	3.5	3.0	16	2.3	1.2	6.9
30	7.0	6.2	6.9	8.9	---	2.5	3.9	2.9	15	1.8	1.2	5.5
31	7.0	---	5.1	8.6	---	2.6	---	2.9	---	1.7	1.3	---
TOTAL	722.0	217.6	313.7	329.2	211.3	879.6	209.8	96.0	308.41	487.7	69.12	5231.4
MEAN	23.3	7.25	10.1	10.6	7.29	28.4	6.99	3.10	10.3	15.7	2.23	174
MAX	190	15	81	85	8.2	401	44	4.6	96	240	16	2120
MIN	7.0	5.9	2.9	2.7	5.6	2.5	2.3	1.5	.39	1.6	.38	1.4
AC-FT	1430	432	622	653	419	1740	416	190	612	967	137	10380
CFSM	.04	.01	.02	.02	.01	.04	.01	.00	.02	.02	.00	.27
IN.	.04	.01	.02	.02	.01	.05	.01	.01	.02	.03	.00	.30

CAL YR 1987 TOTAL 64992.3 MEAN 178 MAX 11000 MIN 2.9 AC-FT 128900 CFSM .27 IN. 3.71
WTR YR 1988 TOTAL 9075.83 MEAN 24.8 MAX 2120 MIN .38 AC-FT 18000 CFSM .04 IN. .52

e Estimated.

07312500 WICHITA RIVER AT WICHITA FALLS, TX

LOCATION.--Lat 33°54'34", long 98°32'00", Wichita County, Hydrologic Unit 11130206, near center of stream at downstream side of bridge on Beverly Drive in Wichita Falls, 4 mi upstream from Fort Worth and Denver Railway Co. bridge, 8.4 mi upstream from Holliday Creek, and 55.3 mi upstream from mouth.

DRAINAGE AREA.--3,140 mi², of which 2,086 mi² is above Lake Kemp Dam.

PERIOD OF RECORD.--February 1900 to January 1902 (monthly discharge only, published in WSP 1311), October 1910 to December 1911 (gage heights only), March 1938 to current year.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 924.26 ft above National Geodetic Vertical Datum of 1929. February 1900 to February 1902 and Oct. 1, 1910, to Dec. 31, 1911, nonrecording gages at site 4 mi downstream at different datum. Mar. 30, 1938, to Dec. 1, 1959, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow from 2,086 mi is regulated by Lake Kemp (capacity 603,000 acre-ft) 71 mi upstream. Since completion of Lake Kemp in 1923, no outflow has been permitted to pass over spillway. Water is diverted from Lake Diversion (capacity 40,000 acre-ft) 41 mi upstream for the irrigation of 42,000 acres under permit in the vicinity of Wichita Falls. During the water year, Wichita County Water Improvement District No. 2 diverted 59,050 acre-ft from Lake Diversion for mining, industrial use, recreation, and irrigation. Gage-height telemeter at station via Sutron data collection platform.

AVERAGE DISCHARGE.--51 years (water years 1901, 1939-88), 270 ft³/s (195,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s Oct. 3, 1941 (gage height, 24.0 ft); no flow Oct. 11, 1960 (construction of cofferdam upstream).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s June 8, 1915, computed by Vernon L. Sullivan, engineer for Big Wichita River Irrigation Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,750 ft³/s Sept. 19 at 2000 hours (gage height, 11.71 ft); minimum, 34 ft³/s Jan. 9 (due to freeze-up).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	42	39	56	38	42	65	42	91	83	66	75
2	86	40	39	49	40	382	54	41	101	82	67	98
3	79	40	39	46	40	508	44	40	94	100	66	162
4	78	40	41	43	39	472	42	40	72	277	67	105
5	78	39	41	41	39	137	36	46	65	142	69	116
6	76	53	40	e40	39	83	33	46	63	100	71	94
7	75	52	38	e38	38	63	32	46	60	82	72	83
8	73	54	37	e36	38	57	34	44	55	75	78	75
9	73	54	38	e34	38	51	35	43	54	75	83	74
10	72	50	38	e36	38	49	38	50	55	78	79	72
11	70	49	38	39	39	45	40	45	55	139	79	71
12	70	50	37	57	39	42	38	45	62	125	77	67
13	69	49	36	145	39	42	37	47	68	91	72	69
14	69	56	53	144	39	41	38	52	71	85	72	176
15	66	63	54	104	37	40	40	54	70	81	73	194
16	63	54	46	74	35	39	38	58	79	79	79	295
17	65	46	40	61	35	39	88	60	89	73	80	134
18	60	41	38	50	36	39	94	60	80	68	77	620
19	54	40	196	47	36	38	96	66	78	68	85	2260
20	53	39	212	48	35	38	75	61	74	67	106	2440
21	52	39	89	50	35	37	57	59	71	71	97	2150
22	53	39	58	46	35	50	47	52	66	66	96	938
23	64	43	48	41	35	46	42	53	66	70	97	241
24	80	43	41	40	34	39	41	57	70	70	99	174
25	72	47	561	38	37	35	41	53	75	73	93	143
26	64	43	1010	39	36	35	40	55	84	74	91	119
27	60	42	283	37	35	35	40	59	138	74	83	96
28	52	41	164	36	35	36	39	60	157	77	85	85
29	46	39	101	36	35	34	41	57	119	72	85	112
30	43	39	74	37	---	33	45	58	96	69	83	81
31	43	---	63	38	---	37	---	63	---	64	85	---
TOTAL	2053	1366	3632	1626	1074	2664	1430	1612	2378	2750	2512	11419
MEAN	66.2	45.5	117	52.5	37.0	85.9	47.7	52.0	79.3	88.7	81.0	381
MAX	95	63	1010	145	40	508	96	66	157	277	106	2440
MIN	43	39	36	34	34	33	32	40	54	64	66	67
AC-FT	4070	2710	7200	3230	2130	5280	2840	3200	4720	5450	4980	22650

CAL YR 1987 TOTAL 191715 MEAN 525 MAX 9280 MIN 36 AC-FT 380300
WTR YR 1988 TOTAL 34516 MEAN 94.3 MAX 2440 MIN 32 AC-FT 68460

e Estimated.

07312500 WICHITA RIVER AT WICHITA FALLS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: April 1966 to July 1975. Chemical and biochemical analyses: November 1981 to current year. Sediment analyses: April 1966 to July 1975.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1981 to current year.
WATER TEMPERATURE: October 1981 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, 9,490 microsiemens Mar. 2, 1984; minimum daily, 245 microsiemens Oct. 24, 1983.
WATER TEMPERATURE: Maximum daily, 35.0°C July 21, 1982, July 4, 1983, and June 15, 16, 1984; minimum daily, 0.0°C Dec. 21, 30, 1983, Feb. 2, 1985, and Jan. 6, 10, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 7,660 microsiemens Apr. 11; minimum daily, 490 microsiemens Sept. 21.
WATER TEMPERATURE: Maximum daily, 32.0°C June 24, July 13, Aug. 5, 8; minimum daily, 0.0°C Jan. 6, 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT										
30...	1055	43	6170	8.10	19.0	--	--	--	1100	910
DEC										
03...	1600	46	6920	7.90	13.5	16.4	173	1.8	1200	960
JAN										
28...	1445	35	6900	7.80	11.0	19.5	186	0.9	1300	1000
MAR										
16...	1130	36	6570	7.70	11.0	11.3	108	3.8	1300	1100
MAY										
11...	1650	34	6550	7.80	24.0	10.8	136	5.5	1300	1200
JUL										
21...	1710	70	6750	8.40	31.0	13.1	187	0.9	1300	1200
AUG										
24...	1600	95	6920	8.10	31.5	8.3	120	2.4	1200	1100
SEP										
19...	1120	2380	530	8.70	22.0	--	--	--	100	47

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 WAT WH TOT FET 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									
30...	260	110	870	12	7.1	197	670	1600	0.30
DEC									
03...	270	120	910	12	7.2	208	650	1700	0.40
JAN									
28...	310	120	900	11	6.6	236	730	1600	0.30
MAR									
16...	300	130	870	11	6.2	222	720	1600	0.30
MAY									
11...	320	130	910	11	7.2	144	800	1600	0.40
JUL									
21...	320	120	960	12	8.6	112	970	1600	0.30
AUG									
24...	310	110	1100	14	9.8	102	1000	1700	0.30
SEP									
19...	28	7.4	63	3	3.3	54	45	100	0.20

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
OCT									
30...	7.5	3640	--	--	--	--	--	--	--
DEC									
03...	6.7	3790	--	<0.010	<0.100	0.010	0.39	0.40	0.050
JAN									
28...	6.8	3820	0.080	0.020	0.100	0.110	0.59	0.70	0.060
MAR									
16...	3.8	3760	--	<0.010	<0.100	0.060	0.64	0.70	0.080
MAY									
11...	2.8	3860	--	<0.010	<0.100	0.050	0.55	0.60	0.100
JUL									
21...	7.6	4050	--	<0.010	<0.100	0.110	0.39	0.50	0.100
AUG									
24...	8.1	4300	--	<0.010	0.100	0.060	0.64	0.70	0.120
SEP									
19...	5.5	285	--	--	--	--	--	--	--

07312500 WICHITA RIVER AT WICHITA FALLS, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	2053	5750	3440	19100	1500	8270	640	3530	1100
NOV.	1987	1366	6260	3760	13900	1600	6050	700	2570	1200
DEC.	1987	3632	2960	1750	17200	750	7340	320	3170	550
JAN.	1988	1626	4840	2880	12700	1200	5450	530	2340	910
FEB.	1988	1074	6990	4220	12200	1900	5380	780	2270	1300
MAR.	1988	2664	3470	2070	14900	890	6370	380	2740	650
APR.	1988	1430	6170	3700	14300	1600	6250	690	2650	1200
MAY	1988	1612	6730	4050	17600	1800	7730	750	3260	1300
JUNE	1988	2378	6340	3810	24400	1700	10700	700	4520	1200
JULY	1988	2750	5510	3300	24500	1400	10600	610	4530	1000
AUG.	1988	2512	6850	4130	28000	1800	12300	760	5190	1300
SEPT	1988	11419	1960	1160	35800	490	15200	210	6600	360
TOTAL		34516	**	**	235000	**	102000	**	43400	**
WTD.AVG.		94	4210	2520	**	1100	**	470	**	790

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4940	6330	6630	3290	6430	7210	4930	6890	6240	6280	6910	6860
2	5360	6460	6600	5180	6560	1750	5020	7060	6140	5750	6790	6730
3	5800	6480	6580	5430	6630	2200	5280	7050	5570	5830	6900	4940
4	5720	6500	6670	5730	6630	1090	6480	7030	6940	2460	6890	4910
5	5720	6590	6700	6040	6560	2130	7510	6870	6960	3780	7080	6480
6	5740	6200	6510	6020	6640	2630	6980	7140	6540	4260	7010	6270
7	5740	6220	6540	5360	6830	3210	7080	6940	6410	4980	7020	6430
8	5890	6180	6670	6320	6920	3590	7290	7080	6510	5530	6980	6520
9	5880	6030	6750	6310	6910	4230	7630	6900	6920	5870	6950	6790
10	5810	6380	6700	6560	7250	4870	7230	7020	6820	6180	6150	6950
11	5790	6330	6820	6210	7260	5350	7660	6570	6760	6280	6640	7050
12	5770	6300	6840	5160	7270	5660	7440	6870	6720	3550	6810	7120
13	5770	6280	6850	2920	7270	5890	7070	6570	6720	4340	6860	7170
14	5730	6240	6200	2840	7190	6190	7340	6730	6630	5780	6910	4670
15	5730	4900	5680	2880	7170	6390	7360	7010	6620	6010	6960	4820
16	5720	5500	6380	4020	7140	6550	7500	6580	6560	6220	7030	2630
17	5590	6410	6450	4150	7070	6410	3630	6620	6110	6350	6990	3320
18	5720	6400	6590	5010	7140	6530	3890	6460	6480	6510	6930	1600
19	5950	6390	3770	5300	7070	6610	5830	6450	6640	6500	6910	620
20	6030	6360	3700	5400	7120	6750	5690	6220	6470	6460	6080	590
21	6110	6440	3300	5760	7090	6830	5470	6400	6600	6580	6940	490
22	6130	6450	3520	5340	7070	6700	5940	6510	6650	6750	6870	3100
23	5850	6450	4490	5310	7090	5990	6220	6690	6650	6730	6880	3630
24	5830	6360	4490	5290	7080	6560	6490	6550	7010	6750	6830	4030
25	5410	6370	2210	5660	7040	6780	6650	6700	6940	6690	6820	4670
26	5740	6190	870	6040	7170	6700	6960	6600	6380	6600	6850	4440
27	5790	6460	1170	6490	7100	6670	7180	6800	6680	6620	6870	4580
28	5930	6550	2130	6240	7150	6720	7120	6720	3760	6650	7040	4710
29	6030	6720	2430	6160	7160	6880	7020	6720	6070	6710	7000	3180
30	6090	6580	3330	6320	---	6840	6790	6730	6470	6810	6980	4550
31	6090	---	3970	6520	---	6750	---	6750	---	6820	6910	---
MEAN	5790	6300	5080	5330	7000	5440	6490	6750	6470	5890	6860	4660

07312500 WICHITA RIVER AT WICHITA FALLS, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

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

07312700 WICHITA RIVER NEAR CHARLIE, TX

LOCATION.--Lat 34°03'11", long 98°17'47", Clay County, Hydrologic Unit 11130206, on right bank at upstream side of bridge on Farm Road 810, 3.0 mi southeast of Charlie, and 5.7 mi northwest of Petrolia.

DRAINAGE AREA.--3,439 mi², of which 2,086 mi² is above Lake Kemp Dam and 143 mi² is above Lake Wichita Dam.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 872.71 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. For statement regarding regulation and diversions, see station 07312500. Records furnished by the city of Wichita Falls show that 11,973 acre-ft was returned to river above this station as sewage effluent and filter plant washwater. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 313 ft³/s (226,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,620 ft³/s June 4, 1987 (gage height, 24.36 ft); minimum, 24 ft³/s Feb. 18, 1978, result of freeze-up.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,650 ft³/s Sept. 20 at 1910 hours (gage height, 12.43 ft); minimum, 61 ft³/s Dec. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	234	85	76	134	98	91	263	105	154	184	85	153
2	187	82	71	119	99	1370	275	103	199	167	89	161
3	173	82	73	109	110	1710	177	100	193	159	89	263
4	166	80	73	101	106	870	151	99	188	189	86	275
5	165	76	76	97	100	583	133	94	147	348	85	191
6	167	71	78	e85	96	281	117	109	123	232	87	178
7	161	85	76	e70	93	195	109	108	120	180	89	130
8	156	102	71	e70	92	169	114	108	121	150	92	111
9	155	104	67	e70	93	155	158	91	111	124	101	98
10	156	117	65	e85	93	133	155	88	97	123	185	106
11	159	109	65	108	91	125	158	88	93	139	133	97
12	157	107	63	e158	93	115	139	100	83	238	114	93
13	153	109	61	e439	93	108	135	91	96	206	117	92
14	156	107	78	e425	92	105	128	87	99	157	109	348
15	161	136	194	e303	86	106	106	105	110	140	98	447
16	159	291	120	e212	87	104	109	103	131	130	92	330
17	161	151	96	e172	86	104	185	100	496	120	107	388
18	154	107	78	e145	85	120	711	96	243	112	117	469
19	157	85	285	e136	89	104	279	97	168	113	119	1780
20	156	78	840	e139	88	97	262	106	157	109	135	2610
21	152	76	330	e145	85	98	202	119	159	109	171	2500
22	152	78	183	e123	84	97	164	127	152	114	143	2130
23	147	76	123	e109	81	114	140	130	169	100	152	1030
24	153	80	98	e102	80	139	128	129	124	93	154	393
25	168	82	561	e99	82	157	132	122	114	99	139	287
26	145	85	2260	e102	86	159	108	96	167	108	128	234
27	129	85	1350	e99	87	149	102	88	212	112	127	192
28	120	82	488	e104	84	137	102	96	232	113	119	169
29	112	78	321	104	85	130	137	104	264	110	129	252
30	102	80	215	106	---	124	130	97	220	99	138	263
31	94	---	162	102	---	123	---	98	---	91	144	---
TOTAL	4767	2966	8697	4372	2624	8072	5209	3184	4942	4468	3673	15770
MEAN	154	98.9	281	141	90.5	260	174	103	165	144	118	526
MAX	234	291	2260	439	110	1710	711	130	496	348	185	2610
MIN	94	71	61	70	80	91	102	87	83	91	85	92
AC-FT	9460	5880	17250	8670	5200	16010	10330	6320	9800	8860	7290	31280

CAL YR 1987 TOTAL 242724 MEAN 665 MAX 6470 MIN 61 AC-FT 481400
WTR YR 1988 TOTAL 68744 MEAN 188 MAX 2610 MIN 61 AC-FT 136400

e Estimated.

07314000 LAKE KICKAPOO NEAR ARCHER CITY, TX

LOCATION.--Lat 33°39'47", long 98°46'43", Archer County, Hydrologic Unit 11130209, on intake tower near left end of dam on North Fork Little Wichita River, 8.2 mi south of Mankins, and 9.2 mi northwest of Archer City.

DRAINAGE AREA.--275 mi².

PERIOD OF RECORD.--February 1946 to current year. Prior to October 1965, monthend contents only.
Water-quality records.--Chemical analyses: October 1969 to September 1984.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Nonrecording gage read twice daily prior to Feb. 17, 1974, once daily thereafter. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by city of Wichita Falls). Prior to Oct. 8, 1946, water-stage recorder at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 8,200 ft long, including a 483-foot-wide reinforced concrete ogee-type uncontrolled spillway near right end of dam. The dam was completed Dec. 15, 1945, and storage began Feb. 1, 1946. The service outlet consists of two gate-controlled 4- by 5-foot conduits. The dam and lake are owned by the city of Wichita Falls, which uses the water for their municipal supply. The capacity table is based on Geological Survey topographic maps, dated 1929. The capacity curve, dated November 1946, was entitled "Lake Kickapoo Area & Capacity Curve". Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-ffeet)
Top of dam	1,062.0	-
Design flood (2-foot freeboard)	1,060.0	221,000
Crest of spillway	1,045.0	106,000
Lowest gated outlet (invert)	1,000.92	0

COOPERATION.--Capacity curve, record of lake elevations, and diversions for municipal use are provided by the city of Wichita Falls.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 134,300 acre-ft Aug. 2, 1950 (elevation, 1,049.2 ft); minimum observed since first filling in July 1950, 35,660 acre-ft June 30, 1953 (elevation, 1,029.8 ft).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 94,820 acre-ft Oct. 1 (elevation, 1,043.2 ft); minimum, 71,300 acre-ft Sept. 6-18 (elevation, 1,039.0 ft).

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

1,039.0	71,300	1,042.0	87,700
1,040.0	76,500	1,044.0	99,700

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94820	91830	87700	88290	92420	90650	88290	87700	83140	81450	78150	72340
2	94210	91830	87700	88290	92420	91240	88880	86560	93140	81450	78150	72340
3	93600	91830	87700	88290	92420	91240	87700	86560	83140	81450	77600	72340
4	94210	91240	87700	87700	92420	91240	88890	85420	82570	81450	77600	72340
5	94210	91240	84280	88290	92420	91240	88890	85420	82000	81450	77600	71820
6	94210	91240	83140	87700	92420	91240	87700	85420	82000	80900	77600	71300
7	94210	90650	87130	87700	92420	91240	87700	85420	82000	80900	77050	71300
8	93600	90650	87130	87700	91830	91240	87700	85990	82000	80900	77050	71300
9	93600	89470	87700	87700	91830	90650	87700	84850	82000	80350	76500	71300
10	93600	89470	87700	88290	91830	90650	87700	84850	81450	80350	76500	71300
11	93600	89470	87700	88290	91830	90060	87700	84850	82000	79800	76500	71300
12	92420	89470	87130	88880	91830	91240	87700	84850	81450	80350	75980	71300
13	92420	89470	87130	88880	91240	90650	87700	84850	81450	80900	75980	71300
14	92420	89470	87130	88880	91830	90650	86560	84850	81450	80350	75980	71300
15	92420	89470	87130	88880	91830	90650	86560	84850	81450	80900	75460	71300
16	92420	89470	87130	93600	91830	90060	87700	84280	80900	80900	74940	71300
17	92420	89470	86560	93600	91830	90650	87130	84280	80900	80900	74940	71300
18	91830	88880	86560	93600	91830	90060	87700	84280	80900	80900	74420	71300
19	92420	88880	86560	93600	91240	90060	87130	84280	81450	80900	74420	72340
20	91240	88290	88880	93600	91240	90650	87130	84850	79800	79800	74420	73380
21	91240	88290	88880	93600	91830	90650	87700	84280	79800	79800	74420	73380
22	91240	88290	88880	93010	92420	90650	87700	84280	79800	79800	74420	73380
23	91240	88880	89470	93010	92420	90060	87700	84280	79800	79800	74420	73380
24	91240	88880	88880	93010	90650	90060	87700	84280	79800	79800	73900	73380
25	91240	88290	89470	93010	90650	88880	87700	84280	79800	78700	73900	73380
26	91830	87700	89470	93010	90650	88880	87700	84280	79250	79250	73900	73380
27	90650	88290	89470	93010	90650	88880	87700	83710	79250	78700	73900	73380
28	91830	88290	88290	93010	90650	90060	87700	83710	79250	78700	73380	73900
29	91240	88290	88880	93010	90650	90060	87700	83710	81450	78700	73380	72860
30	91240	87700	88880	93600	---	88290	87700	83710	81450	78150	73380	72860
31	91830	---	88880	92420	---	88290	---	83140	---	78150	72340	---
MAX	94820	91830	89470	93600	92420	91240	88890	87700	93140	81450	78150	73900
MIN	90650	87700	83140	87700	90650	88290	86560	83140	79250	78150	72340	71300
(†)	1042.7	1042.0	1042.2	1042.8	1042.5	1041.1	1042.0	1041.2	1040.9	1040.3	1039.2	1039.3
(Φ)	-2990	-4130	+1180	+3540	-1770	-2360	-590	-4560	-1690	-3300	-5810	+520
(††)	1360	1290	1200	1300	1080	1100	1100	1270	1060	1520	1590	1320

CAL YR 1987 MAX 113800 MIN 83140 (Φ) -18420 (††) 4926
WTR YR 1988 MAX 94820 MIN 71300 (Φ) -21960 (††) 15190

(†) Elevation, in feet, at end of month.
(Φ) Change in contents, in acre-feet.
(††) Diversions, in acre-feet, for municipal use.

07314500 LITTLE WICHITA RIVER NEAR ARCHER CITY, TX

LOCATION.--Lat 33°39'45", long 98°36'46", Archer County, Hydrologic Unit 11130209, on left bank at downstream side of bridge on State Highway 79, 1.5 mi downstream from confluence of North and Middle Forks, and 4.8 mi north of Archer City.

DRAINAGE AREA.--481 mi², of which 275 mi² is above Lake Kickapoo.

PERIOD OF RECORD.--May 1932 to January 1956, August 1966 to current year.
Water-quality records.--Chemical analyses: January 1953 to January 1956. Water temperatures: January 1953 to January 1956. Sediment records: May 1968 to September 1975.

REVISED RECORDS.--WSP 827: 1932-35. WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 934.72 ft above National Geodetic Vertical Datum of 1929. Aug. 17, 1954, to Jan. 6, 1956, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Some regulation by Lake Kickapoo (station 07314000) on North Fork Little Wichita River. Records furnished by the city of Wichita Falls show that 15,190 acre-ft was diverted from Lake Kickapo for municipal use during the current year. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years (water years 1933-45) prior to completion of Lake Kickapoo, 110 ft³/s (79,700 acre-ft/yr); 32 years (water years 1946-55, 1967-88) regulated, 45.5 ft³/s (32,960 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft³/s Oct. 31, 1941 (gage height, 26.18 ft); no flow at times

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1930 reached a stage of about 28 ft, from information by State Depart ment of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,000 ft³/s Dec. 27 at 1500 hours (gage height, 17.94 ft); no flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.03	.06	5.4	.07	.04	.68	.23	.36	4.2	.00	.01
2	.21	.05	.06	4.1	.10	17	.09	.16	6.7	2.1	.00	.01
3	.05	.05	.06	3.5	.16	37	.06	.07	6.6	1.5	.00	.02
4	.03	.05	.06	2.7	.11	9.4	.06	.06	4.6	.79	.00	.02
5	.01	.04	.07	2.0	.10	5.3	.06	.05	4.0	.68	.00	.02
6	.01	.04	.11	1.8	.09	3.5	.06	.05	2.6	.46	.00	.02
7	.0	.04	.07	1.9	.21	2.7	.06	.04	1.6	.44	.00	.02
8	.0	.05	.11	1.4	.27	2.4	.06	.04	1.2	.34	.00	.01
9	.00	.06	.13	1.1	.24	1.6	.06	.04	.88	.18	.00	.0
10	.00	.05	.13	.76	.38	1.6	.14	.06	.58	.07	.00	.0
11	.00	.04	.06	1.0	.47	1.4	.08	.06	.37	.21	.00	.00
12	.00	.04	.06	2.9	.38	.79	.07	.05	.27	14	.00	.00
13	.0	.04	.07	5.3	.28	.40	.07	.04	.21	13	.00	.00
14	.0	.05	.15	4.4	.19	.23	.10	.04	.11	3.8	.66	.01
15	.0	.05	.10	2.6	.10	.14	.07	.04	.06	1.6	2.9	8.5
16	.00	.05	.33	1.7	.06	.13	.07	.04	.58	1.4	1.4	36
17	.0	.04	1.8	1.3	.06	.26	4.2	.04	6.3	1.1	1.2	7.2
18	.00	.04	1.3	1.0	.06	.28	79	.04	3.1	.91	1.0	26
19	.01	.05	123	.89	.06	.20	22	.04	.97	1.9	.53	175
20	.0	.05	582	.53	.06	.16	8.1	.04	.23	1.3	.35	118
21	.01	.05	273	.32	.06	.12	4.1	.04	.12	.43	.19	11
22	.01	.05	17	.24	.05	.09	2.5	.03	.11	.10	.06	7.2
23	.01	.05	6.5	.19	.05	.09	1.5	.03	.03	.05	.05	4.6
24	.02	.05	4.1	.15	.04	.09	.95	.03	.11	.04	.06	7.0
25	.02	.05	270	.11	.04	.08	.74	.03	.04	.03	.06	10
26	.02	.05	885	.10	.04	.07	.47	.03	4.0	.03	.05	4.4
27	.01	.05	965	.09	.04	.07	.38	.03	30	.02	.04	2.0
28	.02	.06	404	.09	.04	.07	.29	.02	13	.01	.03	1.0
29	.04	.06	38	.09	.04	.07	.28	.02	15	.01	.03	59
30	.04	.06	14	.08	---	.06	.26	.02	5.3	.00	.03	39
31	.04	---	7.7	.08	---	.22	---	.03	---	.00	.02	---
TOTAL	1.96	1.44	3594.03	47.82	3.85	85.56	126.56	1.54	109.03	50.70	8.66	516.04
MEAN	.063	.048	116	1.54	.13	2.76	4.22	.050	3.63	1.64	.28	17.2
MAX	1.4	.06	965	5.4	.47	37	79	.23	30	14	2.9	175
MIN	.00	.03	.06	.08	.04	.04	.06	.02	.03	.00	.00	.00
AC-FT	3.9	2.9	7130	95	7.6	170	251	3.1	216	101	17	1020

CAL YR 1987 TOTAL 24219.62 MEAN 66.4 MAX 1930 MIN .00 AC-FT 48040
WTR YR 1988 TOTAL 4547.19 MEAN 12.4 MAX 965 MIN .00 AC-FT 9020

07314800 LAKE ARROWHEAD NEAR HENRIETTA, TX

LOCATION.--Lat 33°45'51", long 98°22'17", Clay County, Hydrologic Unit 11130209, at intake tower near center of dam on Little Wichita River, 2.3 mi upstream from Lake Creek, 11 mi southwest of Henrietta, and 12.3 mi southeast of Wichita Falls.

DRAINAGE AREA.--822 mi².

PERIOD OF RECORD.--June 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.40 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 15,900 ft long, including an uncontrolled reinforced concrete ogee spillway 1,581 ft wide located near the left end of dam. The dam was completed in December 1966 and storage began in June 1967. The service outlet works, located in a cylindrical service tower at upstream side of dam, consist of two gated 5-foot-diameter inlets that can be used for controlled releases. The dam was built by the city of Wichita Falls to impound water for municipal, industrial, and recreational uses. The area-capacity curves are based on Geological Survey topographic maps. 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	944.4	-
Design flood	939.95	551,400
Crest of spillway (top of conservation pool)	926.4	262,100
Lowest gated outlet (invert)	874.1	-

COOPERATION.--Capacity table provided by Homer Hunter and Associates and Biggs and Mathews, Consulting Engineers, for the city of Wichita Falls. Area-capacity curves provided by Homer Hunter and Associates. Record of diversions provided by the city of Wichita Falls.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 279,200 acre-ft June 10, 1985 (gage height, 927.43 ft); minimum since first appreciable storage, 4,640 acre-ft Aug. 31 to Sept. 4, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 251,100 acre-ft Dec. 30 (gage height, 925.71 ft); minimum, 201,100 acre-ft Sept. 13 (gage height, 922.30 ft).

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

922.0	197,000	926.0	255,700
924.0	225,200	928.0	288,900

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	234100	226700	224300	247900	243400	240600	240400	237100	230000	223300	213700	204400
2	233800	226400	224300	247100	243200	240300	239700	236800	230200	223100	213700	204800
3	233500	226400	224200	246800	243200	240100	239700	236200	230300	223100	212800	204600
4	233200	226400	224200	246600	243200	239800	239800	235900	230000	222500	212300	204400
5	232900	226200	224000	246500	242400	239700	239400	235700	229700	222400	212200	204100
6	232600	226200	224000	246300	242400	239500	239700	235600	229700	221800	211800	203900
7	232300	226100	223900	246100	242100	239700	239700	235600	229600	221500	211500	203300
8	232000	226100	223900	246000	242000	239800	239400	234700	229500	221200	211100	203000
9	231700	225900	223700	246000	242000	240100	238800	233900	228300	220900	210400	202900
10	231400	225900	223700	245800	242400	240400	238800	234100	228300	220600	210200	202800
11	231100	225800	223600	245700	242800	240600	238400	233800	227800	221700	209800	202500
12	230800	225800	223600	245500	244500	240600	238400	233800	227400	221500	209800	202100
13	230500	225600	223400	245500	244500	240800	238400	233800	226800	221200	209400	201900
14	230200	225600	223400	245400	242600	240800	238400	233300	226700	220900	209100	203000
15	229900	225500	223300	245200	242600	240900	238000	232900	226400	220300	208700	203500
16	229600	225500	223300	245200	242400	240900	238300	232900	227100	220000	208100	203500
17	229300	225300	223700	245100	242400	240900	239200	232700	227400	219600	207600	204000
18	229000	225300	223900	244900	242400	240900	239200	232100	227300	219600	207300	206100
19	228700	225200	229700	244800	242100	240900	239700	231800	226800	219400	209300	205500
20	228400	225200	231400	244800	242000	240900	239700	231200	226500	218300	209000	206100
21	228100	225100	231800	244600	242000	240900	239500	230800	226100	218300	208700	205900
22	228100	225100	232100	244500	241800	240900	239100	230500	225800	217700	208300	206100
23	228100	224900	232600	244300	241700	240900	238300	230200	225300	217000	207600	205900
24	228000	224900	230200	244300	241500	240900	238100	229700	225100	216000	207400	205900
25	228100	224800	237500	244100	241400	240900	238100	229600	224500	216000	207300	205700
26	228000	224800	240400	244100	241200	239700	237400	229500	224500	216000	206800	205400
27	228000	224600	245500	244000	241100	240900	237400	229300	224200	215700	205500	205400
28	228100	224600	248500	243800	240900	239700	237400	228700	224800	215300	205100	204400
29	228000	224500	249600	243800	240800	239100	236800	228600	224500	214900	205400	204800
30	227400	224500	249700	243700	---	238800	237100	228300	224200	214500	204800	204800
31	227000	---	248600	243500	---	239100	---	228900	---	214000	204600	---
MAX	234100	226700	249700	247900	244500	240900	240400	237100	230300	223300	213700	206100
MIN	227000	224500	223300	243500	240800	238800	236800	228300	224200	214000	204600	201900
(†)	924.12	923.95	925.55	925.22	925.04	924.93	924.80	924.25	923.93	923.23	922.55	922.57
(Φ)	-7500	-2500	+24100	-5100	-2700	-1700	-2000	-8200	-4700	-10200	-9400	+200
(††)	1059	255	215	203	263	206	257	1106	1212	1575	1925	630

CAL YR 1987 MAX 270000 MIN 223300 (Φ) -13500 (††) 17355
WTR YR 1988 MAX 249700 MIN 201900 (Φ) -29700 (††) 8906

(†) Gage height, in feet, at end of month.
(Φ) Change in contents, in acre-feet.
(††) Diversions, in acre-feet, for municipal use by the city of Wichita Falls.

07314900 LITTLE WICHITA RIVER ABOVE HENRIETTA, TX

LOCATION.--Lat 33°49'36", long 98°14'23", Clay County, Hydrologic Unit 11130209, on right bank at downstream side of bridge on U.S. Highways 822 and 287, 1.0 mi downstream from Duck Creek, 2.8 mi west of Henrietta, 6.6 mi upstream from Turkey Creek, and 7.6 mi upstream from Dry Fork Little Wichita River.

DRAINAGE AREA.--1,037 mi².

PERIOD OF RECORD.--January 1953 to current year. Prior to October 1974, published as "near Henrietta".
Water-quality records.--Chemical analyses: December 1952 to January 1956, November 1959 to September 1966, January 1968 to September 1985.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 831.57 ft above National Geodetic Vertical Datum of 1929. Prior to June 26, 1953, nonrecording gage. Prior to July 11, 1975, at site 2.6 mi downstream at same datum.

REMARKS.--Records fair except those for period computed from observer readings and for period affected by ice, which are poor. Flow largely regulated by Lake Arrowhead 39 mi upstream (capacity 262,100 acre-ft). The city of Wichita Falls diverted 15,190 acre-ft from Lake Kickapoo and 8,906 acre-ft from Lake Arrowhead for municipal uses, and returned 11,973 acre-ft as sewage effluent and filter plant wash water to the Wichita River below station 07312500 at Wichita Falls and above station 07312700 near Charlie. The city of Henrietta diverted 529 acre-ft from pool at gage for municipal use. Records of diversions are furnished by the cities of Wichita Falls and Henrietta, respectively.

AVERAGE DISCHARGE.--13 years (water years 1954-66) prior to completion of Lake Arrowhead, 124 ft³/s (89,840 acre-ft/yr); 22 years (water years 1967-88) regulated, 46.7 ft³/s (33,830 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,630 ft³/s May 1, 1966 (gage height, 18.28 ft, at former site); maximum gage height, 23.95 ft May 24, 1982, at present site; no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1908 reached a stage of 21 ft at former site, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 940 ft³/s Dec. 26 (time unknown) (gage height, 16.70 ft); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	18	.00	.00	.16	.00	.00	.00	.00	.00
2	.00	.00	.00	12	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	8.8	.00	120	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	6.4	.00	401	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	4.1	.00	157	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	e2.5	.00	45	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	e2.0	.00	24	.00	.00	.00	.00	.00	.00
8	13	.00	.00	e1.6	.00	17	.00	.00	.00	.00	.00	.00
9	13	.00	.00	e1.6	.00	11	.00	.00	.00	.00	.00	.00
10	14	.00	.00	e1.6	.00	7.7	.00	.00	.00	.00	1.2	.00
11	17	.00	.00	e2.2	.00	5.6	.00	7.0	.00	.00	8.5	.00
12	19	.00	.00	2.4	.00	4.3	.00	10	.00	.00	8.5	.00
13	11	.00	.00	1.6	.00	3.7	.00	11	.00	.00	8.4	.00
14	2.8	.00	.00	1.6	.00	3.0	.00	9.8	.00	.00	8.1	.00
15	.53	.00	.00	1.6	.00	2.6	.00	9.5	.00	.00	7.0	.00
16	.09	.00	.00	4.6	.00	2.2	.00	9.2	.13	.00	7.4	.00
17	.00	.00	.00	5.6	.00	2.7	.36	3.8	19	.00	7.5	.00
18	.00	.00	.00	7.1	.00	1.8	6.1	1.1	1.4	.00	7.6	.00
19	.00	.00	22	13	.00	.98	2.5	.12	.00	.00	7.6	36
20	.00	.00	66	8.0	.00	.42	.16	.00	.00	.00	8.7	23
21	.00	.00	17	.75	.00	.40	.00	.00	.00	.00	4.3	10
22	.00	.00	3.2	.27	.00	.27	.00	.00	.00	.00	.88	.29
23	.00	.00	2.3	.16	.00	.27	.00	.00	.00	.00	.05	.00
24	.00	.00	248	.00	.00	.16	.00	.00	.00	.00	.00	.00
25	.00	.00	775	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	929	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	927	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	897	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	855	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	352	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	43	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	90.42	0.00	5136.50	107.48	0.00	811.10	9.28	61.52	20.53	0.00	85.73	69.29
MEAN	2.92	.00	166	3.47	.00	26.2	.31	1.98	.68	.00	2.77	2.31
MAX	19	.00	929	18	.00	401	6.1	11	19	.00	8.7	36
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	179	.0	10190	213	.0	1610	18	122	41	.0	170	137

CAL YR 1987 TOTAL 45198.11 MEAN 124 MAX 2260 MIN .00 AC-FT 89650
WTR YR 1988 TOTAL 6391.85 MEAN 17.5 MAX 929 MIN .00 AC-FT 12680

e Estimated.

07315200 EAST FORK LITTLE WICHITA RIVER NEAR HENRIETTA, TX

LOCATION.--Lat 33°48'46", long 98°05'05", Clay County, Hydrologic Unit 11130209, at downstream side of bridge on U.S. Highway 82, 5.8 mi upstream from Little Wichita River, 6.4 mi east of Henrietta, and 8.9 mi west of Ringgold.

DRAINAGE AREA.--178 mi².

PERIOD OF RECORD.--November 1963 to current year.

REVISED RECORDS.--WRD TX-72-1: 1966(M).

GAGE.--Water-stage recorder. Datum of gage is 825.32 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are no known diversions upstream from station.

AVERAGE DISCHARGE.--24 years (water years 1965-88), 27.0 ft³/s (2.06 in/yr), 19,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s Oct. 13, 1981 (gage height, 31.70 ft), from rating curve extended above 5,100 ft³/s on basis of contracted-opening measurement of 15,500 ft³/s; no flow for many days most years.
Maximum stage since at least 1920, that of Oct. 13, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1941 reached a stage of 28.8 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 21	0300	577	16.04	Dec. 27	1430	*775	*17.87

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.03	.03	1.5	.58	.72	1.2	1.2	5.3	.44	.00	.00
2	.11	.05	.02	.94	.58	1.9	1.3	.93	2.1	.32	.00	.00
3	.10	.06	.02	.61	.66	2.3	.99	.76	12	.26	.00	.00
4	.11	.07	.02	.45	.71	1.4	9.0	.68	7.7	.19	.00	.00
5	.10	.06	.02	.33	.69	1.1	7.1	.62	5.7	.15	.00	.00
6	.07	.07	.04	e.20	.70	.84	4.1	.61	8.5	.11	.00	.00
7	.07	.07	.05	e.20	.74	.76	3.0	.59	9.3	.10	.00	.00
8	.06	.08	.06	e.20	.85	.88	2.1	.61	6.9	.08	.00	.00
9	.05	.10	.06	e.20	.88	.86	.95	.51	4.4	.07	.00	.00
10	.04	.10	.08	e.20	.87	.81	.63	.41	1.9	.13	.00	.00
11	.03	.06	.10	e.30	.79	.79	.54	.37	.97	.15	.00	.00
12	.03	.05	.11	.46	.84	.69	.31	.39	.60	.13	.00	.00
13	.04	.04	.12	.60	.96	.60	.23	.37	.47	.11	.00	1.4
14	.04	.02	.19	.48	.95	.56	.20	.36	.39	.10	.00	1.7
15	.03	.02	.15	.34	.91	.59	.17	.28	.36	.08	.00	1.0
16	.03	.02	.13	.31	.99	.62	.11	.27	.36	.06	.00	.58
17	.03	.02	.16	.26	1.1	1.8	10	.30	.62	.04	.00	3.1
18	.03	.02	.17	.50	1.1	2.3	70	.30	18	.04	.00	3.6
19	.04	.03	70	.57	1.2	1.1	39	.29	5.1	.03	.00	5.4
20	.04	.03	483	.62	1.2	.83	17	.28	2.5	.02	.00	1.9
21	.02	.04	357	.60	1.1	.69	8.5	.25	1.3	.02	.00	1.7
22	.01	.04	28	.57	1.3	.61	5.8	.22	.70	.02	.00	1.4
23	.01	.04	8.4	.55	1.0	.55	4.4	.20	.45	.01	.00	.93
24	.01	.04	4.1	.55	.75	.55	3.6	.20	.42	.01	.00	1.5
25	.01	.05	114	.54	.77	.57	3.2	.19	.37	.01	.00	1.1
26	.01	.04	555	.53	.79	.54	2.6	.19	.91	.01	.00	.74
27	.01	.04	742	.49	.77	.54	1.8	.18	.94	.01	.00	.48
28	.01	.04	238	.47	.71	.56	1.4	.15	.95	.01	.00	.34
29	.01	.03	25	.44	.70	.54	1.6	.13	.80	.01	.00	.23
30	.01	.04	7.7	.55	---	.47	1.7	.13	.59	.01	.00	.19
31	.02	---	3.1	.58	---	.53	---	.15	---	.00	.00	---
TOTAL	1.44	1.40	2636.83	15.14	25.19	27.60	202.53	12.12	100.60	2.73	0.00	27.29
MEAN	.046	.047	85.1	.49	.87	.89	6.75	.39	3.35	.088	.00	.91
MAX	.26	.10	742	1.5	1.3	2.3	70	1.2	18	.44	.00	5.4
MIN	.01	.02	.02	.20	.58	.47	.11	.13	.36	.00	.00	.00
AC-FT	2.9	2.8	5230	30	50	55	402	24	200	5.4	.0	54
CFSM	.00	.00	.48	.00	.00	.01	.04	.00	.02	.00	.00	.01
IN.	.00	.00	.55	.00	.01	.01	.04	.00	.02	.00	.00	.01

CAL YR 1987 TOTAL 18367.27 MEAN 50.3 MAX 3550 MIN .01 AC-FT 36430 CFSM .28 IN. 3.84
WTR YR 1988 TOTAL 3052.87 MEAN 8.34 MAX 742 MIN .00 AC-FT 6060 CFSM .05 IN. .64

e Estimated.

07315500 RED RIVER NEAR TERRAL, OK

LOCATION.--Lat 33°52'43", long 97°56'03", Jefferson County, Hydrologic Unit 11130201, on left bank at downstream side of bridge abutment on U.S. Highway 81, 0.5 mi downstream from Chicago, Rock Island, and Railroad Co. bridge, 1.2 mi south of Terral, 3.6 mi downstream from Little Wichita River, and at mile 872.

DRAINAGE AREA.--28,723 mi², of which 5,936 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 770.31 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 12, 1939, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. There are many small diversions upstream from station for irrigation, and for oil field and municipal uses. Gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years (water years 1939-88), 2,300 ft³/s (1,666,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 225,000 ft³/s May 30, 1987 (gage height, 32.65)ft; maximum gage height, 33.60 ft, Oct. 22, 1983: minimum, 43 ft³/s Mar. 15, 1939.
Maximum stage since at least 1891, that of Oct. 22, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 19, 1935, reached a stage of 27.2 ft, although floods in 1891 and on May 1, 1908, are reported to have reached about the same stage.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 21,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 4	1900	26,400	15.99	Sept. 20	1920	*35,300	*17.49

Minimum discharge, 272 ft³/s Aug. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2450	963	590	2670	940	589	3040	1200	477	2210	368	322
2	2590	1250	594	2400	905	1550	6600	1110	449	1650	349	351
3	1730	4850	604	2240	900	11900	8660	2020	500	1350	320	417
4	1320	2620	612	2130	833	23000	7630	2830	515	1320	312	660
5	1090	1780	599	1970	815	25500	6860	3360	512	1540	309	542
6	879	1300	599	1660	806	17800	4780	2200	491	1500	310	509
7	757	1020	602	1400	785	9090	4060	1930	752	1070	319	463
8	674	883	604	1270	725	6160	4060	1480	702	937	325	520
9	652	796	598	1100	749	5470	3950	1120	560	759	326	508
10	626	737	592	740	760	5220	3880	941	466	637	335	431
11	568	712	586	765	913	4710	3660	833	396	609	326	385
12	552	684	583	881	1120	4130	3410	780	359	648	370	347
13	529	642	573	1210	1030	3830	3460	774	336	1660	310	329
14	519	617	592	1940	859	3530	3300	733	316	1870	296	314
15	509	617	650	2310	812	3180	2680	646	310	1580	293	568
16	504	760	725	2680	807	2830	1820	602	321	1090	294	1990
17	481	977	720	3700	761	2640	1660	578	908	831	288	1650
18	475	814	670	5680	762	2450	2310	543	721	690	278	1330
19	475	707	875	5580	810	2350	4740	540	633	625	282	6590
20	458	651	2890	6230	786	2230	6100	524	407	587	301	31900
21	452	611	5670	5510	722	2150	7810	504	362	586	300	26200
22	439	586	3820	5120	662	1920	5070	522	614	507	318	14900
23	430	570	3110	3720	599	1620	3550	495	547	463	325	9800
24	453	560	3040	2670	596	1560	2730	464	431	451	324	5510
25	481	560	3280	2170	598	1490	2330	445	365	410	336	4280
26	1760	696	10800	2090	599	1450	1860	427	352	398	371	4360
27	3620	783	10600	1740	598	1300	1460	400	470	388	340	4420
28	3600	644	7060	1350	586	1290	1240	371	493	389	292	3370
29	2310	606	4760	1190	590	1250	1190	370	553	401	288	2570
30	1480	600	3760	1050	---	6710	1170	379	2120	420	284	2570
31	1210	---	3140	1030	---	4550	---	377	---	394	297	---
TOTAL	34073	29596	73898	76196	22428	163449	115070	29498	16438	27970	9786	128106
MEAN	1099	987	2384	2458	773	5273	3836	952	548	902	316	4270
MAX	3620	4850	10800	6230	1120	25500	8660	3360	2120	2210	371	31900
MIN	430	560	573	740	586	589	1170	370	310	388	278	314
AC-FT	67580	58700	146600	151100	44490	324200	228200	58510	32600	55480	19410	254100

CAL YR 1987 TOTAL 2239292 MEAN 6135 MAX 211000 MIN 430 AC-FT 4442000
WTR YR 1988 TOTAL 726508 MEAN 1985 MAX 31900 MIN 278 AC-FT 1441000

07315500 RED RIVER NEAR TERRAL, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURE: October 1967 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 13,000 microsiemens June 15, 1984; minimum daily, 255 microsiemens Jan. 1.
WATER TEMPERATURE: Maximum daily, 35.0°C Aug. 13, 16, 17, 1983; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 9,880 microsiemens June 23; minimum daily, 990 microsiemens Apr. 3.
WATER TEMPERATURE: Maximum daily, 34.0°C Aug. 9; minimum daily, 3.0°C Jan. 2, 5, 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
DEC									
14...	1137	589	5820	8.00	4.0	940	740	240	82
FEB									
05...	1100	830	4450	8.70	3.5	850	640	220	72
MAR									
04...	1725	26100	2070	8.90	12.0	440	350	120	35
JUN									
30...	1130	2100	4680	7.50	29.5	820	710	200	78
AUG									
09...	1005	326	6070	8.10	31.0	1100	1000	280	98
11...	1030	326	5250	9.30	30.0	980	900	230	98
SEP									
20...	1710	35000	1180	8.20	24.0	220	150	63	15

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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)
DEC									
14...	840	12	8.1	203	830	1200	0.50	6.2	3330
FEB									
05...	620	10	6.3	203	710	850	0.40	8.2	2610
MAR									
04...	250	5	5.8	95	300	400	0.30	7.4	1180
JUN									
30...	640	10	9.3	110	760	1000	0.40	11	2760
AUG									
09...	940	13	9.8	89	1000	1400	0.40	4.1	3790
11...	760	11	9.5	82	830	1200	0.40	2.3	3180
SEP									
20...	150	5	2.3	72	160	230	0.30	9.0	673

07315500 RED RIVER NEAR TERRAL, OK--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	34073	3510	2100	193000	800	73900	460	42100	670
NOV.	1987	29596	3730	2230	179000	860	68700	480	38700	710
DEC.	1987	73898	2620	1560	312000	590	118600	340	68300	500
JAN.	1988	76196	2730	1620	333000	600	124200	360	74100	530
FEB.	1988	22428	4390	2650	160000	1000	62500	570	34400	820
MAR.	1988	163449	2070	1220	538000	450	196900	280	121900	410
APR.	1988	115070	2440	1450	449000	540	167700	320	100200	480
MAY	1988	29498	3790	2270	181000	870	69600	490	39300	720
JUNE	1988	16438	5160	3150	140000	1300	56300	660	29100	930
JULY	1988	27970	5540	3400	257000	1400	104000	700	53000	990
AUG.	1988	9786	5850	3590	95000	1500	38700	740	19500	1000
SEPT	1988	128106	1800	1050	365000	380	132200	240	83300	360
TOTAL		726508	**	**	3200000	**	1213000	**	704000	**
WTD.AVG.		1985	2740	1630	**	620	**	360	**	530

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3190	3120	4800	1220	4160	4710	1940	4600	4540	3940	6170	5650
2	2900	3650	5200	1180	4360	4370	1410	4700	4560	5290	6860	5440
3	2960	3030	5730	1280	4360	4050	990	5250	4810	5390	6900	5030
4	2600	2030	5820	1400	4200	1560	1050	3350	4720	5930	7000	3780
5	3020	2430	6000	1330	4280	1350	1100	2730	4830	6170	7110	4620
6	3640	2470	6190	3000	4180	1220	1640	2560	4950	4250	6880	4480
7	4190	2580	6190	3440	4820	1260	1920	2670	5510	4080	6720	4440
8	4480	3270	6210	3540	4830	1770	1720	3070	4080	3980	6540	4880
9	4490	3950	6230	3820	4770	1960	1690	3330	4090	4320	6170	4560
10	4560	4620	6230	4660	2350	2050	1980	3540	5990	4700	5710	3800
11	4690	4680	6280	4170	4360	2070	2030	3790	5610	5050	5240	3940
12	4820	4790	6420	4680	4050	2250	1850	3950	5500	5460	5690	4080
13	4890	4200	6300	4370	3850	2340	2040	4110	5470	7150	5580	5030
14	5010	4720	6130	4320	4290	2510	1900	4060	5350	5780	5150	5630
15	5000	4720	5900	4270	4570	2600	1890	4050	5230	6700	4710	5770
16	4960	5510	5700	4080	4570	2750	2400	4300	5110	6160	5510	3710
17	5120	4670	5460	3290	4830	2600	2800	4360	4940	5370	5660	1960
18	5210	4860	5830	2210	4590	2610	2770	4530	3800	5800	5590	2330
19	5200	4700	5080	3240	4580	2690	2700	4500	3640	6090	5390	2700
20	5250	4670	3930	3020	4600	2770	3370	4550	3630	6530	5540	1170
21	5250	4700	1600	2190	4560	2810	4470	4600	3800	5790	5490	1550
22	5340	4800	1690	2120	4500	2920	4470	4590	5750	6370	5570	1280
23	5350	5000	1960	1720	4690	3450	4300	4310	9880	6560	5710	1280
24	5350	5200	3980	1740	4690	3880	4300	4400	8140	6820	5620	1580
25	5240	5200	4100	2270	4740	4120	4030	4440	7170	6460	5600	1880
26	5050	4680	1710	2590	4640	4080	4140	4600	6100	6200	5410	2000
27	1780	3980	1050	2900	4580	4120	4250	4750	5140	5960	5730	2120
28	2720	4200	2000	3630	4600	4060	4350	4790	4680	5830	5470	2500
29	2950	4400	1730	3830	4550	4340	4420	4890	5570	5890	5220	2470
30	2870	4600	1830	4410	---	1520	4420	4820	4910	5830	5370	3300
31	2950	---	1880	4380	---	1100	---	4830	---	5770	5570	---
MEAN	4230	4180	4490	3040	4420	2770	2740	4160	5250	5670	5830	3430

07315500 RED RIVER NEAR TERRAL, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	21.0	---	4.0	9.0	---	15.0	18.0	26.0	30.0	20.0	27.0
2	22.0	18.0	---	3.0	---	15.0	14.0	---	28.0	28.0	28.0	26.0
3	15.0	17.0	15.0	5.0	---	10.0	14.0	17.0	26.0	---	30.0	25.0
4	22.0	18.0	11.0	5.0	4.0	11.0	---	15.0	24.0	27.0	---	22.0
5	20.0	18.0	---	3.0	3.5	9.0	20.0	18.0	---	29.0	32.0	21.0
6	18.0	18.0	17.0	---	5.0	10.0	18.0	22.0	28.0	30.0	29.0	27.0
7	18.0	18.0	15.0	---	---	12.0	17.0	21.0	25.0	27.0	33.0	25.0
8	20.0	---	---	---	---	14.0	19.0	25.0	29.0	29.0	28.0	27.0
9	18.0	13.0	18.0	---	7.0	12.0	18.0	23.0	28.0	27.0	34.0	27.0
10	18.0	---	14.0	---	7.0	15.0	15.0	21.0	28.0	29.0	28.0	29.0
11	---	13.0	15.0	---	---	13.0	17.0	24.0	25.0	27.0	27.0	25.0
12	18.0	9.0	11.0	4.0	8.0	10.0	14.0	22.0	25.0	28.0	29.0	25.0
13	19.0	---	10.0	3.0	10.0	10.0	17.0	23.0	26.0	30.0	28.0	28.0
14	18.0	---	10.0	---	10.0	9.0	20.0	24.0	25.0	31.0	---	26.0
15	19.0	---	---	7.0	10.0	10.0	18.0	24.0	---	30.0	29.0	25.0
16	18.0	14.0	---	9.0	12.0	12.0	18.0	26.0	26.0	28.0	28.0	26.0
17	18.0	9.0	4.0	10.0	11.0	8.0	20.0	26.0	26.0	29.0	30.0	28.0
18	18.0	18.0	9.0	11.0	9.0	7.0	18.0	26.0	27.0	30.0	31.0	---
19	19.0	10.0	10.0	9.0	8.0	7.0	---	24.0	26.0	29.0	30.0	21.0
20	14.0	9.0	9.0	10.0	8.0	15.0	18.0	24.0	27.0	26.0	28.0	25.0
21	15.0	---	8.0	8.0	10.0	14.0	18.0	23.0	31.0	25.0	28.0	26.0
22	14.0	---	10.0	9.0	11.0	16.0	20.0	19.0	29.0	27.0	30.0	25.0
23	17.0	---	9.0	7.0	8.0	18.0	18.0	15.0	30.0	---	26.0	25.0
24	19.0	---	9.0	6.0	14.0	21.0	18.0	21.0	30.0	25.0	30.0	22.0
25	20.0	---	---	7.0	10.0	18.0	19.0	29.0	28.0	27.0	30.0	---
26	19.0	---	---	6.0	15.0	11.0	---	23.0	---	28.0	29.0	25.0
27	17.0	10.0	6.0	6.0	12.0	17.0	20.0	22.0	30.0	29.0	28.0	23.0
28	18.0	---	6.0	10.0	11.0	18.0	19.0	24.0	30.0	31.0	25.0	24.0
29	18.0	---	7.0	12.0	12.0	15.0	26.0	23.0	30.0	30.0	22.0	22.0
30	20.0	---	4.0	12.0	---	12.0	19.0	24.0	28.0	---	26.0	21.0
31	19.0	---	4.0	12.0	---	14.0	---	24.0	---	32.0	26.0	---
MEAN	18.5	14.5	10.0	7.5	9.5	13.0	18.0	22.5	27.5	28.5	28.5	25.0

07315950 MOSS LAKE NEAR GAINESVILLE, TX

LOCATION.--Lat 33°46'26", long 97°12'50", Cooke County, Hydrologic Unit 11130201, on top of upstream side of dam adjacent to guardrail of roadway about 250 ft from right end of Fish Creek dam on Fish Creek, 1.6 mi upstream from Bearhead Creek, 3.7 mi upstream from mouth, and 10 mi northwest of Gainesville.

DRAINAGE AREA.--65.0 mi².

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Apr. 20, 1979, recording gage at site about 150 ft upstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 1,460 ft long. The dam was completed and storage began Dec. 2, 1966. An uncontrolled morning-glory-type spillway with a 7- by 7-foot opening is designed to discharge 2,500 ft³/s at a 10-foot head. The emergency spillway is a 400-foot-wide cut through natural ground located about 100 ft to the left of the left end of dam. The dam was built by the city of Gainesville to impound water for municipal use. Area and capacity tables are based on a 1961 survey. There was no diversion from the lake during the current water year. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	740.0	- -
Top of design flood pool	736.0	55,230
Crest of spillway	725.0	36,440
Crest of spillway morning-glory type (top of conservation pool)	715.0	23,210
Lowest gated outlet (invert)	666.0	78

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 50,990 acre-ft Oct. 13, 1981 (elevation, 733.72 ft); minimum since lake filled in May 1968, 17,740 acre-ft Sept. 26, 1980 (elevation, 709.67 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,570 acre-ft Dec. 26 at 2400 hours (elevation, 715.31 ft, from graph); minimum, 21,080 acre-ft Sept. 29-30 (elevation, 713.04 ft).

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

713.0	21,040
715.0	23,210
717.0	25,550

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22770	22620	22540	22950	23340	23070	23070	22980	22880	22540	21890	21140
2	22740	22640	22620	22830	23380	23060	23040	22960	22880	22490	21840	21130
3	22720	22650	22680	22760	23380	23110	23060	22950	22920	22520	21820	21130
4	22690	22660	22750	22740	23410	23080	23010	22930	22930	22510	21810	21320
5	22670	22670	22830	22680	23390	23070	23020	22920	22920	22490	21790	21300
6	22650	22680	22840	22620	23380	23080	23030	22920	22910	22460	21770	21290
7	22620	22690	22850	22580	23370	23050	23030	22920	22900	22430	21760	21260
8	22610	22700	22860	22530	23340	23070	23040	22920	22900	22410	21740	21240
9	22580	22700	22870	22580	23310	23040	22990	22910	22870	22380	21710	21240
10	22550	22700	22880	22720	23290	23060	22990	22910	22850	22360	21680	21210
11	22530	22720	22870	22890	23270	23040	22980	22910	22820	22400	21650	21200
12	22520	22720	22810	23090	23230	23020	22970	22910	22800	22420	21620	21180
13	22500	22740	22770	23230	23200	22980	22980	22890	22780	22400	21590	21150
14	22470	22750	22760	23260	23160	22960	22980	22880	22770	22370	21560	21150
15	22470	22770	22830	23220	23120	22960	22980	22870	22770	22340	21540	21150
16	22460	22780	22910	23160	23080	23010	22970	22860	22750	22320	21520	21140
17	22460	22790	23020	23080	23030	23230	23040	22860	22740	22300	21490	21150
18	22460	22790	23210	23030	23170	23220	23010	22850	22710	22270	21500	21180
19	22460	22790	23500	22980	23270	23190	23000	22840	22700	22250	21480	21160
20	22450	22780	23460	22920	23250	23210	23020	22810	22710	22220	21480	21150
21	22430	22770	23260	22840	23240	23200	23010	22800	22670	22200	21470	21140
22	22420	22770	23200	22790	23220	23200	23000	22780	22650	22160	21450	21130
23	22410	22750	23260	22700	23140	23190	22980	22760	22630	22130	21410	21190
24	22480	22730	23390	22740	23100	23190	22960	22750	22620	22110	21380	21160
25	22500	22700	23530	22770	23090	23180	22960	22730	22580	22090	21360	21160
26	22510	22680	23570	22890	23090	23180	22950	22710	22600	22060	21340	21140
27	22530	22660	23530	22980	23090	23160	22930	22700	22590	22020	21340	21130
28	22540	22620	23460	23050	23080	23150	22930	22680	22570	21990	21340	21110
29	22560	22580	23370	23080	23070	23110	22930	22660	22570	21970	21340	21080
30	22580	22540	23230	23130	---	23110	22980	22670	22550	21950	21200	21080
31	22610	---	23060	23260	---	23090	---	22780	---	21920	21150	---
MAX	22770	22790	23570	23260	23410	23230	23070	22980	22930	22540	21890	21320
MIN	22410	22540	22540	22530	23030	22960	22930	22660	22550	21920	21150	21080
(†)	714.45	714.39	714.86	715.04	714.87	714.89	714.79	714.61	714.40	713.82	713.10	713.04
(ϕ)	-180	-70	+520	+200	-190	+20	-110	-200	-230	-630	-770	-70

CAL YR 1987 MAX 28650 MIN 22040 (ϕ) +1010
WTR YR 1988 MAX 23570 MIN 21080 (ϕ) -1710

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

07316000 RED RIVER NEAR GAINESVILLE, TX

LOCATION.--Lat 33°43'40", long 97°09'35", in SW1/4 sec.36, T.9 S., R.1 E., Love County, OK, Hydrologic Unit 11130201, on downstream right bank near end of bridge on Interstate 35, 0.2 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 5.0 mi downstream from Fish Creek, 4.5 mi southwest of Thackerville, OK, 7.0 mi north of Gainesville, and at mile 791.5.

DRAINAGE AREA.--30,782 mi², of which 5,936 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 627.91 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 17, 1939, and Feb. 13, 1965 to Nov. 14, 1966, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flow slightly regulated by Lake Kemp (station 07312000), since 1943 by Lake Altus (station 07302500 in Oklahoma), since 1946 by Lake Kickapoo (station 07314000), since 1967 by Lake Arrowhead (station 07314800) and Moss Lake (station 07315950). U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Gage-height record and 9 discharge measurements provided by U.S. Army Corps of Engineers, records computed by U.S. Geological Survey.

AVERAGE DISCHARGE.--52 years, 2,978 ft³/s (2,158,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 265,000 ft³/s May 31, 1987 (gage height, 40.08 ft); minimum, 48 ft³/s Jan. 27, 1940.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 24,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 27	1600	25,700	16.25	Sept. 21	1500	33,700	17.51
Mar. 5	1500	*34,500	*17.63				

Minimum daily discharge, 247 ft³/s Sept. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	e1780	787	5080	2260	1500	9170	2000	978	809	460	255
2	1510	e1460	745	4270	2270	1530	e8800	2010	1000	1920	465	247
3	2190	e1180	736	3840	2300	2290	e11000	1980	1040	2700	437	488
4	2490	e1460	725	3570	2230	13900	15600	2010	1310	2220	427	548
5	1990	4470	719	3370	2210	32900	13000	2800	1080	1820	407	1310
6	1570	2480	1460	3280	2120	30000	9770	3490	1060	1700	384	896
7	1310	e2030	1870	3050	2060	18900	6920	2970	992	1930	374	705
8	1110	e1560	960	2720	2070	11200	5950	2550	919	1920	366	584
9	985	e1260	810	2310	2010	8380	e5700	2180	979	1440	352	518
10	876	1220	744	2280	1930	7460	e5400	1860	1080	1220	350	478
11	780	1130	730	2210	1910	6980	5190	1670	964	1090	354	515
12	709	1040	712	2040	1920	6660	5090	1530	854	1170	351	478
13	661	985	697	2280	2100	5940	4870	1440	770	1540	365	418
14	660	969	719	2860	2330	5440	4570	1380	711	969	357	377
15	661	974	768	3240	2240	4970	4540	1360	670	1480	379	387
16	655	1100	801	3880	2030	4700	4320	1290	642	1860	332	375
17	649	952	797	3950	1970	4650	3740	1240	636	1670	310	352
18	641	960	846	4460	1990	5830	3610	1180	687	1290	313	1000
19	657	1150	2780	6270	2280	6160	3950	1140	1560	1070	318	1670
20	645	1120	10500	7650	2200	e4900	4750	1070	1690	972	314	3620
21	606	980	9940	8330	2150	e4280	5810	1050	1170	861	305	31200
22	560	904	7950	7560	2020	e3930	8020	1030	885	772	290	22600
23	557	850	6450	6740	1870	e3790	6920	1000	737	746	279	15300
24	575	816	4510	5970	1730	e3380	4950	1020	786	679	291	11600
25	569	984	4950	4950	1640	e3100	3710	995	908	617	282	7280
26	591	807	9510	4080	1590	e3100	3210	950	819	584	297	4850
27	554	756	23800	3630	1570	e3000	2850	914	780	557	294	4130
28	1140	771	19200	3460	1540	2930	2450	886	702	512	304	3980
29	3090	1010	12200	2990	1520	2680	2170	855	821	488	335	3580
30	e3230	887	9430	e2700	---	2720	2050	825	863	466	320	2930
31	e2420	---	6670	e2480	---	4470	---	818	---	463	277	---
TOTAL	36081	38045	143516	125500	58060	221670	178080	47493	28093	37535	10689	122671
MEAN	1164	1268	4630	4048	2002	7151	5936	1532	936	1211	345	4089
MAX	3230	4470	23800	8330	2330	32900	15600	3490	1690	2700	465	31200
MIN	554	756	697	2040	1520	1500	2050	818	636	463	277	247
AC-FT	71570	75460	284700	248900	115200	439700	353200	94200	55720	74450	21200	243300

CAL YR 1987 TOTAL 3054052 MEAN 8367 MAX 232000 MIN 392 AC-FT 6058000
WTR YR 1988 TOTAL 1047433 MEAN 2862 MAX 32900 MIN 247 AC-FT 2078000

e Estimated.

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1944 to April 1946, October 1952 to September 1964, October 1966 to current year. Chemical and biochemical analyses: January 1968 to September 1986. Pesticide analyses: April 1968 to September 1982. Sediment analyses: January 1978 to September 1986.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1944 to April 1946, October 1952 to September 1964, October 1966 to current year.
WATER TEMPERATURE: October 1952 to September 1963, October 1966 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and 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, 11,100 microsiemens July 16, 1972, and June 19, 1984; minimum daily, 176 microsiemens Nov. 4, 1958.
WATER TEMPERATURE: Maximum daily, 35.0°C on several days during summer months; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 7,270 microsiemens June 27; minimum daily, 725 microsiemens Dec. 20.
WATER TEMPERATURE: Maximum daily, 33.0°C July 17; minimum daily, 0.5°C Jan. 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 24...	1645	575	4460	--	--	770	630	180	77
JAN 31...	1030	2480	3250	--	--	660	460	170	56
MAR 20...	1130	4900	1790	7.60	--	430	270	110	38
APR 26...	1300	3210	4040	--	20.5	860	710	230	70
JUN 14...	1100	711	4910	--	26.0	960	840	250	82
AUG 03...	1600	437	5510	--	28.0	1000	950	240	100

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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...	660	11	7.6	142	600	1100	0.50	5.9	2720
JAN 31...	430	8	6.6	200	460	600	0.40	9.7	1850
MAR 20...	210	5	5.0	160	270	300	0.30	8.3	1040
APR 26...	600	9	7.7	150	610	910	0.50	9.0	2530
JUN 14...	720	10	8.3	126	720	1100	0.40	6.6	2960
AUG 03...	870	12	10	62	860	1400	0.40	6.0	3520

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	36081	3570	2130	208000	860	84000	430	41800	670
NOV.	1987	38045	3510	2100	216000	850	87200	420	43400	660
DEC.	1987	143516	1540	906	351000	360	138800	180	71400	300
JAN.	1988	125500	2490	1470	497000	580	197800	300	100700	480
FEB.	1988	58060	3780	2260	354000	910	143400	450	71200	710
MAR.	1988	221670	1790	1050	628000	410	247300	210	128100	350
APR.	1988	178080	1940	1140	548000	450	217300	230	111400	370
MAY	1988	47493	3710	2220	284000	900	115100	450	57100	700
JUNE	1988	28093	4270	2570	195000	1100	80000	510	39000	790
JULY	1988	37535	5150	3130	318000	1300	131800	620	63000	930
AUG.	1988	10689	5570	3400	98200	1400	40900	670	19400	1000
SEPT	1988	122671	1840	1070	356000	420	140000	220	72600	360
TOTAL		1047433	**	**	4054000	**	1624000	**	819000	**
WTD.AVG.		2862	2420	1430	**	570	**	290	**	460

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3230	2860	4170	769	3590	4000	1730	3690	4080	4380	5680	5350
2	3400	2810	3870	902	3740	3750	911	3680	4000	4670	5610	5300
3	3800	2870	4430	867	3540	3620	1170	3760	3890	4480	5630	4190
4	2880	2350	4820	1590	3490	1600	1390	4060	3700	4770	5520	3750
5	2700	3350	5030	1390	3470	1030	859	4000	3640	5180	5610	2660
6	3050	2440	4460	1850	3720	1250	969	4910	3530	5510	5530	1940
7	2780	2390	2310	2270	3770	1210	1080	3240	3990	5960	6020	4160
8	2730	2500	3520	2720	3800	1190	1270	2700	4170	6260	6080	3070
9	3000	2550	4470	3190	3680	1320	1880	2570	4030	4410	6230	4120
10	3490	2570	5040	3650	3870	1730	1800	2660	4620	4160	6510	4560
11	3830	2700	5270	3910	4050	1890	1770	2860	5030	4120	6390	4100
12	4200	3260	5440	4030	4220	1990	1920	3140	3940	3760	6240	4040
13	4140	3600	5400	3360	4120	1980	1920	3200	3700	2720	6100	4680
14	4220	4070	5170	2960	4270	2140	1910	3410	4870	3100	5930	4260
15	4280	4050	5030	2790	3830	2250	1900	3600	5270	5290	5400	3890
16	4490	4030	5160	2890	3670	2390	1940	3760	5000	6180	5180	3760
17	4380	4150	5260	3120	4080	2310	1830	3890	4890	5910	5230	3750
18	4420	4350	5270	3350	2950	2190	1880	3830	4840	6590	5270	3410
19	4460	4690	1600	3060	3180	1770	1990	3870	4460	6180	5240	2160
20	4470	5020	725	2150	3510	1790	2160	4050	3170	5430	4570	2260
21	4500	4360	766	3510	3720	2040	2350	4100	1630	4950	4840	1920
22	4560	4470	1340	3280	3770	2310	1840	4200	3640	5340	5130	1600
23	4530	4580	1490	2260	3930	2430	4860	4190	3420	5750	5200	1450
24	4530	4020	1290	2230	3940	2490	3920	4200	3430	6190	5210	1210
25	4550	4300	1780	1870	3900	2570	3910	4280	3690	5780	5140	1290
26	4550	4430	1860	1780	3970	3020	4110	4290	5770	5530	5220	1470
27	4540	4680	1270	2140	4100	3360	3950	4110	7270	6040	5360	1780
28	4350	4760	907	2330	4140	3550	3730	4180	6710	6200	5500	1930
29	4120	5010	851	2570	4080	3610	3700	4210	6000	6040	5460	1940
30	2910	5160	1260	2770	---	3650	3730	4280	5630	5920	5400	2260
31	2790	---	1430	3310	---	3530	---	4410	---	5750	5180	---
MEAN	3870	3750	3250	2540	3800	2390	2280	3780	4400	5240	5540	3080

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	19.0	7.0	3.0	13.0	13.5	15.0	18.5	26.0	---	27.0	28.0
2	19.0	19.5	7.0	3.5	6.0	16.5	15.0	19.5	24.0	30.5	26.0	25.0
3	20.0	17.0	8.5	4.0	5.5	11.5	---	20.5	23.0	29.0	26.0	24.5
4	17.0	21.5	9.0	4.0	4.5	11.5	15.0	22.0	26.0	28.0	26.5	---
5	17.0	19.5	13.5	3.5	4.0	10.5	18.0	18.5	---	28.0	27.0	25.0
6	17.0	15.5	13.0	1.5	1.5	9.5	18.0	20.5	23.5	28.0	32.5	27.0
7	16.0	15.0	12.0	---	2.5	12.0	17.0	21.0	24.0	28.0	31.0	28.0
8	17.0	15.5	12.0	---	5.0	13.0	18.0	22.0	26.0	27.0	29.0	27.5
9	17.0	---	10.5	1.5	7.5	13.5	18.5	24.0	27.0	29.0	29.0	27.5
10	21.0	11.0	10.0	.5	6.0	14.0	15.0	20.5	25.5	29.0	27.0	29.0
11	16.0	9.5	10.0	1.5	3.5	15.0	12.0	22.5	25.0	27.5	27.0	26.0
12	16.0	13.0	10.0	5.0	6.5	12.5	17.0	26.0	24.0	26.0	27.5	24.0
13	14.0	9.0	8.5	4.0	6.0	11.5	18.0	23.0	23.5	28.0	31.0	25.5
14	15.0	13.0	6.5	4.0	9.0	9.0	---	26.0	24.0	28.5	30.0	27.0
15	15.0	15.0	3.0	5.0	8.0	10.0	18.0	23.0	25.0	32.0	30.5	25.0
16	17.5	13.0	2.5	8.0	11.5	10.5	18.5	23.0	26.0	30.0	32.5	30.0
17	17.0	13.0	3.0	6.0	10.0	9.0	19.0	29.0	26.0	33.0	27.5	27.0
18	17.0	11.0	5.0	6.0	9.0	8.0	17.0	25.0	27.0	30.0	26.0	26.0
19	19.0	8.0	8.0	6.5	11.0	9.0	14.5	24.0	27.5	29.0	27.0	26.0
20	17.5	8.0	7.5	7.5	10.0	12.0	15.5	25.5	26.0	27.0	28.0	26.5
21	13.5	12.0	7.0	6.0	10.0	11.0	18.0	25.5	27.0	28.0	30.0	23.0
22	16.0	12.0	---	7.5	14.0	13.0	20.0	20.5	26.5	31.0	27.0	23.5
23	16.0	14.0	8.0	12.0	10.0	16.0	20.0	18.5	26.5	---	27.0	25.0
24	17.0	17.0	10.0	10.0	12.0	17.5	19.5	20.0	28.0	30.0	28.0	25.0
25	18.0	13.0	---	8.5	13.5	17.0	17.0	21.0	30.0	30.5	25.5	29.0
26	21.0	11.0	6.0	9.5	11.0	18.0	18.0	22.0	31.5	28.5	26.0	25.0
27	17.0	10.5	4.5	8.0	14.0	16.0	17.0	26.5	27.5	30.0	31.0	25.0
28	15.0	10.5	3.5	7.0	13.0	17.5	17.5	26.5	29.5	29.0	27.0	25.0
29	16.0	7.5	3.0	4.5	16.5	15.5	18.0	24.5	28.0	27.5	22.0	23.0
30	---	10.0	2.5	6.5	---	12.5	18.0	22.5	28.0	28.5	28.5	22.0
31	21.0	---	4.0	14.5	---	14.0	---	25.0	---	29.0	27.5	---
MEAN	17.0	13.0	7.5	6.0	9.0	13.0	17.0	23.0	26.5	29.0	28.0	26.0

07331500 LAKE TEXOMA NEAR DENISON, TX

LOCATION.--Lat 33°49'05", long 96°34'20", in NE1/4 sec.33, T.8 S., R.7 E., Bryan County, OK, Hydrologic Unit 11130210, in control tower of Denison Dam on Red River, 1.2 mi upstream from Shawnee Creek, 1.8 mi upstream from Sand Creek, 4.0 mi northwest of Denison, 6.0 mi southwest of Colbert, and at mile 725.9.

DRAINAGE AREA.--39,719 mi², of which 5,936 mi² is probably noncontributing.

PERIOD OF RECORD.--July 1942 to current year. Monthend contents only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Mar. 30, 1944, non-recording gage at same site and datum. Prior to Oct. 1, 1948, supplementary nonrecording gage in Cumberland pool at the same datum.

REMARKS.--Lake is formed by a rolled earthfill dam. The controlled outlet consists of eight 20-foot-diameter conduits and the uncontrolled outlet is a concrete, ogee-type weir spillway. Flow was diverted through conduits July 27, 1942; regulated storage began Oct. 31, 1943; power pool was first filled March 15, 1945. Capacity, based on 1969 survey, 5,312,000 acre-ft at elevation 640.0 ft, crest of spillway, 2,643,000 acre-ft at elevation 617.0 ft maximum power pool; 1,031,000 acre-ft at elevation 590.0 ft, minimum power pool, in Denison pool. Dead storage, 11,000 acre-ft at elevation 610.0 ft in Cumberland pool. When contents are below 2,105,000 acre-ft, the lake is divided into two pools by protective levees around the Cumberland oil field on the Washita River arm with bottom outlet channel for the upper pool (known as Cumberland pool) at elevation 610 ft. At higher elevations the two pools are considered as being at a common level, contents being computed from gage in Denison pool. Figures given herein represent total contents of both pools. Reservoir is used principally for flood control and power development. Revised capacity table, based on survey in 1969, used since Oct. 1, 1977. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,991,300 acre-ft June 5, 1957 (elevation, 643.18 ft); minimum since power pool was first filled, 1,565,100 acre-ft Sept. 16, 1964; minimum elevation, 599.96 ft Mar. 1, 2, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,999,000 acre-ft Dec. 31, Jan. 1 (elevation, 620.81 ft); minimum, 2,251,000 acre-ft Sept. 15-17 (elevation, 612.03 ft).

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

612	2,248,000	616	2,557,000	620	2,920,000
614	2,399,000	618	2,733,000	622	3,117,000

RESERVOIR STORAGE, (AC-FT), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
2400-HR VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2520000	2434000	2433000	2986000	2673000	2500000	2680000	2589000	2492000	2452000	2383000	2262000
2	2510000	2430000	2428000	2969000	2662000	2507000	2696000	2577000	2492000	2450000	2377000	2262000
3	2510000	2428000	2426000	2949000	2658000	2515000	2712000	2570000	2495000	2447000	2380000	2263000
4	2514000	2425000	2425000	2926000	2642000	2527000	2737000	2557000	2496000	2448000	2375000	2262000
5	2514000	2422000	2428000	2901000	2629000	2584000	2769000	2546000	2494000	2450000	2371000	2261000
6	2509000	2421000	2460000	2888000	2612000	2650000	2777000	2539000	2493000	2448000	2368000	2259000
7	2505000	2423000	2467000	2865000	2596000	2699000	2773000	2537000	2493000	2446000	2364000	2258000
8	2498000	2431000	2474000	2839000	2582000	2719000	2760000	2538000	2492000	2446000	2358000	2258000
9	2493000	2439000	2467000	2818000	2571000	2717000	2751000	2536000	2491000	2446000	2352000	2257000
10	2490000	2431000	2459000	2794000	2558000	2703000	2732000	2535000	2488000	2445000	2348000	2256000
11	2484000	2424000	2450000	2771000	2546000	2697000	2716000	2534000	2487000	2446000	2343000	2256000
12	2478000	2414000	2452000	2777000	2532000	2695000	2707000	2530000	2485000	2449000	2338000	2255000
13	2471000	2411000	2440000	2773000	2523000	2686000	2701000	2526000	2483000	2451000	2336000	2253000
14	2467000	2413000	2443000	2768000	2525000	2676000	2692000	2522000	2481000	2451000	2330000	2252000
15	2460000	2438000	2429000	2763000	2515000	2668000	2686000	2515000	2480000	2449000	2326000	2251000
16	2457000	2436000	2418000	2760000	2509000	2659000	2683000	2517000	2478000	2447000	2322000	2251000
17	2453000	2428000	2413000	2761000	2510000	2668000	2691000	2514000	2477000	2445000	2318000	2256000
18	2451000	2424000	2410000	2766000	2524000	2678000	2689000	2512000	2475000	2444000	2316000	2262000
19	2452000	2415000	2467000	2771000	2524000	2678000	2685000	2507000	2474000	2441000	2311000	2264000
20	2440000	2410000	2512000	2777000	2523000	2675000	2683000	2505000	2472000	2440000	2308000	2264000
21	2435000	2403000	2555000	2780000	2523000	2667000	2681000	2503000	2472000	2437000	2301000	2307000
22	2433000	2410000	2587000	2784000	2520000	2656000	2679000	2502000	2472000	2433000	2298000	2356000
23	2433000	2402000	2611000	2770000	2522000	2648000	2678000	2499000	2470000	2429000	2294000	2401000
24	2432000	2411000	2636000	2758000	2517000	2643000	2667000	2495000	2466000	2425000	2291000	2430000
25	2429000	2412000	2695000	2742000	2510000	2645000	2662000	2493000	2463000	2420000	2287000	2453000
26	2439000	2420000	2763000	2735000	2503000	2645000	2654000	2490000	2460000	2416000	2282000	2474000
27	2439000	2429000	2835000	2725000	2505000	2641000	2639000	2488000	2457000	2410000	2277000	2488000
28	2437000	2432000	2913000	2715000	2502000	2635000	2625000	2485000	2456000	2406000	2274000	2499000
29	2434000	2435000	2952000	2703000	2502000	2641000	2612000	2482000	2460000	2402000	2269000	2519000
30	2432000	2439000	2986000	2695000	---	2651000	2604000	2481000	2456000	2396000	2267000	2526000
31	2433000	---	2999000	2690000	---	2660000	---	2476000	---	2391000	2265000	---
MAX	2520000	2439000	2999000	2986000	2673000	2719000	2777000	2589000	2496000	2452000	2383000	2526000
MIN	2429000	2402000	2410000	2690000	2502000	2500000	2604000	2476000	2456000	2391000	2265000	2251000
(†)	614.44	614.52	620.81	617.52	615.31	617.19	616.55	615.00	614.70	613.87	612.22	615.61
(ϕ)	-96,000	+6,000	+560,000	-309,000	-188,000	+158,000	-56,000	-128,000	-20,000	-65,000	-126,000	+261,000

CAL YR 1987 MAX 4635000 MIN 2402000 (ϕ) +353,000
WTR YR 1988 MAX 2999000 MIN 2251000 (ϕ) -3,000

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

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX

LOCATION.--Lat 33°49'08", long 96°33'47", Grayson County, Hydrologic Unit 11140101, on right bank 1,800 ft downstream from Denison Dam powerhouse, 0.4 mi upstream from Shawnee Creek (spillway flow return), 4.5 mi north of Denison, and at mile 725.5.

DRAINAGE AREA.--39,720 mi², of which 5,936 mi² is probably noncontributing. At site used prior to October 1961, drainage area was 39,777 mi², of which 5,936 mi² probably was noncontributing.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1934, published as "near Denison, TX", and October 1934 to September 1961, published as "near Colbert, OK". Gage-height records collected at various sites in this vicinity 1892-93, 1906-28, 1931-49 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 807: 1935 (M). WSP 1211: Drainage area. WSP 1241: 1924-29, 1932-33, 1934 (M), 1935.

GAGE.--Water-stage recorder. Datum of gage is 500.00 ft above National Geodetic Vertical Datum of 1929. Oct. 9, 1923 to Sept. 24, 1934, nonrecording gage, and July 29, 1942 to Sept. 30, 1961, water-stage recorder, at county road bridge 2.5 mi downstream. Prior to Oct. 1, 1931, at datum 6.85 ft higher; Oct. 1, 1931 to Sept 24, 1934, at datum 7.07 ft higher; and July 29, 1942 to Sept. 30, 1961, at datum 2.64 ft lower; Sept. 25, 1934 to July 28, 1942, water-stage recorder at railway bridge 1.9 mi downstream at datum 7.36 ft higher.

REMARKS.--Records good. Flow regulated since October 1943 by Lake Texoma (station 07331500).

COOPERATION.--Gage-height record and 4 discharge measurements provided by U.S. Army Corps of Engineers; records computed by U.S. Geological Survey.

AVERAGE DISCHARGE.--20 years (water years 1924-43) prior to regulation by Lake Texoma, 5,684 ft³/s (4,118,000 acre-ft/yr); 44 years (water years 1945-88) since regulation by Lake Texoma, 4,734 ft³/s (3,430,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 201,000 ft³/s May 21, 1935 (gage height, 31.8 ft, at site and datum then in use); maximum gage height, 32.0 ft Apr. 25, 1942 (at site and datum used in 1943); minimum daily discharge, 12 ft³/s Jan. 10, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 26, 1908, reached a stage of 45.5 ft (at site and datum used July 29, 1942 to Sept. 30, 1961); from record of National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,800 ft³/s Mar. 10 (gage height, 11.11 ft); minimum daily, 157 ft³/s July 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5840	3890	3860	17100	10700	3530	10900	9250	1920	2030	2130	912
2	5860	3890	3870	17200	10700	6760	10800	9250	1860	2010	1970	936
3	243	3930	1670	17300	10700	10100	10700	9170	1890	2020	1950	918
4	113	3910	2750	17200	10800	11000	12600	9220	2590	2000	1970	901
5	5700	3120	124	17300	10700	10900	15600	9150	2640	2040	1950	892
6	3180	3120	289	17300	10800	10900	18300	6800	2090	2050	2060	895
7	3110	1950	2840	17200	10800	10800	20400	6060	1960	2050	2060	722
8	3130	818	3290	15000	10800	16900	19400	5570	1840	2060	2220	710
9	3970	3020	5900	13600	9470	20600	17800	6080	1820	2020	2230	715
10	3110	3850	5890	13700	9410	20600	17700	4130	1920	2020	2070	710
11	3110	3850	5860	11500	9390	17800	15400	4120	1530	2070	2050	707
12	3110	5460	304	10600	9480	14600	12300	4220	1470	157	2010	710
13	3480	2820	6210	10600	6710	14600	11600	4210	1420	2010	2040	708
14	3120	117	6890	10600	6240	13100	11600	4220	1480	2030	2050	703
15	4010	283	6650	10500	6270	11500	9310	4210	1590	1670	2050	732
16	3090	5930	7040	10600	5620	11500	7800	2840	1520	2040	2060	728
17	2310	5880	4300	10500	3210	11700	7790	3050	1510	2060	2050	549
18	2300	5960	4000	10500	3240	11500	7720	3050	1520	2050	2040	564
19	3400	5730	4590	10500	5560	11500	7740	3060	1490	2080	2040	236
20	5180	4890	4090	10500	5450	11500	7750	3060	1890	2070	2060	205
21	2310	2830	3950	10500	4620	11600	8860	2460	1570	2060	2050	203
22	159	121	5770	15300	5490	11600	10600	2420	2100	2090	2050	196
23	2270	5730	6460	16600	1950	11600	10500	2270	2090	2070	1650	204
24	3890	3900	6750	16500	6500	8240	10600	2490	2110	2060	1650	209
25	2420	4360	7430	13400	6400	5600	10500	2280	2670	2060	1660	200
26	4040	235	5590	10700	6270	5570	10500	2290	2660	2400	1660	200
27	5080	124	2280	10600	2680	5590	10600	2290	2690	2120	1290	204
28	5060	111	1970	10600	3410	5640	10600	1930	3350	2110	1280	221
29	5080	113	5790	10600	3590	5610	9270	1890	2680	2100	920	224
30	5070	1470	10300	e10600	---	5580	9230	1900	2630	2130	918	204
31	3890	---	13300	e10700	---	7290	---	1880	---	2120	909	---
TOTAL	106635	91412	150007	405400	206960	335310	354470	134820	60500	61857	57097	16218
MEAN	3440	3047	4839	13080	7137	10820	11820	4349	2017	1995	1842	541
MAX	5860	5960	13300	17300	10800	20600	20400	9250	3350	2400	2230	936
MIN	113	111	124	10500	1950	3530	7720	1880	1420	157	909	196
AC-FT	211500	181300	297500	804100	410500	665100	703100	267400	120000	122700	113300	32170

CAL YR 1987 TOTAL 4470628 MEAN 12250 MAX 51200 MIN 65 AC-FT 8867000
WTR YR 1988 TOTAL 1980686 MEAN 5412 MAX 20600 MIN 111 AC-FT 3929000

e Estimated.

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1944 to current year. Chemical and biochemical analyses: October 1974 to September 1986. Sediment analyses: October 1974 to September 1986.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1944 to current year.
WATER TEMPERATURE: October 1945 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,520 microsiemens Aug. 14, 1944; minimum daily, 656 microsiemens Oct. 16, 1945.
WATER TEMPERATURE (1945-69): Maximum daily, 31.0°C July 17, 1969; minimum daily, 3.0°C Feb. 2-4, 7, 1966.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,620 microsiemens Sept. 30; minimum daily, 1,340 microsiemens Apr. 14-18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 24...	1530	3890	1430	--	--	360	240	90	32
JAN 31...	0900	10700	1400	--	--	370	240	94	33
MAR 20...	1300	11500	1440	7.70	--	340	210	87	30
APR 26...	0945	10500	1360	--	16.5	350	210	89	32
JUN 14...	0930	1480	1500	--	20.5	390	220	100	33
AUG 03...	1430	1950	1520	--	28.0	390	250	92	38

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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...	160	4	5.8	120	230	260	0.40	7.5	858
JAN 31...	160	4	5.4	128	240	230	0.30	8.0	847
MAR 20...	170	4	4.2	136	230	250	0.30	7.0	860
APR 26...	140	3	4.2	149	220	210	0.40	7.3	792
JUN 14...	160	4	4.3	169	210	250	<0.10	9.1	868
AUG 03...	170	4	4.4	138	260	250	0.30	7.2	905

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	106635	1450	832	240000	270	78100	190	56000	330
NOV.	1987	91412	1500	864	213000	280	70200	200	49900	330
DEC.	1987	150007	1550	892	361000	300	119900	210	84500	340
JAN.	1988	405400	1490	855	936000	280	307400	200	218900	330
FEB.	1988	206960	1400	806	450000	260	145700	190	105300	320
MAR.	1988	335310	1450	836	757000	270	247000	200	176900	330
APR.	1988	354470	1400	802	768000	260	248100	190	179500	320
MAY	1988	134820	1380	791	288000	250	92700	180	67300	310
JUNE	1988	60500	1410	811	133000	260	42900	190	31000	320
JULY	1988	61857	1460	842	141000	280	46000	200	32900	330
AUG.	1988	57097	1490	860	133000	280	43600	200	31000	330
SEPT	1988	16218	1510	871	38100	290	12600	200	8920	340
TOTAL		1980686	**	**	4457000	**	1454000	**	1042000	**
WTD.AVG.		5412	1450	833	**	270	**	190	**	330

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1420	1470	1530	1550	1430	1430	1470	1380	1390	1430	1490	1510
2	1420	1470	1530	1530	1420	1390	1460	1400	1400	1430	1480	1520
3	1480	1470	1540	1530	1400	1390	1460	1380	1400	1440	1470	1510
4	1450	1470	1540	1510	1400	1400	1460	1370	1400	1450	1490	1510
5	1430	1480	1540	1510	1400	1400	1460	1370	1400	1460	1490	1500
6	1450	1480	1540	1510	1400	1400	1450	1370	1400	1460	1520	1490
7	1440	1480	1540	1510	1400	1400	1440	1370	1400	1450	1480	1480
8	1440	1490	1520	1540	1390	1450	1430	1370	1400	1450	1440	1500
9	1440	1490	1520	1520	1390	1470	1420	1370	1400	1450	1470	1450
10	1440	1500	1520	1510	1390	1480	1400	1360	1400	1450	1480	1470
11	1440	1500	1520	1500	1390	1480	1380	1380	1400	1450	1480	1490
12	1440	1500	1520	1500	1390	1480	1360	1360	1400	1460	1490	1520
13	1440	1500	1520	1490	1400	1480	1350	1370	1400	1450	1490	1470
14	1460	1500	1530	1490	1410	1480	1340	1380	1400	1490	1490	1490
15	1450	1510	1530	1480	1410	1470	1340	1370	1410	1450	1490	1540
16	1450	1510	1540	1480	1420	1470	1340	1370	1410	1460	1500	1540
17	1450	1510	1540	1470	1400	1460	1340	1380	1400	1470	1490	1540
18	1450	1510	1540	1470	1420	1450	1340	1370	1410	1480	1500	1540
19	1450	1500	1550	1470	1400	1450	1350	1380	1420	1460	1500	1540
20	1460	1510	1550	1480	1400	1450	1360	1380	1420	1460	1500	1550
21	1450	1510	1560	1480	1410	1450	1370	1380	1410	1470	1510	1560
22	1450	1520	1560	1470	1410	1450	1390	1380	1420	1460	1510	1560
23	1460	1520	1560	1450	1390	1450	1380	1380	1420	1460	1510	1550
24	1460	1530	1560	1440	1400	1450	1370	1380	1420	1470	1510	1550
25	1450	1550	1560	1430	1390	1460	1360	1390	1420	1470	1510	1560
26	1450	1530	1560	1440	1410	1460	1370	1380	1430	1470	1510	1560
27	1460	1520	1560	1440	1410	1470	1370	1390	1430	1480	1510	1540
28	1460	1520	1560	1430	1420	1470	1360	1390	1430	1480	1510	1560
29	1460	1530	1570	1430	1420	1480	1360	1390	1430	1490	1510	1580
30	1460	1530	1580	1430	---	1480	1370	1390	1430	1490	1520	1620
31	1460	---	1570	1430	---	1470	---	1400	---	1490	1510	---
MEAN	1450	1500	1540	1480	1400	1450	1390	1380	1410	1460	1500	1530

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	---	---	---	9.0	14.0	13.0	---	18.0	19.5	21.5	20.5
2	25.0	---	---	---	8.0	7.0	---	17.0	18.0	---	21.5	21.0
3	20.0	---	---	---	9.0	8.0	---	---	19.5	---	21.5	---
4	---	---	---	10.0	8.0	9.0	---	18.5	---	---	21.5	---
5	24.0	20.0	---	10.0	8.0	---	13.5	17.5	---	22.0	21.5	---
6	24.0	20.0	---	10.0	---	---	---	19.5	20.0	22.0	20.0	---
7	23.0	---	12.0	10.0	---	8.0	---	---	19.5	21.0	---	20.5
8	23.0	---	14.5	10.0	---	---	---	---	20.0	20.0	21.0	20.5
9	---	---	14.5	---	9.0	---	---	18.0	20.5	---	20.0	21.0
10	---	19.0	14.5	---	7.0	14.0	---	18.5	20.0	---	21.0	---
11	---	---	12.5	8.5	6.5	---	---	17.0	---	---	21.0	---
12	---	---	---	---	6.5	---	---	18.5	---	19.5	20.5	22.0
13	22.0	---	---	---	---	---	15.5	17.0	18.0	19.5	---	21.0
14	21.5	---	13.0	---	---	10.0	14.0	19.0	18.5	21.5	---	21.0
15	21.5	---	13.0	8.0	---	10.0	---	---	18.5	19.0	20.0	21.0
16	---	---	---	---	---	---	---	17.5	18.5	---	20.0	20.0
17	---	---	---	---	---	10.5	---	18.5	18.5	---	20.5	---
18	---	---	---	---	---	10.0	16.0	19.0	---	22.5	20.5	---
19	21.0	16.0	---	7.0	7.0	---	---	---	---	22.5	20.0	21.0
20	21.0	15.0	---	7.0	---	---	---	18.0	20.0	21.0	---	21.0
21	20.0	---	12.0	7.0	---	9.5	---	---	20.0	---	---	21.0
22	21.0	---	12.0	7.0	8.0	---	16.0	---	20.0	19.5	21.0	21.0
23	20.0	15.5	12.0	---	8.0	---	---	18.0	20.0	---	21.0	21.0
24	---	15.5	12.5	---	8.0	11.0	---	18.0	---	---	21.0	---
25	---	15.0	---	7.5	8.5	---	17.0	20.0	---	20.0	21.0	---
26	---	---	---	7.5	---	---	17.0	18.0	---	---	---	22.0
27	---	---	---	7.0	---	---	16.0	19.0	19.0	21.0	---	22.0
28	20.0	---	11.0	7.0	---	---	17.0	---	20.0	21.0	---	---
29	---	---	11.0	---	---	11.5	17.0	---	---	21.0	---	22.0
30	---	---	11.0	---	---	---	---	---	19.5	---	20.5	---
31	---	---	---	---	---	12.5	---	19.5	---	---	---	---
MEAN	22.0	17.0	12.5	8.0	8.0	10.5	15.5	18.5	19.5	20.5	21.0	21.0

07335390 PAT MAYSE LAKE NEAR CHICOTA, TX

LOCATION.--Lat 33°51'10", long 93°32'38", Lamar County, Hydrologic Unit 11140101, on upstream side of dam on Sanders Creek, 2,800 ft to right of outlet channel, 2.0 mi southeast of Chicota, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--175 mi².

PERIOD OF RECORD.--October 1967 to current year. Prior to October 1970, published as Pat Mayse Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 10, 1968, non-recording gage at present site and datum. Digital recorder was put in operation Sept. 12, 1988.

REMARKS.--The lake is formed by a rolled earthfill dam about 7,080 ft long, including a spillway 100 ft wide located near the right abutment of dam. The dam was completed and deliberate impoundment began Sept. 28, 1967. The flood-control outlet works consist of an uncontrolled morning-glory-type drop-inlet spillway that is connected to a 7.25-foot-diameter concrete conduit through the dam. A 24- and 12-inch diameter low-flow pipe is provided for additional outlets. The lake was built for flood control, municipal, and industrial water supply, recreation, fish and wildlife conservation, and for channel improvement on Sanders Creek. Water is diverted from the lake for municipal and industrial uses by the city of Paris. Any resultant effluent is discharged into Pine Creek below Lake Crook, which is located in another drainage basin. The capacity table is based on Geological Survey topographic maps dated 1949. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	488.5	
Crest of spillway	477.0	352,700
Top of flood-control pool	460.5	189,100
Crest of morning-glory drop-inlet spillway (top of conservation pool)	450.6	122,100
Streambed	393.0	0

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 208,000 acre-ft Dec. 11, 12, 1971 (elevation, 462.87 ft); minimum since conservation pool was first reached on Apr. 20, 1968, 100,900 acre-ft Nov. 10, 1978 (elevation, 446.80 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 149,600 acre-ft Dec. 28 (elevation, 454.97 ft); minimum, 112,900 acre-ft Sept. 29 (elevation, 449.01 ft).

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

449.0	112,800	453.0	136,800
451.0	124,500	455.0	149,800

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119200	119600	131600	143700	130000	132200	134800	129700	125000	121800	119100	116100
2	119000	119500	131300	142400	130000	132500	135300	129400	125000	121600	119000	116000
3	118800	119500	131000	141300	130200	132800	135600	129200	125000	121400	118900	116000
4	118700	119400	130700	140100	130200	132800	135400	128900	124700	121400	118800	115700
5	118600	119300	130400	138700	129800	132500	135000	128700	124600	121300	118500	115600
6	118500	119200	130400	138500	129600	132300	134400	128500	124700	121100	118400	115500
7	118200	119000	131200	137600	129400	131600	134100	128200	124600	120800	118300	115300
8	118000	119200	131600	136900	129200	131500	133500	128900	124500	120800	118300	115200
9	118000	119700	131500	136200	129100	131000	133000	128900	124300	120600	117900	115000
10	117900	119800	131200	135500	129200	130700	132500	128900	124000	120600	117600	115000
11	117700	120100	130900	134900	128600	130600	132000	128600	123900	120400	118200	114900
12	117600	120200	130500	134500	128500	130300	131600	128300	123800	121300	118500	114900
13	117500	120200	130400	135000	128500	129900	131300	128100	123600	121700	118300	114800
14	117400	120200	131500	135200	128300	130100	131000	128000	123600	121600	118300	114700
15	117300	123000	132400	135000	128100	129600	130500	127800	123600	121500	118100	114500
16	117200	127800	132500	135000	128000	129400	130200	127600	123400	121300	117900	114500
17	117100	132300	132200	135200	128100	129600	131800	127300	123400	121300	118100	114400
18	117500	133100	131900	135300	131500	129700	133200	127200	123300	121100	118000	114300
19	117800	132900	133800	135100	135400	129800	134200	127000	123200	121200	118200	114100
20	117700	132600	135700	134500	137400	129700	133900	126800	123000	121300	118200	114000
21	117600	132300	136500	134100	136900	129400	133500	126700	123100	120900	118000	113900
22	117500	132000	136100	133700	136100	129300	133100	126400	122900	120800	118000	113800
23	117400	131600	135700	133200	135600	129100	132700	126200	122700	120600	117600	113500
24	117800	131500	135500	132700	135200	129400	132100	126000	122500	120600	117600	113500
25	117800	131700	137100	132100	134600	129400	131800	125900	122300	120300	117500	113300
26	118600	132800	143200	131800	134200	129200	131400	125700	122400	120200	117300	113200
27	119000	132900	148800	131500	133800	129100	131100	125600	122300	119900	117100	113100
28	119400	132600	149500	131200	133400	128900	130700	125400	122200	119900	116800	112900
29	119600	132400	148100	130800	132800	131600	130200	125200	122200	119600	116600	112900
30	119600	132000	146700	130600	---	134300	130000	125100	122100	119500	116400	113000
31	119600	---	145200	130400	---	134700	---	125000	---	119300	116300	---
MAX	119600	133100	149500	143700	137400	134700	135600	129700	125000	121800	119100	116100
MIN	117100	119000	130400	130400	128000	128900	130000	125000	122100	119300	116300	112900
(†)	450.17	452.23	454.31	451.96	452.35	452.67	451.90	451.09	450.59	450.13	449.60	449.03
(ϕ)	+300	+12400	+13200	-14800	+2400	+1900	-4700	-5000	-2900	-2800	-3000	-3300

CAL YR 1987 MAX 149500 MIN 117100 (ϕ) +15200
WTR YR 1988 MAX 149500 MIN 112900 (ϕ) -6300

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

07335500 RED RIVER AT ARTHUR CITY, TX

LOCATION.--Lat 33°52'32", long 95°30'08", in NW1/4 sec.11, T.8 S., R.17 E., Choctaw County, OK, Hydrologic Unit 11140101, on right downstream bank of bridge on U.S. Highway 271 at Arthur City, 10.6 mi downstream from Muddy Boggy River, 26.0 mi upstream from Kiamichi River, and at mile 633.1.

DRAINAGE AREA.--44,531 mi², of which 5,936 mi² probably is noncontributing.

PERIOD OF RECORD.--January to September 1905 (gage heights and discharge measurements only), October 1905 to December 1911, July 1936 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at same site since 1891 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1241: Drainage area. WSP 1311: 1906-11.

GAGE.--Water-stage recorder. Datum of gage is 380.07 ft above National Geodetic Vertical Datum of 1929. From 1905-11 nonrecording gage at St. Louis-San Francisco Railway Co. bridge 200 ft upstream at same datum. July 1, 1936 to Mar. 24, 1940, nonrecording gage at present site and datum.

REMARKS.--Records fair. Flow regulated since October 1943 by Lake Texoma (station 07331500), 92.8 mi upstream from station.

COOPERATION.--Gage-height record and 9 discharge measurements provided by U.S. Army Corps of Engineers; records computed by U.S. Geological Survey.

AVERAGE DISCHARGE.--13 years (water years 1906-11, 1937-43)prior to regulation by Lake Texoma , 9,266 ft³/s (6,713,000 acre-ft/yr); 44 years (water years 1945-88) since regulation by Lake Texoma, 8,250 ft³/s (5,977,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 400,000 ft³/s May 28, 1908 (gage height, 43.2 ft), from rating curve extended above 41,000 ft³/s, on basis of records for later years; minimum, 130 ft³/s Dec. 11-12, 1956, (gage height, 4.49 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,600 ft³/s Dec. 27 (gage height, 15.87 ft); minimum daily, 397 ft³/s Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1120	5500	2480	e22100	12000	5450	8950	10500	2750	3800	2420	1250
2	3730	4530	2290	e23000	12400	5600	13600	10300	2820	3330	2410	1160
3	5750	4320	4800	e21500	16500	11000	16400	10300	3020	3110	2390	1150
4	5880	4260	5000	e21000	16700	20400	16400	10300	3210	2690	2410	1210
5	2520	4220	3750	e21000	14400	20000	15800	10200	3030	2630	2280	1690
6	1060	4130	3870	e21000	13100	19600	17600	10300	3130	2600	2340	1390
7	3680	3580	5210	e21000	12400	19900	18900	9250	3460	2560	2300	1210
8	3900	3460	8990	e21000	12100	19300	21300	8050	3300	2550	2340	1130
9	3530	2860	8720	e20900	12000	19000	21200	7370	2890	2570	2380	1100
10	3440	2740	6430	e17000	11600	21900	19300	7050	2740	2580	2350	997
11	4010	3620	7290	15600	10900	21900	18800	7310	2650	2540	2450	923
12	3580	5130	7260	15200	10800	20400	18500	5650	2610	3210	2630	889
13	3440	4650	7040	17200	10700	17000	15600	5270	2560	5210	2530	860
14	3450	5510	4110	20500	9440	16300	13800	5340	2290	5390	2440	845
15	3780	4970	9170	18500	8330	15800	13200	5270	2220	3680	2400	837
16	3490	14000	12200	16900	8010	13600	12900	5230	2160	3310	2360	836
17	4180	21200	11000	15700	7880	13100	10600	5200	2240	2780	2350	833
18	3580	18100	9610	15100	8660	15800	14200	4070	2250	2470	2380	854
19	3100	11700	8840	14900	13900	19600	17200	4080	2200	2590	2390	886
20	2850	8530	19200	15900	17000	18900	14000	4040	2180	2580	2440	826
21	3470	7510	23000	15800	15400	17800	11600	4020	2160	2550	2430	730
22	5060	6510	20800	15300	11400	15700	10700	4020	2180	2530	2430	629
23	3140	5010	18200	14500	9250	14100	11300	3780	2360	2570	2420	480
24	2000	2550	18600	e14600	8370	13700	12100	3460	2170	2670	2380	425
25	1560	6380	20300	15500	5940	13700	11900	3290	2500	2660	2300	417
26	5290	11000	25300	e14500	8170	10300	11800	3330	2610	2610	2030	446
27	6580	13200	31000	14200	8260	9250	11600	3250	2770	2550	1970	496
28	7090	8170	e27500	12400	7890	8590	11500	3140	3190	2550	1960	464
29	6470	4930	e23400	12100	5370	9630	11500	3120	3280	2710	1900	399
30	5970	3390	e21200	12000	---	11300	11300	3060	3800	2500	1640	397
31	5710	---	e22700	12000	---	9300	---	2820	---	2460	1580	---
TOTAL	122410	205660	399260	527900	318870	467920	433550	182370	80730	90540	71030	25759
MEAN	3949	6855	12880	17030	11000	15090	14450	5883	2691	2921	2291	859
MAX	7090	21200	31000	23000	17000	21900	21300	10500	3800	5390	2630	1690
MIN	1060	2550	2290	12000	5370	5450	8950	2820	2160	2460	1580	397
AC-FT	242800	407900	791900	1047000	632500	928100	859900	361700	160100	179600	140900	51090

CAL YR 1987 TOTAL 6007580 MEAN 16460 MAX 61300 MIN 1060 AC-FT 11920000
WTR YR 1988 TOTAL 2925999 MEAN 7995 MAX 31000 MIN 397 AC-FT 5804000

e Estimated.

07336820 RED RIVER NEAR DE KALB, TX

LOCATION.--Lat 33°41'15", long 94°41'39", Bowie County, Tex.-McCurtain County, Okla. State line, Hydrologic Unit 11140106, near left bank at downstream side of bridge on U.S. Highway 259, 4.8 mi upstream from North Mill Creek, 13 mi north of De Kalb, and at mile 556.9.

DRAINAGE AREA.--47,348 mi², of which 5,936 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 302.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. At times, flood peaks may be affected by storage in Lake Texoma (station 07331500) located approximately 169 mi upstream, and low flows may be affected by releases for generation of electric power. Storage and/or releases from Lake Hugo on the Kiamichi River, a tributary to the Red River about 45 miles upstream, may also affect flows. Gage-height telemeter at station.

AVERAGE DISCHARGE.--20 years (water years 1969-88), 12,690 ft³/s (9,194,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 189,000 ft³/s Dec. 11, 1971 (gage height, 31.55 ft), from graph based on gage readings; minimum, 213 ft³/s Nov. 30, 1979, from graph based on gage readings.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1957, 205,000 ft³/s June 1957 (gage height, 32.2 ft), from rating curve extended above 186,500 ft³/s. The greatest flood since 1936 occurred in February 1938, stage unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 81,900 ft³/s Dec. 27 at 2115 hours (gage height, 24.79 ft); minimum daily, 1,090 ft³/s Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3970	7290	8970	47900	15200	8530	18500	12400	2950	3850	2720	1830
2	2880	6990	9400	48700	15300	6880	21500	11700	2980	4480	2660	1730
3	2710	6400	8940	49100	16700	7410	23800	11000	3230	4220	2630	1520
4	5460	5690	8870	44800	20400	15300	26600	10500	3250	3830	2620	1630
5	6690	5450	7530	39000	22000	28900	30400	10500	3300	3430	2620	1500
6	5760	5290	5660	36800	20100	30500	33500	10400	3310	3100	2600	1620
7	3190	5230	5190	36500	18100	29400	33100	10300	3110	2990	2510	1830
8	2700	5120	6270	36000	17000	29700	33100	10000	3370	2960	2530	1570
9	4730	5780	12200	35700	16600	28300	30000	8710	3520	2920	2480	1460
10	4620	7600	14600	34500	16400	26600	27600	7850	3140	2940	2550	1460
11	4410	6480	10400	31100	15600	28800	24900	7480	2770	2960	2640	1460
12	4490	5120	9020	31700	14000	30200	22700	7360	2660	3780	3510	1450
13	4770	5920	8700	31400	13300	26200	21200	6370	2590	4930	3910	1420
14	4500	6240	8970	34800	12600	21400	17900	5310	2570	5030	3230	1360
15	4420	6250	8940	39100	11700	19900	16300	5310	2420	6210	2880	1310
16	4470	14300	14400	35200	10000	19000	15200	5250	2260	5090	2700	1290
17	4660	27900	21000	30900	9710	16900	14300	5240	2190	4120	2680	1270
18	4710	40200	20000	28700	10800	15900	15100	5210	2710	3520	2750	1260
19	5150	36700	16500	27100	16200	19300	17400	4590	2740	3000	2720	1260
20	4860	26200	18100	26100	22200	26200	24500	4150	2690	2940	2700	1250
21	4280	19600	29300	26800	24900	26400	25800	4120	2680	2970	2710	1240
22	4120	16100	34100	26600	22900	24300	21300	4050	2630	2880	2710	1240
23	5090	14700	32800	24700	20700	21100	16700	4040	2610	2830	2750	1220
24	5710	12900	30300	22600	20400	17600	13000	4030	2720	2800	2870	1180
25	4710	11200	35700	25000	18900	16000	13500	3610	2780	2880	2700	1160
26	3900	11500	59300	25300	16000	16400	13500	3430	2740	2910	2640	1130
27	5380	16700	78000	22900	14000	14800	13200	3320	3030	2880	2440	1110
28	8240	19800	74100	19100	11600	12500	13100	3370	3140	2810	2230	1100
29	8590	15400	55600	16300	10800	11800	12900	3210	3430	2770	2170	1100
30	8450	10800	45700	15300	---	15900	12800	3150	3740	2850	2130	1090
31	7740	---	42100	15200	---	19300	---	3130	---	2850	1970	---
TOTAL	155360	384850	740660	964900	474110	631420	623400	199090	87260	107730	82960	41050
MEAN	5012	12830	23890	31130	16350	20370	20780	6422	2909	3475	2676	1368
MAX	8590	40200	78000	49100	24900	30500	33500	12400	3740	6210	3910	1830
MIN	2700	5120	5190	15200	9710	6880	12800	3130	2190	2770	1970	1090
AC-FT	308200	763300	1469000	1914000	940400	1252000	1237000	394900	173100	213700	164600	81420

CAL YR 1987 TOTAL 7836570 MEAN 21470 MAX 78000 MIN 2700 AC-FT 15540000
WTR YR 1988 TOTAL 4492790 MEAN 12280 MAX 78000 MIN 1090 AC-FT 8911000

07336820 RED RIVER NEAR DE KALB, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: October 1970 to July 1981. Sediment analyses: November 1979 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1968 to current year.
WATER TEMPERATURE: January 1968 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 relationship between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,140 microsiemens July 13, 1980; minimum daily, 114 microsiemens Oct. 31, 1984.
WATER TEMPERATURE: Maximum daily, 34.0°C on several days during July and August 1969-70; minimum daily, 0.0°C Jan. 11, 1977.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,430 microsiemens Oct. 6; minimum daily, 171 microsiemens Dec. 31.
WATER TEMPERATURE: Maximum daily, 30.0°C on several days during June, July, and August; minimum daily, 4.0°C Jan. 14-16, Feb. 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 27...	1440	5240	920	8.00	18.5	8.9	95	3.3	240	110	65
JAN 26...	1645	25000	1140	8.00	5.5	13.4	106	0.5	300	180	77
MAR 16...	1300	19100	1210	7.90	9.0	11.6	101	1.3	310	180	80
MAY 03...	1500	10700	1280	7.10	19.5	9.5	106	0.7	330	190	84
JUN 21...	1400	2600	1260	7.20	30.0	7.8	105	1.5	330	170	82
AUG 09...	1300	2480	1340	8.00	32.0	7.7	107	2.3	350	190	85

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 WAT WH TOT FET 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)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
OCT 27...	20	91	3	4.6	133	120	130	0.30	8.0	519	--
JAN 26...	25	120	3	5.0	115	180	180	0.30	7.4	664	0.180
MAR 16...	27	130	3	4.0	131	170	190	0.30	6.7	687	0.180
MAY 03...	29	120	3	4.3	135	180	180	0.40	6.7	685	0.290
JUN 21...	31	130	3	4.5	161	190	190	0.40	7.3	732	--
AUG 09...	34	150	4	4.2	159	210	200	0.20	7.3	786	--

DATE	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-PHOROUS TOTAL (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
OCT 27...	<0.010	0.300	0.020	0.98	1.0	0.050	181	2560	96	1	130
JAN 26...	0.020	0.200	0.110	0.59	0.70	0.070	480	32400	39	1	150
MAR 16...	0.020	0.200	0.020	0.48	0.50	0.060	517	26600	23	--	--
MAY 03...	0.010	0.300	0.030	--	<0.20	0.080	200	5780	33	--	--
JUN 21...	0.010	<0.100	0.040	1.5	1.5	0.050	54	379	89	1	170
AUG 09...	<0.010	<0.100	0.010	0.29	0.30	0.080	--	--	--	--	--

07336820 RED RIVER NEAR DE KALB, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	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 27...	<1	<10	6	28	<5	16	0.1	<1	1.0	80
JAN 26...	<1	<1	2	28	<5	10	<0.1	<1	<1.0	8
MAR 16...	--	--	--	--	--	--	--	--	--	--
MAY 03...	--	--	--	--	--	--	--	--	--	--
JUN 21...	3	2	6	11	<5	12	0.4	<1	1.0	64
AUG 09...	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	155360	1260	714	300000	220	92100	160	68100	290
NOV.	1987	384850	656	372	386000	100	105600	80	82900	170
DEC.	1987	740660	364	206	411000	51	101300	42	84200	100
JAN.	1988	964900	802	455	1185E3	130	329200	98	256200	200
FEB.	1988	474110	901	511	654000	150	186200	110	143100	220
MAR.	1988	631420	939	533	908000	150	259000	120	198900	230
APR.	1988	623400	941	534	899000	150	258500	120	197600	230
MAY	1988	199090	1240	705	379000	220	115700	160	85800	290
JUNE	1988	87260	1210	686	162000	210	48900	150	36400	280
JULY	1988	107730	1130	644	187000	190	56300	140	42100	270
AUG.	1988	82960	1330	755	169000	240	52700	170	38700	300
SEPT	1988	41050	1180	672	74500	200	22400	150	16700	280
TOTAL		4492790	**	**	5715000	**	1628000	**	1251000	**
WTD.AVG.		12280	831	471	**	130	**	100	**	210

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	1180	326	178	1170	980	578	1190	1190	1350	1350	1340
2	1240	1220	180	385	1150	858	583	1210	1210	1280	1350	1320
3	1170	1260	222	513	1170	951	690	1200	1170	1240	1340	1310
4	1300	1300	231	637	1140	906	773	1300	1180	1260	1350	1300
5	1410	1340	603	773	976	842	813	1310	1170	1300	1360	1290
6	1430	1380	828	856	863	780	669	1310	1170	1290	1360	1230
7	1240	1390	1060	915	945	707	708	1320	1110	1240	1350	1140
8	1250	1340	940	946	1010	653	862	1300	1100	1300	1330	1080
9	1180	1310	739	978	1050	658	1010	1290	1180	1310	1360	1110
10	1410	973	319	1000	1070	1010	1140	1270	1200	1310	1350	1120
11	1380	831	297	1030	1100	1010	1210	1270	1160	1300	1290	1130
12	1350	944	575	1030	1130	1140	1230	1240	1130	765	1280	1140
13	1380	1010	875	930	1150	1160	1260	1280	1100	754	1290	1140
14	1380	1140	1170	806	1150	1170	1270	1170	1220	880	1280	1150
15	1380	1170	907	707	1160	1200	1280	1190	1230	1080	1270	1150
16	1370	700	633	583	1160	1210	1290	1210	1170	920	1270	1160
17	1370	585	418	657	1170	1200	1300	1210	1160	740	1300	1170
18	1370	307	432	725	1060	1160	1190	1210	1160	581	1360	1170
19	1370	278	447	778	915	1170	959	1220	1180	710	1370	1180
20	1310	376	460	802	838	933	856	1150	1200	987	1340	1220
21	1290	469	476	812	748	760	576	1180	1210	1290	1310	1210
22	1270	592	332	798	665	794	611	1200	1190	1290	1280	1240
23	1190	720	249	795	584	829	681	1220	1200	1290	1340	1240
24	1390	702	172	908	479	921	897	1220	1210	1300	1350	1220
25	1250	578	260	1010	535	1050	1140	1210	1340	1250	1300	1170
26	1130	602	357	1100	547	1150	1170	1180	1330	1310	1340	1120
27	930	621	355	1220	462	1040	1170	1190	1320	1310	1350	1120
28	1020	640	285	1170	464	955	1180	1210	1300	1320	1360	1060
29	1070	505	276	1180	969	860	1190	1210	1320	1320	1370	1060
30	1100	395	208	1170	---	844	1190	1210	1340	1330	1300	986
31	1150	---	171	1170	---	674	---	1190	---	1340	1340	---
MEAN	1270	862	478	857	925	954	983	1230	1210	1160	1330	1180

07336820 RED RIVER NEAR DE KALB, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	10.0	5.0	11.0	13.0	15.0	---	24.0	30.0	29.0	24.0
2	20.0	---	9.0	5.0	10.0	13.0	14.0	19.0	24.0	---	29.0	24.0
3	19.0	---	10.0	---	9.0	12.0	---	19.0	23.0	---	29.0	---
4	---	---	10.0	5.0	7.0	10.0	16.0	19.0	23.0	28.0	29.0	---
5	17.0	19.0	10.0	5.0	5.0	---	17.0	19.0	---	28.0	29.0	---
6	18.0	17.0	---	5.0	4.0	---	17.0	20.0	23.0	27.0	29.0	---
7	17.0	15.0	12.0	---	---	---	17.0	20.0	24.0	26.0	---	---
8	17.0	---	14.0	---	5.0	12.0	17.0	---	25.0	26.0	29.0	---
9	17.0	15.0	13.0	---	5.0	11.0	---	---	27.0	26.0	30.0	---
10	19.0	14.0	12.0	---	5.0	11.0	---	21.0	25.0	---	30.0	---
11	---	11.0	11.0	---	---	12.0	15.0	22.0	24.0	28.0	29.0	---
12	18.0	10.0	---	---	---	12.0	13.0	22.0	---	26.0	26.0	---
13	17.0	10.0	---	---	5.0	---	---	22.0	25.0	26.0	26.0	---
14	---	11.0	9.0	4.0	---	9.0	---	23.0	26.0	28.0	---	---
15	---	---	6.0	4.0	7.0	9.0	---	---	26.0	29.0	28.0	---
16	---	15.0	6.0	4.0	7.0	9.0	---	24.0	26.0	---	28.0	---
17	---	13.0	6.0	---	9.0	10.0	---	25.0	26.0	---	28.0	---
18	---	12.0	---	6.0	10.0	9.0	---	25.0	26.0	29.0	28.0	25.0
19	19.0	13.0	---	8.0	9.0	9.0	15.0	25.0	---	29.0	28.0	26.0
20	19.0	12.0	---	7.0	---	---	15.0	25.0	28.0	29.0	---	26.0
21	16.0	12.0	8.0	6.0	---	10.0	17.0	---	28.0	29.0	---	27.0
22	16.0	---	8.0	5.0	---	12.0	18.0	---	29.0	28.0	28.0	27.0
23	16.0	13.0	8.0	7.0	10.0	14.0	20.0	21.0	29.0	28.0	28.0	27.0
24	16.0	14.0	10.0	---	10.0	15.0	---	21.0	29.0	---	28.0	---
25	---	15.0	---	---	---	---	19.0	21.0	30.0	25.0	28.0	---
26	18.0	---	9.0	---	10.0	16.0	19.0	21.0	---	---	28.0	24.0
27	17.0	---	7.0	5.0	11.0	---	18.0	21.0	30.0	---	---	23.0
28	16.0	11.0	5.0	6.0	11.0	---	18.0	22.0	30.0	---	---	23.0
29	---	---	5.0	7.0	12.0	17.0	18.0	---	30.0	---	25.0	24.0
30	---	10.0	5.0	---	---	14.0	18.0	23.0	30.0	---	25.0	23.0
31	---	---	5.0	---	---	14.0	---	24.0	---	---	24.0	---
MEAN	17.5	13.0	8.5	5.5	8.0	12.0	17.0	22.0	26.5	27.5	28.0	25.0

07337000 RED RIVER AT INDEX, ARK.
(National stream-quality accounting network station)

LOCATION.--Lat 33°33'07", long 94°02'28", in NW 1/4 SW 1/4 sec.7, T.14 S., R.28 W., Miller County, Hydrologic Unit 11140106, near right bank on downstream side of southbound bridge on U.S. Highway 71 at Index, 2.2 mi south of Ogden, 20.6 mi upstream from Little River, and at mile 485.3.

DRAINAGE AREA.--48,030 mi², of which 5,936 mi² is probably noncontributing.

PERIOD OF RECORD.--July 1936 to current year. Gage-height records collected at same site since 1917 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 246.87 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 12, 1939, nonrecording gage, and Dec. 12, 1939, to July 19, 1979, water-stage recorder, at site 500 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Some regulation since Oct. 31, 1943, by Lake Texoma (station 07331500), 241 mi upstream, capacity, 5,392,900 acre-ft; since Sept. 28, 1967, by Pat Mayse Lake (station 07335390), capacity, 352,700 acre-ft; and since Jan. 18, 1974, by Hugo Lake (Oklahoma) capacity, 966,700 acre-ft. Satellite telemeter at station.

AVERAGE DISCHARGE.--52 years, 12,050 ft³/s (8,730,000 acre-ft/yr.)

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 297,000 ft³/s Feb. 23, 1938 (gage height, 34.25 ft); minimum, 378 ft³/s Nov. 28, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 87,700 ft³/s Dec. 28 (gage height, 19.75 ft); minimum daily, 1,030 ft³/s Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4720	6890	11900	46100	14500	9900	18900	13900	3580	3080	2790	2180
2	3920	6420	9430	49200	14900	8630	20300	13500	3560	3320	2780	2070
3	3240	6100	9230	50000	16000	8550	22800	12900	3490	3600	2680	2000
4	2590	5800	8850	49300	16600	8880	24800	12100	3550	3980	2640	1860
5	3150	5210	8520	44900	19600	15600	25700	11500	3610	3790	2600	1700
6	4950	4750	7920	40700	21400	26900	28100	11300	3620	3510	2620	1700
7	5490	4550	7460	38900	19800	28200	29900	11200	3700	3190	2600	1610
8	4250	4510	6540	38000	17700	27300	30100	11100	3670	2970	2570	1680
9	2800	5100	6480	36900	16200	27400	30000	11000	3570	2890	2520	1780
10	3000	6490	10700	36000	15500	26100	28200	10000	3730	2850	2490	1650
11	3940	8240	14100	34100	15000	25200	26500	9010	3730	2820	2480	1570
12	3820	8270	11100	31600	14400	27000	24800	8550	3450	3010	2620	1530
13	3690	6340	9060	31100	13100	28400	23200	8230	3220	3220	2850	1490
14	3840	5260	11500	32100	12100	25700	21700	7680	3110	4040	3450	1430
15	3910	5590	13700	35700	11400	20800	19000	6480	3040	4540	3620	1390
16	3740	8200	12600	37700	10700	18800	17400	6130	2980	5050	3170	1350
17	3700	19400	16700	35000	9380	17800	16800	6000	2830	5620	2880	1320
18	3810	31900	22000	31800	9480	16100	16600	5900	2720	4710	2900	1320
19	3900	37600	20500	29700	12700	15300	17200	5800	2660	3970	2860	1330
20	4030	32600	18000	27700	19200	18200	19200	5580	2640	3460	2760	1340
21	4140	25600	20900	26500	24200	24100	25200	4950	2640	3020	2770	1340
22	3870	19700	30500	26600	25000	25100	26700	4730	2610	2940	2820	1330
23	3520	16100	32100	26200	21900	23100	23400	4600	2570	2910	2740	1320
24	3680	14300	30900	24200	19300	20300	19200	4600	2590	2830	2890	1280
25	4530	14800	35400	22300	18800	17900	15100	4550	2620	2780	3110	1250
26	4630	15700	53500	24200	17300	16300	14900	4360	2600	2750	3020	1180
27	3900	14800	77500	24300	14800	16500	15000	4040	2600	2790	2750	1110
28	3530	18000	86500	22100	12900	15500	14700	3870	2630	2820	2600	1060
29	5100	20800	74900	18600	10900	13100	14400	3800	2780	2790	2420	1030
30	6690	16700	54400	16000	---	12600	14100	3760	2850	2750	2300	1080
31	7130	---	47000	14900	---	15400	---	3640	---	2730	2240	---
TOTAL	127210	395720	779890	1002400	464760	600660	643900	234760	92950	104730	85540	44280
MEAN	4104	13190	25160	32340	16030	19380	21460	7573	3098	3378	2759	1476
MAX	7130	37600	86500	50000	25000	28400	30100	13900	3730	5620	3620	2180
MIN	2590	4510	6480	14900	9380	8550	14100	3640	2570	2730	2240	1030
AC-FT	252300	784900	1547000	1988000	921900	1191000	1277000	465600	184400	207700	169700	87830

CAL YR 1987 TOTAL 7317840 MEAN 20050 MAX 86500 MIN 2590 AC-FT 14510000
WTR YR 1988 TOTAL 4576800 MEAN 12500 MAX 86500 MIN 1030 AC-FT 9078000

07342470 SOUTH SULPHUR RIVER NEAR COMMERCE, TX

LOCATION.--Lat 33°13'11", long 95°51'45", Hunt County, Hydrologic Unit 11140301, on left bank at downstream side of bridge on State Highway 11, 0.7 mi upstream from St. Louis Southwestern Railroad bridge, 1.8 mi downstream from Dunbar Creek, and 3.0 mi southeast of Commerce.

DRAINAGE AREA.--189 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year. Stage records collected at this site November 1956 to September 1979 are published in reports by the U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 450.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for Oct. 1 to Apr. 13, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years (water years 1980-88), 143 ft³/s (10.27 in/yr), 103,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,100 ft³/s May 13, 1982 (gage height, 28.66 ft); minimum, 0.09 ft³/s Apr. 21, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 20, 1971, reached a stage of 27.80 ft, from records published by the U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 08	2330	5,870	21.18	Dec. 26	0630	3,590	17.09
Nov. 16	1830	9,370	24.29	Dec. 27	0400	5,230	20.33
Nov. 25	1000	4,120	18.36	July 12	1245	*10,300	*24.86
Dec. 24	1900	3,510	16.89				

Minimum daily discharge, 0.90 ft³/s Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	8.6	41	63	12	9.4	e66	3.8	1.2	6.8	1.7	1.5
2	1.1	7.4	25	52	11	43	e918	3.0	1.2	7.6	1.9	1.6
3	1.6	7.0	17	40	11	370	e135	2.9	1.2	7.5	1.9	771
4	1.1	6.4	12	38	10	147	e54	2.6	1.4	448	1.7	236
5	1.0	5.8	10	29	9.8	71	e30	2.6	1.1	522	1.7	16
6	1.1	5.5	703	28	9.2	42	e21	2.5	1.3	39	1.6	6.0
7	.98	8.3	469	34	8.7	27	e14	2.3	1.4	9.2	1.5	3.4
8	.94	1400	148	34	9.0	20	e11	2.5	1.1	102	1.6	2.4
9	1.3	3440	72	32	8.8	15	e6.9	3.4	1.3	34	1.9	2.3
10	1.2	1670	42	25	8.6	12	e6.2	2.4	1.1	4.9	1.8	2.0
11	.90	269	25	35	8.9	,9.6	e6.0	2.0	1.1	2.3	1.6	1.8
12	1.0	118	16	1110	8.2	96	e5.7	2.0	1.4	6380	3.1	1.5
13	1.1	80	22	1980	8.3	86	5.5	2.1	1.0	1970	6.4	1.4
14	1.0	63	527	409	8.7	29	5.3	1.8	1.0	90	2.0	1.4
15	1.0	1150	570	210	9.1	13	4.5	1.5	1.1	24	2.0	1.3
16	1.0	7120	155	199	9.3	8.1	110	1.6	1.2	11	1.9	1.4
17	1.1	3290	73	260	9.8	10	341	1.6	1.1	6.7	1.6	1.5
18	2.1	309	44	891	891	142	2310	1.6	1.1	5.1	1.6	1.4
19	2.8	183	886	108	2500	98	534	1.4	.94	3.9	1.6	1.6
20	2.1	121	2090	104	591	40	79	1.5	1.1	3.6	1.5	1.5
21	1.8	82	307	68	123	20	40	1.4	1.6	49	1.4	1.6
22	1.1	55	122	46	69	12	23	1.2	1.4	16	1.4	1.4
23	1.0	44	76	32	45	8.7	14	1.5	1.4	7.2	1.4	1.4
24	2.2	37	1240	25	31	8.0	9.6	1.4	1.2	4.4	1.5	1.8
25	1.8	2510	1170	20	23	e9.6	7.4	1.3	1.0	3.1	1.4	1.5
26	630	1130	3340	17	17	e8.7	5.7	1.3	.97	3.0	1.4	1.3
27	483	241	4010	16	14	e8.2	4.6	1.2	.96	2.5	1.5	1.3
28	78	281	577	13	12	e7.6	3.9	1.1	8.8	2.0	1.4	1.4
29	36	131	164	12	11	e739	3.8	1.2	126	1.9	6.6	1.5
30	18	69	103	12	---	e2160	5.2	1.2	33	1.7	3.0	4.2
31	12	---	78	12	---	e254	---	1.2	---	1.6	1.7	---
TOTAL	1290.52	23842.0	17134	5954	4487.4	4523.9	4780.3	59.1	199.67	9770.0	63.3	1074.4
MEAN	41.6	795	553	192	155	146	159	1.91	6.66	315	2.04	35.8
MAX	630	7120	4010	1980	2500	2160	2310	3.8	126	6380	6.6	771
MIN	.90	5.5	10	12	8.2	7.6	3.8	1.1	.94	1.6	1.4	1.3
AC-FT	2560	47290	33990	11810	8900	8970	9480	117	396	19380	126	2130
CFSM	.22	4.20	2.92	1.02	.82	.77	.84	.01	.04	1.67	.01	.19
IN.	.25	4.69	3.37	1.17	.88	.89	.94	.01	.04	1.92	.01	.21

CAL YR 1987 TOTAL 77664.13 MEAN 213 MAX 7120 MIN .90 AC-FT 154000 CFSM 1.13 IN. 15.29
WTR YR 1988 TOTAL 73178.59 MEAN 200 MAX 7120 MIN .90 AC-FT 145100 CFSM 1.06 IN. 14.40

e Estimated.

07342470 SOUTH SULPHUR RIVER NEAR COMMERCE, TX--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1987 to September 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT												
27...	1200	358	233	7.90	16.0	90	240	8.4	86	2.1	82	11
JAN												
26...	1030	17	590	7.10	3.0	17	12	12.6	95	1.9	190	0
MAR												
15...	1700	13	358	8.00	13.5	76	78	10.1	97	2.4	120	1
MAY												
04...	1130	2.1	753	8.40	24.0	13	13	13.3	159	1.2	150	0
JUN												
21...	1125	1.8	925	8.90	30.5	9	22	13.8	187	3.6	72	0
AUG												
02...	1100	1.8	832	8.80	29.0	11	11	8.8	116	4.2	84	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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											
27...	29	2.3	14	0.7	4.2	71	22	8.7	0.30	10	133
JAN											
26...	67	6.3	54	2	4.3	216	68	27	0.30	9.4	366
MAR											
15...	40	3.8	29	1	3.5	115	42	15	0.30	5.7	208
MAY											
04...	49	5.9	100	4	6.2	187	87	49	0.50	4.2	414
JUN											
21...	24	3.0	170	9	10	230	80	70	0.40	4.7	500
AUG											
02...	28	3.3	150	7	8.9	215	74	59	0.40	4.9	458

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT											
27...	699	98	2.53	0.270	2.80	0.040	0.96	1.0	0.230	30	9
JAN											
26...	15	2	--	<0.010	0.300	0.080	0.82	0.90	0.700	7.3	--
MAR											
15...	103	14	1.17	0.030	1.20	0.060	0.84	0.90	0.430	18	--
MAY											
04...	25	<1	6.25	0.050	6.30	<0.010	--	1.5	0.730	7.5	1
JUN											
21...	44	6	10.8	0.240	11.0	0.010	2.2	2.2	5.20	7.2	--
AUG											
02...	26	<1	9.17	0.230	9.40	<0.010	--	1.4	3.00	8.2	4

DATE	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)	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											
27...	38	<1	10	3	110	<5	6	<0.1	<1	1.0	10
JAN											
26...	--	--	--	--	--	--	--	--	--	--	--
MAR											
15...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	54	<1	<1	5	8	<5	8	<0.1	<1	<1.0	25
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--
AUG											
02...	31	<1	<1	6	25	<5	8	<0.1	<1	<1.0	36

07342480 MIDDLE SULPHUR RIVER AT COMMERCE, TX

LOCATION.--Lat 33°15'59", long 95°54'55", long 95°54'55", Hunt County, Hydrologic Unit 11140301, at bridge on State Highway 11, 1.5 mi upstream from Willow Creek, and 1.5 mi northwest of Commerce.

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1987 to September 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 27...	1500	66	166	7.00	18.0	180	120	7.5	80	3.0	71	7
JAN 26...	1245	1.5	440	7.00	2.5	46	17	13.3	99	0.7	190	15
MAR 15...	1110	3.1	220	7.80	9.0	72	48	11.0	95	2.2	94	13
MAY 03...	1430	0.18	492	8.10	19.5	23	7.6	8.4	92	0.2	210	28

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 WAT WH TOT FET 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 27...	25	2.0	6.3	0.3	4.8	64	20	4.4	0.20	11	112
JAN 26...	69	5.2	21	0.7	3.3	179	46	12	0.20	10	274
MAR 15...	33	2.9	9.1	0.4	3.0	82	24	8.8	0.20	6.3	136
MAY 03...	73	5.9	21	0.7	3.9	179	56	12	0.40	7.6	287

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 27...	337	59	0.650	0.050	0.700	0.050	0.85	0.90	0.340	23	8
JAN 26...	19	3	--	<0.010	<0.100	0.040	0.56	0.60	0.100	9.3	--
MAR 15...	29	15	0.270	0.030	0.300	0.060	1.1	1.2	0.120	18	--
MAY 03...	12	3	--	<0.010	<0.100	0.060	0.84	0.90	0.180	8.1	4

DATE	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)	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 27...	37	1	<10	4	120	<5	6	0.1	<1	<1.0	15
JAN 26...	--	--	--	--	--	--	--	--	--	--	--
MAR 15...	--	--	--	--	--	--	--	--	--	--	--
MAY 03...	79	<1	<1	2	12	<5	5	14	<1	<1.0	7

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX

LOCATION.--Lat 33°21'23 , long 95°35'41, Delta County, Hydrologic Unit 11140301, on levee on left bank 110 ft downstream from bridge on State Highways 19 and 154, 1.0 mi downstream from Big Creek, 1.0 mi upstream from Brushy Creek, 4.5 mi downstream from Doctors Creek, and 5.6 mi southeast of Cooper.

DRAINAGE AREA.--527 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 371.91 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 15, 1985, at site 360 ft to right and 90 ft upstream at same datum. Oct. 1, 1970, at datum 3.00 ft higher. May 9, 1942, to Nov. 8, 1949, nonrecording gage, and Nov. 9, 1949, to May 13, 1955, water-stage recorder at site 1,060 ft to right of present gage. Gage-height telemeter at station.

REMARKS.--No estimated daily discharge. Records good. There are numerous small diversions upstream from station. Low flow is sustained by sewage effluent released upstream. Construction of Cooper Dam, upstream from station, was begun during the year.

AVERAGE DISCHARGE.--46 years (water years 1943-88), 408 ft³/s (10.51 in/yr), 295,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,200 ft³/s May 13, 1982 (gage height, 27.21 ft, from floodmark), in gage well; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 10	1200	9,020	20.44	Dec. 27	1300	*12,600	*20.84
Nov. 17	1600	11,200	20.75				

Minimum discharge, no flow June 2-3, 5-16, 19-20, 22-29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	37	189	198	21	23	1410	10	.01	68	3.3	3.1
2	26	28	106	118	20	35	2590	7.7	.00	24	.82	7.4
3	17	22	66	81	21	471	1150	7.9	.00	15	.91	85
4	11	18	45	62	20	618	339	6.0	.02	12	.39	630
5	7.5	15	33	52	18	307	141	4.7	.0	243	.29	297
6	5.7	11	225	49	17	150	87	4.2	.00	388	.85	53
7	4.8	11	1360	52	16	85	57	3.9	.00	69	1.1	27
8	4.5	1020	1100	61	15	56	42	3.6	.00	28	1.5	15
9	3.8	5610	371	53	14	43	35	2.9	.00	66	.68	10
10	2.5	8620	174	50	13	33	28	2.6	.00	80	.29	10
11	2.1	6980	97	41	14	27	24	1.8	.00	28	.22	7.5
12	1.7	4640	61	457	14	198	20	1.8	.00	1230	.79	4.9
13	1.4	1020	45	2410	14	223	17	1.7	.00	2980	2.9	3.6
14	1.0	220	710	3440	13	186	15	1.4	.00	8140	7.3	2.3
15	.97	542	1780	2590	13	64	14	.90	.00	5030	5.2	.92
16	1.0	5670	1240	1060	13	34	13	.59	.00	587	9.9	.82
17	1.3	10200	373	638	12	36	81	.46	.05	125	7.6	.82
18	7.5	8700	159	521	247	246	1250	.36	.01	50	5.0	1.3
19	51	5740	593	327	2440	361	2030	.28	.00	28	3.2	4.1
20	24	1430	2310	117	3550	212	1680	.21	.00	19	2.3	1.3
21	17	312	3340	128	3320	93	342	.21	.07	15	1.8	.72
22	17	151	2930	113	661	48	124	.23	.00	21	1.5	.38
23	14	87	553	65	231	33	61	.22	.00	37	.74	.12
24	28	66	962	58	116	26	41	.17	.00	23	.46	.22
25	63	2160	3220	42	64	918	29	.15	.00	16	.31	.15
26	1100	4270	7540	34	42	506	23	.10	.00	13	.08	.61
27	1590	6310	11700	28	35	153	19	.04	.00	10	.03	.80
28	1450	3710	9340	26	28	75	16	.01	.00	7.6	.03	.50
29	284	1040	6690	23	24	134	14	.02	.00	5.9	.01	.30
30	98	379	2130	22	---	1380	12	.06	107	5.2	.15	4.8
31	54	---	398	21	---	2100	---	.05	---	4.5	.32	---
TOTAL	4931.77	79019	59840	12937	11026	8874	11704	64.26	107.16	19368.2	59.97	1173.66
MEAN	159	2634	1930	417	380	286	390	2.07	3.57	625	1.93	39.1
MAX	1590	10200	11700	3440	3550	2100	2590	10	107	8140	9.9	630
MIN	.97	11	33	21	12	23	12	.01	.00	4.5	.01	.12
AC-FT	9780	156700	118700	25660	21870	17600	23210	127	213	38420	119	2330
CFSM	.30	5.00	3.66	.79	.72	.54	.74	.00	.01	1.19	.00	.07
IN.	.35	5.58	4.22	.91	.78	.63	.83	.00	.01	1.37	.00	.08

CAL YR 1987 TOTAL 234501.35 MEAN 642 MAX 11700 MIN .12 AC-FT 465100 CFSM 1.22 IN. 16.55
WTR YR 1988 TOTAL 209105.02 MEAN 571 MAX 11700 MIN .00 AC-FT 414800 CFSM 1.08 IN. 14.76

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1958 to September 1966, October 1967 to current year. Chemical and biochemical analyses: December 1979 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1958 to September 1966, October 1967 to current year.
WATER TEMPERATURE: October 1958 to September 1966, October 1967 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,710 microsiemens Aug. 14, 1973; minimum daily, 82 microsiemens July 2, 1976, and July 12, 1988.
WATER TEMPERATURE: Maximum daily, 36.0°C Aug. 6, 1960, Aug. 10, 1962; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 909 microsiemens Feb. 16; minimum daily, 82 microsiemens July 12.
WATER TEMPERATURE: Maximum daily, 28.0°C Aug. 8; minimum daily, 0.0°C Jan. 8-11, 13-14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 29...	1245	235	230	7.30	15.5	150	110	7.4	75	2.6	86	8
JAN 28...	1650	23	520	7.90	10.0	18	17	--	--	0.9	200	6
MAR 14...	1500	156	541	7.20	12.0	48	81	10.2	96	1.8	210	27
MAY 02...	1315	7.8	521	7.10	18.0	--	--	9.9	106	1.1	190	0
AUG 08...	1615	1.6	414	7.60	34.5	24	10	7.5	108	2.4	150	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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 29...	30	2.6	12	0.6	4.7	78	22	7.8	0.30	11	137
JAN 28...	69	6.6	35	1	3.6	194	53	22	0.30	9.5	316
MAR 14...	72	6.6	37	1	3.5	180	65	26	0.30	5.8	324
MAY 02...	65	7.3	31	1	4.0	195	44	21	0.40	9.5	299
AUG 08...	51	5.7	33	1	5.4	152	33	19	0.30	13	252

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 29...	276	53	1.02	0.080	1.10	0.040	1.3	1.3	0.270	21	8
JAN 28...	23	3	--	<0.010	0.400	0.030	0.47	0.50	0.150	7.2	3
MAR 14...	91	13	0.280	0.020	0.300	0.060	0.64	0.70	0.120	15	--
MAY 02...	--	--	0.370	0.030	0.400	0.050	0.55	0.60	0.110	--	--
AUG 08...	35	3	--	<0.010	<0.100	<0.010	--	0.60	0.190	11	10

DATE	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)	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 29...	45	<1	<10	4	120	<5	8	<0.1	<1	1.0	6
JAN 28...	77	<1	<1	2	69	<5	41	<0.1	<1	<1.0	13
MAR 14...	--	--	--	--	--	--	--	--	--	--	--
MAY 02...	--	--	--	--	--	--	--	--	--	--	--
AUG 08...	81	1	<1	2	12	<5	13	0.1	<1	<1.0	19

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	4931.77	214	126	1680	7.8	104	17	225	79
NOV.	1987	79019	158	93	19900	5.3	1120	12	2600	60
DEC.	1987	59840	183	108	17400	6.4	1040	14	2310	68
JAN.	1988	12937	237	139	4860	9.4	327	19	667	85
FEB.	1988	11026	307	179	5340	14	404	25	758	110
MAR.	1988	8874	308	180	4320	13	313	25	606	110
APR.	1988	11704	260	153	4830	10	329	21	665	94
MAY	1988	64.26	555	320	56	31	5.3	49	8.5	180
JUNE	1988	107.16	787	447	129	53	15	74	22	220
JULY	1988	19368.2	115	68	3550	3.6	190	8.8	459	44
AUG.	1988	59.97	421	245	40	20	3.2	36	5.8	140
SEPT	1988	1173.66	186	109	347	6.8	21	15	46	69
TOTAL		209105.02	**	**	62500	**	3870	**	8380	**
WTD.AVG.		571	188	111	**	6.9	**	15	**	69

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	204	277	282	246	606	515	242	504	725	625	400	492
2	236	297	309	296	655	520	202	519	---	314	397	438
3	260	307	337	343	725	450	220	534	---	305	404	446
4	269	318	358	374	705	357	306	540	725	300	415	148
5	281	326	375	410	685	369	341	546	---	288	423	175
6	285	337	399	446	751	352	378	545	---	145	425	172
7	291	345	279	434	744	369	417	568	---	167	441	182
8	294	350	206	536	742	394	452	564	---	185	438	190
9	298	136	267	478	750	433	496	589	---	203	438	200
10	304	138	311	514	750	447	526	599	---	165	444	204
11	309	153	340	530	758	473	599	608	---	184	450	213
12	315	169	358	548	756	300	606	618	---	82	450	217
13	320	153	379	193	823	407	607	623	---	91	443	229
14	325	188	312	175	828	487	607	631	---	103	417	236
15	330	206	278	191	803	407	607	637	---	123	420	242
16	336	134	261	208	909	377	611	641	---	132	340	249
17	343	132	277	260	858	385	626	644	793	137	456	260
18	347	151	293	311	881	290	402	648	781	152	448	255
19	173	171	314	332	392	368	222	654	---	167	451	262
20	297	176	254	349	244	413	234	660	---	180	447	267
21	347	221	218	371	238	378	265	664	784	194	452	273
22	332	242	225	394	253	399	292	670	---	207	453	280
23	292	271	255	419	302	415	322	676	---	232	456	288
24	289	303	277	455	335	446	361	680	---	300	455	288
25	313	183	191	478	365	270	387	686	---	357	460	300
26	249	147	160	506	395	262	413	693	---	413	466	312
27	185	169	134	516	435	297	449	699	---	465	472	316
28	199	202	131	526	469	357	458	707	---	482	482	310
29	227	199	159	534	501	417	488	712	---	472	472	313
30	251	256	167	574	---	282	494	712	787	438	492	293
31	270	---	213	599	---	212	---	718	---	414	481	---
MEAN	283	222	268	405	609	382	421	629	766	259	442	268

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

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

07343000 NORTH SULPHUR RIVER NEAR COOPER, TX

LOCATION.--Lat 33°28'29", long 95°35'15", Lamar County, Hydrologic Unit 11140301, on left bank at downstream side of highway embankment near left end of downstream bridge on State Highways 19 and 24, 2.3 mi upstream from Auds Creek, 5.5 mi upstream from Hickory Creek, 8.7 mi northeast of Cooper, and 15.6 mi upstream from mouth.

DRAINAGE AREA.--276 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 372.42 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Nov. 8, 1949, nonrecording gage, Nov. 8, 1949, to May 21, 1960, water-stage recorder at site 50 ft upstream at datum 9.00 ft higher, and May 22, 1960, to Sept. 30, 1970, at datum 5.00 ft higher.

REMARKS.--Records good except those below 2.0 ft³/s and those for estimated daily discharges, which are poor. In 1928-29, the channel was rectified for a distance of 28 mi upstream and 18 mi downstream from this station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--39 years, 238 ft³/s (11.71 in/yr), 172,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,600 ft³/s Oct. 19, 1971 (gage height, 36.16 ft, from floodmarks); no flow at times most years.
Maximum stage since at least 1915, that of Oct. 19, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 2, 1944, reached a stage of 35.6 ft, present datum, and flood in 1932 reached about same stage, from information by U.S. Army Corps of Engineers and local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 15	1900	41,300	28.36	Dec. 26	0600	20,000	18.99

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	21	103	139	39	17	866	14	.00	3.2	.00	.00
2	1.0	18	85	117	34	119	1010	14	.00	.27	.00	.00
3	.60	17	66	112	31	561	246	12	.00	.02	.00	397
4	.34	15	55	103	31	120	145	9.4	.00	.11	.00	63
5	.24	13	48	93	28	60	108	7.2	.00	.29	.00	9.0
6	.12	10	2050	78	21	43	129	6.8	.00	.0	.00	1.0
7	.03	9.3	985	76	23	33	91	6.4	.00	.00	.00	.08
8	.00	320	291	89	25	39	69	16	.00	.00	.00	.00
9	.00	2880	156	71	26	39	59	50	.00	.00	.00	.00
10	.00	1980	99	56	24	23	55	21	.00	.01	.00	.00
11	.00	313	80	57	22	19	51	11	.00	.0	.00	.00
12	.00	140	67	1340	23	644	42	6.1	.00	874	.00	.05
13	e.00	91	783	1290	31	78	33	3.5	.00	498	.0	.04
14	e.00	70	1950	652	29	35	29	2.0	.00	52	3.7	.00
15	e.00	11000	723	616	22	23	27	1.1	.00	12	.24	.00
16	.00	8470	216	707	17	19	24	.80	.00	3.0	.0	.00
17	.00	1360	129	914	17	99	926	.55	.00	.36	.01	.00
18	69	448	104	320	2800	545	1180	.40	.00	.05	.03	13
19	198	281	4400	293	2610	94	208	.34	.00	.00	.00	3.3
20	60	206	1160	188	330	48	105	.29	.00	166	1.9	.25
21	17	144	318	97	125	31	71	.19	.00	55	.60	.06
22	6.4	111	203	72	72	22	53	.12	.00	10	.01	.00
23	2.5	95	146	65	49	18	37	.06	.00	1.9	.00	.00
24	441	84	747	62	35	21	26	.00	.00	.25	.00	.00
25	337	3360	2760	52	29	1260	23	.00	.00	.03	.00	.00
26	5250	574	9880	43	26	137	22	.00	.00	.00	.00	.00
27	420	645	2190	40	25	49	19	.00	.00	.00	.00	.00
28	114	559	503	39	24	30	16	.00	.00	.00	.00	.00
29	56	226	242	38	20	4170	14	.00	.00	.00	.29	.00
30	35	143	185	37	---	787	15	.00	8.4	.00	.05	.06
31	25	---	170	39	---	274	---	.00	---	.00	.00	---
TOTAL	7034.83	33603.3	30894	7895	6588	9457	5699	183.25	8.40	1676.49	6.83	486.84
MEAN	227	1120	997	255	227	305	190	5.91	.28	54.1	.22	16.2
MAX	5250	11000	9880	1340	2800	4170	1180	50	8.4	874	3.7	397
MIN	.00	9.3	48	37	17	17	14	.00	.00	.00	.00	.00
AC-FT	13950	66650	61280	15660	13070	18760	11300	363	17	3330	14	966
CFSM	.82	4.06	3.61	.92	.82	1.11	.69	.02	.00	.20	.00	.06
IN.	.95	4.53	4.16	1.06	.89	1.27	.77	.02	.00	.23	.00	.07

CAL YR 1987 TOTAL 135014.76 MEAN 370 MAX 12000 MIN .00 AC-FT 267800 CFSM 1.34 IN. 18.20
WTR YR 1988 TOTAL 103532.94 MEAN 283 MAX 11000 MIN .00 AC-FT 205400 CFSM 1.02 IN. 13.95

e Estimated.

07343000 NORTH SULPHUR RIVER NEAR COOPER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1950 to September 1958, January 1967 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1968 to current year.
WATER TEMPERATURES: October 1968 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,000 microsiemens July 2, 3, 1988; minimum daily, 191 microsiemens Oct. 12, Dec. 10, 1971.
WATER TEMPERATURES: Maximum daily, 39.0°C June 1, 1977; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,000 microsiemens July 2, 3; minimum daily, 250 microsiemens Dec. 6.
WATER TEMPERATURE: Maximum daily, 32.0°C July 10; minimum daily, 0.0°C Jan. 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 29...	1140	59	522	--	17.5	--	--	200	69	69
JAN 28...	1250	40	855	--	7.5	--	--	310	100	110
MAR 18...	1100	548	460	7.10	5.5	11.7	93	180	47	61
MAY 05...	1000	7.2	989	--	22.0	--	--	290	120	96

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 WAT WH TOT FET 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 29...	5.7	32	1	3.4	127	96	20	0.50	9.3	312
JAN 28...	9.6	59	2	2.2	212	150	37	0.30	7.9	503
MAR 18...	6.0	29	1	2.4	130	92	14	0.40	6.5	289
MAY 05...	12	98	3	2.8	170	240	69	0.40	4.6	625

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	7034.83	348	208	3950	14	268	68	1280	120
NOV.	1987	33603.3	325	194	17600	13	1170	63	5680	110
DEC.	1987	30894	423	254	21200	19	1570	85	7100	140
JAN.	1988	7895	492	298	6350	24	515	100	2200	160
FEB.	1988	6588	515	313	5560	26	460	110	1940	170
MAR.	1988	9457	440	265	6770	20	508	89	2280	150
APR.	1988	5699	478	289	4450	23	355	99	1530	160
MAY	1988	183.25	954	596	295	66	33	230	116	290
JUNE	1988	8.40	1720	1130	26	180	4.1	540	12	460
JULY	1988	1676.49	886	561	2540	69	312	230	1050	260
AUG.	1988	6.83	1330	851	16	120	2.1	370	6.8	380
SEPT	1988	486.84	358	215	282	15	20	71	93	120
TOTAL		103532.94	**	**	69100	**	5220	**	23300	**
WTD.AVG.		283	410	247	**	19	**	83	**	140

07343000 NORTH SULPHUR RIVER NEAR COOPER, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	731	649	642	486	802	749	581	918	---	2630	---	---
2	748	680	710	598	815	768	353	928	---	3000	---	---
3	769	690	732	596	823	509	481	959	---	3000	---	313
4	799	695	755	710	788	545	595	972	---	2920	---	440
5	813	699	782	704	787	633	689	992	---	2750	---	523
6	842	708	250	725	860	698	704	1020	---	---	---	621
7	854	744	309	735	860	726	714	1050	---	---	---	619
8	---	720	431	740	825	730	726	1050	---	---	---	---
9	---	321	545	745	819	687	736	958	---	---	---	---
10	---	355	605	750	848	710	750	864	---	2370	---	---
11	---	409	661	755	852	731	772	881	---	---	---	---
12	---	499	691	631	853	435	808	916	---	1330	---	785
13	---	575	600	288	875	489	841	943	---	356	---	803
14	---	673	360	340	876	604	849	964	---	443	1280	---
15	---	300	370	386	863	689	853	994	---	522	1190	---
16	---	267	462	393	868	740	872	1040	---	553	---	---
17	---	304	566	433	901	779	388	1080	---	591	1300	---
18	850	426	627	485	614	515	346	1120	---	632	1400	1040
19	407	516	377	548	343	538	435	1160	---	---	---	944
20	526	595	319	595	435	670	544	1190	---	429	1410	842
21	572	655	442	638	529	701	623	1220	---	477	1420	807
22	611	705	568	690	628	732	664	1260	---	491	1420	---
23	652	730	630	743	687	729	650	1280	---	503	---	---
24	420	610	654	757	735	450	682	---	---	521	---	---
25	396	297	510	801	749	377	715	---	---	584	---	---
26	319	364	445	789	794	449	758	---	---	---	---	---
27	354	472	315	826	772	569	800	---	---	---	---	---
28	465	460	440	835	763	660	825	---	---	---	---	---
29	514	506	560	843	742	400	865	---	---	---	1240	---
30	578	590	620	840	---	354	898	---	1720	---	1480	936
31	622	---	650	842	---	478	---	---	---	---	---	---
MEAN	612	540	536	653	762	608	684	1030	1720	1270	1350	723

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

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

07343200 SULPHUR RIVER NEAR TALCO, TX

LOCATION.--Lat 33°23'10", long 95°07'56", Franklin County, Hydrologic Unit 11140302, at downstream side of highway embankment near right end of bridge on U.S. Highway 271, 2.2 mi northwest of Talco, 3.2 mi downstream from Mustang Creek, and 162 mi upstream from mouth.

DRAINAGE AREA.--1,365 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1956 to current year.

REVISED RECORDS.--WDR TX-76-1(P).

GAGE.--Water-stage recorder. Datum of gage is 290.82 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good. The River Crest Stream Electric Generating Plant diverts water for cooling purposes upstream from this station. Flow is also affected at times by discharge from the flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 8,210 acre-ft. These structures control runoff from 23.4² in the Auds and Depot Creek drainage basins. Gage-height telemeter at station.

AVERAGE DISCHARGE.--32 years, 1,373 ft³/s (13.66 in/yr), 994,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,000 ft³/s Dec. 11, 1971 (gage height, 29.40 ft, from floodmark); no flow at times in 1957, 1964-65, 1970, and 1979-80.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in 1908 and 1914 each reached a stage of 27.5 ft, and flood in 1945 reached a stage of 26.5 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 17	1200	*18,700	*25.03	Dec. 27	1300	17,800	24.94

Minimum daily discharge, 0.70 ft³/s Oct. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	167	790	1620	90	98	2310	43	4.4	1.3	12	2.5
2	86	106	503	615	140	113	4930	38	4.1	30	10	2.2
3	53	73	371	391	221	1120	5750	35	3.8	66	8.4	2.2
4	33	55	285	283	141	1640	3450	31	3.6	54	6.7	191
5	22	43	233	221	107	1040	1160	30	3.5	39	6.1	503
6	16	34	259	180	91	580	516	28	3.5	56	5.4	431
7	12	25	3350	168	78	339	353	27	3.3	294	4.5	150
8	9.1	114	3790	169	71	262	240	26	3.2	184	3.6	73
9	7.1	5200	2040	198	67	208	171	27	3.1	87	2.9	47
10	5.5	10500	815	178	66	177	133	48	2.9	54	2.4	32
11	4.0	10200	494	153	65	134	112	50	2.8	75	10	22
12	3.0	8580	350	201	63	497	97	41	3.0	351	14	15
13	2.2	6900	329	3260	61	1070	85	33	2.8	3760	5.6	11
14	1.5	3980	1910	4860	62	489	75	27	2.6	4410	7.8	9.1
15	1.0	1230	4240	4240	64	355	67	22	2.3	4500	7.1	7.4
16	.81	7590	3670	4190	59	212	61	19	1.7	5650	6.1	5.8
17	.70	16800	1990	3390	56	149	61	16	5.6	2210	6.1	4.7
18	1.4	10100	764	2290	360	545	2040	14	4.4	392	5.3	4.2
19	178	8330	936	1330	4680	880	2750	13	3.4	196	5.2	4.2
20	318	7300	5850	951	5630	604	2150	12	3.0	150	6.0	4.3
21	137	4400	5200	682	4150	410	609	11	2.6	320	5.9	4.7
22	64	1320	4030	500	3170	249	259	10	2.1	216	5.4	4.6
23	35	524	3040	390	1190	172	260	8.6	1.8	122	4.9	4.3
24	35	404	1450	313	454	130	159	7.7	1.7	85	4.6	4.1
25	865	2750	4570	261	278	1040	114	6.6	1.6	70	4.0	3.8
26	1730	6530	9000	218	202	2550	99	6.3	1.5	54	5.1	3.1
27	6450	4960	16200	187	158	996	88	5.9	1.3	40	5.0	2.7
28	4670	4860	11200	163	133	427	75	5.3	1.3	30	4.1	2.1
29	2840	4420	8970	140	114	503	59	4.8	1.3	23	4.6	2.2
30	856	2260	7380	116	---	4450	49	4.5	1.3	18	3.9	3.9
31	290	---	4710	99	---	3020	---	4.7	---	14	3.0	---
TOTAL	18839.31	129755	108719	31957	22021	24459	28282	655.4	83.5	23551.3	185.7	1557.1
MEAN	608	4325	3507	1031	759	789	943	21.1	2.78	760	5.99	51.9
MAX	6450	16800	16200	4860	5630	4450	5750	50	5.6	5650	14	503
MIN	.70	25	233	99	56	98	49	4.5	1.3	1.3	2.4	2.1
AC-FT	37370	257400	215600	63390	43680	48510	56100	1300	166	46710	368	3090
CFSM	.45	3.17	2.57	.76	.56	.58	.69	.02	.00	.56	.00	.04
IN.	.51	3.54	2.96	.87	.60	.67	.77	.02	.00	.64	.01	.04

CAL YR 1987 TOTAL 439929.38 MEAN 1205 MAX 16800 MIN .43 AC-FT 872600 CFSM .88 IN. 11.99
WTR YR 1988 TOTAL 390065.31 MEAN 1066 MAX 16800 MIN .70 AC-FT 773700 CFSM .78 IN. 10.63

07343200 SULPHUR RIVER NEAR TALCO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1965 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1966 to current year.
WATER TEMPERATURE: October 1966 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and 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, 1,800 microsiemens Feb. 17, 1976; minimum daily, 100 microsiemens Sept. 11, 1974
WATER TEMPERATURE: Maximum daily, 39.0°C Aug. 13, 1987; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,150 microsiemens July 6; minimum daily, 150 microsiemens July 15.
WATER TEMPERATURE: Maximum daily, 32.5°C Aug. 8; minimum daily, 1.0°C Jan. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT												
28...	1515	4530	180	7.40	17.0	7.5	78	2.8	79	9	28	2.2
JAN												
27...	1530	183	440	7.70	6.5	15.4	125	1.0	180	32	64	4.5
MAR												
17...	1315	141	470	6.50	11.0	9.9	91	1.6	200	47	71	5.4
MAY												
04...	1415	31	567	6.90	21.0	7.1	81	1.2	200	27	70	6.4
JUN												
22...	1200	1.9	967	7.20	27.0	5.3	67	0.9	320	72	110	11
AUG												
10...	1230	2.3	440	7.60	28.0	4.0	52	1.7	170	21	59	5.3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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)	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)
OCT												
28...	11	0.6	4.4	70	23	9.0	0.30	9.8	130	1.05	0.050	1.10
JAN												
27...	24	0.8	3.4	147	54	19	0.20	6.7	265	--	<0.010	0.300
MAR												
17...	30	1	3.0	153	66	19	0.30	5.5	292	0.380	0.020	0.400
MAY												
04...	37	1	3.0	174	82	25	0.40	7.3	335	0.180	0.020	0.200
JUN												
22...	85	2	4.1	249	160	68	0.40	6.6	595	--	0.230	--
AUG												
10...	28	1	4.4	148	60	16	0.30	9.1	271	--	<0.010	<0.100

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	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)	LEAD, DIS-SOLVED (UG/L AS PB)
OCT											
28...	0.100	1.4	1.5	0.430	5	40	<1	<10	4	120	<5
JAN											
27...	0.080	1.0	1.1	0.160	<1	54	1	4	3	490	<5
MAR											
17...	0.050	0.75	0.80	0.080	--	--	--	--	--	--	--
MAY											
04...	0.060	0.74	0.80	0.120	--	--	--	--	--	--	--
JUN											
22...	0.120	1.1	1.2	0.050	2	130	3	<1	2	6	<5
AUG											
10...	0.040	0.46	0.50	0.060	--	--	--	--	--	--	--

07343200 SULPHUR RIVER NEAR TALCO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 28...	6	<0.1	<1	<1.0	7	--	--	--	--	--	--
JAN 27...	160	<0.1	2	<1.0	30	--	--	--	--	--	--
MAR 17...	--	--	--	--	--	--	--	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--	--
JUN 22...	120	<0.1	<1	2.0	13	--	--	--	--	--	--
AUG 10...	--	--	--	--	--	<10	<10	<1.0	<10	5.0	20

DATE	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 28...	--	--	--	--	--	--	--	--	--	--	--
JAN 27...	--	--	--	--	--	--	--	--	--	--	--
MAR 17...	--	--	--	--	--	--	--	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--	--
JUN 22...	--	--	--	--	--	--	--	--	--	--	--
AUG 10...	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<100

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1987	18839.31	272	159	8110	9.0	456	29	1460	100
NOV.	1987	129755	201	117	40900	5.7	1980	19	6740	76
DEC.	1987	108719	233	136	40000	7.1	2070	23	6860	87
JAN.	1988	31957	293	172	14900	10	872	32	2750	110
FEB.	1988	22021	340	200	11900	13	760	39	2330	120
MAR.	1988	24459	360	212	14000	13	889	41	2730	130
APR.	1988	28282	300	176	13500	10	790	33	2490	110
MAY	1988	655.4	743	451	798	44	79	120	212	250
JUNE	1988	83.5	925	568	128	63	14	160	37	300
JULY	1988	23551.3	194	114	7220	6.1	389	20	1270	72
AUG.	1988	185.7	432	256	128	18	8.8	53	26	160
SEPT	1988	1557.1	274	160	673	8.8	37	29	120	100
TOTAL		390065.31	**	**	152000	**	8350	**	27000	**
WTD.AVG.		1066	247	144	**	7.9	**	26	**	92

07343200 SULPHUR RIVER NEAR TALCO, TX--Continued

C CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	379	322	296	312	582	540	263	488	900	910	400	478
2	419	352	319	357	645	600	298	518	844	862	416	481
3	455	374	327	399	637	475	225	546	893	975	422	480
4	483	393	348	420	682	360	252	574	937	1010	423	350
5	496	414	362	448	614	381	289	602	914	1080	431	275
6	472	430	374	465	550	371	328	632	850	1150	434	258
7	445	446	295	485	513	429	368	658	946	797	442	216
8	435	455	273	515	557	426	407	687	931	259	450	231
9	433	195	261	545	610	457	447	716	939	230	459	245
10	434	170	291	575	652	475	491	745	870	246	457	261
11	438	175	328	600	680	506	529	772	922	249	422	270
12	448	180	349	607	713	420	555	802	916	242	394	285
13	459	185	369	307	732	345	574	830	949	200	424	293
14	464	198	330	225	766	339	599	857	990	164	416	296
15	474	230	282	217	807	380	623	888	975	150	425	305
16	482	225	269	225	852	426	634	909	969	155	436	306
17	484	193	279	251	876	475	643	935	900	175	432	308
18	496	171	312	314	690	526	418	904	942	232	440	310
19	400	173	337	325	359	450	364	942	928	242	438	316
20	603	194	270	374	302	402	260	942	944	245	437	321
21	513	216	235	396	267	405	338	969	967	238	434	321
22	403	266	242	392	273	433	313	969	969	342	436	320
23	371	303	257	398	305	486	332	979	969	319	454	320
24	420	330	270	401	344	502	356	972	936	366	459	320
25	385	295	205	413	380	400	386	978	965	388	461	324
26	345	222	185	431	410	305	400	969	960	384	452	330
27	245	235	180	448	433	305	433	951	949	364	452	332
28	230	230	190	463	463	334	449	968	938	371	452	338
29	240	240	215	484	505	346	465	970	938	378	470	335
30	274	264	230	500	---	303	479	967	927	382	490	327
31	289	---	265	539	---	293	---	957	---	390	487	---
MEAN	417	269	282	414	559	416	417	826	933	435	440	318

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	18.0	9.0	---	12.5	14.5	14.5	19.5	26.0	31.0	30.0	25.0
2	22.5	18.0	9.0	---	8.5	---	14.0	---	26.0	28.0	30.0	27.0
3	19.0	18.5	10.0	---	10.0	13.5	15.0	---	25.0	32.0	30.0	26.0
4	17.0	19.0	10.0	---	8.5	12.0	18.5	---	23.0	28.0	30.5	---
5	20.0	19.0	9.0	4.0	8.5	10.5	20.5	---	22.0	31.5	31.5	26.0
6	20.0	17.0	11.5	---	6.0	10.5	20.0	---	26.0	29.5	31.0	24.0
7	19.0	14.5	14.0	---	5.5	13.5	---	---	27.0	28.5	29.0	24.0
8	18.0	---	14.0	---	8.0	15.0	---	---	27.0	27.0	32.0	24.0
9	20.0	---	14.0	---	9.0	14.0	---	---	28.0	28.0	32.5	---
10	18.0	---	12.5	---	8.0	15.0	---	---	28.0	27.5	30.0	23.0
11	18.0	---	12.0	---	6.0	16.0	16.0	---	23.0	27.5	26.0	24.0
12	18.0	---	10.0	4.0	6.0	---	18.0	---	23.0	26.0	27.0	26.5
13	17.0	---	10.0	1.0	6.0	---	20.5	---	26.0	27.0	26.0	26.5
14	17.0	---	---	1.5	9.0	12.5	21.0	---	26.0	28.0	27.5	27.0
15	17.0	13.0	6.0	3.0	9.0	---	21.5	23.0	28.0	28.5	---	26.0
16	18.0	---	6.0	---	10.0	12.0	18.0	27.0	26.0	27.0	30.0	26.0
17	17.0	13.0	5.0	6.0	10.0	---	---	28.0	24.0	---	29.0	25.5
18	17.0	13.0	5.0	9.0	10.5	11.0	18.0	28.0	26.5	30.5	28.0	25.0
19	18.5	12.0	6.0	10.0	10.0	8.0	17.0	28.0	25.0	31.0	29.0	26.5
20	18.0	12.0	8.0	8.0	9.0	9.5	18.0	27.0	29.0	30.0	27.0	26.0
21	17.5	10.0	9.0	7.0	11.5	14.0	19.0	26.0	30.0	29.5	29.5	27.0
22	16.5	10.5	9.0	6.5	12.5	15.5	21.0	23.5	30.0	29.0	30.5	27.0
23	16.5	13.0	10.0	6.0	12.5	16.0	19.5	22.5	31.0	27.0	31.0	27.0
24	---	14.0	---	6.0	12.0	18.0	19.0	23.0	29.0	27.0	30.5	25.0
25	---	14.0	---	6.0	12.5	20.0	20.5	24.0	26.5	30.0	29.0	27.5
26	18.0	13.0	---	6.0	12.5	16.0	21.0	24.0	27.0	30.0	29.5	25.0
27	17.0	---	---	6.5	13.0	16.0	22.0	24.0	31.5	30.5	27.0	24.5
28	17.0	10.0	---	7.5	13.5	18.5	22.0	22.0	31.5	31.0	27.0	28.5
29	17.0	8.5	---	9.0	16.0	17.0	---	23.0	31.0	31.0	---	---
30	18.0	9.0	---	9.0	---	14.0	19.5	23.5	32.0	28.0	26.0	---
31	17.0	---	---	11.0	---	14.5	---	26.5	---	---	26.0	---
MEAN	18.0	14.0	9.5	6.5	10.0	14.0	19.0	24.5	27.0	29.0	29.0	26.0

07343500 WHITE OAK CREEK NEAR TALCO, TX

LOCATION.--Lat 33°19'20", long 95°05'33", Titus County, Hydrologic Unit 11140300, near center of main channel at downstream side of bridge on U.S. Highway 271, 0.8 mi downstream from Lewis Creek, 2.4 mi upstream from Ripley Creek, 2.7 mi south of Talco, and 38.4 mi upstream from mouth.

DRAINAGE AREA.--494 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1711: Elevation of historical maximum.

GAGE.--Water-stage recorder. Datum of gage is 286.45 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are several small diversions upstream from station for municipal supply. The cities of Sulphur Springs and Mount Vernon discharged sewage effluent into tributaries above this station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--38 years (water years 1951-88), 440 ft³/s (12.10 in/yr), 318,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft³/s Dec. 11, 1971 (gage height, 21.20 ft), from rating curve extended above 23,000 ft³/s; no flow at times in 1954, 1956, 1964-65, 1969-73, 1976, 1978-79, and 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1870, 22.9 ft Mar. 31, 1945, from floodmarks and from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 27	1600	*16,600	*18.59	No other peak greater than base discharge.			

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	57	1720	1920	83	115	287	20	5.2	.00	14	.00
2	1.8	32	1100	1010	81	113	712	18	4.1	.00	8.9	.00
3	1.6	23	443	404	78	439	1150	17	3.4	.00	5.6	.00
4	1.5	18	236	267	80	684	1470	17	2.7	.00	3.9	.00
5	3.0	15	170	219	102	702	1380	15	2.2	.00	2.2	.00
6	4.1	12	158	190	92	599	1190	13	1.7	.00	1.4	.00
7	3.3	11	457	175	79	393	530	11	1.4	16	.79	.00
8	2.7	10	621	168	71	267	204	9.6	1.2	72	.24	.00
9	2.3	100	651	165	65	441	135	8.9	.96	47	.03	.00
10	1.9	917	642	160	62	402	104	7.5	.61	15	.0	.00
11	1.8	1410	593	151	61	249	87	6.3	.35	3.8	36	.00
12	1.7	2200	347	201	60	174	77	5.1	.17	118	206	.00
13	1.4	4950	230	643	60	129	68	4.5	.08	604	73	.0
14	1.3	3630	722	1020	60	106	62	3.9	.05	2930	2.6	.0
15	1.2	2310	1040	1130	59	92	57	3.6	.04	6270	.00	.0
16	.95	1470	1180	1140	59	79	53	3.3	.03	4100	.00	.0
17	.69	1520	1050	1130	59	72	52	2.7	.36	2520	.0	.0
18	1.1	2170	911	820	295	93	121	2.0	.36	1250	1.7	.0
19	5.9	4790	791	626	1270	242	203	1.5	.09	349	.21	.0
20	4.1	4930	800	537	1650	344	137	1.2	.02	292	.00	.0
21	2.3	3260	1010	404	1800	275	87	1.0	.01	276	.00	.0
22	1.9	2080	1090	291	1810	159	78	.74	.0	219	.00	.0
23	2.4	1100	973	217	1640	111	60	.55	.00	174	.00	.0
24	5.2	346	916	171	860	90	48	1.1	.00	139	.00	.0
25	6.2	255	1240	143	317	274	42	5.5	.00	127	.00	.0
26	52	1010	5780	127	203	520	40	8.4	.00	132	.00	.0
27	194	1600	15200	113	164	552	33	9.1	.00	102	.00	.0
28	375	1980	13200	102	143	415	28	8.9	.00	75	.00	.01
29	387	2160	7530	94	127	244	23	8.3	.00	54	.00	.01
30	346	2180	4530	87	---	370	22	6.8	.00	38	.00	.24
31	153	---	2970	84	---	355	---	6.4	---	24	.00	---
TOTAL	1569.54	46546	68301	13909	11490	9100	8540	227.89	25.03	19946.80	356.57	0.26
MEAN	50.6	1552	2203	449	396	294	285	7.35	.83	643	11.5	.009
MAX	387	4950	15200	1920	1810	702	1470	20	5.2	6270	206	.24
MIN	.69	10	158	84	59	72	22	.55	.00	.00	.00	.00
AC-FT	3110	92320	135500	27590	22790	18050	16940	452	50	39560	707	.5
CFSM	.10	3.14	4.46	.91	.80	.59	.58	.01	.00	1.30	.02	.00
IN.	.12	3.51	5.14	1.05	.87	.69	.64	.02	.00	1.50	.03	.00

CAL YR 1987 TOTAL 197414.54 MEAN 541 MAX 15200 MIN .69 AC-FT 391600 CFSM 1.09 IN. 14.87
WTR YR 1988 TOTAL 180012.09 MEAN 492 MAX 15200 MIN .00 AC-FT 357100 CFSM 1.00 IN. 13.56

07343500 WHITE OAK CREEK NEAR TALCO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year. Chemical and biochemical analyses: November 1982 to September 1985.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURE: October 1967 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,220 micromhos June 15, 1972; minimum daily, 33 micromhos May 16, 1969.
WATER TEMPERATURE: Maximum daily, 37.0°C July 18, Aug. 3, 15, 1975, and Aug. 7, 1986; minimum daily, 0.0°C on several days during January 1968, 1970, 1978, and 1984.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 780 microsiemens July 9; minimum daily, 54 microsiemens Nov. 18.
WATER TEMPERATURE: Maximum daily, 35.0°C Aug. 8; minimum daily, 2.0°C Jan. 13, 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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									
28...	0855	376	136	16.0	28	3	6.8	2.6	15
JAN									
27...	1040	111	243	6.5	60	28	14	6.0	20
MAY									
04...	1000	17	479	20.0	120	41	27	12	48
31...	1600	6.4	655	--	150	59	35	16	71

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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								
28...	1	6.1	25	22	12	0.30	5.9	86
JAN								
27...	1	6.2	32	46	21	0.20	4.7	137
MAY								
04...	2	8.1	76	82	47	0.40	12	282
31...	3	9.4	94	110	70	0.30	8.3	376

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	1569.54	143	85	360	11	48	25	108	36
NOV.	1987	46546	71	43	5390	5.1	645	13	1680	19
DEC.	1987	68301	94	57	10500	6.9	1280	18	3230	25
JAN.	1988	13909	148	88	3320	12	439	27	998	38
FEB.	1988	11490	171	102	3150	14	435	30	931	43
MAR.	1988	9100	220	131	3210	18	453	38	940	55
APR.	1988	8540	173	103	2370	14	328	30	698	43
MAY	1988	227.89	538	309	190	58	36	79	48	120
JUNE	1988	25.03	653	371	25	76	5.1	89	6.0	140
JULY	1988	19946.80	91	54	2930	7.0	376	17	889	23
AUG.	1988	356.57	117	70	68	9.0	8.7	21	21	30
SEPT	1988	0.26	443	257	0.2	44	0.03	69	0.05	100
TOTAL		180012.09	**	**	31500	**	4060	**	9550	**
WTD.AVG.		492	108	65	**	8.3	**	20	**	28

07343500 WHITE OAK CREEK NEAR TALCO, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	130	104	90	302	249	236	459	648	---	204	---
2	201	141	115	95	308	255	172	467	647	---	188	---
3	202	146	125	115	333	159	122	473	649	---	190	---
4	205	150	135	139	347	212	107	482	649	---	195	---
5	214	156	139	175	352	201	121	489	652	---	200	---
6	231	160	145	195	352	191	137	495	654	---	207	---
7	233	163	110	200	351	186	172	502	660	693	211	---
8	238	162	123	215	382	187	204	508	662	729	219	---
9	249	162	128	230	360	172	236	517	668	780	226	---
10	251	150	130	245	375	200	263	523	671	735	---	---
11	252	110	130	260	381	208	285	530	673	643	226	---
12	252	60	132	272	396	210	299	538	676	333	89	---
13	254	61	138	214	409	230	316	545	684	88	100	---
14	261	64	115	136	415	282	331	550	685	67	146	---
15	259	73	107	112	431	290	347	558	693	65	---	---
16	264	65	103	110	444	310	358	574	696	75	---	---
17	267	61	107	113	457	325	366	585	678	100	---	---
18	276	54	106	168	368	348	356	598	677	126	180	---
19	253	57	109	162	146	353	263	609	678	124	195	---
20	488	66	103	173	148	295	297	617	680	127	---	---
21	766	71	112	192	132	302	316	626	683	124	---	---
22	742	81	105	193	125	279	373	625	---	137	---	---
23	502	105	116	212	127	277	384	634	---	140	---	---
24	400	120	115	213	142	293	413	645	---	147	---	---
25	275	140	115	225	169	202	435	646	---	155	---	---
26	174	69	100	235	183	219	412	653	---	168	---	---
27	219	65	90	239	196	207	417	654	---	178	---	---
28	197	66	85	250	209	196	434	653	---	176	---	472
29	68	74	80	258	229	208	443	654	---	170	---	475
30	100	86	80	281	---	177	452	656	---	170	---	440
31	116	---	85	287	---	251	---	655	---	290	---	---
MEAN	278	102	112	194	295	241	302	572	670	262	185	462

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	17.0	9.0	---	14.0	15.0	15.0	19.0	28.0	---	31.5	---
2	23.0	18.0	9.5	---	11.0	---	14.5	---	29.0	---	31.5	---
3	18.0	18.5	9.5	---	10.0	13.0	16.0	---	26.5	---	31.5	---
4	17.0	18.0	10.5	6.0	8.5	12.0	19.0	---	23.5	---	32.0	---
5	20.0	18.0	10.0	5.0	7.5	11.5	21.0	---	23.0	---	32.0	---
6	19.0	16.0	11.0	---	5.5	11.0	20.0	---	28.0	---	32.5	---
7	19.0	14.0	15.0	---	5.0	14.0	---	---	29.0	27.5	29.0	---
8	19.0	---	14.0	---	7.0	14.5	---	---	28.5	27.0	35.0	---
9	20.0	---	13.5	---	7.5	15.0	---	---	29.5	28.0	33.0	---
10	17.0	---	13.0	---	7.5	15.0	---	---	28.0	27.5	---	---
11	16.0	---	13.0	---	5.5	16.0	15.0	---	24.0	27.0	28.0	---
12	18.5	---	10.5	3.5	6.0	---	16.5	---	23.5	25.5	26.0	---
13	18.0	---	10.0	2.0	5.5	---	18.0	---	28.0	26.0	26.0	---
14	18.0	---	---	2.0	8.0	12.5	20.0	---	28.0	28.5	27.0	---
15	18.0	13.0	6.5	4.0	9.0	---	20.0	23.5	29.0	29.0	---	---
16	19.5	---	6.0	---	10.0	12.5	18.0	27.5	28.0	28.0	---	---
17	17.0	13.0	5.0	7.0	10.0	---	---	28.0	26.5	---	---	---
18	16.5	12.5	5.5	9.0	11.0	10.5	18.0	28.5	27.5	30.0	29.0	---
19	18.0	12.0	6.5	10.0	11.0	9.5	18.0	28.0	25.0	29.5	30.0	---
20	18.0	12.0	8.0	9.0	10.0	10.0	19.0	27.0	29.5	28.0	---	---
21	17.5	11.0	9.5	8.0	12.0	14.0	21.0	27.0	31.0	28.0	---	---
22	16.0	11.0	9.5	7.0	13.0	15.5	22.5	24.5	---	28.0	---	---
23	15.5	12.5	10.0	10.0	13.5	16.5	21.0	23.0	---	26.0	---	---
24	---	14.0	---	6.5	12.5	18.5	20.0	24.0	---	27.0	---	---
25	---	14.0	---	6.0	12.5	19.0	21.0	26.5	---	29.5	---	---
26	17.0	13.0	---	6.0	12.5	17.0	21.0	27.0	---	30.0	---	---
27	17.0	---	---	6.5	13.0	17.5	21.0	27.0	---	30.0	---	---
28	17.0	10.0	---	7.5	13.5	18.5	22.0	23.0	---	30.5	---	25.5
29	17.0	9.0	---	9.0	15.0	16.5	---	23.0	---	30.5	---	---
30	17.0	9.5	---	9.5	---	14.5	19.0	24.0	---	28.0	---	---
31	17.0	---	---	16.0	---	15.0	---	29.5	---	---	---	---
MEAN	18.0	13.5	10.0	7.0	10.0	14.5	19.0	25.5	27.5	28.0	30.5	25.5

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX

LOCATION.--Lat 33°18'16", long 94°09'38", Bowie-Cass County line, Hydrologic Unit 11140302, in intake structure of Wright Patman Dam on the Sulphur River, 0.5 mi upstream from U.S. Highway 59, 10 mi southwest of Texarkana, and 44.5 mi upstream from mouth.

DRAINAGE AREA.--3,443 mi².

PERIOD OF RECORD.--July 1953 to current year. Published as Texarkana Reservoir prior to October 1970 and as Lake Texarkana from October 1970 to September 1972.

REVISED RECORDS.--WSP 1561: 1957(M). WSP 1711: 1959(M).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). July 19 to Dec. 31, 1953, nonrecording gage at site about 125 ft upstream at datum 200 ft higher.

REMARKS.--The lake is formed by a rolled earthfill dam 18,500 ft long, including a 200-foot uncontrolled spillway and a 1-mile long dike. Temporary impoundment of water began July 2, 1953, and deliberate impoundment began June 27, 1956. The dam was completed in December 1957. The flood-control outlet works consist of two 20.0-foot-diameter conduits controlled by four 10.0- by 20.0-foot electrically driven broome-type gates. Flow is affected at times by discharge from the flood-detention pools of 25 floodwater-retarding structures with a combined detention capacity of 13,450 acre-ft. These structures control runoff from 40.0 mi² in the Sulphur River and Langford Creek drainage basins. Outflow discharging over the spillway passes into an outlet channel and then to the Sulphur River. The lake was built for flood control and for conservation. An unknown amount of water is diverted for industrial and municipal uses. The capacity table is based on a 1948 survey. 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	286.0	-
Crest of spillway	259.5	2,654,300
Top of conservation pool	220.0	145,300
Lowest gated outlet (invert)	200.0	2,600

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,912,100 acre-ft May 9, 1966 (elevation, 252.64 ft); minimum since first appreciable storage and after deliberate impoundment began, 137,500 acre-ft Sept. 5, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 1,046,000 acre-ft Jan. 4 (elevation, 241.85 ft); minimum daily, 195,300 acre-ft July 11 (elevation, 222.25 ft).

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

222.0	189,300	232.0	518,400	238.0	813,200
226.0	298,800	234.0	607,900	240.0	929,400
230.0	437,300	236.0	706,200	242.0	1,055,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260100	258900	514600	986700	693400	331300	223400	247100	220300	200900	244900	235000
2	258600	261200	512900	1020000	675800	320600	231800	246500	219700	199600	244600	235000
3	257800	262900	511200	1039000	660400	311600	238800	247100	219200	199200	243500	235000
4	258100	264100	511200	1046000	642700	301600	246000	246000	218200	199200	243200	234200
5	257800	263500	507900	1044000	624900	293300	251500	244300	217400	197900	242700	233700
6	257800	259800	523600	1042000	608400	284200	251500	243500	217200	196200	242700	231800
7	257500	256100	525700	1035000	591600	276100	251500	242700	216900	196200	242100	231800
8	256900	252400	522700	1018000	574200	275200	257500	242700	216100	196200	241600	232400
9	255800	256600	515000	1002000	557600	269900	260900	241300	214600	195800	239400	232400
10	254400	259500	506200	986700	541300	262400	265800	240500	213300	196200	238300	231800
11	252400	263500	496100	968000	526100	260300	270500	239900	212600	195300	240500	232400
12	251500	266400	485400	949500	510000	254400	268400	239100	212100	199600	241600	231800
13	251000	267600	479700	932400	491200	249600	267300	238600	211600	200100	241300	231600
14	250400	267600	496100	917300	475200	243800	261800	238000	211100	200100	241600	230800
15	249900	270800	484600	904800	460800	240500	256900	237200	210600	203100	241000	230200
16	249600	282400	479700	894100	442300	236100	252100	236100	210100	205800	240200	229700
17	248700	299400	473200	884700	429900	233400	247400	234000	209600	209600	241800	229200
18	248200	323500	469200	878300	429900	230800	245700	233200	209000	214100	241600	228600
19	251000	347300	465200	873600	420800	227000	243500	231600	208500	218700	240700	227000
20	249600	365100	460400	864300	413000	222600	241600	230500	208000	224400	240500	226500
21	248500	376400	456800	859700	409600	218700	241600	230500	207500	228600	239900	226000
22	248500	416300	450900	854500	396400	216100	243800	231600	206800	234000	239400	226300
23	248200	440000	446200	847600	386300	212300	244300	230800	206100	238300	241800	225200
24	252100	458800	448100	837900	377100	211800	249600	228100	205300	242400	242100	224400
25	252400	482100	487100	822700	369300	213100	253000	226500	204800	245700	242100	223100
26	254900	502000	578300	806500	363100	212600	252400	225500	204300	246800	240700	222900
27	254400	516300	652000	782900	358900	210800	251300	225200	203800	247100	239900	222100
28	252700	519700	711900	762900	352700	210800	249900	223900	203100	246500	237700	221300
29	253800	518400	776400	744800	342300	213600	249000	222900	202300	240700	237200	222100
30	254600	517200	863700	726900	---	214400	248200	221800	201600	246000	236100	222900
31	256600	---	936700	710300	---	217200	---	220800	---	245100	235600	---
MAX	260100	519700	936700	1046000	693400	331300	270500	247100	220300	247100	244900	235000
MIN	248200	252400	446200	710300	342300	210800	223400	220800	201600	195300	235600	221300
(†)	224.59	231.97	240.12	236.08	227.36	223.13	224.29	223.27	222.51	224.18	223.83	223.35
(ϕ)	-2850	+260500	+936700	-226400	-368000	-125100	+31030	-28000	-18650	+43540	-9559	-12730

CAL YR 1987 MAX 936700 MIN 164900 (ϕ) +674300
WTR YR 1988 MAX 1046000 MIN 195300 (ϕ) -36600

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

07344210 SULPHUR RIVER NEAR TEXARKANA, TX

LOCATION.--Lat 33°18'20", long 94°09'03", Bowie County, Hydrologic Unit 11140302, on downstream side of highway embankment near left end of downstream (northbound) bridge on U.S. Highway 59, 0.4 mi downstream from Texarkana Dam, 1.4 mi upstream from Elliott Creek, 11.7 mi southwest of Texarkana, and at mile 44.1.

DRAINAGE AREA.--3,443 mi².

PERIOD OF RECORD.--October 1985 to current year (midnight elevations). August 1937 to July 1953 and October 1953 to September 1979 (daily gage heights); January to December 1933, January 1937 to December 1942, and January 1945 to September 1979 (discharge measurements); January to December 1939 and January 1945 to September 1979 (daily discharges) published by U.S. Army Corps of Engineers; October 1979 to September 1985 (daily discharges).

GAGE.--Water-stage recorder. Datum of gage is 180.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Elevation records fair except those for Jan. 5 to Feb. 22, Apr. 18 to May 23, and Aug. 24 to Sept. 30, when no record was obtained.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,100 ft³/s June 16 to July 5, 1981; maximum gage height, 32.57 ft June 15, 1981; no flow June 25, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s Apr. 4, 1945; maximum stage, 47.23 ft Apr. 14, 1945; no flow on various occasions.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 212.36 ft at 1400 hours Dec. 26; minimum, 186.40 ft Oct. 8.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186.52	197.23	211.46	211.01	---	211.57	199.39	---	208.50	207.73	207.11	---
2	186.50	199.19	211.31	212.04	---	211.55	199.95	---	207.89	207.74	207.12	---
3	186.50	199.70	211.48	212.06	---	211.46	199.98	---	207.69	207.78	207.10	---
4	186.47	198.61	211.47	212.03	---	211.07	199.80	---	207.60	207.78	207.11	---
5	186.47	197.53	211.51	---	---	209.99	201.95	---	207.54	207.77	207.10	---
6	186.45	199.09	211.65	---	---	210.92	204.77	---	207.49	207.77	207.09	---
7	186.42	199.53	211.62	---	---	210.59	205.58	---	207.48	207.85	207.09	---
8	186.40	199.68	211.55	---	---	210.15	205.87	---	207.46	207.77	207.05	---
9	188.59	199.81	211.47	---	---	210.03	206.02	---	207.47	207.80	207.04	---
10	189.00	199.78	211.47	---	---	209.96	206.08	---	207.64	207.75	207.05	---
11	189.10	199.82	211.43	---	---	209.00	206.16	---	207.47	207.75	207.05	---
12	189.16	202.39	211.38	---	---	208.52	206.26	---	207.46	207.90	206.98	---
13	189.14	204.48	211.42	---	---	208.26	206.29	---	207.53	207.79	207.03	---
14	189.15	205.51	211.46	---	---	207.27	206.29	---	207.42	207.74	207.03	---
15	189.15	205.96	211.39	---	---	206.69	204.60	---	207.33	207.74	209.10	---
16	189.15	207.56	211.34	---	---	206.37	203.55	---	207.34	207.73	209.32	---
17	189.15	208.18	211.36	---	---	206.15	203.15	---	207.32	207.72	209.39	---
18	189.21	208.56	211.34	---	---	205.16	---	---	207.32	207.73	209.29	---
19	189.18	208.79	211.39	---	---	204.57	---	---	207.32	208.55	209.23	---
20	189.16	208.96	211.34	---	---	204.14	---	---	207.33	208.95	209.22	---
21	189.15	209.11	211.30	---	---	203.74	---	---	207.33	209.64	209.30	---
22	189.14	209.29	211.29	---	211.80	203.45	---	---	207.33	208.14	209.22	---
23	189.13	210.88	211.31	---	211.73	203.18	---	208.95	207.37	207.23	209.19	---
24	189.22	211.22	211.48	---	211.69	200.93	---	208.95	207.35	207.11	---	---
25	189.26	211.36	211.77	---	211.66	200.26	---	208.95	207.37	206.95	---	---
26	190.81	211.43	212.35	---	211.66	199.83	---	208.94	207.59	206.83	---	---
27	193.22	211.47	212.05	---	211.65	199.53	---	208.94	207.68	206.90	---	---
28	196.18	211.45	211.90	---	211.62	199.36	---	208.93	207.70	207.03	---	---
29	196.86	211.48	211.89	---	211.59	199.31	---	208.94	207.70	207.07	---	---
30	197.10	211.49	211.96	---	---	199.39	---	208.65	207.67	207.12	---	---
31	197.20	---	212.01	---	---	199.39	---	208.53	---	207.11	---	---
MAX	197.20	211.49	212.35	---	---	211.57	---	---	208.50	209.64	---	---
MIN	186.40	197.23	211.29	---	---	199.31	---	---	207.32	206.83	---	---
(†)	197.20	211.49	212.01	---	---	199.39	---	208.53	207.67	207.11	---	---

WTR YR 1988 MAX --- MIN ---

(†) Elevation, in feet, at end of month.

07344482 BIG CYPRESS CREEK NEAR WINNSBORO, TX

LOCATION.--Lat 33°01'24", long 95°16'12", Franklin County, Hydrologic Unit 11140305, on left bank at downstream side of bridge on State Highway 37, 0.3 mi downstream from Glade Branch, 1.8 mi upstream from Little Cypress Creek, 4.7 mi north of Winnsboro, and 146.5 mi upstream from mouth.

DRAINAGE AREA.--27.2 mi².

PERIOD OF RECORD.--March 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 375.83 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow affected slightly by Lake Franklin located 1.4 mi upstream on Glade Branch. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years (water years 1975-88), 19.2 ft³/s (9.59 in/yr), 13,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,320 ft³/s Nov. 24, 1974 (gage height, 12.39 ft); maximum gage height, 12.69 ft Dec. 11, 1985; no flow at times in water years 1974, 1978-80, 1982, and 1984-87.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 26	1630	*1,550	*11.57	No other peak greater than base discharge.			

Minimum daily discharge, 0.12 ft³/s Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.49	5.5	5.9	15	8.2	8.0	25	4.1	2.7	5.2	.30	.16
2	.48	5.8	5.9	12	9.6	47	109	3.1	3.1	4.3	.30	.14
3	.43	6.5	5.9	11	8.8	177	34	2.7	3.0	3.4	.25	.23
4	.37	7.0	5.5	11	8.2	33	19	1.6	5.1	3.8	.23	.32
5	.46	7.5	6.1	8.8	7.5	19	14	1.4	3.9	7.5	.25	.21
6	.50	7.8	18	11	6.8	14	11	1.3	3.2	6.5	.24	.17
7	.50	8.3	38	19	7.1	12	9.8	1.5	3.2	5.4	.23	.19
8	.61	10	14	14	7.5	292	8.9	2.9	3.4	8.0	.21	.19
9	.88	40	8.1	9.9	7.3	74	8.4	2.0	3.1	7.9	.19	.16
10	.94	43	6.0	10	7.3	32	8.5	1.4	1.9	6.9	.17	.12
11	.97	8.4	6.0	14	8.4	24	9.1	1.2	1.1	6.3	.17	.15
12	1.0	5.7	5.8	95	8.8	23	9.7	1.1	1.0	270	.29	.28
13	1.2	5.3	25	79	8.8	17	9.5	1.1	1.2	53	.26	.27
14	1.5	5.0	93	33	8.8	13	9.1	1.0	1.3	4.7	.26	.32
15	1.7	7.1	27	26	7.2	12	8.7	.99	1.9	1.4	.24	.35
16	2.0	27	12	34	7.2	11	7.9	.92	2.1	.77	.23	.36
17	2.2	22	8.2	69	18	23	30	.89	3.6	.54	.26	.44
18	3.4	6.5	7.5	34	503	73	138	.89	5.0	.47	.26	.64
19	8.7	4.9	48	58	316	30	20	.81	4.7	.39	.34	.86
20	4.9	4.4	83	31	52	20	11	.77	4.4	.38	.31	.63
21	3.4	4.6	25	17	29	15	7.8	.73	4.0	.37	.34	.63
22	3.8	6.0	15	12	22	12	5.7	.73	3.8	.32	.18	.87
23	4.6	7.7	12	11	13	11	4.3	.70	4.6	.30	.20	.90
24	8.6	8.8	15	9.7	11	12	3.6	.70	5.3	.31	.19	.85
25	9.2	46	599	8.6	10	71	3.2	.74	5.1	.29	.14	.65
26	33	20	1170	8.2	10	30	3.1	.75	6.1	.26	.13	.66
27	7.7	13	346	8.1	9.8	16	2.4	.95	7.2	.23	.13	.57
28	3.8	14	59	8.4	9.4	12	1.9	1.1	6.8	.21	.15	.64
29	4.3	8.4	32	8.5	8.4	45	2.7	1.3	6.8	.22	.15	.75
30	5.0	6.5	24	8.3	---	60	5.4	2.8	6.5	.23	.21	2.1
31	5.3	---	20	8.5	---	27	---	3.3	---	.27	.19	---
TOTAL	121.93	372.7	2745.9	703.0	1139.1	1265.0	540.7	45.47	115.1	399.86	7.00	14.81
MEAN	3.93	12.4	88.6	22.7	39.3	40.8	18.0	1.47	3.84	12.9	.23	.49
MAX	33	46	1170	95	503	292	138	4.1	7.2	270	.34	2.1
MIN	.37	4.4	5.5	8.1	6.8	8.0	1.9	.70	1.0	.21	.13	.12
AC-FT	242	739	5450	1390	2260	2510	1070	90	228	793	14	29
CFSM	.14	.46	3.26	.83	1.44	1.50	.66	.05	.14	.47	.01	.02
IN.	.17	.51	3.76	.96	1.56	1.73	.74	.06	.16	.55	.01	.02

CAL YR 1987 TOTAL 6422.42 MEAN 17.6 MAX 1170 MIN .00 AC-FT 12740 CFSM .65 IN. 8.78
WTR YR 1988 TOTAL 7470.57 MEAN 20.4 MAX 1170 MIN .12 AC-FT 14820 CFSM .75 IN. 10.22

07344484 LAKE CYPRESS SPRINGS NEAR MOUNT VERNON, TX

LOCATION.--Lat 33°03'22", long 95°08'22", Franklin County, Hydrologic Unit 11140305, in brick meter house located on upstream side and near center of dam on Big Cypress Creek, 1.5 mi upstream from Andy's Creek, 2.6 mi downstream from Panther Creek, and 10.3 mi southeast of Mount Vernon.

DRAINAGE AREA.--75.0 mi².

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

REMARKS.--The lake is formed by a rolled earthfill dam 5,230 ft long. Deliberate impoundment began July 7, 1970, and the dam was completed Feb. 15, 1971. The spillway is an excavated channel through natural ground 1,000 ft wide located to the left of left end of dam. The service spillway is a rectangular 23- by 23-foot drop inlet located near the right end of dam. The low-flow outlet works consist of an 18-inch-diameter concrete pipe that has duplicate valve controls and discharges into the service spillway conduit. 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	397.0	-
Crest of spillway	385.0	100,400
Crest of spillway	378.0	72,850
Lowest gated outlet (invert)	317.75	0

COOPERATION.--The capacity table, provided by the Franklin County Water District, was based on data prepared by Wisenbaker, Fix, and Associates, Consulting Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 85,050 acre-ft Dec. 26, 1988 (elevation, 381.33 ft); minimum, 59,440 acre-ft Nov. 12-14, 1978 (elevation, 373.79 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 85,050 acre-ft Dec. 26 at 2300 hours (elevation, 381.33 ft); minimum, 68,670 acre-ft Sept. 29-30 (elevation, 376.75 ft).

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

376.0	66,240	380.0	79,980
378.0	72,850	382.0	87,700

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69890	69990	72270	77020	74230	74120	74680	73260	72000	70690	71830	70150
2	69650	69990	72270	76520	74190	74610	74820	73260	71960	70550	71760	70050
3	69590	69950	72270	76160	73990	75000	74860	73230	71930	70450	71690	69990
4	69560	69990	72270	76020	73810	74960	74820	73190	71830	70420	71560	69950
5	69520	69920	72270	75630	73670	74820	74680	73160	71800	70450	71560	69850
6	69420	69850	72710	75450	73570	74720	74400	73090	71760	70350	71520	69850
7	69390	69790	72750	75420	73500	74510	74370	73090	71760	70250	71460	69720
8	69360	69850	72850	75170	73500	75100	74230	73160	71690	70220	71420	69620
9	69320	70650	72850	75000	73610	75280	74120	73090	71630	70190	71360	69620
10	69320	70850	72850	74820	73710	75240	73920	73050	71520	70150	71190	69520
11	69290	70890	72850	74680	73780	75030	73810	73050	71490	70150	71190	69520
12	69220	70890	72850	74750	73810	74890	73780	72950	71420	72300	71190	69490
13	69190	70890	73400	74820	73990	74610	73710	72920	71420	72480	71150	69460
14	69130	70890	73610	74820	74120	74400	73670	72810	71320	72510	71120	69460
15	69090	71190	73780	74820	74190	74300	73570	72750	71290	72480	71120	69390
16	69060	71490	73780	74820	74960	74160	73540	72750	71220	72480	71090	69390
17	69060	71490	73670	74930	75810	74300	73950	72680	71220	72480	71050	69320
18	69220	71460	73570	74930	76230	74300	74190	72680	71220	72480	71020	69290
19	69290	71460	73880	74930	76160	74300	74190	72640	71150	72340	70950	69190
20	69290	71460	74020	74820	75910	74300	74120	72610	71190	72380	70920	69190
21	69290	71460	74020	74650	75670	74230	74020	72540	71150	72340	70850	69130
22	69220	71420	73990	74470	75420	74120	73950	72470	71120	72340	70820	69090
23	69160	71460	73990	74370	75140	74060	73880	72370	71020	72240	70750	69060
24	69320	71490	74720	74260	75000	73990	73670	72410	70950	72240	70720	68960
25	69320	72030	78360	74160	74790	74230	73670	72300	70920	72170	70690	68830
26	69950	72070	85010	74060	74650	74300	73540	72270	70920	72140	70590	68830
27	69950	72270	83460	74060	74510	74260	73500	72170	70920	72030	70480	68770
28	69950	72240	81400	74020	74400	74190	73400	72070	70920	71970	70380	68730
29	69950	72240	79870	74020	74260	74370	73360	72070	70920	71930	70350	68670
30	69950	72270	78690	74060	---	74370	73330	72070	70820	71860	70320	68730
31	69990	---	77740	74160	---	74370	---	72000	---	71830	70190	---
MAX	69990	72270	85010	77020	76230	75280	74860	73260	72000	72510	71830	70150
MIN	69060	69790	72270	74020	73500	73990	73330	72000	70820	70150	70190	68670
(†)	377.15	377.83	379.39	378.38	378.41	378.44	378.14	377.75	377.40	377.70	377.21	376.77
(ϕ)	+100	+2280	+5470	-3580	+100	+110	-1040	-1330	-1180	+1010	-1640	-1460

CAL YR 1987 MAX 85010 MIN 69060 (ϕ) +4820
WTR YR 1988 MAX 85010 MIN 68670 (ϕ) -1160

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

07344486 BRUSHY CREEK AT SCROGGINS, TX

LOCATION.--Lat 32°58'32", long 95°11'03", Franklin County, Hydrologic Unit 11140305, at downstream side of highway embankment near left end of bridge on Farm Road 115, 0.1 mi north of Scroggins, 0.3 mi downstream from Briary Creek, 2.5 mi upstream from South Brushy Creek, and 9.5 mi upstream from mouth.

DRAINAGE AREA.--23.4 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 343.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years (water years 1979-88), 14.8 ft³/s (8.59 in/yr), 10,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,140 ft³/s Sept. 20, 1979 (gage height, 13.46 ft); no flow in water years 1978, 1980, 1984-87.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 25	0615	*1,540	*13.22	No other peak greater than base discharge.			

Minimum discharge, no flow Aug. 28-29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.93	7.8	13	19	11	11	21	4.9	1.1	1.5	.27	.10
2	.80	8.7	12	16	16	24	60	3.6	.92	1.5	.18	.07
3	.84	8.8	12	14	14	112	26	3.4	.62	1.5	.18	.06
4	.78	9.9	16	14	13	30	17	2.9	.62	3.0	.19	.11
5	.82	10	19	12	12	18	15	2.7	.56	2.3	.21	.13
6	.89	9.8	35	13	11	16	14	2.2	.48	1.0	.20	.14
7	.89	10	57	18	10	15	18	2.1	.42	.70	.15	.14
8	.86	11	23	15	12	87	13	2.3	.41	.58	.13	.11
9	.89	21	18	13	11	59	9.6	2.5	.39	.57	.08	.11
10	.99	34	16	13	10	23	8.8	1.9	.39	.70	.04	.11
11	1.1	14	15	14	12	18	9.2	1.5	.31	.74	.03	.12
12	1.1	11	14	47	14	19	9.1	1.3	.25	12	.05	.11
13	1.2	10	26	72	14	16	8.0	1.3	.30	16	.18	.09
14	1.2	10	133	29	14	13	7.9	1.3	.34	3.3	.24	.07
15	1.3	11	34	23	12	13	6.8	1.2	.36	1.2	.20	.07
16	1.4	20	20	29	10	12	6.6	1.0	.39	.65	.14	.09
17	1.5	23	17	61	14	16	8.2	.91	.36	.50	.11	.08
18	1.8	15	17	28	178	72	36	.81	.47	.46	.07	.16
19	4.8	13	27	21	178	27	15	.78	.42	.33	.12	.22
20	3.5	12	54	16	64	18	11	.74	.36	.41	.12	.18
21	2.4	11	22	13	32	15	8.8	.75	.35	.43	.11	.23
22	2.2	11	18	12	22	14	6.8	.81	.33	.43	.11	.26
23	2.7	12	16	11	18	13	4.5	.79	.58	.40	.11	.17
24	5.1	13	17	11	15	13	3.5	.96	.68	.36	.06	.15
25	6.4	46	571	10	13	69	3.3	2.4	.65	.34	.04	.20
26	20	27	744	10	13	29	3.9	1.9	.81	.33	.04	.28
27	9.6	21	210	10	13	16	3.4	.98	1.0	.25	.02	.35
28	5.4	22	70	10	13	14	2.9	.63	1.2	.23	.0	.37
29	5.8	16	35	10	11	32	3.0	.52	1.5	.25	.00	.35
30	7.3	14	26	11	---	74	5.6	.62	1.6	.22	.01	.87
31	7.8	---	23	11	---	25	---	.99	---	.24	.09	---
TOTAL	102.29	463.0	2330	606	780	933	365.9	50.69	18.17	52.42	3.48	5.50
MEAN	3.30	15.4	75.2	19.5	26.9	30.1	12.2	1.64	.61	1.69	.11	.18
MAX	20	46	744	72	178	112	60	4.9	1.6	16	.27	.87
MIN	.78	7.8	12	10	10	11	2.9	.52	.25	.22	.00	.06
AC-FT	203	918	4620	1200	1550	1850	726	101	36	104	6.9	11
CFSM	.14	.66	3.21	.84	1.15	1.29	.52	.07	.03	.07	.00	.01
IN.	.16	.74	3.70	.96	1.24	1.48	.58	.08	.03	.08	.01	.01

CAL YR 1987 TOTAL 5587.07 MEAN 15.3 MAX 744 MIN .00 AC-FT 11080 CFSM .65 IN. 8.88
WTR YR 1988 TOTAL 5710.45 MEAN 15.6 MAX 744 MIN .00 AC-FT 11330 CFSM .67 IN. 9.08

07344489 LAKE BOB SANDLIN NEAR MOUNT PLEASANT, TX

LOCATION.--Lat 33°04'48", long 95°00'07", Titus County, Hydrologic Unit 11140305, in control room in left abutment of service spillway at left end of Fort Sherman Dam on Big Cypress Creek, 1.7 mi upstream from Tankersley Creek, 3.5 mi upstream from bridge on U.S. Highway 271, 5.7 mi southwest of the county courthouse in Mount Pleasant, and 129.2 mi upstream from mouth.

DRAINAGE AREA.--239 mi².

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Apr. 12, 1978, a nonrecording gage was located at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 10,800 ft long, including spillways. Deliberate impoundment began Aug. 8, 1977, and dam was completed by April 1978. The spillway is an excavated channel cut through natural ground. The spillway is 4,500 ft wide, located to the left of the left end of the dam. The service spillway is 289.5 ft wide with 160 ft of net flow width controlled by four 40- by 22.5-foot tainter gates. The dam was built, and is owned, maintained, and operated by the Titus County Fresh Water Supply District No. 1 to provide water for municipal use. Flow from 75.0 mi² above this station is controlled by Lake Cypress Springs on Big Cypress Creek and 36.0² is controlled by Montecello Reservoir on Blundell Creek, a tributary to Big Cypress Creek. Stage 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-ft)
Top of dam	349.0	-
Crest of uncontrolled spillway	341.3	251,000
Crest of gated spillway	316.5	64,790
Lowest gated outlet (invert)	294.5	3,300

COOPERATION.-Area and capacity tables were compiled by Forest and Cotton, Inc., Consulting Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 222,800 acre-ft Mar. 17, 1987 (elevation, 338.49 ft); minimum, 516 acre-ft Aug. 8-17, 1977 (elevation, 290.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 213,000 acre-ft Dec. 26 at 0500 hours (elevation, 337.46 ft); minimum, 181,800 acre-ft Sept. 29-30 (elevation, 334.02 ft).

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

334.0	186,000	337.0	208,600
335.0	190,400	338.0	218,100
336.0	199,400		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190000	186300	191100	207400	210200	211600	211300	210900	207700	198300	192200	186300
2	189800	186200	191000	207100	210200	212200	210500	210900	207500	197900	192100	186500
3	189600	186100	191000	207000	210100	212000	210300	210900	207200	197600	191800	186900
4	189400	186100	191000	206400	209200	211500	210600	210700	207100	197500	192000	186500
5	189200	185900	190900	206200	208300	211800	211000	210600	206800	197100	191900	186300
6	188900	185700	192200	208000	208000	212100	211100	210500	206600	196900	191700	186000
7	188600	185700	192600	208400	208200	212400	211300	210500	206200	196600	191500	185700
8	188300	186000	192900	208900	208300	211300	211600	210500	205700	196300	191100	185500
9	187900	187700	192900	209300	208600	210900	211700	210500	205300	196100	190800	185200
10	187800	187700	193000	209600	208800	211400	211700	210400	204900	195800	190300	184800
11	187700	187700	192800	210000	208800	211700	211700	210300	204600	195400	190600	184800
12	186900	187700	192800	211000	209000	210800	211700	210100	204200	197000	190500	184400
13	186300	187500	194900	211700	209400	210700	211700	210100	203900	196900	190300	184200
14	185900	187400	197300	212200	209300	210700	211700	210000	203600	196500	190000	184000
15	185400	188100	197300	212500	209300	210800	211700	209800	203300	196300	189900	183700
16	185200	189200	197400	212500	210900	211000	211700	209700	203400	196100	189500	183400
17	185000	189200	197500	212500	212500	211700	212300	209600	202900	195800	189200	183400
18	185400	189100	197700	212300	211200	211500	211700	209400	202500	195500	189200	183300
19	185500	189100	198900	212100	210400	211000	210900	209200	202200	195300	189100	183200
20	185200	189000	199400	211400	209800	210800	211100	209000	201700	195300	189000	183000
21	185100	188900	199700	210700	209500	211000	211200	209000	201300	194900	189000	183000
22	184800	188900	199800	210100	209900	211200	211300	208700	201000	194400	188700	182800
23	184800	189000	200100	209500	210000	211400	211300	208400	200700	194200	188700	182600
24	185700	189200	202400	208800	210400	211800	211200	208300	200300	193800	188500	182500
25	185700	190800	212600	208500	210800	212300	211300	208200	200000	193500	188300	182300
26	186800	190800	211100	208500	211100	211800	211100	208100	199800	193200	188100	182100
27	186600	191400	207000	208700	211500	211100	211100	208000	199500	192900	187900	181900
28	186500	191200	207300	208900	211700	210800	210900	207800	199200	192700	187600	181800
29	186400	191200	207400	209100	211800	211100	210900	207700	198900	192600	187300	181800
30	186300	191200	207400	209300	---	210700	211100	207900	198600	192500	186900	182200
31	186300	---	207600	209500	---	210900	---	207700	---	192200	186500	---
MAX	190000	191400	212600	212500	212500	212400	212300	210900	207700	198300	192200	186900
MIN	184800	185700	190900	206200	208000	210700	210300	207700	198600	192200	186500	181800
(†)	334.53	335.09	336.89	337.09	337.34	337.24	337.26	336.90	335.91	335.20	334.56	334.07
(ϕ)	-3800	+4900	+16400	+1900	+2300	-900	+200	-3400	-9100	-6400	-5700	-4300

CAL YR 1987 MAX 214800 MIN 184800 (ϕ) +6500
WTR YR 1988 MAX 212600 MIN 181800 (ϕ) -7900

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

07344500 BIG CYPRESS CREEK NEAR PITTSBURG, TX

LOCATION.--Lat 33°01'15", long 94°52'55", Camp-Titus County line, Hydrologic Unit 11140305, near center of stream at downstream side of bridge on State Highway 11, 0.5 mi upstream from Louisiana & Arkansas Railway Co. bridge, 1.4 mi upstream from Williamson Creek, 5.2 mi east of Pittsburg, 19.2 mi downstream from Lake Bob Sandlin, and 110.0 mi upstream from mouth.

DRAINAGE AREA.--366 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1943 to January 1963 (published as Cypress Creek near Pittsburg), October 1967 to current year. Gage-height records collected at this site September 1963 to December 1967 are published in reports by the U.S. Army Corps of Engineers.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 247.49 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 12, 1954, water-stage recorder at site 1,900 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Flow partly regulated by Lake Cypress Springs (station 07344484) since July 1970, and by Monticello Reservoir (on Blundell Creek) since August 1972. Flow largely regulated by Lake Bob Sandlin (station 07344489) since August 1977. Sewage effluent was returned to a tributary above the station by the city of Mount Pleasant, and sewage effluent was returned to a tributary below the station by the city of Pittsburg. Gage-height telemeter at station.

AVERAGE DISCHARGE.--24 years (water years 1944-62, 1968-72), prior to combined regulation by Lake Cypress Springs and Monticello Reservoir, 327 ft³/s (12.13 in/yr), 236,900 acre-ft/yr; 16 years (water years 1973-88) regulated, 245 ft³/s (177,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,500 ft³/s Mar. 30, 1945 (gage height, 28.3 ft, from floodmark, and adjusted to present site on basis of record for flood of Apr. 27, 1958), from rating curve extended above 20,000 ft³/s; no flow Aug. 20 to Oct 3, 1954, July 19 to Nov. 4, 1956.
Maximum stage since at least 1895, that of Mar. 30, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1938 reached a stage of about 25 ft, present site, adjusted as explained above, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,400 ft³/s Dec. 26 at 2300 hours (gage height, 21.87 ft); minimum daily, 2.2 ft³/s Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	6.9	36	1080	52	55	695	21	4.7	6.3	7.1	13
2	4.7	5.3	28	926	65	284	632	20	4.2	4.7	7.0	5.9
3	3.5	4.4	23	875	116	742	1020	18	5.0	4.3	7.2	5.2
4	3.1	3.6	19	859	218	983	1090	16	5.7	4.1	6.6	6.9
5	2.9	3.0	17	840	512	1060	376	20	5.6	4.0	6.5	11
6	3.2	3.1	59	796	621	454	121	19	5.1	3.5	6.8	6.9
7	2.7	3.6	593	368	513	103	81	15	10	3.2	7.0	4.6
8	2.2	4.8	603	130	102	169	65	14	11	3.4	7.2	3.0
9	2.3	12	255	93	59	1020	49	14	6.4	4.0	7.4	3.1
10	3.4	138	66	77	55	1160	50	13	4.9	4.0	7.6	3.7
11	3.5	240	40	79	55	521	47	12	4.1	4.2	7.6	4.0
12	3.2	77	31	180	60	231	39	11	3.8	5.5	7.9	4.3
13	3.7	21	54	560	66	558	37	11	3.7	37	8.3	4.2
14	2.6	15	692	693	64	551	35	11	4.0	41	8.5	4.3
15	2.3	15	1120	490	59	96	44	10	4.2	15	8.7	3.5
16	2.4	363	1010	363	45	55	33	9.0	4.4	8.8	9.0	3.8
17	2.7	653	329	694	37	57	32	8.2	4.4	6.8	9.3	4.5
18	3.2	552	79	852	713	301	210	7.6	4.4	5.9	9.4	4.6
19	4.3	104	80	867	4390	623	594	7.3	4.7	5.6	9.4	4.6
20	13	28	408	823	2900	622	619	7.3	5.1	8.9	6.2	4.3
21	8.9	24	559	777	1440	421	138	7.0	5.0	26	4.5	5.0
22	6.1	16	269	736	1180	104	39	6.9	3.9	13	4.7	4.8
23	4.4	12	100	708	946	57	34	6.2	3.9	8.8	4.8	5.0
24	4.5	11	67	697	411	55	27	5.7	3.7	7.7	4.4	4.4
25	22	87	3080	683	104	333	24	5.3	4.0	6.8	6.0	3.6
26	30	482	15500	527	81	728	22	5.2	4.6	6.4	5.2	3.6
27	91	714	19100	110	74	758	21	5.9	5.1	6.2	4.1	3.9
28	38	325	5920	61	74	693	20	5.6	5.2	5.9	3.9	3.8
29	11	119	2040	58	60	594	19	5.5	8.9	6.3	3.8	3.8
30	7.3	54	1380	54	---	774	19	5.1	8.1	6.6	3.6	5.2
31	7.0	---	1280	54	---	854	---	4.9	---	7.1	19	---
TOTAL	306.2	4096.7	54837	16110	15072	15016	6232	327.7	157.8	281.0	218.7	148.5
MEAN	9.88	137	1769	520	520	484	208	10.6	5.26	9.06	7.05	4.95
MAX	91	714	19100	1080	4390	1160	1090	21	11	41	19	13
MIN	2.2	3.0	17	54	37	55	19	4.9	3.7	3.2	3.6	3.0
AC-FT	607	8130	108800	31950	29900	29780	12360	650	313	557	434	295

CAL YR 1987 TOTAL 136598.7 MEAN 374 MAX 20900 MIN 1.9 AC-FT 270900
WTR YR 1988 TOTAL 112803.6 MEAN 308 MAX 19100 MIN 2.2 AC-FT 223700

07344500 BIG CYPRESS CREEK NEAR PITTSBURG, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: March 1965 to current year. Chemical and biochemical analyses: January 1983 to September 1985.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1968 to current year.
WATER TEMPERATURE: October 1968 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, 989 microsiemens Aug. 29, 1987; minimum daily, 53 microsiemens Mar. 17, 1987.
WATER TEMPERATURE: Maximum daily, 32.0°C Aug. 20, 1969; minimum daily, 0.0°C on several days during winter months of 1982-84.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 870 microsiemens June 8; minimum daily, 106 microsiemens Dec. 16.
WATER TEMPERATURE: Maximum daily, 30.0°C July 1, 2; minimum daily, 2.0°C Jan. 7-11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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)
NOV 19...	1600	54	180	--	41	18	9.6	4.2	14
JAN 11...	1500	80	257	--	59	52	13	6.4	23
APR 07...	1515	89	289	18.0	63	32	14	6.8	25
MAY 26...	0945	5.2	610	19.5	81	26	18	8.8	71
JUL 11...	1430	4.2	645	29.0	83	34	19	8.6	86
AUG 22...	1345	4.5	496	--	61	26	14	6.4	62

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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 19...	1	5.7	,23	31	18	0.30	10	107
JAN 11...	1	4.8	7	43	30	0.20	13	138
APR 07...	1	4.4	31	43	30	0.20	9.8	152
MAY 26...	4	10	55	63	110	0.30	11	325
JUL 11...	4	14	49	69	120	0.30	9.4	356
AUG 22...	4	18	35	47	91	0.30	8.2	268

07344500 BIG CYPRESS CREEK NEAR PITTSBURG, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	306.2	437	234	194	66	55	45	37	67
NOV.	1987	4096.7	163	92	1020	18	200	26	291	43
DEC.	1987	54837	140	79	11700	15	2210	23	3450	38
JAN.	1988	16110	201	113	4900	23	992	31	1370	51
FEB.	1988	15072	173	97	3960	19	789	28	1120	45
MAR.	1988	15016	208	116	4720	24	965	32	1310	52
APR.	1988	6232	213	119	2000	25	415	33	548	52
MAY	1988	327.7	532	285	252	82	72	53	47	79
JUNE	1988	157.8	667	350	149	110	48	53	22	74
JULY	1988	281.0	502	269	204	76	57	52	40	79
AUG.	1988	218.7	634	335	198	100	62	54	32	77
SEPT	1988	148.5	667	350	140	110	45	53	21	75
TOTAL		112803.6	**	**	29500	**	5910	**	8290	**
WTD.AVG.		308	172	97	**	19	**	27	**	44

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	510	313	241	192	300	305	194	361	692	665	446	600
2	522	402	250	198	287	318	170	410	689	646	482	615
3	547	420	249	196	306	195	180	448	679	667	509	625
4	560	405	267	195	317	201	190	460	675	701	538	620
5	631	459	280	197	218	191	210	445	658	716	572	575
6	707	446	299	201	213	209	249	691	706	726	592	572
7	753	447	151	202	214	248	281	691	741	736	655	584
8	802	426	171	230	253	268	298	613	870	739	726	609
9	804	377	179	243	292	192	288	582	818	736	750	624
10	796	255	208	255	311	187	301	550	549	684	750	650
11	737	193	231	260	311	211	312	462	490	676	759	657
12	725	185	248	234	314	256	370	436	513	614	747	690
13	727	260	287	205	321	204	358	431	497	598	710	712
14	732	282	137	166	316	204	354	437	484	465	659	681
15	778	287	117	176	330	246	356	491	488	362	635	603
16	793	142	106	203	345	274	432	536	527	370	658	537
17	789	131	157	191	327	300	456	577	563	409	672	562
18	805	124	202	205	181	282	265	583	583	426	664	612
19	784	166	226	199	138	223	218	575	609	422	652	670
20	798	202	185	203	127	208	196	574	652	416	577	749
21	508	240	178	205	159	211	230	578	687	500	517	783
22	587	311	177	203	183	249	266	605	711	521	499	762
23	594	268	211	202	194	280	302	628	721	449	491	764
24	632	263	227	205	213	291	333	640	688	427	520	749
25	673	230	150	205	261	180	337	633	712	410	566	775
26	422	196	148	205	292	217	331	618	693	398	627	788
27	260	127	125	237	287	206	357	605	706	375	701	778
28	233	167	132	289	303	197	375	601	703	371	728	787
29	248	200	153	284	308	199	381	647	719	370	718	846
30	253	230	149	295	---	188	358	683	625	384	719	781
31	270	---	179	293	---	194	---	706	---	405	650	---
MEAN	612	272	194	219	263	230	298	558	648	529	629	679

07344500 BIG CYPRESS CREEK NEAR PITTSBURG, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	17.0	9.0	10.0	15.0	14.0	16.0	16.0	23.0	30.0	29.0	24.0
2	17.0	16.0	7.0	8.0	12.0	14.0	15.0	17.0	23.0	30.0	28.0	25.0
3	17.0	15.0	11.0	7.0	10.0	12.0	16.0	18.0	22.0	27.0	28.0	25.0
4	15.0	15.0	9.0	---	8.0	10.0	20.0	17.0	22.0	29.0	28.0	23.0
5	15.0	16.0	9.0	7.0	8.0	10.0	20.0	17.0	22.0	27.0	29.0	22.0
6	15.0	14.0	12.0	6.0	5.0	12.0	18.0	20.0	21.0	27.0	27.0	22.0
7	14.0	13.0	14.0	2.0	4.0	11.0	18.0	19.0	22.0	26.0	27.0	21.0
8	16.0	14.0	15.0	2.0	5.0	14.0	17.0	20.0	22.0	26.0	27.0	21.0
9	19.0	15.0	13.0	2.0	6.0	13.0	17.0	24.0	24.0	24.0	27.0	21.0
10	19.0	14.0	11.0	2.0	6.0	11.0	17.0	20.0	24.0	25.0	27.0	22.0
11	17.0	14.0	12.0	2.0	5.0	14.0	13.0	20.0	21.0	27.0	26.0	23.0
12	16.0	10.0	11.0	5.0	6.0	15.0	16.0	20.0	21.0	27.0	26.0	24.0
13	14.0	11.0	10.0	3.0	5.0	12.0	13.0	20.0	21.0	26.0	26.0	25.0
14	14.0	10.0	9.0	3.0	8.0	10.0	17.0	20.0	22.0	26.0	27.0	25.0
15	15.0	15.0	7.0	5.0	8.0	11.0	16.0	20.0	22.0	26.0	27.0	25.0
16	17.0	15.0	5.0	6.0	8.0	10.0	16.0	21.0	23.0	27.0	27.0	25.0
17	19.0	14.0	5.0	9.0	9.0	13.0	18.0	21.0	24.0	27.0	27.0	25.0
18	17.0	12.0	6.0	9.0	12.0	10.0	18.0	22.0	24.0	28.0	27.0	25.0
19	18.0	12.0	7.0	9.0	10.0	9.0	15.0	24.0	24.0	29.0	27.0	25.0
20	17.0	11.0	10.0	9.0	9.0	11.0	16.0	23.0	25.0	27.0	26.0	25.0
21	15.0	10.0	9.0	6.0	10.0	14.0	18.0	23.0	24.0	---	27.0	25.0
22	14.0	10.0	9.0	6.0	10.0	15.0	20.0	22.0	25.0	24.0	27.0	25.0
23	14.0	13.0	10.0	5.0	12.0	16.0	20.0	20.0	25.0	24.0	27.0	25.0
24	15.0	15.0	13.0	7.0	10.0	16.0	19.0	20.0	25.0	26.0	28.0	25.0
25	17.0	15.0	12.0	7.0	10.0	17.0	20.0	20.0	27.0	26.0	26.0	22.0
26	17.0	14.0	10.0	5.0	10.0	16.0	17.0	19.0	26.0	25.0	27.0	22.0
27	16.0	13.0	10.0	5.0	12.0	16.0	17.0	18.0	27.0	26.0	27.0	24.0
28	15.0	11.0	8.0	7.0	14.0	17.0	16.0	20.0	28.0	25.0	27.0	22.0
29	15.0	10.0	7.0	8.0	16.0	17.0	17.0	21.0	28.0	27.0	26.0	21.0
30	15.0	10.0	7.0	11.0	---	13.0	17.0	21.0	28.0	27.0	24.0	20.0
31	16.0	---	8.0	11.0	---	13.0	---	22.0	---	27.0	22.0	---
MEAN	16.0	13.0	9.5	6.0	9.0	13.0	17.0	20.0	24.0	26.5	27.0	23.5

07345500 ELLISON CREEK RESERVOIR NEAR LONE STAR, TX

LOCATION.--Lat 32°55'16", long 94°43'17", Morris County, Hydrologic Unit 11140305, at pumphouse of Lone Star Steel Co., on left bank 1,700 ft upstream from Ellison Creek Dam on Ellison Creek, 0.6 mi upstream from Big Cypress Creek, and 1.4 mi southwest of Lone Star.

DRAINAGE AREA.--37.0 mi².

PERIOD OF RECORD.--January 1943 to September 1962 (published as "near Daingerfield"), January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 22, 1943, staff gage at site just upstream from dam at datum 200 ft lower.

REMARKS.--The reservoir is formed by a rolled earthfill dam 4,000 ft long, with an uncontrolled concrete spillway 300 ft long at the left end of dam. Deliberate impoundment began Jan. 14, 1943, and the dam was completed in April 1943. Another spillway is cut through natural ground near the right end of dam. In addition, there is a relief dam approximately 125 ft long, located near the reservoir pumphouse, that can be breached if the other spillways are unable to release sufficient floodwater. There is a 36-inch-diameter conduit through the dam that is used for pumping water from Big Cypress Creek into the reservoir and can also be used to discharge water from the reservoir into Big Cypress Creek. The dam is owned by Lone Star Steel Co. The company diverts water from the lake for cooling purposes and returns most of the water to the lake. Area capacity curves are based on a survey made in 1942. 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	280.1	-
Design flood	275.1	36,600
Crest of spillway	273.1	33,000
Crest of concrete spillway	268.1	24,700
Lowest gated outlet (invert)	235.1	196

COOPERATION.--Capacity table and area-capacity curves were provided by Lone Star Steel Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,240 acre-ft Apr. 26, 1958 (elevation, 272.11 ft); minimum since lake first filled in May 1944, 15,760 acre-ft Dec. 24, 1975 (elevation, 261.28 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 27,940 acre-ft Dec. 26 (elevation, 270.20 ft); minimum, 21,360 acre-ft Sept. 19 (elevation, 265.87 ft).

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

265.0	20,230	269.0	26,020
267.0	22,970	271.0	29,300

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23180	23210	24530	25000	24160	24400	25450	23630	22100	22180	22350	21740
2	23140	23210	24410	24920	24080	24700	25520	23600	22110	22140	22340	21740
3	23110	23150	24350	24900	23960	25060	25180	23570	22280	22180	22280	21790
4	23050	23110	24320	24860	23870	24940	24970	23510	22420	22180	22210	21750
5	22970	23080	24340	24810	23870	24870	24870	23460	22460	22170	22180	21710
6	22900	23050	25350	24940	23870	24800	24730	23420	22460	22160	22140	21670
7	22870	23020	25490	24920	23900	24730	24700	23400	22510	22160	22090	21670
8	22820	23080	25180	24860	23930	25380	24640	23430	22520	22160	22090	21650
9	22820	23900	25000	24840	23930	25210	24530	23390	22520	22160	22060	21650
10	22820	24050	24870	24830	23950	25030	24420	23330	22490	22160	22090	21650
11	22780	24050	24800	24800	23980	24920	24260	23280	22490	22130	22090	21620
12	22750	24040	24750	24830	24040	24950	24150	23220	22510	22270	22090	21600
13	22700	24010	25090	24840	24110	24890	24120	23210	22510	22270	22070	21570
14	22660	24010	25310	24810	24170	24760	24060	23160	22510	22250	22020	21550
15	22610	24670	25150	24780	24170	24690	23970	23090	22490	22240	21970	21550
16	22580	25570	25030	24800	24170	24610	23930	23000	22480	22270	21960	21530
17	22550	25320	24940	24840	24370	24670	24050	22920	22510	22310	22020	21480
18	22700	25060	24890	24830	25310	24700	24050	22850	22520	22320	22030	21400
19	22730	24860	25070	24810	25450	24690	24020	22770	22490	22340	22040	21410
20	22730	24720	25070	24760	25230	24670	23930	22710	22390	22520	22070	21540
21	22670	24610	24970	24700	25070	24590	23850	22680	22310	22530	22020	21540
22	22670	24500	24900	24660	24970	24500	23790	22640	22250	22520	21960	21530
23	22640	24440	24840	24610	24870	24410	23760	22560	22200	22520	21950	21500
24	22910	24320	24950	24580	24800	24370	23790	22490	22210	22510	21950	21500
25	22930	24860	25830	24520	24730	24720	23780	22440	22240	22510	21920	21480
26	23270	24890	27680	24430	24660	24730	23760	22380	22300	22480	21920	21460
27	23270	24870	26120	24350	24640	24690	23690	22310	22310	22490	21880	21440
28	23240	24800	25520	24310	24590	24630	23630	22250	22300	22460	21850	21440
29	23230	24730	25280	24250	24500	24750	23610	22210	22250	22450	21810	21410
30	23210	24630	25140	24220	---	24750	23630	22170	22210	22450	21780	21470
31	23210	---	25060	24220	---	24720	---	22110	---	22410	21760	---
MAX	23270	25570	27680	25000	25450	25380	25520	23630	22520	22530	22350	21790
MIN	22550	23020	24320	24220	23870	24370	23610	22110	22100	22130	21760	21400
(†)	267.16	268.10	268.38	267.83	268.02	268.15	267.44	266.41	266.48	266.62	266.16	265.95
(ϕ)	-20	+1420	+430	-840	+280	+220	-1090	-1520	+100	+200	-650	-290

CAL YR 1987 MAX 27680 MIN 22550 (ϕ) +430
WTR YR 1988 MAX 27680 MIN 21400 (ϕ) -1780

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

07345900 LAKE O' THE PINES NEAR JEFFERSON, TX

LOCATION.--Lat 32°45'04", long 94°29'59", Marion County, Hydrologic Unit 11140305, on left bank 1,500 ft upstream from left end of Ferrell's Bridge Dam on Big Cypress Creek, on Farm Road 726, 9.0 mi west of Jefferson, and 80.1 mi upstream from mouth.

DRAINAGE AREA.--850 mi².

PERIOD OF RECORD.--August 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Nov. 12, 1957, non-recording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 10,600 ft long, including a 200-foot-wide concrete spillway. Impoundment of water began Aug. 21, 1957, and the dam was completed June 25, 1958. Official operation began Dec. 11, 1959. The flood-control outlet works consist of two 10.0-foot-diameter conduits that are controlled by two 8.0- by 12.5-foot electrically driven broome-type gates. The low-flow outlet works consist of a controlled 14-inch pipe. Flow over the spillway is discharged into a 2,000-foot-long rectified channel and then into Cypress Creek. The capacity table is based on a survey made in 1950. The lake was built for flood control, conservation, and water supply During the current year, an unknown amount of water was diverted from the lake 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	277.0	-
Crest of spillway	249.5	842,100
Top of conservation pool	228.5	254,900
Crest of intake to wet well (14 in)	202.5	5,760
Lowest gated outlet (invert)	200.0	2,860

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 694,360 acre-ft May 5, 1966 (elevation, 245.41 ft); minimum since December 1959, 210,100 acre-ft Oct. 6, 1984 (elevation, 225.98 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 493,600 acre-ft Jan. 2 (elevation, 238.92 ft); minimum, 218,900 acre-ft Sept. 28 (elevation, 226.50 ft).

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

226.0	210,400	232.0	324,800	237.0	442,500
228.0	245,600	234.0	369,100	238.0	468,700
230.0	283,700	236.0	417,100	239.0	495,800

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262800	259900	285300	493400	417400	358800	270000	261100	255600	246900	239000	228000
2	262600	259900	283100	493600	412900	357500	270200	261100	255400	246500	238700	227600
3	261800	259700	281500	492300	407700	355000	271000	261600	255200	245800	238300	228700
4	261200	259700	279700	492300	402100	351600	270400	261400	255200	247400	238100	228000
5	260900	259700	277000	491200	396500	349600	270800	261200	255000	246300	237800	227100
6	260900	259200	288900	492800	391200	348100	269600	261100	254800	245600	237800	226400
7	260300	258800	289600	493600	387400	344700	268100	260900	254500	245200	237400	225700
8	259400	258800	290900	492800	382200	347200	265200	262400	254300	245200	236700	225200
9	258800	273100	291700	491700	377500	345200	262800	262600	253900	244900	236000	224800
10	258600	270200	292300	491200	373800	341000	260300	262400	253200	244700	236500	224700
11	258600	269600	292700	490300	368900	337700	259200	262400	252800	244100	236000	225200
12	258000	270000	292300	488400	363200	337900	257800	262200	252200	246500	235800	224100
13	257500	270400	293900	486200	357300	334500	256500	262000	251700	245600	235300	224000
14	257100	270400	296500	483800	353200	330300	256200	261600	251300	245400	234700	223400
15	256700	275400	296300	480800	348100	325200	255800	261400	250900	245000	234600	222900
16	256700	279300	296300	478300	341900	320500	255200	261100	250800	244900	234000	222800
17	256700	278400	296500	476500	342300	318400	257100	260900	250400	244500	233800	222600
18	256500	279000	297100	473800	345600	313800	258800	260500	250000	244100	233800	222100
19	256500	280500	301000	471600	344700	308800	258800	260100	249600	244100	234200	221900
20	256500	281300	301200	468700	349000	304700	259400	259700	249300	245400	234000	221700
21	257300	281700	301000	465500	355200	300600	260300	259700	248900	244100	233300	221500
22	256700	281700	300600	462600	356600	296100	261800	259700	248500	243400	232600	221200
23	256500	284900	300800	458600	358800	292100	263100	259400	248200	243000	231900	221000
24	260100	283300	303800	455200	341600	287900	263100	259000	247800	242500	232800	220800
25	259200	289800	309400	451000	364100	285300	263100	258600	247600	241900	231500	220300
26	261200	289200	346300	446600	365700	281300	262600	258200	248500	241800	231200	219800
27	260700	289000	411400	442500	366100	276800	262000	257700	248400	240900	230600	219300
28	260100	287700	463900	437800	365500	273500	261400	257300	248000	240700	230100	219000
29	260100	286700	479400	432200	363200	274300	261200	256700	247600	240700	229800	220000
30	260100	286100	485100	426900	---	271000	261200	256200	247200	240300	229100	220000
31	259900	---	491400	422100	---	269200	---	255600	---	240000	228500	---
MAX	262800	289800	491400	493600	417400	358800	271000	262600	255600	247400	239000	228700
MIN	256500	258800	277000	422100	341600	269200	255200	255600	247200	240000	228500	219000
(†)	228.77	230.12	238.84	236.20	233.74	229.26	228.84	228.54	228.09	227.69	227.05	226.56
(ϕ)	-3978	+26140	+205400	-69300	-58970	-93920	-8010	-5640	-8160	-7300	-11420	-8540

CAL YR 1987 MAX 491400 MIN 251300 (ϕ) +240100
WTR YR 1988 MAX 493600 MIN 219000 (ϕ) -43900

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

07346000 BIG CYPRESS CREEK NEAR JEFFERSON, TX

LOCATION.--Lat 32°44'58", long 94°29'55", Marion County, Hydrologic Unit 11140306, on left bank 950 ft downstream from Ferrell's Bridge Dam, 7.6 mi upstream from French Creek, and 8.5 mi west of Jefferson.

DRAINAGE AREA.--850 mi².

PERIOD OF RECORD.--July 1924 to September 1959 (published as Cypress Creek), October 1979 to current year. Records of stage and discharge for the period October 1959 to September 1979 published by the U.S. Army Corps of Engineers, New Orleans District.
Water-quality records.--Chemical and biochemical analyses: January 1983 to September 1985.

GAGE.--Water-stage recorder. Datum of gage is 180.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Nov. 2, 1933, staff gage, and Nov. 2, 1933, to Dec. 8, 1955, water-stage recorder, at site about 950 ft upstream at datum 3.70 ft higher. After Dec. 9, 1955, at site about 550 ft downstream or at present site at datum 180.00 lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake O' the Pines (station 07345900) since August 1957. Gage-height telemeter at station.

AVERAGE DISCHARGE.--33 years (water years 1925-57), prior to completion of Ferrells Bridge Dam, 660 ft³/s (478,200 acre-ft/yr); 11 years (water years-1959, 1980-88) regulated, 604 ft³/s (438,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,100 ft³/s Apr. 1, 1945 (gage height, 28.78 ft, site and datum then in use), from rating curve extended above 29,000 ft³/s; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,960 ft³/s Jan. 30 at 0800 hours (observed gage height, 19.58 ft); minimum daily, 22 ft³/s Apr. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	40	1170	1300	2840	2210	1890	37	45	26	28	27
2	44	40	1170	1300	2840	2600	1890	30	45	26	27	27
3	44	37	1170	1300	2840	2640	1850	30	45	26	28	26
4	44	30	1170	1290	2840	2620	1870	31	47	26	28	26
5	44	35	1170	1260	2840	2610	1870	31	50	26	28	26
6	44	28	1300	1260	2830	2610	1870	42	52	26	28	26
7	44	32	1380	1260	2830	2670	1860	53	52	25	28	26
8	44	33	1270	1260	2820	2820	1860	53	52	25	28	26
9	39	37	1230	1260	2810	2830	1850	53	45	25	27	26
10	40	35	1180	1260	2810	2820	1840	57	45	25	27	26
11	42	31	1180	1250	2800	2820	1510	53	47	25	27	26
12	40	36	1170	1250	2800	2850	927	55	48	25	27	26
13	40	143	1030	1390	2800	2820	464	55	48	26	27	26
14	40	222	841	2080	2800	2800	166	56	44	27	27	26
15	40	226	782	2420	2800	2800	32	56	26	27	27	26
16	40	232	895	2420	2800	2790	25	56	26	27	27	26
17	40	227	1100	2490	2800	2790	23	51	26	27	27	26
18	40	287	1150	2490	2710	2780	22	52	26	27	27	26
19	40	338	1170	2480	2680	2760	25	51	26	27	27	26
20	40	340	1190	2480	2780	2750	25	52	26	27	27	27
21	40	341	1190	2480	2800	2740	25	52	26	27	27	27
22	40	341	1190	2560	2430	2720	25	52	26	27	26	26
23	40	341	1170	2570	1570	2710	27	53	26	27	27	26
24	40	580	1190	2570	750	2700	27	52	26	27	27	26
25	40	969	1330	2590	243	2710	118	50	26	27	27	25
26	41	1160	1530	2740	201	2690	224	51	26	28	27	26
27	41	1190	1600	2760	502	2680	227	48	26	27	27	26
28	40	1180	1520	2810	806	2420	254	48	26	27	26	26
29	40	1170	1440	2940	1410	2130	282	48	26	27	27	26
30	40	1170	1400	2960	---	2090	56	47	26	27	27	26
31	40	---	1300	2930	---	2020	---	45	---	27	27	---
TOTAL	1275	10871	37578	63410	66782	82000	23134	1500	1081	819	842	783
MEAN	41.1	362	1212	2045	2303	2645	771	48.4	36.0	26.4	27.2	26.1
MAX	44	1190	1600	2960	2840	2850	1890	57	52	28	28	27
MIN	39	28	782	1250	201	2020	22	30	26	25	26	25
AC-FT	2530	21560	74540	125800	132500	162600	45890	2980	2140	1620	1670	1550

CAL YR 1987 TOTAL 199325.50 MEAN 546 MAX 3020 MIN .00 AC-FT 395400
WTR YR 1988 TOTAL 290075 MEAN 793 MAX 2960 MIN 22 AC-FT 575400

07346045 BLACK CYPRESS BAYOU AT JEFFERSON, TX

LOCATION.--Lat 32°46'40", long 94°21'26", Marion County, Hydrologic Unit 11140306 near center of channel at downstream side of bridge on U.S. Highway 59, 1.1 mi north of Jefferson, 2.0 mi upstream from Texas and Pacific Railway Co. bridge, and 5.2 mi upstream from mouth.

DRAINAGE AREA.--365 mi².

PERIOD OF RECORD.--September 1968 to current year. May 1938 to September 1955 (daily gage heights) and November 1956 to August 1968 (daily gage heights and discharge measurements) published by U.S. Army Corps of Engineers as "Black Cypress Creek at Jefferson". September 1964 to August 1968 operated as low-flow partial-record station only.
Water-quality records.--Chemical analyses: October 1967 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 171.47 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--No estimated daily discharges. Records good except those below 25 ft³/s, which are fair. No known regulation or diversion in vicinity of gage. Gage-height telemeter at station.

AVERAGE DISCHARGE.--20 years (water years 1969-88), 321 ft³/s (11.94 in/yr), 232,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s Dec. 28, 1987 (gage height, 19.34 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1938, 22.42 ft Apr. 29, 1958, from records by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 28	1900	*11,600	*19.34	No other peaks greater than base discharge.			

Minimum discharge, no flow Sept. 18-29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	35	746	2660	310	464	654	111	11	1.7	3.1	.18
2	3.0	31	679	1780	303	414	698	103	9.9	1.6	2.9	.10
3	2.3	27	633	1400	299	453	681	100	8.7	1.2	2.5	.06
4	1.8	23	568	1160	293	462	641	97	9.2	.87	2.2	.05
5	1.8	19	483	988	288	448	724	89	14	.90	1.4	.04
6	1.6	15	501	866	283	486	1000	81	20	1.7	.77	.03
7	1.4	12	1150	801	278	574	1120	74	25	4.6	.48	.05
8	1.2	11	1380	739	280	781	987	75	24	30	.30	.05
9	.99	19	1420	683	279	1030	801	120	20	26	.23	.04
10	.84	94	1690	641	272	1060	654	100	17	19	.21	.03
11	.72	137	1650	609	270	1240	521	85	14	16	3.3	.03
12	.53	152	1600	598	274	1320	422	79	13	13	.90	.02
13	.38	210	1440	606	277	1200	357	67	8.4	15	.42	.02
14	.30	277	1230	601	280	1080	308	58	5.8	21	.27	.02
15	.45	321	986	598	284	926	273	51	3.8	28	.22	.01
16	1.7	385	794	628	284	778	246	45	2.8	36	1.0	.01
17	2.0	504	756	669	286	670	228	40	2.5	28	1.1	.01
18	2.1	596	954	714	543	634	225	37	2.6	19	.63	.00
19	2.2	608	1360	745	982	575	255	34	2.6	13	.37	.00
20	2.1	678	1520	748	1090	514	292	30	2.4	10	.34	.00
21	2.4	874	1350	724	1420	486	327	27	2.1	28	.99	.00
22	2.7	1150	1140	688	1730	485	352	26	2.0	80	5.0	.00
23	2.8	1120	1010	657	1810	485	332	28	1.9	69	2.9	.00
24	12	909	936	620	1570	493	294	22	1.9	38	2.6	.00
25	20	883	1260	568	1260	550	253	19	1.9	25	5.0	.00
26	51	789	2320	500	997	577	214	16	2.1	19	5.0	.00
27	70	704	4890	438	807	543	180	15	2.2	15	3.0	.00
28	32	747	10700	393	673	521	149	14	2.2	11	1.9	.00
29	18	924	10300	360	556	568	128	12	2.0	7.8	1.4	.00
30	29	869	7060	336	---	627	119	12	1.8	5.2	.69	.19
31	40	---	4370	320	---	649	---	11	---	3.7	.38	---
TOTAL	312.51	13123	66876	23838	18278	21093	13435	1678	236.8	588.27	51.50	0.94
MEAN	10.1	437	2157	769	630	680	448	54.1	7.89	19.0	1.66	.031
MAX	70	1150	10700	2660	1810	1320	1120	120	25	80	5.0	.19
MIN	.30	11	483	320	270	414	119	11	1.8	.87	.21	.00
AC-FT	620	26030	132600	47280	36250	41840	26650	3330	470	1170	102	1.9
CFSM	.03	1.20	5.91	2.11	1.73	1.86	1.23	.15	.02	.05	.00	.00
IN.	.03	1.34	6.82	2.43	1.86	2.15	1.37	.17	.02	.06	.01	.00

CAL YR 1987 TOTAL 159072.44 MEAN 436 MAX 10700 MIN .01 AC-FT 315500 CFSM 1.19 IN. 16.21
WTR YR 1988 TOTAL 159511.02 MEAN 436 MAX 10700 MIN .00 AC-FT 316400 CFSM 1.19 IN. 16.26

07346050 LITTLE CYPRESS CREEK NEAR ORE CITY, TX

LOCATION.--Lat 32°40'21", long 94°45'03", Upshur County, Hydrologic Unit 11140307, on right bank at downstream side of bridge on U.S. Highway 259, 4 mi downstream from Clear Creek, 9 mi south of Ore City, and 12 mi north of Longview.

DRAINAGE AREA.--383 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 232.67 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No known diversion above station. During the year, the city of Gilmer discharged a small amount of sewage effluent into a tributary above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years (water years 1964-88), 261 ft³/s (9.25 in/yr), 189,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft³/s Apr. 24, 1966 (gage height, 20.20 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902 occurred in March 1945; maximum stage since 1945, that of Apr. 24, 1966. The flood in April 1958 reached a stage of 19.4 ft, or 1.3 ft lower than the flood of March 1945 at a point 6 mi upstream, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 27	1500	*14,400	*16.40	Feb. 22	0830	2,040	10.90

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	12	647	1560	179	319	496	53	7.7	5.8	1.2	.00
2	3.8	7.7	502	1230	176	282	556	59	8.3	5.1	.98	.00
3	4.0	5.8	377	1010	178	454	996	57	8.7	4.3	.79	.00
4	2.3	6.3	274	851	183	539	1180	50	9.3	26	.61	.00
5	1.4	6.3	182	721	186	650	1020	43	10	86	.45	.00
6	.90	5.5	268	604	189	1170	873	41	32	89	.33	.00
7	.60	5.0	922	529	192	1160	699	38	39	85	.24	.00
8	.42	5.1	993	455	196	987	536	43	24	53	.16	.00
9	.29	13	1220	400	197	994	409	76	15	25	.11	.00
10	.19	64	1600	370	190	1090	314	77	11	17	.07	.00
11	.09	96	1420	358	189	1130	238	57	9.0	12	.05	.00
12	.02	96	1130	377	200	1130	185	46	7.6	14	.04	.00
13	.00	94	937	421	210	980	152	36	6.7	12	.03	.00
14	.00	80	906	447	214	789	131	29	5.3	18	.02	.00
15	.00	50	916	480	213	681	118	27	4.3	23	.0	.00
16	.00	96	809	568	213	686	107	25	3.8	23	.00	.00
17	.00	243	716	691	214	670	99	23	3.5	15	.00	.00
18	.00	247	754	721	639	712	128	21	2.7	9.9	.00	.00
19	.00	238	860	697	1410	710	220	19	2.1	7.4	.00	.00
20	.00	251	958	671	1510	634	254	17	1.5	6.0	.00	.00
21	.00	294	923	650	1760	646	231	16	1.1	4.8	.00	.00
22	.00	330	824	599	2000	770	203	15	4.5	4.0	.03	.00
23	1.8	328	765	528	1720	749	170	14	5.5	3.4	.03	.00
24	9.0	267	781	458	1360	638	127	13	4.9	2.6	.04	.00
25	7.0	367	886	390	1070	601	96	13	6.6	2.2	.03	.00
26	7.5	707	3920	326	849	561	77	14	13	1.8	.01	.00
27	22	972	12600	271	689	472	65	13	6.9	1.6	.00	.00
28	43	981	12000	233	540	404	56	11	6.7	1.7	.00	.00
29	42	854	6350	206	414	404	51	9.8	6.4	1.6	.00	.00
30	33	764	3360	189	---	482	49	9.0	6.3	1.6	.00	.00
31	20	---	2120	181	---	519	---	8.3	---	1.3	.00	---
TOTAL	202.51	7485.7	60920	17192	17280	22013	9836	973.1	273.4	563.1	5.22	0.00
MEAN	6.53	250	1965	555	596	710	328	31.4	9.11	18.2	.17	.00
MAX	43	981	12600	1560	2000	1170	1180	77	39	89	1.2	.00
MIN	.00	5.0	182	181	176	282	49	8.3	1.1	1.3	.00	.00
AC-FT	402	14850	120800	34100	34270	43660	19510	1930	542	1120	10	.0
CFSM	.02	.65	5.13	1.45	1.56	1.85	.86	.08	.02	.05	.00	.00
IN.	.02	.73	5.92	1.67	1.68	2.14	.96	.09	.03	.05	.00	.00

CAL YR 1987 TOTAL 150138.22 MEAN 411 MAX 12600 MIN .00 AC-FT 297800 CFSM 1.07 IN. 14.58
WTR YR 1988 TOTAL 136744.03 MEAN 374 MAX 12600 MIN .00 AC-FT 271200 CFSM .98 IN. 13.28

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX

LOCATION (REVISED).--Lat 32°42'46", long 94°20'45", Marion County, Hydrologic Unit 11140307, at downstream side of upstream bridge on U.S. Highway 59, 0.3 mi downstream from Texas and Pacific Railway Co. bridge, 3.3 mi downstream from Grays Creek, 3.5 mi south of Jefferson, and 6.8 mi upstream from mouth.

DRAINAGE AREA.--675 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 174.60 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1947, nonrecording gage at upstream side of bridge at same datum.

REMARKS.--No estimated daily discharges. Records good. No known diversion above station, but some sewage effluent is discharged into tributaries that enter Little Cypress Creek above this station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--42 years (water years 1947-88), 504 ft³/s (10.14 in/yr), 365,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,500 ft³/s Apr. 26, 1966 (gage height, 22.28 ft); no flow at times. Maximum stage since May 1944, that of Apr. 26, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1944 reached a stage of 21.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,600 ft³/s Dec. 29 at 1700 hours (gage height, 17.26 ft); minimum, 0.07 ft³/s Oct. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	42	974	6360	496	1290	891	130	15	4.5	1.2	.35
2	1.4	42	928	4560	446	1120	1020	125	14	18	1.0	.52
3	.73	38	901	3320	409	1030	1170	119	11	15	.87	1.5
4	.50	30	871	2550	384	977	1110	109	9.8	11	.86	2.9
5	.43	22	819	2030	363	911	1020	105	8.0	8.2	1.1	3.2
6	.42	15	839	1680	345	838	967	100	6.5	5.9	.90	2.5
7	.29	9.9	1190	1520	333	774	970	96	5.5	14	.72	2.2
8	.24	5.9	1450	1370	331	765	1100	87	5.6	81	.54	2.2
9	.24	8.1	1880	1230	329	842	1190	83	7.5	95	.43	2.0
10	.20	27	2170	1120	326	949	1150	81	11	86	.38	2.0
11	.18	124	1930	1020	329	1150	1050	83	25	70	4.3	2.5
12	.15	209	1550	970	341	1320	932	102	26	49	7.5	3.0
13	.12	243	1370	935	352	1450	793	110	21	31	4.0	2.5
14	.09	235	1320	894	360	1490	650	101	17	22	1.7	1.7
15	.08	191	1380	848	363	1530	527	83	13	17	.94	1.2
16	.08	217	1400	832	361	1510	422	69	11	16	.72	.96
17	.08	234	1300	835	357	1390	328	59	8.9	19	.62	.86
18	.08	252	1190	835	761	1330	335	50	7.0	21	.60	.90
19	.13	288	1120	825	1660	1320	303	43	5.8	21	.50	1.2
20	.12	301	1140	806	2100	1280	269	36	5.0	19	.45	1.5
21	.08	305	1130	809	2260	1250	244	33	4.6	17	.41	1.6
22	.08	301	1120	835	2200	1230	247	31	4.4	14	.46	1.5
23	.08	284	1130	851	2010	1140	270	28	4.0	11	.70	1.5
24	1.1	279	1170	851	1810	1040	283	25	3.4	8.3	1.3	1.5
25	2.0	366	1370	822	1740	984	287	23	2.9	7.2	1.3	1.3
26	4.3	523	3930	790	1850	999	266	21	2.3	5.9	1.2	1.3
27	9.2	555	10100	756	1860	1020	237	19	2.2	4.8	1.1	1.1
28	6.3	645	10100	713	1670	1030	195	18	1.8	3.6	.90	.96
29	4.5	845	11700	664	1490	999	158	17	1.5	2.8	.74	1.0
30	20	984	11600	617	---	967	141	17	1.5	2.0	.59	1.5
31	37	---	8880	547	---	939	---	17	---	1.6	.43	---
TOTAL	92.40	7620.9	87952	42795	27636	34864	18525	2020	262.2	701.8	38.46	48.95
MEAN	2.98	254	2837	1380	953	1125	617	65.2	8.74	22.6	1.24	1.63
MAX	37	984	11700	6360	2260	1530	1190	130	26	95	7.5	3.2
MIN	.08	5.9	819	547	326	765	141	17	1.5	1.6	.38	.35
AC-FT	183	15120	174500	84880	54820	69150	36740	4010	520	1390	76	97
CFSM	.00	.38	4.20	2.05	1.41	1.67	.91	.10	.01	.03	.00	.00
IN.	.01	.42	4.85	2.36	1.52	1.92	1.02	.11	.01	.04	.00	.00

CAL YR 1987 TOTAL 227143.00 MEAN 622 MAX 11700 MIN .06 AC-FT 450500 CFSM .92 IN. 12.52
WTR YR 1988 TOTAL 222556.71 MEAN 608 MAX 11700 MIN .08 AC-FT 441400 CFSM .90 IN. 12.27

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: June 1964 to current year. Pesticide analyses: January 1968 to June 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURE: October 1967 to current year.

INSTRUMENTATION.--Beginning June 1981, specific conductance and water 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, 1,350 microsiemens Nov. 9, 1969; minimum, 38 microsiemens June 27, 1986, Mar. 22, 23, 1987.
WATER TEMPERATURE (1967-87): Maximum, 32.5°C on several days during July and August 1987; minimum, 0.0°C on several days during winter months of 1983, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 480 microsiemens Nov. 8; minimum, 47 microsiemens Dec. 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 18...	1500	260	126	6.30	12.0	8.2	76	0.2	19	11
JAN 13...	1200	910	104	5.20	3.0	12.4	91	0.4	23	18
APR 05...	1615	1010	125	6.70	19.0	7.2	78	1.0	28	13
MAY 25...	1230	23	160	5.70	21.0	5.1	57	0.7	33	11
JUL 13...	1000	31	143	--	--	--	--	0.9	25	12
AUG 23...	1200	0.50	167	6.40	29.0	5.0	66	0.8	33	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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 18...	4.5	1.9	12	1	4.3	8	20	19	0.10	14
JAN 13...	5.2	2.4	11	1	2.8	5	19	18	0.10	17
APR 05...	6.8	2.6	11	0.9	2.6	15	18	15	0.10	12
MAY 25...	7.6	3.4	18	1	3.1	22	17	24	0.30	21
JUL 13...	6.2	2.4	16	1	4.5	13	28	15	0.10	14
AUG 23...	7.9	3.3	21	2	4.4	41	16	24	0.10	12

DATE	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)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
NOV 18...	81	--	<0.010	<0.100	0.030	0.57	0.60	0.070	<1	51
JAN 13...	79	--	0.020	<0.100	0.020	0.38	0.40	0.030	<1	48
APR 05...	77	--	0.020	<0.100	0.070	0.63	0.70	0.090	--	--
MAY 25...	108	0.280	0.020	0.300	0.050	0.75	0.80	0.120	--	--
JUL 13...	95	--	0.330	--	0.160	--	<0.20	0.130	1	60
AUG 23...	115	--	<0.010	<0.100	<0.010	--	0.60	0.050	1	60

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	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 18...	<1	1	5	660	<5	61	0.1	<1	2.0	20
JAN 13...	<1	<1	3	400	6	31	0.3	<1	<1.0	13
APR 05...	--	--	--	--	--	--	--	--	--	--
MAY 25...	--	--	--	--	--	--	--	--	--	--
JUL 13...	6	2	3	610	<5	250	<0.1	<1	<1.0	36
AUG 23...	<1	<1	3	810	<5	850	<0.1	<1	<1.0	68

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	92.40	239	146	36	43	11	23	5.7	37
NOV.	1987	7620.9	123	79	1630	20	403	15	307	24
DEC.	1987	87952	70	47	11200	10	2460	9.6	2290	15
JAN.	1988	42795	96	63	7270	15	1690	12	1430	20
FEB.	1988	27636	110	72	5370	17	1280	14	1040	22
MAR.	1988	34864	116	76	7140	18	1690	15	1390	23
APR.	1988	18525	124	81	4030	19	969	16	776	24
MAY	1988	2020	155	99	539	25	137	18	99	29
JUNE	1988	262.2	185	116	82	31	22	20	14	33
JULY	1988	701.8	159	101	192	26	49	18	35	29
AUG.	1988	38.46	156	100	10	25	2.6	18	1.9	29
SEPT	1988	48.95	193	121	16	33	4.3	21	2.8	33
TOTAL		222556.71	**	**	37500	**	8730	**	7400	**
WTD.AVG.		608	95	62	**	15	**	12	**	19

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	278	251	266	183	151	169	106	103	105	56	50	53
2	298	274	288	157	138	143	103	100	102	62	56	59
3	306	293	300	179	159	174	100	98	99	70	62	66
4	309	305	307	214	177	193	100	98	98	78	70	74
5	311	308	310	308	217	263	106	99	103	84	78	81
6	314	309	311	442	309	370	111	105	109	90	85	87
7	316	311	313	474	445	460	104	91	94	96	90	93
8	317	312	314	480	474	478	92	88	90	102	96	99
9	315	310	313	477	435	468	89	70	80	109	102	105
10	312	310	311	443	417	433	74	68	70	117	109	113
11	313	311	312	415	212	322	85	74	80	125	117	121
12	313	311	312	230	114	158	90	85	87	127	121	124
13	314	312	313	121	100	105	95	90	92	123	122	122
14	315	314	314	175	124	157	97	94	96	125	123	124
15	315	313	314	176	173	175	95	91	93	126	125	126
16	316	313	314	173	161	169	93	91	92	130	126	128
17	315	313	314	159	131	141	97	93	94	134	130	132
18	315	311	313	144	117	130	106	97	102	135	132	134
19	320	312	315	119	115	118	110	106	109	132	129	131
20	322	311	317	134	115	123	110	108	109	130	127	129
21	321	314	318	138	135	137	110	108	109	128	127	127
22	321	317	318	138	134	136	110	109	109	128	127	128
23	320	317	318	133	123	129	112	110	110	132	128	130
24	319	280	298	123	116	119	119	112	116	133	131	132
25	281	255	270	116	91	106	116	103	110	135	132	133
26	260	229	239	99	90	95	103	47	78	138	134	136
27	276	235	259	97	94	95	57	48	52	142	138	140
28	266	264	265	96	93	95	60	53	55	147	142	145
29	268	263	266	97	93	94	67	56	62	148	146	147
30	286	255	274	106	97	102	60	48	53	149	146	148
31	246	170	193	---	---	---	50	48	49	149	148	149
MONTH	322	170	296	480	90	195	119	47	91	149	50	117

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	153	150	151	116	112	114	132	127	131	153	150	151
2	156	152	154	122	116	119	127	111	117	153	149	151
3	160	155	157	128	122	126	119	113	117	149	148	149
4	163	159	161	130	127	128	123	119	121	149	148	149
5	165	163	164	130	128	129	127	123	125	158	148	153
6	167	165	165	138	130	133	128	118	122	162	158	160
7	168	167	167	140	136	138	119	115	117	162	156	159
8	167	166	167	135	125	130	115	108	111	157	153	155
9	170	164	166	125	121	123	109	108	109	154	150	152
10	169	164	166	122	117	121	113	109	111	151	148	150
11	167	164	165	117	110	113	119	113	115	151	149	150
12	170	166	169	112	107	108	123	118	121	150	145	147
13	170	165	168	108	106	107	128	123	126	174	150	158
14	166	162	164	106	103	105	133	128	131	177	156	168
15	166	162	164	103	100	102	138	133	136	156	148	151
16	175	166	169	105	101	103	143	138	140	151	147	149
17	169	166	168	107	104	105	144	142	143	154	151	152
18	164	89	127	108	105	107	143	138	141	157	154	156
19	87	78	80	109	107	108	142	141	142	157	156	157
20	79	77	78	109	108	109	144	141	142	158	156	157
21	82	78	79	111	108	109	147	143	145	158	156	157
22	92	83	89	117	111	114	148	137	144	158	155	157
23	96	91	93	121	118	119	136	127	130	160	158	159
24	97	95	96	122	120	121	131	128	129	160	158	160
25	102	97	100	120	117	119	135	131	133	164	160	162
26	107	102	103	118	116	117	140	134	137	166	164	165
27	115	103	105	119	116	118	146	140	142	167	165	166
28	117	106	108	124	119	121	149	146	148	167	165	166
29	116	109	111	130	124	127	152	147	150	167	166	166
30	---	---	---	132	130	131	152	150	151	169	167	168
31	---	---	---	132	131	132	---	---	---	170	168	168
MONTH	175	77	136	140	100	118	152	108	131	177	145	157

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	179	169	170	215	205	209	173	141	155	197	194	195
2	172	170	171	234	215	227	171	142	154	195	191	193
3	174	172	173	223	206	215	176	141	151	195	182	190
4	174	172	173	208	191	202	179	140	159	199	186	194
5	176	172	174	201	187	193	186	137	157	206	200	202
6	177	174	175	189	183	185	184	136	158	211	205	208
7	179	174	176	187	181	185	183	137	159	217	208	214
8	216	176	184	211	170	186	182	137	156	222	217	220
9	210	176	186	172	152	159	183	137	153	226	220	223
10	196	182	187	163	151	157	187	137	158	225	221	223
11	190	187	188	151	143	147	145	92	117	222	210	216
12	189	173	181	149	143	146	171	111	139	213	192	201
13	182	173	178	148	144	147	190	129	149	197	180	189
14	191	183	188	147	143	145	195	133	162	190	179	184
15	195	191	192	144	142	143	195	140	163	186	179	182
16	196	190	192	144	141	143	192	142	159	183	178	181
17	197	191	193	143	141	142	194	143	161	182	178	180
18	195	191	193	141	139	140	200	144	162	181	177	179
19	197	192	194	140	138	139	194	143	160	178	174	176
20	208	194	198	140	138	139	191	142	158	176	172	174
21	200	195	198	141	138	139	188	141	156	176	169	173
22	227	198	204	140	138	139	187	139	155	173	169	171
23	223	199	204	139	137	138	184	138	170	172	169	171
24	206	202	204	139	134	138	192	183	189	172	169	171
25	211	202	205	138	133	136	195	192	194	182	174	178
26	212	204	207	139	134	136	197	195	196	183	175	179
27	212	206	208	141	135	139	198	194	196	180	177	178
28	209	206	208	142	137	139	196	194	195	181	178	179
29	211	207	208	142	138	140	196	193	195	181	178	180
30	210	206	208	153	140	142	197	194	195	181	174	178
31	---	---	---	144	141	142	197	194	195	---	---	---
MONTH	227	169	191	234	133	157	200	92	165	226	169	189

07346140 FRAZIER CREEK NEAR LINDEN, TX

LOCATION.--Lat 33°03'14", long 94°17'24", Cass County, Hydrologic Unit 11140306, on right bank at downstream side of bridge on U.S. Highway 59, 1.6 mi upstream from Colley Creek, 3.7 mi upstream from Johns Creek, and 5.3 mi north east of Linden.

DRAINAGE AREA.--48.0 mi².

PERIOD OF RECORD.--August 1958 to June 1961 (low-flow partial record only), November 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 228.7 ft above National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation bridge plans).

REMARKS.--No estimated daily discharges. Records good. No known diversion. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years (water years 1966-88), 40.9 ft³/s (11.57 in/yr), 29,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,060 ft³/s Dec. 26, 1987 (gage height, 12.57); no flow at times for most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1945, 15.6 ft Apr. 26, 27, 1958, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 7	1300	1,190	9.69	Dec. 26	1100	*6,060	*12.57

Minimum discharge, no flow June 28, July 1-11, July 30 to Aug. 12, and Sept. 22-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	2.6	32	150	43	34	58	12	1.3	.0	.0	12
2	.52	2.3	29	121	41	37	86	11	1.2	.0	.0	11
3	.37	2.2	26	105	41	118	183	10	1.1	.0	.0	9.8
4	.19	2.1	24	103	44	114	91	10	1.1	.0	.0	8.9
5	.13	1.8	22	93	40	59	60	8.7	1.0	.0	.0	7.9
6	.08	1.7	120	87	34	45	55	8.4	1.0	.0	.0	7.0
7	.01	1.6	806	102	31	41	49	7.0	1.5	.0	.0	6.2
8	.04	1.5	412	99	32	75	39	6.9	3.4	.0	.0	5.3
9	.09	8.0	181	84	32	222	35	8.7	1.2	.0	.0	4.5
10	.01	72	97	62	31	187	30	8.4	.41	.0	.0	3.7
11	.01	88	73	63	46	87	33	6.2	.23	.0	.0	3.1
12	.01	40	60	91	42	70	34	5.1	.29	.27	.0	2.7
13	.01	20	71	133	46	66	29	26	.13	14	2.2	2.1
14	.01	15	178	93	45	48	24	22	.03	4.3	7.5	1.5
15	.01	14	233	92	40	41	22	10	.01	1.7	7.4	1.1
16	.01	74	169	113	32	39	19	6.9	.01	1.5	8.2	.72
17	.01	176	94	131	30	40	29	5.3	.01	.88	8.4	.45
18	.07	173	80	125	207	77	108	4.2	.01	.39	9.5	.20
19	.56	58	94	101	442	63	83	3.7	.01	.72	12	.01
20	9.0	36	170	88	358	53	40	3.5	.15	1.7	13	.01
21	3.5	27	141	69	180	45	28	3.3	.30	6.4	14	.01
22	2.1	22	91	57	97	39	24	3.1	.15	5.9	14	.0
23	1.3	23	74	57	71	37	21	3.1	.01	5.8	14	.0
24	3.0	40	73	57	55	37	17	3.2	.01	6.4	15	.0
25	32	105	211	52	48	84	15	3.1	.0	5.2	19	.0
26	25	200	3320	45	43	105	14	2.9	.01	2.3	17	.0
27	36	124	2080	44	42	55	14	2.6	.01	.73	17	.0
28	14	68	361	42	41	42	12	2.1	.0	.11	17	.0
29	6.2	50	272	42	38	45	11	1.8	.01	.01	16	.0
30	4.2	39	162	42	---	105	11	1.5	.01	.0	15	.0
31	3.0	---	154	43	---	75	---	1.5	---	.0	14	---
TOTAL	141.53	1487.8	9910	2586	2272	2185	1274	212.2	14.60	58.31	240.2	88.20
MEAN	4.57	49.6	320	83.4	78.3	70.5	42.5	6.85	.49	1.88	7.75	2.94
MAX	36	200	3320	150	442	222	183	26	3.4	14	19	12
MIN	.01	1.5	22	42	30	34	11	1.5	.00	.00	.00	.00
AC-FT	281	2950	19660	5130	4510	4330	2530	421	29	116	476	175
CFSM	.10	1.03	6.66	1.74	1.63	1.47	.88	.14	.01	.04	.16	.06
IN.	.11	1.15	7.68	2.00	1.76	1.69	.99	.16	.01	.05	.19	.07

CAL YR 1987 TOTAL 20565.12 MEAN 56.3 MAX 3320 MIN .00 AC-FT 40790 CFSM 1.17 IN. 15.94
WTR YR 1988 TOTAL 20469.84 MEAN 55.9 MAX 3320 MIN .00 AC-FT 40600 CFSM 1.17 IN. 15.86

SABINE RIVER MAIN STEM

08017200 COWLEECH FORK SABINE RIVER AT GREENVILLE, TX

LOCATION.--Lat 33°07'58", long 96°04'36", Hunt County, Hydrologic Unit 12010001, on left bank 103 ft downstream from centerline of downstream bridge on Interstate Highway 30 (U.S. Highway 67), 0.3 mi downstream from Horse Creek, 0.9 mi downstream from Louisiana and Arkansas Railroad Co. bridge, 1.8 mi east of Greenville, and at mile 558.3.

DRAINAGE AREA.--77.7 mi².

PERIOD OF RECORD.--February 1959 to current year. Prior to October 1963, published as Sabine River at Greenville.

REVISED RECORDS.--WSP 1732: Drainage area. WSP 2122: 1960, 1963-65.

GAGE.--Water-stage recorder. Datum of gage is 485.07 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. The city of Greenville diverted water from city lakes upstream from the gage and from Lake Tawakoni for municipal use. Sewage effluent is returned to a tributary downstream from gage. Extreme low flow is largely sustained by return water from water treatment plant upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years (water years 1960-88), 61.1 ft³/s (10.68 in/yr), 44,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,300 ft³/s May 13, 1982 (gage height, 18.47 ft); no flow in 1964, 1969-70, 1972-73, and 1977-88.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1895, 22 ft in May 1935, from information by local resident and city engineer of Greenville. Flood of July 3, 1913, reached a stage of 20 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 16	1100	3,420	16.22	July 12	1800	3,680	16.30
Dec. 26	0900	*4,810	a*16.63				

a From graph.

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.00	11	e5.7	2.6	3.1	20	1.4	.63	.00	.00	.00
2	.0	.00	8.9	e4.9	2.9	13	191	1.2	.05	.00	.00	.00
3	.00	.00	7.6	e4.1	3.0	145	30	1.2	.00	.00	.00	.00
4	.00	.00	6.6	e3.5	3.0	27	14	.74	.17	.01	.00	2.2
5	.00	.00	6.0	e3.2	3.0	13	9.7	.54	.05	.06	.00	.33
6	.00	.00	161	e3.0	3.0	8.5	7.6	.43	.00	.00	.00	.08
7	.00	.00	191	e3.3	3.0	6.6	6.6	.40	.00	.00	.00	.03
8	.00	43	33	e3.0	3.0	5.4	6.8	.77	.00	.00	.00	.00
9	.00	435	18	e2.6	3.1	4.4	6.5	.67	.00	.00	.00	.00
10	.00	256	12	e2.3	3.1	3.8	5.2	.35	.00	.00	.00	.00
11	.00	30	8.7	e1.8	3.1	3.3	5.3	.22	.00	.09	.00	.00
12	.00	12	6.9	e147	3.1	48	4.7	.19	.00	1580	.00	.00
13	.00	7.3	41	e384	3.2	17	4.1	.12	.00	342	.00	.00
14	.00	5.6	221	e57	3.2	6.3	4.1	.10	.00	13	.00	.00
15	.00	284	98	e21	3.3	4.2	4.2	.08	.00	3.5	.12	.00
16	.00	2460	e23	e13	3.2	3.3	4.5	.07	.00	1.2	.12	.00
17	.00	330	e10	e11	7.3	5.9	156	.05	.00	.63	.04	.00
18	.00	36	e6.2	e12	127	74	1090	.07	.00	.33	.01	.00
19	.32	16	e1130	e6.3	519	18	55	.04	.00	.21	.0	.00
20	.44	11	e1390	e4.2	57	7.2	17	.00	.00	1.6	.00	.00
21	.09	7.9	e91	e3.5	17	5.0	8.8	.00	.00	.35	.00	.00
22	.05	6.3	e20	e3.0	10	3.5	6.5	.00	.00	.20	.00	.00
23	.03	5.1	e11	e2.7	7.3	3.0	5.1	.00	.02	.19	.00	.00
24	.03	4.1	e938	e2.6	5.4	2.8	3.7	.00	.03	.13	.00	.00
25	.50	515	e1500	e2.4	4.6	2.8	2.8	.00	.00	.08	.00	.00
26	.55	100	e3570	2.3	3.9	3.5	2.5	.00	.00	.05	.00	.00
27	.36	46	e345	2.3	3.7	3.6	1.9	.00	.00	.04	.00	.00
28	.05	48	e30	2.2	3.5	3.1	1.6	.00	.00	.00	.00	.00
29	.01	25	e13	2.0	3.3	449	1.9	1.3	.00	.00	.00	.00
30	.00	15	e8.9	2.1	---	756	1.9	.20	.00	.00	.00	2.0
31	.00	---	e7.0	2.3	---	32	---	.05	---	.00	.00	---
TOTAL	2.50	4698.30	9923.8	720.3	817.8	1681.3	1679.0	10.19	0.95	1943.67	0.29	4.64
MEAN	.081	157	320	23.2	28.2	54.2	56.0	.33	.032	62.7	.009	.15
MAX	.55	2460	3570	384	519	756	1090	1.4	.63	1580	.12	2.2
MIN	.00	.00	6.0	1.8	2.6	2.8	1.6	.00	.00	.00	.00	.00
AC-FT	5.0	9320	19680	1430	1620	3330	3330	20	1.9	3860	.6	9.2
CFSM	.00	2.02	4.12	.30	.36	.70	.72	.00	.00	.81	.00	.00
IN.	.00	2.25	4.75	.34	.39	.80	.80	.00	.00	.93	.00	.00

CAL YR 1987 TOTAL 27030.90 MEAN 74.1 MAX 3570 MIN .00 AC-FT 53620 CFSM .95 IN. 12.94
WTR YR 1988 TOTAL 21482.74 MEAN 58.7 MAX 3570 MIN .00 AC-FT 42610 CFSM .76 IN. 10.29

e Estimated.

08017300 SOUTH FORK SABINE RIVER NEAR QUINLAN, TX

LOCATION.--Lat 32°53'52", long 96°15'11", Hunt County, Hydrologic Unit 12010001, on right bank at downstream side of bridge on Farm Road 1565, 2.4 mi upstream from Dry Creek, 6.2 mi upstream from Bearpen Creek, 7 mi southwest of Quinlan, and 25 mi upstream from mouth.

DRAINAGE AREA.--78.7 mi².

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

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 461.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. The city of Royse City discharged sewage effluent into the river above this station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years (water years 1960-88), 78.2 ft³/s (13.49 in/yr), 56,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,000 ft³/s June 16, 1981 (gage height, 18.24 ft); maximum gage height, 18.77 ft Apr. 5, 1986; no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1890, 21 ft July 29, 1902, from information by local resident. Flood of Apr. 27, 1957, reached a stage of 17.76 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 26	1315	*7,520	*16.98	July 13	0045	5,130	16.56

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	3.4	14	1.5	.97	13	.10	.01	.00	.00	.00
2	.00	.00	1.4	9.1	.82	9.6	87	.11	.01	.00	.00	.00
3	.00	.00	.92	6.9	.61	80	22	.10	.04	.00	.00	.00
4	.00	.00	.60	5.7	.49	34	6.8	.08	.09	.00	.00	.29
5	.00	.00	.59	4.4	.44	17	2.7	.07	.04	.00	.00	.44
6	.00	.00	331	4.1	.38	7.9	1.1	.06	.02	.00	.00	.10
7	.00	.00	596	5.0	1.4	4.3	.44	.06	.01	.00	.00	.03
8	.00	.11	59	e3.1	1.3	2.5	.28	.05	.01	.00	.00	.00
9	.00	.10	26	e2.3	.96	1.5	.23	.05	.01	.00	.00	.00
10	.00	.03	13	e2.1	.74	.90	.17	.05	.01	.00	.00	.00
11	.00	.00	6.6	2.0	.63	.66	.12	.05	.00	.00	.00	.00
12	.00	.00	3.7	163	.59	.62	.11	.04	.00	1130	.00	.00
13	.00	.00	7.4	219	.55	.93	.15	.03	.00	1760	.00	.00
14	.00	.00	97	48	.55	.59	.14	.03	.00	74	.00	5.2
15	.00	29	58	28	.51	.38	.13	.03	.00	e26	.00	.12
16	.00	295	21	19	.43	.29	.13	.03	.00	e5.3	.00	.04
17	.00	125	9.7	18	.43	.75	75	.04	.00	e.15	.00	.02
18	.00	23	6.0	18	166	38	512	.03	.00	e.00	.00	.00
19	.00	9.3	238	9.8	326	15	47	.03	.00	e.00	.00	.00
20	.00	4.2	459	6.5	58	5.1	13	.03	.00	e.00	.00	.00
21	.00	2.5	57	3.8	24	2.1	3.9	.03	.00	e.00	.00	.00
22	.00	1.7	28	2.1	11	1.0	1.2	.02	.00	e.00	.00	.00
23	.00	1.0	15	1.5	6.0	.67	.28	.02	.00	e.00	.00	.00
24	.00	.94	258	1.2	3.2	.58	.22	.01	.00	e.00	.00	.00
25	.00	278	378	.95	1.6	.55	.11	.01	.00	e.00	.00	.00
26	.00	86	4040	.74	1.0	.53	.08	.01	.00	e.00	.00	.00
27	.00	30	1430	.61	1.0	.33	e.07	.01	.00	e.00	.00	.00
28	.00	43	132	.57	1.2	.26	e.06	.00	.00	.00	.00	.00
29	.00	15	41	.56	1.0	125	e.05	.00	.00	.00	.00	.00
30	.00	6.7	26	1.1	---	128	.09	.00	.00	.00	.00	.00
31	.00	---	19	2.2	---	23	---	.00	---	.00	.00	---
TOTAL	0.00	950.58	8362.31	603.33	612.33	503.01	787.56	1.18	0.25	2995.45	0.00	6.24
MEAN	.00	31.7	270	19.5	21.1	16.2	26.3	.038	.008	96.6	.00	.21
MAX	.00	295	4040	219	326	128	512	.11	.09	1760	.00	5.2
MIN	.00	.00	.59	.56	.38	.26	.05	.00	.00	.00	.00	.00
AC-FT	.00	1890	16590	1200	1210	998	1560	2.3	.5	5940	.00	12
CFSM	.00	.40	3.43	.25	.27	.21	.33	.00	.00	1.23	.00	.00
IN.	.00	.45	3.95	.29	.29	.24	.37	.00	.00	1.42	.00	.00

CAL YR 1987 TOTAL 20825.39 MEAN 57.1 MAX 4040 MIN .00 AC-FT 41310 CFSM .72 IN. 9.84
WTR YR 1988 TOTAL 14822.24 MEAN 40.5 MAX 4040 MIN .00 AC-FT 29400 CFSM .51 IN. 7.01

e Estimated.

08017400 LAKE TAWAKONI NEAR WILLS POINT, TX

LOCATION.--Lat 32°48'31", long 95°55'10", Van-Zandt County, Hydrologic Unit 12010001, in stairwell at left end of spillway of Iron Bridge Dam on Sabine River, 750 ft upstream from bridge on Farm Road 47, 3.8 mi upstream from McBee Creek, 9.0 mi northeast of Wills Point, and at mile 514.5.

DRAINAGE AREA.--756 mi².

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

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

REMARKS.--Lake is formed by a rolled earthfill dam 29,500 ft long, including a 480-foot uncontrolled concrete ogee spillway. Outlet works consist of two 4- by 6-foot sluice gates and two 20-inch steel pipes controlled by service valves. Closure of earthen dam began July 1, 1960, and deliberate impoundment of water began Oct. 7, 1960. Capacity table is based on a 1956 survey. Diversions are made for municipal use by the city of Dallas and various other users in the Sabine River basin. The lake was built for water conservation. 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	454.0	-
Design flood	446.2	1,290,000
Crest of spillway	437.5	936,200
Lowest intake to wet well (invert)	416.5	342,700
Lowest gated outlet (invert)	378.0	0

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,130,000 acre-ft May 1, 1966 (elevation, 442.58 ft); minimum since lake first filled in May 1965, 802,700 acre-ft Oct. 21, 1972 (elevation, 433.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 973,900 acre-ft Dec. 28 at 1400 hours (elevation, 438.53 ft); minimum, 823,500 acre-ft Sept. 29 (elevation, 434.27 ft).

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

434.0	814,300	436.0	882,800	438.0	954,300
435.0	848,200	437.0	918,200	439.0	991,200

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	861500	835000	872300	961000	939900	939900	938800	929700	908400	881800	886000	850600
2	860800	834600	871300	958000	938100	945300	938400	929400	908000	880400	884900	849600
3	858000	834000	872000	956200	939100	945600	938400	928700	908400	880700	884600	849200
4	856200	833600	871300	954700	936200	943500	937300	927600	909400	880000	883500	847800
5	855500	832600	870600	951400	934800	944600	938100	927200	908700	879000	882400	846800
6	853800	830200	874800	952500	933000	942400	937000	926100	907700	878300	881400	845100
7	852400	829200	878600	952500	932600	941300	936200	925000	907000	877200	880000	843400
8	849900	831600	881100	950000	932300	941700	935900	925800	905900	877900	879000	842800
9	849600	839700	880400	949300	932300	939900	938400	926100	904900	876900	877600	842100
10	849600	840700	880400	946700	934800	938100	934100	925400	903500	875800	875500	841400
11	848500	839000	881100	945300	931500	940600	932600	925000	902100	875200	873800	840000
12	846500	837700	879700	948900	930500	940900	930100	924000	901000	893800	874100	839000
13	845100	836700	880000	950700	929000	939900	929700	923600	900000	903000	874100	839000
14	844500	835700	888100	951400	930800	936600	929400	922500	899300	908300	872700	838400
15	843800	842800	883200	950700	928700	935900	929000	921800	898200	907600	871700	836700
16	844100	852700	883200	950000	928300	935500	928700	921400	897200	906500	870300	836300
17	843800	858300	882500	949600	932600	942800	929400	920700	896800	905400	869600	835300
18	841700	862900	882500	948900	939900	939100	934400	920000	895800	904400	868300	833300
19	844500	862200	887400	948900	943500	936600	936200	918900	894700	903300	867200	834300
20	843100	861500	893300	947500	945300	935900	935900	918500	893700	902600	866500	832900
21	839700	859700	895100	945300	944900	935200	935900	917800	893300	901200	865100	831900
22	838700	860100	895400	944900	943800	934400	935900	916400	892300	899800	863400	831200
23	840700	860100	895800	943100	943800	934400	935500	915400	891200	898400	862400	830200
24	841400	860400	903100	943500	942800	934800	934100	914300	889800	896900	861300	829900
25	841400	867400	914000	940200	942000	934400	933700	913300	889100	895500	860000	828200
26	840400	872000	944200	939500	941700	933700	934400	912200	888400	893800	858600	826900
27	839000	874100	966900	938800	941300	931900	931500	911200	887700	892700	856800	825200
28	837700	873400	973500	938100	940600	931500	930800	909800	886300	891600	855800	823800
29	836300	874100	969100	937700	940200	933700	931200	909400	884600	890200	854400	825500
30	836300	874400	966100	937700	---	935200	930800	908700	883200	889200	853000	830200
31	836000	---	964700	938400	---	935900	---	908700	---	887700	851300	---
MAX	861500	874400	973500	961000	945300	945600	938800	929700	909400	908300	886000	850600
MIN	836000	829200	870600	937700	928300	931500	928700	908700	883200	875200	851300	823800
(†)	434.64	435.75	438.28	437.56	437.61	437.49	437.35	436.73	436.00	436.14	435.09	434.47
(ϕ)	-27200	+38400	+90300	-26300	+1800	-4300	-5100	-22100	-25500	+4500	-36400	-21100

CAL YR 1987 MAX 985700 MIN 829200 (ϕ) +17200
WTR YR 1988 MAX 973500 MIN 823800 (ϕ) -33000

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

08017410 SABINE RIVER NEAR WILLS POINT, TX

LOCATION.--Lat 32°48'22", long 95°55'09", Van Zandt County, Hydrologic Unit 12010001, on right bank at downstream side of bridge on Farm Road 47, 750 ft downstream from Iron Bridge Dam that forms Lake Tawakoni, 3.6 mi upstream from McBee Creek, 9.0 mi northeast of Wills Point, and at mile 514.3.

DRAINAGE AREA.--756 mi².

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 370.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges and those below 1.0 ft³/s, which are poor. Flow is regulated by Lake Tawakoni (see station 08017400) 750 ft upstream. Several observations of water temperatures were obtained during the year.

AVERAGE DISCHARGE.--18 years, 378 ft³/s (273,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/s Dec. 11, 1971 (gage height, 18.5 ft, from graph based on gage readings); no flow most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since construction of Iron Bridge Dam in 1960, about 21,000 ft³/s May 1, 1966, from theoretical rating curve of flow over dam 750 ft upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,380 ft³/s Dec. 28 at 2400 hours (gage height, 12.88 ft), no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.40	1.3	1210	140	109	51	.04	12	.10	.0	5.5
2	4.8	.40	.06	958	338	131	88	.00	.03	.75	.0	.03
3	2.5	.51	.06	843	145	525	107	72	1.9	.21	.0	.02
4	e2.0	.57	.06	773	414	439	81	93	2.1	.11	.0	.05
5	e1.8	.57	.06	682	271	236	115	.10	.39	.10	.0	.02
6	e1.8	1.5	.33	603	159	275	260	.00	.32	.37	.0	.02
7	e1.8	.39	35	718	3.8	160	58	.00	.64	.13	.0	.03
8	e1.8	1.4	.10	627	2.5	285	41	.57	.88	.43	.02	.02
9	e1.8	21	1.6	525	16	211	60	8.8	3.2	.22	.05	.01
10	e1.6	1.9	.07	467	64	109	561	3.8	2.1	.27	.11	.01
11	e1.6	.11	.05	337	538	81	602	.00	2.3	.67	2.3	.01
12	e1.6	.08	2.9	374	34	469	326	6.5	2.2	35	3.6	.01
13	e1.6	.08	.12	614	.05	433	2.1	.02	2.5	72	4.6	.02
14	e1.6	.08	24	574	84	357	.00	.0	3.0	.01	4.9	.05
15	1.6	1.7	45	569	183	61	.00	.0	2.4	.0	4.9	.07
16	2.1	e1.2	.31	528	.04	31	.21	.02	2.1	.01	5.2	.07
17	2.8	e.50	.03	507	.48	124	.02	.03	2.5	.01	5.5	.06
18	4.7	.31	.03	466	296	698	140	.04	1.6	.01	13	.08
19	3.9	1.7	3.8	472	522	243	132	.08	1.1	.03	14	.08
20	6.0	.10	78	588	344	46	33	.26	.94	11	13	.32
21	3.5	.10	.19	423	324	35	31	14	.93	3.2	11	.09
22	3.1	.10	.03	317	256	23	45	40	1.3	.0	11	.08
23	3.2	.10	.03	243	409	17	86	48	1.1	.00	12	.10
24	4.9	.10	11	375	268	10	33	67	.75	.00	12	.16
25	3.5	68	59	521	187	38	153	.14	.69	.00	11	.17
26	3.4	15	633	196	164	71	63	.02	.98	.0	12	.19
27	3.4	2.9	1050	113	155	1.6	96	.02	2.3	.01	14	.21
28	3.4	4.2	2030	95	148	.06	.96	.02	3.1	.01	13	.39
29	3.4	.06	2010	87	136	253	.18	.02	2.3	.01	13	.70
30	2.8	.05	1530	86	---	93	2.6	.04	.25	.01	13	.80
31	.47	---	1400	90	---	31	---	6.5	---	.01	13	---
TOTAL	82.73	125.11	8916.13	14981	5601.87	5595.66	3168.07	361.02	57.90	124.68	206.18	9.37
MEAN	2.67	4.17	288	483	193	181	106	11.6	1.93	4.02	6.65	.31
MAX	6.0	68	2030	1210	538	698	602	93	12	72	14	5.5
MIN	.26	.05	.03	86	.04	.06	.00	.00	.03	.00	.00	.01
AC-FT	164	248	17690	29710	11110	11100	6280	716	115	247	409	19

CAL YR 1987 TOTAL 81405.09 MEAN 223 MAX 2410 MIN .03 AC-FT 161500
WTR YR 1988 TOTAL 39229.72 MEAN 107 MAX 2030 MIN .00 AC-FT 77810

e Estimated.

08018500 SABINE RIVER NEAR MINEOLA, TX

LOCATION.--Lat 32°36'49", long 95°29'08", Wood County, Hydrologic Unit 12010001, on left bank at downstream side of highway embankment 3 ft downstream from left end of bridge on U.S. Highway 69, 3.5 mi south of Mineola, 4.5 mi upstream from Missouri Pacific Railway Lines bridge, 16.2 mi upstream from Lake Fork Creek, and at mile 461.1.

DRAINAGE AREA.--1,357 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1939 to September 1959, October 1967 to current year. Gage-height records collected at this site since July 1946 are contained in reports published by the National Weather Service.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 304.16 ft above National Geodetic Vertical Datum of 1929. May 12, 1939, to Dec. 11, 1955, at site 55 ft upstream from downstream side of bridge; Dec. 12, 1955, to Dec. 12, 1959, at downstream side of bridge; Oct. 1, 1967, to Sept. 12, 1968, nonrecording gage at downstream side of bridge; Sept. 13, 1968, to Oct. 23, 1974, water-stage recorder at downstream side of bridge; Oct. 24, 1974, to Oct. 16, 1975, at site on right bank 75 ft downstream from bridge. All gages at present datum.

REMARKS.--No estimated daily discharges. Records good. Since October 1960, flow partly regulated by Lake Tawakoni (station 08017400), capacity 936,200 acre-ft, located 53 mi upstream, and since September 1962 by Lake Holbrook, capacity, 7,990 acre-ft, located on Keys Creek, a tributary to the Sabine River 8.0 mi upstream. Flow may be very slightly affected at times by discharge from a floodwater-retarding structure with a detention capacity of 3,570 acre-ft. This structure controls runoff from 9.70 mi² in the Mill Creek drainage basin.

AVERAGE DISCHARGE.--20 years (water years 1940-59) prior to regulation by Lake Tawakoni, 1,054 ft³/s (763,600 acre-ft/yr); 21 years (water years 1968-88) regulated, 833 ft³/s (603,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,000 ft³/s Apr. 1, 1945 (gage height, 24.00 ft); maximum gage height, 24.37 ft June 8, 1943; no flow at times.
Maximum stage since at least 1890, that of June 8, 1943.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,950 ft³/s Dec. 27 at 2130 hours (gage height, 17.83 ft); no flow Oct. 12-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	5.4	113	4080	158	280	486	81	9.3	1.9	3.4	11
2	.05	2.7	71	3360	163	279	559	52	7.8	1.5	2.7	10
3	.12	1.5	48	2450	191	682	982	39	6.6	5.7	2.3	11
4	.27	1.0	34	1890	320	1120	1180	33	9.7	13	2.2	11
5	.38	.85	25	1620	292	1310	1100	30	13	14	2.1	11
6	.34	.56	257	1410	374	1320	760	63	21	11	3.5	13
7	.31	.29	769	1210	375	1070	432	103	17	15	4.5	11
8	.16	.34	472	1050	310	982	386	63	14	14	3.9	8.8
9	.07	8.1	352	929	180	1390	273	45	14	11	3.2	6.1
10	.03	29	268	865	112	1340	178	34	15	8.6	2.8	4.3
11	.01	25	157	791	90	1070	158	27	12	5.4	2.4	3.1
12	.00	44	95	761	119	1090	439	21	9.6	6.1	2.1	2.3
13	.00	86	76	889	396	1470	608	17	7.9	37	2.0	1.9
14	.00	56	249	1040	325	1580	567	17	6.4	174	1.8	1.6
15	.04	32	331	1100	167	1570	271	17	5.7	333	8.8	1.3
16	.14	31	242	1080	117	1310	116	15	5.1	214	11	1.2
17	.16	52	266	1010	214	842	76	13	4.8	92	11	1.0
18	.34	408	211	921	676	1030	203	13	4.4	40	8.9	.90
19	4.0	577	158	832	1610	1370	264	12	4.1	25	7.8	.64
20	4.1	329	275	751	2350	1520	260	11	3.6	17	7.2	.63
21	2.1	122	445	694	3210	1550	332	12	3.0	13	8.6	.57
22	1.5	54	563	687	3020	1190	220	11	4.5	12	9.1	.51
23	1.5	35	450	645	2300	630	145	9.9	10	9.2	9.6	.41
24	4.0	24	248	532	1640	300	110	9.2	6.8	6.4	12	.35
25	5.2	58	893	427	1090	219	101	8.2	3.9	5.0	13	.34
26	16	56	2940	428	738	190	121	20	2.8	4.1	14	.34
27	29	333	6370	506	499	169	131	53	2.5	3.5	13	.34
28	9.0	454	7610	416	369	161	153	40	2.4	5.3	12	.33
29	5.2	252	7030	258	311	180	161	22	3.2	6.0	12	.34
30	12	154	6350	187	---	225	136	15	2.5	5.5	12	3.9
31	9.7	---	5240	167	---	398	---	12	---	4.2	11	---
TOTAL	105.89	3231.74	42608	32986	21716	27837	10908	918.3	232.6	1113.4	219.9	119.20
MEAN	3.42	108	1374	1064	749	898	364	29.6	7.75	35.9	7.09	3.97
MAX	29	577	7610	4080	3210	1580	1180	103	21	333	14	13
MIN	.00	.29	25	167	90	161	76	8.2	2.4	1.5	1.8	.33
AC-FT	210	6410	84510	65430	43070	55210	21640	1820	461	2210	436	236

CAL YR 1987 TOTAL 201145.39 MEAN 551 MAX 7610 MIN .00 AC-FT 399000
WTR YR 1988 TOTAL 141996.03 MEAN 388 MAX 7610 MIN .00 AC-FT 281600

08018500 SABINE RIVER NEAR MINEOLA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year. Biochemical analyses: October 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
WATER TEMPERATURE: October 1967 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 11,400 microsiemens June 3, 1971; minimum daily, 70 microsiemens Dec. 12, 1971.
WATER TEMPERATURE: Maximum daily, 36.0°C Aug. 21, 1984; minimum daily, 0.0°C Jan. 15, Feb. 1, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 9,940 microsiemens Nov. 3; minimum daily, 96 microsiemens Dec. 30.
WATER TEMPERATURE: Maximum daily, 30.0°C July 5, 6, Aug. 24; minimum daily, 4.0°C Jan. 11, 13-15, Feb. 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 16...	1345	288	662	7.00	12.5	8.8	85	0.6	91	30
JAN 04...	1500	1810	240	7.00	5.5	11.8	93	1.7	66	2
APR 04...	1700	1170	283	6.40	18.0	7.2	77	2.4	67	47
MAY 23...	1800	9.4	1150	6.70	22.5	7.0	82	1.5	120	57
JUL 11...	1415	5.0	291	7.80	28.5	7.4	96	3.4	71	26
AUG 25...	1700	14	795	--	28.5	6.0	78	1.2	150	63

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 WAT WH TOT FET 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)
NOV 16...	27	5.8	91	4	5.7	61	52	140	0.20
JAN 04...	21	3.4	21	1	4.4	65	22	24	0.20
APR 04...	17	6.0	24	1	3.5	20	53	32	0.20
MAY 23...	32	9.2	170	7	5.4	61	65	280	0.30
JUL 11...	19	5.8	28	1	4.1	45	37	38	0.20
AUG 25...	41	11	100	4	5.1	85	72	150	0.40

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)
NOV 16...	12	370	0.190	0.010	0.200	0.050	0.65	0.70	0.060
JAN 04...	3.6	139	0.080	0.020	0.100	0.010	0.49	0.50	0.050
APR 04...	7.8	155	--	0.020	<0.100	0.090	1.0	1.1	0.140
MAY 23...	12	610	--	0.010	<0.100	0.110	0.49	0.60	0.070
JUL 11...	13	172	--	<0.010	<0.100	<0.010	--	0.80	0.100
AUG 25...	8.0	438	--	<0.010	<0.100	<0.010	--	0.80	0.120

08018500 SABINE RIVER NEAR MINEOLA, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	105.89	2250	1230	351	600	172	100	30	210
NOV.	1987	3231.74	612	332	2900	150	1340	34	296	65
DEC.	1987	42608	171	92	10600	40	4650	11	1240	21
JAN.	1988	32986	268	145	12900	63	5640	17	1510	32
FEB.	1988	21716	302	163	9550	71	4190	19	1110	36
MAR.	1988	27837	306	165	12400	73	5450	19	1450	37
APR.	1988	10908	430	232	6830	100	3020	27	786	51
MAY	1988	918.3	745	403	1000	180	454	44	108	84
JUNE	1988	232.6	1950	1070	671	560	351	70	44	140
JULY	1988	1113.4	445	240	722	110	319	28	83	53
AUG.	1988	219.9	707	382	227	170	101	43	25	82
SEPT	1988	119.20	408	220	71	97	31	26	8.2	49
TOTAL		141996.03	**	**	58200	**	25700	**	6700	**
WTD.AVG.		388	281	152	**	67	**	17	**	33

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1150	6060	461	150	550	417	719	378	597	848	539	444
2	1270	8480	490	187	614	418	503	470	492	838	561	425
3	1340	9940	534	251	645	339	397	484	490	1090	568	417
4	1340	9840	544	256	386	427	292	586	425	943	579	408
5	1650	8920	558	238	410	310	272	610	343	909	585	404
6	1730	8100	555	246	336	268	337	520	528	513	596	385
7	1750	7920	247	257	342	291	337	507	520	280	621	392
8	1660	6600	720	268	403	268	558	596	583	239	635	390
9	1590	2880	801	279	360	330	650	446	1060	240	643	392
10	1580	4270	361	290	514	270	760	453	7540	255	650	393
11	1590	3370	355	304	812	293	709	451	7070	279	646	393
12	---	3350	358	313	827	286	435	454	4900	301	659	395
13	---	1060	394	514	707	300	278	502	3700	400	659	396
14	---	1050	331	366	412	299	298	614	3040	640	665	400
15	1420	910	912	282	555	227	359	1080	2580	484	681	403
16	1200	721	683	268	650	253	422	1720	2190	283	759	404
17	1190	572	438	283	709	272	463	2610	1960	329	978	408
18	1150	491	321	345	352	258	458	2500	1700	383	970	411
19	1060	480	338	333	327	309	910	2220	1380	329	924	413
20	791	300	267	311	260	248	789	1940	1340	366	894	417
21	682	373	689	327	232	222	599	1680	1330	365	799	420
22	852	397	575	293	210	247	382	1230	1330	382	683	422
23	865	445	525	291	208	281	387	1230	1290	405	583	425
24	810	487	825	332	254	389	512	1070	739	418	699	429
25	734	482	259	333	276	446	470	989	883	437	875	436
26	1780	470	108	334	291	527	512	942	786	452	766	439
27	3470	446	111	303	326	570	513	1320	731	466	697	440
28	1090	199	120	345	370	555	336	712	746	481	616	446
29	553	802	103	423	411	617	332	712	808	499	546	450
30	3030	687	96	398	---	426	413	712	898	515	544	455
31	3920	---	101	488	---	980	---	682	---	526	498	---
MEAN	1470	3000	425	310	440	366	480	981	1730	480	681	415

08018500 SABINE RIVER NEAR MINEOLA, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	23.0	10.0	8.0	13.0	14.0	15.0	18.0	24.0	---	28.0	25.0
2	20.0	16.0	9.0	8.0	12.0	13.0	14.0	18.0	24.0	---	28.0	26.0
3	20.0	17.0	10.0	9.0	10.0	13.0	15.0	19.0	24.0	29.0	28.0	26.0
4	17.0	17.0	10.0	9.0	9.0	12.0	17.0	18.0	---	28.0	28.0	25.0
5	20.0	18.0	10.0	7.0	8.0	12.0	18.0	19.0	21.0	30.0	27.0	24.0
6	17.0	15.0	14.0	7.0	---	11.0	17.0	20.0	23.0	30.0	28.0	23.0
7	17.0	14.0	14.0	---	6.0	12.0	17.0	20.0	24.0	28.0	28.0	22.0
8	17.0	15.0	15.0	---	6.0	15.0	18.0	22.0	25.0	27.0	28.0	22.0
9	20.0	15.0	13.0	---	6.0	15.0	18.0	22.0	26.0	26.0	28.0	22.0
10	18.0	13.0	12.0	---	8.0	14.0	18.0	22.0	26.0	26.0	28.0	22.0
11	15.0	12.0	12.0	4.0	8.0	15.0	15.0	23.0	23.0	26.0	28.0	14.0
12	15.0	11.0	12.0	6.0	4.0	15.0	15.0	22.0	24.0	28.0	27.0	15.0
13	15.0	14.0	14.0	4.0	6.0	15.0	15.0	22.0	25.0	28.0	28.0	15.0
14	15.0	---	11.0	4.0	10.0	13.0	15.0	23.0	25.0	24.0	28.0	15.0
15	15.0	15.0	8.0	4.0	8.0	12.0	15.0	23.0	25.0	28.0	28.0	15.0
16	17.0	15.0	7.0	6.0	8.0	11.0	15.0	23.0	25.0	27.0	28.0	16.0
17	18.0	12.0	7.0	9.0	10.0	14.0	15.0	24.0	25.0	28.0	28.0	16.0
18	18.0	12.0	11.0	9.0	11.0	11.0	15.0	24.0	24.0	28.0	27.0	26.0
19	19.0	14.0	15.0	9.0	11.0	10.0	16.0	24.0	25.0	29.0	28.0	27.0
20	18.0	12.0	9.0	7.0	11.0	10.0	15.0	25.0	25.0	28.0	28.0	26.0
21	15.0	12.0	9.0	7.0	11.0	10.0	15.0	24.0	26.0	28.0	28.0	25.0
22	14.0	14.0	10.0	7.0	11.0	14.0	15.0	23.0	26.0	25.0	29.0	26.0
23	15.0	15.0	10.0	7.0	12.0	16.0	20.0	20.0	22.0	25.0	29.0	26.0
24	16.0	16.0	12.0	7.0	11.0	17.0	20.0	22.0	25.0	27.0	30.0	26.0
25	17.0	15.0	12.0	---	10.0	18.0	22.0	22.0	26.0	27.0	28.0	22.0
26	18.0	15.0	9.0	9.0	11.0	18.0	20.0	22.0	---	28.0	29.0	24.0
27	16.0	14.0	---	5.0	12.0	18.0	20.0	20.0	27.0	28.0	28.0	22.0
28	15.0	12.0	7.0	9.0	12.0	19.0	18.0	22.0	28.0	27.0	27.0	22.0
29	15.0	11.0	7.0	9.0	12.0	20.0	20.0	23.0	27.0	28.0	27.0	22.0
30	14.0	10.0	7.0	11.0	---	15.0	19.0	23.0	27.0	28.0	25.0	21.0
31	18.0	---	---	12.0	---	11.0	---	24.0	---	28.0	25.0	---
MEAN	17.0	14.5	10.5	7.5	9.5	14.0	17.0	22.0	25.0	27.5	28.0	22.0

08018730 BURKE CREEK NEAR YANTIS, TX

LOCATION.--Lat 32°59'26", long 95°37'18", Hopkins County, Hydrologic Unit 12010003, at downstream side of highway embankment, 7 ft to left of left end of main bridge on Farm Road 1567, 100 ft upstream from Cane Branch, 1.2 mi upstream from Brushy Branch, and 5.0 mi northwest of Yantis.

DRAINAGE AREA.--33.1 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. There are no known diversions or return effluents in the basin above gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 20.4 ft³/s (8.37 in/yr), 14,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,170 ft³/s Dec. 18, 1984 (gage height, 12.21 ft); no flow most years

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1943, 17.5 ft June 6, 1943, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 26	1430	1,480	10.36	July 12	1500	*2,900	*11.43

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.69	.82	13	17	13	11	28	5.8	.52	.73	4.3	.00
2	.46	.81	13	14	19	25	183	5.6	.47	.57	3.9	.00
3	.31	.80	12	14	13	81	23	5.3	.40	.46	3.6	.00
4	.21	.80	12	14	13	19	15	5.1	.38	.35	3.3	.00
5	.11	.80	12	13	12	14	14	4.7	.37	.27	3.0	.00
6	.02	.80	21	14	11	13	15	4.2	.28	.17	2.7	.00
7	.00	.79	53	19	11	13	14	4.0	.22	.10	2.4	.00
8	.00	.87	25	16	12	13	13	3.7	.15	.05	2.1	.00
9	.00	80	17	15	12	13	12	3.5	.09	.08	1.9	.00
10	.00	179	14	15	11	13	12	3.2	.03	.05	1.6	.00
11	.00	24	13	19	11	13	11	2.9	.00	.00	1.4	.00
12	.00	15	13	100	12	13	11	2.6	.00	1020	1.4	.00
13	.00	13	15	76	13	13	11	2.3	.00	213	1.4	.00
14	.00	11	44	25	13	12	11	2.1	.00	8.0	1.2	.00
15	.00	21	30	20	12	12	10	1.8	.00	6.0	1.0	.00
16	.00	288	18	19	11	12	9.9	1.7	.00	5.9	.83	.00
17	.00	187	15	21	18	19	9.7	1.4	.00	5.9	.68	.00
18	.00	25	14	19	251	60	12	1.2	.00	5.9	.56	.00
19	.00	17	42	18	238	18	9.6	1.0	.00	5.9	.43	.00
20	.00	14	111	15	32	14	8.9	.88	.00	7.5	.30	.00
21	.00	13	29	13	15	13	8.5	.77	.00	7.2	.21	.00
22	.00	14	21	11	12	13	8.1	.68	.00	6.8	.07	.00
23	.00	12	18	11	11	12	7.8	.55	.00	6.6	.0	.00
24	.23	12	36	12	9.5	12	7.4	.43	.00	6.6	.00	.00
25	.80	79	188	11	9.3	17	7.1	.30	.00	6.5	.00	.00
26	55	50	906	11	9.3	15	6.8	.17	.00	6.1	.00	.00
27	12	26	298	10	9.8	13	6.5	.14	.00	5.9	.00	.00
28	1.8	29	47	11	10	12	6.2	.11	.02	5.6	.00	.00
29	1.1	19	26	12	10	14	6.0	.29	2.7	5.3	.00	.00
30	.94	15	21	11	---	18	5.9	.44	.95	5.0	.00	.00
31	.83	---	19	13	---	14	---	.51	---	4.7	.00	---
TOTAL	74.50	1149.49	2116	609	833.9	554	503.4	67.37	6.58	1347.23	38.28	0.00
MEAN	2.40	38.3	68.3	19.6	28.8	17.9	16.8	2.17	.22	43.5	1.23	.00
MAX	55	288	906	100	251	81	183	5.8	2.7	1020	4.3	.00
MIN	.00	.79	12	10	9.3	11	5.9	.11	.00	.00	.00	.00
AC-FT	148	2280	4200	1210	1650	1100	998	134	13	2670	76	.0
CFSM	.07	1.16	2.06	.59	.87	.54	.51	.07	.01	1.31	.04	.00
IN.	.08	1.29	2.38	.68	.94	.62	.57	.08	.01	1.51	.04	.00

CAL YR 1987 TOTAL 9372.71 MEAN 25.7 MAX 1510 MIN .00 AC-FT 18590 CFSM .78 IN. 10.53
WTR YR 1988 TOTAL 7299.75 MEAN 19.9 MAX 1020 MIN .00 AC-FT 14480 CFSM .60 IN. 8.20

08018800 LAKE FORK RESERVOIR NEAR QUITMAN, TX

LOCATION.--Lat 32°48'48", long 95°31'40", Wood County, Hydrologic Unit 12010003, in room at left end of gated concrete spillway structure of Lake Fork Dam on Lake Fork Creek, 2,000 ft upstream from bridge on State Highway 182, 2.3 mi upstream from Alum Branch, and 4.4 mi west-northwest of the county courthouse in Quitman.

DRAINAGE AREA.--490 mi².

PERIOD OF RECORD.--October 1979 to current year.

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

REMARKS.--The lake is formed by a rolled earthfill dam 12,660 ft long, including a 260-foot gated concrete spillway. The outlet works consist of two 5- 8-foot low flow sluice gates, five 40- by 20-foot taintor gates, and two 5- by 6-foot sluice gates that open into a wet well where there are two 36-inch and one 10-inch valve-controlled and metered-outlet pipes. Deliberate impoundment began June 29, 1979, and closure of the dam was completed in January 1980. The lake was built for water conservation and is owned by the Sabine River Authority. No known diversions were made from the lake this year. Flow is affected at times by discharge from the flood-detention pools of 21 floodwater-retarding structures with a combined detention capacity of 20,270 acre-ft. These structures control runoff 60 mi² above the lake. 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	419.5	1,270,000
Top of tainter gates	405.0	732,900
Crest of gated spillway	385.0	291,900
Invert of upper sluice gate	383.0	260,400
Invert of lower sluice gate	360.5	43,120
Invert of sluice gate in two center pieces	360.0	40,620

COOPERATION.--Area and capacity tables were prepared and provided by URS/ Forest and Cotton, Inc., Consulting Engineers for the Sabine River Authority. Observed elevations for the period Oct. 31, 1979, to Jan. 31, 1980, were provided by the Sabine River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 703,900 acre-ft Feb. 6, 1986 (elevation, 404.00 ft); minimum observed, 46,140 acre-ft Dec. 11-14, 1979 (elevation, 361.10 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 696,900 acre-ft Dec. 27 at 0300 hours (elevation 403.75 ft); minimum, 627,100 acre-ft June 28 (elevation, 401.19).

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

401.0	622,100	403.0	675,800
402.0	648,500	404.0	703,900

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	650200	648300	659700	678300	658100	650200	652100	647500	637200	628200	659200	644600
2	649900	648000	658400	676400	656500	653700	654000	647200	636600	627900	658600	645100
3	648500	648000	657500	675800	656200	655900	653700	647000	636600	627600	658600	655400
4	648000	648000	655900	674500	654000	655100	652100	646700	637400	630000	658100	644600
5	648000	647800	654000	672800	652900	652900	651000	646400	637200	629500	657800	644300
6	647200	647000	655900	674500	651300	651300	650500	645900	636900	628900	657300	643500
7	646400	646200	655600	673600	649900	651500	649400	645400	636600	628400	656700	642500
8	645100	646400	655400	672000	648800	652900	649400	645600	636100	628700	655900	642200
9	645100	654800	655400	671500	648000	652600	651000	646200	635300	628400	655600	641900
10	645100	657300	653200	669800	649400	650200	649400	645900	634500	627900	654500	641400
11	645400	657800	653700	668700	648300	651300	649100	645600	634000	627600	654300	640600
12	644000	657800	653200	671200	647500	651300	648000	645100	633500	660800	654500	640300
13	643500	657800	655400	671500	647200	651300	647800	644800	632900	666800	654000	640100
14	643000	657500	659700	671200	648500	651300	647800	644300	632700	667600	653500	639800
15	642500	659200	658100	670400	647500	647800	647800	644000	632100	667600	653200	639000
16	642200	666300	658100	670400	647200	648300	647500	643800	631900	667600	652900	638500
17	642700	668500	657800	670600	652400	652600	649600	643200	631600	667600	652600	637700
18	642200	669000	658100	670400	664400	654500	650700	643200	631300	667100	652100	637200
19	643500	667600	661100	670600	666800	653500	649900	642500	630500	667400	651500	637700
20	644600	666500	663000	669300	664900	653200	649600	642500	630300	666800	651300	637200
21	643000	664900	663300	668500	660800	653200	649100	641900	629700	666000	650500	636600
22	642200	663800	663500	667400	656700	653200	649400	641100	629200	665500	650200	636400
23	641700	662700	663500	666000	652900	653200	649600	640300	628900	664600	649900	636400
24	643200	661900	666500	665200	650700	654300	649100	640100	628200	663800	649400	635600
25	643200	664600	674200	663500	650700	654800	648800	639300	627900	663500	648800	635000
26	647800	664900	696300	662500	650700	654500	648800	638700	627900	662700	648300	634500
27	649100	665200	691800	661100	650700	654500	647800	638500	627600	662200	647500	633700
28	649100	663800	685700	659700	651000	654000	647200	638000	630000	661600	647000	634200
29	648500	663000	681400	658900	650700	655100	648300	637700	629500	661100	647000	636900
30	648300	661900	680000	658100	---	654300	648000	638000	628700	660500	646200	636400
31	648000	---	680000	657800	---	651800	---	637400	---	660000	645400	---
MAX	650200	669000	696300	678300	666800	655900	654000	647500	637400	667600	659200	655400
MIN	641700	646200	653200	657800	647200	647800	647200	637400	627600	627600	645400	633700
(↑)	401.98	402.49	403.15	402.34	402.08	402.12	401.98	401.58	401.25	402.42	401.88	401.54
(Φ)												

CAL YR 1987 MAX 696300 MIN 641700 (Φ) +30600
WTR YR 1988 MAX 696300 MIN 627600 (Φ) -14600

(↑) Elevation, in feet, at end of month.
(Φ) Change in contents, in acre-feet.

08019000 LAKE FORK CREEK NEAR QUITMAN, TX

LOCATION.--Lat 32°45'47", long 95°27'46", Wood County, Hydrologic Unit 12010003, at downstream side of highway embankmen near left end of bridge on State Highway 37, 0.3 mi downstream from Dry Creek, 2.4 mi south of Quitman, and 23.4 mi upstream from mouth.

DRAINAGE AREA.--585 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1924 to April 1926, February 1939 to current year. Discharge from some high-water periods in 1925-26 published in WSP 1342. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1961, published as Lake Fork Sabine River near Quitman.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 317.42 ft above National Geodetic Vertical Datum of 1929. From June 27, 1924, to Apr. 30, 1926, a nonrecording gage was located at site 1,000 ft downstream at same datum. Prior to Sept. 5, 1978, nonrecording gage at present site and datum.

REMARKS.--Records good. Since May 1962, flow from 31.0 mi² is controlled by Lake Quitman (capacity 7,440 acre-ft) on Dry Creek, a tributary above this station and below Lake Fork Reservoir. Construction of Lake Fork Dam and Reservoir (capacity, 675,800 acre-ft), located about 5 mi upstream from station, began in 1975. Deliberate impoundment began June 29, 1979, and dam was completed in January 1980. Lake Fork Reservoir controls runoff from 490 mi². The city of Quitman discharged a small amount of sewage effluent into a tributary above this station.

AVERAGE DISCHARGE.--41 years (water years 1925, 1940-79), prior to regulation by Lake Fork Reservoir, 432 ft³/s (313,000 acre-ft/yr); 9 years (water years 1980-88) regulated, 235 ft³/s (170,300 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,600 ft³/s Mar. 30, 1945 (gage height, 29.85 ft, from floodmark), from rating curve extended above 49,000 ft³/s; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1895 reached a stage of about 25.9 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,400 ft³/s Dec. 27 at 1600 hours (gage height, 19.40 ft); minimum daily, 9.2 ft³/s July 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	14	704	1270	576	45	1050	20	13	9.9	11	12
2	10	15	698	987	576	54	1210	17	12	9.2	10	12
3	11	15	696	769	562	262	1300	16	12	9.3	10	20
4	11	15	692	702	562	781	1170	16	22	42	9.9	21
5	11	16	688	677	576	1040	1080	15	23	44	10	13
6	11	16	967	669	573	1070	1010	14	14	15	10	11
7	12	15	1140	698	571	1050	368	13	12	11	10	11
8	12	16	1080	695	571	601	63	13	11	10	10	19
9	12	23	837	674	571	863	39	13	11	9.9	9.9	36
10	12	92	704	662	543	1190	32	13	11	9.7	9.9	40
11	13	45	273	662	184	1120	29	13	11	9.5	9.9	41
12	14	21	46	724	57	741	28	13	11	46	10	41
13	15	18	88	882	52	264	27	12	11	206	11	41
14	15	16	358	908	49	107	24	12	11	196	11	41
15	16	16	377	819	45	67	22	12	11	76	11	41
16	16	21	195	754	42	55	21	12	11	43	11	71
17	16	312	76	753	39	59	24	12	11	30	11	87
18	16	583	56	776	444	285	139	12	11	26	11	90
19	18	655	115	716	1500	282	125	12	11	23	11	88
20	17	677	244	702	2070	139	63	12	11	20	11	39
21	17	683	205	673	2360	82	44	12	11	17	11	16
22	17	690	98	647	2340	64	36	12	11	15	11	12
23	17	695	70	632	2250	54	31	12	11	15	11	11
24	18	695	63	620	2180	50	28	12	11	13	11	11
25	18	718	e348	613	1550	50	25	12	11	12	11	11
26	45	775	e3690	602	363	55	22	12	11	12	11	11
27	69	745	11300	586	93	47	20	12	11	12	11	11
28	22	734	7350	580	59	40	18	12	11	12	11	11
29	15	728	5840	578	50	55	16	12	13	12	11	11
30	14	708	2670	578	---	614	20	12	12	11	12	14
31	14	---	1570	578	---	966	---	13	---	11	12	---
TOTAL	534	9772	43238	22186	21408	12152	8084	405	364	987.5	331.6	894
MEAN	17.2	326	1395	716	738	392	269	13.1	12.1	31.9	10.7	29.8
MAX	69	775	11300	1270	2360	1190	1300	20	23	206	12	90
MIN	10	14	46	578	39	40	16	12	11	9.2	9.9	11
AC-FT	1060	19380	85760	44010	42460	24100	16030	803	722	1960	658	1770

CAL YR 1987 TOTAL 116780 MEAN 320 MAX 11300 MIN 10 AC-FT 231600
WTR YR 1988 TOTAL 120356.1 MEAN 329 MAX 11300 MIN 9.2 AC-FT 238700

e Estimated.

08019000 LAKE FORK CREEK NEAR QUITMAN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1961 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1967 to current year.
WATER TEMPERATURE: December 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, 2,800 microsiemens Oct. 5, 1972; minimum daily, 37 microsiemens Dec. 11, 1971.
WATER TEMPERATURE: Maximum daily, 38.0°C Sept. 6, 1987; minimum daily, 0.0°C Dec. 23-27, 1983.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 608 microsiemens Feb. 14; minimum daily, 120 microsiemens Nov. 19.
WATER TEMPERATURE: Maximum daily, 31.0°C June 30, Aug. 7, 8, 23, 25, 26; minimum daily, 7.0°C Jan. 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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									
06...	1500	11	236	--	65	11	16	6.0	19
FEB									
24...	1806	2180	183	--	56	10	14	5.1	13
APR									
07...	1533	259	262	17.0	67	33	17	6.0	24
MAY									
25...	1735	12	274	23.5	70	18	17	6.6	30
JUL									
14...	1400	205	271	29.0	56	41	13	5.7	37
AUG									
24...	1320	11	252	29.0	69	18	17	6.5	20

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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								
06...	1	6.4	54	17	27	0.30	1.7	126
FEB								
24...	0.8	5.7	46	17	16	0.20	1.2	100
APR								
07...	1	4.8	34	39	34	0.20	5.0	150
MAY								
25...	2	6.0	52	29	35	0.30	3.0	158
JUL								
14...	2	4.8	15	35	52	0.20	8.4	165
AUG								
24...	1	6.3	51	17	31	0.10	1.7	130

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	534	283	158	227	44	63	35	50	62
NOV.	1987	9772	190	106	2800	28	733	24	637	42
DEC.	1987	43238	184	103	12000	27	3120	23	2730	41
JAN.	1988	22186	238	133	7940	36	2140	30	1780	52
FEB.	1988	21408	229	128	7400	34	1990	29	1660	51
MAR.	1988	12152	289	161	5280	45	1480	35	1160	63
APR.	1988	8084	300	167	3650	47	1020	37	800	65
MAY	1988	405	325	181	198	52	56	39	43	70
JUNE	1988	364	259	144	142	39	39	32	32	57
JULY	1988	987.5	279	156	415	43	115	34	92	61
AUG.	1988	331.6	242	135	121	36	33	30	27	53
SEPT	1988	894	222	124	299	33	80	28	67	49
TOTAL		120356.1	**	**	40500	**	10900	**	9080	**
WTD.AVG.		329	223	124	**	33	**	28	**	49

08019000 LAKE FORK CREEK NEAR QUITMAN, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	310	209	228	229	443	323	417	259	250	239	256
2	244	340	205	217	228	444	323	418	260	268	239	256
3	240	365	201	226	226	333	281	417	265	269	239	355
4	246	380	210	219	230	255	282	417	280	310	239	380
5	242	400	217	222	229	220	267	404	281	325	238	354
6	260	402	205	239	230	200	255	390	280	358	240	310
7	257	400	177	262	228	250	242	370	290	347	239	264
8	258	401	155	295	229	281	330	336	265	350	244	245
9	257	359	235	320	238	337	427	355	276	359	243	205
10	258	298	243	335	236	309	455	348	271	369	243	205
11	257	268	318	335	300	291	450	334	257	375	238	203
12	257	284	309	290	395	264	435	338	264	310	257	213
13	241	283	303	242	510	347	426	316	243	269	245	204
14	242	282	293	234	608	370	433	300	252	269	247	202
15	243	280	250	233	544	367	436	300	251	261	247	202
16	250	283	300	205	547	398	440	300	255	265	245	212
17	260	250	350	220	550	398	442	294	250	279	246	199
18	265	140	395	254	322	310	412	296	248	259	239	198
19	232	120	360	243	232	295	409	289	265	266	241	195
20	234	130	270	220	239	335	378	294	250	325	244	206
21	260	145	230	200	222	362	360	273	250	300	243	233
22	295	155	275	195	238	390	370	273	248	280	244	232
23	340	170	310	200	192	390	360	274	249	260	245	249
24	400	207	330	203	189	484	374	273	247	246	249	239
25	475	213	204	198	198	469	427	277	245	245	250	238
26	395	214	160	219	288	471	440	267	248	243	236	234
27	275	215	135	203	320	469	455	263	246	240	235	235
28	260	214	180	215	395	468	469	263	245	242	236	234
29	259	213	205	231	429	462	476	262	236	244	236	233
30	260	213	210	230	---	288	477	261	236	243	235	255
31	260	---	227	230	---	326	---	262	---	246	236	---
MEAN	273	264	247	238	311	356	388	319	257	286	242	242

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

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

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX

LOCATION.--Lat 32°36'14", long 95°05'29", Upshur County, Hydrologic Unit 12010002, on downstream side of highway embankment near left end of bridge on State Highway 155, 0.5 mi upstream from St. Louis Southwestern Railway Lines bridge, 1.6 mi northeast of Big Sandy, and 6.5 mi upstream from mouth.

DRAINAGE AREA.--231 mi².

PERIOD OF RECORD.--February 1939 to current year.
Water-quality records.--Chemical analyses: March 1961 to September 1986. Chemical and biochemical analyses: October 1984 to September 1986.

REVISED RECORDS.--WSP 1732: 1941(M), 1945-46, 1956, drainage area. WSP 1922: 1944(M), 1945-46.

GAGE.--Water-stage recorder. Datum of gage is 278.38 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 5, 1940, nonrecording gage, and Oct. 5, 1940, to Nov. 26, 1951, water-stage recorder at site 1.3 mi upstream at datum 3.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since June 1962, streamflow has been affected somewhat by the flood-detention pool at Lake Winnsboro.

AVERAGE DISCHARGE.--49 years, 178 ft³/s (129,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,000 ft³/s Mar. 31, 1945 (gage height, 24.1 ft, from floodmark, present site and datum), from rating curve extended above 13,000 ft³/s; minimum, 3.5 ft³/s July 24, Aug. 7-8, 1984. Maximum stage since at least 1875, that of Mar. 31, 1945, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 28	0930	*5,700	*17.66	No other peak greater than base discharge.			

Minimum daily discharge, 11 ft³/s Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	60	235	1010	168	188	243	91	29	25	21	14
2	25	43	181	808	166	203	341	85	31	23	22	13
3	21	35	142	640	164	473	382	81	31	21	21	14
4	19	32	115	503	171	398	328	79	35	25	21	14
5	18	31	96	409	182	348	288	77	40	120	19	14
6	17	27	201	349	185	463	283	71	42	141	18	14
7	16	25	433	319	181	508	271	68	66	114	17	14
8	16	25	410	291	177	420	238	73	82	66	18	13
9	18	69	605	262	175	458	206	83	63	50	18	12
10	20	152	822	247	168	378	183	76	44	39	18	18
11	18	171	696	245	168	408	168	66	35	33	20	20
12	17	191	438	254	168	671	155	62	30	39	24	13
13	19	183	298	283	169	629	145	58	25	74	31	11
14	19	177	279	289	171	563	135	52	23	55	28	12
15	19	193	274	e298	175	551	129	46	22	67	25	13
16	18	322	267	e324	175	451	122	40	22	87	23	17
17	18	310	337	e410	171	355	120	40	23	72	22	17
18	21	240	465	e525	266	398	174	36	27	49	21	18
19	28	187	423	e478	506	380	152	34	30	38	22	20
20	33	147	372	e425	618	401	147	30	33	79	24	16
21	32	125	303	e384	1140	481	163	29	33	112	24	14
22	32	102	279	e341	1240	486	184	32	30	92	24	12
23	31	86	291	e304	944	382	174	33	27	53	23	11
24	34	81	332	e272	646	305	149	32	26	37	21	12
25	50	393	365	e241	458	270	130	29	26	31	19	12
26	101	384	1580	e221	340	247	114	30	25	27	20	13
27	126	264	4150	e203	277	224	100	31	24	25	18	13
28	126	273	5530	e191	234	209	92	30	23	24	17	13
29	110	284	4040	184	206	217	87	26	27	23	15	12
30	97	277	2110	177	---	255	93	26	28	22	16	17
31	81	---	1320	172	---	242	---	26	---	22	15	---
TOTAL	1232	4889	27389	11059	9809	11962	5496	1572	1002	1685	645	426
MEAN	39.7	163	884	357	338	386	183	50.7	33.4	54.4	20.8	14.2
MAX	126	393	5530	1010	1240	671	382	91	82	141	31	20
MIN	16	25	96	172	164	188	87	26	22	21	15	11
AC-FT	2440	9700	54330	21940	19460	23730	10900	3120	1990	3340	1280	845

CAL YR 1987 TOTAL 76747.5 MEAN 210 MAX 5530 MIN 4.7 AC-FT 152200
WTR YR 1988 TOTAL 77166 MEAN 211 MAX 5530 MIN 11 AC-FT 153100

e Estimated.

08020000 SABINE RIVER NEAR GLADEWATER, TX

LOCATION.--Lat 32°31'37", long 94°57'36", Gregg County, Hydrologic Unit 12010002, on right bank 46 ft downstream from bridge on U.S. Highway 271, 0.4 mi downstream from Glade Creek, 1.2 mi southwest of Gladewater, and at mile 397.5.

DRAINAGE AREA.--2,791 mi².

PERIOD OF RECORD.--October 1932 to current year.

REVISED RECORDS.--WSP 1732: Drainage area. WDR TX-73-1: 1972.

GAGE.--Water-stage recorder. Datum of gage is 243.85 ft above National Geodetic Vertical Datum of 1929 (Texas Reclamation Department bench mark based on Geological Survey datum). Prior to Oct. 13, 1933, nonrecording gage at same site and datum.

REMARKS.--Records good, except those for estimated daily discharges, which are fair. Flow partially regulated by Lake Tawakoni (station 08017400), capacity 936,200 acre-ft, by Lake Fork Creek Reservoir (station 08018800), capacity 675,800 acre-ft, and by five tributary reservoirs with a total combined capacity of 42,370 acre-ft. There are many diversions above station for oil field operations and municipal supply. A rain gage and gage-height telemeter are located at station.

AVERAGE DISCHARGE.--28 years (water years 1933-60) prior to regulation by Lake Tawakoni, 2,012 ft³/s (1,458,000 acre-ft/yr); 28 years (water years 1961-88) regulated, 1,629 ft³/s (1,180,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 138,000 ft³/s Apr. 2, 1945 (gage height, 44.16 ft, from floodmark), from rating curve extended above 91,000 ft³/s; minimum, 5.6 ft³/s Aug. 16, 1939.
Maximum stage since at least 1892, that of Apr. 2, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1914 reached a stage of about 41.7 ft (discharge, 85,900 ft³/s), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,000 ft³/s Jan. 1 at 1700 hours (gage height, 34.27 ft); minimum, 29 ft³/s Sept. 29-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	190	1490	16800	1180	4150	1320	383	121	84	e60	36
2	88	150	1270	16200	1130	2860	2530	379	133	82	e58	36
3	73	133	1120	14800	1110	2410	3030	332	121	76	e58	34
4	59	124	1020	13100	1120	2650	2970	288	113	77	e57	33
5	51	120	937	11600	1150	2630	2860	255	122	132	e56	32
6	47	126	1250	10000	1200	2540	2820	234	134	201	e54	31
7	43	143	3500	9010	1220	2630	2840	213	138	214	e52	31
8	41	142	4420	7920	1260	2820	2790	210	160	213	e50	33
9	41	206	4370	7110	1300	3080	2540	296	163	172	e49	39
10	40	393	4030	6440	1270	3200	2040	316	136	137	e48	39
11	42	458	3590	5820	1190	3220	1300	275	111	117	e47	36
12	41	454	3050	5140	1130	3440	805	236	95	108	e45	38
13	38	461	2400	4420	1060	3690	657	205	88	120	e44	39
14	36	419	1960	3800	931	3710	730	185	84	157	e43	47
15	36	414	1760	3310	918	3660	847	167	78	162	e41	54
16	36	1120	1660	3030	877	3600	826	151	73	308	41	55
17	36	1630	1550	3010	766	3440	665	139	71	456	38	60
18	40	1440	1400	3060	1650	3550	631	135	73	399	39	64
19	55	1090	1340	3050	3510	3600	699	130	73	275	35	65
20	58	988	1610	2930	4200	3530	763	120	75	247	42	77
21	73	1090	1680	2740	4300	3340	827	112	79	312	43	89
22	80	1060	1640	2530	4420	3150	785	107	78	285	45	94
23	87	950	1560	2300	4580	2970	747	108	74	187	46	91
24	95	891	1470	2090	4690	2690	641	111	70	130	51	75
25	93	1600	1850	1910	4820	2230	527	109	73	104	44	57
26	225	3210	4920	1720	4950	1690	441	108	88	100	43	45
27	374	3110	7660	1540	5040	1250	388	103	93	78	42	37
28	462	2600	8850	1440	5020	994	351	99	97	69	38	31
29	435	2070	10700	1410	4790	885	328	94	94	e67	35	29
30	336	1760	13100	1360	---	1010	349	109	89	e64	35	29
31	255	---	15800	1260	---	1140	---	117	---	e61	36	---
TOTAL	3494	28542	112957	170850	70782	85759	39047	5826	2997	5194	1415	1456
MEAN	113	951	3644	5511	2441	2766	1302	188	99.9	168	45.6	48.5
MAX	462	3210	15800	16800	5040	4150	3030	383	163	456	60	94
MIN	36	120	937	1260	766	885	328	94	70	61	35	29
AC-FT	6930	56610	224100	338900	140400	170100	77450	11560	5940	10300	2810	2890

CAL YR 1987 TOTAL 548929 MEAN 1504 MAX 15800 MIN 36 AC-FT 1089000
WTR YR 1988 TOTAL 528319 MEAN 1443 MAX 16800 MIN 29 AC-FT 1048000

e Estimated.

08020450 SABINE RIVER ABOVE LONGVIEW, TX

LOCATION.--Lat 32°28'47", long 94°48'15", Gregg County, Hydrologic Unit 12010002, on left bank at city of Longview pumping station at the end of Swinging Bridge Road, 1.4 mi southwest of the intersection of Swinging Bridge Road and Farm Road 2206 in Longview, 2.5 mi downstream from Hawkins Creek, 2.6 mi upstream from U.S. Highway 259, and at mile 357.4.

DRAINAGE AREA.--2,943 mi².

PERIOD OF RECORD.--August 1983 to current year (operated as a low-flow station only).

GAGE--Water-stage recorder and concrete control. Datum of gage is 230.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Daily discharges above 500 ft³/s are not published. Flow is partially regulated by Lake Tawakoni (station 08017400), capacity 936,200 acre-ft, and by Lake Fork Reservoir (station 0818800), capacity 675,800 acre-ft and by five tributary reservoirs with a combined capacity of 42,370 acre-ft. There are many diversions above station for oilfield operations and for municipal and industrial supply.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 28.76 ft Jan. 3, 1988; minimum daily discharge, 0.50 ft³/s Sept. 4, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 28.76 ft Jan. 3 at 1300 hours; maximum discharge not determined; minimum daily discharge, 1.9 ft³/s Sept. 9-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	432	---	---	---	---	---	469	131	83	36	16
2	75	351	---	---	---	---	---	489	138	83	40	16
3	e79	276	---	---	---	---	---	468	162	87	79	24
4	e62	226	---	---	---	---	---	409	145	91	40	40
5	e49	190	---	---	---	---	---	358	142	87	32	40
6	e40	173	---	---	---	---	---	318	145	172	13	20
7	32	162	---	---	---	---	---	292	152	208	13	10
8	52	158	---	---	---	---	---	270	162	221	7.1	3.2
9	53	149	---	---	---	---	---	286	178	203	4.9	1.9
10	52	163	---	---	---	---	---	385	178	172	4.9	1.9
11	52	188	---	---	---	---	---	382	145	138	24	13
12	49	354	---	---	---	---	---	334	127	127	24	10
13	55	495	---	---	---	---	---	287	99	134	24	7.1
14	50	---	---	---	---	---	---	248	107	142	7.1	7.1
15	43	481	---	---	---	---	---	221	83	165	7.1	20
16	40	---	---	---	---	---	---	206	79	184	13	49
17	48	---	---	---	---	---	---	191	79	360	13	58
18	47	---	---	---	---	---	---	174	66	445	24	53
19	49	---	---	---	---	---	---	165	70	360	28	53
20	64	---	---	---	---	---	---	165	70	273	32	53
21	84	---	---	---	---	---	---	164	66	286	49	66
22	69	---	---	---	---	---	---	150	70	322	45	95
23	79	---	---	---	---	---	---	148	75	273	53	95
24	95	---	---	---	---	---	---	134	70	187	66	95
25	119	---	---	---	---	---	---	134	66	131	79	91
26	130	---	---	---	---	---	---	134	75	103	e36	58
27	138	---	---	---	---	---	---	131	83	83	e53	32
28	280	---	---	---	---	---	462	124	99	62	40	16
29	401	---	---	---	---	---	437	116	120	53	40	7.1
30	465	---	---	---	---	---	437	111	103	53	36	20
31	484	---	---	---	---	---	---	127	---	49	20	---
TOTAL	3379	---	---	---	---	---	---	7590	3285	5337	983.1	1071.3
MEAN	109	---	---	---	---	---	---	245	109	172	31.7	35.7
MAX	484	---	---	---	---	---	---	489	178	445	79	95
MIN	32	---	---	---	---	---	---	111	66	49	4.9	1.9
AC-FT	6700	---	---	---	---	---	---	15050	6520	10590	1950	2120

WTR YR 1988 TOTAL - MEAN - MAX - MIN - AC-FT

e Estimated.

08022040 SABINE RIVER NEAR BECKVILLE, TX

LOCATION.--Lat 32°19'38", long 94°21'12", Panola County, Hydrologic Unit 12010002, at downstream side of highway embankment near right end of downstream bridge on U.S. Highway 59, 0.9 mi upstream from Eightmile Creek, 6.0 mi upstream from Farm Road 1794, 8.4 mi northeast of Beckville, 12.4 mi downstream from State Highway 43, and at mile 327.0.

DRAINAGE AREA.--3,589 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1978, published as "near Tatum".

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 190.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, at site 12.4 mi upstream at datum 14.18 ft higher. Prior to Sept. 21, 1945, nonrecording gage.

REMARKS.--No estimated daily discharges. Records good. Eight major reservoirs, with a combined capacity of 1,701,000 acre-ft, largely regulated flow. Several diversions above station and below Lake Tawakoni for oil field operation, municipal, and industrial uses. Low flows are sustained by sewage effluents returned to the river above the station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08018500.

AVERAGE DISCHARGE.--22 years (water years 1939-60) prior to regulation by Lake Tawakoni, 2,663 ft³/s (1,929,000 acre-ft/yr); 28 years (water years 1961-88) regulated, 2,211 ft³/s (1,602,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft³/s Apr. 4, 1945 (gage height, 33.80 ft), site and datum then in use, from graph based on gage readings, from rating curve extended above 66,000 ft³/s on basis of partly estimated measurement of 88,900 ft³/s; minimum observed, 2.4 ft³/s Aug. 11, 1964.
Maximum stage since at least 1884, that of Apr. 4, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1884 reached a stage of about 2 ft lower than flood of Apr. 4, 1945. These dates and gage heights are based on information for stations near Tatum (08022000) and at Logansport, La. (08022500).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,800 ft³/s Dec. 28 at 2000 hours (gage height, 28.69 ft); minimum daily, 32 ft³/s Sept. 12, 13, and 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	315	2890	11900	1570	5160	2210	612	127	131	64	56
2	98	258	2140	11600	1490	5150	2930	616	137	107	66	51
3	83	214	1660	11400	1420	5270	3880	619	148	93	68	51
4	89	181	1310	11300	1380	5620	4170	591	159	102	69	63
5	88	159	1140	11300	1330	5370	3970	542	176	146	88	120
6	83	150	1270	11400	1290	4390	3840	471	174	297	70	86
7	74	136	4150	11500	1300	3930	3680	410	162	237	60	67
8	69	135	7080	11500	1350	3640	3510	384	158	233	48	59
9	61	151	8210	11500	1410	3690	3380	382	160	248	39	55
10	47	507	7990	11400	1440	3850	3210	380	163	256	34	46
11	44	684	7620	11300	1440	3870	2890	428	167	228	51	38
12	55	554	6210	11100	1420	3950	2340	457	159	187	80	32
13	51	496	5220	10700	1390	4270	1710	438	137	169	106	32
14	52	469	4250	10300	1310	4420	1290	389	117	180	69	34
15	58	464	3320	9370	1210	4340	1130	325	102	166	58	34
16	57	610	2630	8150	1150	4280	1160	292	94	170	49	32
17	56	1330	2090	6940	1080	4180	1210	258	89	178	39	33
18	59	1950	1670	5780	2110	4860	1210	236	85	264	36	50
19	90	1590	1740	4830	6830	5590	1120	214	85	396	44	60
20	85	1240	2090	4180	8680	5600	1080	204	84	356	61	67
21	82	1010	2940	3830	8130	5310	1070	196	84	321	66	61
22	83	963	2390	3550	7320	4970	1100	191	107	270	70	56
23	80	980	1740	3260	6620	4540	1130	181	99	283	211	59
24	93	1010	2070	2980	6120	4120	1070	173	91	272	141	71
25	125	1550	1970	2680	5720	3850	1010	173	90	209	109	73
26	181	3670	6120	2420	5440	3680	884	165	88	154	112	72
27	347	4520	12300	2190	5230	3140	766	162	83	120	95	68
28	467	5620	12700	1990	5160	2390	663	156	82	98	80	65
29	417	5090	12600	1830	5170	1940	610	144	89	83	71	52
30	406	3920	12300	1730	---	2230	591	133	127	71	67	48
31	376	---	12100	1670	---	2460	---	128	---	68	62	---
TOTAL	4091	39926	153910	225580	95510	130060	58814	10050	3623	6093	2283	1691
MEAN	132	1331	4965	7277	3293	4195	1960	324	121	197	73.6	56.4
MAX	467	5620	12700	11900	8680	5620	4170	619	176	396	211	120
MIN	44	135	1140	1670	1080	1940	591	128	82	68	34	32
AC-FT	8110	79190	305300	447400	189400	258000	116700	19930	7190	12090	4530	3350
CFSM	.04	.37	1.38	2.03	.92	1.17	.55	.09	.03	.05	.02	.02
IN.	.04	.41	1.60	2.34	.99	1.35	.61	.10	.04	.06	.02	.02

CAL YR 1987 TOTAL 770200 MEAN 2110 MAX 12700 MIN 32 AC-FT 1528000 CFSM .59 IN. 7.98
WTR YR 1988 TOTAL 731631 MEAN 1999 MAX 12700 MIN 32 AC-FT 1451000 CFSM .56 IN. 7.58

08022040 SABINE RIVER NEAR BECKVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1952 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: March 1968 to June 1981.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1952 to current year.
WATER TEMPERATURE: February 1952 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. Formerly published as 08022000 Sabine River near Tatum.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,040 microsiemens Jan. 13, 1966; minimum, 53 microsiemens Mar. 31, 1979.
WATER TEMPERATURE: Maximum, 38.0°C July 8, 1969; minimum, 0.0°C on several days during December 1983.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,600 microsiemens July 26; minimum daily, 86 microsiemens Dec. 31.
WATER TEMPERATURE: Maximum daily, 32.5°C July 15; minimum daily, 4.0°C Jan. 8-11, 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 17...	1115	1200	290	6.90	13.0	8.4	80	0.8	39	0
JAN 05...	1315	11000	108	5.80	6.0	11.1	88	1.6	23	7
APR 07...	1400	3650	254	6.20	18.0	7.6	81	0.9	52	25
MAY 25...	1600	173	593	7.30	26.0	9.2	114	2.0	77	0
JUL 13...	1500	165	794	7.90	31.0	10.9	148	3.2	78	17
AUG 26...	1900	110	579	7.80	32.5	15.4	214	7.2	61	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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 17...	11	2.9	40	3	4.1	45	26	45	0.20	11
JAN 05...	5.9	2.0	12	1	3.9	16	10	19	0.10	7.0
APR 07...	13	4.7	26	2	3.4	27	33	37	0.20	9.4
MAY 25...	21	6.0	86	4	3.6	90	42	93	0.40	11
JUL 13...	19	7.3	120	6	4.9	61	36	180	0.30	10
AUG 26...	16	5.0	94	5	5.8	63	50	110	0.60	0.20

DATE	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)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
NOV 17...	167	0.360	0.040	0.400	0.350	0.85	1.2	0.260	--	--
JAN 05...	70	--	0.020	<0.100	0.040	0.46	0.50	0.010	<1	34
APR 07...	143	0.170	0.030	0.200	0.080	0.82	0.90	0.090	--	--
MAY 25...	317	0.560	0.040	0.600	0.050	0.55	0.60	0.180	--	--
JUL 13...	414	0.580	0.020	0.600	<0.010	--	1.3	0.130	1	81
AUG 26...	319	0.470	0.030	0.500	<0.010	--	0.80	0.190	--	--

08022040 SABINE RIVER NEAR BECKVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	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 17...	--	--	--	--	--	--	--	--	--	--
JAN 05...	3	<1	1	230	<5	36	<0.1	<1	<1.0	23
APR 07...	--	--	--	--	--	--	--	--	--	--
MAY 25...	--	--	--	--	--	--	--	--	--	--
JUL 13...	<1	2	5	24	<5	120	<0.1	1	2.0	28
AUG 26...	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	4091	735	402	4440	140	1540	54	593	90
NOV.	1987	39926	259	144	15600	42	4470	23	2530	46
DEC.	1987	153910	154	86	35800	23	9740	15	6110	29
JAN.	1988	225580	167	94	57200	26	15600	16	9740	32
FEB.	1988	95510	219	123	31600	34	8760	21	5300	41
MAR.	1988	130060	226	126	44400	35	12300	21	7450	42
APR.	1988	58814	298	166	26400	48	7620	27	4280	52
MAY	1988	10050	466	258	7000	79	2150	39	1070	74
JUNE	1988	3623	651	358	3500	120	1150	51	496	89
JULY	1988	6093	584	321	5280	110	1750	45	746	80
AUG.	1988	2283	528	291	1790	95	588	41	255	73
SEPT	1988	1691	524	289	1320	93	424	42	192	76
TOTAL		731631	**	**	234000	**	66100	**	38800	**
WTD.AVG.		1999	212	119	**	33	**	20	**	38

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	656	392	189	91	275	209	349	513	557	853	436	273
2	819	408	224	94	271	211	255	482	567	782	432	268
3	969	487	227	97	277	211	238	421	621	741	437	277
4	1090	515	253	101	274	211	209	429	624	735	452	292
5	851	526	265	109	288	227	203	409	551	690	494	341
6	586	574	333	120	288	196	240	415	605	514	495	373
7	544	594	229	133	293	198	256	441	596	608	422	401
8	593	646	123	137	301	218	272	442	579	651	363	424
9	711	670	113	138	306	300	259	469	552	411	343	431
10	787	596	112	148	321	258	251	452	600	378	334	433
11	795	423	132	162	299	243	256	450	649	528	308	433
12	834	333	156	174	293	227	259	432	660	737	311	455
13	861	442	172	185	294	225	287	438	697	773	1200	512
14	844	415	270	196	297	246	351	392	688	708	1470	673
15	825	458	229	211	303	226	370	365	677	602	614	738
16	839	344	234	216	293	225	429	394	682	578	479	723
17	869	285	237	225	299	223	504	409	674	536	387	631
18	873	372	224	274	242	210	466	425	664	518	367	598
19	804	321	243	266	249	212	417	454	683	603	360	461
20	765	363	266	243	171	210	351	469	687	478	374	427
21	765	340	327	241	155	198	374	632	717	363	379	409
22	940	425	264	247	168	194	350	607	727	416	394	462
23	881	348	269	264	172	205	325	599	777	377	475	610
24	932	367	249	274	212	236	347	588	798	430	645	732
25	951	312	274	271	211	241	385	582	735	562	652	949
26	1050	241	207	268	211	241	425	590	714	1600	582	879
27	995	157	101	276	210	257	514	596	724	1080	570	751
28	710	144	91	273	205	262	559	579	729	664	467	676
29	449	153	110	273	203	264	532	591	651	506	415	644
30	551	167	89	275	---	271	513	569	724	472	385	633
31	479	---	86	277	---	288	---	569	---	441	338	---
MEAN	794	394	203	202	255	230	352	490	664	624	496	530

08022040 SABINE RIVER NEAR BECKVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	18.0	12.5	8.5	9.5	13.0	15.5	22.5	25.0	30.0	29.0	30.0
2	20.0	17.0	10.5	8.0	10.0	14.0	16.0	20.5	25.5	30.0	28.5	27.5
3	21.0	19.5	10.5	7.5	10.5	13.5	16.5	23.0	25.0	30.0	29.0	29.0
4	19.0	18.5	10.5	7.5	10.0	13.5	18.0	22.0	28.0	28.0	29.0	28.5
5	18.0	18.5	10.5	7.0	9.5	13.0	18.0	21.0	28.0	28.0	32.0	25.0
6	19.0	17.0	11.5	6.5	9.5	13.5	18.0	21.0	27.5	29.0	29.0	24.0
7	18.0	16.5	12.0	4.5	7.5	13.5	17.5	22.0	30.0	27.5	29.0	24.0
8	18.0	16.5	14.0	4.0	7.5	15.0	18.0	22.0	26.5	28.5	29.0	26.5
9	19.0	17.0	13.5	4.0	7.5	14.0	19.0	23.0	30.5	27.0	28.5	23.5
10	20.0	15.0	13.0	4.0	7.5	14.0	19.0	23.5	26.5	28.0	29.5	26.5
11	20.0	15.0	14.5	4.0	6.5	14.5	17.0	23.5	29.0	29.0	27.0	25.5
12	19.0	14.0	14.0	4.5	6.0	15.0	15.5	23.5	25.5	29.0	29.5	26.5
13	18.0	13.0	13.0	4.5	8.0	14.0	16.0	23.0	25.0	28.0	30.5	26.5
14	17.0	12.5	12.5	4.0	8.5	14.0	18.0	27.0	26.5	32.0	28.0	30.0
15	17.0	14.0	10.5	5.0	9.0	13.0	18.0	24.0	27.0	32.5	30.5	29.0
16	17.0	15.0	10.0	5.5	9.5	13.0	18.0	27.5	27.0	29.5	30.0	28.0
17	19.0	14.0	9.0	6.5	9.5	13.5	21.0	24.5	27.0	30.0	31.0	29.0
18	20.0	14.0	9.0	7.5	10.5	---	19.0	25.0	26.5	30.0	31.0	27.0
19	20.0	13.5	9.0	8.5	10.5	11.5	18.0	29.0	29.5	31.5	28.0	28.0
20	22.0	14.0	8.0	8.0	12.0	11.5	18.0	26.0	27.0	30.0	29.0	27.0
21	20.0	13.0	9.0	8.0	10.0	12.0	19.0	26.0	30.5	29.0	32.0	27.0
22	17.0	12.5	9.0	7.5	12.0	13.0	20.5	25.0	28.0	31.5	29.0	27.0
23	16.0	13.0	9.0	7.5	11.5	13.5	21.0	23.0	28.5	31.5	29.5	30.0
24	16.0	13.5	11.0	7.5	11.0	14.5	21.0	23.5	28.5	31.5	29.0	27.5
25	18.0	15.0	12.5	7.0	10.5	15.0	22.5	23.0	28.0	29.0	29.0	27.5
26	19.0	14.5	14.0	6.0	10.5	16.0	23.0	22.5	28.0	28.5	29.0	27.5
27	19.0	14.5	11.0	6.0	12.0	16.5	21.5	24.0	28.5	28.0	29.0	27.5
28	---	13.5	9.5	6.0	12.0	17.5	21.5	28.0	30.5	27.5	29.0	24.5
29	17.0	13.0	8.0	7.0	12.0	19.0	21.0	24.0	31.5	31.0	29.0	26.5
30	19.0	12.0	8.0	8.0	---	16.0	20.0	24.5	30.0	28.0	27.0	24.0
31	19.0	---	9.0	9.5	---	15.0	---	25.0	---	31.5	26.0	---
MEAN	18.5	15.0	11.0	6.5	9.5	14.0	19.0	24.0	28.0	29.5	29.0	27.0

08022060 MARTIN LAKE NEAR TATUM, TX

LOCATION.--Lat 32°15'42", long 94°34'23", Rusk County, Hydrologic Unit 12010002, on retaining wall, 30 ft to right of intake to generating plant No. 1, 1.9 mi upstream from Martin Dam on Martin Creek, 5.8 mi southwest of Tatum, and 21.9 mi upstream from mouth.

DRAINAGE AREA.--130 mi².

PERIOD OF RECORD.--April 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 15, 1976, non-recording gage near left end of dam 1.9 mi downstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 8,675 ft long, including a 1,000-foot uncontrolled spillway. Deliberate impoundment began in April 1974. The uncontrolled spillway is an excavated channel cut through natural ground and located at the left end of the dam. The controlled spillway is a concrete ogee design with four 14.0- by 40.0-foot-wide tainter gates located near the left end of the dam. The low-flow outlet works consist of a 3.0- by 5.0-foot conduit with a sluice gate located in one of the gate piers. There is an 8-inch pipe with sluice gate. The area and capacity tables are based on an aerial survey made in October 1971. There are no known diversions. 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	321.5	-
Crest of uncontrolled spillway	312.0	111,500
Top of gates	308.0	87,960
Top of conservation pool	306.0	77,500
Crest of gated spillway	294.0	31,040
Lowest gated outlet (invert)	284.0	10,320

COOPERATION.--Area and capacity tables provided by Forrest and Cotton, Consulting Engineers, for Texas Utilities Services, Inc.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 95,240 acre-ft Dec. 26, 1987 (elevation, 309.30 ft); minimum since first appreciable storage, 57,520 acre-ft Sept. 29-30, 1988 (elevation, 301.64 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 95,240 acre-ft Dec. 26 at 2300 hours (elevation, 309.30 ft); minimum, 57,520 acre-ft Sept. 29-30 (elevation, 301.64 ft).

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

301.0	54,900	305.0	72,580	309.0	93,520
303.0	63,360	307.0	82,620	310.0	99,300

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68110	65770	74970	79630	78660	72340	75950	76150	72540	68890	64290	61430
2	67880	65730	75020	80090	78710	72920	76400	76100	72390	68710	64110	61300
3	67690	65640	74970	80700	78760	73260	76650	76000	72440	68520	63980	61300
4	67600	65550	74970	81010	78710	73450	76800	75850	72200	68620	63890	61090
5	67420	65370	74920	81070	78610	73600	76700	75810	72060	68520	63800	60960
6	67230	65320	78050	82000	78660	73650	76650	75760	71960	68430	63670	60780
7	67090	65280	81170	82260	78710	73700	76700	75660	71820	68290	63540	60610
8	67050	65140	81220	82520	78710	73890	76750	75660	71720	68290	63320	60480
9	66910	65770	80650	82830	78760	73990	76700	75510	71440	68200	63050	60310
10	66870	65960	80040	83150	78810	74040	76600	75560	71200	68060	62960	60180
11	66680	65960	79220	83410	78810	74090	76500	75460	71010	67970	63230	60060
12	66590	65960	78460	83940	78860	74130	76500	75360	70870	67870	63230	59930
13	66460	65910	77750	84580	78960	74040	76450	75260	70680	67740	63140	59840
14	66360	65870	77000	83940	78860	74040	76450	75160	70490	67640	63010	59710
15	66230	66090	76650	82360	78860	73990	76400	75020	70350	67410	62870	59500
16	66140	67370	76700	80550	78860	73990	76400	74870	70300	67280	62700	59420
17	66050	68430	76650	79070	78660	74870	76700	74820	70160	67090	62700	59370
18	65960	68570	76700	78360	82570	76150	76500	74670	69970	66910	63180	59200
19	65870	68570	77550	77900	82210	76700	76650	74530	69920	66730	63100	59030
20	65680	68570	78100	77950	79880	76850	76750	74480	69780	66550	62920	58950
21	65550	68480	78360	78000	77450	76250	76650	74280	69640	66320	62790	58780
22	65370	68480	78510	78100	74820	74870	76550	74130	69550	66100	62660	58650
23	65320	68660	78710	78200	72200	74130	76500	73840	69360	65960	62480	58490
24	65590	68800	79020	78150	71960	74130	76400	73650	69220	65740	62790	58280
25	65590	72680	80240	78200	71960	74330	76300	73500	69080	65510	62700	58110
26	66270	74530	95240	78200	72060	74330	76200	73360	69170	65330	62570	57980
27	66270	74870	87150	78310	72150	74330	76050	73210	69130	65100	62390	57900
28	66270	74970	79980	78360	72250	74380	76000	73120	69410	64970	62170	57770
29	66140	75020	77000	78410	72300	74870	76150	72970	69310	64790	61960	57570
30	66050	74970	77900	78510	---	75310	76150	72830	69130	64610	61780	57570
31	65910	---	79070	78560	---	75510	---	72680	---	64470	61560	---
MAX	68110	75020	95240	84580	82570	76850	76800	76150	72540	68890	64290	61430
MIN	65320	65140	74920	77900	71960	72340	75950	72680	69080	64470	61560	57570
(†)	303.57	305.49	306.31	306.21	304.94	305.60	305.73	305.02	304.27	303.25	302.59	301.65
(ϕ)	-2380	+9060	+4100	-510	-6260	+3210	+640	-3470	-3550	-4660	-2910	-3990

CAL YR 1987 MAX 95240 MIN 65140 (ϕ) +610
WTR YR 1988 MAX 95240 MIN 57570 (ϕ) -10720

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

08022070 MARTIN CREEK NEAR TATUM, TX

LOCATION.--Lat 32°17'44", long 94°29'29", Panola County, Hydrologic Unit 1201002, on right bank, 35 ft downstream from right abutment, 360 ft to right of bridge on State Highway 149, 50 ft upstream from Gulf, Colorado, and Santa Fe Rail way Co. bridge, 1.7 mi upstream from Hogan Creek, 2.0 mi southeast of Tatum, 5.0 mi downstream from Martin Lake, and 15.0 mi upstream from mouth.

DRAINAGE AREA.--148 mi².

PERIOD OF RECORD.--April 1974 to current year.

REVISED RECORDS.--WDR TX-76-1: 1975.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 240.26 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 31, 1978, at site 50 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow is largely regulated by Martin Lake, located 5 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years (water years 1975-88), 82.4 ft³/s (59,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,050 ft³/s Dec. 28, 1988 (gage height, 15.20 ft); minimum, 0.25 ft³/s Oct. 17, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1948, 18.15 ft April 1969. The flood in April 1957 reached a stage of 13.95 ft, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,050 ft³/s Dec. 28 at 1230 hours (gage height, 15.20 ft); minimum, 1.3 ft³/s June 2-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	7.4	14	108	15	19	32	14	1.6	7.0	7.8	6.7
2	2.7	7.7	13	42	15	28	150	11	1.3	6.9	7.9	6.3
3	2.6	7.8	13	35	16	93	48	9.8	2.8	6.8	7.2	7.1
4	2.8	7.9	13	35	17	34	26	9.1	4.1	8.7	7.6	29
5	3.0	7.7	12	26	15	25	20	8.8	4.2	7.8	7.9	8.8
6	2.8	8.0	82	24	14	22	16	8.4	5.0	28	8.0	7.2
7	2.7	8.5	392	35	14	20	14	8.5	5.5	12	7.9	6.3
8	4.8	8.3	100	32	14	21	12	8.8	6.0	11	6.6	6.3
9	6.8	15	244	28	15	38	12	8.9	6.4	11	5.6	6.5
10	7.1	20	427	32	15	23	13	11	6.2	8.8	5.2	6.1
11	7.4	12	437	34	15	17	15	9.4	6.7	7.8	9.1	6.1
12	6.8	10	432	58	16	31	14	8.7	6.8	7.8	7.5	6.5
13	6.8	9.6	446	69	16	24	13	8.2	6.8	7.9	6.8	6.5
14	7.1	9.2	454	50	16	18	12	7.6	7.9	7.4	6.4	6.4
15	7.0	9.2	428	1150	15	18	11	7.0	7.4	7.1	5.9	6.0
16	6.7	64	262	1440	15	16	11	6.7	7.4	7.5	5.5	5.8
17	7.3	58	37	1600	15	26	12	6.3	6.8	7.3	5.6	5.8
18	7.5	18	15	937	1130	150	26	6.1	6.7	6.8	6.8	6.1
19	8.3	13	23	845	e2080	46	17	6.3	6.9	6.9	12	6.2
20	7.7	11	53	382	e2070	28	13	6.4	8.0	7.0	7.7	6.1
21	8.3	11	24	40	e1980	32	12	6.3	7.2	7.1	6.6	6.0
22	7.7	11	18	20	e1880	729	11	11	7.1	6.9	5.9	5.7
23	8.2	11	16	19	1830	1430	11	11	7.3	7.2	6.0	5.8
24	9.9	15	18	18	1340	423	11	7.3	7.1	7.3	19	5.8
25	11	145	30	16	134	37	9.8	6.3	6.8	7.1	10	5.6
26	22	152	943	15	27	21	9.5	3.5	7.2	7.9	7.7	5.4
27	15	32	2600	15	22	16	9.5	2.0	7.1	7.5	7.3	5.3
28	8.8	19	3730	15	21	15	9.5	1.6	6.9	8.3	6.9	5.3
29	7.5	16	2480	15	20	30	11	1.4	10	7.5	6.3	5.3
30	6.3	15	1500	15	---	68	16	2.8	7.3	7.5	6.4	5.7
31	6.6	---	356	15	---	30	---	2.2	---	7.8	6.5	---
TOTAL	221.7	739.3	15612	7165	12792	3528	597.3	226.4	188.5	263.6	233.6	207.7
MEAN	7.15	24.6	504	231	441	114	19.9	7.30	6.28	8.50	7.54	6.92
MAX	22	152	3730	1600	2080	1430	150	14	10	28	19	29
MIN	2.5	7.4	12	15	14	15	9.5	1.4	1.3	6.8	5.2	5.3
AC-FT	440	1470	30970	14210	25370	7000	1180	449	374	523	463	412

CAL YR 1987 TOTAL 38952.2 MEAN 107 MAX 3730 MIN 1.7 AC-FT 77260
WTR YR 1988 TOTAL 41775.1 MEAN 114 MAX 3730 MIN 1.3 AC-FT 82860

e Estimated.

08022500 SABINE RIVER AT LOGANSPORT, LA

LOCATION.--Lat 31°58'20", long 94°00'22", De Soto Parish, Louisiana-Shelby County, Texas State line at Logansport, Hydrologic Unit 12010004, on left bank just upstream from bridge on U.S. Highway 84, 3 mi upstream from Bayou Castor, 111 mi upstream from Toledo Bend Dam, and at mile 267.1.

DRAINAGE AREA.--4,842 mi².

PERIOD OF RECORD.--Gage-height record March 1968 to current year. Discharge record July 1903 to February 1968.

REVISED RECORDS.--WSP 1312: 1903-6 (monthly and annual means). WSP 1732: 1929(M), 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 147.72 ft above National Geodetic Vertical Datum of 1929. July 1, 1903, Sept. 30, 1956, nonrecording gage. Oct. 1, 1956, to Jan. 16, 1964, water-stage recorder 4,600 ft upstream. Jan. 16, 1964, to Dec. 10, 1968, water-stage recorder 4,700 ft upstream. All gages to present datum except prior to Dec. 31, 1906 when datum was 2.00 ft lower.

REMARKS.--Station discontinued as a daily streamflow station Mar. 1, 1968, due to backwater from storage in Toledo Bend Reservoir (station 08025350). Ten major reservoirs, with a combined capacity of 1,824,000 acre-ft, largely regulate the flow. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08018500. Numerous diversions above station for oil field operations, municipal, and industrial uses.

AVERAGE DISCHARGE.--64 years (water years 1904-67), 3,208 ft³/s (2,324,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (1968-88), 32.50 ft Apr. 20, 1969; minimum since initial filling of Toledo Bend Reservoir in June 1968, 16.85 ft Nov. 9, 1987. Maximum discharge (1903-67), 92,000 ft³/s Apr. 8, 1945 (gage height, 44.07 ft, from floodmark); minimum, 16 ft³/s Sept. 26-28, Oct. 3, 4, 1939.
Maximum stage since at least 1884, that of Apr. 8, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1884 reached a stage of 39.4 ft, present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 29.01 ft Jan. 2 at 0600 hours; minimum, 16.85 ft Nov. 9.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	17.35	21.24	28.99	21.95	22.92	23.26	22.68	---	20.63	20.35	19.87
2	---	17.33	20.81	28.87	21.65	22.99	23.69	---	21.62	20.58	20.26	19.82
3	---	17.31	20.30	28.45	21.59	22.78	24.07	---	21.69	20.58	20.18	19.74
4	---	17.31	20.10	27.91	---	22.90	24.02	---	21.61	20.64	20.02	19.59
5	---	17.25	20.20	27.38	---	22.99	23.80	---	21.61	20.69	19.95	19.68
6	---	17.25	20.48	26.93	21.16	22.92	23.43	---	21.58	20.71	19.95	19.63
7	---	17.22	21.27	---	21.07	22.95	23.35	---	21.52	20.61	19.95	19.63
8	---	17.30	21.91	---	---	22.76	23.20	---	21.54	20.54	19.94	19.52
9	---	17.13	22.22	---	---	22.66	23.10	---	21.34	20.72	19.89	19.45
10	---	17.17	22.55	25.93	---	22.90	22.53	---	21.30	20.67	20.15	19.40
11	---	17.28	22.86	25.93	---	23.12	22.75	---	21.35	20.58	20.16	19.60
12	---	17.26	22.96	25.90	---	22.52	22.80	---	21.38	20.63	20.12	19.40
13	---	17.26	22.90	25.82	---	22.26	22.71	---	21.37	20.58	20.33	19.45
14	17.46	17.29	22.75	25.77	---	22.35	22.69	---	21.29	20.56	20.37	19.37
15	17.46	17.72	22.23	25.73	---	22.47	22.59	---	21.20	20.63	20.26	19.39
16	17.43	19.15	21.64	25.67	---	22.49	22.62	---	21.14	20.63	20.18	19.40
17	17.41	20.00	21.05	25.62	---	22.65	22.98	---	21.13	20.55	20.12	19.39
18	17.36	20.80	20.68	25.40	---	22.96	22.28	---	21.05	20.61	20.17	19.53
19	17.37	21.02	20.70	---	---	23.31	22.63	---	21.15	20.41	20.14	19.34
20	17.27	20.35	20.59	---	---	23.46	22.73	---	20.98	20.43	19.87	19.31
21	17.37	19.42	20.76	---	---	23.49	22.87	---	20.89	20.28	19.90	19.26
22	17.31	19.15	20.75	---	---	23.59	22.66	---	20.88	20.34	20.06	19.27
23	17.27	19.02	20.70	---	24.57	23.43	22.54	---	20.92	20.35	20.04	19.30
24	17.36	19.11	20.59	---	24.56	23.33	22.72	---	20.84	20.34	20.00	19.03
25	17.36	19.62	20.29	---	24.38	22.91	22.49	---	20.90	20.45	20.07	19.11
26	17.41	20.55	21.36	---	24.14	22.74	22.62	---	20.86	20.27	20.02	19.09
27	17.40	20.99	22.88	---	23.82	22.70	22.61	---	20.81	20.38	19.94	19.05
28	17.42	21.28	24.16	---	23.45	22.65	22.68	---	20.74	20.36	19.87	19.09
29	17.61	21.55	25.42	---	23.09	22.16	22.93	---	20.76	20.36	19.79	18.94
30	17.50	21.55	27.06	---	---	22.64	22.63	---	20.77	20.43	19.74	18.86
31	17.38	---	28.42	22.09	---	22.84	---	---	---	20.26	19.75	---
MAX	---	21.55	28.42	---	---	23.59	24.07	---	---	20.72	20.37	19.87
MIN	---	17.13	20.10	---	---	22.16	22.28	---	---	20.26	19.74	18.86

08025350 TOLEDO BEND RESERVOIR NEAR BURKEVILLE, TX

LOCATION.--Lat 31°10'25", long 93°33'57", Newton County, Hydrologic Unit 12010004, in powerhouse at right end of Toledo Bend Dam on Sabine River, 15 mi northeast of Burkeville, and at mile 156.5.

DRAINAGE AREA.--7,178 mi².

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Sabine River Authority). Prior to July 20, 1967, nonrecording gage at same site and datum. July 20, 1967, to June 30, 1973, recording gage at right end of spillway 1.6 mi north of present site and at same datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam. Closure of embankment completed and deliberate impoundment was begun Oct. 3, 1966. The reservoir is operated for hydro-electric power generation and water conservation. Releases during high inflow periods are controlled by eleven 40- x 28-foot tainter gates. An 8.33- x 12-foot gated conduit through the dam is used for low-flow releases. Two additional 20-inch diameter conduits, which bypass the larger conduit, may also be used for low-flow releases. Water for turbines is admitted through four 16.75- x 29-foot penstocks and controlled by vertically operated caterpillar-type gates. The capacity table is based on Geological Survey topographic maps. For statement regarding regulation by upstream reservoirs, see station 08020000. 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	185.0	-
Design flood	175.3	5,102,000
Top of gates	173.0	4,660,000
Top of power drawdown storage	172.0	4,476,000
Top of power head storage	162.2	2,922,000
Crest of spillway (controlled)	145.0	1,162,000
Lowest gated outlet (invert)	100.0	4,090

COOPERATION.--Capacity table furnished by the Sabine River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 4,739,000 acre-ft Mar. 21, 1969 (elevation, 173.42 ft) minimum since initial filling of reservoir in June 1968, 3,290,000 acre-ft Nov. 14, 15, 1987 (elevation, 164.78 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,297,000 acre-ft Apr. 10 at 2100 hours (elevation, 171.00 ft); minimum, 3,290,000 acre-ft Nov. 14, 15 (elevation, 164.78 ft).

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

164.0	3,175,000	168.0	3,788,000	171.0	4,297,000
166.0	3,473,000	170.0	4,123,000		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3413000	3325000	3697000	3984000	4023000	4038000	4144000	4173000	4021000	3837000	3759000	3687000
2	3413000	3331000	3694000	4001000	4019000	4062000	4186000	4172000	4004000	3828000	3759000	3679000
3	3405000	3328000	3719000	4026000	3996000	4103000	4227000	4167000	4018000	3821000	3759000	3692000
4	3398000	3324000	3708000	4060000	3973000	4089000	4236000	4165000	4021000	3829000	3756000	3708000
5	3390000	3322000	3690000	4081000	3960000	4086000	4247000	4156000	4016000	3834000	3753000	3692000
6	3398000	3313000	3751000	4123000	3904000	4089000	4241000	4144000	4011000	3838000	3753000	3676000
7	3382000	3307000	3772000	4140000	3884000	4087000	4222000	4137000	4001000	3829000	3750000	3670000
8	3366000	3307000	3788000	4140000	3875000	4125000	4200000	4140000	3975000	3838000	3740000	3660000
9	3367000	3337000	3793000	4140000	3882000	4126000	4201000	4144000	3984000	3824000	3743000	3660000
10	3367000	3324000	3801000	4140000	3890000	4103000	4266000	4137000	3972000	3826000	3727000	3652000
11	3378000	3315000	3819000	4128000	3905000	4086000	4191000	4123000	3960000	3818000	3756000	3636000
12	3364000	3306000	3828000	4158000	3890000	4126000	4184000	4121000	3950000	3818000	3753000	3641000
13	3351000	3298000	3836000	4153000	3885000	4133000	4172000	4120000	3937000	3811000	3750000	3641000
14	3342000	3290000	3866000	4144000	3935000	4082000	4161000	4116000	3937000	3811000	3753000	3634000
15	3337000	3296000	3821000	4140000	3920000	4064000	4160000	4109000	3933000	3808000	3761000	3641000
16	3337000	3423000	3791000	4153000	3913000	4043000	4161000	4109000	3923000	3801000	3756000	3634000
17	3334000	3458000	3767000	4158000	3917000	4111000	4158000	4106000	3920000	3796000	3756000	3625000
18	3340000	3489000	3735000	4160000	3960000	4101000	4220000	4099000	3915000	3788000	3750000	3609000
19	3324000	3510000	3732000	4217000	3992000	4104000	4168000	4089000	3908000	3800000	3743000	3613000
20	3337000	3524000	3740000	4243000	3997000	4106000	4160000	4082000	3899000	3805000	3740000	3619000
21	3321000	3526000	3722000	4233000	4004000	4103000	4160000	4091000	3889000	3801000	3732000	3613000
22	3312000	3529000	3714000	4226000	4021000	4106000	4170000	4089000	3882000	3795000	3724000	3605000
23	3309000	3540000	3706000	4200000	4055000	4104000	4173000	4081000	3872000	3785000	3724000	3597000
24	3316000	3537000	3692000	4203000	4069000	4091000	4172000	4079000	3874000	3785000	3724000	3620000
25	3307000	3603000	3711000	4177000	4077000	4115000	4170000	4072000	3870000	3780000	3724000	3602000
26	3343000	3625000	3738000	4158000	4074000	4103000	4189000	4058000	3870000	3785000	3711000	3594000
27	3339000	3655000	3806000	4123000	4069000	4072000	4177000	4043000	3870000	3782000	3708000	3582000
28	3327000	3657000	3869000	4101000	4055000	4043000	4163000	4038000	3867000	3775000	3708000	3571000
29	3324000	3666000	3884000	4082000	4045000	4101000	4180000	4028000	3851000	3772000	3711000	3578000
30	3325000	3689000	3882000	4053000	---	4103000	4180000	4028000	3837000	3772000	3702000	3569000
31	3325000	---	3933000	4040000	---	4111000	---	4024000	---	3769000	3686000	---
MAX	3413000	3689000	3933000	4243000	4077000	4133000	4266000	4173000	4021000	3838000	3761000	3708000
MIN	3307000	3290000	3690000	3984000	3875000	4038000	4144000	4024000	3837000	3769000	3686000	3569000
(†)	165.02	167.38	168.88	169.51	169.54	169.93	170.33	169.42	168.30	167.88	167.36	166.62
(ϕ)	-103000	+364000	+244000	+107000	+5000	+66000	+69000	-156000	-187000	-68000	-83000	-117000

CAL YR 1987 MAX 4540000 MIN 3290000 (ϕ) -329000
WTR YR 1988 MAX 4266000 MIN 3290000 (ϕ) +141000

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

08025360 SABINE RIVER AT TOLEDO BEND RESERVOIR NEAR BURKEVILLE, TX

LOCATION.--Lat 31°10'25", long 93°33'57", Newton County, Hydrologic Unit 12010005, in powerhouse at right end of Toledo Bend Dam, 10 mi upstream from Sabine River near Burkeville gage, and at mile 156.5.

DRAINAGE AREA.--7,178 mi².

PERIOD OF RECORD.--October 1971 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1967 to September 1986.

GAGE.--Water-stage recorders. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Sabine River Authority).

REMARKS.--No estimated daily discharges. Records fair. Daily discharges are a combination of releases from various outlets at the dam. Discharges are results of releases through the turbines and are computed using scroll case differential pressure relationships. Taintor gate releases, low-flow sluiceway releases, bypass gate releases, and turbine leakages are all based on discharge measurements and operation logs.

AVERAGE DISCHARGE.--17 years, 5,247 ft³/s (3,801,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 67,000 ft³/s Jan. 28, 1974; minimum daily (estimated), 30 ft³/s Oct. 1-4, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 16,200 ft³/s Dec. 17, 18; minimum daily, 144 ft³/s Aug. 23, 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	771	757	775	14100	14700	9660	7080	174	2660	1380	1970	1380
2	912	813	860	12800	14700	6430	7100	2480	2520	204	1510	3350
3	1000	893	821	12900	15000	7560	6970	2370	2570	204	1750	2170
4	986	815	6060	12900	15100	6830	11600	2330	204	2570	1580	204
5	1040	860	204	10900	14700	6930	14200	3100	204	1180	1990	1440
6	997	839	204	10400	14800	6870	14700	2500	2620	794	174	1500
7	886	837	6250	11500	14900	7020	14600	204	2640	790	174	1470
8	808	867	4390	12200	6220	6750	11800	204	2640	1430	1490	1380
9	833	840	7500	14600	204	11000	7160	3020	2770	174	1530	1470
10	851	841	7670	14500	204	11100	5610	2550	2750	174	1500	1970
11	781	839	7540	14600	190	10800	8240	2510	204	769	1390	204
12	850	933	7650	14400	174	10700	5040	2640	204	785	2070	1410
13	769	799	7560	14500	174	10600	7370	2450	2690	862	174	1320
14	778	840	12500	14500	174	10900	3610	204	2750	1040	174	1580
15	856	844	15500	14400	174	10800	3720	204	2680	1460	1340	1630
16	826	800	15900	14500	174	10700	174	2730	2680	204	1530	1410
17	861	823	16200	14300	1390	10600	174	2640	3000	204	1630	1990
18	812	886	16200	14800	1960	10600	174	2560	2520	1710	1520	204
19	850	204	15600	14300	453	10700	190	2610	2570	1700	1370	1430
20	802	781	16000	15000	3010	10400	204	2480	2660	1420	1350	1440
21	857	929	12400	15000	5080	10500	204	204	2670	1360	1450	1580
22	806	860	9700	14100	204	10500	2060	204	2720	1990	1990	1420
23	816	342	9920	14500	3990	10900	204	2820	2760	204	144	1550
24	950	837	10300	14500	5660	10900	204	2260	2600	204	144	2040
25	851	785	12000	14600	7850	12100	204	2750	204	1360	1680	204
26	883	863	10000	14700	12200	10900	204	2520	204	1600	1410	1530
27	840	765	7550	14600	15400	10900	184	2670	2760	1480	2020	1420
28	848	843	11400	14800	15300	10700	174	1720	2730	1300	174	1460
29	819	794	12600	14700	15200	7060	2210	204	2770	2160	1410	1410
30	777	822	15600	14900	---	7230	174	2860	2740	204	1470	1640
31	814	---	15600	14600	---	7140	---	2730	---	204	1510	---
TOTAL	26530	23951	292454	433100	199285	295780	135538	60902	65694	31120	39618	43206
MEAN	856	798	9434	13970	6872	9541	4518	1965	2190	1004	1278	1440
MAX	1040	933	16200	15000	15400	12100	14700	3100	3000	2570	2070	3350
MIN	769	204	204	10400	174	6430	174	174	204	174	144	204
AC-FT	52620	47510	580100	859100	395300	586700	268800	120800	130300	61730	78580	85700

CAL YR 1987 TOTAL 1990444 MEAN 5453 MAX 16200 MIN 144 AC-FT 3948000
WTR YR 1988 TOTAL 1647178 MEAN 4500 MAX 16200 MIN 144 AC-FT 3267000

08026000 SABINE RIVER NEAR BURKEVILLE, TX

LOCATION.--Lat 31°03'50", long 93°31'10", Newton County, Texas-Vernon Parish, Louisiana State line, Hydrologic Unit 12010005, near left edge of low-water channel at downstream side of bridge on State Highway 63, about 200 ft downstream from Pearl Creek, 10 mi northeast of Burkeville, 16 mi downstream from Bayou Toro, and at mile 139.7.

DRAINAGE AREA.--7,482 mi².

PERIOD OF RECORD.--September 1955 to current year. Published as "below Toledo Bend near Burkeville" for period 1955-75. Water-quality records.--Chemical and biochemical analyses: May 1968 to September 1986. Pesticide analyses: October 1972 to September 1981.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 70.59 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 23, 1958, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Toledo Bend Reservoir (station 08025350) 16.8 mi upstream, capacity, 4,660,000 acre-ft.

AVERAGE DISCHARGE.--11 years (water years 1956-66) prior to completion of Toledo Bend Reservoir, 4,653 ft³/s (3,371,000 acre-ft/yr); 22 years (water years 1967-88) regulated, 5,077 ft³/s (3,678,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,600 ft³/s Jan. 29, 1974 (gage height, 34.20 ft); minimum daily, 38 ft³/s Sept. 14, 15, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1860, 35.9 ft in May 1884, from information by local resident. Flood of Apr. 15, 1945, reached a stage of 35.8 ft, and flood of May 23, 1953, reached a stage of 35.3 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,900 ft³/s Dec. 21 at 1400 hours (gage height, 19.16 ft); minimum daily, 331 ft³/s July 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	953	963	1190	16300	15700	e13000	e7300	483	2930	2000	1440	1660
2	885	977	1120	13100	16100	e11000	e7300	1390	2460	890	1700	2910
3	973	933	1320	12400	16300	e10000	e7300	2410	2080	331	2010	2210
4	1030	990	2830	11900	16200	9340	e11700	2250	1980	1160	1740	1070
5	964	912	4090	11700	16000	8210	e14300	2600	399	2430	2060	749
6	997	911	721	11400	16100	7630	e14500	2450	1500	1040	1140	1350
7	974	991	6910	12400	16200	e7340	e14500	1510	2430	998	356	1420
8	946	858	8010	13700	11900	7920	e9500	425	2460	1190	793	1370
9	918	1000	8410	15900	2170	11900	e7700	1530	2970	1050	1660	1340
10	874	953	7740	15800	1150	13500	e5800	2290	3220	342	1660	1610
11	949	926	7420	15900	1060	11900	e8400	2500	1080	551	2480	1110
12	857	819	7390	15700	958	e11500	e5400	2520	351	899	2470	821
13	951	1100	7260	15600	926	e11000	8500	2460	1280	794	1550	1320
14	921	916	9560	15600	917	e11000	5100	1450	2520	1010	539	1280
15	933	1040	15400	15600	1010	e11000	4760	415	2540	1220	1020	1460
16	887	3120	16200	15600	1090	e11000	1730	1550	2710	1010	1540	1460
17	1030	4940	16300	15800	1780	e11000	586	2340	2280	345	1570	1680
18	902	3130	16500	16200	2750	e14200	513	2350	2770	974	1700	1060
19	937	2340	16500	16300	2710	e13800	477	2180	2340	1760	1570	805
20	887	1210	18000	17700	3550	e12500	517	2710	2500	1820	1490	1270
21	924	1110	17800	17400	8190	e11200	509	1920	2770	1540	1490	1500
22	920	1200	12700	16100	2440	e11200	1170	503	2580	1920	1820	1380
23	883	1070	11300	15500	2740	e11200	1410	1100	2520	1360	1270	1360
24	914	821	11200	15600	5360	e11200	500	2450	2400	430	366	1580
25	1050	1660	10900	15400	7260	e11000	450	2250	1600	933	1030	1050
26	1090	3260	10800	15600	9500	e11000	435	2660	389	1530	1520	818
27	1040	2520	11400	15500	14700	e11000	407	2880	1890	1660	1800	1410
28	1040	1970	13700	15500	15300	e11000	342	1820	1940	1640	1270	1260
29	937	1560	14700	15600	15600	8510	1040	1510	2960	2010	887	1310
30	1020	1360	17000	15700	---	e7500	1580	1180	2520	1260	1510	1580
31	924	---	16600	15800	---	e7400	---	2420	---	451	1470	---
TOTAL	29510	45560	320971	468300	225661	330950	143726	58506	64369	36548	44921	41203
MEAN	952	1519	10350	15110	7781	10680	4791	1887	2146	1179	1449	1373
MAX	1090	4940	18000	17700	16300	14200	14500	2880	3220	2430	2480	2910
MIN	857	819	721	11400	917	7340	342	415	351	331	356	749
AC-FT	58530	90370	636600	928900	447600	656400	285100	116000	127700	72490	89100	81730

CAL YR 1987 TOTAL 2122419 MEAN 5815 MAX 21000 MIN 272 AC-FT 4210000
WTR YR 1988 TOTAL 1810225 MEAN 4946 MAX 18000 MIN 331 AC-FT 3591000

e Estimated.

08028500 SABINE RIVER NEAR BON WIER, TX

LOCATION.--Lat 30°44'49", long 93°36'30", Beauregard Parish, Louisiana-Newton County, Texas State line, Hydrologic Unit 12010005, near left bank at downstream side of bridge on U.S. Highway 190, 0.7 mi upstream from Quicksand Creek, 0.8 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2.0 mi east of Bon Wier, 2.4 mi upstream from Caney Creek, and at mile 97.7.

DRAINAGE AREA.--8,229 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1312. Gage-height records collected in this vicinity since 1913 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1342: 1953. WSP 1442: 1924, 1926-27(M), 1929(M), 1939. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 43.42 ft above National Geodetic Vertical Datum of 1929. Prior to July 8, 1931, nonrecording gage at site 0.8 mi downstream at datum 3.00 ft higher. July 8, 1931, to Oct. 15, 1958, nonrecording gage at present site at datum 3.00 ft higher. Oct. 16, 1958, to Sept. 30, 1975, water-stage recorder at present site at datum 3.00 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by Toledo Bend Reservoir (station 08025350) located 58.8 mi upstream. Gage-height telemeter at station.

AVERAGE DISCHARGE.--43 years (water years 1924-66) prior to completion of Toledo Bend Reservoir, 6,846 ft³/s (4,960,000 acre-ft/yr); 22 years (water years 1967-88) regulated, 6,128 ft³/s (4,440,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 115,000 ft³/s May 19, 1953 (gage height, 28.70 ft); minimum daily, 134 ft³/s Nov. 9, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1833, 33.5 ft Apr. 23 or 24, 1913, from information by Gulf, Colorado, and Santa Fe Railway Co. and local residents. Flood in May 1884 reached a stage of 29 ft. Floods occurring about 1844 and 1860 were higher than flood in May 1884, from information by local residents. All flood data referenced to current datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,300 ft³/s Dec. 21 at 2400 hours (gage height, 19.41 ft); minimum daily, 637 ft³/s Aug. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	1280	3000	19500	15900	15200	13200	1930	e2800	2940	746	1710
2	1330	1310	2570	18000	16100	11700	13600	1080	e2800	2300	1420	1870
3	1260	1310	2300	15500	16400	12700	14700	1860	2610	1290	1820	3120
4	1350	1320	2210	14200	16400	15000	13700	2880	2470	744	2010	2960
5	1400	1290	4830	13700	16500	12800	15700	2750	1850	1780	1860	1810
6	1380	1300	3470	12900	17000	11100	17100	2940	734	2990	2090	1300
7	1380	1260	6120	13000	17100	9860	17100	2840	1680	2350	1390	1830
8	1360	1260	14300	14900	16600	9480	16700	1790	2560	1820	637	1850
9	1310	1240	12000	15900	9680	12400	13700	857	2780	1850	867	1760
10	1290	1380	11600	16700	3790	16100	10600	1820	3360	1540	1650	1710
11	1240	1440	10200	16500	2580	15800	9000	2650	3420	873	2730	2030
12	1290	1370	9280	16300	2280	14200	9510	2830	1540	917	4500	1540
13	1230	1230	8870	16200	2090	13200	7400	2830	755	1210	3720	1190
14	1280	1410	8570	16200	1990	12600	8140	2790	1680	1150	2390	1700
15	1270	1310	11800	16100	2070	12400	5500	1700	2840	1290	1310	1680
16	1260	2330	15000	16000	2490	12100	5070	758	2900	1530	1480	1860
17	1240	9910	15600	16400	2500	12100	2220	1730	3010	1300	1980	1900
18	1280	8920	15800	16900	3100	15100	1380	2620	2870	693	1990	2110
19	1250	e6350	16100	17100	5290	18300	1230	2620	3030	1120	2040	1530
20	1270	e4500	18200	17600	5200	17000	1150	2240	2760	1940	1920	1160
21	1180	e3000	21100	18600	6940	15200	1130	2850	2880	2070	1830	1680
22	1240	e2000	20500	18100	8080	13600	1090	2030	3040	1780	1860	1860
23	1240	e2300	16700	16600	3780	13100	1930	e900	2970	2070	2210	1790
24	1250	1980	15000	16000	4530	13000	1730	e1400	2950	1520	1670	1750
25	1160	2560	13500	15800	6950	12600	1050	e2700	2910	702	826	2000
26	1510	8220	12600	15700	8190	12500	946	e2600	1950	986	1210	1480
27	1870	7830	14700	15700	11600	12500	891	e2900	917	1610	1780	1140
28	1820	5920	18000	15600	14500	12400	838	e3000	2220	1700	2050	1740
29	1590	4680	18500	15600	15100	12200	763	e2000	2540	1690	1570	1640
30	1470	3710	19000	15700	---	9550	1760	e1600	3180	2030	1100	1670
31	1340	---	20100	15900	---	12100	---	e1400	---	1460	1680	---
TOTAL	41670	93920	381520	498900	254730	407890	208828	66895	74006	49245	56336	53370
MEAN	1344	3131	12310	16090	8784	13160	6961	2158	2467	1589	1817	1779
MAX	1870	9910	21100	19500	17100	18300	17100	3000	3420	2990	4500	3120
MIN	1160	1230	2210	12900	1990	9480	763	758	734	693	637	1140
AC-FT	82650	186300	756700	989600	505300	809000	414200	132700	146800	97680	111700	105900

CAL YR 1987 TOTAL 2612779 MEAN 7158 MAX 28500 MIN 800 AC-FT 5182000
WTR YR 1988 TOTAL 2187310 MEAN 5976 MAX 21100 MIN 637 AC-FT 4339000

e Estimated.

08028500 SABINE RIVER NEAR BON WIER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year. Chemical and biochemical analyses: October 1969 to May 1973. Sediment analyses: April 1957 tp September 1962.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1969 to June 1983.
WATER TEMPERATURE: November 1969 to June 1983.
COLOR: November 1969 to June 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 407 microsiemens Aug. 31, 1978; minimum daily, 34 microsiemens Feb. 3, 1983.
WATER TEMPERATURE: Maximum daily, 33.0°C July 17, 1978, and July 14, 26, 1980; minimum daily, 4.0°C Feb. 2, 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT							
07...	1700	1390	189	23.0	40	25	22
14...	1025	1180	172	19.0	40	22	19
20...	1140	1140	165	23.0	40	12	19
30...	0900	1360	210	19.0	80	32	22
NOV							
03...	1715	1290	178	21.0	40	25	19
17...	1037	10600	88	18.0	140	17	8.9
24...	1425	1880	201	19.0	120	--	--
DEC							
02...	1712	2590	136	14.0	120	--	--
09...	1135	11900	63	15.0	280	12	7.1
15...	1700	13200	151	15.0	60	18	18
22...	1435	20100	111	14.0	70	14	13
31...	1320	20200	124	13.0	60	16	15
JAN							
06...	1030	13200	145	11.0	40	18	18
12...	1115	16300	144	10.5	40	17	18
21...	1005	18700	132	11.0	70	17	16
28...	1140	15600	152	10.0	40	18	19
FEB							
02...	1735	16200	165	12.0	40	20	20
10...	1155	3540	128	11.0	70	16	15
18...	1035	3090	127	13.0	100	19	13
23...	1510	3210	139	16.0	70	19	16
MAR							
01...	1630	15300	156	14.5	40	19	20
09...	1220	12800	122	15.0	70	18	16
15...	1450	12400	157	14.0	50	20	20
22...	1040	14000	146	15.0	50	19	19
29...	1020	12700	163	18.0	40	22	21
APR							
05...	1100	15700	142	20.0	60	21	18
12...	1910	10100	162	18.0	40	23	20
20...	1115	1150	185	21.5	70	27	19
26...	1140	946	208	24.0	70	34	22
MAY							
06...	1005	2590	170	22.0	40	26	20
09...	1915	791	162	27.0	50	22	19
18...	1945	3170	158	23.0	30	22	20
24...	1920	2820	139	--	40	18	16
30...	1905	926	156	29.0	40	22	19
JUN							
07...	1610	2650	162	30.0	30	21	20
14...	1625	2700	150	30.0	30	18	16
20...	1905	3290	158	29.0	30	20	19
28...	2035	2850	156	31.0	40	20	18
JUL							
06...	1040	2990	170	27.0	40	--	--
13...	1100	1070	210	30.0	60	--	--
19...	1910	1850	171	27.0	40	--	--
26...	1205	714	210	31.0	50	--	--
AUG							
03...	1935	2010	172	30.0	30	25	20
10...	1910	1960	174	29.5	50	24	19
18...	1402	1910	182	30.0	50	28	20
23...	1215	2060	192	32.0	50	31	22
SEP							
02...	1230	1660	171	29.0	40	23	20
07...	1158	1580	159	27.0	40	21	18
13...	1520	1370	215	32.0	40	33	24
21...	1240	1440	159	30.0	20	19	16
29...	0645	1500	156	28.0	30	18	18

08029500 BIG COW CREEK NEAR NEWTON, TX

LOCATION.--Lat 30°49'08", long 93°47'07", Newton County, Hydrologic Unit 12010005, near center of span at downstream side of bridge on State Highway 87, 2.6 mi southwest of Newton, 5.0 mi downstream from Melhomes Creek, and 8.0 mi upstream from White Oak Creek.

DRAINAGE AREA.--128 mi².

PERIOD OF RECORD.--April 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 134.69 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1957, 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.--36 years, 118 ft³/s (12.52 in/yr), 85,490 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft³/s Apr. 29, 1953 (gage height, 19.45 ft); minimum daily, 10 ft³/s July 7, 8, 21-23, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1907, 27.5 ft in April 1922, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 17	1400	1,120	14.12	Dec. 21	2400	1,470	14.79
Nov. 26	1100	2,570	15.61	Mar. 3	2200	1,480	14.80
Dec. 7	1900	*2,810	*15.71	Mar. 18	2100	1,160	14.22

Minimum discharge, 33 ft³/s, Sept. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	55	130	371	167	90	370	202	47	40	56	61
2	44	54	114	344	430	136	612	101	44	39	56	58
3	43	52	106	205	253	1100	458	78	46	38	61	91
4	42	51	100	174	165	889	192	71	54	40	61	164
5	41	50	96	154	181	250	143	66	56	80	53	84
6	42	50	146	140	430	161	158	63	49	163	50	53
7	41	49	1680	452	244	134	148	61	45	197	46	45
8	40	49	1430	579	164	178	113	61	43	124	44	42
9	40	59	370	254	142	707	103	63	44	107	42	40
10	40	79	191	178	127	347	97	64	64	74	49	39
11	40	82	153	152	120	170	93	59	45	63	123	40
12	40	65	137	143	117	138	93	57	41	58	127	43
13	40	58	124	148	108	120	91	60	40	53	90	41
14	40	56	125	150	109	107	86	61	39	53	67	40
15	40	57	126	129	150	99	83	56	39	49	53	39
16	40	344	110	136	138	97	81	53	38	47	48	41
17	40	1030	101	429	110	108	81	52	38	46	46	52
18	41	538	100	324	163	862	82	50	39	45	46	52
19	41	143	174	371	334	753	81	49	39	44	53	44
20	42	99	958	682	195	258	76	48	40	50	57	40
21	42	84	1190	284	131	161	73	58	52	85	50	37
22	42	78	1020	162	111	136	72	165	44	60	52	36
23	41	74	314	137	103	123	72	132	57	51	44	35
24	42	74	251	128	98	119	72	68	66	45	43	35
25	45	467	243	119	92	123	70	58	56	43	43	34
26	147	1930	250	110	89	126	64	53	66	55	42	34
27	305	936	913	106	88	112	62	50	56	93	42	34
28	207	407	966	104	90	101	60	48	50	60	42	34
29	82	230	418	103	92	103	65	47	52	61	45	34
30	63	156	222	103	---	380	179	47	44	62	78	33
31	58	---	198	104	---	695	---	47	---	70	56	---
TOTAL	1898	7456	12456	6975	4741	8883	4030	2148	1433	2095	1765	1455
MEAN	61.2	249	402	225	163	287	134	69.3	47.8	67.6	56.9	48.5
MAX	305	1930	1680	682	430	1100	612	202	66	197	127	164
MIN	40	49	96	103	88	90	60	47	38	38	42	33
AC-FT	3760	14790	24710	13830	9400	17620	7990	4260	2840	4160	3500	2890
CFSM	.48	1.94	3.14	1.76	1.28	2.24	1.05	.54	.37	.53	.44	.38
IN.	.55	2.17	3.62	2.03	1.38	2.58	1.17	.62	.42	.61	.51	.42

CAL YR 1987 TOTAL 65308 MEAN 179 MAX 1930 MIN 40 AC-FT 129500 CFSM 1.40 IN. 18.98
WTR YR 1988 TOTAL 55335 MEAN 151 MAX 1930 MIN 33 AC-FT 109800 CFSM 1.18 IN. 16.08

08030500 SABINE RIVER NEAR RULIFF, TX
(Radiochemical and national stream-quality accounting network)

LOCATION.--Lat 30°18'13", long 93°44'37", Calcasieu Parish, Louisiana-Newton County, Texas State line, Hydrologic Unit 12010005, at downstream side of bridge on State Highway 12, 2.4 mi north of Ruliff, 4.2 mi upstream from the Kansas City Southern Railway Co. bridge, 4.5 mi downstream from Cypress Creek, and at mile 40.2.

DRAINAGE AREA.--9,329 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1924 to current year.

REVISED RECORDS.--WSP 1282: 1941(M), 1942. WSP 1442: 1925-29, 1937-39, 1943. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4.08 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 1, 1941, nonrecording gage at Kansas City Southern Railway Co. bridge, 4.2 mi downstream and at datum 2.02 ft lower. Mar. 1, 1941, to Dec. 8, 1948, nonrecording gage at present site and datum.

REMARKS.--Records good. Flow is partly regulated by Toledo Bend Reservoir (station 08025350) 116.3 mi upstream.

AVERAGE DISCHARGE.--42 years (water years 1925-66) prior to completion of Toledo Bend Reservoir, 8,422 ft³/s (6,102,000 acre-ft/yr); 22 years (water years 1967-88) regulated, 7,513 ft³/s (5,443,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 121,000 ft³/s May 22, 1953 (gage height, 19.98 ft); minimum, 270 ft³/s Sept. 27-30, Oct. 1-3, 17-20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1835, 22.2 ft in May or June 1884 (adjusted to present site and datum on basis of slope of flood of June 8, 9, 1950); flood of Apr. 26-29, 1913, reached a stage of 19.5 ft, present site and datum, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,900 ft³/s Dec. 24 at 2300 hours (gage height, 14.64 ft); minimum daily, 989 ft³/s Aug. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1510	1670	9020	21800	15700	8880	14300	1840	1870	2910	2000	1470
2	1470	1520	6990	21800	15800	12200	14600	2750	2470	3150	1410	1690
3	1450	1470	5150	21500	15800	14500	15200	2520	3080	3000	1210	1870
4	1420	1460	3860	21000	16100	15500	15700	2140	3350	2310	1770	2460
5	1410	1440	3260	19600	16400	15800	16100	2860	3320	1480	1980	3040
6	1460	1430	4010	18000	16800	16100	16100	3240	3080	1420	2050	2740
7	1480	1410	5830	17100	17000	16400	15800	3350	2070	2650	2070	1840
8	1460	1410	7130	16400	17400	16300	15800	3410	1590	2970	1990	1730
9	1460	1400	9390	15900	17800	15100	16200	3160	2410	2650	1330	1870
10	1430	1390	11900	15800	17800	13700	16400	2140	2890	2280	989	1860
11	1400	1390	13800	16000	16700	13400	16000	1780	3230	2200	1620	1820
12	1380	1510	15100	16300	11200	14300	15100	2620	3480	1640	2280	1860
13	1360	1540	15100	e16300	7450	15300	13400	3110	3130	1280	3430	1990
14	1360	1490	13900	16300	5080	15600	11900	3270	1860	1380	3880	1470
15	1350	1460	12400	16300	3750	15300	10500	3300	1360	1440	3360	1570
16	1370	1700	11300	16300	3290	14800	9490	3020	2240	1450	2200	1720
17	1360	2440	11200	16600	3300	14300	8290	1970	2830	1570	1550	1870
18	1360	5230	12100	16600	3450	14600	6730	1630	3030	1700	1740	1970
19	1350	7470	13400	17000	3760	15200	4320	2500	3050	1320	1920	2020
20	1370	8700	15200	17300	4760	15700	2850	2910	3140	1120	1960	2030
21	1360	9060	17100	17500	5750	16900	2310	3030	3100	1700	1950	1460
22	1340	8320	18900	17400	6170	18200	2100	3150	3030	2100	1900	1540
23	1320	6740	21400	17400	6720	18400	1980	3080	3130	2060	1870	1740
24	1340	4660	24200	17700	6800	17600	2080	2230	3200	2010	1980	1800
25	1360	3380	24400	17300	5900	16700	2650	1780	3230	2070	2050	1780
26	1390	3750	22500	16800	5630	15700	2210	2530	3260	1440	1430	1810
27	1570	6270	20500	16400	6080	14800	1770	2870	3050	1080	1110	1870
28	1990	8510	19300	16000	6740	14300	1630	3070	2010	1450	1520	1360
29	2320	9860	18600	15800	7700	14100	1570	3200	1710	1770	1750	1530
30	2170	10100	19300	15700	---	14200	1650	3100	2420	1820	1860	1730
31	1870	---	20500	15600	---	14200	---	2520	---	1910	1350	---
TOTAL	46240	118180	426740	537500	286830	468080	274730	84080	81620	59330	59509	55510
MEAN	1492	3939	13770	17340	9891	15100	9158	2712	2721	1914	1920	1850
MAX	2320	10100	24400	21800	17800	18400	16400	3410	3480	3150	3880	3040
MIN	1320	1390	3260	15600	3290	8880	1570	1630	1360	1080	989	1360
AC-FT	91720	234400	846400	1066000	568900	928400	544900	166800	161900	117700	118000	110100

CAL YR 1987 TOTAL 3091290 MEAN 8469 MAX 36500 MIN 1150 AC-FT 6132000
WTR YR 1988 TOTAL 2498349 MEAN 6826 MAX 24400 MIN 989 AC-FT 4955000

e Estimated.

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Radiochemical and national stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: September 1945 to September 1946, October 1947 to current year. Chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: January 1968 to May 1982. Radiochemical analyses: October 1969 to current year. Sediment analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: September 1945 to September 1946, October 1947 to current year.
WATER TEMPERATURE: October 1947 to current year.
pH: July 1967 to May 1975
COLOR: November 1969 to December 1975.
DISSOLVED OXYGEN: July 1968 to May 1975.
CHLORIDE: July 1967 to September 1968.

INSTRUMENTATION.--From February 1967 to December 1975, a water-quality monitor continuously recorded specific conductance, pH, water temperature, dissolved oxygen, and chloride 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 equation developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 779 microsiemens Aug. 31, 1966; minimum, 27 microsiemens Feb. 16, 1984.
WATER TEMPERATURE: Maximum, 36.0°C Aug. 14, 1962; minimum, 1.0°C Jan. 28, 1948.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 308 microsiemens Aug. 17; minimum daily, 53 microsiemens Nov. 28, Dec. 9.
WATER TEMPERATURE: Maximum daily, 32.0°C June 29; minimum daily, 7.5°C Jan. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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)
NOV 17...	0923	2170	157	6.70	17.0	16	10.2	105	0.5	420	280
FEB 23...	0933	6680	97	6.80	13.0	37	10.4	98	1.5	210	230
JUN 07...	0920	2170	140	7.00	26.0	26	7.6	94	1.0	130	64
JUL 19...	0909	1350	178	7.30	30.0	13	6.5	86	1.1	84	220

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET 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)
NOV 17...	28	8	7.4	2.2	19	2	2.7	20	22	19	0.10
FEB 23...	19	6	5.2	1.5	10	1	1.8	13	14	11	0.10
JUN 07...	29	9	7.2	2.6	15	1	2.5	20	18	17	0.10
JUL 19...	30	5	7.8	2.5	22	2	2.6	25	25	21	0.10

DATE	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, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	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-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)
NOV 17...	10	108	96	<0.010	0.140	0.020	0.060	0.48	0.50	0.030	0.030
FEB 23...	11	76	63	<0.010	0.120	0.060	0.040	0.34	0.40	0.070	0.030
JUN 07...	8.7	93	83	<0.010	<0.100	0.020	<0.010	0.38	0.40	0.030	0.020
JUL 19...	10	122	107	<0.010	0.160	0.020	<0.010	0.38	0.40	0.040	0.030

DATE	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	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)
NOV 17...	0.030	0.09	31	182	88	40	<1	42	<0.5	<1	<1
FEB 23...	0.010	0.03	46	830	99	30	<1	39	<0.5	<1	<1
JUN 07...	<0.010	--	15	88	96	60	<1	48	<0.5	<1	<1
JUL 19...	0.020	0.06	10	36	95	<10	1	46	<0.5	<1	<1

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Radiochemical and national stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	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)
NOV 17...	<3	2	250	<5	<4	36	<0.1	<10	<1	<1	1.0
FEB 23...	<3	6	170	<5	<4	27	<0.1	<10	8	<1	<1.0
JUN 07...	<3	2	97	<5	5	20	<0.1	<10	<1	<1	<1.0
JUL 19...	<3	1	120	<5	<4	18	<0.1	<10	4	<1	<1.0

DATE	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	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 SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
NOV 17...	88	<6	6	<0.4	0.6	2.8	1.0	2.4	1.0	0.02	0.02
FEB 23...	60	<6	9	--	--	--	--	--	--	--	--
JUN 07...	96	<6	10	--	--	--	--	--	--	--	--
JUL 19...	95	<6	14	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	46240	161	97	12100	21	2590	20	2440	28
NOV.	1987	118180	99	62	19800	13	4160	12	3940	20
DEC.	1987	426740	100	63	72900	13	15200	13	14400	21
JAN.	1988	537500	127	78	114000	17	24000	16	22700	25
FEB.	1988	286830	134	82	63800	17	13500	17	12800	26
MAR.	1988	468080	127	79	99600	17	21000	16	19900	25
APR.	1988	274730	140	86	63700	18	13500	17	12800	26
MAY	1988	84080	147	89	20300	19	4320	18	4080	27
JUNE	1988	81620	155	94	20700	20	4420	19	4170	28
JULY	1988	59330	177	104	16700	23	3620	21	3410	29
AUG.	1988	59509	167	99	15900	21	3440	20	3240	28
SEPT	1988	55510	154	93	14000	20	2990	19	2820	28
TOTAL		2498349	**	**	533000	**	113000	**	107000	**
WTD.AVG.		6826	128	79	**	17	**	16	**	25

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Radiochemical and national stream-quality accounting network)

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	185	74	96	147	149	148	164	150	159	149	154
2	197	183	76	105	150	147	139	152	157	157	154	168
3	181	170	92	111	154	145	130	120	155	160	150	205
4	170	160	101	112	150	135	120	124	153	157	156	151
5	164	162	115	113	152	111	114	130	149	163	144	144
6	165	155	120	117	150	109	128	146	142	162	153	146
7	165	161	138	121	147	110	134	160	150	184	151	140
8	172	160	103	124	143	115	139	155	142	154	156	150
9	173	158	53	117	140	111	144	152	145	186	151	147
10	169	154	73	119	136	117	144	148	168	233	151	174
11	171	155	76	120	128	101	147	150	165	269	193	167
12	173	156	80	126	114	107	144	147	158	186	174	167
13	178	164	92	130	104	115	144	150	154	186	126	160
14	170	166	110	129	104	124	150	152	153	223	139	150
15	168	172	120	136	108	130	149	147	153	200	219	160
16	162	185	133	139	109	137	151	148	149	191	201	167
17	159	156	141	139	117	142	146	146	150	195	308	160
18	160	130	142	137	113	143	148	148	153	191	275	154
19	161	76	141	133	99	136	143	147	153	170	175	152
20	160	74	103	129	96	122	149	148	154	166	148	152
21	159	79	98	127	95	113	157	147	155	172	174	149
22	163	86	95	130	92	111	156	149	158	150	149	150
23	154	97	90	132	113	113	157	147	159	167	157	155
24	154	102	97	130	114	121	162	146	153	172	163	150
25	155	145	102	134	105	131	155	140	159	176	149	144
26	153	115	100	137	120	136	159	126	160	158	148	150
27	153	75	105	140	143	141	153	133	155	156	143	145
28	132	53	105	143	144	146	162	159	148	162	155	145
29	127	55	97	144	152	150	164	156	152	188	170	142
30	123	58	89	145	---	153	169	150	189	149	160	141
31	137	---	88	145	---	156	---	147	---	155	152	---
MEAN	163	132	102	128	125	128	147	146	155	177	168	155

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

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

08031200 KICKAPOO CREEK NEAR BROWNSBORO, TX

LOCATION.--Lat 32°18'34", long 95°36'19", Henderson County, Hydrologic Unit 12020001, on left bank at bridge on Farm Road 314, 1.0 mi northeast of Brownsboro, and 11.5 mi upstream from mouth.

DRAINAGE AREA.--232 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 358.62 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-- Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years (water years 1963-88), 135 ft³/s (7.90 in/yr), 97,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s Apr. 27, 1966 (gage height, 14.79 ft); maximum gage height, 15.34 ft May 11, 1968; no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1935, 16.4 ft in 1936 or 1937, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 9	1300	1,080	9.37	Feb. 21	0100	1,380	9.81
Dec. 27	Unknown	*4,460	*12.07				

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	9.8	224	595	98	146	289	66	6.1	.12	.00	.00
2	.04	9.0	114	491	102	173	433	75	6.2	.11	.00	.00
3	.01	7.7	65	416	111	466	483	68	20	.11	.00	.00
4	.00	7.1	48	360	119	561	416	50	98	.95	.00	.00
5	.00	5.7	39	316	114	652	394	37	147	.28	.00	.00
6	.00	4.0	170	283	101	625	395	30	110	.12	.00	.00
7	.00	3.9	850	292	94	496	349	27	95	.11	.00	.00
8	.00	19	872	312	93	410	277	26	53	.16	.00	.00
9	.00	35	1040	318	101	371	188	26	26	.27	.00	.00
10	.00	40	882	322	108	358	118	30	16	.19	.00	.00
11	.00	40	608	326	112	553	87	57	11	.18	.00	.00
12	.00	38	428	333	111	590	72	59	7.1	1.1	.02	.00
13	.00	33	321	362	108	495	64	34	4.7	.52	.06	.00
14	.00	28	294	379	107	406	58	22	3.2	.26	.00	.00
15	.00	28	311	380	108	345	52	17	2.2	.22	.00	.00
16	5.5	38	291	392	105	315	47	14	1.5	3.3	.00	.00
17	14	46	263	399	96	312	44	13	.93	11	.00	.00
18	13	48	276	385	370	490	74	12	.70	6.1	.00	.00
19	11	36	292	349	869	535	223	8.7	.61	3.1	.00	.00
20	11	36	327	320	1030	638	270	6.3	.46	4.0	.00	.00
21	11	34	377	304	1230	626	312	6.5	.21	4.6	.00	.00
22	11	28	345	275	788	499	307	6.9	.13	2.5	.00	.00
23	11	24	336	227	558	396	197	8.5	.10	.77	.00	.00
24	11	20	340	170	448	323	93	13	.07	.26	.00	.00
25	13	154	421	137	367	268	58	14	.05	.11	.00	.00
26	13	328	e900	124	302	221	43	12	.32	.05	.00	.00
27	11	407	e3500	114	240	194	35	10	.12	.02	.00	.00
28	13	405	3600	105	191	181	30	9.1	.32	.00	.00	.00
29	12	367	e2050	98	162	170	27	6.5	.27	.00	.00	.00
30	11	317	e1100	95	---	186	38	5.3	.16	.00	.00	.00
31	10	---	e750	95	---	247	---	5.4	---	.00	.00	---
TOTAL	181.61	2596.2	21434	9074	8343	12248	5473	775.2	611.45	40.51	0.08	0.00
MEAN	5.86	86.5	691	293	288	395	182	25.0	20.4	1.31	.003	.00
MAX	14	407	3600	595	1230	652	483	75	147	11	.06	.00
MIN	.00	3.9	39	95	93	146	27	5.3	.05	.00	.00	.00
AC-FT	360	5150	42510	18000	16550	24290	10860	1540	1210	80	.2	.0
CFSM	.03	.37	2.98	1.26	1.24	1.70	.79	.11	.09	.01	.00	.00
IN.	.03	.42	3.44	1.45	1.34	1.96	.88	.12	.10	.01	.00	.00

CAL YR 1987 TOTAL 66044.97 MEAN 181 MAX 3600 MIN .00 AC-FT 131000 CFSM .78 IN. 10.59
WTR YR 1988 TOTAL 60777.05 MEAN 166 MAX 3600 MIN .00 AC-FT 120600 CFSM .72 IN. 9.75

e Estimated.

08031400 LAKE PALESTINE NEAR FRANKSTON, TX

LOCATION.--Lat 32°03'12", long 95°26'12", Anderson-Cherokee County line, Hydrologic Unit 12020001, in outlet tower near right bank, 140 ft upstream from Blackburn Crossing Dam on Neches River, 5 mi east of Frankston, 21 mi upstream from gage (station 08032000), and at mile 354.0.

DRAINAGE AREA.--839 mi².

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 20, 1962, non-recording gage read once daily.

REMARKS.--The lake is formed by a rolled earthfill dam with a 500-foot-wide uncontrolled emergency spillway near left end of dam. Deliberate impoundment began May 1, 1962. The enlargement of lake began Sept. 26, 1969, and was completed on Mar. 3, 1971. The outlet works consist of two 5- x 7-foot gates located in concrete tower near center of dam and connected to an 8.5-foot-diameter concrete conduit through the dam. The low-flow outlet consists of two 3-foot iron pipes connected to the tower structure for low-flow releases. Water is used for municipal and industrial purposes in the Palestine area. The diversion point is downstream from gage (station 08032000). There are no large diversions above 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	364.0	-
Design flood	355.3	726,000
Crest of spillway (top of conservation pool)	345.0	412,000
Lowest gated outlet (invert)	298.0	550

COOPERATION.--The capacity table, furnished by the Upper Neches River Municipal Water Authority, is based on Geological Survey topographic maps dated 1946 and 1948-49.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 501,300 acre-ft June 7, 1973 (elevation, 348.29 ft); minimum since first appreciable storage, 11,450 acre-ft Nov. 28, 1970 (elevation, 310.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 466,300 acre-ft Dec. 28 at 2000 hours (elevation, 347.05 ft); minimum, 351,500 acre-ft Sept. 28, 29 (elevation, 342.52 ft).

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

342.0	339,500	346.0	437,900
344.0	386,700	348.0	492,900

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	377500	366700	395200	449200	418300	424300	428800	413900	402800	393500	383100	365500
2	379700	366500	395500	443800	417500	426900	429500	413400	402500	393200	382800	365000
3	377100	366200	396500	440900	418800	430300	430300	413600	404000	392500	381900	365500
4	376100	366200	396200	437400	418100	431100	429500	413100	404300	392500	381900	364800
5	375900	365500	396000	434000	417000	430900	430600	412800	404000	392200	381400	363600
6	374900	364500	406300	434500	416800	431400	428200	411000	404000	391200	380900	363100
7	374400	363800	411300	431600	415200	430100	427200	410800	403500	391000	380400	361400
8	371800	365500	416000	429500	415500	430600	426200	410800	402500	390700	379500	361200
9	372700	369800	417800	429300	415500	428800	427200	411800	403000	390200	379000	361200
10	373400	367400	419600	426900	415200	426400	423300	412100	402300	389000	378000	360300
11	373700	366200	422200	425600	414700	428500	422000	411500	401300	388700	376800	358900
12	371800	366200	422200	428200	414400	429500	419900	410800	400300	389200	376600	359100
13	371000	365700	423300	424900	414400	429800	419400	410500	399500	389500	375600	358900
14	370800	365500	424900	424300	416500	426900	418600	409500	399000	388700	374900	358700
15	369800	372200	422200	422800	415200	425900	418300	409300	399000	388500	374700	358000
16	369300	376100	422000	423500	414400	424900	417800	409300	398500	388200	374200	357300
17	369800	377100	421500	424100	415700	432200	417000	409000	398000	388000	373900	357500
18	370300	378300	420700	423800	425900	429800	417500	408300	397500	386700	373200	355900
19	369800	378000	423500	423800	429800	429800	416500	407800	396700	386500	372700	356800
20	369600	378000	424900	422200	431400	430100	415500	407800	396000	392200	372200	355900
21	368400	376800	423800	422000	433500	430900	415500	408000	395500	391200	371500	355700
22	367700	377100	424300	421500	434500	429800	417000	406500	395200	390700	371000	355200
23	367400	377800	424100	420200	434200	429500	417000	405800	395000	390200	370600	355000
24	368100	378000	426700	420200	432200	429000	416000	405500	394200	388700	371000	354500
25	366900	388200	430600	418600	431400	428500	415700	405000	395200	387500	370600	353800
26	368600	389700	451400	418600	429500	427700	416000	404300	396500	386700	369100	353400
27	369100	392700	460600	417500	428500	424900	414400	403300	396200	386200	368400	352700
28	367900	393000	466000	417000	426900	424100	413400	402500	395700	385300	368600	351500
29	366900	394500	462700	416200	425400	425900	414700	403000	395200	384300	368100	353400
30	366200	395700	457900	416000	---	424600	414400	403000	394200	384300	367200	353400
31	366900	---	455200	417300	---	423800	---	402800	---	383600	366200	---
MAX	379700	395700	466000	449200	434500	432200	430600	413900	404300	393500	383100	365500
MIN	366200	363800	395200	416000	414400	423800	413400	402500	394200	383600	366200	351500
(†)	343.18	344.36	346.64	345.21	345.52	345.46	345.10	344.64	344.30	343.87	343.15	342.60
(ϕ)	-11800	+28800	+59500	-37900	+8100	-1600	-9400	-11600	-8600	-10600	-17400	-12800

CAL YR 1987 MAX 466000 MIN 363800 (ϕ) +28300
WTR YR 1988 MAX 466000 MIN 351500 (ϕ) -25300

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

08032000 NECHES RIVER NEAR NECHES, TX

LOCATION.--Lat 31°53'32", long 95°25'50", Anderson-Cherokee County line, Hydrologic Unit 12020001, on left bank just downstream from bridge on U.S. Highway 79, 1.0 mi downstream from Missouri Pacific Railroad Co. bridge, 1.4 mi downstream from Walnut Creek, 4.4 mi northeast of Neches, and at mile 333.2.

DRAINAGE AREA.--1,145 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 264.06 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1945, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Some regulation by Lake Palestine (station 08031400) 11 mi upstream and by Lake Athens (station 08031290) 50 mi upstream, combined capacity 454,600 acre-ft. No large diversion above station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--22 years (water years 1940-61) unregulated, 804 ft³/s (582,500 acre-ft/yr); 27 years (water years 1962-88) regulated, 633 ft³/s (458,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,500 ft³/s Apr. 2, 1945 (gage height, 22.07 ft); no flow Oct. 3-5, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 (stage 24.3 ft) was the highest since flood in May 1884, which was probably higher.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,900 ft³/s Dec. 30 from 1000 to 2000 hours (gage height, 16.16 ft); minimum daily, 81 ft³/s Oct. 4, 5, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	93	254	5750	577	1300	1180	323	168	138	103	98
2	82	93	224	5010	600	1190	1340	301	146	134	102	98
3	82	93	207	4280	634	1160	1740	269	137	132	102	99
4	81	93	195	3560	621	1250	1850	268	199	131	103	105
5	81	93	187	3010	654	1440	1750	276	221	133	103	99
6	82	92	273	2620	619	1520	1610	238	179	137	103	98
7	81	92	897	2380	560	1540	1530	206	158	141	101	97
8	82	93	976	2190	491	1540	1460	175	145	138	100	97
9	82	98	747	2080	489	1510	1340	168	136	140	100	97
10	83	122	625	1920	499	1500	1220	192	128	139	99	97
11	82	127	629	1780	514	1450	1150	222	126	134	99	97
12	82	119	684	1640	635	1320	1120	217	121	135	102	97
13	82	117	751	1480	536	1240	1010	209	119	167	101	97
14	82	117	837	1390	469	1260	847	189	116	190	100	97
15	83	120	913	1310	479	1290	696	172	115	166	99	97
16	84	254	959	1210	512	1250	597	158	114	146	99	96
17	85	453	943	1130	432	1170	545	151	113	139	99	96
18	85	408	892	1090	624	1290	504	146	113	136	99	98
19	86	300	862	1070	1100	1520	531	141	112	133	99	98
20	88	220	996	1040	1270	1680	512	137	113	131	99	97
21	88	181	1090	1020	1410	1660	437	139	114	152	98	97
22	88	161	1140	994	1530	1570	397	153	112	129	99	98
23	89	151	1140	943	1620	1520	415	152	110	113	100	97
24	91	156	1110	882	1690	1490	454	147	109	108	102	97
25	96	270	1110	849	1750	1440	426	157	115	106	105	96
26	95	647	1640	839	1730	1390	410	145	136	105	102	97
27	93	581	3860	775	1660	1350	379	132	153	104	99	97
28	92	490	5990	703	1540	1290	356	127	149	104	99	96
29	92	385	6620	637	1420	1170	279	128	152	104	98	98
30	91	298	6870	593	---	1150	285	150	146	103	98	103
31	92	---	6580	574	---	1200	---	166	---	103	98	---
TOTAL	2664	6517	50201	54749	26665	42650	26370	5754	4075	4071	3110	2931
MEAN	85.9	217	1619	1766	919	1376	879	186	136	131	100	97.7
MAX	96	647	6870	5750	1750	1680	1850	323	221	190	105	105
MIN	81	92	187	574	432	1150	279	127	109	103	98	96
AC-FT	5280	12930	99570	108600	52890	84600	52300	11410	8080	8070	6170	5810

CAL YR 1987 TOTAL 264019 MEAN 723 MAX 6870 MIN 81 AC-FT 523700
WTR YR 1988 TOTAL 229757 MEAN 628 MAX 6870 MIN 81 AC-FT 455700

08032000 NECHES RIVER NEAR NECHES, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1969 to current year. Biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1969 to current year.
WATER TEMPERATURES: December 1983 to current year.

INSTRUMENTATION.--Since December 1969, specific conductance is recorded continuously at this station. Beginning December 1983 water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where 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 (1974-88): Maximum, 1,190 microsiemens Aug. 29, 1976; minimum 77 microsiemens July 28, 1979.
WATER TEMPERATURE: Maximum, 36.0°C July 16, 1985; minimum, 0.5°C Dec. 22, 1983 and Jan. 20, 22, 1984.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 229 microsiemens Nov. 16; minimum, 93 microsiemens Dec. 7.
WATER TEMPERATURE: Maximum, 32.5°C Aug. 8; minimum, 4.5°C Jan. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)
OCT 28...	1245	92	161	7.30	18.0	9.1	96	1.0	32
DEC 14...	1622	857	156	6.70	12.0	9.0	85	--	30
FEB 03...	1130	638	150	6.50	9.0	9.9	86	0.9	30
MAR 21...	1720	1650	150	6.50	14.0	12.0	117	0.9	29
MAY 11...	0940	225	163	6.60	22.0	6.6	76	0.9	35
AUG 16...	1540	100	171	6.60	30.5	7.3	99	1.3	35

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 28...	19	6.2	4.0	16	1	4.2	13	24	23
DEC 14...	17	5.9	3.6	16	1	4.1	13	23	23
FEB 03...	20	6.1	3.7	16	1	3.9	11	24	22
MAR 21...	19	6.7	2.9	14	1	3.5	10	23	21
MAY 11...	19	7.9	3.6	16	1	3.2	16	26	23
AUG 16...	24	7.1	4.2	17	1	4.1	11	27	23

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, 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 28...	0.20	12	97	<0.010	0.100	0.040	0.66	0.70	0.010
DEC 14...	0.20	11	95	<0.010	<0.100	0.020	0.18	0.20	0.040
FEB 03...	0.20	8.0	90	<0.010	<0.100	0.030	0.57	0.60	0.030
MAR 21...	0.20	3.1	80	<0.010	<0.100	0.020	0.58	0.60	0.090
MAY 11...	0.20	6.1	96	<0.010	0.100	0.050	0.55	0.60	0.020
AUG 16...	0.10	6.8	96	<0.010	<0.100	<0.010	--	0.40	0.030

08032000 NECHES RIVER NEAR NECHES, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	2664	164	96	694	24	174	23	168	30
NOV.	1987	6517	164	97	1710	24	429	23	410	30
DEC.	1987	50201	137	80	10800	19	2570	21	2820	26
JAN.	1988	54749	146	85	12600	21	3030	22	3210	28
FEB.	1988	26665	149	87	6280	21	1530	22	1580	28
MAR.	1988	42650	137	80	9210	19	2180	21	2410	27
APR.	1988	26370	147	86	6150	21	1490	22	1560	28
MAY	1988	5754	173	103	1590	26	407	24	374	32
JUNE	1988	4075	170	101	1110	26	281	24	262	31
JULY	1988	4071	171	101	1110	26	283	24	263	31
AUG.	1988	3110	169	100	841	25	213	24	200	31
SEPT	1988	2931	168	99	783	25	198	24	187	31
TOTAL		229757	**	**	52900	**	12800	**	13400	**
WTD.AVG.		628	146	85	**	21	**	22	**	28

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	160	170	168	169	171	167	169	143	141	142
2	---	---	162	170	168	169	170	166	168	143	141	142
3	---	---	157	170	168	169	171	167	169	143	141	142
4	---	---	159	169	167	168	191	168	172	143	141	142
5	---	---	161	170	167	168	172	169	170	144	141	142
6	---	---	163	171	167	169	204	161	173	143	142	143
7	---	---	165	169	166	168	150	93	109	144	141	142
8	---	---	163	169	167	168	160	102	120	144	142	143
9	---	---	160	169	166	167	154	137	145	144	142	143
10	---	---	158	169	165	168	159	152	156	147	142	144
11	---	---	155	192	169	181	160	157	159	150	146	148
12	---	---	156	176	170	172	160	158	159	151	146	148
13	---	---	163	171	168	170	164	157	158	151	147	149
14	---	---	161	168	167	168	171	152	160	148	146	147
15	---	---	160	168	160	166	152	148	150	150	147	149
16	---	---	160	229	159	177	149	148	148	153	147	151
17	---	---	165	187	157	165	151	148	150	151	148	150
18	---	---	166	162	152	156	152	150	151	150	147	149
19	---	---	164	182	163	175	165	151	156	149	147	148
20	---	---	163	182	175	179	166	135	149	150	146	148
21	---	---	162	178	172	175	142	137	140	148	145	147
22	---	---	165	177	171	173	151	142	145	149	146	148
23	168	167	168	174	171	172	152	150	151	151	147	149
24	168	167	167	199	173	179	151	149	150	152	147	150
25	169	167	168	228	177	208	157	143	152	149	146	147
26	171	168	169	161	128	138	142	108	130	153	146	149
27	172	169	170	144	132	137	111	102	107	164	149	152
28	171	168	169	174	144	153	126	108	114	179	153	162
29	171	169	169	178	166	173	137	127	133	173	161	163
30	170	168	169	179	166	169	143	137	141	166	161	163
31	170	168	169	---	---	---	143	141	142	165	162	163
MONTH	172	167	163	229	128	169	204	93	148	179	141	149

08032000 NECHES RIVER NEAR NECHES, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	165	161	163	140	139	140	157	127	135	175	167	170
2	165	160	163	142	140	141	165	118	145	170	168	169
3	162	158	160	154	144	148	136	116	131	172	170	171
4	161	157	159	143	134	138	141	123	134	172	170	171
5	160	157	158	135	134	135	128	124	126	172	169	171
6	160	134	147	136	134	135	131	128	129	174	166	169
7	141	135	139	135	134	135	153	130	138	181	175	178
8	152	139	143	136	133	134	156	153	154	179	176	178
9	141	138	139	136	133	134	156	154	155	180	175	178
10	163	137	139	136	133	134	154	153	154	188	168	179
11	173	153	159	135	133	133	155	153	154	170	166	168
12	167	136	156	139	134	136	158	154	155	171	169	170
13	167	139	156	139	133	136	159	142	156	171	168	170
14	164	139	145	132	129	131	169	137	152	173	170	172
15	163	135	144	130	129	130	145	136	139	175	171	173
16	162	135	142	131	129	130	159	135	140	176	173	174
17	139	136	138	132	129	131	162	159	160	176	174	175
18	205	136	163	147	121	133	193	161	172	175	174	175
19	155	128	135	123	121	122	170	159	163	177	174	175
20	144	131	137	123	121	122	164	161	163	177	174	176
21	146	143	145	151	123	133	166	164	165	180	173	175
22	170	141	164	151	148	149	165	163	164	190	173	175
23	166	140	148	150	148	149	163	160	162	197	173	181
24	166	138	143	153	149	150	162	160	161	174	171	173
25	140	138	139	155	152	153	165	163	164	172	168	170
26	165	138	150	155	152	153	165	161	163	173	169	171
27	166	165	165	154	152	152	167	161	164	174	172	173
28	165	138	147	152	132	138	168	162	165	174	172	174
29	140	139	140	136	133	134	182	174	177	186	169	174
30	---	---	---	140	129	134	209	177	186	184	170	177
31	---	---	---	133	127	131	---	---	---	222	171	181
MONTH	205	128	149	155	121	137	209	116	154	222	166	174

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	174	157	162			174			175			166
2	171	164	169			175			168			164
3	174	171	172			175			171			164
4	172	161	166			173			166			163
5	161	127	150			175			172			169
6	165	161	163			174			171			171
7	168	165	167			173			172			167
8	171	167	169			173			172			173
9	172	170	171			177			173			169
10	173	171	171			175			174			170
11	172	170	171			177			170			168
12	177	171	173			171			168			167
13	179	171	174			171			171			167
14	176	171	172			177			172			168
15	181	169	176			172			173			167
16	174	170	170			169			167			165
17	178	169	171			166			172			166
18	176	170	171			167			176			165
19	172	169	171			170			168			168
20	175	168	170			167			171			170
21	---	---	174			165			169			165
22	---	---	181			168			168			168
23	---	---	174			164			168			170
24	---	---	177			167			166			165
25	---	---	178			167			164			169
26	---	---	176			168			164			170
27	---	---	172			171			167			168
28	---	---	173			166			165			168
29	---	---	171			169			164			169
30	---	---	174			168			167			170
31	---	---	---			169			167			
MONTH	181	127	171			171			169			168

08032000 NECHES RIVER NEAR NECHES, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	22.5	21.5	22.0	19.5	18.0	18.5	10.0	9.0	9.5	9.5	9.5	9.5
2	21.5	21.0	21.5	19.0	18.0	18.5	10.0	9.0	9.5	9.5	8.5	9.0
3	21.0	20.5	21.0	19.0	17.5	18.0	10.5	9.5	10.0	8.5	8.0	8.5
4	20.5	19.5	20.0	19.0	17.5	18.0	11.5	10.5	11.0	8.5	8.0	8.0
5	19.5	19.0	19.5	19.0	17.0	18.0	12.5	11.0	11.5	8.5	8.0	8.0
6	20.0	19.0	19.5	17.5	16.0	17.0	13.5	12.5	13.0	8.0	7.0	7.5
7	19.5	19.0	19.5	16.0	15.0	15.5	14.0	13.5	14.0	7.0	6.0	6.5
8	19.5	18.5	19.0	17.0	15.0	16.0	14.5	14.0	14.0	6.0	5.5	5.5
9	20.5	19.0	19.5	17.0	16.0	16.5	14.0	13.0	13.5	5.5	5.0	5.0
10	21.0	20.0	20.5	16.0	14.5	15.5	13.0	12.0	12.5	5.5	5.0	5.0
11	20.5	20.0	20.5	14.5	12.5	13.5	13.5	12.0	13.0	5.5	4.5	5.0
12	20.5	19.5	20.0	12.5	11.5	12.0	13.5	13.0	13.0	6.5	5.5	6.0
13	19.5	18.5	19.0	12.0	11.0	11.5	13.0	12.0	12.5	6.5	6.0	6.5
14	18.5	17.5	18.0	13.0	11.5	12.0	12.0	11.5	12.0	6.0	6.0	6.0
15	18.5	17.5	18.0	15.0	13.0	14.5	11.5	10.5	11.0	6.5	5.5	6.0
16	19.0	18.0	18.5	15.5	15.0	15.0	10.5	9.5	10.0	7.0	6.5	6.5
17	20.0	19.0	19.0	15.0	13.5	14.0	9.5	9.0	9.5	8.5	7.0	8.0
18	20.5	19.5	20.0	13.5	12.0	13.0	10.0	9.5	10.0	8.5	8.0	8.5
19	20.5	20.0	20.0	12.5	12.5	12.5	11.0	10.0	10.5	9.5	8.5	9.0
20	---	---	---	12.5	11.5	12.0	11.0	10.5	11.0	9.0	8.0	9.0
21	---	---	---	12.0	11.5	11.5	10.5	10.5	10.5	8.0	7.0	7.5
22	---	---	---	12.5	11.5	12.0	11.0	10.5	10.5	7.0	6.5	7.0
23	17.5	16.0	17.0	14.5	12.5	13.5	11.5	10.5	11.0	7.0	6.5	7.0
24	18.5	17.0	17.5	16.0	14.5	15.5	13.0	11.5	12.0	7.5	7.0	7.0
25	19.5	18.0	18.5	16.5	15.5	16.0	13.0	12.5	12.5	7.5	7.0	7.5
26	20.5	19.0	19.5	15.5	14.0	14.5	12.0	10.5	11.5	7.0	6.5	6.5
27	19.5	18.0	19.0	14.0	13.0	13.5	10.5	9.0	10.0	7.0	6.5	6.5
28	18.5	17.0	17.5	12.5	11.5	12.0	9.0	8.5	8.5	8.0	6.5	7.5
29	18.0	16.5	17.0	11.5	10.0	10.5	8.5	8.0	8.5	9.0	7.5	8.0
30	18.5	17.0	18.0	10.5	9.5	10.0	9.0	8.5	8.5	10.0	9.0	9.5
31	19.5	17.5	18.5	---	---	---	9.5	9.0	9.5	11.5	10.0	11.0
MONTH	22.5	16.0	19.0	19.5	9.5	14.5	14.5	8.0	11.0	11.5	4.5	7.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.0	11.0	11.5	14.0	13.0	13.5	---	---	---	19.5	18.0	19.0
2	11.5	10.0	11.0	14.0	12.5	14.0	---	---	---	19.5	18.5	19.0
3	9.5	9.0	9.0	12.5	11.5	12.0	---	---	---	20.5	19.0	19.5
4	9.0	8.0	8.5	11.5	11.0	11.5	---	---	---	20.5	19.0	19.5
5	8.0	7.5	8.0	12.0	11.0	11.5	18.5	18.0	18.0	20.5	19.5	20.0
6	7.5	7.0	7.0	12.5	12.0	12.0	18.0	17.0	17.5	21.0	20.0	20.5
7	7.0	6.5	6.5	13.5	12.0	12.5	17.0	16.0	16.5	21.0	20.5	21.0
8	7.0	6.0	6.5	14.0	13.5	13.5	17.5	16.5	17.0	22.0	21.0	21.0
9	8.5	7.0	7.5	13.5	13.0	13.5	18.0	17.0	17.5	23.0	21.0	22.0
10	9.0	8.0	8.5	13.5	12.5	13.0	17.5	16.5	17.0	23.5	22.0	22.5
11	9.0	7.0	8.0	14.5	13.5	14.0	16.5	14.5	15.5	22.5	22.0	22.0
12	7.0	6.0	6.5	15.0	14.5	14.5	15.5	14.5	15.0	22.5	21.5	22.0
13	8.0	6.0	6.5	14.0	13.0	13.5	16.0	15.0	15.5	22.5	21.0	22.0
14	9.5	7.5	8.5	13.0	12.0	12.5	17.5	16.0	16.5	23.0	21.5	22.5
15	9.5	8.5	9.0	12.5	11.5	12.0	18.0	17.0	17.5	23.5	22.0	22.5
16	9.0	8.0	8.5	12.5	12.0	12.5	17.5	16.5	17.5	23.5	22.0	22.5
17	10.0	8.5	9.0	12.5	12.0	12.5	17.5	17.0	17.0	24.5	22.0	23.0
18	11.0	10.0	10.5	12.0	10.5	11.5	18.0	17.0	17.5	24.5	22.5	23.5
19	10.5	10.0	10.5	11.0	10.0	10.5	17.5	16.5	17.0	25.0	23.0	24.0
20	10.0	9.5	9.5	12.5	10.5	11.5	18.0	16.0	17.0	25.0	23.5	24.0
21	10.0	9.5	10.0	13.5	12.0	13.0	19.5	18.0	18.5	24.0	23.5	23.5
22	11.0	10.0	10.5	14.5	13.0	13.5	19.5	18.5	19.0	23.5	21.5	22.5
23	11.0	10.5	11.0	14.5	14.0	14.0	20.0	18.5	19.5	22.5	20.5	21.5
24	10.5	10.0	10.5	15.0	14.0	14.5	21.0	19.0	20.0	22.5	21.5	22.0
25	10.5	9.5	10.0	16.0	15.0	15.5	21.0	20.0	20.5	23.0	21.5	22.0
26	11.0	10.0	10.5	16.5	15.0	16.0	21.0	19.0	20.0	23.5	21.5	22.5
27	11.5	11.0	11.0	17.0	16.0	16.5	20.5	19.5	20.0	22.5	22.0	22.5
28	12.5	11.0	11.5	17.0	16.5	17.0	20.5	19.5	20.0	24.0	22.5	23.0
29	13.0	12.0	12.5	16.5	15.0	16.0	20.0	18.5	19.5	24.0	22.5	23.0
30	---	---	---	15.0	13.5	14.0	19.5	18.5	19.0	23.5	22.5	23.0
31	---	---	---	14.0	13.0	13.5	---	---	---	24.5	23.0	23.5
MONTH	13.0	6.0	9.0	17.0	10.0	13.5	21.0	14.5	18.0	25.0	18.0	22.0

08032000 NECHES RIVER NEAR NECHES, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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

08033300 PINEY CREEK NEAR GROVETON, TX

LOCATION.--Lat 31°08'25", long 95°05'11", Trinity County, Hydrologic Unit 12020002, on left bank at downstream side of bridge on State Highway 94, 6.3 mi northeast of Groveton, and 7.3 mi upstream from Caney Creek.

DRAINAGE AREA.--79.0 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 251.40 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. No diversions above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years, 38.7 ft³/s (6.65 in/yr), 28,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,480 ft³/s Apr. 20, 1979 (gage height, 15.70 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1921, 17 ft in May 1942, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 18	1600	*400	*9.66				

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.00	.37	8.8	.57	.75	30	98	e.02	e.00	e.37	.00
2	.02	.00	.28	8.9	.55	.76	26	18	e.01	e.00	e.19	.00
3	.01	.00	.27	6.5	.57	.98	19	6.3	e.00	e.00	e.05	.00
4	.00	.00	.21	5.3	.57	1.3	13	2.9	e.00	e.00	e.00	.00
5	.00	.00	.18	4.8	.61	1.1	10	1.6	e.00	16	e.00	.00
6	.00	.00	1.6	3.8	.63	.94	6.1	1.0	e.00	2.4	e.00	.00
7	.00	.00	141	13	.59	.73	3.5	.74	e.00	.59	e.00	.00
8	.00	.00	99	18	.65	.67	2.4	.66	e.00	.38	e.00	.00
9	.00	.00	21	9.7	.73	.61	1.8	.38	e.00	.32	e.00	.00
10	.00	.00	7.6	6.3	.69	.58	1.5	.42	e.00	e.21	e.00	.00
11	.00	.00	3.6	4.4	.61	.48	1.2	.37	e.00	e.06	e.00	.00
12	.00	.00	1.9	3.3	.53	.45	.87	.38	e.00	e.00	e.00	.00
13	.00	.00	1.1	3.0	.51	.42	.73	.36	e.00	e.00	e.00	.00
14	.00	.00	.73	2.5	.65	.34	.66	.35	e.00	e.00	e.00	.00
15	.00	.00	.53	2.0	4.4	.26	.57	e.32	e.00	e.00	e.00	.00
16	.00	.00	.48	1.8	2.3	.25	.55	e.30	e.00	e.00	e.00	.00
17	.00	.00	.39	1.8	1.4	6.9	.55	e.27	e.00	e.00	.00	.00
18	.00	.00	.34	2.0	18	321	.49	e.25	e.00	e.00	.00	.00
19	.00	.00	14	2.1	63	169	.45	e.23	e.00	e.00	.00	.00
20	.00	.00	175	1.8	25	43	.41	e.21	e.00	e.00	.00	.00
21	.00	.00	76	1.4	11	20	.36	e.19	e.00	e.00	.00	.00
22	.00	.00	28	1.1	6.0	11	.35	e.17	e.00	e.00	.00	.00
23	.00	.00	13	.87	3.6	7.2	.33	e.15	e.00	e.00	.00	.00
24	.00	.00	8.2	.84	2.4	4.8	.32	e.13	e.00	e.00	.00	.00
25	.00	88	6.9	.70	1.6	3.6	.30	e.12	e.00	e.00	.00	.00
26	.00	124	8.3	.65	1.4	2.8	.30	e.11	e.00	e.00	.00	.00
27	.00	11	47	.61	1.0	2.2	.27	e.09	e.00	e.00	.00	.00
28	.00	2.7	63	.57	.88	1.7	.27	e.07	.00	e.00	.00	.00
29	.00	1.1	25	.55	.83	1.8	.32	e.05	e.00	e.00	.00	.00
30	.00	.51	12	.67	---	137	28	e.04	e.00	e.00	.00	.00
31	.00	---	8.5	.67	---	56	---	e.03	---	.42	.00	---
TOTAL	0.06	227.31	765.48	118.43	151.27	798.62	150.60	134.19	0.03	20.38	0.61	0.00
MEAN	.002	7.58	24.7	3.82	5.22	25.8	5.02	4.33	.001	.66	.020	.00
MAX	.03	124	175	18	63	321	30	98	.02	16	.37	.00
MIN	.00	.00	.18	.55	.51	.25	.27	.03	.00	.00	.00	.00
AC-FT	.1	451	1520	235	300	1580	299	266	.06	40	1.2	.0
CFSM	.00	.10	.31	.05	.07	.33	.06	.05	.00	.01	.00	.00
IN.	.00	.11	.36	.06	.07	.38	.07	.06	.00	.01	.00	.00

CAL YR 1987 TOTAL 8557.68 MEAN 23.4 MAX 807 MIN .00 AC-FT 16970 CFSM .30 IN. 4.03
WTR YR 1988 TOTAL 2366.98 MEAN 6.47 MAX 321 MIN .00 AC-FT 4690 CFSM .08 IN. 1.11

e Estimated.

08033500 NECHES RIVER NEAR ROCKLAND, TX

LOCATION.--Lat 31°01'29", long 94°23'55", Tyler County, Hydrologic Unit 12020003, on downstream side of bridge at U.S. Highway 69, 2,200 ft upstream from abandoned ferry crossing, 0.8 mi upstream from Texas and New Orleans Railway Co. bridge, 1.2 mi north of Rockland, 3.2 mi downstream from Billiams Creek, and 32.4 mi upstream from Angelina River.

DRAINAGE AREA.--3,636 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1903 to current year.

REVISED RECORDS.--WSP 878: 1926-27. WSP 1342: 1922(M), 1935. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 88.41 ft above National Geodetic Vertical Datum of 1929. Prior to May 23, 1973, nonrecording gage located 2,200 ft downstream at datum 3.00 ft higher. May 23, 1973, to Sept. 30, 1975, recording gage at present site at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. At times low flow may be affected by regulations by Lake Athens (station 08031290), Lake Palestine (station 08031400), and Lake Jacksonville, combined capacity 130,700 acre-ft/yr. During the current year, the Upper Neches River Municipal Water Authority diverted 2,452 acre-ft from the Neches River at diversion point located about 10 mi downstream from station 08032000. This water is used for municipal and industrial purposes in the Palestine area. Gage-height telemeter at station.

AVERAGE DISCHARGE.--58 years (water years 1904-61) unregulated, 2,362 ft³/s (1,711,000 acre-ft/yr); 27 years (water years 1962-88) regulated, 1,978 ft³/s (1,433,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,800 ft³/s May 6, 1944 (gage height, 35.04 ft), present site; minimum observed during period of daily records, 1.6 ft³/s Sept. 28-30, Oct. 1, 2, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Historical flood information begins with flood in May 1884, which reached a stage of 38.0 ft, present site, from information by local resident (discharge, about 62,000 ft³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,380 ft³/s Nov. 26 at 0800 hours (gage height, 14.03 ft); minimum daily, 84 ft³/s Oct. 21-23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	106	2430	5490	1740	1940	3820	1510	230	174	169	117
2	126	109	1720	5170	1680	2170	4530	1320	221	180	150	113
3	119	111	1290	4340	1610	3750	4590	1380	244	191	144	114
4	113	111	1030	3650	1520	3430	4100	1350	287	200	141	111
5	108	109	897	3250	1500	2870	3650	1170	301	247	139	105
6	106	106	1360	3030	1720	2560	3390	958	291	304	131	103
7	104	105	5140	3870	1590	2380	3150	765	289	358	123	104
8	105	104	4630	4160	1440	2650	2900	644	281	402	132	106
9	107	108	4170	3990	1350	3910	2700	575	282	406	123	106
10	106	110	3520	4030	1280	3500	2540	531	289	398	123	103
11	100	114	2900	4290	1220	3010	2420	494	286	361	128	99
12	95	115	2420	4660	1170	2720	2330	463	283	342	135	99
13	92	115	2040	5070	1140	2450	2280	438	272	505	130	101
14	90	115	1750	5430	1110	2220	2260	413	249	535	131	103
15	88	125	1540	5660	1090	2100	2260	416	225	419	136	103
16	88	1420	1410	5750	1180	2020	2250	391	204	339	133	114
17	88	2110	1340	5770	1270	2130	2240	371	187	297	128	120
18	88	1590	1270	5610	1570	4820	2220	364	177	280	143	109
19	88	1340	1620	5550	2910	5490	2160	360	168	328	466	103
20	85	1210	3610	5300	3770	5700	2050	348	165	491	402	99
21	84	796	3820	4750	3470	5280	1910	333	157	460	343	99
22	84	502	3260	4320	2750	4870	1760	314	153	428	315	97
23	84	410	2800	3950	2350	4520	1560	290	152	308	215	96
24	86	398	2670	3610	2050	4150	1350	294	148	253	156	96
25	89	2750	2560	3280	1870	3740	1160	294	166	212	131	96
26	100	6260	2420	2960	1800	3280	1010	284	203	186	119	98
27	102	5740	4420	2680	1810	2950	909	268	212	171	121	99
28	97	4820	6050	2400	1850	2750	823	257	204	166	132	98
29	96	4220	6130	2160	1900	2650	861	250	190	171	138	97
30	98	3480	5940	1970	---	2870	1470	246	179	186	135	105
31	101	---	5660	1840	---	3590	---	239	---	190	123	---
TOTAL	3050	38709	91817	127990	51710	102470	70653	17330	6695	9488	5235	3113
MEAN	98.4	1290	2962	4129	1783	3305	2355	559	223	306	169	104
MAX	133	6260	6130	5770	3770	5700	4590	1510	301	535	466	120
MIN	84	104	897	1840	1090	1940	823	239	148	166	119	96
AC-FT	6050	76780	182100	253900	102600	203200	140100	34370	13280	18820	10380	6170

CAL YR 1987 TOTAL 717821 MEAN 1967 MAX 15200 MIN 84 AC-FT 1424000
WTR YR 1988 TOTAL 528260 MEAN 1443 MAX 6260 MIN 84 AC-FT 1048000

08033500 NECHES RIVER NEAR ROCKLAND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: April 1941 to September 1942, September 1945 to September 1947. Chemical and biochemical analyses: December 1967 to current year. Sediment analyses: 1961 to 1963.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1941 to September 1942, September 1945 to September 1947.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 18...	1355	1520	154	6.50	14.5	8.0	78	2.3	25	8
JAN 06...	1535	2990	160	6.80	6.5	11.6	94	1.1	31	22
FEB 24...	1510	2010	272	7.00	13.0	9.6	90	1.7	53	40
APR 14...	0945	2260	170	6.90	17.0	8.4	87	1.0	35	15
JUN 09...	1030	281	239	7.40	28.0	6.8	88	1.8	44	19
JUL 20...	1400	440	193	6.90	29.0	6.0	78	2.2	29	7

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 WAT WH TOT FET 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 18...	5.9	2.5	18	2	4.4	17	23	19	0.20	9.8
JAN 06...	7.5	3.1	17	1	3.5	10	35	19	0.10	14
FEB 24...	13	4.9	29	2	3.8	13	55	33	0.20	13
APR 14...	7.7	3.9	17	1	3.2	20	25	23	0.20	8.5
JUN 09...	10	4.7	28	2	3.5	25	36	32	0.30	11
JUL 20...	7.3	2.6	25	2	3.2	22	19	29	0.20	9.1

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (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-PHOROUS TOTAL (MG/L AS P)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)
NOV 18...	93	<0.010	<0.100	0.060	0.54	0.60	0.070	1	39	<1
JAN 06...	105	0.020	<0.100	0.060	0.74	0.80	0.060	--	--	--
FEB 24...	160	<0.010	0.100	0.060	0.54	0.60	0.070	--	--	--
APR 14...	100	0.020	<0.100	0.040	0.76	0.80	0.100	--	--	--
JUN 09...	140	0.020	<0.100	0.020	0.48	0.50	0.060	--	--	--
JUL 20...	109	<0.010	<0.100	<0.010	--	0.40	0.030	1	42	<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)
NOV 18...	<1	3	240	<5	52	<0.1	<1	1.0	13
JAN 06...	--	--	--	--	--	--	--	--	--
FEB 24...	--	--	--	--	--	--	--	--	--
APR 14...	--	--	--	--	--	--	--	--	--
JUN 09...	--	--	--	--	--	--	--	--	--
JUL 20...	1	2	47	7	14	<0.1	<1	<1.0	6

08033900 EAST FORK ANGELINA RIVER NEAR CUSHING, TX

LOCATION.--Lat 31°51'36", long 94°49'23", Rusk County, Hydrologic Unit 12020004, near left bank at downstream side of bridge on Farm Road 225, 0.1 mi downstream from Everett Branch, 0.9 mi upstream from Reagan Branch, 3.5 mi north of Cushing, and 8 mi upstream from Angelina River.

DRAINAGE AREA.--158 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 275.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. No known diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years, 117 ft³/s, 10.06 in/yr (84,770 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,800 ft³/s Aug. 11, 1988 (gage height, 14.24 ft), from rating curve extended above 5,800 ft³/s on basis of area-velocity study; minimum, 0.7 ft³/s Aug. 14, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,350 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 27	2400	1,850	10.26	Aug. 11	2300	*19,800	*14.24

Minimum discharge, 6.2 ft³/s Aug. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	27	77	420	82	71	223	65	16	9.9	7.3	e22
2	17	26	68	407	79	74	189	44	15	9.2	7.0	e22
3	17	26	63	281	76	133	200	39	16	8.8	6.7	e23
4	16	25	61	251	74	121	132	36	17	10	7.0	e25
5	16	24	57	215	72	87	104	33	18	18	7.5	e24
6	16	23	99	171	69	77	93	31	16	23	7.6	e23
7	15	22	508	195	67	72	84	29	15	19	7.4	24
8	16	23	568	208	69	72	74	30	14	17	7.2	21
9	15	39	460	180	70	85	68	31	13	17	6.9	20
10	15	107	183	167	69	83	64	31	12	14	6.3	19
11	15	80	111	165	68	71	61	27	12	13	e3490	18
12	15	44	96	153	68	67	61	25	11	13	e5900	18
13	15	36	85	146	67	64	59	25	11	17	690	18
14	15	33	87	130	67	59	55	24	11	18	348	19
15	15	32	81	120	75	55	52	22	11	14	e100	17
16	15	184	72	117	68	54	50	21	11	11	e65	17
17	15	349	67	136	63	68	49	21	11	10	e55	19
18	16	290	68	139	196	363	57	20	11	9.3	e50	20
19	17	135	113	128	349	455	60	19	13	8.7	e45	21
20	17	68	324	118	326	395	50	19	23	8.4	e40	19
21	18	53	328	102	200	168	44	19	23	8.6	e37	17
22	18	47	218	94	121	116	40	26	15	8.6	e35	16
23	17	46	132	91	102	100	40	41	14	7.9	e33	15
24	18	47	115	91	91	94	37	25	13	7.4	e31	14
25	19	250	160	87	83	91	34	21	13	7.2	e29	14
26	47	510	363	82	78	86	31	20	13	7.0	e27	13
27	148	591	1060	80	77	77	30	18	13	7.3	e26	13
28	82	358	1430	79	77	70	27	17	13	8.1	e25	13
29	38	126	685	80	75	114	30	17	12	8.4	e24	12
30	30	90	310	81	---	320	74	16	11	7.8	e23	14
31	28	---	303	82	---	349	---	16	---	7.6	e23	---
TOTAL	779	3711	8352	4796	2978	4111	2172	828	417	354.2	11166.9	550
MEAN	25.1	124	269	155	103	133	72.4	26.7	13.9	11.4	360	18.3
MAX	148	591	1430	420	349	455	223	65	23	23	5900	25
MIN	15	22	57	79	63	54	27	16	11	7.0	6.3	12
AC-FT	1550	7360	16570	9510	5910	8150	4310	1640	827	703	22150	1090
CFSM	.16	.78	1.71	.98	.65	.84	.46	.17	.09	.07	2.28	.12
IN.	.18	.87	1.97	1.13	.70	.97	.51	.19	.10	.08	2.63	.13

CAL YR 1987 TOTAL 45545.7 MEAN 125 MAX 2470 MIN 9.1 AC-FT 90340 CFSM .79 IN. 10.72
WTR YR 1988 TOTAL 40215.1 MEAN 110 MAX 5900 MIN 6.3 AC-FT 79770 CFSM .70 IN. 9.47

e Estimated.

08036500 ANGELINA RIVER NEAR ALTO, TX

LOCATION.--Lat 31°40'10", long 94°57'24", Nacogdoches-Cherokee County line, Hydrologic Unit 12020004, near center of rectified channel at downstream side of bridge on State Highway 21, 0.4 mi upstream from Allen Creek, 1.5 mi upstream from Bingham Creek, 7.5 mi east of Alto, and 149.3 mi upstream from mouth.

DRAINAGE AREA.--1,276 mi².

PERIOD OF RECORD.--May to August 1940 (discharge measurements only), September 1940 to March 1949 (fragmentary for 1941-42, 1944-49), February 1959 to current year.
Water-quality records.--Chemical analyses: November 1961 to September 1963.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 204.30 ft above National Geodetic Vertical Datum of 1929. May 9, 1940, to Mar. 31, 1949, nonrecording gage on bridge at natural channel 1,400 ft to right at same datum. Feb. 18 to Sept. 15, 1959, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. No large diversion above station. Flow partly regulated since May 1957 by Lake Striker 35.5 mi upstream and by Lake Tyler 69.9 mi upstream since January 1949 (combined capacity, 110,700 acre-ft). Several observations of water temperature were made during the year. U.S. Army Corps of Engineers telemeter for rainfall and stage at station.

AVERAGE DISCHARGE.--30 years (water years 1943, 1960-88), 776 ft³/s (562,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,600 ft³/s Apr. 28, 1966 (gage height, 21.51 ft), but may have been higher during period of no gage-height record in November 1940; minimum, 2.0 ft³/s Aug. 14, 15, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1905, about 22 ft in May 1908, from information by local residents. Flood in 1932 reached a stage of 21.5 ft, and flood in May 1958 reached a stage of 20.3 ft, from floodmarks and information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,200 ft³/s Dec. 31 at 0200 hours (gage height, 19.14 ft); minimum daily, 34 ft³/s Aug. 8-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	123	1110	9580	518	1480	1230	231	60	61	38	74
2	50	103	1290	7790	500	1200	1350	354	60	70	36	70
3	50	96	1370	6300	485	963	1400	387	60	81	35	68
4	48	86	1370	5070	479	836	1380	280	66	72	35	65
5	49	77	1260	4260	525	868	1400	217	69	63	35	64
6	49	67	1040	3690	569	948	1450	190	68	61	35	65
7	46	62	958	3260	570	971	1480	166	84	61	35	77
8	44	61	808	2950	516	930	1470	149	111	65	34	78
9	43	63	988	2640	456	985	1400	142	127	66	34	71
10	41	77	1290	2330	449	1110	1260	137	106	67	34	65
11	39	91	1620	2050	502	1220	1070	133	82	67	41	62
12	39	143	2120	1850	533	1270	881	130	70	66	133	60
13	39	216	2770	1700	538	1200	672	125	66	64	767	57
14	39	199	3080	1590	528	984	515	116	63	63	1650	59
15	39	156	3010	1510	473	765	439	111	60	66	2040	56
16	39	167	2750	1460	427	632	399	102	57	68	2130	53
17	39	203	2390	1440	417	582	370	95	55	73	1870	52
18	39	222	1990	1400	479	902	358	87	54	76	1380	52
19	39	329	1610	1350	658	1130	407	82	54	73	704	52
20	39	423	1370	1290	873	1390	461	78	54	64	251	52
21	39	472	1160	1220	1240	1650	487	75	55	56	164	53
22	39	434	1160	1110	1700	1850	409	72	59	51	214	56
23	39	331	1280	994	2300	1970	326	77	66	48	336	57
24	40	274	1390	903	2840	1970	286	76	65	49	332	57
25	41	370	1410	835	3000	1900	278	81	61	52	267	57
26	45	528	1410	789	2870	1800	265	80	59	55	167	56
27	57	600	1540	752	2590	1660	216	73	59	56	121	54
28	63	684	1800	716	2220	1440	192	69	58	52	118	51
29	137	760	3570	681	1830	1190	181	65	59	46	102	51
30	195	883	8620	616	---	1130	202	63	59	42	87	50
31	171	---	11300	548	---	1100	---	61	---	39	81	---
TOTAL	1728	8300	68834	72674	31085	38026	22234	4104	2026	1893	13306	1794
MEAN	55.7	277	2220	2344	1072	1227	741	132	67.5	61.1	429	59.8
MAX	195	883	11300	9580	3000	1970	1480	387	127	81	2130	78
MIN	39	61	808	548	417	582	181	61	54	39	34	50
AC-FT	3430	16460	136500	144100	61660	75420	44100	8140	4020	3750	26390	3560

CAL YR 1987 TOTAL 320238 MEAN 877 MAX 11300 MIN 39 AC-FT 635200
WTR YR 1988 TOTAL 266004 MEAN 727 MAX 11300 MIN 34 AC-FT 527600

08036700 LAKE NACOGDOCHES NEAR NACOGDOCHES, TX

LOCATION.--Lat 31°35'19", long 94°49'31", Nacogdoches County, Hydrologic Unit 12020004, at upstream side of dam on Bayou Loco near service outlet tower and 10 mi west of Nacogdoches.

DRAINAGE AREA.--87.9 mi².

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

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

REMARKS.--The lake is formed by a rolled earthfill dam. Deliberate impoundment began July 14, 1976. Water is used for industrial and municipal supply by the city of Nacogdoches. The emergency spillway is an uncontrolled 500-foot-wide cut through natural ground located near the right end of dam. There is an uncontrolled drop inlet with a 20.5-foot-diameter top opening that is connected to an 8- x 7-foot conduit that extends through the dam. A separate multi-gated inlet tower is connected to a valve by a 30-inch conduit through the dam. The valve box directs water to a purification plant. 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	303.0	-
Top of design flood	298.5	102,900
Crest of spillway	286.0	59,570
Crest of drop inlet (top of conservation pool)	279.0	42,320
Lowest gated outlet (invert of 30 in conduit)	238.25	254

COOPERATION.--The capacity table, furnished by the city of Nacogdoches, is based on Geological Survey topographic maps dated 1952.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,550 acre-ft June 3, 1979 (elevation, 283.76 ft); minimum since first appreciable storage, 20,540 acre-ft Nov. 26, 1977 (elevation, 266.62 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,820 acre-ft Apr. 2 at 1800 hours (elevation, 279.23 ft); minimum, 35,620 acre-ft Sept. 30 (elevation, 275.73 ft).

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

275.0	34,220	279.0	42,320
277.0	38,140	280.0	44,500

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37760	36760	37940	41540	e41640	41560	42470	41450	40240	38880	e37760	e36780
2	37660	36760	37940	41560	e41660	41660	42780	41390	40200	38840	e37720	e36720
3	37620	36720	37940	41640	e41620	41660	42760	41390	40180	38760	e37680	e36660
4	37540	36660	37940	41770	e41640	41660	42580	41370	40120	38780	e37640	e36600
5	37500	36640	37920	41810	e41640	41600	42490	41300	40060	38780	e37600	e36540
6	37440	36620	38220	41940	e41640	41600	42340	41260	40060	38760	e37540	e36480
7	37440	36540	38550	41920	e41620	41580	42240	41220	40010	38760	e37480	36420
8	37420	36560	38660	41980	e41620	41680	42150	41220	39910	38760	e37400	36380
9	37340	36720	38720	41980	e41620	41680	42070	41200	39910	38680	e37340	36340
10	37260	36700	38720	42000	e41620	41620	41940	41200	39810	38630	e37420	36240
11	37240	36680	38740	42000	e41620	41600	41810	41180	39730	38630	e38630	36200
12	37240	36660	38760	41900	e41600	41640	41790	41150	39660	38630	e38530	36160
13	37160	36620	38760	41900	e41580	41580	41750	41110	39660	38570	e38450	36160
14	37160	36640	38660	41870	e41560	41540	41640	41070	39560	38490	e38370	36120
15	37100	36720	38720	41870	e41540	41510	41660	40980	39480	38490	e38280	36120
16	37040	36960	38720	41900	e41580	41470	41660	40980	39460	38430	e38180	36100
17	37040	37040	38700	41960	e41580	41900	41540	40920	39440	38370	e38080	36060
18	37040	37040	38700	41920	e41790	42430	41540	40880	39360	38350	e37980	36020
19	37000	37020	39070	41980	e41790	42450	41510	40810	39460	e38300	e37880	36010
20	36980	37020	39380	41920	e41770	42410	41510	40790	39460	e38260	e37780	35950
21	36960	36940	39420	41900	e41730	42320	41470	40730	39400	e38220	e37680	35970
22	36860	36940	39480	41900	e41600	42210	41450	40710	39360	e38180	e37600	35910
23	36860	37000	39500	41810	e41600	42150	41470	40670	39360	e38140	e37520	35870
24	36860	37120	39640	41790	e41600	42090	41470	40620	39290	e38080	e37440	35830
25	36860	37640	39830	41770	e41580	42090	41410	40600	39210	e38040	e37360	35790
26	36920	37900	40180	e41770	41580	42000	41430	40520	39170	e38000	e37280	35760
27	36920	37980	40670	e41750	41580	41900	41340	40450	39030	e37960	e37200	35680
28	36880	37980	40900	e41680	41600	41830	41300	40370	39070	e37920	e37120	35640
29	36820	37980	40960	e41680	41580	42150	41410	40350	39070	e37880	e37020	35640
30	36820	37980	41090	e41640	---	42340	41410	40260	38940	e37840	e36940	35620
31	36800	---	41320	e41680	---	42340	---	40260	---	e37800	e36860	---
MAX	37760	37980	41320	42000	41790	42450	42780	41450	40240	38880	38630	36780
MIN	36800	36540	37920	41540	41540	41470	41300	40260	38940	37800	36860	35620
(†)	276.33	276.92	278.53	278.70	278.65	279.01	278.57	278.03	277.39	276.83	276.36	275.73
(Φ)	-1000	+1180	+3340	+360	-100	+760	-930	-1150	-1320	-1140	-940	-1240
(††)	275	217	179	223	161	186	243	408	656	646	561	357

CAL YR 1987 MAX 45640 MIN 36540 (Φ) -1500 (††) 3245
WTR YR 1988 MAX 42780 MIN 35620 (Φ) -2180 (††) 4112

(†) Elevation, in feet, at end of month.
(Φ) Change in contents, in acre-feet.
(††) Diversions, in acre-feet, for municipal use by city of Nacogdoches.
e Estimated.

08037050 BAYOU LANANA AT NACOGDOCHES, TX

LOCATION.--Lat 31°36'58", long 94°38'28", Nacogdoches County, Hydrologic Unit 12020005, on right bank at downstream side of bridge on Farm Road 1878 in Nacogdoches and 14.5 mi upstream from mouth.

DRAINAGE AREA.--31.3 mi².

PERIOD OF RECORD.--October 1964 to September 1986, May to September 1988.

GAGE.--Water-stage recorder and crest-stage gage. Prior to July 1974, concrete control. Datum of gage is 264.23 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--22 years (water years 1964-86), 31.7 ft³/s, 13.75 in/yr (22,970 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft³/s June 2, 1979 (gage height, 22.18 ft), from rating curve extended above 2,800 ft³/s on basis of indirect measurement of peak flow; no flow at times.
Maximum stage since at least 1956, that of June 2, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Aug. 11	0530	a*673	a*11.05				

a Maximum discharge during period May to September 1988; probably exceeded earlier in the water year.

Minimum discharge for period, 0.11 ft³/s on many days during June.

DISCHARGE, CUBIC FEET PER SECOND, MAY TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	.21	.24	.40	.20
2	---	---	---	---	---	---	---	---	.19	.24	.24	.20
3	---	---	---	---	---	---	---	---	.54	1.4	.38	1.7
4	---	---	---	---	---	---	---	---	.46	26	.48	.94
5	---	---	---	---	---	---	---	---	.21	5.6	.47	.25
6	---	---	---	---	---	---	---	---	.16	1.2	1.4	.17
7	---	---	---	---	---	---	---	---	.22	4.1	.86	.18
8	---	---	---	---	---	---	---	---	.23	4.2	.52	.19
9	---	---	---	---	---	---	---	---	.15	.67	.31	.14
10	---	---	---	---	---	---	---	---	.11	.43	4.9	.14
11	---	---	---	---	---	---	---	---	.11	.38	217	.18
12	---	---	---	---	---	---	---	---	.11	3.0	22	.24
13	---	---	---	---	---	---	---	---	.12	1.1	3.1	1.4
14	---	---	---	---	---	---	---	---	.14	.45	1.9	.55
15	---	---	---	---	---	---	---	---	.12	.50	.76	1.7
16	---	---	---	---	---	---	---	---	.13	.41	.47	1.0
17	---	---	---	---	---	---	---	.86	.12	.40	1.0	.49
18	---	---	---	---	---	---	---	.78	.12	.46	4.3	.36
19	---	---	---	---	---	---	---	.70	.12	.50	1.1	.36
20	---	---	---	---	---	---	---	.60	.20	1.3	.43	.38
21	---	---	---	---	---	---	---	.90	.22	.65	.29	.17
22	---	---	---	---	---	---	---	5.3	1.6	.48	.24	.16
23	---	---	---	---	---	---	---	1.3	.53	.50	.24	.22
24	---	---	---	---	---	---	---	.65	.20	.46	.64	.51
25	---	---	---	---	---	---	---	.44	.20	.43	.33	.23
26	---	---	---	---	---	---	---	.35	.24	7.1	.21	.18
27	---	---	---	---	---	---	---	.28	.25	2.1	.19	.16
28	---	---	---	---	---	---	---	.28	.21	.71	.16	.16
29	---	---	---	---	---	---	---	.28	.42	.59	.17	.21
30	---	---	---	---	---	---	---	.24	.36	.57	.19	.27
31	---	---	---	---	---	---	---	.27	---	.48	.19	---
TOTAL	---	---	---	---	---	---	---	---	8.00	66.65	264.87	13.04
MEAN	---	---	---	---	---	---	---	---	.27	2.15	8.54	.43
MAX	---	---	---	---	---	---	---	---	1.6	26	217	1.7
MIN	---	---	---	---	---	---	---	---	.11	.24	.16	.14
AC-FT	---	---	---	---	---	---	---	---	16	132	525	26

CAL YR 1987	TOTAL --	MEAN --	MAX --	MIN --	AC-FT --	
WTR YR 1988	TOTAL --	MEAN --	MAX --	MIN --	AC-FT --	

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX

LOCATION.--Lat 31°03'38", long 94°06'21", Jasper County, Hydrologic Unit 12020005, in the powerhouse-intake structure of Sam Rayburn Dam on the Angelina River, 10 mi northwest of Jasper, and 25.2 mi upstream from mouth.

DRAINAGE AREA.--3,449 mi².

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

GAGE.--Stevens-type AP recording transmitter. Datum of gage is National Geodetic Vertical Datum of 1929 (level by U.S. Army Corps of Engineers). Prior to Apr. 20, 1965, nonrecording gage at same site and datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam 19,430 ft long, including spillway and dikes. The dam was completed and deliberate impoundment began Mar. 29, 1965. The spillway is an uncontrolled broad-crested weir 2,200 ft wide, on right bank 7,000 ft to right of outlet works, and is designed to discharge 125,300 ft³/s at maximum flood design. The flood-control outlet works consists of two 10.0- by 20.0-foot rectangular concrete-lined conduits controlled by two 10.0- by 20.0-foot tractor-type service gates and one 10.0- by 20.0-foot tractor-type emergency gate. Water for turbines is admitted through four 18.0- by 26.0-foot penstocks and controlled by two wheeled-leaf-type headgates. The reservoir is operated for flood control and power generation. The area-capacity tables are based on topographic maps prepared by the U.S. Army Corps of Engineers and detailed sedimentation ranges established in 1961 and dated February 1965. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08038000. 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	190.0	-
Design flood	183.0	5,610,000
Crest of spillway	176.0	4,442,400
Top of flood-control pool	173.0	3,997,600
Top of conservation pool (power pool)	164.0	2,852,600
Top of power head and sediment pool	149.0	1,452,000
Lowest gated outlet (invert)	105.0	21,940

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,881,000 acre-ft Feb. 7, 1974 (elevation, 172.17 ft); minimum since conservation storage was reached in 1968, 1,797,000 acre-ft Nov. 15, 1977 (elevation, 153.35 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 3,005,000 acre-ft Mar. 3 (elevation, 165.32 ft); minimum daily, 1,977,000 acre-ft Sept. 30 (elevation, 155.40 ft).

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

155.0	1,941,000	160.0	2,421,000	164.0	2,853,000
158.0	2,221,000	162.0	2,631,000	166.0	3,085,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2449000	2252000	2398000	2765000	2913000	2960000	2986000	2910000	2743000	2527000	2354000	2171000
2	2442000	2246000	2398000	2772000	2912000	2981000	2986000	2906000	2733000	2518000	2347000	2163000
3	2438000	2240000	2405000	2783000	2912000	3005000	2985000	2908000	2727000	2512000	2339000	2166000
4	2426000	2234000	2404000	2805000	2907000	2995000	2977000	2906000	2722000	2518000	2331000	2166000
5	2417000	2228000	2402000	2821000	2908000	2987000	2969000	2903000	2716000	2518000	2323000	2153000
6	2416000	2220000	2443000	2850000	2904000	2981000	2960000	2899000	2710000	2519000	2315000	2146000
7	2404000	2211000	2458000	2872000	2900000	2973000	2950000	2895000	2703000	2514000	2308000	2138000
8	2392000	2205000	2470000	2886000	2897000	2991000	2945000	2887000	2695000	2516000	2298000	2131000
9	2389000	2211000	2479000	2899000	2895000	2979000	2943000	2878000	2687000	2507000	2294000	2125000
10	2384000	2199000	2484000	2905000	2895000	2970000	2944000	2871000	2678000	2502000	2286000	2119000
11	2381000	2191000	2494000	2910000	2896000	2963000	2937000	2866000	2675000	2495000	2281000	2108000
12	2372000	2183000	2498000	2930000	2897000	2956000	2928000	2862000	2669000	2499000	2274000	2106000
13	2361000	2172000	2507000	2928000	2899000	2949000	2919000	2856000	2657000	2491000	2266000	2099000
14	2354000	2172000	2514000	2930000	2902000	2942000	2913000	2853000	2651000	2484000	2260000	2092000
15	2348000	2172000	2518000	2933000	2905000	2938000	2910000	2847000	2644000	2482000	2257000	2087000
16	2341000	2278000	2518000	2942000	2906000	2933000	2912000	2845000	2638000	2471000	2249000	2080000
17	2337000	2288000	2520000	2949000	2907000	2957000	2915000	2839000	2629000	2469000	2244000	2071000
18	2330000	2295000	2522000	2952000	2940000	2977000	2918000	2836000	2621000	2460000	2247000	2059000
19	2323000	2305000	2547000	2971000	2940000	2981000	2917000	2828000	2615000	2458000	2241000	2054000
20	2320000	2302000	2568000	2974000	2944000	2985000	2913000	2822000	2605000	2452000	2235000	2046000
21	2307000	2300000	2580000	2971000	2948000	2983000	2910000	2819000	2599000	2446000	2230000	2039000
22	2301000	2305000	2588000	2967000	2948000	2986000	2910000	2816000	2590000	2436000	2230000	2030000
23	2295000	2309000	2597000	2959000	2956000	2988000	2910000	2813000	2586000	2427000	2222000	2020000
24	2291000	2306000	2610000	2959000	2958000	2986000	2907000	2810000	2579000	2422000	2220000	2023000
25	2284000	2361000	2616000	2952000	2958000	2986000	2904000	2801000	2576000	2406000	2212000	2012000
26	2293000	2375000	2652000	2947000	2957000	2974000	2898000	2794000	2573000	2400000	2206000	2002000
27	2286000	2390000	2691000	2937000	2959000	2957000	2898000	2785000	2565000	2396000	2199000	1992000
28	2276000	2390000	2715000	2930000	2962000	2960000	2896000	2777000	2557000	2388000	2195000	1980000
29	2266000	2390000	2720000	2925000	2964000	2977000	2906000	2768000	2549000	2381000	2190000	1983000
30	2261000	2396000	2727000	2921000	---	2972000	2907000	2760000	2541000	2372000	2184000	1977000
31	2257000	---	2747000	2920000	---	2973000	---	2753000	---	2361000	2177000	---
MAX	2449000	2396000	2747000	2974000	2964000	3005000	2986000	2910000	2743000	2527000	2354000	2171000
MIN	2257000	2172000	2398000	2765000	2895000	2933000	2896000	2753000	2541000	2361000	2177000	1977000
(†)	158.37	159.76	163.06	164.59	164.97	165.05	164.48	163.11	161.16	159.42	157.55	155.40
(ϕ)	-201800	+139100	+351200	+172800	+43920	+9299	-65860	-154600	-208000	-179900	-184200	-200200

CAL YR 1987 MAX 3323000 MIN 2172000 (ϕ) -47600
WTR YR 1988 MAX 3005000 MIN 1977000 (ϕ) -48200

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

08040000 B.A. STEINHAGEN LAKE AT TOWN BLUFF, TX

LOCATION.--Lat 30°47'43", long 94°10'48", Tyler County, Hydrologic Unit 12020003, near right bank 70 ft upstream from outlet structure of Town Bluff Dam on Neches River, 0.4 mi north of Town Bluff, and at mile 113.7.

DRAINAGE AREA.--7,573 mi².

PERIOD OF RECORD.--April 1951 to current year. Prior to October 1967, published as Dam B Reservoir at Town Bluff.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 25, 1954, at site 490 ft upstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam with concrete spillway sections. The total length of dam is 6,698 ft, including a concrete spillway and non-overflow section. Deliberate impoundment of water began Apr. 16, 1951, and the dam was completed in June 1951. The uncontrolled spillway is 6,100 ft long. A 326-foot-long gated service spillway with six 40.0- by 35.0-foot tainter gates is located near right end of dam. The capacity of the spillways at maximum flood design is 218,300 ft³/s. The capacity table is based on a survey made in 1945. Water is used for industrial, municipal and irrigation supplies. 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 (nonoverflow)	95.0	-
Design flood	93.0	306,400
Crest of uncontrolled spillway (top of tainter gates)	85.0	124,700
Top of conservation pool	83.0	94,200
Bottom of tainter gates (sill)	50.0	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, 128,400 acre-ft May 22, 1953 (elevation, 85.21 ft); no storage Sept. 18 to Oct. 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 103,600 acre-ft Dec. 7 (elevation, 83.66 ft); minimum daily, 70,780 acre-ft Sept. 14 (elevation, 81.10 ft).

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

81.0	69,680	83.0	94,250
82.0	81,280	84.0	108,700

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77540	84760	81280	89410	82760	83630	85140	84890	81640	82010	83630	84130
2	76950	85910	80180	86550	83880	90200	84890	82010	82880	82380	84000	83630
3	77180	87060	79690	84000	84000	91670	87970	81640	84640	82010	84000	82880
4	77300	87840	80300	80910	83750	87320	87710	82760	83130	80660	84000	82140
5	78370	89680	80660	79810	84640	88100	90870	83380	80910	85910	84640	80180
6	78610	90470	91540	80660	85020	84510	91540	82510	82880	87580	84130	78730
7	78370	90340	103600	85140	85270	80540	91540	78730	81770	90340	84890	77540
8	78370	90340	95350	87190	85020	78850	90070	82630	82260	91140	85020	76360
9	78130	93020	89020	86290	87450	81030	85270	88230	83250	88100	85650	75200
10	76710	93430	86290	85020	91540	83630	81030	92890	85520	83880	85400	73590
11	77540	94520	85780	83630	93290	84640	81640	94110	80660	82630	86160	72570
12	77780	95080	84510	84510	93290	87450	81890	93020	74620	79690	85650	72000
13	76950	95900	82260	87580	92620	86290	82510	93020	75430	79690	86160	72680
14	76710	91270	81280	88360	92890	83630	85520	92750	78370	78970	85650	70780
15	75890	87190	79090	86680	91000	80910	90070	91400	75890	77780	87060	73020
16	76360	96880	79450	85520	88230	82380	88620	90870	77780	77420	87450	73130
17	75780	87450	80300	85780	85780	84380	86290	89020	76950	76130	87320	76600
18	75890	84510	81150	85400	86800	92080	85650	85270	76010	74160	89280	77780
19	75660	82760	87710	92210	88360	87580	81890	84890	76600	75430	90070	78020
20	75310	81030	93840	92750	91940	83630	81640	84380	75540	76830	90870	79210
21	74620	79330	95210	89540	93700	80540	83130	84260	75890	78250	92210	80060
22	74500	77300	91940	86930	94250	82140	87710	82010	76360	79330	93020	81770
23	74160	78850	87450	84000	91540	82140	87970	79690	75890	77180	94110	82510
24	74620	80060	85400	82010	86290	86930	87840	77300	75080	78490	93020	83630
25	75890	92350	84000	79570	85650	88230	92480	80180	76830	73130	92890	84640
26	77900	89150	86550	80060	84640	91940	93700	77780	75890	79450	91400	85020
27	78850	84260	92350	82010	84510	93700	91400	79330	78730	79810	90870	87190
28	79330	80300	95080	83250	83630	83750	86930	79690	78610	79810	89540	88230
29	80790	79570	93700	83750	83130	89020	86420	79810	79330	80060	88760	88890
30	81770	80790	91270	83750	---	91940	86680	81150	80790	81640	84640	87450
31	83630	---	90470	84000	---	89280	---	81770	---	81770	85650	---
MAX	83630	96880	103600	92750	94250	93700	93700	94110	85520	91140	94110	88890
MIN	74160	77300	79090	79570	82760	78850	81030	77300	74620	73130	83630	70780
(†)	82.19	81.96	82.72	82.22	82.15	82.63	82.43	82.04	81.96	82.04	82.35	82.49
(ϕ)	+4418	-2843	+9685	-6466	-876	+6151	-2604	-4910	-980	+980	+3885	+1800

CAL YR 1987 MAX 103600 MIN 69890 (ϕ) -2690
WTR YR 1988 MAX 103600 MIN 70780 (ϕ) +8240

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

08040500 NECHES RIVER AT TOWN BLUFF, TX

LOCATION.--Lat 30°47'36", long 94°10'28", Jasper-Tyler County line, Hydrologic Unit 12020003, on left bank 0.3 mi downstream from Town Bluff Dam, 0.5 mi northeast of Town Bluff, 2.5 mi upstream from Walnut Run, 8 mi downstream from Wolf Creek, and at mile 113.4.

DRAINAGE AREA.--7,573 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1951 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 21, 1953, water-stage recorder, and May 21, 1953, to Dec. 3, 1954, nonrecording gage at present site and datum.

REMARKS.--Records good. Flow is regulated by B.A. Steinhagen Lake (station 08040000) 0.3 mi upstream and by Sam Rayburn Reservoir (station 08039300) 37.9 mi upstream. Some diversions upstream from station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years (water years 1952-64) prior to regulation by Sam Rayburn Reservoir, 4,406 ft³/s (3,192,000 acre-ft/yr); 24 years (water years 1965-88) regulated, 4,792 ft³/s (3,472,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,900 ft³/s May 21, 22, 1953 (elevation, 82.85 ft); no flow at times due to regulation of B. A. Steinhagen Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1884 reached a stage about 86.8 ft (discharge, about 120,000 ft³/s) and is the highest since that date, from information by the U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,500 ft³/s Dec. 8 at 0500 to 0900 hours (elevation, 63.77 ft), minimum daily, 1,330 ft³/s Dec. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2950	2570	3210	7460	7140	5120	11100	2980	3770	3100	3270	3050
2	2790	2560	2900	7440	7290	5180	11100	2930	3790	3100	3290	3060
3	2650	2550	2390	7040	7210	7900	11100	2900	3840	3100	3300	3070
4	2640	2560	1860	6280	7060	11100	11400	2880	3720	3110	3290	3050
5	2640	2560	1810	4820	5520	9770	12400	2880	3370	3150	3280	3040
6	2630	2570	1850	4460	5200	9630	12500	2880	3190	3180	3270	3040
7	2630	2580	6550	4700	5020	9540	12100	2880	3160	3190	3260	3030
8	2710	2590	12400	4740	4940	9530	10300	2880	3170	3280	3260	3030
9	2910	2590	9430	e5060	3740	9740	9480	2880	3170	3610	3260	3020
10	2920	2580	6550	e5460	2310	9650	9390	2890	3160	3610	3270	3010
11	2920	2590	4540	5460	2230	9080	8360	2890	3160	3590	3280	3010
12	2920	2590	3890	5810	2180	8320	6840	2900	3140	3580	3280	3010
13	2920	2590	3830	6240	2160	8250	6780	2900	3120	3570	3280	3010
14	2910	2590	3750	6680	2160	8320	5720	2900	3240	3570	3280	3180
15	2890	2600	2780	7680	2620	7940	3790	2900	3420	3510	3200	3710
16	2890	5260	1610	8510	3040	7270	3710	2890	3420	3320	3090	3560
17	2890	10900	1370	8570	3040	7280	3700	2880	3420	3290	3070	3180
18	2860	5980	1340	8620	3030	8570	3670	2860	3420	3280	3070	3170
19	2830	2870	1330	9350	3120	9670	3630	2850	3430	3300	3070	3170
20	2820	2430	3710	11200	3080	8480	3370	2850	3430	3300	3070	3170
21	2820	2100	6290	12100	3490	9330	2870	2880	3430	3280	3080	3170
22	2840	1950	7000	11100	3990	9300	2600	2970	3430	3280	3080	3170
23	2840	1780	6390	10600	4540	7070	2580	2880	3450	3290	3080	3170
24	2840	1770	5280	10600	5280	4680	2580	2830	3430	3290	3090	3170
25	2840	3300	4620	9950	5280	8360	2570	2890	3450	3280	3100	3180
26	2850	10700	4550	8430	5200	10800	2660	3140	3440	3270	3090	3180
27	2910	10900	6370	7170	5130	11400	3050	3160	3330	3280	3080	3160
28	2840	8270	8380	7130	5130	11000	3120	3160	3120	3300	3080	3090
29	2580	5990	8040	7110	5120	8980	2940	3170	3110	3300	3070	3080
30	2570	4080	7930	7130	---	8510	3000	3170	3110	3280	3050	3080
31	2570	---	7650	7130	---	10100	---	3350	---	3270	3050	---
TOTAL	86820	116950	149600	234030	125250	269870	188410	91400	100840	102860	98290	94020
MEAN	2801	3898	4826	7549	4319	8705	6280	2948	3361	3318	3171	3134
MAX	2950	10900	12400	12100	7290	11400	12500	3350	3840	3610	3300	3710
MIN	2570	1770	1330	4460	2160	4680	2570	2830	3110	3100	3050	3010
AC-FT	172200	232000	296700	464200	248400	535300	373700	181300	200000	204000	195000	186500

CAL YR 1987 TOTAL 2071040 MEAN 5674 MAX 17500 MIN 1330 AC-FT 4108000
WTR YR 1988 TOTAL 1658340 MEAN 4531 MAX 12500 MIN 1330 AC-FT 3289000

e Estimated.

08040500 NECHES RIVER AT TOWN BLUFF, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 18...	0945	6780	148	7.10	16.5	9.0	91	0.6	33	15
FEB 23...	1550	4780	213	7.40	13.5	12.4	119	1.6	40	22
APR 12...	1535	6800	166	7.20	16.0	10.8	110	1.2	35	17
JUN 07...	1510	3150	160	7.30	27.5	8.7	111	1.4	34	16
JUL 20...	1025	3300	164	7.10	29.5	7.6	100	1.2	35	14
SEP 07...	1205	3030	163	7.30	26.5	8.5	105	0.5	35	11

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 WAT WH TOT FET 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 18...	8.4	2.9	16	1	2.6	18	21	20	0.20	9.1
FEB 23...	9.9	3.8	22	2	3.0	18	35	26	0.20	12
APR 12...	8.1	3.5	17	1	2.6	18	27	21	0.20	7.5
JUN 07...	7.7	3.5	17	1	2.4	18	30	19	0.20	7.0
JUL 20...	8.2	3.4	18	1	2.4	21	22	20	0.20	7.9
SEP 07...	8.0	3.6	18	1	2.5	24	22	20	0.10	7.6

DATE	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)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
NOV 18...	91	--	<0.010	<0.100	0.020	0.38	0.40	0.030	1	44
FEB 23...	123	--	<0.010	<0.100	0.030	0.37	0.40	0.050	--	--
APR 12...	98	--	0.010	<0.100	0.020	0.58	0.60	0.040	--	--
JUN 07...	98	--	<0.010	<0.100	0.010	0.39	0.40	0.030	--	--
JUL 20...	95	0.170	0.030	0.200	0.050	0.65	0.70	0.120	1	42
SEP 07...	96	--	<0.010	<0.100	<0.010	--	0.40	0.020	--	--

DATE	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)	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 18...	2	2	3	74	25	4	<0.1	<1	1.0	5
FEB 23...	--	--	--	--	--	--	--	--	--	--
APR 12...	--	--	--	--	--	--	--	--	--	--
JUN 07...	--	--	--	--	--	--	--	--	--	--
JUL 20...	<1	<1	1	140	8	6	<0.1	<1	<1.0	12
SEP 07...	--	--	--	--	--	--	--	--	--	--

08041000 NECHES RIVER AT EVADALE, TX
(National stream-quality accounting network)

LOCATION.--Lat 30°21'20", long 94°05'35", Jasper-Hardin County line, Hydrologic Unit 12020003, near center of channel on downstream side of pier of bridge on U.S. Highway 96 at Evadale, 0.8 mi upstream from Mill Creek, 16 mi upstream from Village Creek, and at mile 55.6.

DRAINAGE AREA.--7,951 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1904 to December 1906, April 1921 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 718: 1929. WSP 1342: 1905-07, 1924. WSP 1732: Drainage area at former site.

GAGE.--Water-stage recorder. Datum of gage is 8.25 ft above National Geodetic Vertical Datum of 1929. July 1, 1904, to Dec. 31, 1906, nonrecording gage on Gulf, Colorado, and Santa Fe Railway Co. bridge at site 1.2 mi downstream at datum 5.50 ft lower; Apr. 1, 1921, to Dec. 7, 1948, nonrecording gages at site 1.2 mi downstream at present datum; Dec. 8, 1948, to Nov. 8, 1963, water-stage recorder at site 1.2 mi downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by B.A. Steinhagen Lake (station 08040000) 58.1 mi upstream, capacity 124,700 acre-ft, and by Sam Rayburn Reservoir (station 08039300), 95.7 mi upstream, capacity 4,442,000 acre-ft. Some diversions upstream for municipal use. Gage-height telemeter at station.

AVERAGE DISCHARGE.--45 years (water years 1905-06, 1922-64) unregulated, 6,308 ft³/s (4,570,000 acre-ft/yr); 24 years (water years 1965-88) regulated, 5,391 ft³/s (3,906,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,100 ft³/s May 11, 1944 (gage height, 23.58 ft, from floodmark), at site then in use; minimum daily, 63 ft³/s Nov. 26-28, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1884 reached a stage of 26.2 ft, at former site (discharge, about 125,000 ft³/s), and flood in August 1915 reached a stage of 24.5 ft, at former site (discharge, about 102,000 ft³/s). These are the highest floods since at least 1884. Stages furnished by Gulf, Colorado, and Santa Fe Railway Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,300 ft³/s Apr. 8 at 1700 to 2400 hours (gage height, 15.28 ft); minimum daily, 1,680 ft³/s Dec. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3050	2690	6990	8660	7220	5080	10200	3290	3410	3490	3610	3250
2	3030	2690	4870	8380	7340	5160	10800	3280	3690	3460	3630	3260
3	2950	2690	3690	8190	7440	5670	11500	3220	3900	3460	3630	3370
4	2750	2680	3020	7940	7510	6630	12000	3150	4100	3460	3650	3370
5	2690	2690	2270	7440	7490	8690	12100	3100	4110	3480	3640	3310
6	2670	2670	2060	6420	7390	10200	12300	3080	3860	3530	3620	3270
7	2660	2660	2520	5550	6630	10700	12800	3060	3570	3560	3620	3240
8	2660	2670	4460	5220	5970	10600	13200	3060	3440	3580	3610	3210
9	2690	2710	7690	5330	5580	10700	13100	3050	3410	3610	3600	3200
10	2880	2700	9980	5490	5050	10600	11600	3040	3390	3810	3600	3190
11	2980	2680	10100	5750	3720	10600	10000	3040	3390	3940	3620	3200
12	3010	2670	7910	5730	2890	10400	9350	3050	3390	3960	3680	3190
13	3010	2660	5620	5730	2600	9790	8400	3060	3400	3960	3650	3200
14	3010	2670	4590	5960	2460	9070	7380	3040	3400	3880	3650	3200
15	3010	2670	4200	6260	2400	8710	6640	3030	3420	3820	3640	3240
16	3010	2810	3670	6940	2580	8530	5350	3030	3570	3830	3590	3570
17	3010	3850	2420	7930	3110	8160	4470	3020	3650	3750	3470	3720
18	3000	6300	1730	8550	3280	8370	4160	3020	3680	3710	3310	3440
19	3010	7470	1680	8950	3440	8680	4030	3010	3690	3660	3300	3280
20	3000	5680	1800	9110	3620	9490	3950	2990	3700	3660	3300	3240
21	2990	3680	3420	9600	3620	10200	3820	3010	3710	3690	3300	3230
22	2980	2650	5650	10800	3630	10300	3450	3080	3720	3670	3300	3230
23	2980	2280	7060	11900	3950	10100	3060	3160	3740	3650	3300	3230
24	2990	2010	7510	12200	4270	9600	2900	3130	3760	3630	3320	3230
25	3000	2040	7000	11800	4830	7450	2850	3030	3800	3630	3320	3240
26	3010	3060	6010	11100	5100	7040	2830	2990	3830	3650	3300	3250
27	3020	6020	5530	10300	5160	8400	2830	3220	3830	3640	3290	3230
28	3040	8600	5910	9000	5110	9870	3030	3320	3780	3620	3280	3230
29	3060	9830	7380	7880	5090	11100	3280	3360	3610	3630	3300	3180
30	2870	9250	8400	7340	---	11500	3320	3370	3510	3650	3320	3160
31	2710	---	8680	7160	---	10800	---	3360	---	3640	3270	---
TOTAL	90730	115730	163820	248610	138480	282190	214700	96650	109460	113710	107720	98160
MEAN	2927	3858	5285	8020	4775	9103	7157	3118	3649	3668	3475	3272
MAX	3060	9830	10100	12200	7510	11500	13200	3370	4110	3960	3680	3720
MIN	2660	2010	1680	5220	2400	5080	2830	2990	3390	3460	3270	3160
AC-FT	180000	229600	324900	493100	274700	559700	425900	191700	217100	225500	213700	194700

CAL YR 1987 TOTAL 2337440 MEAN 6404 MAX 21000 MIN 1680 AC-FT 4636000
WTR YR 1988 TOTAL 1779960 MEAN 4863 MAX 13200 MIN 1680 AC-FT 3531000

08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1939 to current year. Pesticide analyses: February 1968 to July 1981. Sediment analyses: October 1960 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1947 to current year.
WATER TEMPERATURE: October 1947 to current year.

INSTRUMENTATION.--From October 1954 to September 1963, water temperature was continuously recorded 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 relationship 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, 422 microsiemens Jan. 25, 1957; minimum daily, 23 microsiemens Sept. 19, 1963.
WATER TEMPERATURE: Maximum daily, 34.0°C June 29, 1953; minimum daily, 3.0°C Jan. 30, 31, 1948, Jan. 31, 1949, and Jan. 24, 1963.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 223 microsiemens Feb. 27; minimum daily, 97 microsiemens Dec. 1.
WATER TEMPERATURE: Maximum daily, 30.0°C on many days during July, August, and September; minimum daily recorded, 8.0°C on several days in January, but may have been lower during February when thermometer was in error.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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 TOTAL (MG/L AS CACO3)
NOV 16...	1335	2870	146	6.80	17.5	22	8.8	93	0.4	160	350	31
JAN 04...	1620	7860	118	6.70	8.0	32	10.8	90	1.3	250	120	24
FEB 22...	1350	3650	159	7.50	13.0	18	11.0	104	1.7	28	44	32
APR 11...	1440	9910	160	6.80	17.5	18	8.2	86	1.2	80	190	33
JUN 06...	1322	3840	154	7.00	26.5	37	7.8	97	1.5	48	140	33
JUL 18...	1450	3700	162	7.20	30.0	22	7.5	99	1.2	60	88	34

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET 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, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV 16...	10	7.2	3.1	15	1	2.5	21	16	19	0.20	9.5	89
JAN 04...	14	6.3	2.0	12	1	2.5	10	24	13	0.10	12	101
FEB 22...	16	7.9	3.0	16	1	1.0	16	24	19	0.10	11	104
APR 11...	16	7.8	3.4	17	1	2.6	18	26	20	0.20	7.5	107
JUN 06...	14	7.8	3.2	17	1	2.5	19	21	19	0.10	7.3	89
JUL 18...	11	7.9	3.4	17	1	2.4	23	21	19	0.10	7.9	107

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	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-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	SEDI-MENT, SUS-PENDED (MG/L)
NOV 16...	85	<0.010	<0.100	0.020	0.030	0.48	0.50	0.030	0.020	0.030	0.09	85
JAN 04...	78	0.010	<0.100	0.060	0.040	0.54	0.60	0.050	0.060	0.030	0.09	64
FEB 22...	92	<0.010	<0.100	0.030	0.030	0.57	0.60	0.050	0.030	0.010	0.03	14
APR 11...	95	<0.010	<0.100	0.020	0.020	0.58	0.60	0.040	0.020	<0.010	--	23
JUN 06...	90	<0.010	<0.100	0.020	0.030	0.38	0.40	0.070	0.050	0.040	0.12	35
JUL 18...	93	<0.010	<0.100	<0.010	<0.010	--	0.50	0.030	0.030	0.020	0.06	25

08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV 16...	659	57	30	1	37	<0.5	<1	<1	<3	4	67
JAN 04...	1360	44	--	--	--	--	--	--	--	--	--
FEB 22...	138	92	<10	<1	44	<0.5	<1	<1	<3	3	180
APR 11...	615	76	--	--	--	--	--	--	--	--	--
JUN 06...	363	99	10	<1	42	<0.5	<1	<1	<3	2	11
JUL 18...	250	95	20	1	41	<0.5	<1	<1	<3	1	50

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 16...	<5	<4	10	<0.1	<10	1	<1	<1.0	85	<6	6
JAN 04...	--	--	--	--	--	--	--	--	--	--	--
FEB 22...	<5	<4	35	<0.1	<10	7	2	<1.0	82	<6	15
APR 11...	--	--	--	--	--	--	--	--	--	--	--
JUN 06...	<5	7	4	0.3	<10	2	<1	<1.0	89	<6	8
JUL 18...	<5	<4	1	<0.1	<10	1	<1	<1.0	93	<6	4

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1987	90730	150	92	22500	19	4710	22	5330	30
NOV.	1987	115730	140	87	27300	18	5570	21	6510	29
DEC.	1987	163820	121	78	34400	15	6640	19	8360	26
JAN.	1988	248610	140	87	58400	18	11900	21	13900	29
FEB.	1988	138480	164	98	36600	21	8030	23	8500	32
MAR.	1988	282190	155	94	71800	20	15300	22	16900	31
APR.	1988	214700	162	97	56300	21	12200	23	13200	32
MAY	1988	96650	162	97	25400	21	5510	23	5940	32
JUNE	1988	109460	161	97	28600	21	6160	23	6690	32
JULY	1988	113710	163	98	30100	21	6550	23	7020	32
AUG.	1988	107720	165	98	28600	21	6250	23	6670	32
SEPT	1988	98160	164	98	26000	21	5670	23	6070	32
TOTAL		1779960	**	**	446000	**	94500	**	105000	**
WTD.AVG.		4863	152	93	**	20	**	22	**	31

08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	148	97	120	158	140	154	156	157	161	166	155
2	148	146	128	112	166	189	155	156	162	168	165	149
3	149	146	102	116	156	193	158	157	156	167	163	149
4	148	146	102	127	151	162	154	162	152	167	164	156
5	155	148	110	122	145	173	158	171	157	163	161	163
6	148	150	109	126	151	155	154	167	156	163	163	163
7	152	152	101	129	144	146	158	163	160	163	163	168
8	148	150	131	139	144	147	164	167	157	159	162	166
9	148	144	107	136	154	149	173	165	158	160	163	165
10	149	150	123	128	154	151	161	167	162	161	174	165
11	147	148	161	139	207	153	165	166	163	160	162	166
12	150	146	140	140	145	154	166	168	163	159	156	166
13	148	149	135	131	145	145	164	171	161	157	162	163
14	148	152	140	136	172	198	165	166	164	158	162	163
15	149	152	112	142	167	153	168	165	162	157	164	170
16	150	128	111	121	144	155	168	164	162	158	164	169
17	149	139	118	162	144	163	163	164	163	164	162	164
18	152	145	117	135	142	153	159	166	179	162	163	160
19	152	156	117	132	144	146	159	166	162	162	168	164
20	148	151	116	137	153	147	160	165	162	164	164	163
21	149	153	119	140	155	147	164	160	164	159	176	163
22	148	149	108	148	174	146	176	160	171	166	168	162
23	155	135	112	137	170	138	166	158	162	168	160	171
24	152	135	120	141	173	139	163	152	155	170	160	173
25	149	126	120	150	191	146	163	155	156	167	168	166
26	149	144	115	143	195	147	164	156	156	168	171	170
27	149	123	111	169	223	156	164	159	158	166	165	167
28	151	141	118	156	199	164	168	172	159	167	167	168
29	150	136	128	152	198	169	170	156	159	169	165	168
30	157	99	123	173	---	159	149	151	160	169	168	165
31	149	---	119	159	---	158	---	160	---	169	163	---
MEAN	150	143	118	139	164	156	162	162	161	164	165	164

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	19.0	13.0	12.0				16.0	24.0	28.0	30.0	30.0
2	26.0	19.0	13.0	12.0				16.0	24.0	28.0	30.0	30.0
3	25.0	19.0	13.0	10.0				16.0	24.0	28.0	30.0	30.0
4	23.0	19.0	13.0	10.0				18.0	24.0	28.0	30.0	30.0
5	26.0	19.0	13.0	10.0				18.0	26.0	28.0	30.0	30.0
6	25.0	19.0	13.0	10.0				18.0	26.0	28.0	30.0	30.0
7	23.0	19.0	13.0	9.0				18.0	26.0	28.0	30.0	30.0
8	23.0	19.0	13.0	9.0				18.0	26.0	28.0	30.0	28.0
9	23.0	17.0	13.0	9.0				18.0	26.0	28.0	30.0	28.0
10	23.0	17.0	13.0	9.0				18.0	26.0	28.0	30.0	28.0
11	21.0	15.0	13.0	9.0				18.0	26.0	28.0	30.0	28.0
12	21.0	15.0	13.0	9.0				18.0	26.0	28.0	30.0	28.0
13	21.0	15.0	13.0	9.0				18.0	26.0	28.0	30.0	28.0
14	21.0	15.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
15	21.0	15.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
16	21.0	15.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
17	21.0	15.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
18	21.0	15.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
19	19.0	15.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
20	19.0	15.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
21	19.0	15.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
22	19.0	13.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
23	19.0	13.0	13.0	9.0				20.0	26.0	28.0	30.0	28.0
24	19.0	13.0	12.0	9.0				20.0	26.0	30.0	30.0	28.0
25	21.0	13.0	12.0	8.0				20.0	26.0	30.0	30.0	27.0
26	19.0	13.0	12.0	8.0				20.0	28.0	30.0	30.0	27.0
27	19.0	13.0	12.0	8.0				20.0	28.0	30.0	30.0	27.0
28	19.0	13.0	12.0	8.0				22.0	28.0	30.0	30.0	27.0
29	19.0	13.0	12.0	8.0				22.0	28.0	30.0	30.0	27.0
30	19.0	13.0	12.0	8.0				22.0	28.0	30.0	30.0	27.0
31	19.0	---	12.0	8.0				24.0	---	30.0	30.0	---
MEAN	21.5	15.5	12.5	9.0				19.5	26.0	28.5	30.0	28.5

08041500 VILLAGE CREEK NEAR KOUNTZE, TX

LOCATION.--Lat 30°23'52", long 94°15'48", Hardin County, Hydrologic Unit 12020006, at downstream side of bridge on Farm Road 418, 1.6 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.1 mi upstream from Cypress Creek, 3.4 mi northeast of Kountze, and 4.3 mi downstream from Beech Creek.

DRAINAGE AREA.--860 mi².

PERIOD OF RECORD.--May 1924 to September 1927, October 1927 to November 1929 (discharge measurements only), April 1939 to current year.
Water-quality records: November 1967 to September 1985.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 25.12 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 30, 1939, nonrecording gage at site 1.6 mi downstream at different datum. Apr. 30, 1939, to Sept. 30, 1966, water-stage recorder at site 2,000 ft downstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Small diversions above station. Several measurements of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 850 ft³/s, 13.43 in/yr (615,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,200 ft³/s Nov. 26, 1940 (gage height, 27.6 ft), former site, from floodmark and from rating curve extended above 32,000 ft³/s; minimum not determined, probably occurred during period of no gage-height record Sept. 16 to Oct. 3, 1956; minimum daily, 16 ft³/s Oct. 1, 2, 1956.
Flood of May 27, 1929, reached a stage of about 32 ft at site 2,000 ft downstream at present datum; stage was determined on basis of information by engineers of Gulf, Colorado, and Santa Fe Railway Co. for site 1.6 mi downstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1884, about 34 ft in August 1915 at site 2,000 ft downstream at present datum; stage was determined on basis of information by engineers of Gulf, Colorado, and Santa Fe Railway Co. for site 1.6 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,950 ft³/s Dec. 25 at 0200 hours (gage height, 14.77 ft); minimum, 51 ft³/s Sept. 29-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	98	1390	e3500	631	535	1060	400	109	141	138	68
2	128	93	e950	2820	691	549	1420	682	106	124	136	69
3	125	90	e750	e2300	768	1050	1640	713	112	112	123	75
4	120	89	e640	e1900	794	1880	1620	503	127	103	112	82
5	113	88	e580	e1600	860	2470	1500	345	160	100	104	86
6	105	87	e600	e1400	1130	3110	1230	278	266	96	106	95
7	101	86	e850	e1400	1450	3540	951	241	264	115	115	98
8	98	85	1150	e1700	1590	2810	761	219	223	166	135	87
9	96	85	1410	1980	1590	1770	688	204	178	217	119	76
10	95	85	1760	2190	1460	1350	608	194	150	229	103	69
11	92	87	2290	2240	1310	1290	524	189	134	212	92	65
12	91	116	2630	e1950	1140	1300	468	186	121	194	89	62
13	90	123	1960	e1480	979	1190	429	180	113	168	101	61
14	89	120	e1100	e1200	854	951	399	174	107	146	111	62
15	89	115	e800	1030	796	754	376	169	103	132	125	61
16	88	126	e650	930	872	647	356	166	98	122	120	60
17	87	416	e550	1030	886	601	342	160	95	122	102	100
18	85	1000	481	1120	845	1190	330	151	95	117	90	142
19	85	1340	466	1160	1090	2010	322	144	94	106	85	97
20	85	1470	844	1750	1400	2410	312	138	98	104	81	80
21	85	1120	1560	2350	1460	2700	298	142	96	103	134	77
22	86	617	2280	2580	1350	2790	284	145	92	101	188	74
23	86	388	2950	2480	1160	2320	268	188	100	124	172	69
24	88	316	3700	1970	922	1650	259	297	95	151	133	63
25	89	317	3860	1380	743	1080	254	225	100	121	110	59
26	89	589	3150	978	651	881	246	174	116	113	95	57
27	89	1060	e2900	813	592	820	237	148	157	132	85	54
28	92	1450	e2700	730	555	772	225	133	211	116	78	52
29	98	1770	e2900	674	541	702	215	123	205	111	74	51
30	100	1880	e3250	640	---	660	236	117	168	101	72	51
31	100	---	e3600	623	---	751	---	112	---	105	70	---
TOTAL	3010	15306	54701	49898	29110	46533	17858	7240	4093	4104	3398	2202
MEAN	97.1	510	1765	1610	1004	1501	595	234	136	132	110	73.4
MAX	146	1880	3860	3500	1590	3540	1640	713	266	229	188	142
MIN	85	85	466	623	541	535	215	112	92	96	70	51
AC-FT	5970	30360	108500	98970	57740	92300	35420	14360	8120	8140	6740	4370
CFSM	.11	.59	2.05	1.87	1.17	1.75	.69	.27	.16	.15	.13	.09
IN.	.13	.66	2.37	2.16	1.26	2.01	.77	.31	.18	.18	.15	.10

CAL YR 1987 TOTAL 384077 MEAN 1052 MAX 5720 MIN 85 AC-FT 761800 CFSM 1.22 IN. 16.61
WTR YR 1988 TOTAL 237453 MEAN 649 MAX 3860 MIN 51 AC-FT 471000 CFSM .75 IN. 10.27

e Estimated.

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX

LOCATION.--Lat 30°06'21", long 94°20'04", Jefferson-Hardin County line, Hydrologic Unit 12020007, on right bank at downstream side of bridge on county road and 5.1 mi southeast of Sour Lake.

DRAINAGE AREA.--336 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

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

REMARKS.--Records good except those for estimated daily discharges, which are fair. Low flow for period March through September is affected by small diversions and return flow from irrigated fields. Gage-height telemeter at station.

AVERAGE DISCHARGE.--21 years, 475 ft³/s (344,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s Apr. 22, 1979 (elevation, 34.29 ft); minimum daily, 0.25 ft³/s Oct. 28, 1982.
Maximum stage since at least 1917, that of Apr. 22, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft³/s Dec. 27 at 1800 hours to Dec. 28 at 0600 hours (elevation, 23.77 ft); minimum daily, 3.4 ft³/s Oct. 14-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	6.9	196	962	67	68	229	26	21	57	112	43
2	9.5	8.6	147	870	68	90	321	14	24	41	161	39
3	8.7	13	100	740	66	392	382	25	28	29	113	74
4	7.4	19	67	582	61	543	410	16	57	22	132	140
5	6.3	13	51	417	102	636	415	32	91	20	95	e150
6	5.5	10	102	300	317	680	392	48	98	21	76	e120
7	4.8	13	728	463	366	679	326	33	63	27	75	90
8	4.5	13	636	616	374	692	217	22	46	25	75	66
9	4.2	14	621	707	380	887	139	15	44	21	73	51
10	3.9	11	715	760	386	907	88	15	35	22	58	37
11	3.9	9.3	797	748	382	855	61	13	23	26	49	30
12	3.8	7.7	766	698	354	686	45	18	17	38	53	27
13	3.6	7.1	608	635	305	456	39	39	16	45	54	20
14	3.4	6.3	413	542	256	287	35	27	20	41	48	17
15	3.4	6.3	239	421	222	187	25	35	27	34	45	26
16	4.9	16	124	353	195	127	22	37	23	29	49	22
17	8.2	24	72	577	165	100	22	18	20	29	55	14
18	9.9	25	53	577	216	356	25	14	21	26	57	10
19	9.8	60	46	568	340	608	23	26	27	22	61	9.0
20	8.7	69	83	539	362	836	26	35	55	24	68	7.8
21	7.6	81	278	537	379	1010	25	51	63	39	65	6.7
22	7.4	71	586	562	366	1100	23	66	45	45	57	7.8
23	7.2	50	780	550	346	1120	36	45	40	43	52	10
24	6.9	35	979	512	312	1130	16	28	39	43	45	12
25	7.1	52	1130	434	255	1080	11	22	49	40	45	10
26	6.7	73	1220	332	188	927	11	24	80	52	44	8.1
27	5.9	90	1290	232	138	594	14	33	104	55	40	7.4
28	6.4	173	1280	166	104	285	29	43	93	65	36	5.9
29	8.2	212	1230	126	82	147	29	27	89	62	32	9.6
30	7.6	224	1160	99	---	97	53	32	74	68	29	27
31	8.5	---	1050	81	---	130	---	32	---	95	34	---
TOTAL	203.9	1413.2	17547	15706	7154	17692	3489	911	1432	1206	1988	1097.3
MEAN	6.58	47.1	566	507	247	571	116	29.4	47.7	38.9	64.1	36.6
MAX	10	224	1290	962	386	1130	415	66	104	95	161	150
MIN	3.4	6.3	46	81	61	68	11	13	16	20	29	5.9
AC-FT	404	2800	34800	31150	14190	35090	6920	1810	2840	2390	3940	2180

CAL YR 1987 TOTAL 182946.9 MEAN 501 MAX 6940 MIN 3.4 AC-FT 362900
WTR YR 1988 TOTAL 69839.4 MEAN 191 MAX 1290 MIN 3.4 AC-FT 138500

e Estimated.

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1968 to current year.
WATER TEMPERATURE: February 1968 to current year.

INSTRUMENTATION.--Since August 1981, specific conductance and water temperature are recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where 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, 11,600 microsiemens Mar. 23, 1968; minimum daily, 34 microsiemens June 12, 1975, July 28, 1979.
WATER TEMPERATURE: Maximum daily, 37.0°C Sept. 15, 1972; minimum daily, 2.0°C Jan. 11, 1973.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 918 microsiemens Dec. 21; minimum, 68 microsiemens Dec. 6.
WATER TEMPERATURE: Maximum, 35.5°C July 4, 16, 17; minimum, 4.0°C Jan. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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									
02...	1350	9.4	307	21.5	58	6	18	3.1	37
27...	0730	6.0	295	20.5	56	4	17	3.2	35
NOV									
20...	0815	69	131	13.0	26	8	8.0	1.5	15
JAN									
15...	1300	417	106	7.5	24	13	7.5	1.2	12
FEB									
25...	1000	261	122	13.5	30	14	9.5	1.5	13
APR									
14...	1240	34	208	20.0	44	12	14	2.3	23
MAY									
05...	1000	31	270	21.0	55	47	17	3.0	26
JUN									
06...	1415	97	239	25.5	46	21	14	2.7	25

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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								
02...	2	4.1	52	25	52	0.20	11	182
27...	2	3.9	52	15	47	0.20	8.1	161
NOV								
20...	1	2.8	18	13	22	0.20	3.6	77
JAN								
15...	1	1.6	11	13	17	0.10	7.0	66
FEB								
25...	1	1.7	16	13	20	0.10	5.5	74
APR								
14...	2	2.1	33	16	36	0.20	5.6	119
MAY								
05...	2	3.2	8	34	45	0.20	6.7	140
JUN								
06...	2	2.7	25	24	36	0.30	7.3	127

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	203.9	317	174	96	61	34	18	9.7	58
NOV.	1987	1413.2	242	134	511	45	171	15	56	47
DEC.	1987	17547	127	71	3350	22	1040	8.5	401	26
JAN.	1988	15706	121	68	2880	21	882	8.2	350	25
FEB.	1988	7154	136	76	1470	24	456	9.1	176	28
MAR.	1988	17692	101	57	2700	17	817	7.0	334	21
APR.	1988	3489	152	85	800	27	252	10	94	31
MAY	1988	911	319	175	430	62	153	18	43	58
JUNE	1988	1432	255	141	545	48	184	15	59	49
JULY	1988	1206	249	138	448	46	151	15	49	48
AUG.	1988	1988	226	125	672	41	223	14	74	44
SEPT	1988	1097.3	232	128	378	43	129	14	40	44
TOTAL		69839.4	**	**	14300	**	4490	**	1680	**
WTD.AVG.		191	136	76	**	24	**	8.9	**	28

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	315	293	303	321	292	309	236	231	234			113
2	309	292	298	296	256	280	237	227	231			107
3	336	307	317	289	259	268	227	220	223			109
4	---	---	320	289	277	282	224	221	223			115
5	---	---	345	299	279	291	228	223	225			124
6	---	---	350	312	299	309	235	68	188			130
7	---	---	365	310	306	309	118	79	95			117
8	---	---	370	307	297	304	163	95	131			120
9	---	---	375	330	304	313	119	89	104			107
10	---	---	380	322	307	312	114	90	99			102
11	---	---	390	310	302	306	139	111	118			113
12	---	---	395	307	297	303	138	109	118			93
13	---	---	405	308	300	305	151	113	123			103
14	---	---	390	315	304	308	155	118	131			99
15	---	---	342	336	316	323	149	137	143			109
16	---	---	310	---	---	319	164	149	156			113
17	---	---	300	---	---	271	174	164	169			113
18	291	283	288	---	---	254	186	176	180			149
19	288	281	284	---	---	224	246	186	195			133
20	299	285	288	---	---	210	195	182	188			137
21	328	303	314	255	177	202	918	167	376			130
22	339	292	315	301	240	275	439	181	263			130
23	308	248	292	237	221	225	203	117	146			132
24	---	---	300	228	221	224	165	91	120			134
25	---	---	300	233	174	210	148	96	107			145
26	---	---	300	226	174	209	---	---	109			152
27	303	288	295	417	226	297	---	---	99			160
28	304	293	297	285	188	218	---	---	107			180
29	309	289	303	290	175	227	---	---	109			190
30	304	291	295	277	230	248	---	---	101			210
31	335	295	311	---	---	---	---	---	109			220
MONTH	339	248	327	417	174	271	918	68	159			132

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	230	215	192	202	231	173	206	271	233	253
2	---	---	250	256	136	212	169	137	152	280	253	266
3	---	---	230	193	136	161	160	136	146	275	218	242
4	---	---	200	162	117	137	138	121	132	306	266	284
5	---	---	150	122	107	113	121	112	116	300	242	264
6	---	---	130	122	111	117	117	111	113	287	262	271
7	---	---	120	111	96	103	132	117	122	346	290	306
8	---	---	110	106	90	94	150	132	140	404	346	373
9	---	---	90	104	91	95	164	150	159	425	372	393
10	---	---	110	101	97	99	171	164	166	411	366	379
11	---	---	125	98	94	96	184	172	178	423	333	378
12	---	---	140	108	98	103	201	185	193	376	352	363
13	---	---	150	117	109	113	224	201	212	380	343	356
14	---	---	170	124	117	120	218	202	208	362	339	347
15	---	---	180	138	124	130	227	220	223	367	342	355
16	---	---	195	149	138	141	239	216	226	349	314	325
17	---	---	180	201	145	157	242	225	237	373	318	338
18	---	---	170	155	115	133	252	227	239	393	362	377
19	---	---	150	129	87	103	256	199	238	410	384	395
20	---	---	130	86	75	80	256	201	219	416	337	391
21	---	---	120	91	86	89	269	235	255	347	272	325
22	---	---	110	89	81	84	264	223	249	295	257	273
23	---	---	100	82	74	78	256	216	237	317	269	286
24	---	---	115	75	72	74	307	266	289	334	293	311
25	---	---	130	79	73	76	298	267	282	376	336	362
26	138	127	132	94	81	86	290	260	270	424	349	372
27	151	139	145	117	94	106	305	265	276	424	343	372
28	165	152	158	139	119	129	259	212	219	325	264	291
29	192	167	177	161	140	150	230	196	222	306	252	283
30	---	---	---	205	162	180	231	169	195	299	272	285
31	---	---	---	217	194	204	---	---	---	315	288	297
MONTH	192	127	152	256	72	121	307	111	204	425	218	326

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	289	246	261	242	235	236	243	96	215	226	213	218
2	251	234	242	247	242	244	193	125	179	221	214	218
3	237	226	232	280	243	257	227	130	200	225	183	207
4	227	218	222	282	279	280	203	147	188	249	194	205
5	233	197	211	280	275	277	228	203	219	---	---	200
6	246	167	202	279	277	278	261	230	248	---	---	200
7	218	210	214	279	276	277	251	237	242	---	---	195
8	231	215	221	278	271	274	252	229	240	194	185	188
9	243	226	233	273	271	272	247	227	234	---	---	187
10	242	227	233	272	267	271	246	220	228	190	186	188
11	247	225	231	278	264	266	313	222	277	191	185	188
12	279	242	261	280	268	275	294	236	257	185	173	178
13	288	258	269	278	261	264	240	231	236	187	177	180
14	258	249	252	279	276	277	231	229	230	225	188	197
15	275	253	260	287	277	281	232	220	228	262	198	207
16	293	276	282	285	281	283	223	219	221	368	283	338
17	313	294	301	282	273	278	219	209	215	469	321	399
18	316	294	305	275	263	270	240	209	228	693	477	611
19	295	262	273	262	245	260	240	220	228	690	586	635
20	281	270	275	247	242	245	304	221	253	583	553	564
21	285	278	281	243	238	240	322	253	301	554	518	534
22	285	269	275	243	236	240	304	235	267	517	481	493
23	280	268	274	238	235	236	234	220	226	480	460	468
24	277	270	273	237	234	235	223	217	219	459	423	435
25	277	265	270	267	238	254	236	218	228	426	413	417
26	284	275	278	259	232	245	232	226	230	412	398	403
27	289	284	286	234	207	229	228	220	222	405	400	403
28	297	289	291	222	202	214	224	221	223	403	388	396
29	298	250	280	229	220	222	229	224	227	387	282	/
30	254	233	241	239	220	231	235	226	228	288	203	245
31	---	---	---	239	220	228	235	213	224	---	---	---
MONTH	316	167	258	287	202	256	322	96	231	693	173	321

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	23.0	21.0	22.0	20.5	19.5	20.0	12.5	11.5	12.0	11.0	10.5	10.5
2	24.0	21.0	22.5	19.5	18.5	19.0	12.0	11.0	11.5	10.5	10.0	10.5
3	23.5	21.0	22.5	20.5	18.5	19.0	13.0	11.0	12.0	10.0	9.5	10.0
4	21.0	19.0	20.0	20.5	18.5	19.0	13.5	12.5	13.0	9.5	8.5	9.0
5	20.5	19.0	19.5	20.0	18.5	19.0	14.0	12.5	13.5	8.5	8.0	8.5
6	21.5	19.5	20.5	18.5	16.0	18.0	17.5	14.0	15.0	8.5	8.0	8.0
7	21.5	19.5	20.0	16.0	15.0	15.5	15.0	14.5	14.5	7.5	6.0	6.5
8	21.5	18.5	19.5	17.5	16.0	17.0	15.5	14.5	15.0	6.0	5.0	5.5
9	22.0	18.5	20.0	18.0	17.5	18.0	15.5	15.0	15.5	5.5	4.5	5.0
10	22.0	19.5	20.5	17.5	15.5	16.5	15.0	14.5	14.5	5.0	4.5	4.5
11	21.5	18.5	20.0	15.0	13.0	14.5	15.5	14.5	15.0	5.0	4.0	4.5
12	20.5	18.5	19.5	13.0	11.5	12.5	16.0	15.0	15.5	6.0	5.0	5.5
13	19.0	16.5	18.0	13.0	11.5	12.0	16.5	15.5	16.0	7.5	6.0	7.0
14	17.5	15.0	16.5	15.0	12.5	13.5	17.5	16.5	17.0	7.5	7.0	7.5
15	19.0	16.0	17.5	16.5	15.0	15.5	17.0	14.5	15.5	8.5	6.5	7.5
16	20.0	18.0	19.0	17.0	16.5	17.0	14.0	12.0	12.5	11.5	8.0	9.0
17	20.5	19.0	20.0	16.5	14.5	15.5	11.5	10.0	10.5	13.0	11.5	12.0
18	21.0	20.0	20.5	16.0	14.0	14.5	11.0	10.0	10.5	14.5	12.5	13.5
19	21.5	20.0	21.0	14.0	13.5	14.0	14.5	11.0	12.0	15.5	14.5	15.0
20	21.0	20.5	21.0	14.5	13.0	14.0	14.0	13.0	13.5	15.5	14.0	15.0
21	20.5	17.5	19.5	14.0	12.5	13.0	13.5	13.0	13.5	14.0	12.5	13.5
22	17.0	16.0	16.5	14.0	12.5	13.0	13.5	13.5	13.5	12.0	10.5	11.5
23	18.5	16.0	17.5	16.0	14.0	15.0	14.5	13.5	14.0	10.5	9.5	10.0
24	19.5	18.0	19.0	18.5	16.0	17.0	16.0	14.5	15.5	10.0	9.5	9.5
25	20.5	19.0	20.0	18.5	18.0	18.5	18.0	16.5	17.0	10.0	9.0	9.5
26	23.5	20.0	21.5	18.5	17.0	17.5	19.5	18.5	19.0	9.0	8.0	8.5
27	22.5	20.5	21.5	17.0	15.5	16.5	19.0	16.0	17.5	9.0	8.0	8.5
28	20.5	18.5	19.5	15.5	14.0	14.5	16.0	13.0	14.5	10.0	7.5	9.0
29	19.5	18.0	19.0	14.0	12.5	13.0	13.0	11.0	12.0	11.0	9.0	10.0
30	20.5	18.0	19.0	13.0	12.0	12.5	10.5	9.5	10.0	13.0	10.5	11.5
31	21.0	19.0	20.0	---	---	---	10.0	9.5	10.0	15.5	13.0	14.0
MONTH	24.0	15.0	20.0	20.5	11.5	16.0	19.5	9.5	14.0	15.5	4.0	9.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	17.0	15.5	16.0	19.5	18.0	19.0	20.0	19.0	19.5	---	---	---
2	18.5	17.0	18.0	19.0	17.5	18.5	20.5	19.5	20.0	---	---	---
3	17.5	16.5	17.0	18.0	16.5	17.5	21.0	19.5	20.5	---	---	---
4	17.5	14.0	16.0	17.5	16.0	16.5	21.5	20.5	21.0	---	---	---
5	14.0	7.5	11.5	16.0	15.0	15.5	22.0	21.5	22.0	---	---	---
6	8.0	7.0	7.5	16.5	15.0	15.5	22.5	21.5	22.0	28.0	21.0	24.5
7	7.5	6.5	7.0	16.5	15.5	16.0	22.5	21.0	21.5	25.5	20.5	23.0
8	7.0	6.5	6.5	18.0	16.5	17.0	22.0	20.5	21.5	24.5	21.5	23.0
9	8.0	7.0	7.5	18.0	17.0	17.5	22.0	20.5	21.0	27.5	23.0	24.5
10	9.0	8.0	8.5	18.0	17.0	17.5	22.0	19.5	21.0	29.0	24.5	26.5
11	9.5	9.0	9.5	18.5	17.0	17.5	19.5	17.5	18.0	29.0	24.0	26.0
12	9.0	8.5	9.0	19.5	18.0	19.0	19.5	16.5	18.0	27.0	22.5	24.0
13	9.5	8.0	8.5	19.5	18.0	19.0	23.0	17.5	19.5	28.0	19.5	23.0
14	10.5	9.0	10.0	18.5	16.5	17.5	22.5	18.5	20.5	28.5	21.0	24.5
15	11.5	10.0	10.5	16.0	14.5	15.5	24.0	20.0	21.5	30.5	21.5	25.5
16	12.0	10.0	11.0	15.5	14.0	14.5	24.0	21.0	22.0	30.0	21.5	25.0
17	13.0	11.0	12.0	15.5	14.0	14.5	24.0	21.5	22.5	28.5	22.5	25.5
18	14.5	13.0	13.5	15.0	12.5	13.5	25.5	22.5	23.5	30.0	23.5	26.5
19	14.0	13.0	13.5	12.5	11.5	12.0	25.5	20.5	22.5	30.0	24.0	27.0
20	13.5	12.5	13.0	13.0	11.0	12.0	27.5	21.0	23.5	28.5	23.0	26.0
21	13.5	12.0	13.0	15.0	12.5	13.5	28.0	23.0	25.0	27.5	22.5	25.0
22	14.0	12.5	13.5	16.0	14.0	15.0	28.5	24.5	26.0	27.0	22.5	25.0
23	15.0	14.0	14.5	17.5	16.0	16.5	30.0	25.5	27.0	27.5	22.0	24.5
24	15.0	14.0	14.5	18.5	17.0	18.0	30.5	26.0	28.0	28.0	23.5	25.5
25	15.0	12.5	14.0	20.5	18.5	19.5	---	---	---	27.0	23.5	25.0
26	15.5	13.5	14.5	22.0	20.5	21.0	---	---	---	26.0	22.5	24.5
27	15.5	14.5	15.0	22.5	21.5	22.0	---	---	---	28.0	21.5	24.0
28	16.5	15.0	16.0	23.0	22.0	22.5	---	---	---	26.5	21.5	24.0
29	18.5	16.5	17.5	23.5	22.5	23.0	---	---	---	26.5	23.0	25.0
30	---	---	---	22.0	19.0	20.5	---	---	---	27.0	23.5	25.0
31	---	---	---	20.0	18.0	19.0	---	---	---	28.0	24.5	26.0
MONTH	18.5	6.5	12.5	23.5	11.0	17.5	30.5	16.5	22.0	30.5	19.5	25.0

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	28.5	24.0	26.0	31.5	27.5	29.5	28.5	25.0	27.0	28.0	26.0	27.0
2	28.0	24.0	25.5	32.5	28.5	30.0	27.5	25.5	26.5	28.0	26.0	26.5
3	26.0	24.0	25.0	34.5	27.0	30.5	28.0	25.0	26.5	26.5	25.0	25.5
4	24.5	21.5	23.0	35.5	25.5	28.5	---	---	---	27.5	25.0	26.0
5	25.5	21.5	23.5	32.0	22.0	26.5	---	---	---	---	---	---
6	26.5	23.0	24.5	33.5	22.0	26.0	---	---	---	---	---	---
7	28.0	24.5	26.0	30.0	23.5	26.0	---	---	---	25.0	23.5	24.0
8	28.5	25.5	27.0	---	---	---	---	---	---	24.5	22.5	23.5
9	30.0	26.5	28.0	---	---	---	31.0	28.0	29.5	25.0	22.0	23.5
10	29.0	23.5	27.5	---	---	---	---	---	---	25.0	22.5	24.0
11	33.0	17.5	24.5	---	---	---	---	---	---	---	---	---
12	29.0	18.5	24.0	---	---	---	---	---	---	---	---	---
13	31.5	20.0	25.5	---	---	---	---	---	---	27.5	25.5	26.5
14	32.5	23.0	27.0	---	---	---	---	---	---	28.5	26.0	27.0
15	31.5	21.0	26.5	33.0	28.5	30.5	---	---	---	28.5	26.0	27.0
16	34.5	20.0	26.5	35.5	26.5	31.0	30.5	28.0	29.0	27.0	25.5	26.5
17	35.0	21.0	27.5	35.5	27.0	31.0	30.0	28.0	29.0	28.0	26.5	27.0
18	34.5	23.0	28.0	33.0	26.5	29.5	30.0	28.5	29.0	28.5	27.5	28.0
19	32.5	22.0	26.5	---	---	---	29.0	27.0	28.0	29.0	27.0	27.5
20	28.5	25.5	27.0	---	---	---	29.0	27.0	28.0	29.0	26.5	27.5
21	28.5	25.5	27.0	---	---	---	30.0	27.5	29.0	28.5	26.0	27.5
22	28.5	25.5	27.0	---	---	---	30.0	28.0	29.0	28.5	26.5	27.5
23	28.5	26.0	27.0	30.5	26.0	28.0	30.5	28.0	29.0	28.5	26.5	27.5
24	28.0	23.0	25.0	31.5	26.5	28.5	30.5	28.5	29.0	27.5	26.5	27.0
25	29.5	22.0	26.5	31.0	27.0	29.0	30.5	28.0	29.0	27.5	25.5	26.5
26	30.0	24.0	28.0	29.5	26.5	28.0	30.5	27.5	29.0	26.5	24.5	25.5
27	31.0	26.5	29.0	28.5	26.5	27.5	30.0	27.5	28.5	26.0	24.0	25.0
28	31.0	28.0	29.5	28.5	25.5	26.5	30.0	27.5	29.0	26.0	23.0	24.5
29	31.0	28.5	29.5	28.5	25.5	27.0	30.5	27.0	28.5	24.5	23.5	24.0
30	31.5	27.0	29.5	28.0	25.5	26.5	30.5	24.5	27.5	24.5	22.5	23.5
31	---	---	---	29.0	25.5	27.0	32.0	23.5	27.0	---	---	---
MONTH	35.0	17.5	26.5	35.5	22.0	28.5	32.0	23.5	28.5	29.0	22.0	26.0

08042000 TAYLOR BAYOU NEAR LABELLE, TX

LOCATION.--Lat 29°52'30", long 94°09'34", Jefferson County, Hydrologic Unit 12040201, near center of stream at downstream side of bridge on county road, 0.7 mi south of LaBelle, 6.0 mi upstream from Hillebrandt Bayou, 7.2 mi upstream from State Highway 73, and 11.2 mi upstream from saltwater gates and barge locks. Distances are measured along rectified channel.

DRAINAGE AREA.--262 mi².

PERIOD OF RECORD.--April 1954 to September 1984 (complete records for storms of 1.0 inch or more runoff, except for the period Sept. 10-22, 1961). October 1984 to current year (gage heights only).

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4.63 ft below National Geodetic Vertical Datum of 1929, originally determined by several comparisons of water surface with auxiliary water-stage recorder 7.2 mi downstream during times of no flow and ideal weather conditions. Prior to October 1984, auxiliary water-stage recorder 7.2 mi downstream.

REMARKS.--Records good. Prior to October 1984 records were computed using fall as a factor. Low flow is regulated by drainage from ricefields and operation of saltwater gates and barge locks. An unknown amount of water is diverted above and below gage for rice irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,590 ft³/s Sept. 22, 1963, and Apr. 23, 1979; maximum gage height, 11.78 ft Sept. 20, 1963 (backwater from Hillebrandt Bayou); minimum discharge not determined (affected by tides and pumping); minimum gage height, 2.31 ft July 17, 1954.
Maximum stage since at least 1941, that of Sept. 20, 1963, and Apr. 23, 1979. Flood of Sept. 13, 1961 (Hurricane Carla), reached a stage of 11.51 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1941 reached a stage of 11.3 ft, from information by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 7.58 ft Sept. 4 at 1100 to 1700 hours; minimum gage height (estimated), 4.9 ft Apr. 13.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	5.83	6.21	6.47	6.35	---	---	6.70	6.07	---	6.34	6.22
2	6.26	5.80	6.20	6.53	6.37	---	---	6.40	6.05	---	6.41	6.31
3	6.23	5.80	6.19	6.58	6.37	---	---	6.41	6.40	---	6.42	7.14
4	6.10	5.79	6.19	6.60	6.17	---	---	6.41	6.45	---	6.33	7.58
5	6.06	5.80	6.15	6.33	6.34	---	---	6.27	6.68	---	6.34	7.28
6	6.03	5.82	7.15	6.40	6.46	---	---	6.14	6.46	---	6.37	6.83
7	5.94	5.84	7.18	6.69	6.50	---	---	6.18	6.31	---	6.47	6.64
8	5.85	5.95	7.04	6.80	6.50	---	---	6.27	6.33	---	5.92	6.47
9	5.86	5.95	6.52	6.67	6.50	---	---	6.29	6.29	---	5.99	6.56
10	5.90	5.87	6.30	6.68	6.39	---	---	6.30	6.24	---	6.06	6.61
11	5.87	---	6.35	6.40	6.54	---	---	6.28	6.16	---	6.53	6.51
12	5.83	---	6.36	6.45	6.54	---	---	6.28	6.10	---	6.58	6.46
13	5.77	5.69	6.16	6.50	6.54	---	---	6.30	---	---	6.59	6.43
14	5.76	5.76	6.20	6.47	6.38	---	5.08	6.27	---	---	6.61	6.34
15	5.83	5.90	6.20	6.44	6.40	---	5.21	6.19	---	---	6.58	6.45
16	5.85	6.35	6.10	6.50	6.43	---	5.50	6.13	---	---	6.36	6.53
17	5.85	---	6.05	6.72	6.45	---	5.62	6.07	---	---	6.42	6.56
18	5.83	6.31	6.06	6.65	6.82	---	5.70	6.00	---	---	6.21	6.59
19	5.79	6.26	6.19	6.50	7.02	---	5.69	5.93	---	---	6.40	6.61
20	5.81	6.25	6.22	6.50	6.56	---	5.65	5.95	---	---	6.23	6.41
21	5.77	6.20	6.20	6.26	6.40	---	5.68	6.13	---	6.14	6.32	6.43
22	5.79	6.23	6.68	6.24	6.47	---	5.75	6.17	---	6.30	6.35	6.10
23	5.86	6.25	6.43	6.29	6.47	---	5.77	6.17	---	6.35	6.37	6.17
24	5.93	6.24	6.42	6.30	6.35	---	5.78	6.04	---	6.37	6.39	6.23
25	5.94	6.50	6.47	6.28	---	---	5.78	5.92	---	6.36	6.47	6.22
26	5.96	6.45	6.34	6.15	---	---	5.75	5.82	---	6.34	6.41	6.16
27	5.96	6.48	6.76	6.11	---	---	5.70	5.82	---	6.36	6.45	6.15
28	5.88	6.43	6.51	6.09	---	---	5.71	5.84	---	6.42	6.42	6.16
29	5.89	6.08	6.30	6.10	---	---	6.31	5.92	---	6.46	6.43	6.23
30	5.84	6.21	6.40	6.15	---	---	6.77	6.02	---	6.50	6.39	6.66
31	5.83	---	6.43	6.17	---	---	---	6.06	---	6.30	6.35	---
MAX	---	---	7.18	6.80	---	---	---	6.70	---	---	6.61	7.58

08042500 HILLEBRANDT BAYOU NEAR LOVELL LAKE, TX

LOCATION.--Lat 29°55'44", long 94°06'35", Jefferson County, Hydrologic Unit 12040201, near center of stream at downstream side of bridge on county road, 1.3 mi southeast of Lovell Lake, and 4.4 mi upstream (along rectified channel) from Taylor Bayou.

DRAINAGE AREA.--128 mi².

PERIOD OF RECORD.--April 1954 to September 1984 (complete records for storms of 1.0 inch or more runoff, except for the period Sept. 11-18, 1961). October 1984 to current year (gage heights only).

GAGE.--Water-stage recorder. Auxiliary water-stage recorder 3.0 mi downstream. Datum of gage is 4.63 ft below National Geodetic Vertical Datum of 1929, originally determined by comparisons of water surface with Taylor Bayou near LaBelle, auxiliary gage 5.6 mi downstream, during times of no flow and ideal weather conditions. Prior to Aug. 28, 1963, auxiliary water-stage recorder on Taylor Bayou 1.2 mi downstream from Hillebrandt Bayou, nonrecording gages on Taylor Bayou 2.3 and 5.2 mi downstream from Hillebrandt Bayou; Aug. 28, 1963, to Sept. 30, 1984, auxiliary water-stage recorder 3.0 mi downstream.

REMARKS.--Records good. Prior to October 1984, records were computed using fall as a factor. Low flow is regulated by drainage from rice fields and operation of saltwater gates and barge locks. An unknown amount of water is diverted above and below gage for rice irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s Sept. 18, 1963; maximum gage height, 12.34 ft Sept. 19, 1963; minimum discharge not determined (affected by tides and pumping); minimum gage height, 2.33 ft July 17, 1954. Maximum stage since 1941, 12.34 ft Sept. 19, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 7.47 ft Dec. 7 at 0600 hours; minimum gage height, 4.84 ft Apr. 13.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.25	5.80	6.21	6.53	6.35	5.94	6.81	6.60	6.09	6.31	6.34	6.17
2	6.23	5.80	6.21	6.50	6.38	6.52	6.64	6.41	6.07	6.26	6.36	6.27
3	6.22	5.78	6.21	6.55	6.37	6.66	6.48	6.45	6.54	6.22	6.37	7.14
4	6.11	5.76	6.21	6.57	6.10	6.25	6.52	6.45	6.56	6.16	6.25	7.27
5	6.07	5.76	6.19	6.27	6.35	6.01	6.26	6.29	6.64	6.20	6.32	7.03
6	6.05	5.75	7.16	6.35	6.45	6.08	6.25	6.16	6.39	6.26	6.51	6.75
7	5.95	5.83	7.47	6.68	6.48	6.14	6.10	6.19	6.28	6.35	6.51	6.58
8	5.85	5.84	6.76	6.66	6.48	6.50	6.05	6.30	6.28	6.41	5.89	6.44
9	5.84	5.96	6.52	6.57	6.48	6.70	6.06	6.31	6.28	6.46	5.95	6.53
10	5.85	5.91	6.40	6.59	6.36	6.12	6.06	6.31	6.23	6.44	6.07	6.57
11	5.84	5.74	6.50	6.35	6.50	6.34	5.87	6.29	6.10	6.46	6.50	6.48
12	5.80	5.65	6.50	6.43	6.54	6.35	5.39	6.24	6.06	6.47	6.57	6.40
13	5.71	5.65	6.30	6.42	6.55	6.10	4.92	6.26	6.08	6.44	6.53	6.37
14	5.71	5.72	6.44	6.42	6.44	5.96	5.07	6.24	6.09	6.41	6.54	6.32
15	5.80	5.96	6.32	6.45	6.39	5.66	5.19	6.19	6.07	6.37	6.52	6.41
16	5.84	6.34	6.29	6.55	6.41	5.66	5.47	6.15	6.07	6.33	6.30	6.51
17	5.84	6.33	6.24	6.69	6.43	6.26	5.63	6.09	6.06	6.29	6.36	6.58
18	5.83	6.33	6.24	6.63	6.89	6.47	5.66	6.01	6.03	6.27	6.17	6.61
19	5.78	6.21	6.39	6.57	6.95	6.13	5.64	5.93	5.98	6.38	6.28	6.61
20	5.78	6.21	6.41	6.49	6.54	6.11	5.64	5.93	5.99	6.41	6.18	6.38
21	5.76	6.18	6.66	6.25	6.40	5.98	5.68	6.09	6.02	6.09	6.27	6.40
22	5.74	6.21	6.82	6.24	6.54	5.80	5.74	6.14	6.08	6.27	6.32	6.12
23	5.82	6.21	6.60	6.30	6.49	5.67	5.75	6.14	6.10	6.32	6.33	6.18
24	5.90	6.21	6.65	6.30	6.30	5.85	5.74	6.05	6.13	6.35	6.36	6.20
25	5.91	6.51	6.66	6.26	6.12	5.89	5.76	5.90	6.35	6.33	6.37	6.20
26	5.95	6.41	6.86	6.15	6.00	5.89	5.72	5.80	6.41	6.32	6.38	6.16
27	5.92	6.50	6.93	6.13	5.90	5.86	5.69	5.80	6.45	6.32	6.39	6.12
28	5.85	6.48	6.60	6.10	5.83	5.93	5.66	5.84	6.37	6.39	6.38	6.11
29	5.89	6.10	6.41	6.11	5.88	6.00	6.27	5.90	6.37	6.45	6.38	6.17
30	5.85	6.20	6.50	6.20	---	5.97	6.65	6.01	6.36	6.46	6.34	6.67
31	5.81	---	6.50	6.17	---	6.58	---	6.07	---	6.09	6.28	---
MAX	6.25	6.51	7.47	6.69	6.95	6.70	6.81	6.60	6.64	6.47	6.57	7.27

08042800 WEST FORK TRINITY RIVER NEAR JACKSBORO, TX

LOCATION.--Lat 33°17'36", long 98°04'43", Jack County, Hydrologic Unit 12030101, near left bank at downstream side of bridge on State Highway 59, 4 mi downstream from Big Cleveland Creek, 7 mi upstream from Carroll Creek, 7 mi northeast of Jacksboro, and at mile 660.

DRAINAGE AREA.--683 mi².

PERIOD OF RECORD.--March 1956 to current year.
Water-quality records.--Sediment records: October 1976 to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 869.28 ft above National Geodetic Vertical Datum of 1929, from State Department of Highways and Public Transportation. Sept. 20, 1960, to May 30, 1961, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. At end of year, flow from 70.9 mi upstream from this station was partly controlled by 21 floodwater-retarding structures with a combined detention capacity of 19,780 acre-ft. Data collection platform which transmits gage-heights was installed April 1987.

AVERAGE DISCHARGE.--32 years (water years 1957-88), 96.7 ft³/s (1.92 in/yr), 70,060 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,100 ft³/s Apr. 27, 1957 (gage height, 32.10 ft, from floodmark); no flow at times each year.
Maximum stage since at least 1900, that of Apr. 27, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1941 reached a stage of 30 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*).

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 28	0120	*944	*13.66				

Minimum discharge, no flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.00	.31	15	.19	.32	.13	.50	300	18	.06	.00
2	.18	.00	.26	8.2	.19	.31	81	.40	419	8.7	.03	.00
3	.11	.00	.20	5.2	.19	.28	119	.37	406	4.0	.02	.00
4	.08	.00	.15	3.9	.17	.22	25	.31	72	2.6	.00	.00
5	1.0	.00	.11	2.9	.17	.18	10	.26	60	1.6	.00	.00
6	.99	.00	.09	2.3	.19	.17	5.4	.19	24	.94	.00	.00
7	.95	.00	.06	1.9	.19	.16	3.0	.15	12	.64	.00	.00
8	.77	.00	.05	1.6	.19	.15	1.7	.14	6.0	1.9	.00	.00
9	.56	.00	.03	1.6	.20	.14	1.1	.09	3.6	.79	.00	.00
10	.28	.00	.02	1.6	.22	.12	.79	.06	2.3	1.2	.00	.00
11	.14	.00	.02	1.3	.24	.12	.58	.04	1.5	260	.00	.00
12	.07	.00	.01	.90	.25	.11	.45	.03	1.2	49	.00	.00
13	.03	.00	.0	.81	.28	.09	.44	.02	1.0	335	.00	.00
14	.01	.00	.02	.67	.27	.08	.65	.0	.76	172	.00	22
15	.00	.00	.02	.55	.25	.08	.68	.00	.57	15	.00	3.2
16	.00	.00	.02	.49	.25	.07	.51	.02	.40	7.1	.00	.05
17	.00	.00	.02	.46	.26	.13	1.7	.02	.31	5.2	.00	27
18	.00	.00	.01	.46	.65	.18	1.9	.0	.21	4.0	.00	90
19	.00	.00	118	.46	.57	.16	59	.00	.17	22	.00	3.2
20	.00	.00	580	.42	.49	.12	34	.00	.13	143	.00	5.1
21	.00	.00	506	.38	.40	.09	15	.00	2.2	69	.00	3.7
22	.00	.00	89	.36	.43	.08	7.1	.00	2.7	84	.00	27
23	.00	.00	26	.34	.41	.06	4.0	.00	1.4	19	.00	26
24	.00	3.8	12	.31	.35	.06	2.4	.00	.90	6.4	.00	25
25	.00	5.6	192	.29	.32	.06	1.8	.00	.56	4.3	.00	6.1
26	.00	.41	774	.30	.30	.05	1.4	.00	.35	2.6	.00	3.7
27	.00	.65	911	.28	.32	.04	1.1	.00	.21	1.4	.00	2.4
28	.00	.56	895	.26	.32	.03	.86	.00	99	.70	.00	1.5
29	.00	.41	476	.23	.32	.03	.64	.00	20	.40	.00	1.3
30	.00	.33	96	.21	---	.03	.58	.00	6.7	.26	.00	.87
31	.00	---	29	.20	---	.03	---	131	---	.14	.00	---
TOTAL	5.43	11.76	4705.40	53.88	8.58	3.75	381.91	133.60	1445.17	1240.87	0.11	248.12
MEAN	.18	.39	152	1.74	.30	.12	12.7	4.31	48.2	40.0	.004	8.27
MAX	1.0	5.6	911	15	.65	.32	119	131	419	335	.06	90
MIN	.00	.00	.00	.20	.17	.03	.13	.00	.13	.14	.00	.00
AC-FT	11	23	9330	107	17	7.4	758	265	2870	2460	.2	492
CFSM	.00	.00	.22	.00	.00	.00	.02	.01	.07	.06	.00	.01
IN.	.00	.00	.26	.00	.00	.00	.02	.01	.08	.07	.00	.01

CAL YR 1987 TOTAL 42303.85 MEAN 116 MAX 4490 MIN .00 AC-FT 83910 CFSM .17 IN. 2.30
WTR YR 1988 TOTAL 8238.58 MEAN 22.5 MAX 911 MIN .00 AC-FT 16340 CFSM .03 IN. .45

08043000 BRIDGEPORT RESERVOIR ABOVE BRIDGEPORT, TX

LOCATION.--Lat 33°13'22", long 97°49'54", Wise County, Hydrologic Unit 12030101, in brick valve house on upstream side and near left end of Bridgeport Dam on West Fork Trinity River, 4.6 mi west of Bridgeport, 13 mi upstream from Big Sandy Creek, and at mile 626.

DRAINAGE AREA.--1,111 mi².

PERIOD OF RECORD.--April 1932 to current year. Prior to October 1950, monthend figures only.

REVISED RECORDS.--WSP 1922: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Jan. 12, 1988, nonrecording gages at various sites in vicinity of present gage at present datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam 2,040 ft long. The dam was completed in December 1931 and storage began Apr. 1, 1932. The original dam was 1,900 ft long, but was lengthened to the present length (2,040 ft) in 1971-72. The original service spillway was eliminated during construction (1971-72), and a new spillway with approach and discharge channels was built through natural ground 2,800 ft from the left end of dam. The new spillway is 90 ft wide and has eight vertical lift gates that are 11.25 by 22 ft. The controlled outlet works consist of a 48-inch-diameter and an 18-inch-diameter pipe encased in a concrete conduit extending through the dam. In addition, a controlled 60-inch-diameter steel pipe extends through the service spillway wall to the spillway discharge basin. For elevations of outlet works, see table below. Capacity tables are based on surveys made in 1956 and 1968. 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	874.0	-
Crest of spillway	866.0	902,000
Top of gates	842.0	469,300
Top of conservation pool	836.0	387,000
Crest of spillway	820.0	212,400
Lowest gated outlet (invert, at spillway)	810.0	133,200
Lowest gated outlet (invert)	751.4	0

COOPERATION.--Daily elevation records for Oct. 1 to Jan. 12 and for June 14 to Aug. 21 were provided by Tarrant County Water Control and Improvement District No. 1. Capacity table was provided by Freese and Nichols, Consulting Engineer for Tarrant County Water Control and Improvement District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Prior to Jan. 12, 1988, once-daily reading of nonrecording gage at 0700 hours; maximum contents observed, 424,700 acre-ft May 15, 1982 (elevation, 838.84 ft); minimum contents observed since first appreciable storage in 1935, 7,170 acre-ft Oct. 12-16, 1956.

EXTREMES FOR CURRENT YEAR.--Prior to Jan. 12, 1988, once-daily reading of nonrecording gage at 0700, maximum contents observed, 345,100 acre-ft Oct. 1 (elevation, 832.66 ft); minimum, 256,900 acre-ft Sept. 14 (elevation, 824.68 ft).

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

824.0	250,100	830.0	313,900
827.0	280,800	833.0	349,300

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	345100	325200	317300	315300	314400	314700	313100	311200	310400	308600	292600	266400
2	344400	323900	317100	315300	314400	314800	313300	310700	310800	308200	291800	265600
3	343600	323200	317000	315300	314200	314100	313900	310700	311800	307700	290900	266100
4	342500	322700	315800	315600	314100	314200	314100	310700	312500	307300	290200	265200
5	341200	322300	315200	315500	314200	314200	314000	310700	312700	306800	289700	264400
6	340800	321500	314800	315300	314100	314100	313800	310100	312900	306400	289100	263400
7	340200	321500	314400	315300	314100	314500	313900	310100	312900	305900	288300	262600
8	339200	321500	313600	315700	314200	314200	313500	310700	313600	305900	287500	261800
9	336000	320100	310600	315700	314400	314100	313200	310600	313500	304400	286700	261100
10	334700	319300	309300	315700	314000	314100	312500	310800	312900	303700	285800	260500
11	333600	318600	308300	315500	314000	314200	312500	310600	312400	303000	284700	259300
12	332200	317900	308300	315500	314200	313800	312600	310700	312300	304800	283500	258600
13	330700	317200	308300	315800	314500	312900	312600	310600	312100	304600	282500	257900
14	329700	317200	305300	315400	314000	313100	312500	310400	311500	304400	281800	258000
15	328500	317100	304000	315600	313900	312900	312500	310200	311600	303700	281100	259400
16	327300	317400	302900	315800	314500	312500	312300	310400	311600	303000	280400	259300
17	327300	317400	301700	315800	314500	313100	312600	310200	311400	302500	279500	259500
18	327300	317300	300800	315600	314500	312900	312100	309600	311000	301700	278600	259900
19	324700	317800	300800	315600	314500	313100	312100	309100	310800	301000	277800	260200
20	328200	317500	300800	315200	314500	313300	312600	308600	310700	302100	277300	259900
21	328100	317400	304400	315200	314600	313800	312600	308300	310700	301800	276600	259900
22	327800	317300	306000	314800	314500	313500	312700	308100	310400	301100	275500	259600
23	327500	317200	306000	315000	314400	313500	312400	308100	310200	300200	274900	259600
24	327300	317100	306000	314800	314500	313600	312400	308100	310200	299500	273800	259500
25	327400	317800	306400	314500	314500	313500	311800	308100	310100	298800	272900	259200
26	327500	317800	309800	314400	314400	313500	311600	307800	310000	298000	272100	259000
27	327400	317800	311700	314500	314500	313500	311300	307100	310000	297400	271200	259000
28	327200	317800	313200	314500	314700	313300	311300	306500	310000	296500	269800	258800
29	326900	317800	314500	314500	314500	313500	311300	305400	309500	295600	269000	258500
30	325600	317400	315300	314500	---	313500	311300	304600	309100	295600	268000	258500
31	325200	---	315300	315000	---	312500	---	305300	---	295600	267100	---
MAX	345100	325200	317300	315800	314700	314800	314100	311200	313600	308600	292600	266400
MIN	324700	317100	300800	314400	313900	312500	311300	304600	309100	295600	267100	257900
(†)	830.98	830.31	830.13	830.10	830.06	829.88	829.77	829.24	829.58	828.37	825.69	824.74
(ϕ)	-20700	-7800	-2100	-300	-500	-2000	-1200	-6000	+3800	-13500	-28500	-8600

CAL YR 1987 MAX 413800 MIN 300800 (ϕ) -41900
WTR YR 1988 MAX 345100 MIN 257900 (ϕ) -87400

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

08043100 WEST FORK TRINITY RIVER AT BRIDGEPORT, TX

LOCATION.--Lat 33°12'07", long 97°48'09", Wise County, Hydrologic Unit 12030101, on left bank at downstream side of embankment near left end of bridge on U.S. Highway 380, 1.5 mi upstream from Village Creek, 1.8 mi upstream from Ramsey Creek, 2.6 mi west of City Hall in Bridgeport, and 2.9 mi downstream from Bridgeport Dam.

DRAINAGE AREA.--1,113 mi².

PERIOD OF RECORD.--September 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 725.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow is regulated by Bridgeport Reservoir located 2.9 mi upstream and has a capacity of 902,000 acre-ft, 515,000 acre-ft is for temporary storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,160 ft³/s Mar. 6, 1987 (gage height 26.17 ft); no flow in 1985 and 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 542 ft³/s Sept. 14 at 1815 hours (gage height 13.88 ft); no flow Mar. 21 to Apr. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	265	218	e1.0	e1.5	e.14	e.07	.00	e.84	102	.56	252	319
2	258	219	11	e1.3	e.12	e.06	.00	e.80	3.7	49	254	318
3	260	343	119	e1.0	e.11	e.05	.00	e.95	3.0	200	257	322
4	260	219	211	e.95	e.10	e.05	.00	e1.3	2.9	204	258	313
5	259	219	214	e.85	e.09	e.05	.00	e1.9	2.7	207	260	310
6	261	221	215	e.72	e.08	e.04	.00	e2.7	2.6	209	261	310
7	259	221	215	e.65	e.07	e.04	e.00	e1.4	2.6	211	263	310
8	404	223	390	e.60	e.06	e.04	e.00	e1.3	2.8	213	265	312
9	510	224	509	e.50	e.05	e.04	e.00	e1.0	2.7	215	291	312
10	507	223	509	e.45	e.04	e.04	e.00	e.80	2.6	217	313	312
11	507	221	506	e.40	.03	e.04	e.00	e.56	2.4	224	315	311
12	505	219	506	e1.5	.25	e.03	e.00	e.48	2.4	222	318	311
13	506	219	506	e3.0	.45	e.03	e.00	e.40	2.4	220	320	310
14	513	218	505	3.7	.41	e.03	e.06	e.34	3.1	221	320	359
15	513	127	507	e2.6	.61	e.03	e.10	e.26	3.9	222	317	143
16	520	1.6	508	e1.6	.79	e.03	e.20	e.40	4.3	223	316	3.0
17	523	1.2	509	e1.0	.09	e.03	e4.0	e.60	5.2	225	317	6.7
18	527	2.0	509	e.70	.23	e.03	e2.0	e.82	5.4	225	319	5.2
19	250	1.9	374	e.60	.13	e.02	e1.5	e.70	5.4	234	320	1.5
20	4.4	1.6	199	e.45	e.11	e.02	e1.2	e.60	5.5	214	318	1.0
21	1.7	e1.3	94	e.40	e.10	e.02	e1.1	e.50	5.8	228	318	.91
22	1.2	e1.0	3.6	e.32	e.08	e.01	e1.0	e.40	4.8	229	318	.84
23	.72	e.90	3.6	e.28	e.06	e.01	e.95	e.30	3.1	230	322	.84
24	.62	e.80	4.4	.24	e.50	e.01	e.90	e.20	2.7	235	322	.84
25	.50	e.60	12	.30	e.30	.00	e.85	e.16	1.9	236	322	.79
26	.31	e.50	6.0	1.8	e.20	.00	e.83	2.1	1.1	236	320	.77
27	.25	e.45	e5.0	3.3	e.10	.00	e.85	134	.98	240	320	.64
28	.13	e.40	e4.0	.48	e.09	.00	.89	275	.76	240	322	.59
29	112	e.38	e3.0	e.30	e.08	.00	.92	273	.71	242	322	2.1
30	216	e.35	e2.3	e.20	---	.00	.88	273	.65	244	321	4.6
31	218	---	e1.9	e.16	---	.00	---	225	---	248	320	---
TOTAL	8162.83	3348.98	7162.8	31.85	5.47	0.82	18.23	1201.81	190.10	6563.56	9381	4602.32
MEAN	263	112	231	1.03	.19	.026	.61	38.8	6.34	212	303	153
MAX	527	343	509	3.7	.79	.07	4.0	275	102	248	322	359
MIN	.13	.35	1.0	.16	.03	.00	.00	.16	.65	.56	252	.59
AC-FT	16190	6640	14210	63	11	1.6	36	2380	377	13020	18610	9130

CAL YR 1987 TOTAL 76227.56 MEAN 209 MAX 3140 MIN .13 AC-FT 151200
WTR YR 1988 TOTAL 40669.77 MEAN 111 MAX 527 MIN .00 AC-FT 80670

e Estimated.

08044000 BIG SANDY CREEK NEAR BRIDGEPORT, TX

LOCATION.--Lat 33°13'54", long 97°41'40", Wise County, Hydrologic Unit 12030101, at downstream side of bridge on U.S. Highway 380, 1.9 mi upstream from Greathouse Branch, 4.0 mi east of Bridgeport, and 4.4 mi upstream from mouth.

DRAINAGE AREA.--333 mi².

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

REVISED RECORDS.--WSP 1148: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 724.44 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1984, at datum 3.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since May 1, 1956, streamflow from 100 mi² above this station is affected at times by storage in Lake Amon G. Carter, 30 mi upstream, with a capacity of 15,240 acre-ft at elevation 920.0 ft (spillway crest). During year, the city of Bowie diverted water from Lake Amon G. Carter for municipal use and discharged sewage effluent into tributaries to Big Sandy Creek upstream from this station. Flow was also affected at times by discharge from the flood-detention pools of 19 floodwater-retarding structures with a combined capacity of 11,430 acre-ft. These structures control runoff from 46.0 mi² between this station and Lake Amon G. Carter. Gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 71.9 ft³/s (52,090 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,000 ft³/s June 10, 1941 (gage height, 15.69 ft, datum then in use, from floodmark), from rating curve extended above 22,000 ft³/s; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887 occurred in 1908 and 1915 and reached about the same stage as that of June 10, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 570 ft³/s Dec. 27 at 1245 hours (gage height, 8.71 ft); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.1	e.50	7.6	43	15	17	9.5	6.2	124	.00	.09	.0
2	e.96	e.47	7.6	38	15	21	9.6	6.2	180	.00	.02	.0
3	e.86	e.42	7.7	36	15	31	9.9	5.6	61	.36	.0	1.8
4	e.78	e.40	7.1	34	e15	27	9.9	4.4	34	16	.00	13
5	e.62	e.42	6.9	31	e16	19	9.9	3.7	18	6.0	.00	.79
6	e.49	.60	7.4	30	e16	17	9.9	3.1	10	.98	.0	.0
7	e.32	1.0	7.3	33	e15	16	9.9	2.7	6.3	.17	.0	.0
8	e.23	1.2	7.2	31	e15	15	10	8.4	4.7	.43	.0	.0
9	e.18	2.3	6.3	29	e16	16	10	4.1	3.6	.36	.0	.00
10	.13	3.2	5.9	27	16	17	9.2	2.9	2.6	.29	.0	.00
11	.02	4.6	5.9	26	17	17	9.2	2.0	1.7	17	.0	.00
12	.00	3.7	7.6	33	14	16	8.3	1.4	1.4	72	.0	.00
13	.00	4.3	7.7	35	15	13	8.1	1.3	.86	39	.00	.0
14	.00	4.2	7.6	31	15	12	8.3	1.2	.86	12	.00	.0
15	.00	6.4	9.6	27	14	13	8.3	.98	.75	3.7	.0	.00
16	.00	24	9.7	27	12	14	7.5	.82	.72	1.4	.0	.00
17	.00	16	9.6	27	12	18	7.4	.70	.74	.28	.0	.07
18	.00	11	8.7	25	18	43	7.2	.54	.57	.06	.0	14
19	.00	12	99	23	36	32	7.4	.46	.31	.16	.0	15
20	10	9.5	200	21	33	23	7.6	.16	.28	303	.0	1.9
21	5.7	7.0	79	18	22	20	7.6	.09	.19	75	.0	.11
22	2.1	6.3	49	16	17	17	7.8	.05	.11	35	.0	.0
23	1.5	5.8	40	16	15	17	7.8	.04	.07	16	.0	.00
24	1.3	6.3	37	17	12	15	7.6	.03	.01	6.1	.0	.00
25	1.2	36	159	16	12	12	7.9	.01	.00	3.8	.0	.00
26	1.4	38	488	15	12	10	8.1	.01	.00	2.3	.0	.00
27	1.4	18	504	e15	12	9.8	7.6	.0	.00	1.8	.0	.0
28	.99	14	152	e15	13	9.3	5.4	.0	.00	1.4	.0	.0
29	.93	10	73	e15	14	9.1	5.4	.00	.00	.70	.0	.0
30	.68	8.5	56	16	---	9.1	5.5	.0	.00	.33	.00	.0
31	e.54	---	49	15	---	9.5	---	.02	---	.17	.0	---
TOTAL	33.43	256.11	2122.4	781	469	534.8	247.8	57.11	452.77	615.79	0.11	46.67
MEAN	1.08	8.54	68.5	25.2	16.2	17.3	8.26	1.84	15.1	19.9	.004	1.56
MAX	10	38	504	43	36	43	10	8.4	180	303	.09	15
MIN	.00	.40	5.9	15	12	9.1	5.4	.00	.00	.00	.00	.00
AC-FT	66	508	4210	1550	930	1060	492	113	898	1220	.2	93

CAL YR 1987 TOTAL 47193.13 MEAN 129 MAX 3670 MIN .00 AC-FT 93610
WTR YR 1988 TOTAL 5616.99 MEAN 15.3 MAX 504 MIN .00 AC-FT 11140

e Estimated.

08044500 WEST FORK TRINITY RIVER NEAR BOYD, TX

LOCATION.--Lat 33°05'07", long 97°33'30", Wise County, Hydrologic Unit 12030101, on right bank at downstream side of highway embankment, 10 ft right of right abutment of bridge on Farm Road 730, 0.6 mi northeast of Boyd, 3.5 mi downstream from Boggy Creek, and at mile 602.

DRAINAGE AREA.--1,725 mi².

PERIOD OF RECORD.--January 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 660.57 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 14, 1954, water-stage recorder at site 2.2 mi downstream at datum 5.48 ft lower.

REMARKS.--No estimated daily discharges. Records good. During the current year, sustained flows at this site were the result of releases of water for downstream supply from Bridgeport Reservoir 25 mi upstream from this station (drainage area, 1,111 mi²). In addition, flow from 100 mi² is affected by storage in Lake Amon G. Carter (capacity, 15,240 acre-ft) on Big Sandy Creek. Flow is also affected at times by discharge from the flood-detention pools of 36 floodwater-retarding structures with a total combined detention capacity of 24,450 acre-ft. These structures control runoff from 91.2 mi² in the Big Sandy and Salt Creeks drainage basins. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--41 years, 229 ft³/s (165,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,400 ft³/s Oct. 14, 1981 (gage height, 25.87 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, about 25 ft in May 1908, present site and datum, from information by local residents, who also reported a flood of about the same gage height between 1870-80. A flood in April 1942 reached a stage of 20.6 ft, present site and datum, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 903 ft³/s June 1 at 0900 hours (gage height, 13.97 ft); minimum daily, 4.1 ft³/s July 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	231	20	74	27	24	21	14	762	4.3	291	318
2	239	234	20	61	26	25	34	14	455	4.1	284	320
3	237	235	19	58	29	28	104	14	163	80	287	345
4	238	241	207	53	31	33	45	13	56	279	285	331
5	238	240	279	50	31	31	30	12	29	292	283	321
6	236	241	286	46	31	28	24	11	19	291	284	320
7	236	243	294	47	31	27	21	11	14	292	283	319
8	239	265	294	45	31	26	19	12	12	297	283	320
9	411	254	471	46	31	25	18	16	10	298	282	317
10	444	252	509	43	32	25	18	13	9.0	299	310	314
11	448	250	513	41	30	24	17	12	7.8	305	320	312
12	451	253	512	42	29	23	17	12	7.2	344	322	309
13	454	253	514	47	28	21	17	11	7.4	351	323	310
14	454	254	518	45	28	20	17	10	6.6	315	321	314
15	459	304	519	42	29	19	16	9.6	6.4	304	327	454
16	464	84	519	39	28	20	15	9.8	6.6	298	327	116
17	472	25	519	38	26	22	16	8.8	6.5	295	324	20
18	473	20	520	37	31	31	18	8.0	6.5	295	326	78
19	471	24	617	36	43	42	41	7.6	6.0	297	325	33
20	155	19	654	36	47	33	30	12	5.9	454	319	16
21	23	16	475	33	39	27	22	9.8	5.6	479	320	10
22	14	14	177	31	33	25	19	7.4	5.2	335	320	7.9
23	11	14	73	28	30	23	16	7.1	5.0	308	315	6.7
24	10	52	59	28	27	24	15	7.0	4.7	297	314	6.3
25	9.8	117	95	28	26	21	14	6.7	4.2	297	316	5.8
26	8.8	59	680	27	26	20	14	6.0	5.0	297	315	5.5
27	8.4	35	614	26	25	19	14	5.7	4.8	292	313	4.9
28	7.6	28	462	26	25	18	14	182	5.5	293	311	4.4
29	7.5	23	180	27	25	21	13	300	6.1	290	313	5.0
30	111	21	114	26	---	19	14	306	4.6	289	317	5.5
31	227	---	92	27	---	19	---	323	---	291	317	---
TOTAL	7497.1	4301	10825	1233	875	763	693	1391.5	1646.6	8862.4	9580	5249.0
MEAN	242	143	349	39.8	30.2	24.6	23.1	44.9	54.9	286	309	175
MAX	473	304	680	74	47	42	104	323	762	479	327	454
MIN	7.5	14	19	26	25	18	13	5.7	4.2	4.1	282	4.4
AC-FT	14870	8530	21470	2450	1740	1510	1370	2760	3270	17580	19000	10410

CAL YR 1987 TOTAL 145907.1 MEAN 400 MAX 4340 MIN 7.5 AC-FT 289400
WTR YR 1988 TOTAL 52916.6 MEAN 145 MAX 762 MIN 4.1 AC-FT 105000

08045000 EAGLE MOUNTAIN RESERVOIR ABOVE FORT WORTH, TX

LOCATION.--Lat 32°52'39", long 97°28'29", Tarrant County, Hydrologic Unit 12030101, at right end of main section (left) of Eagle Mountain Dam on West Fork Trinity River, 11.8 mi northwest of Fort Worth, and at mile 583.3.

DRAINAGE AREA.--1,970 mi².

PERIOD OF RECORD.--February 1934 to current year. Prior to October 1950, month-end figures only.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 16, 1988, nonrecording gages at several sites within 1.0 mi of present site at present datum.

REMARKS.--The reservoir is formed by two sections of rolled earthfill and a concrete spillway separated by high natural ground. Total length of the dam including spillway, is 4,800 ft. The dam was completed Oct. 24, 1932, and storage began Feb. 24, 1934. The spillway is a 1,300-foot-wide cut through natural ground located between the two sections of earthfill that make up the dam. The original service spillway, located in the section to the right of the main dam, contains a concrete spillway with four 25-foot bays, three are equipped with vertical lift gates and the fourth is left open. In 1971, a side-channel spillway was constructed. The newest spillway is located 300 ft to the left of the original service spillway and has six 11.25- by 22-foot-wide roller lift gates. The main section of the dam contains the outlet works that consist of two concrete conduits with two 48-inch diameter valves in each conduit. The reservoir is used for flood control and for part of the municipal water supply for the city of Fort Worth. Capacities are based on a survey made in 1968. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08044500. For storage above the reservoir, see REMARKS for West Fork Trinity River near Boyd (station 08044500). Figures given herin represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	682.0	-
Crest of spillway	676.0	558,000
Top of gates (new side-channel spillway)	659.0	295,400
Crest of (old service) spillway (top of conservation pool)	649.1	190,400
Crest of spillway (new side-channel spillway)	637.0	99,120
Lowest gated outlet (invert)	599.9	94

COOPERATION.--Daily elevation records for Oct. 1-16 provided by Tarrant County Water Control and Improvement District No. 1. Capacity table furnished by Freese and Nichols, Consulting Engineers for Tarrant County Water Control and Improvement District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Prior to Oct. 16, 1987, once-daily reading of nonrecording gage at 0700 hours, maximum contents observed, 333,500 acre-ft Apr. 26, 1942 (elevation, 659.9 ft); minimum observed since first appreciable storage in 1935, 57,690 acre-ft Nov. 19, 20, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 193,200 acre-ft Dec. 30 at 1100 hrs (elevation, 649.40 ft); minimum, 168,100 acre-ft Aug. 27 to Sept. 1 (elevation, 646.57 ft).

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

646.0	163,300	649.0	189,500
647.0	171,700	650.0	198,800
648.0	180,400		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178000	177000	179200	191400	188200	187000	180500	175500	179300	170500	169300	168200
2	177900	176700	178800	190800	188200	186900	180300	175200	181100	170000	169000	168300
3	177800	176800	178400	190200	188100	187000	180000	175000	181800	169300	169000	169800
4	177600	177000	178100	189700	188100	187400	179700	174700	181800	169200	168900	169500
5	177500	177200	178000	189500	188100	186800	180000	174400	181600	169100	168900	169600
6	177400	177100	178200	189400	188000	186700	179700	173900	181500	168900	169000	169600
7	177400	177100	178700	189400	188000	186600	179600	173600	181300	168800	168900	169500
8	177300	177100	178600	189500	187800	186600	179400	173700	181000	168700	168900	169500
9	177100	177900	178800	189500	187800	186400	179600	173300	180900	168700	168800	169600
10	177300	177800	179400	189200	187600	186200	179100	173000	180500	168700	168700	169600
11	177600	177600	179800	188900	187700	185900	178700	172800	180000	169200	168700	169700
12	178100	177600	180800	188900	187400	185600	178400	172500	179600	169200	168600	169700
13	178400	177700	181500	189000	187400	185400	178300	172100	179000	169300	168500	169800
14	178700	177700	182400	188800	187400	184800	178100	171700	178600	169300	168500	171700
15	179100	177800	182600	188700	187400	184400	178000	171700	178000	169200	168400	172000
16	179400	179600	183500	188500	187100	183600	177700	171900	177400	169200	168300	172600
17	179400	179800	183800	188800	187100	184500	178300	171500	176900	169200	168300	174600
18	179400	179900	184200	189100	187300	183700	178000	171100	176300	169200	168200	174300
19	181400	180100	184300	189100	187800	183500	177700	170800	175700	169300	168300	174900
20	181800	180000	186100	189000	187800	183000	177400	170900	175200	169400	168500	174500
21	181600	179900	189000	188900	187800	182700	177400	171000	174600	169800	168500	174000
22	181000	180000	188600	188600	187400	182500	177400	170500	173900	170000	168400	173500
23	180700	180000	188700	188800	187400	182500	177200	170300	173400	169800	168500	173100
24	180400	179900	189100	188600	187300	182500	176600	170000	172800	169800	168400	172700
25	180500	180800	190300	188400	187200	182200	177400	169800	172100	169800	168300	172100
26	179400	180800	191600	188500	187200	181800	177000	169500	171900	169800	168300	171700
27	178900	180800	192700	188300	187200	181400	176500	168900	171700	169800	168100	171000
28	178300	180800	191800	188200	187200	180900	176200	168500	172000	169600	168200	170500
29	177700	180800	192600	188100	187100	181200	176000	169000	171600	169500	168100	170600
30	177200	179600	192900	188100	---	180800	176000	169200	170900	169500	168200	170200
31	177000	---	192100	188100	---	180600	---	171700	---	169300	168100	---
MAX	181800	180800	192900	191400	188200	187400	180500	175500	181800	170500	169300	174900
MIN	177000	176700	178000	188100	187100	180600	176000	168500	170900	168700	168100	168200
(†)	647.61	647.90	649.28	648.85	648.74	648.02	647.50	647.00	646.90	646.71	646.57	646.82
(ϕ)	-1200	+2600	+12500	-4000	-1000	-6500	-4600	-4300	-800	-1600	-1200	+2100

CAL YR 1987 MAX 196300 MIN 176700 (ϕ) -8000
WTR YR 1988 MAX 192900 MIN 168100 (ϕ) +2200

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

08045400 LAKE WORTH ABOVE FORT WORTH, TX

LOCATION.--Lat 32°47'21", long 97°24'58", Tarrant County, Hydrologic Unit 12030102, on top of Lake Worth Dam on West Fork Trinity River, 240 ft to right of right end of uncontrolled concrete spillway, 2.9 mi upstream from Farmer's Branch, 3.3 mi upstream from bridge on State Highway 183 crossing West Fork Trinity River, 5.3 mi northwest of Tarrant County Courthouse in Fort Worth, and at river mile 572.0.

DRAINAGE AREA.--2,064 mi².

PERIOD OF RECORD.--October 1981 to current year.

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

Remarks.--The lake is formed by a rolled earthfill dam 3,200 ft long, with an uncontrolled concrete spillway 700 ft long near the center of the dam. Deliberate impoundment began in June 1914 and the dam was completed in October 1914. There is a 48-inch diameter pipe controlled by a 36-inch valve, which may be used to make small releases through the dam. The dam is owned by the city of Fort Worth. Area-capacity curves are based on a survey made in 1968. 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	606.3	-
Crest of concrete spillway	594.0	37,070
Lowest gated outlet (invert)	584.25	12,290

COOPERATION.--Copies of the capacity table (prepared by the U.S. Army Corps of Engineers) and area-capacity curves (prepared by Freese, Nichols, and Endress, Consulting Engineers) were provided by Tarrant County Water Control and Improvement District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 53,900 acre-ft Oct. 15, 1981, at 0800 hours (elevation, 598.23 ft); minimum, 24,730 acre-ft Sept. 9-10, 1985 (elevation, 589.95 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum contents observed, 52,080 acre-ft May 25, 1957 (elevation, 598.47 ft); minimum observed, 20,540 acre-ft June 30, 1955 (elevation, 589.45 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 37,970 acre-ft Dec. 31 at 0900 hours (elevation, 594.25 ft, from graph); minimum, 29,010 acre-ft Aug. 12 (elevation, 591.48 ft).

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

591.0	27,600	594.0	37,070
592.0	30,540	595.0	40,670
593.0	33,690		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31890	33000	33790	37750	35920	34740	35720	34230	31550	30700	29950	30130
2	31890	33060	33930	37610	35780	35010	35750	34260	31580	30850	29860	30160
3	31860	33060	34100	37390	35610	34800	35820	34200	31610	30980	29860	30160
4	31830	33030	34200	37350	35450	34670	35780	34100	31610	31110	29740	30270
5	31890	32970	34200	37070	35380	34600	35780	33890	31480	31200	29630	30240
6	31890	32840	34260	37070	35280	34530	35720	33690	31360	31260	29540	30180
7	31860	32870	34330	36930	35280	34370	35610	33690	31230	31260	29450	30100
8	31890	33060	34530	36860	35240	34370	35550	33660	31010	31290	29360	29980
9	31860	33060	34670	36830	35240	34300	35450	33500	30790	31260	29240	29950
10	31890	33030	34940	36830	35340	34230	35310	33250	30510	31260	29150	29860
11	31860	33090	35240	36830	35180	34370	35210	33120	30420	31480	29100	29800
12	31860	33190	35240	36800	35210	34300	35140	32900	30330	31580	29010	29710
13	31890	33250	35310	36760	35140	34300	35040	32680	30130	31640	29070	29600
14	31890	33310	35580	36730	35280	34260	34940	32400	30070	31610	29070	29660
15	31930	33690	35510	36730	35140	34300	34840	32210	30070	31550	29070	29800
16	31960	33690	35610	36730	35070	34300	34700	32110	30130	31480	29100	29570
17	32050	33470	35650	36730	35140	34870	34970	31990	30130	31420	29130	29300
18	32110	33500	35820	36690	35450	34800	34910	31740	30160	31290	29180	29860
19	32180	33220	36460	36660	35280	34940	34800	31520	30180	31170	29240	29660
20	32050	33060	36490	36690	35310	35040	34800	31640	30130	31200	29480	29420
21	31930	32840	36530	36530	35280	35140	34670	31550	30130	31170	29710	29210
22	31930	32780	36560	36490	35240	35140	34640	31420	30100	31040	29950	29180
23	31990	32590	36560	36290	35140	35210	34530	31230	30160	30920	29980	29180
24	32240	32810	36660	36420	35140	35310	34300	30920	30360	30790	30040	29180
25	32340	32840	36960	36150	35070	35340	34470	30630	30360	30730	30070	29210
26	32490	33000	37100	36090	35040	35380	34430	30300	30360	30630	30100	29240
27	32560	33250	37170	36050	34970	35280	34230	29950	30360	30480	30100	29240
28	32620	33310	37430	35990	34910	35280	34160	29740	30360	30330	30100	29180
29	32750	33470	37680	35880	34870	35450	34160	29630	30450	30210	30130	29390
30	32810	33630	37900	35880	---	35410	34300	29680	30570	30160	30160	29630
31	32870	---	37930	35950	---	35550	---	30270	---	30100	30160	---
MAX	32870	33690	37930	37750	35920	35550	35820	34260	31610	31640	30160	30270
MIN	31830	32590	33790	35880	34870	34230	34160	29630	30070	30100	29010	29180
(†)	592.74	592.98	594.24	593.67	593.35	593.55	593.18	591.91	592.01	591.85	591.87	591.69
(Φ)	+980	+760	+4300	-1980	-1080	+680	-1250	-4030	+300	-470	+60	-530

CAL YR 1987 MAX 42480 MIN 31830 (Φ) +2860
WTR YR 1988 MAX 37930 MIN 29010 (Φ) -2260

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

08046500 BENBROOK LAKE NEAR BENBROOK, TX

LOCATION.--Lat 32°39'02", long 97°26'54", Tarrant County, Hydrologic Unit 12030102, in intake structure of Benbrook Dam on Clear Fork Trinity River, 2.5 mi south of Benbrook, 3.5 mi upstream from Marys Creek, and 14.6 mi upstream from mouth.

DRAINAGE AREA.--429 mi².

PERIOD OF RECORD.--September 1952 to current year. Prior to October 1970, published as Benbrook Reservoir.
Water-quality records.--Chemical analyses: October 1969 to September 1982.

REVISED RECORDS.--WSP 1922: 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 9,130 ft long, including a 500-foot uncontrolled off-channel concrete-gravity spillway with a 100-foot notch in center of ogee weir section. The outlet works consist of a 13.0-foot-diameter concrete conduit controlled by two 6.5- by 13.0-foot broome-type gates and two 30-inch steel pipes controlled by slide gates. Deliberate impoundment began Sept. 29, 1952. From August 1950 to Sept. 28, 1952, the lake was operated as a detention basin only. The capacity table is based on a survey made in 1945. The lake was built for flood control, navigation, and low-flow regulation. Inflow is affected at times by the discharge from flood-detention pools of 12 floodwater-retarding structures with a combined detention capacity of 11,170 acre-ft. These structures control runoff from 37.6 mi². 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	747.0	-
Crest of spillway	724.0	258,600
Crest of notch in spillway	710.0	164,800
Top of conservation storage	694.0	88,250
Crest of intake to wet wells (inverts)	656.0	6,550
Lowest gated outlet (invert)	622.0	12

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 185,000 acre-ft June 6, 1957 (elevation, 713.35 ft); minimum since lake first filled in 1957, 61,450 acre-ft Oct. 10, 1984 (elevation, 686.16 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 81,440 acre-ft Oct. 1 (elevation, 692.15 ft); minimum, 62,550 acre-ft Sept. 28 (elevation, 686.52 ft).

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

686.0	60,950	690.0	73,900	692.0	80,890
688.0	67,250	691.0	77,350	693.0	84,530

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81440	78690	78160	76380	76100	75900	75550	73960	73120	72450	69350	64120
2	81180	78620	78090	76350	76070	76170	75520	73930	73660	72350	69150	64020
3	81140	78620	78060	76310	76040	76170	75450	73830	73890	72620	69120	64120
4	81040	78620	78020	76280	76000	76140	75410	73760	74200	72510	69020	63990
5	80890	78550	78060	76280	76040	76140	75340	73690	74240	72450	68890	63870
6	80890	78480	78060	76420	76040	76140	75280	73620	74240	72350	68890	63780
7	80710	78410	77980	76420	76040	76100	75210	73590	74200	72210	68820	63650
8	80610	78340	77880	76380	76000	76100	75140	73520	74140	72080	68690	63530
9	80460	78340	77770	76380	76000	76100	75070	73460	74030	72010	68500	63460
10	80460	78230	77670	76350	76000	76100	75000	73390	73960	72140	68200	63340
11	80250	78200	77490	76380	75970	76040	74930	73320	73860	72280	67940	63250
12	80180	78160	77240	76310	75930	76000	74860	73260	73730	72280	67580	63160
13	80040	79130	77100	76280	75930	75970	74790	73190	73620	72210	67350	63120
14	79930	78130	76930	76280	75930	75930	74760	73120	73560	72080	67150	63030
15	79900	78440	76760	76280	75900	75900	74720	73020	76490	71940	66930	63120
16	79790	78620	76550	76310	75900	75900	74690	72980	73390	71810	66740	63030
17	79680	78590	76310	76310	75860	75900	74760	72950	73490	71710	66550	63460
18	79620	78520	76170	76350	76040	75860	74720	72850	73420	71610	66390	63500
19	79440	78480	76420	76310	76040	75830	74690	72820	73320	71500	66200	63400
20	79330	78410	76280	76280	76040	75790	74620	72820	73220	71400	66160	63340
21	79260	78370	76140	76280	76040	75760	74550	72750	73150	71300	65970	63250
22	79190	78340	76000	76240	75930	75760	74480	72680	73050	71140	65780	63160
23	79150	78300	75860	76210	75900	75760	74410	72510	72950	70970	65590	63060
24	79080	78300	75860	76170	75900	75720	74380	72350	72850	70830	65400	62970
25	79150	78370	76280	76140	75900	75690	74310	72140	72780	70730	65240	62880
26	79050	78370	76450	76100	75900	75660	74200	71940	72750	70660	65050	62780
27	78980	78370	76450	76100	75900	75620	74140	71740	72680	70460	64820	62690
28	78910	78340	76420	76100	75860	75620	74100	71610	72650	70200	64600	62560
29	78870	78230	76420	76100	75860	75590	74070	71500	72620	69970	64470	62910
30	78800	78200	76420	76100	---	75550	74070	71440	72550	69780	64340	62970
31	78760	---	76420	76100	---	75550	---	71400	---	69540	64250	---
MAX	81440	79130	78160	76420	76100	76170	75550	73960	76490	72620	69350	64120
MIN	78760	78130	75860	76100	75860	75550	74070	71400	72550	69540	64250	62560
(†)	691.40	691.24	690.73	690.64	690.57	690.48	690.05	689.26	689.60	688.70	687.06	686.65
(ϕ)	-2671	-567	-1782	-311	-242	-311	-1484	-2663	+1144	-3003	-5297	-1280

CAL YR 1987 MAX 108600 MIN 75860 (ϕ) -11200
WTR YR 1988 MAX 81440 MIN 62560 (ϕ) -18470

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

08047000 CLEAR FORK TRINITY RIVER NEAR BENBROOK, TX

LOCATION.--Lat 32°39'54", long 97°26'30", Tarrant County, Hydrologic Unit 12030102, on left bank 1.5 mi downstream from Benbrook Dam, 1.7 mi southeast of Benbrook, 2.9 mi upstream from Marys Creek, and 13.1 mi upstream from mouth.

DRAINAGE AREA.--431 mi².

PERIOD OF RECORD.--July 1947 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 604.22 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Benbrook Lake (station 08046500) since September 1952. There is a diver-sion 1.0 mi upstream for Pecan Valley Golf Course. Gage-height telemeter at station.

AVERAGE DISCHARGE.--5 years (water years 1948-52) prior to regulation by Benbrook Lake, 105 ft³/s (76,070 acre-ft/yr); 36 years (water years 1953-88) regulated, unadjusted, 66.1 ft³/s (47,890 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 82,900 ft³/s May 17, 1949 (gage height, 28.72 ft), from rating curve extended above 11,000 ft³/s on basis of velocity-area studies and slope-area measurement of 82,900 ft³/s; no flow at times most years. Maximum discharge since construction of Benbrook Dam in 1952, 4,710 ft³/s May 7, 1979 (gage height 11.27 ft); maximum gage height, 12.20 ft Apr. 7, 1977. Maximum stage since at least 1922, that of May 17, 1949.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 142 ft³/s June 1 at 0215 hours (gage height, 4.04 ft); minimum daily, 1.9 ft³/s Mar. 14-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	10	19	11	10	3.1	18	16	39	20	73	23
2	15	7.2	19	11	11	7.8	18	16	21	21	43	23
3	16	3.2	16	11	11	3.5	16	15	20	21	20	23
4	15	2.5	12	11	11	2.7	14	15	20	21	20	23
5	14	2.2	7.7	11	11	4.4	13	16	20	20	21	22
6	15	5.9	3.1	10	11	4.1	14	16	20	20	23	22
7	14	14	37	10	11	2.8	16	17	19	20	23	22
8	16	14	61	10	11	2.7	15	17	19	21	22	21
9	15	11	59	10	11	2.2	16	16	19	21	64	21
10	15	11	57	10	11	2.0	16	16	19	21	91	21
11	14	11	77	10	11	2.0	15	16	20	22	89	20
12	14	11	95	10	11	2.0	15	17	20	22	88	19
13	14	11	95	10	11	2.0	15	17	20	22	91	19
14	14	11	97	10	11	1.9	16	17	20	22	91	19
15	13	15	97	9.6	11	1.9	16	17	20	21	87	18
16	12	13	95	9.6	10	5.7	16	17	21	21	90	18
17	26	19	93	9.6	10	11	17	18	21	22	76	17
18	36	18	93	9.6	12	10	16	17	21	20	64	16
19	35	19	102	9.6	12	10	15	18	21	21	69	16
20	35	18	95	9.6	12	10	15	18	20	21	74	15
21	21	17	93	9.6	12	9.4	15	19	19	21	71	15
22	8.7	17	93	9.6	12	11	14	19	21	27	72	15
23	8.6	17	93	9.6	10	15	14	19	20	20	73	14
24	8.1	17	47	9.6	11	14	15	53	20	20	74	14
25	7.6	19	25	9.6	11	14	15	86	20	20	77	14
26	7.8	19	15	9.6	10	15	15	85	21	19	76	13
27	8.7	19	12	9.2	10	15	15	54	19	53	84	13
28	8.3	19	11	9.1	10	15	15	20	20	77	86	13
29	7.9	19	11	10	7.7	16	16	20	20	74	49	12
30	8.7	19	11	11	---	16	16	21	20	75	22	12
31	9.7	---	11	11	---	17	---	21	---	75	24	---
TOTAL	468.1	409.0	1651.8	310.5	313.7	249.2	462	749	620	901	1927	533
MEAN	15.1	13.6	53.3	10.0	10.8	8.04	15.4	24.2	20.7	29.1	62.2	17.8
MAX	36	19	102	11	12	17	18	86	39	77	91	23
MIN	7.6	2.2	3.1	9.1	7.7	1.9	13	15	19	19	20	12
AC-FT	928	811	3280	616	622	494	916	1490	1230	1790	3820	1060

CAL YR 1987 TOTAL 42091.5 MEAN 115 MAX 918 MIN 2.2 AC-FT 83490
WTR YR 1988 TOTAL 8594.3 MEAN 23.5 MAX 102 MIN 1.9 AC-FT 17050

08047500 CLEAR FORK TRINITY RIVER AT FORT WORTH, TX

LOCATION.--Lat 32°43'56", long 97°21'31", Tarrant County, Hydrologic Unit 12030102, at Fort Worth pumping station on left bank, 240 ft upstream from the Texas and Pacific Railway Co. bridge in Fort Worth, 830 ft upstream from East West Expressway bridge, 2.5 mi upstream from mouth, 5 mi downstream from Marys Creek, and 10 mi downstream from Benbrook Dam.

DRAINAGE AREA.--518 mi².

PERIOD OF RECORD.--March 1924 to current year.

REVISED RECORDS.--WSP 1392: 1924-25, 1927. WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 532.91 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 3, 1970, various nonrecording and recording gages were located within 650 ft of present site at different datums.

REMARKS.--Records good. Since September 1952, flow largely regulated by Benbrook Lake (station 08046500). The city of Fort Worth diverted water from pool at gage during the current year. The Benbrook Water and Sewage Authority diverted water from the river upstream from the station for municipal use. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--28 years (water years 1925-52) prior to regulation by Benbrook Lake, 112 ft³/s (81,140 acre-ft/yr); 36 years (water years 1953-88) regulated, unadjusted, 96.7 ft³/s (70,060 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft³/s May 17, 1949 (gage height, 28.20 ft, present datum), from rating curve extended above 16,000 ft³/s on basis of contracted-opening measurement of 107,000 ft³/s; no flow at times most years.
Maximum stage since at least 1900, 28.20 ft May 17, 1949, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 25, 1922, reached a stage of 27.5 ft, present datum (discharge, 74,300 ft³/s, by slope-area measurement of peak flow); data furnished by Fort Worth city engineer.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,220 ft³/s June 1 at 0215 hours (gage height, 11.18 ft); minimum daily, 6.6 ft³/s Mar. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	10	27	26	17	16	33	28	850	20	45	9.4
2	12	10	27	24	15	245	31	23	143	16	40	9.8
3	11	9.8	29	24	15	29	27	21	64	170	20	44
4	10	10	29	21	15	17	20	19	39	49	20	27
5	10	8.2	26	21	15	14	17	18	34	23	24	18
6	9.5	7.7	24	22	16	13	12	18	32	22	18	15
7	9.5	7.7	21	26	17	12	12	16	30	20	16	13
8	9.5	7.7	50	29	17	10	14	21	28	14	14	12
9	7.9	10	39	30	17	10	14	28	24	15	9.8	12
10	7.7	18	23	27	18	11	15	19	20	22	31	12
11	8.0	17	23	24	18	11	17	18	19	71	e39	12
12	8.2	17	39	20	18	8.9	17	51	19	38	e39	12
13	8.0	17	43	19	18	7.9	14	20	18	32	e39	35
14	7.7	15	61	19	18	7.7	18	18	18	22	e39	93
15	7.7	319	42	19	17	7.6	19	17	16	18	e39	47
16	7.6	124	40	19	14	6.6	21	98	16	16	e39	27
17	10	38	41	19	11	36	194	27	18	15	29	389
18	32	33	41	18	107	26	50	20	18	15	9.7	180
19	35	31	401	20	54	17	29	17	17	14	16	46
20	33	27	e94	18	26	15	26	154	16	13	55	26
21	32	26	e85	17	22	12	20	51	14	15	56	21
22	15	27	e80	16	21	11	19	29	14	16	35	21
23	11	29	e80	17	20	13	19	26	15	18	15	21
24	11	26	91	15	17	15	20	22	16	12	11	19
25	11	140	414	15	17	14	39	54	15	11	9.4	18
26	10	35	150	16	17	13	25	42	22	9.3	12	17
27	e9.0	35	48	17	17	13	19	40	21	15	12	16
28	e8.6	31	34	18	17	14	19	24	49	46	10	16
29	e8.6	28	29	17	17	30	51	18	35	44	16	275
30	8.6	27	26	17	---	27	35	21	25	44	17	201
31	10	---	26	17	---	23	---	28	---	45	10	---
TOTAL	392.1	1141.1	2183	627	628	705.7	866	1006	1665	900.3	784.9	1664.2
MEAN	12.6	38.0	70.4	20.2	21.7	22.8	28.9	32.5	55.5	29.0	25.3	55.5
MAX	35	319	414	30	107	245	194	154	850	170	56	389
MIN	7.6	7.7	21	15	11	6.6	12	16	14	9.3	9.4	9.4
AC-FT	778	2260	4330	1240	1250	1400	1720	2000	3300	1790	1560	3300

CAL YR 1987 TOTAL 56455.62 MEAN 155 MAX 1350 MIN .02 AC-FT 112000
WTR YR 1988 TOTAL 12563.3 MEAN 34.3 MAX 850 MIN 6.6 AC-FT 24920

e Estimated.

08048000 WEST FORK TRINITY RIVER AT FORT WORTH, TX

LOCATION.--Lat 32°45'39", long 97°19'56", Tarrant County, Hydrologic Unit 12030102, on left bank 125 ft upstream from Texas Electric Service Co.'s concrete dam, 980 ft downstream from centerline of Paddock Viaduct (North Main Street) at Fort Worth, 2,600 ft downstream from Clear Fork Trinity River, and at mile 556.8.

DRAINAGE AREA.--2,615 mi².

PERIOD OF RECORD.--October 1920 to current year. Gage-height records collected in this vicinity since 1910 are contained in reports of the National Weather Service.
Water-quality records.--Chemical and biochemical analyses: October 1967 to September 1976.

REVISED RECORDS.--WSP 1392: 1925. WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete dam control with angle-iron-crested notch for flow below 50 ft³/s. Datum of gage is 519.24 ft above Texas Reclamation Department datum. Prior to Aug. 22, 1954, at site 1,200 ft upstream at same datum. Aug. 22, 1954, to Oct. 15, 1955, at site 2,000 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow is largely regulated by Lake Worth (station 08045400) on the West Fork Trinity River and by Benbrook Lake (station 08046500) on the Clear Fork Trinity River. At times, flow is sustained by releases from the flood-detention pool of Benbrook Lake. The city of Fort Worth diverts water upstream from station and from Cedar Creek Reservoir (station 08063010) for municipal and industrial uses and returns sewage effluent to river downstream from station 08048543. There are many small diversions upstream from station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--68 years, 362 ft³/s (262,300 acre-ft/yr, unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85,000 ft³/s Apr. 25, 1922 (gage height, 23.95 ft), site then in use, by slope-area measurement of peak flow by city engineer of Fort Worth; maximum gage height, 25.91 ft May 17, 1949, site then in use (discharge, 64,300 ft³/s); no flow at times. Maximum stage since at least 1866, that of May 17, 1949.
Maximum stages have been affected by levee construction, levee breaks, and channel rectification.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,760 ft³/s June 1 at 0415 hours (gage height, 3.78 ft); minimum daily, 11 ft³/s Mar. 15, July 26-27 and Aug. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	18	30	429	31	24	47	35	1790	27	67	14
2	22	17	29	357	29	244	47	30	324	24	59	16
3	19	17	29	296	28	39	37	28	128	309	31	157
4	18	16	26	192	29	24	34	24	55	100	28	42
5	18	15	24	113	26	18	31	22	44	37	33	28
6	17	14	32	91	28	16	28	21	38	28	36	22
7	15	13	25	129	32	15	27	20	36	28	23	19
8	15	13	51	93	31	14	29	25	34	24	19	18
9	14	21	54	86	29	13	31	26	29	25	21	17
10	15	28	31	55	31	13	33	21	25	27	24	17
11	17	26	26	48	31	12	34	21	25	135	36	17
12	17	24	47	40	32	12	33	50	26	60	38	17
13	18	23	64	41	32	12	31	29	25	39	38	63
14	17	22	116	36	31	12	30	23	25	29	39	205
15	16	559	59	33	28	11	29	21	26	22	35	124
16	16	247	50	32	24	12	27	204	26	21	31	39
17	18	58	57	31	21	93	251	38	27	19	30	483
18	38	49	60	31	213	60	57	26	29	18	21	625
19	76	47	685	38	65	33	35	21	29	17	23	84
20	71	36	183	47	35	29	33	224	28	16	172	40
21	70	34	126	37	28	26	28	166	26	18	98	30
22	42	34	118	31	25	25	26	38	23	19	49	27
23	33	35	115	30	25	25	26	32	22	19	22	24
24	28	40	151	30	23	29	27	25	23	18	15	27
25	24	269	588	29	23	28	70	43	23	14	12	26
26	21	43	488	29	25	27	33	42	34	11	11	25
27	19	58	184	30	25	27	25	52	34	11	12	24
28	17	41	204	30	24	28	24	34	83	47	13	24
29	17	32	263	29	25	53	75	26	66	65	15	535
30	18	30	350	29	---	42	55	30	33	69	24	456
31	18	---	399	30	---	34	---	89	---	70	18	---
TOTAL	788	1879	4664	2552	1029	1050	1293	1486	3136	1366	1093	3245
MEAN	25.4	62.6	150	82.3	35.5	33.9	43.1	47.9	105	44.1	35.3	108
MAX	76	559	685	429	213	244	251	224	1790	309	172	625
MIN	14	13	24	29	21	11	24	20	22	11	11	14
AC-FT	1560	3730	9250	5060	2040	2080	2560	2950	6220	2710	2170	6440

CAL YR 1987 TOTAL 208717 MEAN 572 MAX 5330 MIN 12 AC-FT 414000
WTR YR 1988 TOTAL 23581 MEAN 64.4 MAX 1790 MIN 11 AC-FT 46770

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX

LOCATION.--Lat 32°45'06", long 97°17'21", Tarrant County, Hydrologic Unit 12030102, at downstream side of bridge on Beach Street, 1,700 ft downstream from Sycamore Creek, 0.9 mi downstream from Riverside Drive bridge, 2.6 mi east of the Tarrant County Courthouse, and at mile 549.6.

DRAINAGE AREA.--2,685 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 478.70 ft above National Geodetic Vertical Datum of 1929, State Department of Highways and Public Transportation datum.

REMARKS.--No estimated daily discharge. Records good. Flow is largely regulated by Lake Worth (station 08045400) on the West Fork Trinity River and by Benbrook Lake (station 08046500) on the Clear Fork Trinity River. At times, flow is sustained by releases from the flood-detention pool of Benbrook Lake. There are many diversions upstream from this station for municipal, industrial, and other uses. Gage-height telemeter at station.

AVERAGE DISCHARGE.--12 years, 359 ft³/s (260,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft³/s Oct. 13, 1981 (gage height, 36.26 ft); minimum, 0.84 ft³/s July 25, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1866 probably occurred in May 1949 (stage and discharge unknown). Maximum stages have been affected by levee construction, levee breaks, and channel rectification.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,530 ft³/s June 1 at 0630 hours (gage height, 17.83 ft); minimum daily, 2.0 ft³/s Aug. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	e30	34	433	41	34	82	45	2840	31	58	5.6
2	21	e28	14	331	42	630	71	37	782	26	57	13
3	e20	e28	36	273	43	101	42	32	217	442	36	238
4	e18	e27	36	186	44	50	35	26	85	217	19	83
5	e17	e26	29	123	42	39	30	22	62	50	21	33
6	e15	e26	44	102	42	29	25	21	54	31	44	20
7	e14	e24	38	136	43	26	24	17	50	23	15	13
8	e13	23	45	122	43	24	28	25	45	21	6.2	9.5
9	e12	27	69	117	43	21	26	32	41	17	3.9	6.7
10	e12	40	44	83	43	17	30	24	33	19	4.4	6.1
11	12	36	36	69	44	16	31	19	29	133	9.1	7.2
12	13	31	53	61	43	14	34	47	30	123	20	6.8
13	13	26	76	57	43	12	33	42	30	49	19	23
14	30	25	139	49	41	12	30	38	27	33	20	319
15	17	993	87	47	39	12	31	33	25	18	25	292
16	14	384	63	45	35	14	30	256	28	13	17	52
17	14	97	65	45	35	111	308	71	30	12	15	448
18	23	67	77	47	318	108	140	31	33	12	12	1060
19	60	59	1280	46	96	43	48	20	30	9.1	30	106
20	62	49	207	53	50	34	40	282	32	7.4	99	52
21	64	41	127	46	44	30	35	293	27	7.0	142	35
22	57	40	118	39	41	27	28	52	25	8.5	59	31
23	41	40	113	38	40	26	26	35	23	9.1	24	25
24	27	43	172	36	38	29	27	28	20	9.5	9.0	32
25	23	465	723	30	34	32	97	33	20	6.9	5.3	27
26	24	73	1220	35	35	29	44	47	35	4.0	2.6	21
27	24	80	224	39	35	26	31	46	41	3.1	2.0	15
28	18	67	191	39	33	26	27	42	46	18	2.4	14
29	17	53	250	39	37	126	79	25	114	55	11	872
30	40	43	338	39	---	66	93	26	42	56	11	961
31	e30	---	429	40	---	44	---	131	---	58	11	---
TOTAL	788	2991	6377	2845	1507	1808	1605	1878	4896	1521.6	809.9	4826.9
MEAN	25.4	99.7	206	91.8	52.0	58.3	53.5	60.6	163	49.1	26.1	161
MAX	64	993	1280	433	318	630	308	293	2840	442	142	1060
MIN	12	23	14	30	33	12	24	17	20	3.1	2.0	5.6
AC-FT	1560	5930	12650	5640	2990	3590	3180	3730	9710	3020	1610	9570

CAL YR 1987 TOTAL 224980.9 MEAN 616 MAX 4590 MIN 6.5 AC-FT 446200
WTR YR 1988 TOTAL 31853.4 MEAN 87.0 MAX 2840 MIN 2.0 AC-FT 63180

e Estimated.

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1976 to current year.
pH: October 1976 to current year.
WATER TEMPERATURE: October 1976 to current year.
DISSOLVED OXYGEN: October 1976 to current year.

INSTRUMENTATION.--Beginning October 1976, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance continuously at this station. Beginning this year, the satellite downlink was extended to include water-quality parameters such that unit-values can be accessed on a timely basis.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument, pump, or power failure. 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. Dissolved oxygen values bypassing saturation can be attributed to algae blooms in close proximity to the well intake.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,000 microsiemens Nov. 6, 1978; minimum, 102 microsiemens June 7, 1982 and May 9, 1986.
pH: Maximum, 9.8 units Aug. 8, Sept. 2. 1980; minimum, 6.6 units Aug. 15, 1987.
WATER TEMPERATURE: Maximum, 38.0°C July 14, 16, 1978; minimum, 0.0°C Jan. 31, Feb. 1, 2, 1985.
DISSOLVED OXYGEN: Maximum, 22.1 mg/L Oct. 4, 1983; minimum, 0.0 mg/L on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,300 microsiemens Feb. 5; minimum, 122 microsiemens Sept. 14.
pH: Maximum, 8.7 units June 9; minimum, 7.2 units Aug. 20 and Sept. 17, 18.
WATER TEMPERATURE: Maximum, 36.5°C Aug. 8; minimum, 2.0°C Jan. 10.
DISSOLVED OXYGEN: Maximum, 19.8 mg/L June 7; minimum, 0.2 mg/L Aug. 20, and Sept. 17, 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV										
10...	1315	41	580	7.68	14.0	8.5	82	2.3	180	10
FEB										
09...	1100	43	700	8.10	9.0	15.4	133	1.6	220	35
APR										
08...	1100	37	562	7.70	21.0	7.8	89	2.1	190	37
17...	1614	534	--	--	--	--	--	--	--	--
17...	1814	853	--	--	--	--	--	--	--	--
17...	2014	829	--	--	--	--	--	--	--	--
17...	2214	489	--	--	--	--	--	--	--	--
MAY										
20...	1546	53	--	--	--	--	--	--	--	--
20...	1946	653	--	--	--	--	--	--	--	--
20...	2146	841	--	--	--	--	--	--	--	--
20...	2346	909	--	--	--	--	--	--	--	--
21...	0146	676	--	--	--	--	--	--	--	--
21...	0346	464	--	--	--	--	--	--	--	--
21...	0546	291	--	--	--	--	--	--	--	--
21...	0746	203	--	--	--	--	--	--	--	--
21...	0946	163	--	--	--	--	--	--	--	--
31...	2040	160	--	--	--	--	--	--	--	--
31...	2240	812	--	--	--	--	--	--	--	--
JUN										
01...	0040	1090	--	--	--	--	--	--	--	--
01...	0240	3920	--	--	--	--	--	--	--	--
01...	0640	5540	--	--	--	--	--	--	--	--
01...	0840	5210	--	--	--	--	--	--	--	--
01...	1040	4560	--	--	--	--	--	--	--	--
01...	1240	3610	--	--	--	--	--	--	--	--
01...	1440	2320	--	--	--	--	--	--	--	--
01...	1640	1110	--	--	--	--	--	--	--	--
01...	1840	561	--	--	--	--	--	--	--	--
08...	0900	50	388	7.80	28.5	11.9	156	3.0	130	29
JUL										
03...	1713	610	--	--	--	--	--	--	--	--
03...	1913	1510	--	--	--	--	--	--	--	--
03...	2113	1540	--	--	--	--	--	--	--	--
03...	2313	1140	--	--	--	--	--	--	--	--
04...	0113	583	--	--	--	--	--	--	--	--
04...	0313	285	--	--	--	--	--	--	--	--
04...	0513	191	--	--	--	--	--	--	--	--
04...	0713	156	--	--	--	--	--	--	--	--
04...	1113	124	--	--	--	--	--	--	--	--
04...	1313	111	--	--	--	--	--	--	--	--
04...	1513	98	--	--	--	--	--	--	--	--
25...	1225	11	452	8.00	31.0	8.8	120	2.2	140	18
SEP										
06...	1400	32	400	8.00	28.5	8.8	116	--	120	20
29...	0325	872	--	--	--	--	--	--	--	--

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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 WAT WH TOT FET 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)
NOV									
10...	59	7.3	49	2	11	168	54	49	0.40
FEB									
09...	75	8.9	43	1	19	189	79	50	0.40
APR									
08...	61	8.0	40	1	6.6	149	64	42	0.40
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
MAY									
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
JUN									
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
08...	44	4.8	23	0.9	5.9	101	43	24	0.20
JUL									
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
25...	45	7.0	33	1	5.0	123	40	37	0.50
SEP									
06...	38	6.7	31	1	4.7	103	32	34	0.30
29...	--	--	--	--	--	--	--	--	--

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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-PHOROUS TOTAL (MG/L AS P)
NOV									
10...	5.8	336	0.460	0.040	0.500	0.180	0.92	1.1	0.100
FEB									
09...	2.6	391	0.560	0.040	0.600	0.240	1.8	2.0	0.050
APR									
08...	3.1	314	0.160	0.040	0.200	0.190	0.51	0.70	0.100
17...	--	--	0.430	0.070	0.500	0.050	0.65	0.70	0.150
17...	--	--	0.530	0.070	0.600	0.080	0.82	0.90	0.080
17...	--	--	0.810	0.090	0.900	0.180	1.1	1.3	0.140
17...	--	--	0.460	0.040	0.500	0.080	0.72	0.80	0.050
MAY									
20...	--	--	0.130	0.070	0.200	0.300	0.50	0.80	0.190
20...	--	--	0.320	0.080	0.400	0.300	0.50	0.80	0.160
20...	--	--	0.400	0.100	0.500	0.270	0.63	0.90	0.130
20...	--	--	0.340	0.060	0.400	0.150	0.45	0.60	0.060
21...	--	--	0.350	0.050	0.400	0.130	0.47	0.60	0.080
21...	--	--	0.350	0.050	0.400	0.130	0.57	0.70	0.070
21...	--	--	0.260	0.040	0.300	0.170	0.43	0.60	0.060
21...	--	--	0.260	0.040	0.300	0.160	0.54	0.70	0.070
21...	--	--	0.270	0.030	0.300	0.140	0.46	0.60	0.070
31...	--	--	0.720	0.080	0.800	0.050	0.35	0.40	0.120
31...	--	--	--	<0.010	<0.100	<0.010	--	0.50	0.250
JUN									
01...	--	--	0.520	0.080	0.600	0.090	0.31	0.40	0.130
01...	--	--	0.760	0.140	0.900	0.180	0.22	0.40	0.130
01...	--	--	0.640	0.060	0.700	0.040	0.36	0.40	0.100
01...	--	--	0.650	0.050	0.700	0.040	0.36	0.40	0.090
01...	--	--	0.630	0.070	0.700	0.050	0.65	0.70	0.130
01...	--	--	0.530	0.070	0.600	0.070	0.73	0.80	0.140
01...	--	--	0.530	0.070	0.600	0.070	0.43	0.50	0.140
01...	--	--	0.640	0.060	0.700	0.050	0.65	0.70	0.120
01...	--	--	0.630	0.070	0.700	0.060	0.54	0.60	0.120
08...	5.3	211	0.270	0.030	0.300	0.040	0.76	0.80	0.050
JUL									
03...	--	--	--	0.020	<0.100	0.470	1.3	1.8	0.630
03...	--	--	0.440	0.060	0.500	0.130	0.67	0.80	0.130
03...	--	--	0.260	0.040	0.300	0.150	0.95	1.1	0.140
03...	--	--	0.260	0.040	0.300	0.090	1.3	1.4	0.190
04...	--	--	0.250	0.050	0.300	0.130	1.7	1.8	0.230
04...	--	--	0.070	0.030	0.100	0.050	1.7	1.7	0.230
04...	--	--	0.860	0.040	0.900	0.120	0.88	1.0	0.120
04...	--	--	0.360	0.040	0.400	0.160	0.74	0.90	0.200
04...	--	--	0.370	0.030	0.400	0.140	1.1	1.2	0.130
04...	--	--	0.480	0.020	0.500	0.120	0.78	0.90	0.080
04...	--	--	0.580	0.020	0.600	0.120	0.68	0.80	0.070
25...	6.2	247	--	<0.010	<0.100	0.040	0.76	0.80	0.050
SEP									
06...	6.5	215	--	0.010	<0.100	<0.010	--	0.50	0.100
29...	--	--	0.260	0.040	0.300	0.070	0.33	0.40	0.090

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	788	529	303	644	42	90	54	116	180
NOV.	1987	2991	443	253	2040	31	254	44	354	160
DEC.	1987	6377	367	209	3600	23	401	35	605	140
JAN.	1988	2845	514	294	2260	41	312	53	404	170
FEB.	1988	1507	637	365	1490	59	242	69	281	190
MAR.	1988	1808	523	299	1460	41	202	54	262	170
APR.	1988	1605	522	298	1290	41	179	53	232	170
MAY	1988	1878	450	257	1300	32	164	45	226	160
JUNE	1988	4896	286	163	2160	16	216	27	352	110
JULY	1988	1521.6	411	235	964	28	113	40	164	150
AUG.	1988	809.9	468	267	585	34	75	47	102	160
SEPT	1988	4826.9	303	173	2250	17	221	28	366	120
TOTAL		31853.4	**	**	20000	**	2470	**	3460	**
WTD.AVG.		87	408	233	**	29	**	40	**	150

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	482	470	473	536	524	530	---	---	463	440	436	437
2	484	468	478	528	520	524	510	478	490	446	440	442
3	482	474	480	534	524	529	582	476	509	454	446	449
4	482	474	479	538	530	534	488	472	480	468	454	460
5	496	484	490	550	534	543	492	482	485	490	468	479
6	512	496	502	548	532	540	498	470	486	526	492	503
7	514	508	510	552	540	547	514	476	496	528	500	510
8	528	512	519	570	554	561	496	462	487	592	500	519
9	548	528	531	592	554	575	482	460	472	536	506	518
10	592	552	574	622	542	580	508	466	491	556	538	545
11	556	520	538	602	570	578	532	504	515	584	556	566
12	546	528	537	570	558	561	548	492	526	580	566	572
13	572	546	555	584	564	572	526	490	504	602	578	591
14	624	560	568	586	574	581	508	442	473	614	602	609
15	774	578	669	---	---	457	452	442	447	620	612	614
16	576	552	567	---	---	370	454	440	449	614	602	608
17	566	560	562	---	---	382	450	442	446	614	602	607
18	564	538	555	---	---	392	456	442	448	616	484	599
19	558	512	533	---	---	396	---	---	365	626	398	580
20	516	494	506	---	---	435	---	---	333	632	610	625
21	508	486	497	---	---	455	---	---	356	614	556	596
22	566	510	526	---	---	475	378	340	347	---	---	573
23	534	510	520	---	---	493	420	382	404	---	---	604
24	542	534	538	---	---	501	428	340	404	---	---	615
25	544	534	540	---	---	407	432	210	361	---	---	632
26	540	514	524	---	---	398	280	236	258	648	636	640
27	532	516	524	---	---	406	360	286	322	650	636	642
28	538	520	526	---	---	423	362	274	317	646	634	640
29	532	522	527	---	---	443	444	280	357	642	630	636
30	710	522	545	---	---	450	444	438	441	650	630	638
31	714	536	615	---	---	---	440	436	437	650	634	642
MONTH	774	468	533	622	520	488	582	210	431	650	398	571

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	648	628	639	588	568	578	---	---	553	516	502	510
2	652	636	642	---	---	478	---	---	592	514	503	508
3	662	646	653	---	---	449	---	---	589	520	507	512
4	960	640	730	536	486	515	---	---	590	523	514	519
5	1300	900	1060	---	---	547	---	---	603	534	525	530
6	1220	862	965	---	---	555	---	---	598	550	532	540
7	858	758	793	---	---	577	---	---	583	553	540	548
8	772	710	739	596	576	586	706	528	608	569	549	555
9	716	684	699	590	566	578	612	532	557	567	535	550
10	714	684	697	586	558	573	548	532	541	547	532	542
11	688	662	676	584	566	577	556	548	551	550	539	545
12	686	670	676	646	582	607	---	---	553	614	537	560
13	688	662	677	602	576	587	588	572	579	540	509	529
14	664	640	651	576	570	573	580	540	563	669	497	556
15	654	624	639	580	574	578	596	580	587	522	499	510
16	656	628	644	584	580	582	---	---	582	507	258	441
17	662	642	652	586	394	503	---	---	510	454	401	429
18	666	392	559	514	462	494	470	438	450	480	456	462
19	524	488	504	548	516	532	518	462	496	484	470	479
20	572	524	554	560	546	549	532	518	523	496	144	420
21	588	570	577	560	546	554	---	---	528	388	312	355
22	600	582	588	566	544	556	---	---	530	430	388	409
23	602	584	593	570	552	562	---	---	525	598	430	472
24	606	580	594	578	554	569	524	430	517	946	486	595
25	606	578	593	578	564	569	494	424	456	576	484	520
26	604	566	588	582	568	572	508	462	486	496	410	457
27	600	564	583	594	580	586	522	497	506	488	414	437
28	592	556	574	596	582	589	524	504	516	428	404	414
29	584	564	575	---	---	593	520	304	463	440	420	427
30	---	---	---	---	---	591	502	456	482	488	444	458
31	---	---	---	---	---	593	---	---	---	484	254	432
MONTH	1300	392	659	646	394	560	706	304	541	946	144	491

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	260	178	231	470	456	463	464	440	458	514	486	501
2	294	138	241	510	466	475	458	448	451	584	492	510
3	322	246	292	580	128	411	466	444	454	506	154	383
4	366	324	348	392	352	375	484	466	475	420	402	413
5	392	362	378	412	384	400	552	464	485	418	394	404
6	394	380	387	444	392	422	602	458	522	420	400	410
7	404	374	391	440	430	435	520	458	480	426	404	416
8	388	362	381	460	438	444	494	454	475	440	414	423
9	404	382	390	446	436	441	480	466	476	434	420	426
10	432	408	422	478	420	440	516	482	500	446	434	439
11	452	434	441	444	352	389	516	476	501	480	448	454
12	464	440	454	390	348	369	504	484	495	460	446	452
13	462	440	453	394	372	384	512	486	500	460	282	437
14	478	450	463	396	366	382	498	480	490	426	122	341
15	484	466	477	418	390	404	496	472	482	396	246	359
16	506	480	489	440	420	431	490	456	468	402	374	389
17	518	474	489	442	432	436	478	466	472	400	178	370
18	530	504	517	470	444	452	498	478	489	386	226	262
19	526	486	507	480	466	472	496	364	476	268	226	245
20	572	490	511	500	472	479	528	386	462	296	272	288
21	566	506	538	498	478	490	462	434	441	326	294	308
22	538	502	525	492	464	481	454	438	447	328	312	320
23	576	532	550	478	452	469	460	440	448	---	---	347
24	576	542	563	466	444	457	488	454	469	---	---	351
25	596	532	561	462	440	452	484	462	476	---	---	381
26	786	590	636	490	448	459	526	482	501	---	---	364
27	628	552	577	486	466	472	528	518	523	---	---	352
28	592	450	533	492	480	487	528	504	514	362	344	352
29	768	472	513	478	434	452	506	488	497	---	---	256
30	500	468	487	464	440	454	674	502	554	---	---	277
31	---	---	---	464	446	458	652	494	540	---	---	---
MONTH	786	138	458	580	128	440	674	364	485	584	122	374

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.0	7.6	7.8	8.2	7.7	7.9	---	---	---	8.3	8.2	8.3
2	8.1	7.6	7.8	8.0	7.7	7.8	7.7	7.6	7.7	8.4	8.2	8.3
3	8.0	7.6	7.7	8.0	7.6	7.8	7.8	7.6	7.7	8.4	8.3	8.3
4	8.0	7.6	7.8	8.0	7.7	7.8	7.8	7.7	7.7	8.3	8.2	8.3
5	8.0	7.7	7.8	7.9	7.6	7.7	7.8	7.7	7.8	8.2	8.1	8.2
6	8.0	7.7	7.8	8.0	7.6	7.7	7.9	7.7	7.8	8.2	8.1	8.1
7	8.0	7.7	7.8	8.1	7.6	7.8	7.8	7.6	7.7	8.2	8.1	8.1
8	8.0	7.7	7.8	7.8	7.7	7.7	8.2	7.7	7.9	8.2	8.1	8.1
9	8.1	7.7	7.9	7.7	7.6	7.7	8.3	7.8	8.0	8.1	8.1	8.1
10	8.2	7.8	7.9	7.7	7.5	7.6	8.2	7.7	7.8	8.1	8.0	8.0
11	8.1	7.7	7.9	7.9	7.7	7.8	8.0	7.7	7.9	8.1	8.0	8.0
12	8.0	7.7	7.8	8.0	7.9	7.9	8.4	7.8	8.0	8.1	8.0	8.0
13	8.0	7.7	7.9	8.0	7.9	7.9	8.3	7.7	7.9	8.1	8.0	8.0
14	8.0	7.8	7.9	8.0	7.8	7.9	8.0	7.8	7.8	8.0	8.0	8.0
15	8.2	7.8	8.0	---	---	---	8.3	7.9	8.0	8.1	7.9	8.0
16	8.0	7.7	7.9	---	---	---	8.3	7.8	8.0	7.9	7.9	7.9
17	8.0	7.7	7.8	---	---	---	8.3	7.8	8.0	7.9	7.8	7.8
18	7.9	7.6	7.7	---	---	---	8.2	7.9	8.0	7.9	7.7	7.8
19	7.8	7.7	7.7	---	---	---	---	---	---	---	---	---
20	8.0	7.7	7.9	---	---	---	---	---	---	8.0	7.8	7.9
21	8.0	7.8	7.9	---	---	---	---	---	---	8.0	7.8	7.9
22	8.0	7.8	7.9	---	---	---	7.8	7.7	7.8	---	---	---
23	7.9	7.7	7.9	---	---	---	7.9	7.8	7.8	---	---	---
24	7.8	7.7	7.7	---	---	---	8.0	7.8	7.9	---	---	---
25	7.8	7.6	7.7	---	---	---	8.0	7.8	7.9	---	---	---
26	8.0	7.7	7.8	---	---	---	7.9	7.8	7.9	8.1	7.9	8.0
27	7.9	7.6	7.8	---	---	---	7.9	7.8	7.9	8.1	7.9	8.0
28	7.9	7.6	7.7	---	---	---	7.9	7.8	7.9	8.1	7.9	8.0
29	8.2	7.7	7.9	---	---	---	8.1	7.9	8.0	8.1	7.9	8.0
30	8.2	7.8	7.9	---	---	---	8.3	8.1	8.2	8.2	7.9	8.0
31	8.2	7.7	7.9	---	---	---	8.3	8.3	8.3	8.2	7.9	8.0
MONTH	8.2	7.6	7.8	8.2	7.5	7.8	8.4	7.6	7.9	8.4	7.7	8.0

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.2	7.8	8.0	8.1	7.7	7.9	---	---	---	7.7	7.5	7.6
2	8.1	7.9	8.0	---	---	---	---	---	---	7.7	7.6	7.6
3	8.2	7.9	8.0	---	---	---	---	---	---	7.8	7.6	7.7
4	8.2	8.0	8.1	7.9	7.8	7.8	---	---	---	7.8	7.6	7.7
5	8.3	8.2	8.3	---	---	---	---	---	---	7.8	7.6	7.7
6	8.3	8.2	8.2	---	---	---	---	---	---	7.8	7.6	7.7
7	8.4	8.1	8.2	---	---	---	---	---	---	7.8	7.6	7.7
8	8.2	8.0	8.1	8.0	7.5	7.7	7.8	7.5	7.6	8.1	7.6	7.8
9	8.3	8.0	8.1	8.3	7.5	7.9	7.8	7.5	7.6	7.9	7.7	7.8
10	8.3	8.0	8.1	8.4	7.6	7.9	7.9	7.5	7.6	7.9	7.7	7.8
11	8.3	8.1	8.2	8.4	7.7	8.0	---	---	---	8.0	7.6	7.8
12	8.3	8.0	8.2	8.4	7.6	7.9	---	---	---	7.9	7.4	7.6
13	8.2	8.0	8.1	8.3	7.6	7.9	8.2	7.9	8.0	8.1	7.6	7.8
14	8.3	8.0	8.2	8.3	7.6	7.9	8.3	7.8	8.0	8.0	7.7	7.9
15	8.4	7.9	8.2	8.5	7.7	8.0	8.2	7.8	8.0	8.2	7.8	8.0
16	8.4	7.9	8.1	8.2	7.6	7.9	---	---	---	8.1	7.4	7.7
17	8.3	7.8	8.0	7.9	7.6	7.8	---	---	---	8.0	7.4	7.6
18	8.1	7.8	7.9	8.2	7.9	8.1	7.7	7.5	7.6	8.1	7.5	7.8
19	8.0	7.9	8.0	8.1	7.9	8.0	7.7	7.5	7.6	8.3	7.6	7.9
20	8.0	7.8	7.9	8.1	7.8	8.0	7.8	7.5	7.6	8.1	7.5	7.7
21	8.0	7.9	8.0	8.2	7.8	8.0	---	---	---	7.9	7.4	7.6
22	8.2	7.9	8.0	8.3	7.8	8.0	---	---	---	7.9	7.5	7.6
23	8.2	7.9	8.1	8.2	7.8	7.9	---	---	---	8.2	7.5	7.7
24	8.3	7.9	8.1	8.1	7.8	7.9	7.6	7.5	7.5	8.3	7.6	8.0
25	8.4	7.8	8.1	7.8	7.6	7.7	8.0	7.3	7.6	8.3	7.6	7.9
26	8.3	7.8	8.0	7.8	7.5	7.7	8.0	7.5	7.7	8.3	7.6	8.0
27	8.3	7.8	8.0	7.9	7.5	7.7	7.7	7.6	7.7	8.2	7.5	7.9
28	8.3	7.8	8.0	8.0	7.6	7.8	7.8	7.6	7.6	8.0	7.5	7.8
29	8.2	7.7	7.9	7.9	7.6	7.7	7.7	7.4	7.6	7.7	7.4	7.6
30	---	---	---	---	---	---	7.6	7.5	7.5	7.5	7.3	7.4
31	---	---	---	---	---	---	---	---	---	7.7	7.3	7.4
MONTH	8.4	7.7	8.1	8.5	7.5	7.9	8.3	7.3	7.7	8.3	7.3	7.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.8	7.4	7.5	8.4	7.5	7.9	8.6	7.6	8.0	8.0	7.5	7.8
2	7.8	7.3	7.5	8.5	7.5	8.0	8.6	7.7	8.1	7.9	7.6	7.7
3	7.6	7.3	7.4	8.1	7.4	7.7	8.4	7.7	8.1	7.9	7.4	7.6
4	7.5	7.4	7.4	7.8	7.3	7.5	8.5	7.9	8.1	8.0	7.5	7.7
5	7.6	7.4	7.5	8.2	7.5	7.8	8.3	7.7	8.0	8.0	7.6	7.7
6	8.3	7.5	7.8	8.4	7.5	7.9	7.7	7.4	7.6	7.8	7.6	7.7
7	8.6	7.8	8.2	8.3	7.6	7.9	7.9	7.6	7.7	8.0	7.6	7.7
8	8.6	7.7	8.1	8.3	7.6	7.9	7.9	7.5	7.7	8.1	7.6	7.8
9	8.7	7.6	8.2	8.3	7.7	8.0	7.8	7.5	7.6	8.0	7.6	7.7
10	8.5	7.7	8.1	8.2	7.6	7.9	7.9	7.5	7.7	7.9	7.5	7.7
11	8.3	7.7	8.0	7.7	7.4	7.5	7.6	7.5	7.6	7.9	7.5	7.7
12	8.3	7.7	8.0	7.9	7.4	7.6	7.6	7.4	7.5	8.0	7.5	7.7
13	8.4	7.8	8.1	8.4	7.6	7.9	8.0	7.6	7.9	8.0	7.5	7.7
14	8.5	7.5	8.0	8.5	7.7	8.1	8.0	7.8	7.9	8.1	7.4	7.7
15	8.4	7.7	8.1	8.4	7.7	8.1	8.1	7.8	7.9	8.0	7.4	7.6
16	8.2	7.7	7.9	8.4	7.7	8.0	8.0	7.7	7.9	7.7	7.4	7.6
17	8.4	7.7	8.0	8.3	7.7	8.0	8.0	7.7	7.9	7.8	7.2	7.5
18	8.3	7.6	8.0	8.4	7.7	8.0	7.9	7.6	7.7	7.6	7.2	7.4
19	8.1	7.5	7.8	8.3	7.7	8.0	7.9	7.3	7.7	7.6	7.5	7.6
20	7.8	7.5	7.7	8.2	7.6	7.9	7.6	7.2	7.3	7.5	7.4	7.5
21	8.1	7.5	7.8	8.3	7.6	7.9	7.7	7.3	7.4	7.6	7.4	7.4
22	8.3	7.6	7.9	8.4	7.8	8.1	7.6	7.3	7.5	7.7	7.4	7.5
23	8.3	7.6	7.9	8.3	7.8	8.0	7.6	7.4	7.5	---	---	---
24	8.1	7.6	7.8	8.3	7.8	8.0	7.8	7.4	7.6	---	---	---
25	7.8	7.5	7.6	8.3	7.7	8.0	8.0	7.5	7.7	---	---	---
26	7.8	7.5	7.7	8.2	7.6	7.9	7.7	7.4	7.5	---	---	---
27	7.7	7.4	7.5	8.4	7.6	8.0	7.7	7.4	7.5	---	---	---
28	7.6	7.4	7.5	8.4	7.7	8.0	7.6	7.4	7.5	8.0	7.6	7.7
29	8.4	7.4	7.8	8.5	7.6	8.0	7.5	7.3	7.4	---	---	---
30	8.4	7.7	8.0	8.5	7.6	8.0	7.4	7.3	7.3	---	---	---
31	---	---	---	8.4	7.6	8.0	7.8	7.4	7.6	---	---	---
MONTH	8.7	7.3	7.8	8.5	7.3	7.9	8.6	7.2	7.7	8.1	7.2	7.6

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	26.0	21.0	23.0	23.5	20.5	21.5	---	---	---	7.5	6.0	6.5
2	26.0	21.0	23.0	22.0	20.0	21.0	13.5	9.0	11.5	7.0	6.0	6.5
3	24.0	20.0	21.5	23.0	18.5	20.5	14.5	12.0	13.5	8.0	6.5	7.0
4	24.0	18.5	21.0	24.0	19.0	21.0	15.0	13.0	13.5	7.5	6.0	7.0
5	25.0	19.0	21.5	23.0	19.5	21.0	16.0	13.5	15.0	6.5	6.0	6.5
6	24.0	20.0	21.5	20.5	17.5	19.0	18.5	16.0	17.5	6.5	3.5	5.0
7	24.0	19.0	21.0	18.5	16.5	17.5	17.5	14.5	16.0	4.0	3.5	4.0
8	24.0	19.0	21.5	17.5	16.5	17.0	15.5	13.5	14.5	4.5	2.5	3.5
9	26.0	20.0	22.5	16.5	13.5	15.0	14.5	12.5	14.0	5.0	3.0	4.0
10	27.5	21.5	24.0	14.5	12.0	13.0	14.5	12.5	13.5	4.5	2.0	3.5
11	23.0	19.0	21.0	14.0	11.0	12.0	15.0	12.5	13.5	6.5	3.0	4.5
12	22.5	17.5	19.5	15.0	11.0	12.5	13.0	12.0	12.5	9.0	6.5	7.5
13	22.0	17.0	19.0	16.0	12.0	13.5	12.5	10.5	11.5	7.0	4.5	5.5
14	21.5	18.0	19.5	16.0	13.5	14.5	10.5	8.5	10.0	6.5	4.5	5.5
15	22.5	18.0	20.0	---	---	---	9.0	7.0	8.0	8.0	4.5	6.5
16	24.0	20.0	21.5	---	---	---	9.0	7.0	8.0	11.5	8.5	10.0
17	24.0	20.5	22.0	---	---	---	9.0	7.5	8.0	13.5	11.5	12.0
18	24.0	20.5	22.0	---	---	---	9.0	8.0	8.0	12.5	10.5	11.0
19	22.0	21.0	21.5	---	---	---	---	---	---	13.5	11.0	12.0
20	21.0	18.5	19.5	---	---	---	---	---	---	11.0	8.5	9.5
21	19.5	16.5	18.0	---	---	---	---	---	---	9.5	7.5	8.5
22	18.0	16.0	17.0	---	---	---	12.5	10.0	11.0	---	---	---
23	18.5	17.0	17.5	---	---	---	12.5	10.5	11.0	---	---	---
24	22.0	18.5	20.0	---	---	---	15.0	11.5	13.0	---	---	---
25	23.0	21.0	21.5	---	---	---	11.5	7.0	9.5	---	---	---
26	24.0	21.0	22.0	---	---	---	8.0	6.5	7.0	9.5	6.0	7.5
27	22.5	19.0	21.0	---	---	---	8.0	6.0	7.0	10.5	7.5	9.0
28	21.5	17.5	19.0	---	---	---	7.5	5.5	6.5	12.5	9.0	10.5
29	22.0	17.5	19.5	---	---	---	6.5	5.0	5.5	14.5	11.5	13.0
30	23.0	20.0	21.0	---	---	---	7.5	6.0	6.5	16.5	13.5	15.0
31	23.5	20.5	21.5	---	---	---	8.0	7.0	7.5	17.5	15.5	16.5
MONTH	27.5	16.0	21.0	24.0	11.0	17.0	18.5	5.0	11.0	17.5	2.0	8.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	18.0	14.5	16.5	20.5	17.0	18.5	---	---	---	24.5	20.5	22.5
2	14.5	8.5	11.0	---	---	---	---	---	---	23.0	20.5	21.5
3	8.0	7.5	8.0	---	---	---	---	---	---	24.0	20.0	22.0
4	7.5	5.5	6.5	15.0	11.0	13.0	---	---	---	25.5	20.5	23.0
5	5.5	4.5	5.0	---	---	---	---	---	---	27.5	21.5	24.0
6	6.5	3.0	5.0	---	---	---	---	---	---	26.0	23.5	24.5
7	7.5	5.0	6.5	---	---	---	---	---	---	23.0	22.0	22.5
8	9.0	7.0	7.5	18.0	14.5	16.5	24.5	21.0	22.5	27.0	21.5	24.0
9	10.0	8.5	9.0	17.5	13.0	15.0	23.0	19.0	21.0	27.5	23.0	25.0
10	10.0	7.5	8.5	19.0	13.0	15.5	19.0	15.5	17.5	28.5	23.5	25.5
11	7.0	4.5	5.5	20.5	14.5	17.0	17.5	13.5	15.5	27.5	24.5	25.5
12	8.5	4.0	6.0	19.5	15.0	17.0	19.5	14.0	17.0	27.5	23.5	25.5
13	11.5	7.5	9.5	16.5	12.0	14.5	22.5	16.5	19.5	28.5	24.5	26.5
14	14.5	10.5	12.5	15.0	10.5	12.5	24.5	19.0	21.0	28.0	25.0	26.5
15	13.0	10.5	11.5	16.5	10.0	13.0	26.0	21.0	23.0	28.0	24.5	26.0
16	14.5	10.0	12.0	13.5	12.5	13.0	25.5	22.5	23.5	28.5	23.0	26.0
17	14.0	12.5	13.5	12.5	10.5	12.0	22.5	20.0	21.5	29.5	25.0	27.5
18	13.0	10.0	11.5	12.5	9.0	11.0	20.0	17.0	19.0	30.0	26.5	28.0
19	13.0	9.5	11.5	14.0	10.0	12.0	20.0	15.0	17.5	30.0	25.5	27.5
20	13.5	10.5	12.0	18.0	12.5	15.0	24.0	19.0	21.0	28.5	23.0	26.0
21	15.0	11.5	13.5	20.0	14.5	17.0	23.5	21.5	22.5	28.5	24.5	26.0
22	15.5	12.5	14.0	21.0	16.0	18.5	26.5	22.5	24.0	25.5	22.0	23.5
23	15.0	12.5	13.5	21.5	18.0	19.5	27.5	23.5	25.0	29.0	23.5	26.0
24	14.5	11.0	12.5	24.5	19.5	22.0	25.5	21.0	23.0	30.0	25.0	27.5
25	16.0	11.0	13.5	24.0	20.5	22.0	25.0	20.0	22.5	33.0	25.5	29.0
26	17.5	13.5	15.0	22.5	19.5	21.0	25.0	21.0	23.0	31.5	28.0	29.5
27	19.0	15.5	17.0	22.5	18.5	20.0	23.5	20.5	22.0	31.5	27.0	29.5
28	20.0	15.5	17.5	22.5	20.0	21.0	25.0	20.5	22.5	31.5	27.5	29.5
29	20.0	17.0	18.0	---	---	---	23.0	21.0	22.0	31.5	28.0	29.5
30	---	---	---	---	---	---	22.5	20.0	21.0	32.0	27.0	29.0
31	---	---	---	---	---	---	---	---	---	32.0	22.5	29.0
MONTH	20.0	3.0	11.0	24.5	9.0	16.5	27.5	13.5	21.0	33.0	20.0	26.0

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	26.5	21.0	24.0	35.5	30.5	32.5	32.5	29.5	31.5	31.0	26.5	28.5
2	24.0	21.0	23.0	35.0	31.0	33.0	32.0	29.0	31.0	31.5	28.0	29.5
3	26.5	22.0	24.5	33.5	26.5	30.5	32.0	29.0	30.5	29.0	25.0	27.5
4	27.5	23.5	25.5	34.0	29.5	31.0	33.5	29.5	31.0	27.5	25.0	26.5
5	27.5	24.5	26.0	33.5	29.5	31.5	34.5	30.0	31.5	28.0	24.5	26.5
6	29.0	26.0	27.5	33.5	30.0	31.5	33.5	30.5	32.0	29.5	25.0	27.0
7	30.5	27.0	29.0	33.0	29.5	31.0	36.0	31.0	33.5	29.5	25.5	27.0
8	32.0	28.0	29.5	31.5	28.5	29.5	36.5	31.5	34.0	29.5	25.0	27.0
9	32.0	28.5	30.0	33.0	28.0	30.0	36.0	31.0	33.5	29.5	25.0	27.0
10	30.5	27.5	29.0	34.0	29.5	31.0	35.5	30.5	32.5	29.5	25.5	27.5
11	30.5	25.5	28.0	30.5	27.5	29.0	34.0	30.5	32.0	30.5	26.0	28.0
12	30.5	25.5	28.0	32.0	28.0	30.0	34.0	30.5	32.0	31.0	26.5	28.5
13	31.5	26.5	28.5	33.5	30.0	32.0	34.5	30.5	32.0	31.0	27.0	28.5
14	32.0	27.0	29.0	33.5	30.0	32.0	34.5	30.5	32.0	30.0	25.0	27.5
15	31.5	27.5	29.5	34.5	30.0	32.0	33.0	31.0	32.0	32.5	27.5	29.5
16	32.0	27.5	29.5	35.0	29.5	32.0	34.5	30.5	32.0	31.0	29.0	30.0
17	32.0	28.0	29.5	35.5	30.0	32.5	34.0	30.5	32.0	31.0	28.0	29.5
18	32.5	28.0	30.0	35.0	30.0	32.5	35.0	30.5	32.5	32.0	27.0	29.5
19	32.5	28.5	30.0	32.0	30.0	31.0	34.5	30.0	31.5	28.5	26.0	27.5
20	32.5	27.5	30.0	30.5	28.0	29.5	32.0	29.0	30.0	28.0	26.0	27.0
21	33.5	28.0	30.5	32.0	26.5	29.0	34.0	29.5	31.5	31.0	27.5	28.5
22	34.0	28.5	31.0	33.5	27.5	30.0	33.5	30.5	32.0	31.5	28.0	29.5
23	33.5	29.0	31.0	33.5	28.0	30.5	35.0	31.0	33.0	---	---	---
24	34.0	29.0	31.5	32.5	28.0	30.0	35.0	31.0	32.5	---	---	---
25	32.5	29.5	30.5	32.0	28.0	30.0	35.5	30.5	32.5	---	---	---
26	33.5	29.0	31.0	35.0	28.0	31.0	33.5	30.0	31.5	---	---	---
27	33.0	30.5	31.5	34.0	29.0	31.5	33.5	29.0	31.0	---	---	---
28	33.0	29.5	31.0	34.0	29.0	31.0	34.0	28.5	30.5	29.5	25.5	27.5
29	33.5	29.0	31.0	32.5	29.0	31.0	29.0	26.0	27.5	---	---	---
30	33.5	30.0	32.0	32.5	29.5	31.0	29.0	25.0	27.0	---	---	---
31	---	---	---	32.5	29.5	31.0	30.0	26.0	28.0	---	---	---
MONTH	34.0	21.0	29.0	35.5	26.5	31.0	36.5	25.0	31.5	32.5	24.5	28.0

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	9.5	6.4	7.8	10.6	6.0	7.6	---	---	---	12.5	11.8	12.2
2	10.4	6.4	8.0	9.8	6.6	7.6	---	---	10.0	12.8	12.1	12.4
3	10.1	6.2	7.9	10.4	6.3	7.9	9.6	8.3	8.9	12.6	12.0	12.2
4	10.8	6.8	8.5	10.6	7.0	8.3	9.7	8.4	9.1	12.7	11.9	12.3
5	10.5	7.2	8.5	9.7	6.5	7.7	10.2	8.6	9.5	12.6	11.9	12.3
6	10.2	6.9	8.2	11.3	6.2	8.2	9.2	7.0	8.4	12.5	11.9	12.1
7	10.0	6.7	8.1	11.2	7.1	8.4	9.2	7.1	7.7	13.2	12.1	12.5
8	10.2	6.8	8.3	9.0	7.2	7.7	12.2	8.2	10.2	13.0	12.6	12.8
9	10.5	7.0	8.4	7.3	6.4	7.0	12.6	8.3	10.2	13.2	12.5	12.8
10	11.0	6.9	8.5	8.5	6.0	7.5	11.7	8.6	9.8	13.1	12.7	12.9
11	10.9	6.9	8.4	10.6	8.7	9.7	12.3	9.0	10.8	13.1	12.5	12.8
12	10.8	7.0	8.6	11.0	9.3	10.2	14.1	10.3	11.6	12.4	11.5	11.8
13	11.2	7.5	9.1	10.8	8.9	9.9	13.4	8.6	10.0	12.8	11.8	12.2
14	10.3	7.1	8.4	10.3	7.9	9.0	10.1	8.9	9.4	12.8	12.4	12.5
15	10.5	7.0	8.4	---	---	8.2	13.1	10.1	11.2	12.6	11.5	12.2
16	9.7	6.1	7.6	---	---	---	13.5	10.2	11.7	11.5	9.5	10.4
17	9.2	5.5	6.9	---	---	---	13.0	10.1	11.7	9.6	8.6	9.1
18	9.1	5.7	6.8	---	---	---	12.0	10.2	11.1	9.5	8.9	9.2
19	6.8	5.4	6.0	---	---	---	---	---	---	9.5	8.2	8.8
20	9.2	6.3	7.8	---	---	---	---	---	---	11.9	9.5	10.6
21	9.2	7.3	8.4	---	---	---	---	---	10.4	11.9	9.7	10.9
22	9.0	7.6	8.3	---	---	---	10.1	9.4	9.7	---	---	---
23	8.5	6.7	7.7	---	---	---	10.3	9.5	9.9	---	---	---
24	7.5	5.9	6.7	---	---	---	9.7	8.8	9.3	---	---	---
25	8.1	5.9	6.7	---	---	---	11.5	9.5	10.2	---	---	13.9
26	9.1	6.0	7.2	---	---	---	11.6	11.3	11.5	15.2	12.6	14.0
27	9.0	6.3	7.3	---	---	---	11.7	11.4	11.6	14.7	12.2	13.8
28	9.5	6.2	7.4	---	---	---	11.9	11.3	11.6	14.6	11.8	13.4
29	10.8	6.4	8.2	---	---	---	12.3	11.9	12.1	13.6	11.1	12.5
30	10.4	6.4	8.0	---	---	---	12.4	11.9	12.2	13.2	10.0	11.4
31	10.0	6.1	7.4	---	---	---	12.2	11.8	12.0	12.7	9.8	10.8
MONTH	11.2	5.4	7.9	11.3	6.0	8.3	14.1	7.0	10.4	15.2	8.2	12.0

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	13.5	9.3	11.0	15.3	9.3	11.9	---	---	---	8.6	6.0	7.3
2	12.6	9.9	11.4	---	---	---	---	---	---	8.1	6.4	7.2
3	14.9	11.6	13.0	---	---	---	---	---	---	9.5	6.7	7.9
4	15.3	12.8	13.9	10.0	9.0	9.6	---	---	---	10.4	7.3	8.5
5	15.2	13.0	14.0	---	---	---	---	---	---	10.5	7.1	8.5
6	16.8	13.4	15.0	---	---	---	---	---	---	9.8	6.4	8.1
7	17.5	14.3	15.5	---	---	---	---	---	---	8.5	6.3	7.3
8	16.0	13.7	14.6	11.7	7.9	9.2	---	---	---	10.6	6.6	8.2
9	16.2	12.4	14.4	14.1	7.9	10.7	9.2	6.2	7.6	10.0	7.0	8.7
10	16.5	12.7	14.3	14.6	8.7	11.1	10.4	6.8	8.4	10.6	7.6	9.0
11	16.4	13.4	14.8	13.5	8.2	10.3	---	---	---	11.7	7.1	9.3
12	17.4	13.9	15.7	13.2	8.1	10.1	---	---	---	9.7	3.9	7.3
13	16.8	12.9	15.2	14.1	7.8	10.8	13.3	9.8	11.1	10.4	5.5	8.1
14	15.8	12.0	13.7	14.6	9.4	11.7	13.7	9.1	11.1	10.9	2.9	7.2
15	16.5	12.2	13.9	15.4	10.0	12.3	12.9	9.3	10.7	9.5	7.3	8.3
16	18.1	12.3	14.9	13.4	9.4	11.0	---	---	---	9.5	2.6	6.2
17	15.5	9.8	12.6	10.9	8.7	9.3	---	---	---	9.2	4.3	6.5
18	11.6	9.5	10.5	12.4	9.3	10.8	8.0	6.4	7.2	10.2	5.2	7.6
19	11.8	11.0	11.4	11.9	10.0	11.0	9.3	6.9	8.0	11.5	5.9	8.1
20	12.6	10.2	11.6	12.3	9.8	11.3	8.8	6.7	7.6	10.6	4.9	6.9
21	13.3	11.6	12.4	13.0	8.9	11.0	---	---	---	7.2	4.2	5.4
22	14.3	11.8	13.0	13.3	8.7	10.6	---	---	---	---	---	---
23	14.5	11.3	12.6	11.6	8.2	9.5	---	---	---	---	---	---
24	16.6	11.7	14.0	10.6	7.9	8.9	8.4	6.3	7.2	---	---	---
25	18.3	12.0	14.8	8.9	6.7	7.7	9.7	4.5	7.1	---	---	---
26	17.9	10.8	14.1	10.6	7.2	8.6	8.8	5.7	7.3	---	---	---
27	16.4	9.9	12.9	11.1	7.4	9.0	9.5	7.3	8.2	---	---	---
28	17.2	10.2	13.3	10.0	7.7	8.4	10.0	7.3	8.4	---	---	---
29	15.8	9.0	12.2	9.1	6.7	7.7	8.5	4.9	7.2	---	---	---
30	---	---	---	10.2	7.5	8.9	7.2	5.2	6.3	---	---	---
31	---	---	---	10.1	7.3	8.5	---	---	---	---	---	---
MONTH	18.3	9.0	13.5	15.4	6.7	10.0	13.7	4.5	8.2	11.7	2.6	7.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	11.8	8.2	9.9	10.9	4.7	8.0	8.5	4.4	6.1
2	---	---	---	11.2	7.0	9.5	10.6	5.3	8.0	6.7	4.1	5.3
3	7.0	5.9	6.3	10.4	4.9	7.0	9.9	5.8	8.1	5.9	3.4	4.7
4	6.7	5.7	6.4	9.5	4.6	6.6	10.5	7.5	8.8	8.0	4.0	5.9
5	7.6	6.1	6.9	10.8	5.1	7.9	10.5	7.0	8.6	8.0	6.2	6.9
6	11.9	6.8	8.9	10.1	7.1	8.7	7.4	3.5	5.8	8.9	6.6	7.8
7	19.8	8.8	13.9	9.6	7.5	8.4	11.0	6.7	8.8	10.2	6.0	7.9
8	18.7	10.8	14.8	9.3	6.9	7.9	12.6	6.7	9.0	10.1	5.8	7.5
9	14.1	8.7	11.7	10.0	6.8	8.2	11.5	5.6	8.3	9.8	5.5	7.2
10	13.5	8.1	10.6	9.7	6.7	7.9	11.4	6.0	8.4	9.3	5.3	7.0
11	12.6	8.7	10.4	6.6	3.4	5.6	10.4	5.7	7.6	9.2	5.1	6.9
12	12.2	8.6	10.0	10.5	5.0	7.2	8.4	5.8	7.1	9.6	5.1	7.0
13	12.0	8.4	9.9	11.1	5.0	8.1	8.5	6.5	7.5	9.1	5.1	6.6
14	12.8	4.8	9.4	10.4	6.2	8.6	8.5	6.5	7.6	8.0	3.1	5.8
15	12.6	6.1	9.8	10.0	6.9	8.4	8.3	6.0	7.2	7.7	1.1	4.7
16	11.1	7.6	9.2	10.5	6.6	8.5	8.2	6.1	7.3	6.5	2.9	5.0
17	13.2	7.7	10.0	10.8	6.8	8.6	9.3	6.1	7.7	6.2	.2	4.7
18	14.6	8.0	10.8	10.9	6.9	8.6	9.2	6.1	7.3	5.0	.2	2.9
19	14.6	8.7	11.1	10.1	6.1	7.9	10.9	2.5	7.4	5.4	4.4	4.8
20	12.0	8.0	9.7	10.3	5.9	8.0	8.3	.2	2.6	5.1	4.5	4.8
21	14.5	7.9	10.8	11.2	6.2	8.6	11.9	4.2	7.3	5.5	4.5	5.0
22	14.4	8.3	11.1	11.6	7.4	9.3	12.5	4.6	8.7	6.3	4.6	5.5
23	14.3	8.4	10.9	11.4	7.4	9.2	13.3	6.7	10.0	---	---	---
24	11.3	6.9	9.0	10.3	7.0	8.5	14.9	8.1	10.8	---	---	---
25	8.9	5.5	7.2	9.9	6.5	8.1	16.0	7.5	11.2	---	---	---
26	5.4	3.1	4.7	9.9	6.1	8.0	14.4	6.7	10.4	---	---	---
27	6.1	2.4	4.0	12.2	6.1	9.3	9.0	3.7	5.8	---	---	---
28	6.7	4.2	5.5	12.0	7.7	9.6	7.8	3.6	5.3	9.3	5.9	7.2
29	11.5	1.9	6.9	12.0	5.4	8.6	4.7	3.3	4.0	---	---	---
30	11.1	5.4	8.5	11.6	5.5	8.7	5.3	2.7	3.8	---	---	---
31	---	---	---	10.5	5.0	8.1	7.9	2.9	5.4	---	---	---
MONTH	19.8	1.9	9.2	12.2	3.4	8.3	16.0	.2	7.5	10.2	.2	6.0

08048980 VILLAGE CREEK AT KENNEDALE, TX

LOCATION.--Lat 32°38'18", long 97°14'31", Tarrant County, Hydrologic Unit 12030102, at center of channel on downstream side of bridge on Everman-Kennedale Road, 1.5 mi downstream from Elm Branch, and 3.0 mi upstream from bridge on Interstate Highway 20.

DRAINAGE AREA.--100 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 559.96 ft above National Geodetic Vertical Datum of 1929 (Tarrant County bench mark).

REMARKS.--Records fair except those for estimated daily discharges and those above 400 ft³/s, which are poor. Measured discharges include intrabasin transfers from Cedar Creek Reservoir (station 08063010). Releases enter the channel on the left bank about 50 ft downstream from the gage and cause backwater such that the stage record at the gage is a measure of both the controlled releases and unregulated flow in Village Creek. Water-quality monitor and gage-height telemeter at station.

EXTREME FOR PERIOD OF RECORD.--Maximum discharge, 3,120 ft³/s June 13, 1987 (gage height, 15.74 ft); no flow Oct. 30 and Nov. 3, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1977 reached a stage of 23.5 ft, from high-water mark painted on abutment of bridge at gage.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 928 ft³/s July 3 at 2230 hours (gage height, 10.28 ft), from rating curve extended above 336 ft³/s; no flow Oct. 30 and Nov. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	104	83	81	87	119	100	108	207	65	66	83
2	65	60	83	77	46	124	100	108	208	70	67	110
3	58	.00	83	85	e.38	139	99	87	232	167	126	181
4	66	4.0	84	79	e.38	183	99	94	187	224	94	213
5	74	56	85	76	e.38	146	88	119	176	157	68	184
6	69	82	92	70	e.38	116	93	89	169	145	129	198
7	66	84	100	81	e.38	80	74	134	155	108	98	179
8	67	111	99	88	e.38	122	56	163	101	137	70	157
9	68	107	98	86	e.38	119	56	127	60	181	34	147
10	69	91	81	76	e.38	103	133	119	61	114	18	158
11	69	84	82	54	e.38	97	115	140	60	113	55	170
12	69	79	84	54	.31	97	90	151	92	206	74	160
13	70	74	106	55	.30	97	98	153	72	163	76	145
14	e69	81	98	55	.36	98	89	157	75	151	76	163
15	e69	108	84	55	34	99	85	157	105	117	66	242
16	e69	113	95	81	101	113	86	134	68	73	66	217
17	e69	89	87	94	97	122	121	125	80	84	71	214
18	e69	93	75	94	93	126	124	125	100	128	70	182
19	e69	93	89	92	99	125	149	125	87	113	85	166
20	e69	99	103	91	118	147	66	127	82	58	170	203
21	e.09	105	80	91	122	112	78	179	75	113	181	211
22	21	103	77	93	120	113	147	191	64	131	101	176
23	117	83	56	78	118	90	86	199	61	83	66	160
24	108	79	22	80	118	36	69	248	57	63	66	162
25	95	134	6.7	94	89	.37	79	245	48	63	67	200
26	95	107	36	94	91	.38	123	150	53	99	125	217
27	95	135	53	88	121	.38	60	122	111	99	118	171
28	81	142	72	86	122	.41	86	95	91	56	64	155
29	48	125	70	86	119	66	106	71	100	65	101	162
30	.00	92	79	86	---	155	107	122	90	66	187	290
31	68	---	88	86	---	130	---	141	---	66	162	---
TOTAL	2104.09	2717.00	2430.7	2486	1699.39	3075.54	2862	4305	3127	3478	2817	5376
MEAN	67.9	90.6	78.4	80.2	58.6	99.2	95.4	139	104	112	90.9	179
MAX	117	142	106	94	122	183	149	248	232	224	187	290
MIN	.00	.00	6.7	54	.30	.37	56	71	48	56	18	83
AC-FT	4170	5390	4820	4930	3370	6100	5680	8540	6200	6900	5590	10660

CAL YR 1987 TOTAL 28811.68 MEAN 78.9 MAX 889 MIN .00 AC-FT 57150
WTR YR 1988 TOTAL 36477.72 MEAN 99.7 MAX 290 MIN .00 AC-FT 72350

e Estimated.

08048980 VILLAGE CREEK AT KENNEDALE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: July 1986 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1986 to current year.
pH: July 1986 to current year.
WATER TEMPERATURE: July 1986 to current year.
DISSOLVED OXYGEN: July 1986 to current year.

INSTRUMENTATION.--Beginning July 1986, a four-parameter water-quality monitor continuously recorded specific conductance, pH, water temperature, and dissolved oxygen 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. Record from the beginning of October to late January is missing because the station was vandalized and a replacement monitor was unavailable. Water pumped from Cedar Creek Reservoir is released on the left bank about 50 ft. downstream from the monitor site, creating an almost continuous backwater condition at the monitor site. Water-quality cross-sectional profiles at the monitor site have found considerable horizonal and vertical variability in specific conductance, pH, and dissolved oxygen which is attributed to incomplete mixing of native water and the Cedar Creek Reservoir water being discharged downstream. Consequently, daily values of specific conductance, pH, and dissolved oxygen may not be representative of flow at the monitor site.

EXTREMES FOR THE PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 912 microsiemens Feb. 20, 1988; minimum 107 microsiemens Nov. 19, 1986.
pH: Maximum, 8.6 units Mar. 14, 1987, Aug. 15, 1988; minimum, 6.8 units Jun. 14, 1988.
WATER TEMPERATURE: Maximum, 31.0°C Oct. 1, 1986; minimum, 2.5°C Feb. 11, 1988.
DISSOLVED OXYGEN: Maximum, 16.0 mg/L Mar. 2, 7, 1988; minimum, 0.5 mg/L Aug. 24, Sept. 15, 16, 22, 24, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 912 microsiemens Feb. 20; minimum, 187 microsiemens July 3.
pH: Maximum, 8.6 units Aug. 15; minimum, 6.8 units June 14.
WATER TEMPERATURE: Maximum, 30.5°C July 13.
DISSOLVED OXYGEN: Maximum, 16.0 mg/L Mar. 2, 7; minimum, 0.5 mg/L Aug. 24, Sept. 15, 16, 22, 24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV										
16...	1345	89	440	7.70	14.0	6.0	60	2.3	100	0
FEB										
11...	1125	0.38	737	8.20	3.5	12.7	95	1.6	240	24
APR										
05...	1400	84	220	7.70	16.5	10.4	108	0.4	67	19
JUN										
10...	0815	61	363	7.70	25.0	7.3	89	2.8	100	4
JUL										
27...	1430	99	233	7.50	29.5	7.4	98	2.6	71	18
SEP										
07...	1300	98	255	7.50	29.0	7.8	103	--	77	20

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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)
NOV									
16...	33	4.4	44	2	4.8	120	44	21	0.40
FEB									
11...	76	12	69	2	4.7	216	100	41	0.40
APR									
05...	20	4.1	16	0.9	4.0	48	26	18	0.20
JUN									
10...	32	5.3	30	1	10	98	44	20	0.30
JUL									
27...	21	4.4	17	0.9	4.5	53	26	20	0.30
SEP									
07...	23	4.7	17	0.9	4.6	57	26	21	0.20

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)
NOV									
16...	5.5	229	0.280	0.020	0.300	0.040	0.66	0.70	0.360
FEB									
11...	3.4	436	--	<0.010	<0.100	0.030	0.47	0.50	0.030
APR									
05...	2.6	120	0.090	0.010	0.100	0.190	0.51	0.70	0.040
JUN									
10...	5.9	206	0.340	0.060	0.400	0.130	0.57	0.70	0.120
JUL									
27...	3.3	128	0.170	0.130	0.300	0.070	0.83	0.90	0.050
SEP									
07...	4.2	135	0.370	0.030	0.400	0.020	0.68	0.70	0.080

08048980 VILLAGE CREEK AT KENNEDALE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
5										---	---	---
6										---	---	---
7										---	---	---
8										---	---	---
9										---	---	---
10										---	---	---
11										---	---	---
12										---	---	---
13										---	---	---
14										---	---	---
15										---	---	---
16										---	---	---
17										---	---	---
18										---	---	---
19										---	---	---
20										---	---	---
21										---	---	---
22										---	---	---
23										---	---	---
24										---	---	---
25										---	---	---
26										---	---	---
27										---	---	---
28										---	---	---
29										---	---	---
30										566	373	449
31										385	294	344
MONTH										566	294	397

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	357	267	317	543	308	416	597	473	562	365	261	310
2	598	238	448	681	312	376	625	494	566	349	256	285
3	661	542	597	692	478	572	678	495	618	348	252	296
4	710	644	696	683	512	578	689	350	538	308	247	271
5	708	699	705	753	680	716	401	289	338	297	244	275
6	711	696	706	790	754	770	612	286	407	289	231	254
7	716	708	712	836	232	630	---	---	581	259	233	243
8	715	711	713	563	437	490	---	---	535	295	242	263
9	730	716	719	710	360	599	718	463	584	293	245	271
10	732	720	726	614	440	508	471	231	377	285	250	268
11	727	717	724	644	347	572	404	275	313	286	250	271
12	736	718	726	617	384	498	361	271	317	276	238	258
13	731	722	728	642	314	483	424	267	337	279	238	255
14	744	720	735	624	400	562	361	286	328	256	236	246
15	736	224	603	612	513	588	329	243	281	260	234	243
16	568	338	436	612	494	553	262	239	249	288	239	267
17	648	540	599	633	365	539	549	263	350	305	261	284
18	740	450	563	593	367	476	788	396	706	304	259	280
19	865	722	790	587	538	565	741	690	713	387	279	331
20	912	865	882	530	479	506	808	718	766	650	305	394
21	901	800	861	500	287	457	---	---	508	830	373	615
22	875	745	822	398	284	320	---	---	391	799	569	660
23	857	636	708	329	249	288	537	325	439	587	284	443
24	763	725	747	536	267	417	537	314	444	455	276	382
25	762	633	704	605	538	579	545	286	442	474	327	414
26	738	409	644	604	573	588	525	325	389	397	236	341
27	710	465	635	607	580	592	737	235	555	344	263	308
28	706	449	587	619	580	602	498	357	432	305	274	291
29	653	427	568	599	223	365	421	310	354	301	245	278
30	---	---	---	509	306	460	484	375	429	293	243	270
31	---	---	---	562	394	502	---	---	---	315	250	279
MONTH	912	224	669	836	223	522	808	231	462	830	231	318

08048980 VILLAGE CREEK AT KENNEDALE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	570	206	345	297	270	285	276	262	268	277	270	274
2	400	237	273	301	266	284	277	264	268	279	272	277
3	335	235	271	542	187	286	280	265	271	311	261	293
4	420	324	388	297	193	245	276	265	271	298	271	284
5	429	419	423	312	281	300	278	264	272	284	274	279
6	430	404	419	331	312	321	277	262	271	284	274	279
7	453	374	428	331	315	325	277	258	270	280	271	277
8	458	357	416	326	277	315	279	263	272	281	273	277
9	413	367	394	302	284	294	280	261	274	283	273	279
10	.454	331	399	289	264	279	277	268	273	284	272	279
11	462	325	402	896	270	386	280	254	272	282	270	278
12	412	302	354	466	317	378	275	266	271	284	268	278
13	320	283	303	401	250	379	278	267	272	286	275	282
14	322	251	298	387	311	366	283	266	276	291	272	281
15	302	263	286	360	310	341	277	256	267	394	200	232
16	326	240	268	346	300	324	278	268	273	267	236	253
17	330	236	261	310	255	285	275	270	273	285	268	278
18	304	249	273	314	261	288	275	267	271	290	281	287
19	312	259	288	313	266	292	272	248	266	296	279	288
20	322	263	296	312	248	281	277	266	272	296	280	289
21	288	260	278	287	261	274	281	272	277	302	284	295
22	301	261	285	278	257	271	280	260	272	299	289	293
23	305	261	285	276	261	270	285	260	273	295	284	290
24	388	270	320	281	270	274	281	267	274	296	280	286
25	360	305	339	282	264	275	288	269	279	296	283	290
26	355	266	316	277	263	271	284	269	276	289	283	286
27	319	255	288	276	258	267	279	266	273	287	281	284
28	333	285	306	270	257	264	284	272	278	286	272	279
29	339	288	316	276	261	268	281	270	275	317	260	274
30	305	268	288	276	262	269	277	270	274	417	219	282
31	---	---	---	277	263	269	276	268	272	---	---	---
MONTH	570	206	327	896	187	298	288	248	272	417	200	280

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1										---	---	---
2										---	---	---
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20										---	---	---
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23										---	---	---
24										---	---	---
25										---	---	---
26										---	---	---
27										---	---	---
28										---	---	---
29										---	---	---
30										8.1	7.9	8.0
31										8.1	7.9	8.0
MONTH										8.1	7.9	8.0

08048980 VILLAGE CREEK AT KENNEDALE, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.2	7.9	8.0	7.6	7.3	7.5	7.9	7.8	7.8	---	---	---
2	8.2	7.9	8.0	7.6	7.3	7.3	8.1	7.8	7.9	---	---	---
3	8.2	8.0	8.0	7.7	7.6	7.6	8.1	7.8	7.9	---	---	---
4	8.3	8.2	8.2	8.1	7.7	7.9	8.1	7.8	7.8	---	---	---
5	8.3	8.2	8.2	8.2	8.1	8.1	7.9	7.7	7.8	---	---	---
6	8.3	8.1	8.2	8.2	8.1	8.1	7.9	7.8	7.8	---	---	---
7	8.2	8.1	8.2	8.3	8.1	8.2	---	---	---	---	---	---
8	8.2	8.0	8.1	8.2	8.0	8.1	---	---	---	---	---	---
9	8.0	7.9	8.0	8.2	8.0	8.1	8.2	8.0	8.0	---	---	---
10	8.3	7.9	8.1	8.2	8.0	8.1	8.0	7.8	7.9	---	---	---
11	8.3	8.2	8.2	8.2	8.0	8.1	---	---	---	---	---	---
12	8.3	8.1	8.2	8.2	8.0	8.1	---	---	---	---	---	---
13	8.4	8.0	8.2	8.2	8.0	8.1	---	---	---	---	---	---
14	8.5	7.9	8.3	8.2	8.0	8.1	8.2	7.9	8.0	8.5	7.8	8.1
15	8.4	8.1	8.2	8.1	8.0	8.1	8.1	7.8	7.9	8.4	7.8	8.0
16	8.2	8.0	8.1	8.1	7.9	8.0	---	---	---	8.2	7.7	7.8
17	8.1	8.0	8.1	8.0	7.9	8.0	---	---	---	8.1	7.6	7.7
18	8.1	7.9	8.0	8.1	7.9	8.0	8.1	7.8	8.0	8.0	7.4	7.6
19	8.3	8.1	8.2	8.2	8.0	8.1	8.3	8.0	8.0	8.1	7.5	7.6
20	8.3	8.2	8.3	8.2	8.0	8.0	8.2	7.8	8.0	7.9	7.4	7.6
21	8.2	8.1	8.2	8.0	7.8	7.9	---	---	---	7.5	7.1	7.3
22	8.1	7.9	8.0	7.9	7.6	7.7	---	---	---	7.4	7.2	7.3
23	7.9	7.9	7.9	7.7	7.5	7.5	---	---	---	7.9	6.9	7.1
24	7.9	7.9	7.9	7.7	7.4	7.5	8.4	7.9	8.0	7.4	7.0	7.3
25	7.9	7.6	7.8	7.9	7.6	7.8	8.0	7.6	7.9	8.0	7.3	7.4
26	7.7	7.5	7.6	8.1	7.5	7.7	7.8	7.5	7.6	8.2	7.3	7.4
27	7.7	7.6	7.7	8.3	7.7	7.9	8.0	7.7	7.8	8.2	7.3	7.6
28	7.8	7.6	7.7	8.2	7.9	8.1	---	---	---	8.4	7.4	7.9
29	7.7	7.7	7.7	8.2	7.8	8.0	---	---	---	8.3	7.3	7.9
30	---	---	---	7.8	7.6	7.7	---	---	---	8.3	7.3	7.7
31	---	---	---	7.9	7.6	7.9	---	---	---	8.3	7.2	7.5
MONTH	8.5	7.5	8.0	8.3	7.3	7.9	8.4	7.5	7.9	8.5	6.9	7.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.5	7.3	7.7	---	---	---	---	---	---	7.5	7.1	7.3
2	8.0	7.4	7.4	---	---	---	---	---	---	7.7	7.0	7.4
3	7.6	7.3	7.5	---	---	---	7.9	7.6	7.7	7.7	7.5	7.6
4	7.6	7.5	7.6	---	---	---	8.0	7.7	7.9	7.6	7.2	7.4
5	7.6	7.5	7.6	---	---	---	8.0	7.6	7.8	7.4	7.2	7.3
6	7.6	7.5	7.6	7.3	7.1	7.2	8.0	7.5	7.8	7.5	7.2	7.4
7	7.5	7.4	7.5	7.4	7.1	7.2	7.9	7.2	7.6	---	---	---
8	7.4	7.1	7.3	7.7	7.2	7.6	7.6	7.0	7.3	---	---	---
9	7.5	7.1	7.4	7.9	7.7	7.8	7.9	7.4	7.6	---	---	---
10	7.6	7.4	7.5	8.1	7.8	7.9	8.0	7.3	7.6	---	---	---
11	7.6	7.4	7.5	---	---	---	7.9	7.4	7.7	---	---	---
12	7.4	7.2	7.3	---	---	---	7.8	7.4	7.6	---	---	---
13	7.3	7.1	7.2	---	---	---	8.0	7.4	7.7	---	---	---
14	7.3	6.8	7.0	7.7	7.4	7.6	8.2	7.6	7.9	---	---	---
15	7.7	7.3	7.5	7.6	7.3	7.4	8.6	7.7	8.0	8.4	8.0	8.2
16	7.8	7.4	7.6	7.6	7.2	7.5	8.5	7.8	8.1	8.1	8.0	8.0
17	7.8	7.6	7.7	7.2	6.9	7.1	---	---	---	8.0	7.6	7.8
18	7.8	7.7	7.7	7.4	6.9	7.1	---	---	---	7.7	7.4	7.5
19	7.8	7.7	7.7	7.6	7.2	7.4	---	---	---	8.0	7.6	7.8
20	7.8	7.7	7.7	7.7	7.5	7.6	---	---	---	8.1	7.8	7.9
21	7.8	7.7	7.7	7.8	7.6	7.7	---	---	---	8.1	8.0	8.0
22	7.8	7.7	7.7	7.7	7.6	7.7	---	---	---	8.1	7.9	8.0
23	7.8	7.7	7.7	7.6	7.3	7.5	7.4	7.1	7.2	8.1	7.8	8.0
24	7.7	7.6	7.7	7.4	7.3	7.4	7.3	7.0	7.2	8.2	7.7	8.0
25	7.7	7.6	7.6	7.6	7.3	7.4	7.4	7.2	7.3	8.1	7.8	8.0
26	7.6	7.5	7.6	7.6	7.2	7.4	7.5	7.2	7.4	8.0	7.6	7.9
27	7.6	7.4	7.5	8.1	7.4	7.6	7.7	7.1	7.4	7.7	7.2	7.4
28	7.5	7.3	7.4	---	---	---	7.4	7.1	7.3	7.5	7.1	7.4
29	7.8	7.3	7.5	---	---	---	7.7	7.1	7.5	7.5	7.3	7.4
30	7.8	7.6	7.7	---	---	---	7.5	7.4	7.5	7.7	7.4	7.6
31	---	---	---	---	---	---	7.5	7.3	7.4	---	---	---
MONTH	8.5	6.8	7.5	8.1	6.9	7.5	8.6	7.0	7.6	8.4	7.0	7.7

08048980 VILLAGE CREEK AT KENNEDALE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1										---	---	---
2										---	---	---
3										---	---	---
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5										---	---	---
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14										---	---	---
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18										---	---	---
19										---	---	---
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21										---	---	---
22										---	---	---
23										---	---	---
24										---	---	---
25										---	---	---
26										---	---	---
27										---	---	---
28										---	---	---
29										---	---	---
30										11.0	10.0	10.5
31										11.0	10.0	10.5
MONTH										11.0	10.0	10.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.0	10.0	10.5	14.0	12.5	13.5	16.5	15.5	16.0	20.0	19.0	19.5
2	11.0	8.0	9.5	15.0	12.5	13.5	16.5	15.5	16.0	20.0	19.0	19.5
3	8.0	6.5	7.5	14.5	12.5	13.5	16.5	15.5	16.0	20.5	19.0	19.5
4	6.0	5.0	5.5	13.0	11.5	12.0	17.5	16.5	17.0	20.5	19.0	19.5
5	5.0	3.5	4.5	13.5	10.5	12.0	18.0	16.5	17.0	20.0	19.5	20.0
6	5.5	2.5	4.0	13.5	11.5	12.0	18.0	17.0	17.5	22.0	20.0	21.0
7	6.0	3.5	5.0	16.0	12.0	13.0	18.5	17.0	18.0	21.0	20.5	21.0
8	7.5	5.0	6.5	14.0	13.5	13.5	19.0	18.0	18.5	21.5	20.5	21.0
9	8.5	6.5	7.5	13.5	12.5	13.0	19.0	17.5	18.5	21.5	21.0	21.0
10	8.0	4.0	6.5	14.0	12.0	13.0	17.5	17.0	17.5	21.5	21.0	21.0
11	4.5	2.5	3.5	14.0	13.0	13.5	17.5	16.5	17.0	22.5	21.5	22.0
12	8.0	3.0	5.0	14.5	13.5	14.0	17.0	16.5	16.5	22.5	22.0	22.0
13	10.5	5.5	8.0	14.0	13.0	13.5	17.0	16.5	16.5	22.5	22.0	22.0
14	12.0	9.5	10.5	13.0	10.5	12.0	17.5	16.5	17.0	22.5	21.5	22.0
15	11.5	7.5	9.0	12.5	11.0	11.5	18.0	17.5	17.5	23.0	22.0	22.5
16	10.0	8.0	9.0	12.5	11.5	12.0	18.0	17.5	18.0	23.0	22.0	22.5
17	11.0	10.0	10.5	12.0	11.0	11.5	19.0	18.0	18.0	23.5	22.5	23.0
18	11.0	9.0	10.0	12.0	10.0	11.0	19.0	17.0	18.0	24.0	23.0	23.5
19	10.5	9.0	10.0	12.0	8.5	10.0	17.5	15.5	16.5	23.5	23.0	23.5
20	12.0	9.0	10.0	12.0	10.0	11.0	21.5	16.5	18.5	24.0	23.5	23.5
21	11.5	8.5	10.0	13.0	11.0	12.0	19.0	16.0	18.0	24.0	22.5	23.5
22	12.5	10.5	11.5	14.0	13.0	13.5	19.5	18.0	19.0	22.5	21.5	22.0
23	12.0	10.5	11.0	15.0	13.5	14.0	20.5	19.0	19.5	23.0	21.0	22.0
24	11.5	10.0	10.5	21.5	14.5	18.0	20.5	18.0	20.0	23.0	22.5	22.5
25	11.5	10.0	10.5	20.5	17.5	19.5	20.5	20.0	20.5	23.0	22.5	23.0
26	11.5	10.5	11.0	19.5	17.0	18.5	21.0	18.0	20.0	24.5	23.0	23.5
27	12.5	11.5	12.0	19.0	15.5	17.5	20.5	19.5	20.0	24.0	23.0	23.5
28	12.5	11.5	12.0	20.0	18.0	19.0	20.5	19.5	19.5	23.5	22.5	23.0
29	13.5	12.0	13.0	19.0	15.0	16.5	20.0	19.5	19.5	24.5	23.0	23.5
30	---	---	---	15.0	14.0	14.5	19.5	19.5	19.5	24.0	22.5	23.5
31	---	---	---	15.5	15.0	15.0	---	---	---	24.0	23.5	23.5
MONTH	13.5	2.5	9.0	21.5	8.5	14.0	21.5	15.5	18.0	24.5	19.0	22.0

08048980 VILLAGE CREEK AT KENNEDALE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	23.5	20.5	21.5	29.0	27.5	28.0	28.5	27.5	28.0	28.5	27.5	27.5
2	22.5	20.5	22.0	29.0	28.0	28.5	28.5	27.5	28.0	28.5	28.0	28.0
3	22.0	20.0	21.0	29.0	23.5	28.0	28.5	27.5	28.0	28.5	26.5	27.5
4	24.0	22.0	23.0	26.0	23.5	24.5	28.5	27.5	28.0	28.0	27.0	27.5
5	24.0	22.0	23.0	28.0	25.5	26.5	28.5	28.0	28.5	27.5	26.5	27.0
6	24.0	22.5	23.0	28.0	27.0	27.5	28.5	28.0	28.5	27.5	26.5	27.0
7	24.5	23.5	24.0	28.0	26.5	27.0	29.0	28.5	28.5	---	---	---
8	24.5	24.0	24.5	28.0	27.0	27.5	29.0	28.5	29.0	---	---	---
9	25.0	24.5	25.0	27.5	27.0	27.5	30.0	28.5	29.0	---	---	---
10	25.5	24.5	25.0	28.5	27.5	28.0	29.5	28.0	29.0	---	---	---
11	25.5	24.0	24.5	28.5	22.0	26.5	30.0	28.5	29.0	---	---	---
12	24.5	24.0	24.5	27.5	22.5	25.0	29.5	28.5	29.0	---	---	---
13	25.0	24.0	24.5	30.5	27.5	28.0	29.0	28.5	29.0	---	---	---
14	26.0	24.5	25.0	28.5	27.5	28.0	29.0	28.5	29.0	---	---	---
15	25.5	25.0	25.5	29.0	28.0	28.5	29.0	25.5	27.5	---	---	---
16	27.0	25.0	26.0	29.0	28.0	28.5	28.0	26.0	27.0	---	---	---
17	27.0	26.0	26.5	29.5	28.0	29.0	28.5	28.0	28.0	---	---	---
18	26.5	26.0	26.0	29.0	28.5	29.0	29.0	28.0	28.5	---	---	---
19	26.5	25.5	26.0	29.0	28.5	29.0	29.5	28.5	29.0	---	---	---
20	27.0	26.0	26.5	29.5	28.0	29.0	29.0	28.5	29.0	---	---	---
21	27.0	26.0	26.5	29.0	28.0	28.5	29.0	28.5	29.0	---	---	---
22	27.5	26.5	27.0	28.5	28.0	28.0	29.5	28.5	29.0	---	---	---
23	27.5	26.5	27.0	28.5	28.0	28.5	29.5	29.0	29.0	---	---	---
24	27.5	26.5	27.0	28.5	28.0	28.5	29.5	29.0	29.5	---	---	---
25	27.5	27.0	27.5	28.5	28.0	28.0	29.5	29.0	29.0	---	---	---
26	28.0	27.0	27.5	28.5	28.0	28.0	29.5	28.5	29.0	---	---	---
27	28.0	27.5	27.5	28.5	28.0	28.5	29.5	28.5	29.0	---	---	---
28	28.0	27.5	28.0	28.5	27.5	28.0	29.0	28.0	28.5	---	---	---
29	28.0	27.5	28.0	28.0	27.5	28.0	28.5	28.0	28.0	26.0	21.0	24.5
30	28.5	27.5	28.0	28.0	27.5	28.0	28.5	28.0	28.0	20.5	18.5	19.0
31	---	---	---	28.0	27.5	28.0	28.5	27.5	28.0	---	---	---
MONTH	28.5	20.0	25.5	30.5	22.0	28.0	30.0	25.5	28.5	28.5	18.5	26.0

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
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12										---	---	---
13										---	---	---
14										---	---	---
15										---	---	---
16										---	---	---
17										---	---	---
18										---	---	---
19										---	---	---
20										---	---	---
21										---	---	---
22										---	---	---
23										---	---	---
24										---	---	---
25										---	---	---
26										---	---	---
27										---	---	---
28										---	---	---
29										---	---	---
30										10.9	10.1	10.5
31										10.9	10.2	10.6
MONTH										10.9	10.1	10.6

08048980 VILLAGE CREEK AT KENNEDALE, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.7	9.5	10.2	15.9	13.3	14.8	6.8	5.3	6.0	7.5	5.4	6.0
2	11.3	7.3	9.4	16.0	11.9	15.2	6.9	5.0	5.7	7.5	4.4	6.3
3	9.6	8.3	9.0	13.3	9.8	11.6	5.4	4.6	4.9	7.9	4.6	6.3
4	10.8	9.1	9.8	12.2	11.1	11.9	---	---	---	7.7	5.5	6.9
5	11.1	9.6	10.3	13.8	10.8	11.9	---	---	---	8.0	4.4	5.9
6	12.0	10.2	10.9	12.9	11.0	11.7	---	---	---	8.4	4.9	6.8
7	12.0	10.0	10.9	16.0	10.6	13.4	---	---	---	8.1	6.2	7.4
8	12.0	9.6	10.7	14.5	12.8	13.5	---	---	---	7.8	4.1	6.0
9	12.1	9.2	10.5	14.3	11.4	12.8	4.2	3.4	3.7	7.6	4.1	5.5
10	11.7	9.2	10.6	13.5	12.0	13.0	4.9	4.0	4.4	7.0	3.9	5.3
11	13.8	10.4	11.8	14.0	10.5	12.1	---	---	---	6.5	3.7	5.1
12	13.9	10.9	12.3	13.8	11.1	12.5	---	---	---	8.0	4.7	6.0
13	13.4	10.3	12.0	13.8	11.2	12.8	---	---	---	7.9	4.6	6.3
14	14.3	9.8	11.7	13.9	11.4	12.9	4.2	3.5	3.8	8.1	6.3	7.2
15	13.4	10.5	12.2	13.3	11.3	11.8	4.8	3.7	4.2	8.3	6.1	7.6
16	12.9	11.8	12.4	13.4	11.1	12.1	---	---	---	7.9	4.0	5.6
17	12.2	10.3	11.2	12.8	11.0	11.9	---	---	---	6.1	4.1	4.8
18	11.9	10.2	11.0	13.6	11.8	12.5	3.3	2.2	2.9	6.6	4.8	5.6
19	11.9	10.0	10.9	13.8	10.7	12.1	2.8	2.5	2.7	6.1	4.1	5.1
20	11.8	10.9	11.2	12.3	11.2	11.8	4.1	2.3	3.1	6.4	4.7	5.4
21	12.3	10.0	10.9	13.1	10.7	11.7	---	---	---	6.1	4.8	5.4
22	13.9	11.5	12.6	13.0	11.2	12.4	---	---	---	6.5	4.7	5.4
23	13.0	11.8	12.4	12.7	11.5	12.2	---	---	---	7.2	4.9	5.8
24	13.4	11.1	12.2	12.2	9.1	10.7	3.9	2.2	3.1	7.2	4.0	5.5
25	15.3	12.2	13.3	15.5	7.4	10.8	4.3	2.9	3.5	5.8	4.1	4.6
26	15.4	13.1	14.1	15.8	8.5	11.7	4.0	2.7	3.5	7.9	4.3	5.5
27	13.9	13.2	13.6	13.5	9.6	11.8	4.6	2.5	3.3	6.7	4.5	5.5
28	14.5	12.2	13.1	12.2	9.2	10.5	5.8	2.9	4.1	6.1	4.7	5.4
29	14.0	12.3	13.0	11.6	9.0	10.4	6.7	5.3	6.0	7.4	4.8	5.9
30	---	---	---	9.5	5.8	6.8	5.4	4.6	5.0	6.9	5.1	5.9
31	---	---	---	8.1	6.9	7.3	---	---	---	6.9	4.3	5.5
MONTH	15.4	7.3	11.5	16.0	5.8	11.9	6.9	2.2	4.1	8.4	3.7	5.9

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6.3	4.0	5.4	7.8	5.5	6.8	4.6	2.3	3.7	5.6	3.9	4.8
2	5.6	2.5	4.9	7.7	4.8	6.3	6.0	3.0	4.4	5.1	3.4	4.2
3	5.8	5.1	5.5	5.9	3.2	5.2	5.3	2.9	4.1	6.2	3.3	4.3
4	5.2	4.5	4.8	6.1	4.8	5.6	5.9	3.5	4.7	6.9	4.2	5.4
5	4.4	3.8	4.1	4.7	3.1	3.9	15.8	3.5	5.5	6.0	4.8	5.4
6	4.5	3.0	3.9	4.0	2.3	3.4	5.8	2.2	3.9	6.2	4.0	5.1
7	3.7	2.8	3.1	5.2	2.8	3.5	5.8	1.4	3.6	5.7	4.2	4.9
8	3.9	2.4	3.1	5.5	3.9	4.4	5.3	1.6	3.4	5.4	3.9	4.6
9	4.7	2.5	3.4	5.4	4.2	4.8	6.0	1.3	4.2	5.3	3.5	4.3
10	---	---	---	5.9	4.3	5.2	8.4	.7	4.8	5.3	3.4	4.4
11	5.8	4.5	5.1	8.3	3.7	5.7	8.1	2.6	4.8	5.5	3.8	4.6
12	6.2	5.0	5.6	7.9	3.6	5.8	5.3	3.0	4.2	5.3	2.9	4.2
13	7.0	4.7	6.0	7.2	3.0	4.3	13.3	2.7	4.4	4.5	3.0	3.6
14	8.1	4.6	6.1	5.7	3.9	4.6	7.3	3.4	4.7	5.1	3.0	4.2
15	7.4	5.2	6.5	5.4	4.1	4.7	12.5	4.5	7.7	4.8	.5	3.0
16	8.6	5.5	7.4	5.3	4.0	4.6	8.2	4.6	6.4	1.9	.5	1.3
17	8.8	6.6	7.6	7.2	4.4	5.5	7.4	4.7	5.6	1.7	1.0	1.3
18	7.9	5.1	6.4	6.4	3.7	4.9	6.7	4.6	5.3	3.4	1.5	2.1
19	7.4	4.8	5.8	6.2	3.3	4.5	7.3	4.5	5.5	5.3	1.9	3.3
20	7.6	5.4	6.1	6.5	3.5	4.9	5.2	3.0	4.1	5.2	2.5	3.7
21	8.1	6.0	6.7	5.1	4.0	4.6	4.4	2.4	3.4	3.7	2.2	3.1
22	8.0	5.5	6.5	5.4	3.3	4.3	7.6	2.9	5.0	4.2	.5	3.3
23	7.7	6.1	6.9	5.2	3.9	4.4	7.1	4.2	5.2	5.7	3.4	4.1
24	7.7	6.5	7.0	4.5	3.4	3.9	5.8	.5	4.9	5.3	.5	4.7
25	7.4	5.2	6.2	4.5	3.5	4.0	5.5	3.5	4.6	5.1	4.0	4.4
26	8.4	5.1	6.4	4.7	3.0	4.0	5.5	4.0	4.8	4.9	3.7	4.4
27	8.8	4.0	6.0	6.6	3.0	4.4	7.2	4.5	5.7	4.9	3.5	4.2
28	6.8	4.9	5.6	5.4	2.9	3.9	9.7	3.9	5.2	6.6	3.5	4.3
29	---	---	---	4.5	1.5	3.1	7.0	3.9	5.4	5.5	1.6	4.3
30	---	---	---	4.4	2.2	3.3	5.3	4.0	4.6	6.3	3.4	5.7
31	---	---	---	4.4	2.1	3.5	5.9	4.3	5.2	---	---	---
MONTH	8.8	2.4	5.6	8.3	1.5	4.6	15.8	.5	4.8	6.9	.5	4.0

08049200 LAKE ARLINGTON AT ARLINGTON, TX

LOCATION.--Lat 32°42'58", long 97°11'32", Tarrant County, Hydrolgoic Unit 12030102, in new pumphouse at right end of Arlington Dam on Village Creek near western boundary of Arlington, 1.5 mi upstream from the Texas and Pacific Railway Co. bridge, and 7 mi upstream from mouth.

DRAINAGE AREA.--143 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1957 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 9, 1957, non-recording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 6,482 ft long. The service spillway is a 10-foot-diameter uncontrolled circular drop inlet. The spillway is an 882 foot-wide cut through natural ground near the right end of dam. The dam was completed and storage began Mar. 31, 1957. Capacities are based on a 1980 survey. The dam was built by the city of Arlington to impound water for municipal and industrial uses. Water is diverted from Cedar Creek Reservoir (station 08063010) into Lake Arlington. Water is pumped from the lake to a generating plant of Texas Electric Service Co. Gage-height telemeter 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	572.0	-
Crest of spillway	559.7	70,140
Crest of drop inlet (top of conservation pool)	550.0	45,710
Lowest gated outlet (invert)	505.0	180

COOPERATION.--Capacity table provided by Freese and Nichols, Inc., Consulting Engineers, for the city of Arlington.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 60,580 acre-ft May 4, 1979 (elevation, 556.20 ft); minimum since lake first filled in April 1957, 18,110 acre-ft Oct. 17, 1971 (elevation, 534.27 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 31,260 acre-ft June 8 at 1000 hours (elevation, 545.74 ft); minimum, 19,300 acre-ft Sept. 2 (elevation, 538.32 ft.)

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

538.0	18,870	544.0	28,030
540.0	21,620	546.0	31,750
542.0	24,650		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22370	20560	22810	24780	25820	25410	26960	27600	29530	28190	25620	19440
2	22250	20560	22840	24830	25770	25920	26990	27600	30370	28030	25410	19310
3	22120	20470	22850	24900	25660	26020	27080	27600	30690	28080	25260	19690
4	22020	20420	22910	24930	25490	26140	27100	27500	30860	28450	25100	19820
5	21900	20420	22970	24980	25360	26270	27130	27500	30980	28470	24860	19920
6	21830	20390	23110	25080	25240	26370	27130	27400	31110	28450	24670	19940
7	21690	20400	23170	25130	25100	26400	27110	27500	31220	28380	24460	20040
8	21580	20470	23230	25210	24960	26470	26010	27600	31200	28320	24180	20040
9	21470	20640	23310	25280	24850	26560	26900	27600	31010	28300	23840	20000
10	21340	20680	23320	25340	24720	26590	26900	27600	30860	28210	23430	19980
11	21230	20710	23310	25360	24590	26580	27000	27600	30670	28270	23180	19960
12	21170	20750	23320	25280	24460	26580	27000	27600	30560	28710	22930	19940
13	21070	20740	23400	25260	24380	26580	26900	27600	30410	28800	22690	19960
14	21000	20750	23480	25240	24210	26630	26900	27600	30280	28840	22410	20230
15	20960	21450	23500	25260	24120	26630	27000	27500	30240	28800	22120	20560
16	20920	21770	23540	25310	24150	26720	26900	27500	30090	28650	21840	20810
17	20840	21800	23590	25380	24290	26960	27400	27500	29970	28510	21630	21020
18	20790	21810	23600	25480	24510	26990	27500	27500	29920	28400	21610	21160
19	20710	21840	24100	25560	24590	27080	27600	27400	29770	28320	21200	21170
20	20510	21880	24210	25540	24670	27170	27500	27600	29620	28140	21220	21170
21	20350	21940	24260	25560	24780	27220	27500	27700	29480	28010	21180	21170
22	20170	21970	24260	25620	24850	27270	27500	27800	29270	27940	21000	21440
23	20280	22030	24260	25640	24930	27340	27500	27840	29090	27750	20750	21440
24	20360	22130	24290	25670	25030	27220	27400	28010	28870	27490	20510	21450
25	20430	22330	24430	25720	25060	27030	27400	28190	28650	27270	20300	21540
26	20440	22410	24630	25760	25060	26800	27400	28250	28540	27110	20080	21680
27	20470	22550	24600	25770	25150	26580	27300	28190	28510	26920	19910	21750
28	20470	22660	24620	25810	25210	26420	27300	28070	28490	26650	19630	21740
29	20460	22750	24650	25820	25310	26470	27500	28000	28510	26400	19500	22440
30	20490	22800	24680	25840	---	26610	27500	28030	28400	26140	19520	23260
31	20530	---	24750	25820	---	26820	---	28160	---	25870	19560	---
MAX	22370	22800	24750	25840	25820	27340	27600	28250	31220	28840	25620	23260
MIN	20170	20390	22810	24780	24120	25410	26010	27400	28400	25870	19500	19310
(†)	539.22	540.80	542.06	542.71	542.40	543.30	543.71	544.07	544.20	542.74	538.51	541.11
(ϕ)	-1840	+2270	+1950	+1070	-540	+1510	+680	+660	+240	-2530	-6310	+3700

CAL YR 1987 MAX 41880 MIN 20170 (ϕ) -5370
WTR YR 1988 MAX 31220 MIN 19310 (ϕ) +890

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

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1964 to current year.

324304097113601 - LAKE ARLINGTON SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
JAN									
14...	1136	1.00	292	8.30	7.0	0.85	9.4	77	110
14...	1138	10.0	292	8.30	7.0	--	9.3	76	--
14...	1140	20.0	292	8.30	7.0	--	9.3	76	--
14...	1142	30.0	295	8.20	7.0	--	9.3	76	--
14...	1144	36.0	295	8.20	7.0	--	9.3	76	110
MAY									
03...	1102	1.00	311	8.10	21.0	3.40	7.7	87	110
03...	1104	10.0	311	8.00	21.0	--	7.6	86	--
03...	1106	20.0	311	8.00	21.0	--	7.6	86	--
03...	1108	30.0	311	8.00	21.0	--	7.6	86	--
03...	1110	42.0	311	8.00	21.0	--	7.3	83	110
AUG									
25...	0923	1.00	302	8.30	32.5	1.10	6.6	93	100
25...	0925	10.0	302	8.30	32.0	--	6.4	89	--
25...	0927	20.0	304	8.10	31.5	--	5.4	75	--
25...	0929	30.0	308	7.50	31.0	--	1.2	16	100

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
14...	21	36	4.8	19	0.8	5.2	89	32	20
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	21	36	4.8	20	0.9	5.1	89	33	20
MAY									
03...	27	36	4.8	19	0.8	4.5	83	33	21
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	25	35	4.7	19	0.8	4.6	82	35	21
AUG									
25...	17	32	4.9	19	0.9	4.7	83	27	22
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	17	33	4.8	19	0.9	4.7	85	27	21

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN								
14...	0.30	3.8	174	0.200	0.50	0.030	<3	<1
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
14...	--	4.0	176	0.200	0.70	0.090	8	18
MAY								
03...	0.40	1.8	170	<0.100	0.70	0.030	4	<1
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
03...	--	1.9	170	<0.100	0.70	0.020	9	16
AUG								
25...	0.20	4.7	164	<0.100	0.60	0.030	8	4
25...	--	--	--	--	--	--	--	--
25...	--	--	--	<0.100	0.50	0.050	<10	150
25...	--	5.2	166	<0.100	1.0	0.170	13	640

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

324320097121101 - LAKE ARLINGTON SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
14...	1202	1.00	292	8.40	7.0	9.4	77
14...	1204	10.0	292	8.40	7.0	9.4	77
14...	1206	22.0	292	8.30	7.0	9.4	77
MAY							
03...	1134	1.00	311	8.10	21.5	7.8	89
03...	1136	10.0	311	8.10	21.5	7.8	89
03...	1138	20.0	311	8.10	21.5	7.8	89
AUG							
25...	0952	1.00	303	8.40	32.5	6.9	97
25...	0954	10.0	303	8.30	32.5	6.8	96
25...	0956	17.0	303	8.30	32.5	6.8	96

324253097121801 - LAKE ARLINGTON SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
14...	1216	1.00	292	8.40	8.0	9.4	79
14...	1218	10.0	292	8.40	8.0	9.4	79
14...	1220	20.0	292	8.40	7.5	9.3	77
14...	1222	31.0	292	8.40	7.5	9.2	76
MAY							
03...	1147	1.00	308	8.10	21.5	7.9	90
03...	1149	10.0	308	8.10	21.0	7.7	87
03...	1151	20.0	308	8.00	21.0	7.4	84
03...	1153	32.0	308	8.00	21.0	7.4	84
AUG							
25...	1010	1.00	301	8.30	32.5	6.6	93
25...	1012	10.0	305	8.00	31.5	5.5	76
25...	1014	20.0	305	7.40	31.0	1.6	22
25...	1016	25.0	305	7.40	31.0	1.0	14
25...	1018	29.0	307	7.40	31.0	1.0	14

324301097123301 - LAKE ARLINGTON SITE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
14...	1226	1.00	292	8.40	8.0	9.4	79
14...	1228	10.0	292	8.40	8.0	9.4	79
14...	1230	20.0	292	8.40	7.5	9.3	77
MAY							
03...	1156	1.00	310	8.10	21.0	7.9	90
03...	1158	10.0	309	8.10	21.0	7.6	86
03...	1200	20.0	306	8.10	21.0	7.6	86
03...	1202	27.0	306	8.10	21.0	7.4	84
AUG							
25...	1024	1.00	302	8.40	32.5	6.8	96
25...	1026	10.0	304	7.70	32.0	4.2	59
25...	1028	15.0	303	7.60	32.0	3.4	47
25...	1030	21.0	305	7.40	32.0	1.7	24

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

324257097130301 - LAKE ARLINGTON SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
14...	1242	1.00	294	8.40	10.5	9.2	82
14...	1244	10.0	293	8.40	10.5	9.2	82
MAY							
03...	1217	1.00	314	8.00	23.0	8.1	95
03...	1219	10.0	314	8.00	23.0	8.0	94
AUG							
25...	1054	1.00	307	8.20	35.5	6.4	95
25...	1056	14.0	308	8.20	35.5	6.4	95

324228097130301 - LAKE ARLINGTON SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
14...	1302	1.00	292	8.40	10.0	9.2	81
14...	1304	13.0	290	8.40	7.5	9.2	76
MAY							
03...	1228	1.00	312	8.10	22.5	8.0	93
03...	1230	11.0	310	8.10	22.0	8.0	92
03...	1232	14.0	307	8.00	21.5	7.8	89
AUG							
25...	1110	1.00	304	8.20	33.5	6.1	87
25...	1112	10.0	307	7.80	34.5	4.6	67

324143097132201 - LAKE ARLINGTON SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
JAN									
14...	1316	1.00	290	8.60	6.5	0.70	9.8	79	110
14...	1318	10.0	288	8.60	6.5	--	9.8	79	--
14...	1320	18.0	288	8.60	6.5	--	9.8	79	110
MAY									
03...	1246	1.00	304	8.30	21.0	2.40	8.5	96	110
03...	1248	10.0	304	8.20	21.0	--	8.4	95	--
03...	1250	20.0	304	8.00	20.0	--	7.9	88	99
AUG									
25...	1126	1.00	298	8.50	31.5	0.80	7.4	102	100
25...	1128	10.0	280	8.30	30.5	--	5.9	80	--
25...	1130	16.0	286	8.10	30.5	--	5.4	73	92

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
JAN								
14...	20	35	4.7	19	0.8	5.0	87	32
14...	--	--	--	--	--	--	--	--
14...	21	36	4.7	19	0.8	5.2	88	32
MAY								
03...	26	35	4.7	19	0.8	4.8	81	38
03...	--	--	--	--	--	--	--	--
03...	22	32	4.6	18	0.8	3.3	77	33
AUG								
25...	16	32	4.9	19	0.9	4.7	84	27
25...	--	--	--	--	--	--	--	--
25...	12	29	4.7	18	0.9	4.5	80	27

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

324143097132201 - LAKE ARLINGTON SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN								
14...	20	3.6	171	0.200	0.50	0.030	<3	<1
14...	--	--	--	--	--	--	--	--
14...	20	3.6	173	0.200	0.50	0.030	5	<1
MAY								
03...	21	1.9	173	0.500	0.90	0.030	9	1
03...	--	--	--	--	--	--	--	--
03...	20	2.1	159	<0.100	0.60	0.030	26	13
AUG								
25...	22	4.6	165	<0.100	0.60	0.040	3	2
25...	--	--	--	--	--	--	--	--
25...	21	4.6	157	<0.100	0.70	0.090	6	11

324133097130601 - LAKE ARLINGTON SITE EL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JAN							
14...	1332	1.00	290	8.60	6.5	9.9	80
14...	1334	12.0	290	8.60	6.5	9.8	79
MAY							
03...	1300	1.00	306	8.20	21.0	8.5	96
03...	1302	10.0	306	8.20	20.0	8.5	94
03...	1304	14.0	306	8.20	20.0	8.0	89
AUG							
25...	1146	1.00	300	8.60	31.0	7.5	103
25...	1148	9.00	282	8.30	30.5	6.0	82

324041097134601 - LAKE ARLINGTON SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
JAN									
14...	1346	1.00	265	8.60	5.5	0.30	9.6	76	96
14...	1348	10.0	265	8.60	5.5	--	9.7	77	93
MAY									
03...	1318	1.00	250	7.90	22.0	1.60	8.4	97	88
03...	1320	9.00	238	8.00	21.0	--	7.9	90	74

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
JAN								
14...	19	31	4.5	18	0.8	4.9	77	30
14...	17	30	4.5	19	0.9	4.8	77	30
MAY								
03...	23	28	4.4	18	0.9	3.6	65	31
03...	15	23	4.1	16	0.8	3.7	59	30

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

324041097134601 - LAKE ARLINGTON SITE FC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN								
14...	19	3.5	157	0.200	0.50	0.040	5	3
14...	19	3.5	157	0.200	0.50	0.040	9	3
MAY								
03...	19	2.1	145	0.100	0.80	0.030	5	<1
03...	18	2.3	132	0.100	1.2	0.040	13	3

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX

LOCATION.--Lat 32°45'46", long 96°59'42", Dallas County, Hydrologic Unit 12030102, on left bank at upstream side of bridge on Belt Line Road, 1.3 mi northeast of Grand Prairie, 3.7 mi upstream from Mountain Creek, and at mile 514.6.

DRAINAGE AREA.--3,065 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1925 to current year.

REVISED RECORDS.--WSP 628: 1925. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 405.42 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1933, nonrecording gage at bridge on old channel 2,500 ft southeast of present site at datum 7.56 ft higher. Dec. 6, 1933, to May 24, 1956, water-stage recorder at site 440 ft downstream from site of nonrecording gage at datum 7.56 ft higher than present datum. May 25, 1956, to Apr. 18, 1957, nonrecording gage at site 1.5 mi downstream at different datum. Apr. 19 to Aug 13, 1957, nonrecording gage on bridge at present site and at datum 5.00 ft higher than present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow is affected at times by three upstream reservoirs with a combined capacity of 248,600 acre-ft, of which 76,550 acre-ft is for flood control. During the current year, the city of Fort Worth discharged sewage effluent into the river upstream from this station. There are many diversions upstream from this station for municipal, industrial, and other uses. The river channel at this station was relocated and rectified in 1956. Gage-height telemeter at station.

AVERAGE DISCHARGE.--63 years (water years 1926-88), 556 ft³/s (402,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,000 ft³/s May 17, 1949 (gage-height, 28.00 ft, site and datum then in use), from rating curve extended above 36,000 ft³/s; minimum observed, 3.2 ft³/s June 6, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 30.6 ft in May 1908 (former site and datum), from information by local resident. Flood in April 1922 reached a stage of 29.0 ft (former site and datum), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,870 ft³/s June 1 at 1930 hours (gage height, 18.92 ft); minimum daily, 75 ft³/s July 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	188	192	658	192	191	308	259	4280	200	205	e158
2	170	174	179	614	188	553	301	188	2390	157	220	e303
3	147	176	159	528	188	1030	254	166	1260	288	213	e793
4	134	171	178	481	187	423	211	149	507	516	205	604
5	136	164	191	402	189	272	205	140	347	415	181	327
6	132	164	194	349	183	237	203	135	252	252	178	217
7	133	154	235	360	188	215	167	131	223	177	209	180
8	133	164	214	387	198	199	148	148	211	181	182	164
9	134	327	214	399	208	198	164	149	189	165	179	173
10	116	281	236	355	192	190	187	146	179	171	167	189
11	116	214	211	313	192	186	200	133	162	357	165	198
12	111	186	185	302	202	177	190	126	152	1010	179	169
13	121	165	209	278	193	167	185	163	147	413	191	153
14	110	155	354	253	195	160	187	166	156	260	196	200
15	127	700	359	245	190	164	186	150	155	206	194	731
16	120	1870	273	228	192	159	180	169	160	177	200	366
17	104	758	233	228	271	327	494	392	153	156	200	215
18	112	360	238	241	485	465	728	208	148	99	188	1160
19	135	336	1050	329	682	303	367	149	145	114	203	487
20	167	274	1860	299	369	211	233	371	147	101	232	268
21	168	222	460	271	232	189	193	679	164	85	308	207
22	169	199	359	255	200	174	182	474	156	75	326	181
23	150	194	327	208	197	160	168	231	153	112	248	172
24	131	193	464	245	205	178	157	178	152	106	e196	166
25	118	701	692	208	191	175	208	167	143	110	e184	164
26	116	582	2680	208	184	162	256	163	140	122	e176	161
27	111	298	1070	200	178	163	200	192	147	118	e165	151
28	110	283	540	199	185	173	173	187	174	130	e165	142
29	104	240	480	202	185	274	327	182	218	132	e145	595
30	98	206	510	203	---	375	382	175	248	197	e148	2020
31	95	---	606	195	---	275	---	240	---	200	e145	---
TOTAL	3999	10099	15152	9643	6641	8125	7344	6506	13058	6802	6093	11014
MEAN	129	337	489	311	229	262	245	210	435	219	197	367
MAX	171	1870	2680	658	682	1030	728	679	4280	1010	326	2020
MIN	95	154	159	195	178	159	148	126	140	75	145	142
AC-FT	7930	20030	30050	19130	13170	16120	14570	12900	25900	13490	12090	21850

CAL YR 1987 TOTAL 309531 MEAN 848 MAX 6170 MIN 95 AC-FT 614000
WTR YR 1988 TOTAL 104476 MEAN 285 MAX 4280 MIN 75 AC-FT 207200

e Estimated.

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1964 to current year. Chemical and biochemical analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1966 to current year.
pH: October 1976 to current year.
WATER TEMPERATURE: October 1966 to current year.
DISSOLVED OXYGEN: October 1976 to current year.

INSTRUMENTATION.--Beginning November 1976, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument, pump, or intake. 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, 1,320 microsiemens Dec. 12, 1978; minimum, 108 microsiemens May 1, 1986.
pH: Maximum, 8.6 units July 2, 1981, June 27, 1982, Mar. 26, 1983, and Feb. 5, 1986; minimum, 6.6 units Jan. 6, 1979.
WATER TEMPERATURE: Maximum, 35.0°C Aug. 8, 1982; minimum, 3.0°C Jan. 9, 1973.
DISSOLVED OXYGEN: Maximum, 14.8 mg/L Dec. 14, 16, 1983; minimum, 0.0 mg/L on several days during several years.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 932 microsiemens Feb. 11; minimum, 140 microsiemens July 12.
pH: Maximum, 8.4 units Nov. 12; minimum, 7.2 units Oct. 2, 3, Apr. 24, July 14, 15.
WATER TEMPERATURE: Maximum, 34.0°C Aug. 8, 9; minimum, 6.0°C Jan. 9, 10.
DISSOLVED OXYGEN: Maximum, 14.4 mg/L Feb. 13; minimum, 2.0 mg/L July 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV										
13...	1310	196	785	7.70	17.5	8.2	86	1.1	160	14
FEB										
09...	1250	184	761	7.60	13.0	11.5	110	5.4	160	10
APR										
11...	1530	211	830	7.60	19.0	8.5	92	2.0	160	1
18...	1200	788	--	--	--	--	--	--	--	--
18...	1400	764	--	--	--	--	--	--	--	--
MAY										
20...	1620	552	--	--	--	--	--	--	--	--
20...	1820	1120	--	--	--	--	--	--	--	--
20...	2020	896	--	--	--	--	--	--	--	--
20...	2220	739	--	--	--	--	--	--	--	--
21...	0020	767	--	--	--	--	--	--	--	--
21...	0220	729	--	--	--	--	--	--	--	--
21...	0420	696	--	--	--	--	--	--	--	--
21...	0620	716	--	--	--	--	--	--	--	--
21...	0820	733	--	--	--	--	--	--	--	--
21...	1020	746	--	--	--	--	--	--	--	--
21...	1220	729	--	--	--	--	--	--	--	--
21...	1420	726	--	--	--	--	--	--	--	--
JUN										
08...	1645	178	728	7.70	29.5	7.9	106	2.1	170	23
JUL										
03...	1814	849	--	--	--	--	--	--	--	--
03...	2014	750	--	--	--	--	--	--	--	--
03...	2214	420	--	--	--	--	--	--	--	--
04...	0014	302	--	--	--	--	--	--	--	--
04...	0214	264	--	--	--	--	--	--	--	--
04...	0414	248	--	--	--	--	--	--	--	--
04...	0614	238	--	--	--	--	--	--	--	--
04...	0814	238	--	--	--	--	--	--	--	--
04...	1014	245	--	--	--	--	--	--	--	--
04...	1214	549	--	--	--	--	--	--	--	--
04...	1414	893	--	--	--	--	--	--	--	--
04...	1614	942	--	--	--	--	--	--	--	--
12...	0141	367	--	--	--	--	--	--	--	--
12...	0341	1130	--	--	--	--	--	--	--	--
12...	0541	1210	--	--	--	--	--	--	--	--
12...	0741	1280	--	--	--	--	--	--	--	--
12...	0941	1490	--	--	--	--	--	--	--	--
12...	1141	1260	--	--	--	--	--	--	--	--
12...	1341	1150	--	--	--	--	--	--	--	--
12...	1541	1050	--	--	--	--	--	--	--	--
12...	1741	930	--	--	--	--	--	--	--	--
12...	1941	788	--	--	--	--	--	--	--	--
12...	2141	650	--	--	--	--	--	--	--	--
12...	2341	545	--	--	--	--	--	--	--	--
26...	1310	140	806	7.80	30.5	9.4	126	1.9	150	13
SEP										
08...	1030	96	770	7.60	27.0	6.9	88	--	140	16
29...	1834	881	--	--	--	--	--	--	--	--
29...	2034	1400	--	--	--	--	--	--	--	--
29...	2234	1710	--	--	--	--	--	--	--	--
30...	0034	1820	--	--	--	--	--	--	--	--
30...	0234	2250	--	--	--	--	--	--	--	--
30...	0434	2320	--	--	--	--	--	--	--	--
30...	0634	1990	--	--	--	--	--	--	--	--
30...	0834	1820	--	--	--	--	--	--	--	--
30...	1034	1850	--	--	--	--	--	--	--	--
30...	1234	2040	--	--	--	--	--	--	--	--

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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 WAT WH TOT FET 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)
NOV									
13...	50	7.7	95	3	13	143	77	99	0.90
FEB									
09...	52	8.4	88	3	11	155	82	78	0.80
APR									
11...	53	7.7	95	3	9.9	163	88	87	0.90
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
MAY									
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
JUN									
08...	58	7.1	75	3	2.9	151	73	73	0.60
JUL									
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
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12...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
26...	47	7.9	98	4	10	137	66	93	0.90
SEP									
08...	44	7.9	90	3	11	127	62	89	0.90
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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)
NOV									
13...	9.2	438	6.55	0.050	6.60	0.170	1.5	1.7	2.60
FEB									
09...	7.5	421	7.30	1.50	8.80	0.930	2.0	2.9	1.30
APR									
11...	7.8	447	4.50	1.20	5.70	0.250	1.5	1.8	2.30
18...	--	--	4.49	0.110	4.60	0.190	0.91	1.1	1.30
18...	--	--	4.20	0.200	4.40	0.290	1.2	1.5	1.10
MAY									
20...	--	--	5.46	0.340	5.80	0.100	1.4	1.5	2.20
20...	--	--	0.870	0.130	1.00	0.170	0.53	0.70	0.190
20...	--	--	1.47	0.130	1.60	0.120	0.58	0.70	0.420
20...	--	--	3.79	0.210	4.00	0.130	0.87	1.0	1.70
21...	--	--	3.39	0.010	3.40	0.020	0.68	0.70	1.40
21...	--	--	3.71	0.190	3.90	0.170	1.1	1.3	1.50
21...	--	--	3.91	0.290	4.20	0.160	0.84	1.0	1.60
21...	--	--	2.23	0.270	2.50	0.140	0.76	0.90	0.910
21...	--	--	3.46	0.240	3.70	0.110	0.89	1.0	1.60
21...	--	--	2.73	0.170	2.90	0.090	0.71	0.80	1.10
21...	--	--	2.44	0.160	2.60	0.110	0.79	0.90	0.970
21...	--	--	2.50	0.200	2.70	0.110	0.79	0.90	1.00
JUN									
08...	8.8	389	5.08	0.020	5.10	0.060	0.74	0.80	2.40
JUL									
03...	--	--	4.90	0.100	5.00	0.130	1.6	1.7	2.20
03...	--	--	0.400	0.100	0.500	0.180	0.42	0.60	0.120
03...	--	--	3.07	0.130	3.20	0.190	0.71	0.90	1.10
04...	--	--	3.90	0.100	4.00	0.200	1.7	1.9	2.80
04...	--	--	4.83	0.070	4.90	0.180	1.0	1.2	2.20
04...	--	--	4.94	0.060	5.00	0.160	1.7	1.9	2.50
04...	--	--	4.94	0.060	5.00	0.150	1.1	1.3	2.60
04...	--	--	4.95	0.050	5.00	0.150	1.2	1.4	2.40
04...	--	--	4.95	0.050	5.00	0.160	1.6	1.8	2.40
04...	--	--	4.93	0.070	5.00	0.180	1.3	1.5	9.50
04...	--	--	4.00	0.100	4.10	0.180	1.2	1.4	1.80
04...	--	--	20.9	0.060	21.0	0.190	1.5	1.7	3.40
12...	--	--	--	<0.010	5.40	<0.010	--	1.7	2.40
12...	--	--	--	<0.010	5.70	<0.010	--	1.0	2.70
12...	--	--	--	<0.010	6.20	<0.010	--	1.9	2.90
12...	--	--	--	<0.010	6.80	<0.010	--	1.3	3.00
12...	--	--	--	<0.010	7.20	<0.010	--	1.3	2.90
12...	--	--	--	<0.010	7.40	<0.010	--	1.9	3.20
12...	--	--	7.77	0.030	7.80	<0.010	--	1.2	3.20
12...	--	--	7.97	0.030	8.00	<0.010	--	1.6	3.10
12...	--	--	--	<0.010	8.00	<0.010	--	1.2	2.90
12...	--	--	7.98	0.020	8.00	0.010	1.3	1.3	3.10
12...	--	--	--	<0.010	7.90	<0.010	--	1.8	3.70
12...	--	--	--	<0.010	7.80	<0.010	--	2.0	3.30
26...	9.5	414	--	<0.010	<0.100	0.040	0.56	0.60	0.030
SEP									
08...	9.5	390	8.57	0.030	8.60	0.070	1.4	1.5	3.60
29...	--	--	5.16	0.040	5.20	0.050	1.2	1.2	2.30
29...	--	--	3.77	0.030	3.80	0.060	0.94	1.0	1.70
29...	--	--	1.87	0.030	1.90	0.050	0.75	0.80	1.00
30...	--	--	0.980	0.020	1.00	0.070	0.43	0.50	0.490
30...	--	--	0.760	0.040	0.800	0.040	0.56	0.60	0.330
30...	--	--	0.650	0.050	0.700	0.060	0.64	0.70	0.270
30...	--	--	0.860	0.040	0.900	0.080	0.52	0.60	0.280
30...	--	--	0.950	0.050	1.00	0.090	0.41	0.50	0.340
30...	--	--	1.17	0.030	1.20	0.070	0.53	0.60	0.390
30...	--	--	1.26	0.040	1.30	0.110	0.39	0.50	0.420

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	3999	794	446	4820	75	812	91	981	170
NOV.	1987	10099	575	322	8780	55	1490	59	1610	150
DEC.	1987	15152	491	274	11200	47	1910	47	1940	150
JAN.	1988	9643	700	393	10200	66	1730	76	1980	170
FEB.	1988	6641	776	437	7830	74	1320	88	1580	170
MAR.	1988	8125	719	404	8850	68	1500	79	1740	170
APR.	1988	7344	728	409	8110	69	1370	80	1590	170
MAY	1988	6506	708	397	6980	67	1180	78	1370	170
JUNE	1988	13058	494	276	9740	47	1660	49	1740	140
JULY	1988	6802	663	372	6830	63	1160	71	1310	160
AUG.	1988	6093	789	443	7300	75	1230	90	1480	170
SEPT	1988	11014	576	322	9590	55	1630	59	1760	160
TOTAL		104476	**	**	100000	**	17000	**	19100	**
WTD.AVG.		285	634	355	**	60	**	68	**	160

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	774	735	757	909	876	890	668	638	656	558	528	545
2	765	731	747	909	877	895	750	668	708	548	509	536
3	762	709	730	871	827	849	752	718	734	568	505	545
4	780	725	745	892	821	853	768	720	752	588	532	567
5	815	738	775	908	872	887	760	730	745	623	559	593
6	775	727	751	904	847	871	766	718	742	670	595	638
7	817	710	767	861	842	852	784	726	755	719	667	687
8	837	777	800	893	770	842	718	682	701	721	663	687
9	858	787	814	861	564	754	736	698	719	700	671	687
10	874	809	837	684	569	642	770	708	736	687	645	666
11	834	781	808	721	660	701	742	702	715	711	665	688
12	848	774	805	766	719	741	768	728	756	730	689	705
13	804	742	779	776	722	746	774	744	756	783	734	755
14	793	738	765	790	770	779	758	556	664	788	768	780
15	830	774	803	776	202	592	646	606	627	794	767	781
16	868	814	838	430	274	331	640	608	619	805	784	796
17	908	841	865	420	382	405	686	640	661	823	794	809
18	899	841	862	522	412	471	686	654	673	823	786	807
19	861	822	840	670	510	596	674	254	481	821	756	792
20	836	754	804	660	568	616	390	288	336	817	771	787
21	778	735	752	674	620	644	485	368	435	828	792	807
22	782	731	761	702	666	685	577	479	526	805	783	795
23	775	742	759	734	674	706	635	557	589	803	788	794
24	795	766	778	706	664	691	654	455	586	823	793	810
25	811	795	804	670	388	531	565	264	483	818	774	800
26	860	791	834	502	372	423	394	254	300	801	777	790
27	827	782	811	632	504	541	413	306	360	808	787	795
28	829	782	797	646	594	623	502	396	460	828	796	812
29	845	805	823	676	614	640	576	487	535	833	812	822
30	864	842	852	678	628	656	542	494	521	830	812	818
31	922	854	885	---	---	---	567	454	535	839	810	828
MONTH	922	709	798	909	202	682	784	254	609	839	505	733

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	827	803	818	822	778	798	708	440	646	676	618	655
2	816	782	800	804	414	679	790	652	728	692	632	665
3	816	786	798	664	406	495	788	712	745	722	696	709
4	848	818	832	616	478	554	750	696	728	802	732	760
5	849	805	842	730	616	660	742	694	719	822	804	812
6	849	837	843	768	714	743	784	732	761	850	828	840
7	848	828	839	780	744	765	820	744	781	858	832	845
8	830	791	811	794	756	775	844	820	828	864	824	849
9	806	776	790	846	794	823	852	830	840	860	808	838
10	882	778	839	850	818	837	844	806	826	834	788	817
11	932	878	905	858	840	848	838	776	816	852	788	817
12	878	836	858	880	840	860	808	770	789	880	854	864
13	834	824	830	868	848	856	816	782	798	896	846	868
14	856	824	841	872	820	853	838	816	828	852	800	820
15	844	824	834	836	794	820	854	824	840	860	812	831
16	844	794	827	836	804	820	854	832	844	872	434	839
17	824	584	786	846	516	754	848	328	713	520	436	469
18	778	526	667	792	702	746	676	416	594	674	526	590
19	720	552	667	720	604	650	638	456	550	798	700	756
20	664	552	600	748	648	689	728	632	668	882	340	724
21	754	670	708	762	732	749	764	632	738	694	466	589
22	776	734	757	776	738	759	784	754	769	540	442	504
23	770	754	762	820	762	792	824	762	786	606	492	536
24	806	768	788	842	820	828	816	788	800	718	622	662
25	808	792	800	856	826	838	824	776	799	766	732	748
26	818	794	805	862	832	845	816	706	755	838	798	824
27	834	818	826	852	828	841	760	706	724	846	812	828
28	846	828	836	856	794	826	808	760	776	834	806	815
29	850	818	837	824	720	780	830	436	743	850	794	827
30	---	---	---	772	562	716	726	538	656	876	748	831
31	---	---	---	714	650	682	---	---	---	766	592	726
MONTH	932	526	798	880	406	764	854	328	753	896	340	750

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	582	238	314	806	744	776	866	732	795	824	806	814
2	418	272	329	822	770	799	812	728	762	830	692	810
3	448	320	369	840	268	746	778	752	764	618	366	492
4	552	400	489	768	326	669	794	766	778	576	408	483
5	618	502	570	558	328	485	804	770	788	540	434	477
6	682	602	636	608	532	563	842	810	830	666	586	615
7	728	652	681	722	618	676	856	834	843	720	676	702
8	790	730	755	776	730	745	830	756	788	796	726	769
9	808	774	786	788	610	754	788	762	778	870	826	847
10	820	778	798	806	626	779	830	772	806	898	816	858
11	828	790	804	728	512	644	---	---	830	870	822	841
12	862	784	820	634	140	390	---	---	825	894	820	837
13	834	774	814	598	386	502	---	---	805	844	784	822
14	812	772	796	688	592	631	---	---	796	834	752	799
15	832	802	813	742	686	715	---	---	784	840	406	654
16	892	844	866	784	732	753	---	---	766	566	366	444
17	852	826	838	802	764	782	796	762	778	716	576	641
18	848	828	840	804	756	788	818	792	809	788	370	573
19	900	830	849	776	754	767	834	792	816	492	368	430
20	862	806	846	806	764	789	898	804	852	602	466	533
21	810	772	791	830	802	819	882	732	808	698	606	642
22	852	784	819	834	802	814	758	554	631	746	690	704
23	872	842	859	856	836	848	684	618	642	774	746	756
24	850	812	837	892	848	867	788	690	743	784	736	770
25	830	786	819	862	818	842	822	798	810	786	746	766
26	820	796	809	824	782	806	838	818	827	790	750	765
27	828	788	812	828	786	808	882	830	850	802	708	767
28	830	760	795	866	838	856	892	852	870	800	754	777
29	802	764	785	886	856	868	872	844	861	806	440	679
30	870	784	817	898	848	882	844	784	810	390	248	320
31	---	---	---	924	770	826	810	790	798	---	---	---
MONTH	900	238	739	924	140	742	898	554	795	898	248	680

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	8.1	7.6	7.8	7.8	7.7	7.7	7.9	7.7	7.8
2	7.7	7.2	7.4	8.0	7.6	7.8	7.8	7.7	7.7	8.0	7.8	7.9
3	7.8	7.2	7.5	8.0	7.5	7.8	7.9	7.8	7.8	8.0	7.8	7.8
4	7.8	7.3	7.6	7.9	7.5	7.8	7.8	7.7	7.7	7.9	7.7	7.8
5	7.8	7.4	7.6	7.9	7.6	7.8	7.8	7.7	7.7	7.8	7.7	7.7
6	7.8	7.4	7.6	8.0	7.5	7.8	7.8	7.7	7.7	7.7	7.6	7.7
7	7.8	7.3	7.6	8.1	7.6	7.8	7.7	7.7	7.7	7.7	7.6	7.6
8	7.9	7.5	7.7	8.0	7.8	7.8	7.7	7.6	7.7	7.7	7.6	7.6
9	7.9	7.6	7.8	7.7	7.4	7.5	7.7	7.6	7.7	7.7	7.6	7.6
10	7.8	7.5	7.7	7.9	7.4	7.6	7.7	7.6	7.7	7.7	7.6	7.7
11	7.8	7.4	7.6	8.0	7.4	7.7	7.8	7.7	7.7	7.7	7.6	7.6
12	8.0	7.4	7.7	8.4	7.6	8.0	7.7	7.6	7.7	7.6	7.5	7.6
13	8.1	7.5	7.8	7.9	7.6	7.7	7.7	7.6	7.6	7.6	7.4	7.5
14	8.1	7.6	7.9	7.7	7.5	7.6	7.8	7.7	7.7	7.6	7.5	7.6
15	8.1	7.7	7.9	8.1	7.4	7.6	7.7	7.6	7.7	7.6	7.5	7.5
16	8.0	7.8	7.9	7.7	7.5	7.6	7.7	7.6	7.7	7.6	7.5	7.5
17	8.1	7.7	7.9	7.6	7.5	7.6	7.7	7.6	7.6	7.6	7.5	7.5
18	8.1	7.7	7.9	7.6	7.5	7.6	7.6	7.6	7.6	7.6	7.5	7.5
19	7.9	7.7	7.8	7.6	7.5	7.5	7.8	7.6	7.6	7.6	7.4	7.5
20	7.8	7.5	7.6	7.6	7.5	7.6	7.7	7.7	7.7	7.6	7.4	7.5
21	8.1	7.5	7.8	7.6	7.6	7.6	7.7	7.5	7.6	7.6	7.5	7.6
22	8.1	7.7	7.9	7.7	7.6	7.6	7.6	7.5	7.5	7.6	7.5	7.6
23	7.9	7.8	7.9	7.6	7.6	7.6	7.5	7.5	7.5	7.6	7.5	7.5
24	8.1	7.8	7.9	7.7	7.5	7.6	7.6	7.5	7.5	7.6	7.5	7.5
25	8.1	7.7	7.9	7.7	7.5	7.6	7.8	7.5	7.6	7.6	7.4	7.5
26	8.0	7.7	7.8	7.8	7.6	7.7	7.8	7.6	7.7	7.6	7.5	7.5
27	8.1	7.5	7.8	7.9	7.8	7.8	7.8	7.6	7.7	7.6	7.4	7.5
28	8.2	7.5	7.8	7.9	7.7	7.7	7.7	7.6	7.6	7.6	7.5	7.5
29	8.2	7.7	8.0	7.8	7.7	7.8	7.6	7.5	7.6	7.6	7.5	7.5
30	8.2	7.8	8.0	7.8	7.7	7.7	7.6	7.6	7.6	7.6	7.4	7.5
31	8.2	7.7	7.9	---	---	---	7.7	7.6	7.7	7.6	7.5	7.5
MONTH	8.2	7.2	7.8	8.4	7.4	7.7	7.9	7.5	7.7	8.0	7.4	7.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.5	7.3	7.4	7.6	7.4	7.4	7.6	7.4	7.5	7.6	7.5	7.5
2	7.4	7.3	7.4	7.6	7.3	7.4	7.5	7.4	7.5	7.5	7.4	7.5
3	7.4	7.3	7.4	7.6	7.3	7.5	7.7	7.5	7.6	7.5	7.4	7.5
4	7.5	7.3	7.4	7.7	7.6	7.6	7.6	7.4	7.5	7.5	7.4	7.4
5	7.6	7.5	7.5	7.6	7.6	7.6	7.5	7.4	7.5	7.5	7.4	7.5
6	7.6	7.5	7.5	7.7	7.5	7.6	7.5	7.4	7.4	7.7	7.5	7.6
7	7.6	7.5	7.5	7.6	7.5	7.6	7.5	7.5	7.5	7.5	7.5	7.5
8	7.6	7.4	7.5	7.6	7.5	7.5	7.5	7.4	7.4	7.6	7.5	7.6
9	7.5	7.4	7.4	7.6	7.5	7.5	7.5	7.4	7.4	7.7	7.4	7.5
10	7.6	7.4	7.5	7.7	7.5	7.6	7.6	7.5	7.5	7.7	7.4	7.5
11	7.6	7.4	7.5	7.7	7.5	7.6	7.6	7.5	7.5	7.5	7.4	7.4
12	7.7	7.5	7.6	7.6	7.5	7.5	7.5	7.4	7.5	7.5	7.4	7.5
13	7.7	7.5	7.6	7.7	7.5	7.6	7.4	7.4	7.4	7.6	7.4	7.5
14	7.6	7.5	7.6	7.7	7.5	7.6	7.4	7.4	7.4	7.9	7.4	7.6
15	7.6	7.3	7.5	7.7	7.5	7.6	7.4	7.4	7.4	8.0	7.6	7.7
16	7.6	7.3	7.5	7.6	7.4	7.5	7.6	7.4	7.5	---	---	---
17	7.7	7.3	7.4	7.7	7.5	7.5	7.6	7.3	7.5	---	---	---
18	7.5	7.3	7.4	7.6	7.4	7.5	7.4	7.2	7.4	---	---	---
19	7.6	7.4	7.5	7.7	7.6	7.6	7.5	7.3	7.4	7.6	7.5	7.6
20	7.6	7.5	7.6	7.6	7.5	7.6	7.5	7.4	7.4	7.6	7.5	7.6
21	7.6	7.5	7.6	7.8	7.5	7.6	---	---	---	7.5	7.4	7.4
22	7.6	7.5	7.5	7.6	7.5	7.5	7.6	7.4	7.4	7.5	7.5	7.5
23	7.5	7.4	7.4	7.6	7.4	7.5	7.6	7.4	7.4	7.6	7.5	7.6
24	7.5	7.4	7.4	7.6	7.4	7.5	7.6	7.2	7.4	7.6	7.5	7.6
25	7.6	7.4	7.5	7.7	7.4	7.5	7.5	7.4	7.5	7.6	7.5	7.6
26	7.6	7.5	7.5	7.7	7.4	7.6	7.5	7.3	7.4	7.8	7.7	7.8
27	7.6	7.4	7.5	7.8	7.6	7.7	7.6	7.4	7.5	7.8	7.7	7.7
28	7.6	7.4	7.5	7.7	7.6	7.6	7.6	7.4	7.5	7.9	7.7	7.8
29	7.6	7.4	7.5	7.6	7.4	7.5	7.5	7.4	7.4	7.9	7.7	7.8
30	---	---	---	7.6	7.3	7.5	7.5	7.3	7.4	8.0	7.8	7.9
31	---	---	---	7.6	7.5	7.5	---	---	---	7.8	7.7	7.7
MONTH	7.7	7.3	7.5	7.8	7.3	7.6	7.7	7.2	7.5	8.0	7.4	7.6

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.9	7.6	7.8	7.7	7.5	7.6	8.0	7.8	7.9	7.7	7.6	7.6
2	7.8	7.6	7.7	7.7	7.5	7.7	7.8	7.7	7.8	7.7	7.7	7.7
3	7.7	7.5	7.6	7.7	7.5	7.6	7.8	7.5	7.7	7.7	7.5	7.6
4	7.6	7.6	7.6	7.5	7.2	7.4	7.8	7.5	7.7	7.6	7.5	7.5
5	7.7	7.6	7.6	7.4	7.3	7.4	7.8	7.6	7.7	7.6	7.5	7.5
6	7.7	7.6	7.7	7.4	7.3	7.3	7.7	7.5	7.6	7.7	7.5	7.6
7	7.7	7.6	7.7	7.4	7.3	7.3	7.7	7.5	7.6	7.6	7.5	7.6
8	7.7	7.6	7.7	7.5	7.4	7.4	7.7	7.6	7.6	7.7	7.5	7.6
9	7.8	7.6	7.7	7.6	7.4	7.5	7.7	7.5	7.6	7.7	7.6	7.7
10	7.8	7.7	7.8	7.6	7.5	7.6	7.7	7.5	7.6	7.7	7.6	7.7
11	7.9	7.7	7.8	7.5	7.4	7.5	7.8	7.6	7.6	7.7	7.6	7.7
12	8.0	7.8	7.9	7.9	7.3	7.4	---	---	---	7.7	7.6	7.7
13	8.0	7.8	7.9	7.3	7.2	7.3	---	---	---	7.7	7.6	7.6
14	8.1	7.8	7.9	7.3	7.2	7.3	---	---	---	7.6	7.6	7.6
15	8.0	7.7	7.9	7.4	7.2	7.3	---	---	---	7.6	7.5	7.5
16	8.2	8.0	8.1	7.5	7.4	7.4	7.9	7.6	7.7	7.6	7.5	7.6
17	8.0	7.8	7.9	7.5	7.4	7.5	7.7	7.5	7.6	7.6	7.6	7.6
18	8.0	7.8	7.9	7.7	7.5	7.6	7.7	7.6	7.7	7.6	7.4	7.5
19	8.0	7.8	7.9	7.7	7.5	7.6	7.7	7.6	7.6	7.5	7.5	7.5
20	8.0	7.8	7.9	7.6	7.5	7.6	7.6	7.5	7.6	7.6	7.5	7.5
21	8.0	7.8	7.9	7.8	7.6	7.7	7.7	7.5	7.6	7.5	7.5	7.5
22	8.0	7.7	7.8	7.9	7.6	7.7	7.5	7.4	7.4	7.7	7.5	7.6
23	8.0	7.8	7.9	7.8	7.6	7.7	7.5	7.4	7.4	7.7	7.6	7.6
24	8.0	7.8	7.9	7.9	7.6	7.8	7.7	7.5	7.5	7.7	7.6	7.6
25	7.9	7.8	7.8	7.9	7.7	7.8	7.6	7.5	7.6	7.7	7.6	7.6
26	7.9	7.7	7.8	7.9	7.6	7.7	7.7	7.6	7.6	7.8	7.6	7.7
27	7.8	7.7	7.8	7.9	7.6	7.7	7.9	7.6	7.7	7.7	7.6	7.6
28	7.8	7.7	7.7	7.9	7.6	7.7	7.8	7.6	7.7	7.8	7.6	7.7
29	7.8	7.5	7.7	7.9	7.7	7.8	7.7	7.6	7.6	7.7	7.4	7.6
30	7.7	7.5	7.6	7.8	7.7	7.8	7.7	7.6	7.6	7.8	7.6	7.7
31	---	---	---	8.0	7.8	7.9	7.7	7.6	7.6	---	---	---
MONTH	8.2	7.5	7.8	8.0	7.2	7.6	8.0	7.4	7.6	7.8	7.4	7.6

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	23.5	22.5	23.0	15.0	14.0	14.5	9.0	8.5	8.5
2	25.5	23.5	24.5	23.5	22.0	22.5	15.5	14.0	15.0	9.0	8.0	8.5
3	24.5	22.5	23.5	23.0	21.5	22.0	17.5	15.5	16.0	10.0	8.0	9.0
4	24.5	21.5	23.0	23.5	21.5	22.5	18.0	16.5	17.0	10.0	8.0	9.5
5	25.0	22.0	23.5	23.5	22.0	23.0	18.5	17.0	17.5	10.5	8.5	9.5
6	25.0	23.0	23.5	22.0	20.5	21.5	19.5	18.5	19.0	10.0	8.5	9.0
7	25.0	22.0	23.0	20.5	19.5	20.0	19.0	18.5	18.5	8.5	8.0	8.0
8	25.0	22.5	23.5	21.0	20.0	20.5	18.5	17.5	18.0	8.5	7.0	7.5
9	25.5	23.0	24.0	20.5	16.0	18.5	17.5	16.5	17.0	8.5	6.0	7.5
10	27.0	24.0	25.0	17.5	16.5	17.0	17.0	16.0	16.5	8.5	6.0	7.5
11	24.0	22.0	23.0	17.0	16.0	16.5	16.5	15.5	16.0	9.5	7.0	8.0
12	23.5	21.0	22.0	17.0	15.5	16.5	16.5	15.5	16.0	11.5	9.5	10.5
13	23.0	20.5	21.5	20.0	16.0	17.5	16.0	14.5	15.0	11.0	9.5	10.0
14	23.5	21.0	22.0	19.5	17.5	18.5	14.5	11.5	13.0	10.5	9.5	10.0
15	23.5	21.5	22.5	19.5	16.0	18.5	12.5	11.5	12.0	11.5	10.0	10.5
16	25.0	23.0	23.5	16.5	15.5	16.0	11.5	10.0	11.0	13.5	11.5	12.5
17	26.0	23.0	24.0	16.0	15.0	15.5	12.0	11.0	11.5	15.0	13.5	14.0
18	25.0	23.0	23.5	16.5	15.0	15.5	13.0	12.0	12.5	14.5	14.0	14.0
19	24.0	23.0	23.5	16.5	15.5	16.0	14.0	11.5	13.0	15.0	13.5	14.5
20	23.0	22.0	22.5	16.0	14.5	15.5	11.5	11.0	11.5	14.0	12.0	13.0
21	21.5	20.0	20.5	16.5	15.0	16.0	13.0	11.0	12.0	12.0	11.5	12.0
22	20.5	19.5	20.0	17.5	16.5	17.0	14.5	12.0	13.5	11.5	11.0	11.5
23	21.0	20.0	20.5	19.5	18.0	18.5	15.0	13.0	14.0	12.0	11.0	11.5
24	23.0	21.0	22.0	20.5	19.5	20.0	16.0	15.0	15.5	13.0	12.0	12.5
25	23.5	22.5	23.0	20.0	16.0	18.0	15.0	8.5	13.0	12.5	11.5	12.0
26	24.5	23.0	23.5	16.0	15.5	15.5	10.5	7.5	8.5	12.5	11.0	11.5
27	23.5	22.0	23.0	15.5	15.0	15.0	9.0	7.5	8.5	13.0	11.0	12.0
28	22.0	20.5	21.5	15.5	14.5	15.0	10.0	8.0	9.0	14.0	12.5	13.5
29	22.5	20.5	21.5	14.5	13.5	14.0	10.5	8.5	9.5	15.0	14.0	14.5
30	24.0	22.0	22.5	15.0	14.0	14.5	10.0	8.0	9.0	16.5	15.0	15.5
31	24.0	22.5	23.0	---	---	---	10.0	8.5	9.5	18.0	16.5	17.0
MONTH	27.0	19.5	23.0	23.5	13.5	18.0	19.5	7.5	13.5	18.0	6.0	11.0

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	18.5	16.5	17.5	19.0	17.5	18.5	18.5	17.5	18.0	23.5	20.5	22.0
2	16.5	13.5	15.0	18.5	17.0	18.0	20.5	17.5	18.5	22.5	21.5	22.0
3	13.0	12.0	12.5	17.0	14.5	16.0	21.0	18.0	19.5	23.5	21.0	22.0
4	12.0	11.0	11.5	16.0	14.0	15.0	22.5	19.0	21.0	24.5	21.5	23.0
5	11.0	10.0	10.5	16.5	14.0	15.5	23.5	21.5	22.5	25.0	22.0	23.5
6	11.5	9.5	10.5	17.0	15.0	16.0	22.5	20.5	21.5	24.5	23.0	24.0
7	11.5	10.5	11.0	18.0	16.0	17.0	23.0	20.0	21.5	24.0	22.5	23.0
8	12.5	11.5	12.0	18.0	17.0	17.5	23.0	20.5	21.5	25.5	22.5	24.0
9	13.0	11.0	12.5	18.0	16.0	17.0	22.5	20.0	21.5	26.5	24.0	25.0
10	13.5	12.0	12.5	18.5	16.0	17.0	22.0	18.5	19.5	26.5	23.5	25.0
11	11.5	10.5	11.0	19.5	16.5	18.0	19.0	17.0	18.0	25.5	24.0	25.0
12	11.5	9.5	11.0	19.0	17.5	18.5	19.5	17.0	18.0	26.0	23.5	25.0
13	13.5	11.5	12.5	18.0	16.0	17.0	21.0	17.5	19.5	27.0	24.0	25.5
14	15.5	13.5	14.5	16.5	14.5	15.5	21.5	19.0	20.0	27.5	24.5	26.0
15	15.0	13.5	14.0	17.0	14.5	15.5	23.0	20.5	22.0	28.0	25.0	26.5
16	15.0	13.0	14.0	16.5	15.5	16.0	23.0	21.5	22.5	---	---	---
17	15.5	14.0	15.0	15.5	13.0	14.5	22.0	20.0	21.0	---	---	---
18	14.5	12.5	14.0	15.0	13.0	14.0	21.0	19.0	20.0	---	---	---
19	13.0	12.0	12.5	15.0	11.5	13.5	20.0	17.5	19.0	28.0	26.0	27.0
20	13.5	11.5	12.5	17.0	14.5	15.5	21.5	18.0	20.0	27.5	23.0	26.0
21	15.0	12.5	14.0	18.5	16.0	17.5	24.0	20.5	22.0	26.0	23.5	25.0
22	16.0	14.0	15.0	20.0	17.5	18.5	24.5	22.0	23.0	25.0	23.5	24.5
23	16.0	15.0	15.5	20.5	18.5	19.5	25.0	22.5	23.5	25.0	22.5	23.5
24	15.5	14.0	14.5	22.5	19.5	21.0	24.0	21.5	23.0	26.5	24.0	25.0
25	16.0	14.0	15.0	22.5	20.5	21.5	23.5	21.0	22.5	27.0	24.5	26.0
26	17.0	15.0	16.0	22.0	19.5	21.0	24.0	21.0	22.5	27.5	24.5	26.0
27	18.5	16.5	17.5	21.5	19.0	20.0	23.0	21.0	22.0	27.0	24.5	26.0
28	19.0	17.0	18.0	21.0	20.0	20.5	23.5	20.5	22.0	27.0	25.0	26.0
29	19.5	17.5	18.5	20.5	18.0	19.0	23.0	21.5	22.5	27.0	25.5	26.0
30	---	---	---	18.5	16.0	17.0	22.5	21.0	21.5	27.0	25.5	26.0
31	---	---	---	17.5	16.5	17.0	---	---	---	26.5	25.5	26.0
MONTH	19.5	9.5	14.0	22.5	11.5	17.5	25.0	17.0	21.0	28.0	20.5	25.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.0	22.0	23.0	32.0	29.5	31.0	32.0	30.0	31.0	30.5	27.5	29.0
2	24.0	23.0	23.5	32.0	30.0	31.0	32.0	30.0	31.0	31.5	29.0	30.0
3	23.5	22.0	23.0	31.0	28.0	30.0	31.5	30.0	30.5	28.5	26.5	27.5
4	26.0	23.5	24.5	31.0	28.5	29.5	31.5	30.0	31.0	28.0	26.5	27.5
5	26.5	24.0	25.5	31.0	28.5	30.0	32.5	30.0	31.5	28.0	25.5	26.5
6	28.0	25.0	26.5	31.0	29.0	30.0	33.5	30.5	32.0	28.5	26.0	27.0
7	28.5	25.5	27.0	31.0	29.0	30.0	33.5	31.0	32.0	29.0	26.5	27.5
8	29.5	26.5	28.0	30.5	29.0	29.5	34.0	31.5	32.5	29.0	26.5	28.0
9	30.5	28.0	29.0	31.0	28.5	29.5	34.0	31.5	32.5	29.5	27.0	28.5
10	29.5	27.5	28.5	31.5	29.0	30.0	33.5	31.0	32.0	30.0	27.5	28.5
11	28.5	26.0	27.5	30.0	28.5	29.0	33.0	30.5	31.5	30.0	27.5	28.5
12	28.5	26.0	27.0	29.5	26.5	28.0	---	---	---	30.5	28.0	29.0
13	29.0	26.5	27.5	31.5	28.5	30.0	---	---	---	30.5	28.5	29.5
14	29.0	27.0	28.0	32.0	30.0	31.0	---	---	---	30.0	28.5	29.5
15	29.5	27.5	28.5	32.5	30.0	31.0	---	---	---	29.5	27.5	28.5
16	30.0	27.5	29.0	32.5	30.5	31.5	---	---	---	28.5	26.5	27.5
17	29.5	28.0	29.0	33.5	30.5	32.0	32.5	30.5	31.5	29.0	28.0	28.5
18	30.5	27.5	29.0	33.0	30.5	32.0	32.0	30.5	31.5	29.0	27.5	28.0
19	31.0	28.0	29.5	32.0	30.5	31.0	32.0	30.5	31.0	28.5	27.0	27.5
20	30.5	28.0	29.5	31.0	29.5	30.0	31.5	30.0	31.0	28.5	27.0	27.5
21	30.5	28.5	29.5	31.5	28.5	30.0	32.0	29.5	31.0	29.5	27.5	28.5
22	31.0	28.5	29.5	32.0	28.5	30.0	32.5	30.5	31.5	30.0	28.0	29.0
23	31.0	28.5	30.0	32.5	29.0	30.5	32.5	30.5	31.5	30.0	28.5	29.0
24	31.5	29.0	30.0	32.5	29.0	30.5	33.0	31.0	32.0	29.5	27.5	28.5
25	31.0	29.0	30.0	32.5	29.5	30.5	33.5	30.5	32.0	28.0	26.0	27.0
26	31.0	29.0	30.0	33.0	29.5	31.0	32.5	30.0	31.5	28.5	26.0	27.0
27	31.0	29.5	30.5	33.0	30.0	31.0	32.5	30.0	31.0	28.5	26.5	27.5
28	30.5	29.5	30.0	33.5	30.0	31.0	32.5	30.0	31.0	29.0	26.5	27.5
29	31.0	28.5	29.5	33.0	29.5	31.0	30.5	28.0	29.0	27.5	24.0	25.5
30	32.0	29.5	30.5	32.0	30.0	31.0	30.0	27.5	28.0	23.5	21.0	22.0
31	---	---	---	32.0	30.0	31.0	30.0	27.0	28.5	---	---	---
MONTH	32.0	22.0	28.0	33.5	26.5	30.5	34.0	27.0	31.0	31.5	21.0	28.0

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	8.1	6.8	7.4	9.3	8.8	9.0	11.3	10.9	11.1
2	8.3	6.9	7.5	7.8	6.6	7.2	9.2	8.7	8.5	11.7	11.2	11.4
3	8.4	7.1	7.7	8.8	7.3	8.0	9.7	8.8	9.1	11.7	10.8	11.2
4	9.5	7.7	8.6	8.9	7.3	8.0	8.8	8.3	8.5	11.5	10.7	11.0
5	8.6	7.8	8.2	8.6	6.7	7.7	8.2	7.9	8.0	11.2	10.4	10.8
6	8.8	7.6	8.2	8.1	6.9	7.4	8.2	7.6	7.9	11.2	10.4	10.7
7	8.6	7.9	8.3	8.2	7.2	7.7	7.8	7.5	7.7	10.9	10.6	10.7
8	9.3	7.8	8.4	7.8	6.8	7.3	8.1	7.6	7.8	11.3	10.6	11.0
9	9.2	7.7	8.4	8.7	6.9	7.5	8.4	7.7	8.0	11.7	10.7	11.1
10	8.7	7.4	7.9	8.1	7.5	7.7	8.5	7.7	8.1	11.7	10.7	11.2
11	9.3	7.9	8.5	8.8	7.8	8.2	8.8	7.8	8.2	11.2	10.3	10.8
12	9.6	8.4	9.0	9.0	8.3	8.5	8.9	8.0	8.4	10.5	9.9	10.2
13	10.3	8.8	9.4	8.2	7.7	7.9	9.1	8.2	8.5	10.4	9.9	10.2
14	9.8	8.8	9.4	8.4	7.1	7.5	10.2	8.5	9.3	10.5	10.2	10.3
15	9.3	8.4	8.8	8.2	6.1	7.1	10.0	9.3	9.7	10.4	10.0	10.2
16	8.4	7.5	7.9	7.4	4.5	6.4	10.4	9.8	10.1	10.0	9.5	9.7
17	8.8	7.3	8.0	7.7	7.4	7.6	10.2	9.6	9.8	9.7	9.1	9.4
18	8.5	7.5	7.9	8.6	7.7	8.0	9.9	9.4	9.6	9.6	8.9	9.2
19	8.3	7.1	7.5	8.5	8.0	8.2	10.3	9.1	9.5	9.8	9.3	9.5
20	7.9	6.9	7.5	8.7	8.1	8.4	9.6	8.5	9.2	10.3	9.4	10.0
21	8.4	7.6	7.9	8.4	8.0	8.2	9.7	9.3	9.5	10.6	10.1	10.3
22	8.2	7.8	8.0	8.2	7.9	8.0	9.6	9.0	9.3	11.3	10.2	10.7
23	7.9	7.4	7.6	8.0	7.6	7.7	9.3	8.8	9.1	10.8	10.5	10.7
24	8.1	7.2	7.5	7.5	7.2	7.3	9.4	8.6	8.8	11.2	10.3	10.7
25	7.8	7.0	7.3	8.4	7.3	7.8	11.5	8.6	9.4	11.8	10.6	11.1
26	7.8	6.8	7.3	8.5	7.0	7.9	11.2	10.1	10.8	12.1	11.3	11.6
27	8.2	6.8	7.5	9.0	8.4	8.6	11.1	10.6	10.9	12.2	11.5	11.8
28	8.5	7.5	8.0	8.9	8.6	8.8	11.0	10.4	10.7	12.0	11.3	11.7
29	8.6	7.6	8.1	9.2	8.9	9.1	10.9	10.3	10.5	12.1	10.8	11.4
30	8.7	7.2	7.9	9.2	8.8	9.0	11.1	10.4	10.7	11.8	10.5	11.1
31	8.1	7.1	7.6	---	---	---	11.2	10.6	10.8	11.6	10.1	10.9
MONTH	10.3	6.8	8.1	9.2	4.5	7.9	11.5	7.5	9.2	12.2	8.9	10.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.1	9.7	10.5	10.1	8.9	9.5	9.5	7.9	8.4	7.4	6.8	7.1
2	11.8	10.2	10.9	9.5	7.8	8.7	8.4	8.0	8.2	7.4	6.8	7.1
3	12.5	11.2	11.7	8.3	7.6	7.9	9.7	8.3	9.0	8.1	7.2	7.6
4	13.3	11.8	12.4	9.0	8.4	8.8	9.2	8.5	8.8	8.0	7.5	7.8
5	13.6	12.3	12.9	9.3	8.8	9.0	9.0	8.2	8.5	8.4	7.5	7.9
6	14.1	12.4	13.1	9.2	8.8	9.0	9.0	8.1	8.5	8.5	7.3	7.8
7	14.2	12.4	13.3	9.5	8.8	9.1	9.1	8.4	8.7	8.0	7.4	7.8
8	13.3	11.3	12.3	9.4	8.7	9.1	8.9	8.1	8.4	8.9	7.7	8.1
9	13.1	10.4	11.7	9.5	9.1	9.3	9.0	8.1	8.5	8.7	7.0	7.9
10	12.9	11.1	12.0	10.8	9.5	10.0	9.6	8.3	8.9	9.6	7.5	8.6
11	13.8	11.5	12.6	10.6	9.5	10.0	9.1	8.2	8.8	9.5	7.4	8.1
12	14.1	12.1	13.0	11.1	9.1	10.0	9.2	8.1	8.7	8.8	6.6	7.7
13	14.4	11.4	12.8	11.9	9.5	10.5	10.1	8.2	8.8	9.9	6.3	8.1
14	14.0	10.9	12.4	13.1	10.6	11.8	9.9	8.1	8.7	10.8	7.2	9.1
15	13.8	10.4	12.2	13.2	11.6	12.4	8.9	7.8	8.3	11.5	7.8	9.6
16	12.9	10.2	11.6	13.0	11.4	12.2	8.4	7.3	7.7	---	---	---
17	12.3	10.1	11.2	12.7	11.3	11.9	8.1	6.2	7.2	---	---	---
18	12.1	9.9	11.0	12.5	11.3	12.0	6.4	4.9	5.9	---	---	---
19	11.8	11.3	11.5	12.8	11.7	12.4	6.5	4.5	5.7	7.3	5.6	6.4
20	11.7	11.3	11.5	12.9	11.2	11.6	6.9	6.3	6.6	8.7	6.2	7.1
21	11.6	10.9	11.3	12.2	11.2	11.7	8.7	6.4	7.5	7.3	5.8	6.7
22	10.9	10.3	10.6	12.2	11.0	11.6	9.0	7.2	7.9	7.2	5.5	6.4
23	10.8	10.0	10.4	11.4	10.2	10.8	10.0	8.2	8.8	8.4	7.2	7.8
24	11.2	10.3	10.7	9.9	8.5	9.3	10.1	7.9	9.0	9.0	8.0	8.4
25	11.5	10.6	11.1	9.4	8.0	8.7	10.1	8.5	9.4	9.2	8.2	8.6
26	11.4	10.4	10.8	10.3	7.9	9.1	9.5	7.9	8.7	10.0	8.4	9.1
27	10.8	9.6	10.2	11.2	9.3	10.4	9.3	7.6	8.3	10.5	8.7	9.6
28	10.9	9.4	10.0	10.6	9.3	9.9	8.0	7.1	7.5	11.4	8.9	10.1
29	10.5	9.0	9.6	9.7	8.6	9.1	7.5	6.2	6.7	11.3	8.9	10.2
30	---	---	---	9.8	7.8	9.2	6.8	5.3	6.5	11.2	9.4	10.4
31	---	---	---	9.3	8.9	9.1	---	---	---	11.5	9.5	10.4
MONTH	14.4	9.0	11.6	13.2	7.6	10.1	10.1	4.5	8.1	11.5	5.5	8.3

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.8	7.8	9.8	6.9	5.0	6.0	9.4	7.1	8.2	---	---	---
2	11.5	8.3	10.0	6.7	5.4	6.1	9.0	6.9	7.9	---	---	---
3	10.6	9.8	10.3	6.8	4.7	5.6	9.0	6.8	7.8	6.9	5.1	6.2
4	10.6	9.6	10.2	5.0	2.6	4.3	9.0	6.9	7.8	6.4	5.6	6.0
5	9.9	9.1	9.6	4.3	2.9	4.0	---	---	---	6.4	6.3	6.4
6	9.1	8.5	8.9	5.3	4.4	4.8	---	---	---	6.8	6.3	6.6
7	8.6	7.6	8.3	5.6	5.1	5.4	8.5	6.7	7.6	---	---	---
8	8.0	6.7	7.3	5.8	5.4	5.6	---	---	---	7.4	6.3	6.9
9	8.3	6.9	7.5	6.7	5.4	5.8	---	---	---	---	---	---
10	8.2	6.9	7.5	6.6	5.5	5.9	---	---	---	---	---	---
11	9.0	7.0	7.9	5.4	4.8	4.9	---	---	---	---	---	---
12	9.5	7.2	8.3	5.2	2.5	3.8	---	---	---	---	---	---
13	10.1	7.1	8.5	3.0	2.0	2.6	---	---	---	---	---	---
14	10.5	7.2	8.8	5.5	2.1	3.3	---	---	---	7.2	6.2	6.7
15	9.9	7.5	8.8	5.8	5.1	5.4	---	---	---	6.3	4.5	5.7
16	10.7	7.3	9.0	6.1	5.1	5.5	---	---	---	5.9	3.7	4.8
17	10.3	7.1	8.5	7.8	5.3	6.1	---	---	---	6.3	5.9	6.1
18	9.9	7.0	8.5	8.0	6.4	7.1	---	---	---	6.3	2.2	4.8
19	10.2	7.1	8.7	8.6	6.6	7.4	7.6	5.7	6.7	6.2	4.6	5.6
20	9.8	7.2	8.6	9.8	6.8	7.9	7.2	6.0	6.5	6.5	6.2	6.4
21	9.4	6.9	8.3	10.9	7.3	8.5	7.1	6.2	6.6	6.5	6.4	6.5
22	9.0	6.8	7.9	11.2	7.4	9.0	6.4	5.1	5.9	6.6	6.3	6.4
23	8.4	6.6	7.6	11.8	7.5	9.4	6.6	5.6	6.0	6.6	6.3	6.4
24	8.3	6.4	7.5	11.6	7.6	9.7	---	---	---	7.0	6.3	6.6
25	7.7	6.3	7.0	11.7	7.9	9.7	---	---	---	7.4	6.7	7.0
26	8.0	5.9	7.0	10.6	7.7	9.1	---	---	---	7.7	6.9	7.2
27	7.5	6.1	6.9	---	---	---	---	---	---	7.6	6.7	7.1
28	7.3	5.9	6.5	---	---	---	---	---	---	7.7	6.6	7.1
29	7.5	5.6	6.4	---	---	---	---	---	---	6.8	6.2	6.6
30	7.0	5.3	6.1	10.6	8.2	9.3	---	---	---	6.8	5.7	6.3
31	---	---	---	10.1	7.7	8.8	---	---	---	---	---	---
MONTH	11.8	5.3	8.2	11.8	2.0	6.5	9.4	5.1	7.1	7.7	2.2	6.3

08049580 MOUNTAIN CREEK NEAR VENUS, TX

LOCATION.--Lat 32°29'27", long 97°07'22", Johnson County, Hydrologic Unit 12030102, on right bank 20 ft from Farm Road and at right end of bridge on Farm Road 157, 3 mi upstream from Grassy Creek, 3.2 mi upstream from Reece Branch, 3.6 mi downstream from abandoned Missouri Pacific Railroad bridge, and 3.9 mi north of intersection of U.S. Highway 67, and Farm Road 157 in Venus.

PERIOD OF RECORD.--Chemical and biochemical analyses: December 1985 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 20...	1640	0.01	427	7.80	14.5	54	31	7.5	74	0.6	170	78
JAN 13...	1000	0.01	429	7.70	2.5	35	8.1	6.6	48	1.5	170	66
FEB 25...	1405	0.13	923	7.80	10.5	48	6.9	7.0	63	2.6	360	220
APR 07...	1430	0.09	1300	7.80	18.0	13	2.7	6.0	64	0.7	510	340
JUL 14...	1325	0.40	523	8.00	27.5	35	2.7	8.4	108	3.1	220	130

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 WAT WH TOT FET 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 20...	62	3.2	14	0.5	4.2	90	100	11	0.50	8.2	257
JAN 13...	63	3.8	19	0.7	5.3	107	86	9.8	0.40	12	264
FEB 25...	130	9.7	53	1	5.4	142	290	35	0.50	11	620
APR 07...	180	14	85	2	4.8	166	460	59	0.60	3.3	906
JUL 14...	80	5.7	21	0.6	5.8	91	140	13	0.40	8.3	329

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
NOV 20...	12	5	0.580	0.020	0.600	0.030	0.67	0.70	0.050	6.2	--
JAN 13...	7	<1	1.13	0.070	1.20	0.020	0.88	0.90	0.130	7.7	4
FEB 25...	11	<1	0.650	0.050	0.700	0.070	1.0	1.1	0.090	14	--
APR 07...	9	9	--	<0.010	<0.100	0.070	0.73	0.80	0.040	9.3	3
JUL 14...	4	2	0.080	0.020	0.100	<0.010	--	1.6	0.060	8.5	2

DATE	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)	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...	--	--	--	--	--	--	--	--	--	--	--
JAN 13...	35	<1	<1	2	60	<5	130	<0.1	<1	<1.0	6
FEB 25...	--	--	--	--	--	--	--	--	--	--	--
APR 07...	84	6	1	9	11	<5	28	<0.1	<1	<1.0	12
JUL 14...	42	<1	1	6	23	<5	12	<0.1	<1	<1.0	<3

08049700 WALNUT CREEK NEAR MANSFIELD, TX

LOCATION.--Lat 32°34'51", long 97°06'06", Tarrant County, Hydrologic Unit 12030102, on right bank at downstream side of bridge on county road, 2.6 mi northeast of Mansfield, 3.3 mi downstream from Texas and New Orleans Railroad Co. bridge, and 10.2 mi upstream from mouth

DRAINAGE AREA.--62.8 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 531.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records fair. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--28 years, 14.4 ft³/s (3.11 in/yr), 10,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,570 ft³/s May 3, 1979 (gage height, 29.7 ft, from floodmark); no flow at times in 1960-74, 1976-87.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 25	2300	*261	*9.01				

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.12	.33	.23	.20	11	.43	31	.00	.00	.00
2	.00	.00	.12	.31	.22	29	1.7	.35	6.2	.74	.00	8.3
3	.00	.00	.13	.30	.22	3.7	.44	.34	5.7	.17	.00	76
4	.00	.00	.13	.30	.19	1.3	.31	.35	.76	54	.00	1.0
5	.00	.00	.14	.28	.18	.82	.28	.33	.15	5.3	.00	.10
6	.00	.00	.15	.22	.18	.54	.21	.34	.10	2.0	.00	.0
7	.00	.00	.17	.35	.18	.44	.18	.34	.09	1.1	.00	.00
8	.00	.00	.17	.29	.20	.35	.17	.38	.07	.62	.00	.00
9	.00	.15	.15	.41	.20	.30	.17	.44	.06	.20	.00	.00
10	.00	.86	.15	.30	.21	.29	.16	.47	.07	.07	.00	.00
11	.00	.23	.15	.26	.25	5.4	.22	.34	.07	.02	.00	.00
12	.00	.11	.15	.27	.24	6.4	.19	.31	.01	.00	.00	.00
13	.00	.03	.23	.42	.22	.76	.19	.30	.00	.00	.00	.00
14	.00	.00	.35	.41	.22	.49	.18	.22	.00	.00	.00	.00
15	.00	20	.36	.33	.20	.36	.30	.19	.00	.00	.00	.00
16	.00	12	.27	.26	.20	.33	.17	.32	.00	.00	.00	.00
17	.00	.93	.24	.24	3.1	6.3	15	.36	.00	.00	.00	.00
18	.00	.38	.24	.24	13	2.6	2.2	.14	.00	.00	.00	.00
19	.00	1.0	39	.26	2.6	.51	.42	.11	.00	.00	.00	.00
20	.00	.17	2.4	.29	.69	.37	.32	.13	.00	.00	.00	.00
21	.00	.11	.44	.22	.47	.35	.22	1.1	.00	.00	.00	.00
22	.00	.09	.31	.20	.36	.28	.22	.19	.00	.00	.00	.00
23	.00	.13	.29	.20	.32	.28	.37	.10	.00	.00	.00	.00
24	.00	.16	9.7	.20	.28	.28	.33	.08	.00	.00	.00	.00
25	.02	7.7	26	.19	.26	.28	.19	.06	.00	.00	.00	.00
26	.00	.31	120	.18	.27	.18	.40	.0	.00	.00	.00	.00
27	.00	.38	12	.17	.26	.18	.29	.00	.00	.00	.00	.00
28	.00	.27	2.1	.17	.24	.18	.25	.00	.00	.00	.00	.00
29	.00	.14	.69	.23	.23	.68	2.6	.00	.00	.00	.00	12
30	.00	.12	.45	.38	---	.33	.79	.00	.00	.00	.00	30
31	.00	---	.40	.27	---	.26	---	.00	---	.00	.00	---
TOTAL	0.02	45.27	217.20	8.48	25.42	63.74	39.47	7.72	44.28	64.22	0.00	127.40
MEAN	.001	1.51	7.01	.27	.88	2.06	1.32	.25	1.48	2.07	.00	4.25
MAX	.02	20	120	.42	13	29	15	1.1	31	54	.00	76
MIN	.00	.00	.12	.17	.18	.18	.16	.00	.00	.00	.00	.00
AC-FT	.04	90	431	17	50	126	78	15	88	127	.0	253
CFSM	.00	.02	.11	.00	.01	.03	.02	.00	.02	.03	.00	.07
IN.	.00	.03	.13	.01	.02	.04	.02	.00	.03	.04	.00	.08

CAL YR 1987 TOTAL 3298.13 MEAN 9.04 MAX 771 MIN .00 AC-FT 6540 CFSM .14 IN. 1.95
WTR YR 1988 TOTAL 643.22 MEAN 1.76 MAX 120 MIN .00 AC-FT 1280 CFSM .03 IN. .38

08049700 WALNUT CREEK NEAR MANSFIELD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1985 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)
NOV 20...	1335	0.16	465	7.70	10.0	47	37	7.2	64	1.7	170
JAN 13...	1310	0.45	1080	7.80	1.5	8	2.8	13.4	95	2.7	430
FEB 26...	1020	0.22	1060	8.10	9.5	17	2.2	10.7	94	1.4	400
APR 08...	1500	0.16	1270	7.70	18.5	14	2.4	6.7	73	0.1	500

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET 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...	73	59	6.2	22	0.8	5.8	100	98	20	0.30	7.9
JAN 13...	240	140	19	65	1	5.0	185	290	62	0.40	12
FEB 26...	230	130	18	74	2	4.6	171	290	72	0.40	7.2
APR 08...	290	160	24	82	2	4.4	212	350	83	0.50	10

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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)	ARSENIC DIS-SOLVED (UG/L AS AS)
NOV 20...	279	1	<1	<0.010	<0.100	0.030	0.57	0.60	0.110	9.4	--
JAN 13...	705	<1	<1	0.020	<0.100	0.030	0.47	0.50	0.030	4.9	<1
FEB 26...	699	3	<1	<0.010	<0.100	0.020	0.28	0.30	0.030	6.9	--
APR 08...	841	12	11	<0.010	<0.100	0.080	0.32	0.40	0.040	4.8	<1

DATE	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)	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...	--	--	--	--	--	--	--	--	--	--	--
JAN 13...	57	<1	<1	4	12	<5	260	<0.1	<1	<1.0	19
FEB 26...	--	--	--	--	--	--	--	--	--	--	--
APR 08...	85	<1	<1	1	6	<5	200	<0.1	<1	<1.0	<3

08049800 JOE POOL LAKE NEAR DUNCANVILLE, TX

LOCATION.--Lat 32°38'36", long 97°00'03", Dallas County, Hydrologic Unit 12030102, in control room of outlet works tower located 285 ft upstream from centerline of Joe Pool Dam on Mountain Creek, 0.7 mi downstream from Walnut Creek, 0.7 mi upstream from bridge over Mountain Creek on Camp Wisdom Road, 1.0 mi downstream from John Penn Branch, 5.5 mi west of water towers in downtown Duncanville, 7.1 mi upstream from Mountain Creek Dam on Mountain Creek, and 11.2 mi upstream from mouth.

DRAINAGE AREA.--232 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--The lake is formed by a rolled-earthfill dam 22,360 ft long, including a 50-foot uncontrolled broad-crested concrete spillway. Impoundment of water began Jan. 7, 1986, after closure of the dam was completed in December 1985. The flood-control outlet works consist of a 10.5-foot-diameter conduit that is controlled by two 4.75- x 10.5-foot slide gates. Above an elevation of 541 ft, water will flow over a 50-foot-long uncontrolled broad-crested concrete spillway located 0.5 mi to left of the outlet works tower. The low-flow outlet works consist of four 3- x 5-foot slide gates having invert elevations at 486.0, 495.0, 504.0, and 513.0 ft that open to a wet-well. Discharge from the wet-well to the 10.5-foot-diameter conduit is controlled by a 2- x 4-foot gate with invert at elevation 483.0 ft. A low-flow bypass system consisting of a turbine pump and 10-inch-diameter piping is also available for use if needed. The capacity table was provided by the U.S. Army Corps of Engineers. The lake was built for water supply, conservation, and flood-control. During the current year, no water has been diverted for municipal or industrial supply since the initial filling of the lake is in progress. 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	564.5	-
Crest of spillway	541.0	362,700
Top of conservation pool	522.0	176,900
Lowest gated outlet	466.0	1,095

COOPERATION.--Records provided by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 104,100 acre-ft June 20, 1987 (elevation, 510.74 ft); minimum since initial filling began, 1,595 acre-ft Jan. 24, 1986 (elevation, 467.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 94,890 acre-ft Apr. 3, 4 (elevation, 509.02 ft); minimum daily, 80,340 acre-ft Sept. 28 (elevation, 506.09 ft).

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

506.0	79,910	509.0	94,790
507.0	84,710	510.0	100,100
508.0	89,670		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94320	91700	92160	94270	94120	94370	94840	93550	92110	89420	86480	82720
2	94060	91700	92110	94270	94010	94790	94840	93500	92310	89520	86280	82580
3	93960	91700	92060	94220	93910	94790	94890	93390	92310	89520	86180	83250
4	93860	91700	92060	94220	93800	94790	97890	93290	92260	89470	86080	83160
5	93650	91600	92110	94220	93750	94790	94840	93240	92210	89370	85980	83010
6	93650	91500	92110	94320	93750	94790	94790	93190	92160	89320	85940	82870
7	93500	91390	92110	94320	93750	94790	94740	93190	92110	89170	85890	82720
8	93440	91440	92060	94270	93750	94740	94580	93130	92060	89020	85740	82530
9	93240	91600	92060	94220	93750	94690	94480	92980	91900	88920	85540	82390
10	93190	91500	92060	94220	93750	94740	94430	92930	91750	88920	85400	82290
11	92880	91440	91950	94220	93700	94740	94320	92880	91600	88920	85300	82190
12	92880	91340	91850	94120	93700	94740	94220	92770	91500	88920	85200	82050
13	92820	91290	91850	94120	93650	94690	94170	92720	91390	88860	84950	81950
14	92620	91440	91800	94120	93600	94630	94120	92720	91290	88660	84810	81910
15	92620	92000	91750	94170	93550	94580	94060	92670	91140	88560	84710	81810
16	92470	92260	91700	94170	93500	94530	94060	92570	90990	88460	84560	81760
17	92420	92160	91650	94170	93860	94630	94370	92470	90630	88260	84370	81670
18	92420	92260	91600	94120	94270	94630	94320	92360	90480	88120	84320	81620
19	92420	92260	92060	94120	94480	94630	94270	92310	90430	88120	84170	81330
20	92420	92160	92060	94120	94530	94690	94220	92310	90280	88060	84520	81240
21	92260	92210	92060	94120	94580	94690	94170	92210	90120	87920	84420	81140
22	92210	92210	92060	94060	94530	94630	94120	92160	90020	87820	84270	81000
23	92210	92110	92110	93960	94430	94630	94060	92060	89920	87670	84130	80900
24	92260	92160	92360	93910	94370	94690	94010	91900	89820	87470	83930	80810
25	92260	92310	92880	93910	94370	94630	93910	91800	89720	87370	83830	80670
26	92210	92310	94220	94120	94370	94580	93800	91700	89720	87270	83740	80570
27	92110	92360	94480	94060	94370	94530	93700	91600	89670	87070	83540	80430
28	92110	92310	94430	94060	94370	94480	93650	91500	89720	86920	83300	80340
29	92000	92260	94430	94060	94370	94580	93650	91390	89670	86770	83160	80720
30	92000	92160	94430	94170	---	94580	93600	91440	89570	86680	83010	81050
31	91800	---	94370	94170	---	94630	---	91500	---	86580	82870	---
MAX	94320	92360	94480	94320	94580	94790	97890	93550	92310	89520	86480	83250
MIN	91800	91290	91600	93910	93500	94370	93600	91390	89570	86580	82870	80340
(†)	508.42	508.49	508.92	508.88	508.92	508.97	508.77	508.36	507.98	507.38	506.62	506.24
(ϕ)	-2625	+358	+2215	-207	+207	+260	-1036	-2103	-1926	-2893	-3709	-1820

CAL YR 1987 MAX 104000 MIN 66300 (ϕ) +27990
WTR YR 1988 MAX 97890 MIN 80340 (ϕ) -13380

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

08049800 JOE POOL LAKE NEAR DUNCANVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1986 to current year.

323812096591701 - JOE POOL LAKE SITE Ar

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAY							
05...	1146	1.00	670	8.30	21.0	9.4	106
05...	1148	10.0	678	8.20	20.0	8.9	98
05...	1150	20.0	673	8.20	20.5	8.8	98
AUG							
30...	1048	1.00	636	7.80	27.0	5.6	71
30...	1050	10.0	636	7.80	27.0	5.8	74
30...	1052	20.0	636	7.80	26.0	5.8	72

323819096584801 - JOE POOL LAKE SITE Ac

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)
JAN											
13...	1130	1.00	636	8.30	6.0	--	12.7	101	--	--	220
13...	1130	1.00	--	--	--	--	--	--	--	--	--
MAY											
05...	1124	1.00	665	8.30	21.0	4.20	9.4	106	<1	<1	220
05...	1125	1.00	--	--	--	--	--	--	--	--	--
05...	1126	10.0	662	8.20	20.0	--	9.2	102	--	--	--
05...	1128	20.0	660	8.20	20.0	--	8.7	96	--	--	--
05...	1130	30.0	660	8.20	19.5	--	8.5	93	--	--	--
05...	1132	37.0	660	8.10	20.0	--	8.2	91	--	--	230
AUG											
30...	1020	1.00	635	7.90	26.5	1.10	6.2	78	<1	<1	190
30...	1021	1.00	--	--	--	--	--	--	--	--	--
30...	1022	10.0	635	7.90	26.5	--	6.2	78	--	--	--
30...	1024	20.0	635	7.90	26.5	--	6.0	76	--	--	--
30...	1026	30.0	636	7.90	26.5	--	6.0	76	--	--	--
30...	1028	36.0	637	7.80	26.5	--	6.0	76	--	--	190

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
JAN											
13...	83	75	7.5	43	1	10	136	140	24	0.40	3.2
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
05...	86	77	7.6	46	1	9.9	138	160	24	0.50	1.2
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	87	78	7.6	48	1	10	139	160	24	--	1.3
AUG											
30...	81	63	8.6	51	2	11	112	160	27	0.50	3.3
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	81	63	8.5	51	2	11	112	150	27	--	3.3

08049800 JOE POOL LAKE NEAR DUNCANVILLE, TX--Continued

323819096584801 - JOE POOL LAKE SITE Ac--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN										
13...	385	0.280	0.020	0.300	0.110	0.39	0.50	0.030	9	3
13...	--	--	--	--	--	--	--	--	--	--
MAY										
05...	409	--	<0.010	0.200	0.050	0.35	0.40	0.010	3	<1
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	412	0.190	0.010	0.200	0.050	0.45	0.50	0.020	6	2
AUG										
30...	392	--	<0.010	<0.100	0.010	0.59	0.60	0.010	12	1
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	<0.010	<0.100	0.010	0.69	0.70	0.010	20	<10
30...	--	--	--	--	--	--	--	--	--	--
30...	381	--	<0.010	<0.100	0.030	0.77	0.80	0.010	7	22

323731097013901 - JOE POOL LAKE SITE Bc

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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)	HARD-NESS TOTAL (MG/L AS CACO3)
MAY											
05...	1346	1.00	671	8.30	23.0	3.60	9.2	108	<1	<1	220
05...	1347	1.00	--	--	--	--	--	--	--	--	--
05...	1348	10.0	669	8.20	20.5	--	9.0	100	--	--	--
05...	1350	20.0	668	7.90	20.0	--	7.5	83	--	--	--
05...	1352	25.0	674	7.90	20.0	--	6.8	75	--	--	--
05...	1354	30.0	671	7.90	20.0	--	5.8	64	--	--	--
05...	1356	38.0	671	7.90	20.0	--	5.8	64	--	--	220
AUG											
30...	1300	1.00	641	7.90	27.5	1.20	6.8	87	<1	K7	200
30...	1300	1.00	--	--	--	--	--	--	--	--	--
30...	1302	10.0	641	7.90	27.0	--	6.6	84	--	--	--
30...	1304	20.0	641	7.90	27.0	--	6.5	83	--	--	--
30...	1306	30.0	641	7.90	26.5	--	6.3	79	--	--	--
30...	1308	35.0	651	7.60	27.5	--	5.5	71	--	--	200

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET 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)
MAY										
05...	80	74	7.7	47	1	8.6	137	150	26	0.42
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	78	76	7.6	46	1	8.4	143	160	26	1.8
AUG										
30...	83	64	8.7	53	2	11	113	160	27	3.4
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	84	65	8.5	52	2	11	114	160	27	4.2

08049800 JOE POOL LAKE NEAR DUNCANVILLE, TX--Continued

323731097013901 - JOE POOL LAKE SITE Bc--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY										
05...	396	--	<0.010	0.200	0.040	0.36	0.40	0.010	<3	2
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	0.190	0.010	0.200	0.060	0.94	1.0	0.020	<10	20
05...	--	0.190	0.010	0.200	0.100	0.60	0.70	0.020	<10	20
05...	--	--	--	--	--	--	--	--	--	--
05...	412	0.180	0.020	0.200	0.080	0.42	0.50	0.020	7	120
AUG										
30...	395	--	<0.010	<0.100	<0.010	--	0.60	0.010	10	6
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	<0.010	<0.100	<0.010	--	0.80	0.010	<10	10
30...	397	--	<0.010	<0.100	0.220	0.48	0.70	0.010	6	500

323645097002001 - JOE POOL LAKE SITE Cr

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
MAY							
05...	1222	1.00	677	8.30	22.5	9.5	110
05...	1224	10.0	673	8.30	21.0	9.5	107
05...	1226	20.0	679	8.30	20.0	8.2	91
05...	1228	25.0	679	8.30	20.0	8.0	88
AUG							
30...	1120	1.00	640	8.00	26.5	6.5	82
30...	1122	10.0	640	7.90	26.5	6.4	81
30...	1124	22.0	640	7.90	26.0	6.2	77

323646097005101 - JOE POOL LAKE SITE Cc

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (M)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
MAY									
05...	1204	1.00	671	8.30	22.5	4.00	9.4	109	--
05...	1206	10.0	668	8.20	20.0	--	9.0	99	--
05...	1208	20.0	668	8.20	20.0	--	8.2	91	--
05...	1210	25.0	672	8.20	20.0	--	7.7	85	--
05...	1212	33.0	675	8.00	19.5	--	5.6	61	0.180
AUG									
30...	1102	1.00	639	7.90	26.5	0.90	6.6	83	--
30...	1104	10.0	639	7.90	26.5	--	6.6	83	--
30...	1106	20.0	639	7.90	26.0	--	6.4	80	--
30...	1108	33.0	638	7.90	26.5	--	5.7	72	--

DATE	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)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY								
05...	<0.010	0.200	0.050	0.65	0.70	0.020	<10	<10
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	<0.010	0.200	0.050	0.55	0.60	0.020	<10	<10
05...	0.020	0.200	0.130	0.67	0.80	0.020	<10	90
AUG								
30...	<0.010	<0.100	0.010	0.69	0.70	0.010	<10	<10
30...	--	--	--	--	--	--	--	--
30...	<0.010	<0.100	0.030	0.67	0.70	0.010	<10	<10
30...	<0.010	<0.100	0.030	0.87	0.90	0.010	10	<10

08049800 JOE POOL LAKE NEAR DUNCANVILLE, TX--Continued

323503097012201 - JOE POOL LAKE SITE Dc

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	NITROGEN, NITRATE TOTAL (MG/L AS N)
MAY									
05...	1238	1.00	679	8.20	23.0	3.80	9.2	108	--
05...	1240	10.0	679	8.10	20.5	--	8.5	95	0.190
05...	1242	20.0	683	8.10	20.0	--	7.2	80	--
05...	1244	31.0	681	8.20	20.0	--	7.2	80	0.190
AUG									
30...	1130	1.00	639	8.00	26.5	0.60	7.0	88	--
30...	1132	10.0	639	8.00	26.0	--	7.0	87	--
30...	1134	20.0	641	7.90	26.5	--	6.4	81	--
30...	1136	32.0	641	7.90	26.5	--	6.2	78	--

DATE	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)	PHOSPHOROUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
MAY								
05...	<0.010	0.200	0.040	0.46	0.50	0.010	<10	20
05...	0.010	0.200	0.020	0.38	0.40	0.020	<10	10
05...	--	--	--	--	--	--	--	--
05...	0.010	0.200	0.080	0.62	0.70	0.020	<10	10
AUG								
30...	<0.010	<0.100	<0.010	--	0.60	0.010	10	<10
30...	<0.010	<0.100	<0.010	--	0.70	0.010	10	<10
30...	--	--	--	--	--	--	--	--
30...	0.010	<0.100	0.020	0.48	0.50	0.010	<10	20

323329097024101 - JOE POOL LAKE SITE Ec

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)
MAY											
05...	1307	1.00	--	--	--	--	--	--	--	--	--
05...	1308	1.00	695	7.90	23.0	3.00	8.4	98	<1	<1	230
05...	1309	5.00	690	8.30	21.5	--	8.2	93	--	--	--
05...	1310	10.0	710	7.80	20.0	--	5.2	57	--	--	--
05...	1312	14.0	706	7.80	20.5	--	4.8	54	--	--	230
AUG											
30...	1214	1.00	664	7.70	25.5	0.30	5.7	70	22	K5	200
30...	1215	1.00	--	--	--	--	--	--	--	--	--
30...	1216	7.00	666	7.60	27.0	--	4.9	62	--	--	210

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)
MAY										
05...	--	--	--	--	--	--	--	--	--	--
05...	87	79	7.6	48	1	10	142	160	25	1.3
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	85	79	7.6	49	1	10	144	160	26	2.5
AUG										
30...	75	66	8.6	53	2	10	126	160	28	4.1
30...	--	--	--	--	--	--	--	--	--	--
30...	78	68	8.8	56	2	11	128	160	28	4.3

08049800 JOE POOL LAKE NEAR DUNCANVILLE, TX--Continued

323329097024101 - JOE POOL LAKE SITE Ec--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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-PHOROUS TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY										
05...	--	--	--	--	--	--	--	--	--	--
05...	416	--	<0.010	0.200	0.050	0.55	0.60	0.020	<3	3
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	420	0.180	0.020	0.200	0.140	0.56	0.70	0.020	6	46
AUG										
30...	405	--	<0.010	<0.100	0.030	0.67	0.70	0.020	27	11
30...	--	--	--	--	--	--	--	--	--	--
30...	413	--	0.010	<0.100	0.080	1.1	1.2	0.020	44	53

Joe Pool Lake near Duncanville, Texas (323819096584801)

Phytoplankton Analyses September 1987 to October 1988

Date	1-13-88
Time	1130
TOTAL CELLS/mL	11,948
NUMBER OF SPECIES	29
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (Green algae)	
Ankistrodesmus nannoselene	608
Carteria sp.	67
Chlamydomonas sp.	405
Chodatella quadriseta	338
Nephrocytium sp.	270
Pandorina morum	540
Scenedesmus bijuga	270
CYANOPHYTA (Blue-green algae)	
Aphanocapsa delicatissima	5673
Aphanothece sp.	1081
Dactylococcopsis fascicularis	945
EUGLENOPHYTA (Euglenoids)	
Trachelomonas sp.	135
CRYPTOPHYTA (Cryptomonads)	
Chroomonas sp.	67
Rhodomonas minuta	405
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Cyclotella kutzingiana	35
Cyclotella ocellata	818
Cyclotella stelligera	27
Melosira lirata	70
Stephanodiscus dubius	55
Stephanodiscus niagarae	4
Stephanodiscus tenuis ?	4
Order Pennales	
Cymbella minuta	9
Fragilaria vaucheriae	32
Navicula cascadensis ?	9
Navicula notha	18
Navicula pelliculosa	9
Navicula rhyncocephala var. *germainii*	27
Navicula secura	9
Nitzschia sp.	9
Surirella sp.	9

Joe Pool Lake AC near Duncanville, Texas (323819096584801)

Phytoplankton Analyses September 1987 to October 1988

Date	5-5-88
Time	1125
TOTAL CELLS/mL	40,408
NUMBER OF SPECIES	22
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (Green algae)	
Ankistrodesmus convolutus	113
Ankistrodesmus falcatus var. *mirabilis*	113
Chlamydomonas sp.	225
Nephrocytium limneticum	113
Phacotus lenticularis	225
Quadrigula sp.	225
Scenedesmus bijuga	450
Tetraedron minimum	225
CYANOPHYTA (Blue-green algae)	
Aphanocapsa delicatissima	5402
Aphanocapsa elachista var. *conferta*	9454
Aphanothece sp.	675
Chroococcus dispersus	2926
Chroococcus limneticus	1013
Chroococcus varius	1576
Dactylococcopsis fascicularis	11819
Gomphosphaeria lacustris	563
Lyngbya sp.	1238
Oscillatoria sp.	563
Synechococcus lineare	338
Synechococcus sp.	563
CRYPTOPHYTA (Cryptomonads)	
Rhodomonas minuta	225
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Cyclotella ocellata	2364

Joe Pool Lake BC near Duncanville, Texas (323731097013901)

Phytoplankton Analyses September 1987 to October 1988

Date	5-5-88
Time	1347
TOTAL CELLS/mL	29,489
NUMBER OF SPECIES	23
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (Green algae)	
Ankistrodesmus convolutus	225
Ankistrodesmus falcatus var. *mirabilis*	113
Chlorococcum sp.	113
Nephrocytium limneticum	450
Oocystis sp.	113
CYANOPHYTA (Blue-green algae)	
Aphanocapsa delicatissima	8329
Aphanocapsa elachista var. *conferta*	2250
Aphanothece gelatinosa	1576
Aphanothece saxicola	2814
Chroococcus dispersus	1688
Chroococcus limneticus	2138
Chroococcus varius	2926
Dactylococcopsis fascicularis	2364
Dactylococcopsis sp.	225
Lyngbya sp.	338
Marsoniella elegans	788
Microcystis sp.	1801
Oscillatoria sp.	225
Synechococcus lineare	225
Synechococcus sp.	338
CRYPTOPHYTA (Cryptomonads)	
Chroomonas sp.	225
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Cyclotella ocellata	223
Cyclotella stelligera	2

Joe Pool Lake EC near Duncanville, Texas (323329097024101)

Phytoplankton Analyses September 1987 to October 1988

Date	5-5-88
Time	1307
TOTAL CELLS/mL	58,308
NUMBER OF SPECIES	29
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (Green algae)	
Ankistrodesmus convolutus	900
Ankistrodesmus falcatus var. *mirabilis*	113
Crucigenia irregularis	1130
Crucigenia tetrapedia	450
Nephrocytium limneticum	563
Nephrocytium sp.	338
Phacotus lenticularis	675
Scenedesmus bijuga	450
Scenedesmus dimorphus	225
Scenedesmus quadricauda	225
Sphaerocystis schroeteri	900
CYANOPHYTA (Blue-green algae)	
Aphanocapsa delicatissima	20484
Aphanocapsa elachista var. *conferta*	4840
Chroococcus dispersus	1913
Chroococcus limneticus	675
Chroococcus varius	1013
Dactylococcopsis fascicularis	7541
Dactylococcopsis smithii	225
Marssoniella elegans	4614
Merismopedia punctatum	900
Microcystis sp.	5177
Oscillatoria sp.	1130
Synechococcus lineare	675
EUGLENOPHYTA (Euglenoids)	
Phacus orbicularis	113
CRYPTOPHYTA (Cryptomonads)	
Chroomonas sp.	225
Rhodomonas minuta	113
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Cyclotella ocellata	2601
Cyclotella stelligera	75
Stephanodiscus sp.	25

Joe Pool Lake AC (323819096584801)

Phytoplankton Analyses September 1987 to October 1988

Date	8-30-88
Time	1021
TOTAL CELLS/mL	15,335
NUMBER OF SPECIES	35
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus falcatus	83
Ankistrodesmus falcatus var. *mirabilis*	2750
Chlamydomonas globosa?	42
Chlamydomonas sp. 1	167
Chlamydomonas sp. 2	292
Cosmarium sp.	417
Euastrum sp.	83
Kirchneriella sp.	83
Scenedesmus sp.	167
Tetraedron trigonum var. *gracile*	42
CHRYSOPHYTA (golden-brown algae)	
Mallomonas sp.	125
small chrysophyte flagellates	375
CYANOPHYTA (blue-green algae)	
Anabaena sp.	667
Dactylococcopsis fascicularis	250
Schizothrix calcicola	875
Spirulina laxissima	42
Synechococcus sp.	4249
EUGLENOPHYTA (euglenoid algae)	
Euglena sp.	250
Trachelomonas volvocina	42
CRYPTOPHYTA (cryptomonads)	
Cryptomonas erosa	125
PYRRHOPHYTA (dinoflagellates)	
Glenodinium pulvisculus	42
unidentified dinoflagellates	208
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella meneghiniana	42
Cyclotella ocellata	542
Cyclotella pseudostelligera	42
Melosira distans var. *alpigena*	83
Melosira italica	250
Stephanodiscus vestibulis	208
Order Pennales	
Anomoeoneis vitrea	42
Cymbella prostrata var. *auerswaldii*	125
Nitzschia acicularis	125
Nitzschia holsatica	42
Nitzschia palea	83
Synedra delicatula	2250
Synedra radians	125

Joe Pool Lake BC (323731097013901)

Phytoplankton Analyses September 1987 to October 1988

Date	8-30-88
Time	1300
TOTAL CELLS/mL	31,063
NUMBER OF SPECIES	36
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus falcatus var. *mirabilis*	1963
Chlamydomonas sp. 1	58
Chlamydomonas sp. 2	346
Cosmarium sp.	1270
Crucigenia tetrapedia	1386
Gonium sociale	577
Lagerheimia sp.	115
Pandorina morum	2772
Pediastrum tetras	231
Scenedesmus sp.	115
Staurastrum sp.	231
Tetraedron trigonum var. *gracile*	58
CHRYSOPHYTA (golden-brown algae)	
small chrysophyte flagellates	982
CYANOPHYTA (blue-green algae)	
Chroococcus sp.	231
Schizothrix calcicola	924
Synechococcus sp.	15129
EUGLENOPHYTA (euglenoid algae)	
Euglena acus	115
Euglena polymorpha?	58
Euglena sp.	346
Phacus curvicauda	115
Trachelomonas volvocina	58
CRYPTOPHYTA (cryptomonads)	
Cryptomonas erosa	289
PYRRHOPHYTA (dinoflagellates)	
Ceratium sp.	58
Glenodinium sp.	115
Gymnodinium sp.	58
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella meneghiniana	115
Cyclotella ocellata	808
Melosira granulata	115
Melosira italica	115
Stephanodiscus vestibulis	231
Order Pennales	
Anomoeoneis vitrea	115
Nitzschia acicularis	173
Nitzschia palea	58
Nitzschia sp.	58
Synedra delicatissima	1617
Synedra radians	58

Joe Pool Lake EC (323329097024101)

Phytoplankton Analyses September 1987 to October 1988

Date	8-30-88
Time	1215
TOTAL CELLS/mL	62,172
NUMBER OF SPECIES	36
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus falcatus var. *mirabilis*	1084
Chlamydomonas globosa?	135
Chlamydomonas sp. 1	813
Chlamydomonas sp. 2	271
Cosmarium sp.	271
Crucigenia tetrapedia	1084
Desmatractum sp.	135
Elakatothrix sp.	271
Pandorina morum	2167
Scenedesmus arcuatus var. *platydisca*	1084
Scenedesmus quadricauda	542
Tetraedron muticum	542
Tetraedron trigonum var. *gracile*	135
CHRYSOPHYTA (golden-brown algae)	
Mallomonas sp.	135
small chrysophyte flagellates	271
CYANOPHYTA (blue-green algae)	
Chroococcus pallidus	4064
Synechococcus sp.	40097
EUGLENOPHYTA (euglenoid algae)	
Euglena acus	406
Euglena sp.	1084
Phacus curvicauda	1084
Phacus sp. 1	271
Phacus sp. 2	135
Trachelomonas volvocina	406
Trachelomonas sp.	406
PYRRHOPHYTA (dinoflagellates)	
Gymnodinium sp.	135
unidentified dinoflagellate	135
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella meneghiniana	1490
Cyclotella ocellata	271
Melosira italica	948
Stephanodiscus vestibulis	948
Order Pennales	
Anomoeoneis vitrea	135
Nitzschia holsatica	406
Nitzschia reversa	135
Nitzschia sp.	135
Synedra delicatissima	406
Synedra radians	135

08049850 MOUNTAIN CREEK ABOVE DUNCANVILLE, TX.

LOCATION.--Lat 32°39'07", long 96°59'24", Dallas County, Hydrologic Unit 12030102, 0.6 mi downstream from Joe Pool Dam on Mountain Creek, 1.4 mi downstream from Walnut Creek, and 4.9 mi west of water towers in downtown Duncanville.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: February to September 1987.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
JAN											
13...	0945	660	8.30	6.5	4	6.8	11.7	94	--	230	98
MAY											
06...	0715	660	8.00	21.5	7	40	6.8	77	0.4	220	90
AUG											
30...	0800	642	8.00	25.0	7	30	7.1	87	1.3	200	99

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 WAT WH TOT FET 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											
13...	79	8.3	47	1	10	134	160	25	0.50	2.7	413
MAY											
06...	76	8.2	49	1	4.0	134	150	26	0.50	1.3	395
AUG											
30...	65	8.3	51	2	1.0	98	160	27	0.40	3.5	375

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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)	ARSENIC DIS-SOLVED (UG/L AS AS)
JAN											
13...	16	<1	0.280	0.020	0.300	0.040	0.66	0.70	0.010	5.9	<1
MAY											
06...	58	12	--	<0.010	0.200	0.040	0.56	0.60	1.05	6.0	<1
AUG											
30...	<1	19	--	<0.010	<0.100	0.060	0.34	0.40	0.040	5.5	1

DATE	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)	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											
13...	48	1	<1	4	8	<5	10	<0.1	<1	<1.0	8
MAY											
06...	55	2	1	7	6	<5	2	<0.1	<1	<1.0	<3
AUG											
30...	46	<1	<1	2	7	<5	3	<0.1	<1	<1.0	4

08049900 MOUNTAIN CREEK NEAR DUNCANVILLE, TX

LOCATION.--Lat 32°39'43", long 96°58'56", Dallas County, Hydrologic Unit 12030102, at downstream side of bridge on Farm Road 1382, 2.3 mi downstream from Walnut Creek, 4.5 mi west of Duncanville, and 5.5 mi upstream from Mountain Creek Lake Dam.

DRAINAGE AREA.--225 mi².

PERIOD OF RECORD.--October 1970 to current year.

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

REMARKS.--Elevation records good except those for June 24 to Aug. 2, which are poor. This station is used to aid in the operation of Mountain Creek Lake. Joe Pool Dam, located about 2 mi upstream, has been under construction and was essentially completed at the end of the 1985 water year. Deliberate impoundment began Jan. 7, 1986. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 469.83 ft Apr. 19, 1976; channel dry at times June 16 to Sept. 28, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 458.35 ft Dec. 26 at 0600 hours; minimum, 456.73 ft Mar. 23-28.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	457.27	457.39	457.52	457.51	457.50	457.14	457.17	456.91	457.30	e457.45	e457.60	457.71
2	457.27	457.40	457.52	457.51	457.49	457.20	456.92	456.91	457.33	e457.08	e457.26	457.72
3	457.27	457.40	457.53	457.51	457.51	457.04	456.84	456.93	457.30	e457.04	456.99	457.74
4	457.27	457.40	457.54	457.51	457.50	456.91	456.80	456.95	457.26	e457.59	457.45	457.70
5	457.26	457.41	457.55	457.52	457.50	456.86	456.77	456.95	457.35	e457.35	457.18	457.69
6	457.26	457.42	457.55	457.57	457.50	456.85	456.76	456.96	457.35	e457.14	457.00	457.69
7	457.27	457.43	457.55	457.55	457.50	456.88	456.75	456.96	457.38	e457.66	456.89	457.61
8	457.27	457.46	457.56	457.55	457.50	456.90	456.75	456.97	457.38	e457.37	457.46	457.67
9	457.28	457.50	457.57	457.55	457.50	456.91	456.75	456.98	457.40	e457.12	457.22	457.73
10	457.30	457.46	457.57	457.53	457.50	456.94	456.76	456.91	457.16	e457.08	457.55	457.73
11	457.31	457.45	457.57	457.55	457.50	457.07	456.80	456.95	457.02	e457.69	457.64	457.73
12	457.31	457.45	457.57	457.52	457.50	457.06	456.84	456.97	456.95	e457.41	457.66	457.72
13	457.31	457.47	457.57	457.49	457.50	457.04	456.85	456.97	457.49	e457.12	457.66	457.72
14	457.31	457.49	457.57	457.48	457.50	457.04	456.88	456.97	457.22	e457.59	457.67	457.73
15	457.30	457.65	457.57	457.48	457.50	457.04	456.83	456.97	457.11	e457.30	457.67	457.72
16	457.30	457.60	457.58	457.48	457.50	457.04	456.84	456.98	457.56	e457.13	457.69	457.72
17	457.30	457.50	457.59	457.49	457.79	457.08	457.13	456.97	457.29	e457.04	457.71	457.72
18	457.31	457.58	457.60	457.50	457.87	457.08	457.00	456.96	457.11	e457.64	457.71	457.73
19	457.32	457.51	457.72	457.51	457.48	457.05	456.95	456.95	457.02	e457.37	457.73	457.74
20	457.34	457.49	457.61	457.52	457.36	456.92	456.93	457.05	457.48	e457.14	457.72	457.75
21	457.34	457.48	457.58	457.51	457.31	456.82	456.93	456.98	457.24	e457.61	457.71	457.77
22	457.35	457.48	457.64	457.50	457.29	456.77	456.92	456.97	457.08	e457.35	457.70	457.77
23	457.35	457.50	457.67	457.50	457.28	456.73	456.92	456.96	457.00	e457.08	457.70	457.79
24	457.35	457.50	457.79	457.50	457.27	456.73	456.92	456.96	e457.45	e457.01	457.70	457.82
25	457.36	457.64	458.30	457.51	457.26	456.73	456.91	456.96	e457.10	e457.54	457.70	457.83
26	457.37	457.55	457.81	457.51	457.23	456.73	456.91	456.96	e456.95	e457.23	457.70	457.83
27	457.38	457.56	457.54	457.51	457.25	456.73	456.91	456.96	e457.52	e457.00	457.70	457.85
28	457.39	457.53	457.49	457.50	457.27	456.74	456.91	456.95	e457.25	e457.44	457.70	457.87
29	457.37	457.52	457.49	457.48	457.30	456.82	456.93	456.95	e457.10	e457.37	457.72	457.97
30	457.38	457.52	457.50	457.49	---	456.80	456.93	456.98	e457.69	e457.18	457.71	457.92
31	457.39	---	457.51	457.50	---	456.80	---	456.98	---	e457.10	457.71	---
MAX	457.39	457.65	458.30	457.57	457.87	457.20	457.17	457.05	457.69	457.69	457.73	457.97
MIN	457.26	457.39	457.49	457.48	457.23	456.73	456.75	456.91	456.95	457.00	456.89	457.61
(†)	457.39	457.52	457.51	457.50	457.30	456.80	456.93	456.98	457.69	457.10	457.71	457.92

CAL YR 1987 MAX 458.30 MIN 456.77
WTR YR 1988 MAX 458.30 MIN 456.73

(†) Elevation, in feet, at end of month.
e Estimated.

08050050 MOUNTAIN CREEK LAKE NEAR GRAND PRAIRIE, TX

LOCATION.--Lat 32°43'55", long 96°56'35", Dallas County, Hydrologic Unit 12030102, at right end of spillway in Mountain Creek Dam on Mountain Creek, 2.5 mi upstream from Texas and Pacific Railway Co. bridge, and 3.7 mi southeast of Grand Prairie.

DRAINAGE AREA.--295 mi².

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 21, 1960, nonrecording gage at powerplant at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,800 ft long, including a controlled spillway six 34- by 27 foot tainter gates. The dam was completed in December 1936 and deliberate impoundment began on Mar. 24, 1937. The lake was built and is operated by Dallas Power and Light Co. to supply cooling water for their generating plant. The capacity curve is based on a survey made in 1963. For statement regarding regulation by Joe Pool Dam, see station 08049900. Figures given herein represent total contents. Gage-height telemeter at station. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	467.0	
Top of gates	458.0	25,720
Top of dry weather conservation pool	457.0	22,840
Top of wet weather conservation pool	456.0	20,260
Crest of spillway (sill of tainter gates)	431.0	0

COOPERATION.--The capacity curve was provided by the Dallas Power and Light Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 27,440 acre-ft Mar. 27, 1977 (elevation, 458.52 ft); minimum, 14,120 acre-ft Oct. 18, 1972 (elevation, 453.25 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,650 acre-ft July 13 at 1400 hours (elevation, 457.28 ft); minimum, 18,390 acre-ft Nov. 6-9 (elevation, 455.21 ft).

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

455.0	17,890	457.0	22,840
456.0	20,260	458.0	25,720

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19600	18620	20170	22580	22790	22810	23070	23040	22690	21700	22070	20490
2	19500	18550	20070	22630	22760	23470	23070	23130	23300	22430	21990	20520
3	19450	18510	20070	22630	22740	22870	23130	22960	22900	22480	22010	21010
4	19430	18530	20120	22630	22690	22930	23210	22930	22930	22450	21960	20980
5	19410	18440	20120	22660	22660	22930	23070	22900	22900	22430	21940	20960
6	19410	18390	20120	22630	22710	22930	23070	22870	22900	22300	21890	20930
7	19340	18360	20290	22790	22710	22900	23040	22840	22930	22250	21810	20880
8	19310	18390	20090	22810	22710	22900	23010	22810	22930	22170	21700	20850
9	19310	18440	20090	22810	22710	22900	22900	22760	22790	22140	21630	20830
10	19220	18480	20070	22840	22690	22930	22840	22740	22740	22270	21520	20800
11	19190	18550	20050	22840	22660	22810	22760	22710	22660	22320	21520	20800
12	19190	18530	20000	23070	22740	22760	22760	22690	22580	23530	21450	20750
13	19080	18510	20140	22810	22840	22710	22760	22610	22500	23590	21370	20850
14	19050	18480	20170	22900	22660	22710	22740	22610	22480	23500	21320	20830
15	18980	19340	20190	22900	22690	22660	22760	22480	22450	23440	21270	20780
16	19000	19550	20170	22980	22710	22690	22740	22480	22430	23390	21240	20780
17	18960	19570	20170	22960	22790	22790	23300	22450	22400	23270	21160	20750
18	18960	19620	20440	23010	23010	22870	23330	22380	22350	23160	21140	20830
19	18960	19670	21060	23040	22840	22900	23330	22350	22300	23070	21140	20650
20	19000	19600	21110	22980	22870	22980	23300	22690	22220	23010	21110	20700
21	18890	19670	21140	22960	23040	22930	23360	22690	22140	22900	21090	20670
22	18840	19690	21210	22960	22840	22900	23240	22580	22070	22870	20980	20650
23	18810	19690	21240	22980	22760	22900	23210	22500	22010	22790	20960	20600
24	18840	19710	21270	22900	22760	22810	23240	22450	21940	22710	20850	20600
25	18810	19710	22350	22870	22790	22810	23130	22430	21910	22630	20850	20540
26	18810	20050	22630	22840	22760	22790	23010	22350	21910	22580	20780	20520
27	18770	20090	22690	22840	22760	22790	23010	22320	21890	22480	20720	20490
28	18700	20170	22660	22930	22760	22810	22960	22270	21890	22430	20540	20440
29	18720	20170	22810	22900	22760	22740	23070	22190	21830	22320	20620	20830
30	18670	20170	22690	22900	---	22740	23100	22300	21730	22270	20570	21290
31	18620	---	22660	22870	---	22740	---	22500	---	22190	20540	---
MAX	19600	20170	22810	23070	23040	23470	23360	23130	23300	23590	22070	21290
MIN	18620	18360	20000	22580	22660	22660	22740	22190	21730	21700	20540	20440
(†)	455.31	455.96	456.96	457.02	456.98	456.97	457.09	456.87	456.57	456.75	456.11	456.40
(ϕ)	-980	+1550	+2490	+210	-110	-20	+360	-600	-770	+460	-1650	+750

CAL YR 1987 MAX 24710 MIN 18360 (ϕ) -300
WTR YR 1988 MAX 23590 MIN 18360 (ϕ) +1690

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

08050100 MOUNTAIN CREEK AT GRAND PRAIRIE, TX

LOCATION.--Lat 32°44'52", long 96°55'33", Dallas County, Hydrologic Unit 12030102, on right bank at downstream side of downstream bridge on Jefferson Street, 1,000 ft upstream from bridge on U.S. Highway 80, 1.2 mi upstream from Texas and Pacific Railroad Co. bridge, 1.5 mi downstream from Mountain Creek Lake Dam, and 4.4 mi east of Grand Prairie.

DRAINAGE AREA.--298 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 404.31 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1984, at datum 3.0 ft higher.

REMARKS.--Records fair. Flow regulated by Mountain Creek Lake (station 08050050), 1.5 mi upstream. Several observations of water temperature were made during the year. Gage-height telemeters at station.

AVERAGE DISCHARGE.--28 years, 91.1 ft³/s (66,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,100 ft³/s Apr. 19, 1976 (gage height, 24.21 ft); maximum gage height, 24.62 ft May 7, 1969; no flow in 1964, 1972-74.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,350 ft³/s June 1 at 2230 hours (gage height, 8.86 ft); no flow for several days in July and August.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	e.53	.95	.53	1.9	.20	2.4	1.5	440	.95	.24	.73
2	.17	e.53	.95	.53	.95	2.7	3.5	1.5	44	2.5	.24	.56
3	.12	e.53	.95	.52	.72	208	.54	1.4	306	5.4	.22	2.3
4	.25	e.53	.56	.38	.53	28	.31	4.3	8.4	2.3	.72	2.1
5	.69	e.53	.62	.38	.53	1.8	.98	2.0	1.6	1.8	.31	1.2
6	.29	e.53	.62	.38	.72	.84	1.3	.46	.77	1.2	1.2	.85
7	.20	e.53	.80	.53	.72	.65	.65	.62	.56	1.1	.61	.79
8	.28	e.72	1.7	.72	.72	.71	.22	1.6	.52	.80	.0	.83
9	.29	e.72	.82	.72	.72	.45	.05	1.5	.35	.53	.00	.74
10	.35	e.72	.72	.83	.72	.25	.12	.47	.13	.80	.00	.72
11	.25	e.83	.72	.72	.83	.87	.24	.34	.11	10	.00	.74
12	.24	e.83	.59	1.2	.95	.66	.30	.40	.18	25	.04	1.3
13	.24	e.53	.49	1.3	.95	.37	.37	.23	.15	3.1	.12	1.3
14	.26	.52	1.2	.83	2.9	.22	.23	.22	.23	1.3	.11	2.6
15	.15	5.2	1.3	.62	2.2	.25	.49	.22	.24	.95	.11	1.2
16	.23	4.4	.95	.62	1.9	.23	.80	.23	.17	.68	.24	.68
17	.35	2.0	.72	.62	2.9	1.1	3.1	.36	.16	.59	.20	.63
18	.36	.96	.53	.62	93	1.9	4.5	.35	.21	.36	.17	.95
19	.29	1.6	5.1	.72	88	.98	2.6	.84	.16	.22	.31	1.0
20	e.27	1.2	2.7	.72	3.2	.71	2.0	4.1	.28	.22	.51	.87
21	e.32	1.0	1.3	.83	2.1	.72	1.9	2.7	.30	.20	.62	1.5
22	e.38	.71	.89	.53	3.8	.61	2.2	.93	.22	.04	.44	.73
23	e.38	.71	.49	.72	3.6	1.0	1.8	.70	.14	.0	.29	.41
24	e.38	.72	.68	.72	1.5	1.2	.71	.57	.49	.05	.14	.56
25	e.38	5.6	4.9	.72	.72	2.5	.43	.34	.51	.09	.13	1.0
26	e.38	1.7	17	.72	.62	.74	.36	1.0	.81	.08	.11	1.1
27	e.38	1.3	3.9	.72	.62	.21	.37	2.6	.61	.0	.11	.91
28	e.44	1.2	1.6	.53	.62	.11	.37	4.2	1.0	.14	.11	.76
29	e.44	.96	.83	.95	.44	.68	.86	4.8	1.8	.18	.16	2.0
30	e.44	.95	.72	2.5	---	.19	1.3	2.5	1.2	.11	.76	6.0
31	e.53	---	.72	2.9	---	.09	---	1.8	---	.11	.95	---
TOTAL	9.86	38.79	56.02	25.33	219.08	258.94	35.00	44.78	811.30	60.80	9.17	37.06
MEAN	.32	1.29	1.81	.82	7.55	8.35	1.17	1.44	27.0	1.96	.30	1.24
MAX	.69	5.6	17	2.9	93	208	4.5	4.8	440	25	1.2	6.0
MIN	.12	.52	.49	.38	.44	.09	.05	.22	.11	.00	.00	.41
AC-FT	20	77	111	50	435	514	69	89	1610	121	18	74

CAL YR 1987 TOTAL 9092.82 MEAN 24.9 MAX 1990 MIN .06 AC-FT 18040
WTR YR 1988 TOTAL 1606.13 MEAN 4.39 MAX 440 MIN .00 AC-FT 3190

e Estimated.

08050400 ELM FORK TRINITY RIVER AT GAINESVILLE, TX

LOCATION.--Lat 33°27'27", long 97°09'22", Cooke County, Hydrologic Unit 12030103, on right bank 16 ft to the right of the right end of the bridge on Farm Road 51, 31 ft downstream from the centerline of the road, 0.6 mi west of Cooke County courthouse in Gainesville, 1.0 mi upstream from Interstate Highway 35, and 1.2 mi downstream from Dozier Creek (corrected).

DRAINAGE AREA.--174 mi².

PERIOD OF RECORD.--August 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good. Several observations of water temperature were made during the year. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s May 28, 1987 (gage height, 19.77 ft); no flow for several days in August 1988 because of construction in channel.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1981 reached a peak stage of 28.1, from information by an employee of the Gainesville Department of Public Works.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,980 ft³/s Dec. 25 at 1745 hours (gage height, 13.80 ft); no flow Aug. 2-10 and 27-28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	2.8	6.8	166	35	36	45	14	28	1.3	.21	.05
2	2.7	2.8	6.2	137	77	45	44	13	18	1.0	.00	.19
3	2.3	3.2	5.9	125	148	86	40	12	11	2.0	.00	69
4	2.0	3.7	6.0	107	116	69	31	10	35	1.3	.00	12
5	2.2	3.8	6.2	81	93	53	26	9.0	15	.78	.00	1.7
6	2.0	2.4	49	75	78	46	22	8.6	8.4	.71	.00	1.0
7	1.9	2.6	76	88	70	40	20	8.5	5.6	.73	.00	.70
8	2.0	2.7	40	74	72	43	19	8.4	4.3	.68	.00	.51
9	1.9	5.2	22	57	74	41	18	7.0	3.5	.63	.00	.40
10	1.6	11	15	50	69	37	18	7.8	3.0	.64	.00	.29
11	1.5	8.8	12	49	62	33	18	7.0	2.4	5.1	.01	.28
12	1.6	6.3	10	386	55	28	18	6.0	2.1	1.6	.01	.25
13	1.6	6.8	9.3	465	58	23	18	5.3	2.0	1.0	.01	1.8
14	1.6	6.8	15	201	60	21	17	4.9	1.9	.88	.01	.58
15	1.5	14	25	159	50	21	17	4.8	1.7	.81	.01	.27
16	1.6	27	21	164	42	20	17	4.5	1.7	1.8	.01	.19
17	1.6	16	18	155	39	140	25	4.4	1.6	1.5	.01	21
18	1.7	10	17	118	130	261	25	3.8	1.5	1.0	.03	13
19	2.8	9.1	1400	105	300	126	25	3.5	1.5	.93	.01	2.0
20	2.3	7.5	914	83	160	85	20	3.3	1.3	.90	.01	.70
21	2.2	7.2	460	65	111	65	17	3.3	1.3	.80	.15	.51
22	2.9	6.8	254	57	90	54	16	3.3	.95	.76	.14	.40
23	3.1	6.1	187	53	72	48	13	3.3	.86	.63	.05	14
24	3.9	15	158	50	57	44	13	3.1	.77	.59	.02	274
25	3.7	89	1890	44	51	39	12	3.4	.76	.59	.01	13
26	5.5	19	1630	39	48	32	12	2.7	.97	.54	.01	3.6
27	3.9	11	970	38	48	27	11	2.5	.78	.50	.00	2.1
28	3.5	9.0	624	35	44	25	10	2.5	1.3	.47	.0	1.4
29	3.5	7.9	348	35	40	26	10	2.4	1.9	.48	.01	2.0
30	3.2	7.4	243	35	---	25	12	2.4	1.8	.50	.03	2.0
31	3.0	---	199	36	---	23	---	4.7	---	.50	.04	---
TOTAL	77.9	330.9	9637.4	3332	2349	1662	609	179.4	160.89	31.65	0.79	438.92
MEAN	2.51	11.0	311	107	81.0	53.6	20.3	5.79	5.36	1.02	.025	14.6
MAX	5.5	89	1890	465	300	261	45	14	35	5.1	.21	274
MIN	1.5	2.4	5.9	35	35	20	10	2.4	.76	.47	.00	.05
AC-FT	155	656	19120	6610	4660	3300	1210	356	319	63	1.6	871

CAL YR 1987 TOTAL 57761.22 MEAN 158 MAX 4730 MIN .76 AC-FT 114600
WTR YR 1988 TOTAL 18809.85 MEAN 51.4 MAX 1890 MIN .00 AC-FT 37310

08050800 TIMBER CREEK NEAR COLLINSVILLE, TX

LOCATION.--Lat 33°33'16", long 96°56'49", Cooke County, Hydrologic Unit 12030103, on left bank 13 ft to the left of bridge on Farm Road 902 and 19 ft downstream from the centerline of the road, 2.1 mi west of Collinsville, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--38.8 mi².

PERIOD OF RECORD.--August 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 640.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good. Several observations of water temperature were made during the year. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,600 ft³/s Apr. 4, 1986 (gage height, 13.28 ft); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1981 reached a peak stage of 15.0 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 987 ft³/s Dec. 26 at 0415 hours (gage height 12.19 ft); no flow Oct. 1 to Nov. 14, June 15-25, June 30 to Sept. 2, Sept. 7-11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.0	.0	1.2	4.2	3.4	5.0	3.8	1.5	24	.00	.00	.00
2	.00	.0	.71	3.3	10	16	4.4	1.2	2.1	.00	.00	.00
3	.00	.0	.56	3.1	71	60	3.4	.95	.47	.00	.00	8.1
4	.00	.0	.55	2.8	24	15	2.8	.90	.27	.00	.00	1.8
5	.00	.0	.50	2.4	11	9.3	2.8	.90	.21	.00	.00	.18
6	.00	.0	2.0	2.6	7.1	7.4	2.5	.85	.17	.00	.00	.02
7	.00	.0	5.2	3.8	6.0	6.1	2.1	.82	.14	.00	.00	.00
8	.00	.0	2.8	3.8	5.7	5.8	2.2	.91	.11	.00	.00	.00
9	.00	.0	1.4	2.4	5.5	7.4	2.1	.92	.08	.00	.00	.00
10	.00	.0	1.1	1.9	5.3	5.8	2.1	.89	.06	.00	.00	.00
11	.00	.0	.77	2.0	4.9	4.9	1.9	.83	.06	.00	.00	.00
12	.00	.0	.49	71	4.9	4.0	1.9	.77	.05	.00	.00	.17
13	.00	.0	.42	90	5.4	3.1	1.9	.70	.04	.00	.00	.14
14	.00	.0	8.9	15	5.7	3.3	1.9	.67	.01	.00	.00	117
15	.00	3.5	5.0	9.4	5.1	3.4	1.9	.64	.0	.00	.00	93
16	.00	12	2.7	9.5	5.0	3.5	2.0	.62	.00	.00	.00	4.5
17	.00	3.2	1.6	9.6	5.2	37	6.2	.60	.0	.00	.00	1.4
18	.00	.65	1.1	6.7	24	77	9.4	.55	.0	.00	.00	.71
19	.00	.20	446	7.7	67	18	3.4	.51	.0	.00	.00	.44
20	.00	.12	508	6.4	18	11	2.3	.52	.0	.00	.00	.33
21	.00	.09	20	4.7	10	7.7	2.0	.58	.0	.00	.00	.25
22	.00	.07	8.6	4.0	8.4	5.7	1.8	.83	.0	.00	.00	.18
23	.00	.05	5.9	4.1	7.2	5.1	1.7	.67	.0	.00	.00	.15
24	.00	.09	32	4.1	6.0	4.5	1.2	.58	.00	.00	.00	.13
25	.00	144	330	3.3	5.8	4.0	1.4	.44	.0	.00	.00	.11
26	.00	12	906	3.2	6.0	3.2	1.4	.40	4.9	.00	.00	.13
27	.00	4.4	290	3.1	5.8	3.0	1.3	.35	.20	.00	.00	.14
28	.00	3.2	26	3.1	5.8	3.2	1.2	.32	.09	.00	.00	.11
29	.00	1.9	11	3.3	5.3	3.9	1.3	.31	.05	.00	.00	.10
30	.00	1.3	7.5	3.4	---	3.7	1.7	.32	.00	.00	.00	.07
31	.00	---	5.8	3.6	---	3.2	---	.32	---	.00	.00	---
TOTAL	0.00	186.77	2633.80	297.5	354.5	350.2	76.0	21.37	33.01	0.00	0.00	229.16
MEAN	.00	6.23	85.0	9.60	12.2	11.3	2.53	.69	1.10	.00	.00	7.64
MAX	.00	144	906	90	71	77	9.4	1.5	24	.00	.00	117
MIN	.00	.00	.42	1.9	3.4	3.0	1.2	.31	.00	.00	.00	.00
AC-FT	.0	370	5220	590	703	695	151	42	65	.0	.0	455
CFSM	.00	.16	2.19	.25	.32	.29	.07	.02	.03	.00	.00	.20
IN.	.00	.18	2.53	.29	.34	.34	.07	.02	.03	.00	.00	.22

CAL YR 1987 TOTAL 8676.70 MEAN 23.8 MAX 1010 MIN .00 AC-FT 17210 CFSM .61 IN. 8.32
WTR YR 1988 TOTAL 4182.31 MEAN 11.4 MAX 906 MIN .00 AC-FT 8300 CFSM .29 IN. 4.01

08051100 Ray Roberts Lake near Pilot Point, TX

LOCATION.--Lat 32°21'19", long 97°02'59", Denton County, Hydrologic Unit 12030103, in control room of outlet works tower located 336 ft upstream from centerline of Ray Roberts Dam (and Farm Road 455 which is located on top of dam) on Elm Fork Trinity River, 3.7 mi upstream from Bray Branch, 5.7 mi southwest of Pilot Point, and at river mile 60.0.

DRAINAGE AREA.--692 mi².

PERIOD OF RECORD.--July 1987 to current year.

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

REMARKS.--Lake is formed by a rolled earthfill dam 15,250 ft long. There is an uncontrolled, broad-crested spillway excavated in natural ground about 5,000 ft right of right end of dam. A reinforced concrete tower houses the flood-control and low-flow gates and operating equipment. Construction started Sept. 16, 1980 and closure was made in May 1986. The dam was built and is owned by the U.S. Army Corps of Engineers. Deliberate impoundment started June 30, 1987. The lake was built for water supply, flood control, and 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	665.0	-
Spillway crest (uncontrolled)	645.5	1,262,000
Top of flood-control pool	640.5	1,065,000
Top of conservation pool	632.5	799,600
Invert, lowest gated outlet	551.0	990

COOPERATION.--Area and capacity tables provided by the U.S. Army 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 contents, 136,600 acre-ft June 2, 1988 (elevation, 593.50 ft); minimum since initial filling began, 990 acre-ft July 1, 1987 (elevation, 551.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 136,600 acre-ft June 2, 3 (elevation, 593.50 ft); minimum daily, 18,640 acre-ft Oct. 1-13 (elevation, 571.33 ft).

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

571.0	17,790	582.0	60,300	590.0	109,500
575.0	29,990	585.0	76,730	592.0	124,600
579.0	46,000	588.0	95,510	594.0	140,800

RESERVOIR STORAGE (ACRE-FEET), JULY TO SEPTEMBER 1987
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	990	2020	2660
2	---	---	---	---	---	---	---	---	---	990	2020	2950
3	---	---	---	---	---	---	---	---	---	990	2020	13270
4	---	---	---	---	---	---	---	---	---	990	2020	13270
5	---	---	---	---	---	---	---	---	---	990	2020	13270
6	---	---	---	---	---	---	---	---	---	990	2020	13270
7	---	---	---	---	---	---	---	---	---	990	2020	13270
8	---	---	---	---	---	---	---	---	---	990	2020	13270
9	---	---	---	---	---	---	---	---	---	990	2320	13270
10	---	---	---	---	---	---	---	---	---	1150	2320	13270
11	---	---	---	---	---	---	---	---	---	1330	2320	13270
12	---	---	---	---	---	---	---	---	---	1330	2320	13270
13	---	---	---	---	---	---	---	---	---	1330	2320	13270
14	---	---	---	---	---	---	---	---	---	1330	2320	13270
15	---	---	---	---	---	---	---	---	---	1330	2320	13270
16	---	---	---	---	---	---	---	---	---	1330	2320	13270
17	---	---	---	---	---	---	---	---	---	1330	2320	13270
18	---	---	---	---	---	---	---	---	---	1330	2320	13270
19	---	---	---	---	---	---	---	---	---	1530	2320	13270
20	---	---	---	---	---	---	---	---	---	1530	2320	15380
21	---	---	---	---	---	---	---	---	---	1530	2320	15380
22	---	---	---	---	---	---	---	---	---	1530	2320	15380
23	---	---	---	---	---	---	---	---	---	1530	2320	15380
24	---	---	---	---	---	---	---	---	---	1530	2320	15380
25	---	---	---	---	---	---	---	---	---	1530	2660	15380
26	---	---	---	---	---	---	---	---	---	1530	2660	15380
27	---	---	---	---	---	---	---	---	---	1750	2660	15380
28	---	---	---	---	---	---	---	---	---	1750	2660	15380
29	---	---	---	---	---	---	---	---	---	2020	2660	15380
30	---	---	---	---	---	---	---	---	---	2020	2660	18640
31	---	---	---	---	---	---	---	---	---	2020	2660	---
MAX	---	---	---	---	---	---	---	---	---	2020	2660	18640
MIN	---	---	---	---	---	---	---	---	---	990	2020	2660

WTR YR 1987 MAX -- MIN --

08051100 Ray Roberts Lake near Pilot Point, TX--Continued

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18640	19100	24630	101000	117700	126900	134000	135400	136000	132900	129400	124000
2	18640	19100	24630	101000	117700	127600	134100	135300	136600	132900	129200	124000
3	18640	19100	24630	101000	118500	128000	134200	135200	136600	132900	129000	126000
4	18640	19100	30700	101600	119000	128200	134100	135100	136500	132800	128800	125900
5	18640	19100	30700	101600	119400	128400	134300	135100	136400	132600	128800	125800
6	18640	19100	30700	102300	119600	128500	134200	135000	136300	132400	128500	125600
7	18640	19100	30700	102300	119800	128800	134200	135000	136200	132200	128400	125100
8	18640	20460	30700	102300	120000	128800	134200	135600	136100	132000	128300	125000
9	18640	20460	30700	102300	120200	128900	134300	135400	136000	131900	128100	124900
10	18640	20460	31430	103500	120200	128800	134200	135300	135800	131600	127800	124800
11	18640	20460	31610	103500	120600	129100	134200	135200	135600	132500	127600	124700
12	18640	20460	31610	104000	120700	129100	134100	135100	135400	132400	127500	124500
13	18640	20460	31610	104000	120700	129100	134000	135100	135200	132200	127200	124400
14	19100	20460	31790	104000	121000	129100	133900	134900	135100	132000	127100	124600
15	19100	20460	31790	112100	121200	129100	134200	134800	135000	131800	126900	124500
16	19100	20460	31790	112100	121200	129100	134200	134700	134900	131600	126800	124300
17	19100	20460	31790	112100	121600	130400	135200	134700	134700	131500	126600	125400
18	19100	20460	31790	112100	122300	131600	135900	134500	134600	131300	126400	127600
19	19100	23700	45320	112100	124300	132200	135900	134400	134400	131800	126200	128100
20	19100	23700	49830	115800	125100	132500	135900	134300	134200	131600	126200	128000
21	19100	23700	50520	116000	125400	132500	135800	134200	134100	131500	126100	127800
22	19100	23700	50520	116200	125600	132600	135900	134100	133900	131300	125900	127700
23	19100	23700	51690	116400	125900	133000	135900	133900	133800	131000	125800	128100
24	19100	24630	56520	116400	126100	133300	135800	133800	133700	130800	125500	132300
25	19100	24630	72410	116600	126200	133300	135800	133600	133500	130700	125300	132500
26	19100	24630	82720	116600	126400	133300	135700	133400	133400	130500	125200	132500
27	19100	24630	97260	116700	126500	133300	135600	133300	133400	130400	124900	132400
28	19100	24630	97260	116800	126700	133300	135600	133200	133300	130100	124700	132300
29	19100	24630	100600	116900	126900	133600	135600	133100	133100	130000	124600	132900
30	19100	24630	101000	117100	---	133700	135600	133100	132900	129700	124400	132800
31	19100	---	101000	117400	---	133800	---	133800	---	129600	124200	---
MAX	19100	24630	101000	117400	126900	133800	135900	135600	136600	132900	129400	132900
MIN	18640	19100	24630	101000	117700	126900	133900	133100	132900	129600	124200	124000
(†)	571.50	573.40	588.80	591.06	592.29	593.15	593.37	593.16	593.05	592.63	591.95	593.03
(ϕ)	+451	+5534	+76320	+16410	+9499	+6896	+1800	-1718	-895	-3382	-5368	+8588

WTR YR 1988 MAX 136600 MIN 18640 (ϕ) +114200

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

08051130 ELM FORK TRINITY RIVER NEAR PILOT POINT, TX

LOCATION.--Lat 33°21'01", long 97°02'49", Denton County, Hydrologic Unit 12030103, on right bank of excavated outlet channel 1,600 ft downstream from center line of Ray Roberts Dam on Elm Fork Trinity River, 3.3 mi upstream from Bray Branch, 4.9 mi upstream from Farm Road 428 bridge, and 5.7 mi southwest of town square in Pilot Point.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--692 mi².

PERIOD OF RECORD.--Occasional low-flow measurements and annual maximum, water years 1981-84, July 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 526.26 ft above National Geodetic Vertical Datum of 1929. Prior to July 1985, nonrecording staff and crest-stage gages at site 0.8 mi downstream at 526.26 ft lower datum.

REMARKS.--No estimated daily discharge. Records poor. Flow is regulated by Ray Roberts Lake (station 08051100) 1,600 ft upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,290 ft³/s Oct. 21, 1985 (gage height, 15.75 ft); no flow in 1987-88 water years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1900, 183,000 ft³/s in October 1981 from discontinued gages 5.0 mi upstream on Elm Fork Trinity River and 6.3 mi upstream on Isle du Bois Creek. The crest-stage gage then in use recorded an elevation of 566.32 ft (gage height to current datum 40.06 ft) for that flood.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38 ft³/s Dec. 25 at 2115 hours (gage height, 4.75 ft); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	2.3	3.4	.00	.47	1.4	2.2	.97	11	.38	.68	.51
2	.00	1.6	4.0	.00	.26	2.1	1.8	1.2	4.7	.51	.68	.30
3	.00	1.6	4.5	.00	.26	.81	1.6	.97	3.3	.81	.83	.94
4	.0	1.6	4.7	.00	.37	.68	1.3	.51	.38	.68	.91	.40
5	.01	1.7	5.0	.00	.49	.80	1.2	.68	.13	.51	.81	.04
6	.04	1.9	5.7	.03	.68	.81	1.3	.81	.13	.38	.75	.02
7	.12	2.3	5.9	.07	.68	1.2	2.2	.97	.18	.26	.68	.03
8	.41	3.2	5.8	.03	.68	1.3	2.5	.81	.07	.26	.63	.68
9	.60	4.1	5.7	.01	.68	1.1	2.2	.68	.26	.26	.41	.05
10	.57	5.4	5.7	.0	.59	1.6	2.2	.68	.07	.18	.38	.00
11	.43	4.9	5.7	.02	.38	1.8	2.5	.51	.04	.81	.43	.00
12	.66	4.7	5.7	.33	.56	.92	3.5	.38	.01	.97	.55	.00
13	1.2	4.6	5.7	.10	.84	1.0	4.3	.18	.01	.68	1.7	.00
14	1.6	4.5	6.7	.00	.68	1.2	4.3	.26	.01	.37	2.3	.01
15	1.6	6.6	7.5	.00	.51	1.6	4.5	.18	.01	.27	2.5	1.0
16	1.4	4.7	7.3	.00	.72	2.0	4.5	.26	.01	.26	2.5	1.5
17	1.2	3.4	6.9	.00	.97	3.5	5.3	.26	.01	.18	2.0	.69
18	2.8	3.4	6.9	.03	1.3	1.9	.81	.26	.01	.18	2.1	1.0
19	4.3	3.2	13	.26	1.8	.97	.04	.26	.00	.15	2.7	.43
20	3.8	3.2	5.3	.01	1.1	.97	.04	.38	.00	.54	2.7	.18
21	3.9	3.5	3.7	.00	.81	.97	.01	.81	.00	.35	2.7	.18
22	3.9	3.9	2.9	.00	.81	.85	.00	.51	.00	.39	2.8	.16
23	3.8	4.1	2.5	.0	.81	.97	.00	.51	.00	.59	2.4	.10
24	4.3	4.5	2.6	.01	.81	.81	.00	.81	.01	.38	2.2	.16
25	3.5	9.6	13	.00	.87	.68	.00	.81	.04	.38	1.8	.04
26	2.4	4.5	8.6	.00	1.1	.68	.00	.81	.07	.51	1.2	.01
27	2.7	3.2	1.7	.00	1.1	1.2	.00	.51	.07	.64	1.1	.01
28	3.2	2.9	.09	.02	1.1	1.8	.00	.51	.18	.81	.97	.01
29	3.5	2.9	.00	.12	1.1	1.2	.81	.68	.18	.81	.76	.09
30	3.6	3.2	.00	.37	---	1.3	.97	.81	.38	.68	.57	.07
31	3.3	---	.00	.51	---	1.8	---	1.2	---	.67	.51	---
TOTAL	58.87	111.2	156.19	1.92	22.53	39.92	50.08	19.18	21.26	14.85	43.25	8.61
MEAN	1.90	3.71	5.04	.062	.78	1.29	1.67	.62	.71	.48	1.40	.29
MAX	4.3	9.6	13	.51	1.8	3.5	5.3	1.2	11	.97	2.8	1.5
MIN	.00	1.6	.00	.00	.26	.68	.00	.18	.00	.15	.38	.00
AC-FT	117	221	310	3.8	45	79	99	38	42	29	86	17

CAL YR 1987	TOTAL 121558.03	MEAN 333	MAX 3220	MIN .00	AC-FT 241100			
WTR YR 1988	TOTAL 547.86	MEAN 1.50	MAX 13	MIN .00	AC-FT 1090			

08051130 ELM FORK TRINITY RIVER NEAR PILOT POINT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: December 1985 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
MAR 23...	1630	7.5	455	8.50	17.0	27	54	10.0	105	3.8	140	11
SEP 08...	1430	0.36	428	8.10	26.0	13	14	--	--	2.0	150	6

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 WAT WH TOT FET 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)
MAR 23...	46	5.7	37	1	3.8	128	54	34	0.30	5.8	263
SEP 08...	51	5.8	27	1	5.2	145	20	32	0.20	3.6	232

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
MAR 23...	32	<1	0.570	0.030	0.600	0.050	0.75	0.80	0.170	--	<1
SEP 08...	37	2	--	0.010	<0.100	0.080	0.62	0.70	0.050	6.7	2

DATE	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)	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)
MAR 23...	33	<1	1	2	13	<5	2	<0.1	<1	<1.0	<3
SEP 08...	48	<1	<1	6	8	<5	59	0.1	<1	<1.0	5

08051500 CLEAR CREEK NEAR SANGER, TX

LOCATION (REVISED).--Lat 33°20'10", long 97°10'45", Denton County, Hydrologic Unit 12030103, at the downstream side near right end of bridge on county road 1,350 ft downstream from Duck Creek, 1.1 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, and 1.8 mi south of Sanger.

DRAINAGE AREA.--295 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1512: 1950, 1955. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 582.23 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Apr. 18, 1975, water-stage recorder at datum 5.00 ft higher. Apr. 18, 1975 to June 9, 1988, at site 950 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. No appreciable diversion above station. Flow is affected at times by discharge from the flood-detention pools of 51 floodwater-retarding structures with a combined detention capacity of 38,850 acre-ft. These structures control runoff from 149 mi² in the Clear Creek watershed. Gage-height telemeter at station.

AVERAGE DISCHARGE.--31 years (water years 1950-80) prior to regulation, 74.3 ft³/s (53,830 acre-ft/yr); 8 years (water years 1981-88) after completion of floodwater retarding structures, 130 ft³/s (94,180 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 104,000 ft³/s Oct. 13, 1981 (gage height, 35.70 ft, site and datum then in use); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 36.5 ft in May 1908, from information by Gulf, Colorado, and Santa Fe Railway Co. Flood in May 1935 reached a stage of 34.0 ft, from information by State Department of Highways and Public Transportation. Both peaks now referenced to present site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	discharge (ft³/s)	Gage height (ft)
Dec. 26	0145	*2,470	*15.92				

Minimum discharge, no flow July 26 to Sept. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9	10	17	91	41	49	34	21	59	1.4	.00	.00
2	8.8	10	16	76	40	53	46	21	75	.59	.00	.00
3	8.2	10	16	68	64	69	49	20	39	.28	.00	80
4	7.7	11	15	62	74	64	41	19	36	.24	.00	10
5	7.6	12	15	56	67	55	37	19	31	.65	.00	2.4
6	7.6	13	17	53	62	50	33	19	26	.69	.00	.82
7	7.4	12	33	59	58	47	31	19	24	.25	.00	.16
8	7.0	16	22	61	58	46	30	25	22	.16	.00	.12
9	6.8	12	18	56	58	46	29	23	21	.12	.00	.12
10	6.5	13	17	51	57	44	28	21	7.0	.11	.00	.13
11	6.5	12	15	52	55	43	27	19	6.4	.23	.00	.13
12	7.0	12	15	104	50	40	27	18	5.5	.87	.00	.14
13	7.9	11	15	255	49	37	27	18	4.9	3.8	.00	.15
14	8.4	12	19	165	49	34	27	18	4.3	1.4	.00	.15
15	7.4	31	19	123	47	33	25	17	4.3	.38	.00	.16
16	6.8	35	19	109	44	33	24	17	4.0	.19	.00	.15
17	6.8	26	18	105	44	57	33	16	4.4	.11	.00	9.5
18	7.4	19	17	93	62	133	34	16	4.3	.06	.00	34
19	10	18	264	88	175	103	35	17	3.7	.03	.00	8.2
20	14	17	451	75	139	75	30	16	3.0	.36	.00	5.7
21	12	16	172	63	99	63	27	17	2.3	1.4	.00	3.4
22	8.2	15	93	57	83	54	25	17	1.9	.23	.00	1.3
23	7.8	15	66	55	70	50	24	17	1.3	.13	.00	.48
24	8.8	20	66	54	59	48	22	17	.97	.08	.00	77
25	11	170	509	51	55	47	21	17	.79	.04	.00	30
26	12	45	1570	47	53	41	21	17	.78	.0	.00	12
27	11	28	812	46	52	38	20	16	1.1	.00	.00	9.3
28	9.3	24	489	44	52	37	18	16	1.6	.00	.00	6.4
29	9.0	21	235	42	51	36	18	16	1.4	.00	.00	8.4
30	9.5	18	140	41	---	35	19	18	2.7	.00	.00	6.0
31	10	---	110	41	---	33	---	19	---	.00	.00	---
TOTAL	268.3	684	5300	2343	1867	1593	862	566	399.64	13.80	0.00	306.31
MEAN	8.65	22.8	171	75.6	64.4	51.4	28.7	18.3	13.3	.45	.00	10.2
MAX	14	170	1570	255	175	133	49	25	75	3.8	.00	80
MIN	6.5	10	15	41	40	33	18	16	.78	.00	.00	.00
AC-FT	532	1360	10510	4650	3700	3160	1710	1120	793	27	.0	608

CAL YR 1987 TOTAL 57485.9 MEAN 157 MAX 5670 MIN 6.5 AC-FT 114000
WTR YR 1988 TOTAL 14203.05 MEAN 38.8 MAX 1570 MIN .00 AC-FT 28170

08051500 CLEAR CREEK NEAR SANGER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: April 1959, January 1966, October 1984 to current year. Sediment analyses: February 1966 to May 1977.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1969 to August 1977.
WATER TEMPERATURE: May 1968 to August 1977.
SUSPENDED SEDIMENT DISCHARGE: May 1968 to August 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (1972-77): Maximum daily, 1,920 microsiemens Oct. 12, 1976; minimum daily, 182 microsiemens July 29, 1973.
WATER TEMPERATURE (1968-70, 1972-77): Maximum daily, 39.0°C June 8, 1969; minimum daily, 0.0°C Jan. 9, 1970.
SEDIMENT CONCENTRATION: Maximum daily mean, 7,370 mg/L May 12, 1972; minimum, no flow on many days.
SEDIMENT LOADS: Maximum daily, 79,000 tons May 7, 1969; minimum daily, 0 tons on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC												
11...	1100	15	620	8.10	4.5	9	3.5	12.3	98	0.3	260	44
JAN												
29...	1400	44	600	8.00	13.0	3	4.4	11.4	110	0.9	260	24
MAR												
18...	1530	164	627	8.30	8.5	9	40	11.6	100	1.8	250	48
APR												
28...	1200	19	670	7.38	18.5	1	2.6	8.2	89	--	240	47
JUN												
15...	0945	4.4	990	7.90	25.5	5	13	7.7	95	1.5	270	110

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 WAT WH TOT FET 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)
DEC											
11...	76	17	39	1	2.3	216	53	47	0.30	13	377
JAN											
29...	87	11	31	0.9	2.3	239	47	37	0.30	9.2	368
MAR											
18...	85	10	35	1	2.2	206	50	48	0.30	8.0	362
APR											
28...	70	16	48	1	1.7	194	60	68	0.40	10	390
JUN											
15...	78	19	93	3	2.4	164	61	180	<0.10	14	546

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC											
11...	14	5	0.290	0.010	0.300	0.030	1.6	1.6	0.010	2.3	1
JAN											
29...	19	3	--	<0.010	0.400	0.040	0.36	0.40	0.020	2.4	--
MAR											
18...	<1	<1	0.190	0.010	0.200	0.050	0.45	0.50	0.060	6.4	<1
APR											
28...	27	5	--	<0.010	0.100	0.040	0.36	0.40	0.020	2.5	--
JUN											
15...	6	<1	--	<0.010	0.200	0.040	1.7	1.7	0.060	2.7	1

DATE	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)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC											
11...	100	1	1	3	10	<5	21	<0.1	<1	1.0	12
JAN											
29...	--	--	--	--	--	--	--	--	--	--	--
MAR											
18...	100	1	2	5	10	<5	<10	<0.1	<1	<1.0	20
APR											
28...	--	--	--	--	--	--	--	--	--	--	--
JUN											
15...	130	<1	<1	2	5	<5	3	0.3	<1	1.0	17

08052700 LITTLE ELM CREEK NEAR AUBREY, TX

LOCATION.--Lat 33°17'00", long 96°53'33", Denton County, Hydrologic Unit 12030103, on left bank at downstream side of bridge on Farm Road 1385, 1.5 mi upstream from Mustang Creek, 5.5 mi east of Aubrey, and 18 mi upstream from Lewisville Dam on the Elm Fork Trinity River.

DRAINAGE AREA.--75.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1956 to September 1976, October 1979 to current year.

REVISED RECORDS.--WDR TX-70-1: 1969.

GAGE.--Water-stage recorder. Datum of gage is 534.76 ft above National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation bench mark).

REMARKS.--No estimated daily discharges. Records good except those for February to September, which are poor. Several small diversions for irrigation above station. Flow is affected at times by discharge from the flood-detention pools of 17 floodwater-retarding structures with a combined detention capacity of 10,460 acre-ft. These structures control runoff from 36.4 mi² above station. Several observations of water temperature were obtained during the year.

AVERAGE DISCHARGE.--29 years (water year 1957-76, 1980-1988), 45.3 ft³/s (32,820 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,300 ft³/s May 13, 1982 (gage height, 17.80 ft); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1900, 18.2 ft in May 1941, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 26	0930	*1,540	*15.25	No other peak greater than base discharge.			

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	16	47	3.3	2.1	1.6	.00	.85	.00	.00	.00
2	.00	.00	11	29	2.5	2.3	2.9	.00	1.7	.00	.00	.00
3	.00	.00	8.9	22	1.5	3.5	.08	.00	.13	.00	.00	.00
4	.00	.00	7.8	18	.81	3.3	.99	.00	.12	.00	20	.00
5	.00	.00	6.7	15	.51	2.6	.18	.00	.09	.00	1.8	.00
6	.00	.00	6.1	12	.34	3.0	.07	.00	.07	.00	1.0	.00
7	.00	.00	30	13	.22	3.1	.03	.00	.05	.00	.57	.0
8	.00	.00	8.5	15	.14	3.1	.05	.00	.01	.00	.31	.02
9	.00	.00	4.9	11	.14	3.0	.08	.00	.00	.00	.16	.01
10	.00	2.3	3.3	9.7	.13	3.6	.06	.00	.00	.00	.08	.0
11	.00	2.0	2.7	9.5	.10	3.3	.06	.00	.00	.00	.04	.00
12	.00	1.1	3.0	101	.07	3.3	.04	.00	.00	.00	.0	.00
13	.00	.90	4.9	254	.05	3.8	.04	.00	.00	.00	.00	.00
14	.00	.75	7.7	118	.0	3.1	.04	.00	.00	.00	.00	.00
15	.00	34	9.7	72	.0	3.2	.03	.00	.00	.00	.00	.00
16	.00	228	9.5	54	.60	3.2	.01	.00	.00	.00	.00	.00
17	.00	102	8.4	38	1.2	3.9	.01	.00	.00	.00	.00	.00
18	.00	54	8.0	24	1.4	7.4	1.7	.00	.00	.00	.00	.00
19	.00	40	156	39	2.0	4.2	.15	.00	.00	.00	.00	.00
20	.00	23	315	26	.43	2.5	.06	.00	.00	.00	.00	.00
21	.00	13	98	12	.07	1.8	.06	.00	.00	.02	.00	.00
22	.00	9.8	56	9.0	.30	1.3	.04	.00	.00	.0	.00	.00
23	.00	8.5	37	7.8	.87	.91	.06	.00	.00	.00	.00	.00
24	.00	7.5	29	6.9	1.1	.87	.04	.00	.00	.00	.00	.00
25	.00	235	137	6.2	1.0	.77	.02	.00	.00	.00	.00	.00
26	.00	138	1170	5.6	.77	1.2	.00	.00	.00	.00	.00	.00
27	.00	80	557	5.3	.54	1.0	.00	.00	.00	.00	.00	.00
28	.00	54	324	5.2	.93	.83	.00	.00	.00	.00	.00	.00
29	.00	36	202	4.9	1.6	1.1	.00	.00	.00	.00	.00	.00
30	.00	25	123	4.7	---	2.1	.00	.00	.00	.00	.00	.00
31	.00	---	77	4.1	---	1.8	---	.00	---	.00	.00	---
TOTAL	0.00	1094.85	3438.1	998.9	22.62	81.18	8.40	0.00	3.02	0.02	23.96	0.03
MEAN	.00	36.5	111	32.2	.78	2.62	.28	.00	.10	.001	.77	.001
MAX	.00	235	1170	254	3.3	7.4	2.9	.00	1.7	.02	20	.02
MIN	.00	.00	2.7	4.1	.00	.77	.00	.00	.00	.00	.00	.00
AC-FT	.0	2170	6820	1980	45	161	17	.0	6.0	.04	48	.06

CAL YR 1987 TOTAL 12814.16 MEAN 35.1 MAX 1170 MIN .00 AC-FT 25420
WTR YR 1988 TOTAL 5671.08 MEAN 15.5 MAX 1170 MIN .00 AC-FT 11250

08052700 LITTLE ELM CREEK NEAR AUBREY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: June 1962 to June 1963, June 1965 to January 1968. Chemical and biochemical analyses: October 1984 to current year. Sediment analyses: April 1966 to October 1974.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1966 to June 1975.
WATER TEMPERATURES: February 1966 to June 1975.
SUSPENDED SEDIMENT DISCHARGE: February 1966 to September 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: (1966-68, 1971-74): Maximum daily, 1,380 microsiemens Jan. 24, Feb. 25, 1967; minimum daily, 195 microsiemens June 4, 1968.
WATER TEMPERATURE (1966-68, 1971-74): Maximum daily, 33.0°C June 16, 1968; minimum daily, freezing point Feb. 22, 1968.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,750 mg/L Aug. 13, 1966; minimum daily mean, no flow on many days.
SEDIMENT LOADS: Maximum daily, 17,900 tons May 31, 1967; minimum daily, 0 tons on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC												
10...	0930	3.4	325	7.60	4.5	230	110	11.7	91	0.4	120	33
JAN												
30...	1100	4.7	420	7.90	16.0	65	79	10.0	103	1.7	160	32
MAR												
19...	1130	3.6	909	8.10	8.0	49	32	11.5	98	3.1	340	220

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 WAT WH TOT FET 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)
DEC											
10...	43	3.5	19	0.8	4.9	89	58	7.1	0.40	8.6	198
JAN											
30...	58	3.8	28	1	4.8	129	86	9.5	0.40	6.4	274
MAR											
19...	120	10	69	2	5.5	123	320	17	0.40	4.8	621

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC											
10...	115	37	0.860	0.040	0.900	0.060	--	<0.20	0.150	11	3
JAN											
30...	<1	<1	2.07	0.030	2.10	0.060	1.0	1.1	0.250	8.8	--
MAR											
19...	34	5	0.960	0.040	1.00	0.160	1.0	1.2	0.240	16	1

DATE	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)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC											
10...	33	<1	5	5	38	5	6	<0.1	<1	<1.0	5
JAN											
30...	--	--	--	--	--	--	--	--	--	--	--
MAR											
19...	100	<1	2	5	60	<5	20	<0.1	<1	<1.0	20

08052730 PECAN CREEK NEAR AUBREY, TX

LOCATION.--Lat 33°17'50", long 96°55'06", Denton County, Hydrologic Unit 12030103, on Farm Road 428 bridge, over center of channel at downstream side of bridge, 1.1 mi dwonstream from unnamed tributary on right bank, 2.2 mi upstream from unnamed tributary on right bank, and 4.0 mi east of Aubrey.

DRAINAGE AREA.--32.2 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: December 1985 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC												
10...	1115	1.4	335	7.19	5.0	160	54	10.6	84	0.4	110	47
FEB												
01...	1100	1.3	935	7.60	14.5	27	13	9.0	90	1.3	330	210
MAR												
19...	1330	7.3	972	8.08	9.5	48	17	11.6	102	2.3	340	210
APR												
27...	1800	0.15	878	6.97	19.0	25	12	6.0	66	0.7	310	180

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 WAT WH TOT FET 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)
DEC											
10...	30	8.0	22	1	6.9	61	73	18	0.30	8.6	204
FEB											
01...	88	27	61	2	6.1	117	260	50	0.40	7.9	571
MAR											
19...	95	26	70	2	6.2	138	270	70	0.50	6.0	627
APR											
27...	80	26	59	2	6.9	127	220	58	0.50	5.3	532

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC											
10...	49	7	0.170	0.030	0.200	0.060	0.64	0.70	0.210	13	2
FEB											
01...	21	3	--	<0.010	<0.100	0.050	0.95	1.0	0.080	7.5	--
MAR											
19...	31	4	0.380	0.020	0.400	0.130	1.3	1.4	0.100	12	<1
APR											
27...	16	8	--	<0.010	0.200	0.040	1.2	1.2	0.100	9.3	--

DATE	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)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC											
10...	48	<1	1	4	62	<5	28	<0.1	<1	<1.0	13
FEB											
01...	--	--	--	--	--	--	--	--	--	--	--
MAR											
19...	<100	<1	2	4	40	<5	200	<0.1	<1	<1.0	20
APR											
27...	--	--	--	--	--	--	--	--	--	--	--

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX

LOCATION.--Lat 33°04'09", long 96°57'51", Denton County, Hydrologic Unit 12030103, in intake structure of Lewisville Dam on Elm Fork Trinity River, 2 mi upstream from bridge on State Highway 121, 2.4 mi northeast of Lewisville, 12 mi upstream from Denton Creek, and 30.0 mi upstream from mouth.

DRAINAGE AREA.--1,660 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1954 to current year. Prior to October 1970, published as Garza-Little Elm Reservoir near Lewisville.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 17, 1955, non-recording gage at site 4,000 ft upstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 32,888 ft long, including a 560-foot uncontrolled off-channel concrete-gravity spillway with ogee weir section. Deliberate impoundment began Nov. 1, 1954, and the dam was completed in August 1955. The controlled low-flow outlet works consist of a 16.0-foot-diameter conduit that is controlled by three 6.5- by 13.0-foot broome-type gates and two 60-inch steel pipes with service valves. The lake was built for flood control and water conservation. The city of Dallas obtains most of its municipal water supply from this lake. The capacity table is based on a survey made in 1965. Inflow is affected at times by discharge from the flood-detention pools of 118 floodwater-retarding structures with a combined detention capacity of 81,670 acre-ft. These structures control runoff from 298 mi² in the Elm Fork Trinity River, Clear, Little Elm, and Hickory Creeks watersheds. An unknown amount of water was diverted for municipal and industrial uses. 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	560.0	-
Crest of spillway	532.0	981,800
Top of conservation pool	515.0	457,600
Lowest intakes to wet wells (invert)	481.0	42,560
Invert of three broome-type gates	448.0	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, 1,168,000 acre-ft Nov. 1, 1981 (elevation, 536.46 ft); minimum since initial filling in 1957, 184,700 acre-ft Sept. 28, 1980 (elevation, 498.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 456,500 acre-ft Jan. 19, 20 (elevation, 514.95 ft); minimum daily, 323,700 acre-ft Sept. 28 (elevation, 508.38 ft).

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

508.0	317,300	512.0	391,000	514.0	434,700
510.0	351,900	513.0	412,400	515.0	457,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	406600	391800	406600	451800	452100	442000	432000	414400	394300	373800	355100	331500
2	406600	391200	405900	451600	451600	443600	431500	413800	395400	372800	354400	331200
3	404800	391200	405900	451600	451600	443300	431300	412700	395800	371800	353500	336000
4	404000	390300	405500	451800	451400	442900	430900	411800	395400	370600	353300	335100
5	404200	390300	405000	451600	451100	442400	430600	411100	394800	369700	352800	334800
6	404000	389300	406100	452800	450200	442000	430000	410000	394300	367900	352000	334300
7	402500	388700	405700	452500	449500	441500	429500	409200	393900	366600	351300	333400
8	400500	390800	405000	452300	449500	441100	428600	408300	392900	365400	350600	333000
9	400300	392000	404000	452100	449100	440600	428200	407400	392200	364500	349700	332500
10	400500	391200	402700	451600	448600	439900	427700	406600	391400	363300	348600	332000
11	400500	390300	402000	451400	448100	439200	426800	405900	390300	364100	347700	331500
12	399200	389700	400900	452300	447500	438600	425900	405000	389300	365400	346700	330800
13	398400	389300	400300	453400	446800	437900	425000	404000	388400	365200	345800	330500
14	397700	388700	399700	454100	446500	437200	424400	402900	387800	364500	344900	330300
15	397100	395200	398600	454400	446100	436500	423700	402000	387000	363500	344200	329500
16	397100	398200	396900	454600	445900	436100	423300	401400	386000	362900	343300	328900
17	396500	398400	395800	455100	445600	435800	424200	400500	385100	362200	342200	328900
18	396200	399700	395000	456000	446800	435400	424400	399200	384300	362200	341400	327400
19	397500	399000	402000	456500	446300	434900	423700	398000	383300	363900	340700	328100
20	396500	399700	405300	456500	446300	434200	423000	397300	382000	364500	340000	327600
21	395600	399200	406300	456200	445900	433800	422400	396200	381200	363900	339100	326900
22	394800	399400	406600	456000	445900	433300	421900	395000	380200	363100	338400	326200
23	394800	399000	407200	455800	445200	433100	421300	393700	379200	362600	337700	326400
24	395000	399000	408500	455300	444900	432900	420400	392600	378400	361800	336700	326100
25	394600	405300	415700	455100	444200	432200	419700	391800	377600	361100	336000	325400
26	394600	406300	436300	454400	443800	431500	419000	391000	377200	360500	335100	324900
27	393900	407000	444000	453700	443600	430900	417900	389900	376600	359600	334100	324400
28	392900	406800	447900	453200	443100	430200	416800	388900	376200	358600	333400	323700
29	392600	407000	449500	452800	442400	432000	416800	387800	375600	357900	333900	325000
30	392000	407000	451100	452500	---	431500	415300	387000	374800	357100	333200	325400
31	391800	---	451600	452800	---	431300	---	387800	---	356200	332400	---
MAX	406600	407000	451600	456500	452100	443600	432000	414400	395800	373800	355100	336000
MIN	391800	388700	395000	451400	442400	430200	415300	387000	374800	356200	332400	323700
(†)	512.04	512.75	514.74	514.79	514.34	513.85	513.13	511.85	511.21	510.24	508.89	508.48
(ϕ)	-15190	+15190	+44610	+1153	-10100	-11110	-16000	-27470	-13030	-18570	-23860	-6980

CAL YR 1987 MAX 599800 MIN 388700 (ϕ) -18900
WTR YR 1988 MAX 456500 MIN 323700 (ϕ) -81600

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

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1962 to July 1964, December 1969 to current year.

330419096575401 - LEWISVILLE LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)
MAR											
09...	1012	1.00	339	8.90	10.5	1.00	8.1	73	K5	K2	120
09...	1013	1.00	--	--	--	--	--	--	--	--	--
09...	1014	10.0	339	8.80	10.0	--	8.1	72	--	--	--
09...	1016	20.0	341	8.80	10.0	--	8.1	72	--	--	--
09...	1018	30.0	341	8.80	10.0	--	8.1	72	--	--	--
09...	1020	40.0	341	8.80	10.0	--	8.0	72	--	--	--
09...	1022	50.0	341	8.80	10.0	--	8.0	72	--	--	--
09...	1024	57.0	341	8.70	10.0	--	8.0	72	--	--	120
MAY											
10...	1002	1.00	370	8.10	22.0	2.60	8.4	97	K11	K9	130
10...	1003	1.00	--	--	--	--	--	--	--	--	--
10...	1004	10.0	370	7.90	21.0	--	8.2	93	--	--	--
10...	1006	20.0	369	7.90	20.0	--	6.2	69	--	--	--
10...	1008	30.0	369	7.80	19.5	--	5.8	64	--	--	--
10...	1010	40.0	369	7.50	19.0	--	5.2	57	--	--	--
10...	1012	50.0	372	7.50	18.0	--	4.6	49	--	--	--
10...	1014	56.0	372	7.50	18.0	--	4.2	45	--	--	130
AUG											
31...	0852	1.00	347	7.80	26.5	1.20	4.9	62	K2	<1	110
31...	0852	1.00	--	--	--	--	--	--	--	--	--
31...	0854	10.0	347	7.80	26.5	--	4.7	59	--	--	--
31...	0856	20.0	348	7.70	26.0	--	4.4	55	--	--	--
31...	0858	30.0	360	7.40	24.0	--	4.6	55	--	--	--
31...	0900	35.0	350	7.50	26.5	--	3.8	48	--	--	--
31...	0902	40.0	404	7.10	22.5	--	0.8	9	--	--	--
31...	0904	49.0	415	7.10	22.0	--	0.8	9	--	--	150

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
MAR											
09...	12	41	4.1	21	0.9	4.3	107	35	21	0.30	2.3
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	17	41	4.1	21	0.9	4.2	102	36	21	--	2.4
MAY											
10...	21	46	4.6	24	0.9	3.9	113	36	20	0.40	0.55
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	20	46	4.6	23	0.9	4.1	114	40	21	--	2.3
AUG											
31...	13	36	4.9	27	1	4.4	97	37	23	0.30	4.1
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	0	51	5.2	24	0.9	4.6	161	24	21	--	10

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330419096575401 - LEWISVILLE LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR										
09...	193	--	<0.010	0.200	0.040	0.56	0.60	0.010	7	<1
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	0.290	0.010	0.300	0.060	0.44	0.50	0.010	<10	<10
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	<0.010	0.200	0.050	0.55	0.60	0.010	<10	<10
09...	--	--	--	--	--	--	--	--	--	--
09...	191	--	<0.010	0.200	0.030	0.97	1.0	0.040	9	4
MAY										
10...	203	0.190	0.010	0.200	0.020	0.18	0.20	0.020	<3	<1
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	0.190	0.010	0.200	0.020	0.18	0.20	0.020	10	<10
10...	--	--	--	--	--	--	--	--	--	--
10...	--	0.290	0.010	0.300	0.020	--	<0.20	0.020	10	20
10...	--	--	--	--	--	--	--	--	--	--
10...	209	0.370	0.030	0.400	0.030	0.27	0.30	0.020	7	85
AUG										
31...	195	--	<0.010	<0.100	0.020	0.48	0.50	0.020	120	170
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	<0.010	<0.100	0.030	0.57	0.60	0.030	160	170
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	<0.010	<0.100	1.00	0.30	1.3	0.100	1800	2000
31...	240	--	<0.010	<0.100	1.40	0.20	1.6	0.200	2100	1600

330410096584501 - LEWISVILLE LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
MAR							
09...	1042	1.00	335	8.80	10.5	8.0	72
09...	1044	10.0	335	8.80	10.5	8.0	72
09...	1046	20.0	335	8.80	10.0	8.0	72
09...	1048	30.0	335	8.70	10.0	8.0	72
09...	1050	36.0	340	8.70	10.0	8.0	72
MAY							
10...	1032	1.00	372	8.20	22.5	8.4	98
10...	1034	10.0	372	8.10	21.5	8.2	94
10...	1036	20.0	370	7.90	20.0	8.0	89
10...	1038	27.0	370	7.90	20.0	8.0	89
AUG							
31...	0926	1.00	350	7.90	27.0	5.2	66
31...	0928	10.0	350	7.90	27.0	5.1	65
31...	0930	20.0	350	7.80	27.0	5.0	63
31...	0932	33.0	350	7.80	26.5	4.9	62

330450096560501 - LEWISVILLE LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
MAR							
09...	1104	1.00	368	8.80	12.0	7.9	74
09...	1106	10.0	368	8.80	11.0	7.8	71
09...	1108	20.0	338	8.80	10.5	7.8	71
09...	1110	32.0	338	8.80	10.5	7.7	70
MAY							
10...	1047	1.00	400	8.30	22.0	8.8	102
10...	1049	10.0	400	8.20	21.0	8.3	94
10...	1051	20.0	390	8.10	21.0	8.2	93
10...	1053	28.0	371	8.00	20.0	7.9	88
AUG							
31...	0939	1.00	362	7.90	26.0	5.6	70
31...	0941	10.0	365	7.90	26.0	5.5	69
31...	0943	20.0	367	7.90	26.0	5.5	69
31...	0945	25.0	370	7.90	25.5	5.4	67

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330606097025601 - LEWISVILLE LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
MAR							
09...	1412	1.00	340	9.00	13.5	7.8	76
09...	1414	10.0	340	9.00	13.5	7.7	75
09...	1416	20.0	341	8.90	12.5	7.1	67
09...	1418	25.0	341	8.90	12.5	7.1	67
MAY							
10...	1342	1.00	388	8.00	24.0	9.3	112
10...	1344	10.0	380	7.70	21.0	6.5	74
10...	1346	23.0	381	7.60	21.0	4.4	50
AUG							
31...	1220	1.00	357	8.00	26.0	6.4	80
31...	1222	10.0	357	8.00	26.0	5.7	71
31...	1224	17.0	357	8.00	26.5	5.4	68

330755096572001 - LEWISVILLE LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	NITROGEN, NITRATE TOTAL (MG/L AS N)
MAR									
09...	1134	1.00	333	8.90	13.0	0.50	7.9	76	--
09...	1136	10.0	334	8.80	11.5	--	7.7	71	--
09...	1138	20.0	334	8.80	11.5	--	7.6	70	0.180
09...	1140	30.0	335	8.80	11.5	--	7.5	69	--
09...	1142	36.0	336	8.80	11.5	--	7.6	70	0.190
MAY									
10...	1116	1.00	384	8.10	22.5	2.40	8.4	98	0.090
10...	1118	10.0	380	8.00	21.0	--	7.7	87	--
10...	1120	20.0	380	7.90	20.5	--	7.1	80	--
10...	1122	33.0	380	7.90	20.5	--	6.5	73	0.180
AUG									
31...	1008	1.00	347	7.90	26.5	0.50	5.4	68	--
31...	1010	10.0	347	7.80	26.5	--	5.2	65	--
31...	1012	20.0	347	7.80	26.5	--	5.1	64	--
31...	1014	29.0	349	7.60	26.0	--	4.9	61	--

DATE	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)	PHOSPHOROUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR								
09...	<0.010	0.200	<0.010	--	0.70	0.010	<10	10
09...	--	--	--	--	--	--	--	--
09...	0.020	0.200	0.050	0.45	0.50	0.030	<10	<10
09...	--	--	--	--	--	--	--	--
09...	0.010	0.200	0.020	0.38	0.40	0.010	20	<10
MAY								
10...	0.010	0.100	0.030	0.27	0.30	0.020	10	<10
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
10...	0.020	0.200	0.100	0.30	0.40	0.030	10	20
AUG								
31...	<0.010	<0.100	0.040	0.46	0.50	0.030	<10	<10
31...	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--
31...	<0.010	<0.100	0.060	0.44	0.50	0.030	10	20

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330959096565301 - LEWISVILLE LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)
MAR											
09...	1202	1.00	340	8.80	14.0	0.60	7.6	74	K2	K6	130
09...	1203	1.00	--	--	--	--	--	--	--	--	--
09...	1204	10.0	336	8.80	12.5	--	7.5	71	--	--	--
09...	1206	20.0	337	8.80	12.5	--	7.5	71	--	--	--
09...	1208	25.0	339	8.80	12.5	--	7.4	70	--	--	130
MAY											
10...	1148	1.00	410	8.40	25.0	1.90	9.2	113	K3	K3	150
10...	1149	5.00	406	8.40	22.5	--	8.8	103	--	--	--
10...	1150	10.0	388	8.00	21.5	--	7.4	85	--	--	--
10...	1152	22.0	391	7.90	22.0	--	6.4	74	--	--	140
AUG											
31...	1032	1.00	348	7.90	26.0	0.30	5.4	67	K15	<1	100
31...	1034	10.0	348	7.90	26.5	--	5.3	67	--	--	--
31...	1036	17.0	349	7.80	27.0	--	3.7	47	--	--	110

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)
MAR										
09...	25	44	4.2	20	0.8	4.0	102	51	16	1.9
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	27	45	4.3	20	0.8	4.0	103	49	16	1.9
MAY										
10...	29	50	5.3	26	1	4.2	118	55	21	0.39
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	24	48	4.8	24	0.9	4.1	116	44	21	0.96
AUG										
31...	15	33	4.7	28	1	4.6	87	40	25	4.1
31...	--	--	--	--	--	--	--	--	--	--
31...	10	35	4.9	28	1	4.6	98	41	25	4.5

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR										
09...	202	0.390	0.010	0.400	<0.010	--	0.60	0.020	9	<1
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	202	0.380	0.020	0.400	0.030	0.47	0.50	0.020	11	4
MAY										
10...	233	--	<0.010	<0.100	0.010	0.39	0.40	0.020	<3	<1
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	216	0.080	0.020	0.100	0.100	0.10	0.20	0.300	<3	17
AUG										
31...	192	--	<0.010	<0.100	0.030	0.47	0.50	0.030	18	4
31...	--	--	--	--	--	--	--	--	--	--
31...	202	--	0.010	<0.100	0.240	0.36	0.60	0.040	10	140

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330722096592201 - LEWISVILLE LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	NITROGEN, NITRATE TOTAL (MG/L AS N)
MAR									
09...	1307	1.00	356	8.90	12.5	0.30	7.5	71	--
09...	1309	10.0	356	8.80	12.5	--	7.4	70	--
09...	1311	20.0	352	8.80	12.0	--	7.5	70	--
09...	1313	26.0	346	8.80	12.5	--	7.7	73	--
MAY									
10...	1232	1.00	429	8.30	24.5	2.10	9.6	116	--
10...	1233	5.00	418	8.30	22.5	--	8.6	100	--
10...	1234	10.0	388	8.20	21.5	--	8.1	93	--
10...	1236	20.0	390	8.00	21.0	--	7.6	86	--
10...	1238	31.0	390	8.00	21.0	--	7.1	81	0.180
AUG									
31...	1114	1.00	397	7.80	26.5	0.40	4.2	53	--
31...	1116	10.0	390	7.90	26.5	--	4.2	53	--
31...	1118	19.0	390	7.80	27.5	--	4.0	51	--

DATE	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)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR								
09...	<0.010	<0.100	<0.010	--	0.50	0.030	<10	<10
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	<0.010	<0.100	0.010	0.49	0.50	0.030	20	<10
MAY								
10...	<0.010	<0.100	0.020	0.18	0.20	0.050	10	<10
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
10...	0.020	0.200	0.080	0.42	0.50	0.030	20	<10
AUG								
31...	0.030	<0.100	0.060	0.54	0.60	0.100	20	<10
31...	--	--	--	--	--	--	--	--
31...	0.050	<0.100	0.100	0.50	0.60	0.120	30	20

330944097003601 - LEWISVILLE LAKE SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR										
09...	1328	1.00	367	9.00	13.5	0.30	7.7	75	K3	K7
09...	1329	1.00	--	--	--	--	--	--	--	--
09...	1330	13.0	367	8.90	12.5	--	7.4	70	--	--
MAY										
10...	1258	1.00	448	8.50	25.0	1.20	9.2	113	<1	<1
10...	1259	1.00	--	--	--	--	--	--	--	--
10...	1302	5.00	441	8.40	22.5	--	7.4	86	--	--
10...	1303	8.00	443	8.10	22.0	--	6.1	71	--	--
AUG										
31...	1134	1.00	421	8.20	26.0	0.20	5.8	72	<1	K2
31...	1135	1.00	--	--	--	--	--	--	--	--
31...	1136	4.00	414	8.10	27.5	--	5.5	70	--	--

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330944097003601 - LEWISVILLE LAKE SITE GC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
MAR										
09...	130	12	45	4.8	24	1	4.0	120	38	24
09...	--	--	--	--	--	--	--	--	--	--
09...	130	13	45	4.9	24	0.9	4.0	120	37	24
MAY										
10...	160	20	53	5.7	31	1	4.2	136	44	30
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	150	17	51	5.4	29	1	4.4	133	40	28
AUG										
31...	130	8	42	5.1	35	1	5.0	118	41	32
31...	--	--	--	--	--	--	--	--	--	--
31...	130	7	42	5.0	35	1	5.0	119	38	32

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	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)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR										
09...	0.19	212	<0.010	<0.100	<0.010	--	0.50	0.040	29	<1
09...	--	--	--	--	--	--	--	--	--	--
09...	0.15	211	0.010	<0.100	<0.010	--	0.60	0.040	5	4
MAY										
10...	0.42	250	<0.010	<0.100	0.020	0.28	0.30	0.070	<3	<1
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	0.78	238	<0.010	<0.100	0.070	0.23	0.30	0.070	6	4
AUG										
31...	6.5	237	0.020	<0.100	0.020	0.68	0.70	0.180	10	3
31...	--	--	--	--	--	--	--	--	--	--
31...	6.6	235	0.020	<0.100	0.050	0.55	0.60	0.150	8	3

Lewisville Lake AC (3304190960575401)

Phytoplankton Analyses September 1987 to October 1988

Date	3-9-88
Time	1013
TOTAL CELLS/mL	216,743
NUMBER OF SPECIES	21
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus falcatus	843
Chlamydomonas sp.	2530
Tetrastrum staurogeniaeforme	20240
CYANOPHYTA (blue-green algae)	
Aphanocapsa delicatissima	88553
Aphanothece saxicola	46385
Chroococcus multicoloratus	44698
Chroococcus sp.	2530
Dactylococcopsis fascicularis	843
Synechococcus lineare	843
Synechococcus sp.	5060
CRYPTOPHYTA (cryptomonads)	
Rhodomonas minuta	843
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella stelligera	25
Melosira ambigua	152
Melosira lirata	127
Stephanodiscus dubius	734
Stephanodiscus hantzschii	1442
Stephanodiscus invisitatus ?	51
Order Pennales	
Fragilaria vaucheriae	337
Navicula minuscula	169
Nitzschia dissipata	169
Synedra acus	169

Lewisville Lake EC (330959096565301)

Phytoplankton Analyses September 1987 to October 1988

Date	3-9-88
Time	1203
TOTAL CELLS/mL	629,147
NUMBER OF SPECIES	25
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Chlamydomonas sp.	11807
Chlorococcum sp.	3373
Mesotaenium sp.	1687
Nephrocytium limneticum	3373
Phacotus lenticularis	3373
Scenedesmus bijuga	3373
Scenedesmus quadricauda	3373
Selenastrum minutum	1687
CHRYSOPHYTA (golden-brown algae)	
small chrysophyte flagellates	3373
CYANOPHYTA (blue-green algae)	
Aphanocapsa delicatissima	391323
Aphanocapsa elachista	43855
Aphanothece saxicola	16867
Chroococcus multicoloratus	60722
Chroococcus sp.	26987
Dactylococcopsis fascicularis	1687
Marssoniella elegans	8433
Oscillatoria sp.	5060
Synechococcus lineare	15180
Synechococcus sp.	6747
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella stelligera	135
Melosira lirata	135
Stephanodiscus dubius	540
Stephanodiscus hantzschii	12683
Order Pennales	
Nitzschia acicularis	1687
Nitzschia kutzingiana	1687

Lewisville Lake GC (330944097003601)

Phytoplankton Analyses September 1987 to October 1988

Date	3-9-88
Time	1329
TOTAL CELLS/mL	3,550,586
NUMBER OF SPECIES	21
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus falcatus	35421
Ankistrodesmus nannoselene	151806
Chlamydomonas sp.	1592281
Gloeocystis sp.	802887
Gonium sociale	6747
Selenastrum minutum	377829
CYANOPHYTA (blue-green algae)	
Anabaena sp.	30361
Aphanocapsa delicatissima	256384
Aphanocapsa elachista	33735
Aphanothece saxicola	72530
Chroococcus multicoloratus	126505
Chroococcus sp.	23614
Synechococcus lineare	1687
Synechococcus sp.	13493
CRYPTOPHYTA (cryptomonads)	
Cryptomonas erosa	1687
Rhodomonas minuta	1687
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella stelligera	607
Stephanodiscus dubius	405
Stephanodiscus hantzschii	19232
Order Pennales	
Nitzschia punctata	844
Surirella sp.	844

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake AC (330419096575401)

Phytoplankton Analyses September 1987 to October 1988

Date	5-10-88
Time	1003
TOTAL CELLS/mL	61,449
NUMBER OF SPECIES	27
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (Green algae)	
Ankistrodesmus nannoselene	450
Chlorococcum sp.	113
Chodatella subsalsa	113
Kirchneriella lunaris	225
Pediastrum boryanum	788
Schroederia setigera	113
Selenastrum minutum	225
Tetraedron caudatum	113
Tetraedron minimum	113
CYANOPHYTA (Blue-green algae)	
Aphanocapsa delicatissima	11300
Aphanocapsa sp.	3039
Aphanothece saxicola	5853
Chroococcus dispersus	563
Chroococcus limneticus	1238
Chroococcus multicoloratus	2589
Lyngbya nana	16770
Marsionella elegans ?	900
Merismopedia punctatum	2701
Microcystis sp.	13168
Synechococcus sp.	675
EUGLENOPHYTA (Euglenoids)	
Trachelomonas hispida	113
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Melosira lirata	42
Stephanodiscus astrea var. *minutula*	70
Stephanodiscus dubius	112
Order Pennales	
Fragilaria vaucheriae	57
Navicula sp.	28
Nitzschia acicularis	28

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake GC (330944097003601)

Phytoplankton Analyses September 1987 to October 1988

Date	5-10-88
Time	1259
TOTAL CELLS/mL	66,075
NUMBER OF SPECIES	32
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (Green algae)	
Ankistrodesmus nannoselene	563
Chlorococcum sp.	113
Chodatella subsalsa	563
Elakatothrix viridis	900
Kirchneriella lunaris	1130
Nephrocytium sp.	225
Oocystis sp.	675
Pediastrum boryanum	3602
Phacotus lenticularis	225
Scenedesmus bijuga	1130
Scenedesmus quadricauda	1576
Schroederia setigera	788
Selenastrum minutum	675
Tetraedron caudatum	563
Tetraedron minimum	338
CYANOPHYTA (Blue-green algae)	
Aphanocapsa delicatissima	20146
Aphanocapsa sp.	4614
Aphanothece saxicola	7428
Chroococcus dispersus	675
Chroococcus limneticus	1913
Chroococcus multicoloratus	2476
Lyngbya nana ?	675
Marsionella elegans	900
Merismopedia elegans var. *major*	2476
Merismopedia punctatum	8441
Microcystis sp.	2026
Synechococcus sp.	675
CRYPTOPHYTA (Cryptomonads)	
Chroomonas sp.	113
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Melosira lirata	8
Stephanodiscus astrea var. *minutula*	209
Stephanodiscus dubius	121
Order Pennales	
Nitzschia denticula	113

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake AC (3304190960575401)

Phytoplankton Analyses September 1987 to October 1988

Date	8-31-88
Time	0852
TOTAL CELLS/mL	50,561
NUMBER OF SPECIES	45
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Ankistrodesmus falcatus var. *mirabilis*	388
Chlamydomonas globosa?	388
Chlamydomonas sp.	194
Chlorococcum sp.	323
Cosmarium sp. 1	388
Cosmarium sp. 2	647
Elakatothrix viridis	129
Euastrum sp.	129
Mougeotia sp.	388
Oocystis sp.	517
Pediastrum simplex	517
Pediastrum tetras	259
Scenedesmus quadricauda	259
Selenastrum minutum	65
CHRYSOPHYTA (golden-brown algae)	
small chrysophyte flagellates	65
CYANOPHYTA (blue-green algae)	
Anabaena sp.	8211
Anabaenopsis circinalis	13189
Chroococcus dispersus	840
Chroococcus limneticus	388
Chroococcus sp.	259
Coelosphaerium kuetzingianum	1681
Oscillatoria limnetica	1487
Schizothrix calcicola	4914
Synechococcus sp.	970
EUGLENOPHYTA (euglenoid algae)	
Euglena sp.	65
Trachelomonas volvocina	388
Trachelomonas sp.	65
PYRRHOPHYTA (dinoflagellates)	
Glenodinium sp.	194
Gymnodinium sp.	323
CRYPTOPHYTA (cryptomonads)	
Cryptomonas erosa	129
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella atomus	323
Cyclotella meneghiniana	65
Cyclotella pseudostelligera	65
Melosira distans var. *alpigena*	388
Melosira italica	259
Stephanodiscus vestibulis	3556
Order Pennales	
Achnanthes minutissima	259
Navicula hustedtii	517
Nitzschia acicularis	129
Nitzschia filiformis	323
Nitzschia holsatica	2909
Nitzschia palea	129
Nitzschia subacicularis	2651
Synedra delicatissima	1164
Synedra radians	65

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake GC (330944097003601)

Phytoplankton Analyses September 1987 to October 1988

Date	8-31-88
Time	1135
TOTAL CELLS/mL	223,021
NUMBER OF SPECIES	32
DEPTH COLLECTED (ft.)	1.0

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Chlamydomonas sp.	1219
Closterium sp.	609
Cosmarium sp.	1219
Kirchneriella sp.	4875
Nephrocytium sp.	3656
Scenedesmus quadricauda	1219
Tetraedron minimum	609
Tetraedron muticum	6703
Tetraedron trigonum	609
CYANOPHYTA (blue-green algae)	
Anabaena sp.	61544
Aphanocapsa delicatissima	6093
Chroococcus dispersus	24374
Chroococcus limneticus	15234
Marssoniella elegans	7922
Merismopedia elegans	7922
Merismopedia tenuissima	24374
Schizothrix calcicola	17671
EUGLENOPHYTA (euglenoid algae)	
Euglena sp.	1219
Trachelomonas volvocina	609
Trachelomonas sp.	609
PYRRHOPHYTA (dinoflagellates)	
Glenodinium sp.	609
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Cyclotella atomus	4265
Cyclotella meneghiniana	1219
Cyclotella pseudostelligera	2437
Melosira distans var. *alpigena*	1219
Melosira granulata var. *angustissima*	3047
Melosira italica	4875
Stephanodiscus hantzschii	609
Stephanodiscus vestibulis	10968
Order Pennales	
Navicula hustedtii	3047
Navicula sp.	609
Nitzschia holsatica	1828

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX

LOCATION.--Lat 33°02'44", long 96°57'39", Denton County, Hydrologic Unit 12030103, on left bank at downstream edge of highway right-of-way 90 ft left of left end of bridge on State Highway 121, 1.8 mi east of Lewisville 1.9 mi downstream from Lewisville Lake, 8.3 mi upstream from Denton Creek, and 28.2 mi upstream from mouth.

DRAINAGE AREA.--1,673 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 432.39 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Jan. 6, 1950, nonrecording gage 0.6 mi upstream at datum 3.26 ft lower.

REMARKS.--No estimated daily discharge. Records good. Flow regulated by Lewisville Lake (see station 08052800) since November 1954. Most of low flow is used by city of Dallas for municipal supply (see station 08055500). Gage-height telemeter at station.

AVERAGE DISCHARGE.--5 years (water years 1950-54) prior to regulation, 402 ft³/s (291,200 acre-ft/yr); 34 years (water years 1955-88) regulated, 650 ft³/s (470,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,700 ft³/s Sept. 15, 1950 (gage height, 30.75 ft); minimum daily, 0.8 ft³/s Jan. 19, 1955. Maximum discharge since construction of Lewisville Dam in 1954, 15,000 ft³/s (gage height, 27.83 ft) Nov. 2, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1907, 33.8 ft in 1908, present site and datum, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,350 ft³/s Apr. 30 at 1600 hours (gage height, 11.62 ft); minimum daily, 52 ft³/s Nov. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	70	93	147	237	273	183	177	267	237	136	164
2	84	84	164	153	260	198	134	215	208	281	119	111
3	90	105	166	180	307	111	132	303	88	223	104	111
4	91	105	165	209	281	186	154	260	115	169	114	63
5	91	102	164	210	211	240	202	189	146	270	110	73
6	91	104	205	210	176	178	193	277	132	368	132	100
7	97	107	286	206	206	186	219	291	114	342	120	118
8	112	102	388	176	222	200	213	171	130	367	169	113
9	105	97	494	187	267	253	179	236	172	278	217	118
10	99	63	595	183	301	288	168	285	198	316	178	131
11	99	113	490	150	284	302	168	179	199	211	193	131
12	101	116	490	153	264	293	203	245	204	105	188	136
13	101	151	491	153	262	279	254	295	192	93	207	127
14	97	139	487	151	280	268	374	325	160	103	209	113
15	97	183	424	164	303	279	270	312	184	121	209	107
16	92	132	394	218	309	280	158	269	242	98	209	84
17	81	95	417	218	298	236	172	232	238	96	210	63
18	77	97	336	176	242	192	165	340	186	96	210	71
19	76	78	348	136	173	234	130	350	230	98	202	85
20	102	52	150	155	182	198	115	366	253	125	168	95
21	118	57	81	240	230	195	203	390	235	58	157	116
22	67	69	109	251	268	163	250	351	227	70	145	137
23	55	87	152	225	242	180	217	380	272	69	145	144
24	55	103	205	188	209	198	229	226	249	77	158	170
25	56	130	245	198	297	223	203	251	194	96	185	156
26	74	64	320	212	344	222	157	151	161	117	185	132
27	107	62	129	228	236	235	157	238	147	131	169	102
28	103	63	112	281	280	220	530	295	156	131	148	60
29	74	66	124	320	322	150	190	241	137	131	111	60
30	83	68	159	280	---	172	595	217	136	137	123	60
31	90	---	163	238	---	185	---	198	---	144	204	---
TOTAL	2740	2864	8546	6196	7493	6817	6517	8255	5572	5158	5134	3251
MEAN	88.4	95.5	276	200	258	220	217	266	186	166	166	108
MAX	118	183	595	320	344	302	595	390	272	368	217	170
MIN	55	52	81	136	173	111	115	151	88	58	104	60
AC-FT	5430	5680	16950	12290	14860	13520	12930	16370	11050	10230	10180	6450

CAL YR 1987 TOTAL 335929 MEAN 920 MAX 4200 MIN 47 AC-FT 666300
WTR YR 1988 TOTAL 68543 MEAN 187 MAX 595 MIN 52 AC-FT 136000

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1981 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1981 to current year.
WATER TEMPERATURE: November 1976 to current year.

INSTRUMENTATION.--From November 1976 to October 1981, water temperature was continuously recorded 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, 790 microsiemens Nov. 14, 1983; minimum daily, 200 microsiemens May 13, 1982.
WATER TEMPERATURES: Maximum, 33.5°C July 16, Aug. 18, 1988; minimum, 0.0°C Jan. 31 and Feb. 9, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 438 microsiemens May 8; minimum daily, 281 microsiemens Oct. 15.
WATER TEMPERATURE: Maximum daily, 33.5°C July 16, Aug. 8; minimum daily, 7.0°C on several days during December, January, and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC												
09...	1600	478	340	7.80	8.5	--	--	11.9	103	0.2	120	19
MAR												
09...	1515	285	355	8.60	12.0	4	7.2	9.2	86	--	130	26
23...	1245	181	394	8.50	13.0	--	--	11.8	113	1.4	130	18
APR												
25...	1500	209	390	8.20	20.0	--	--	11.2	125	0.9	130	16
MAY												
10...	1510	338	388	8.10	21.5	6	8.2	9.3	107	0.2	140	25
AUG												
30...	1620	189	374	7.70	27.5	<1	6.5	7.7	99	1.5	110	22

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 WAT WH TOT FET 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)
DEC											
09...	41	4.3	22	0.9	5.3	101	31	21	0.30	5.2	191
MAR											
09...	46	4.5	26	1	4.7	108	41	22	--	2.4	211
23...	45	4.5	27	1	4.4	113	46	24	0.40	20	239
APR											
25...	45	4.6	27	1	4.7	116	45	25	0.40	0.42	222
MAY											
10...	47	4.6	26	1	4.6	112	42	23	0.40	0.92	216
AUG											
30...	36	4.7	29	1	4.9	87	44	25	0.30	4.0	200

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC											
09...	--	--	0.280	0.020	0.300	0.080	--	<0.20	0.050	--	2
MAR											
09...	17	3	0.360	0.040	0.400	0.330	0.77	1.1	0.180	6.9	1
23...	--	--	0.430	0.070	0.500	0.500	0.80	1.3	0.330	--	--
APR											
25...	--	--	0.350	0.050	0.400	0.340	0.76	1.1	0.340	--	--
MAY											
10...	15	3	0.360	0.040	0.400	0.190	0.61	0.80	0.130	5.1	1
AUG											
30...	19	8	--	<0.010	0.300	0.290	0.61	0.90	0.160	5.7	3

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC											
09...	47	2	2	8	19	<5	10	<0.1	<1	<1.0	35
MAR											
09...	43	<1	<1	1	5	<5	6	<0.1	<1	<1.0	<3
23...	--	--	--	--	--	--	--	--	--	--	--
APR											
25...	--	--	--	--	--	--	--	--	--	--	--
MAY											
10...	51	2	<1	2	9	<5	7	<0.1	<1	<1.0	3
AUG											
30...	36	<1	<1	1	18	<5	12	0.3	<1	<1.0	7

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	2740	325	181	1340	20	145	29	215	120
NOV.	1987	2864	339	189	1460	21	163	31	243	120
DEC.	1987	8546	350	195	4490	22	512	33	768	120
JAN.	1988	6196	345	192	3210	22	363	32	543	120
FEB.	1988	7493	350	195	3940	22	449	33	674	120
MAR.	1988	6817	355	197	3630	23	417	34	627	120
APR.	1988	6517	358	199	3500	23	405	35	610	120
MAY	1988	8255	371	206	4600	24	545	37	826	130
JUNE	1988	5572	365	203	3050	24	357	36	540	130
JULY	1988	5158	356	198	2750	23	317	34	477	120
AUG.	1988	5134	357	199	2750	23	318	35	478	120
SEPT	1988	3251	365	203	1780	24	208	36	315	130
TOTAL		68543	**	**	36500	**	4200	**	6320	**
WTD.AVG.		187	355	197	**	23	**	34	**	120

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	324	331	333	342	347	348	361	369	367	385	363	354
2	326	336	351	344	333	350	355	371	362	359	370	352
3	338	331	347	344	352	350	329	372	360	359	366	356
4	328	325	350	345	349	349	355	372	365	353	359	360
5	327	330	348	345	352	349	338	371	380	388	368	360
6	328	341	349	344	356	351	337	372	380	352	362	360
7	324	338	350	343	351	348	331	371	379	354	368	354
8	335	340	351	340	347	354	321	438	379	355	356	356
9	330	340	353	345	347	353	322	382	366	350	356	354
10	325	340	350	345	349	352	354	370	367	354	357	355
11	328	345	350	345	351	353	357	365	384	352	362	377
12	330	340	353	348	348	352	362	367	363	343	355	369
13	327	345	352	345	350	355	360	367	365	343	364	387
14	286	350	352	344	348	355	360	368	372	348	354	369
15	281	340	348	346	352	353	356	375	366	352	356	374
16	291	342	350	378	352	353	353	375	361	340	356	364
17	323	344	351	384	351	355	357	377	362	349	353	358
18	314	345	353	325	368	357	340	374	360	345	351	368
19	319	361	351	362	351	357	355	370	359	340	360	368
20	300	343	351	357	349	355	358	366	358	340	352	360
21	321	353	350	347	347	356	362	369	371	335	355	361
22	328	342	350	345	351	357	353	371	361	352	356	362
23	326	335	349	320	351	371	362	367	367	353	353	366
24	321	335	349	321	351	357	373	367	355	358	352	378
25	343	334	348	322	351	357	390	367	358	352	357	362
26	335	331	348	335	351	362	383	366	360	355	351	362
27	344	335	348	345	353	355	380	367	360	360	356	386
28	344	334	348	350	351	360	375	367	360	352	354	361
29	346	335	351	344	350	359	370	364	357	360	353	367
30	361	337	347	349	---	359	367	364	359	352	356	378
31	334	---	345	346	---	361	---	365	---	352	356	---
MEAN	325	339	349	345	350	355	356	372	365	353	358	365

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.0	22.0	15.0	7.0	7.5	11.0	15.0	20.0	21.0	27.5	31.5	31.5
2	28.0	21.0	15.0	7.0	7.5	11.0	16.0	19.0	21.0	28.0	32.0	31.5
3	28.0	22.5	15.0	7.0	7.5	11.0	18.0	19.0	21.0	26.0	32.5	30.5
4	28.0	22.0	15.0	7.0	7.5	12.0	15.5	20.0	24.0	28.0	32.0	30.5
5	27.0	22.0	15.0	7.0	---	13.0	19.0	19.5	21.0	27.5	32.5	29.5
6	26.0	21.0	15.0	---	7.5	13.5	19.0	19.5	21.0	27.0	32.0	29.0
7	26.0	19.0	15.0	7.0	7.5	13.5	20.0	20.0	22.0	27.5	33.0	29.5
8	26.0	19.0	15.0	7.5	7.5	13.5	20.0	20.0	23.0	27.0	33.5	28.5
9	26.0	20.0	15.0	7.5	7.5	14.0	20.5	21.5	23.0	28.0	32.0	29.0
10	26.0	19.0	15.0	7.5	7.5	14.0	19.0	21.0	24.0	27.5	32.5	29.5
11	25.0	19.0	14.0	7.5	7.0	13.0	19.0	21.0	23.5	27.5	31.5	29.5
12	24.0	19.0	15.0	7.5	7.5	12.5	17.5	22.0	24.0	29.0	32.0	30.5
13	24.0	20.0	12.0	7.5	8.0	12.0	19.5	22.0	24.0	30.0	32.5	30.5
14	24.0	20.0	11.5	7.0	8.0	12.5	19.5	22.0	24.0	28.5	32.5	30.0
15	24.0	17.0	11.0	7.0	8.0	12.0	19.5	21.0	24.0	28.5	31.5	29.5
16	24.0	17.5	11.0	7.0	8.0	11.0	20.0	21.5	24.0	33.5	31.5	29.5
17	24.0	17.5	11.0	7.0	8.0	11.0	17.0	---	24.0	28.0	32.0	29.0
18	24.0	17.5	10.5	7.5	7.5	11.5	17.0	---	24.0	29.0	31.5	29.0
19	24.0	18.0	---	7.5	8.0	12.0	17.0	---	23.5	29.0	31.5	29.0
20	24.0	17.5	---	7.5	9.0	14.5	19.0	23.0	24.5	28.0	32.0	28.5
21	24.5	17.0	---	7.5	9.5	16.0	20.0	23.5	24.0	32.0	32.0	28.5
22	24.0	18.0	---	7.5	9.5	16.0	20.0	23.0	24.5	32.0	31.5	29.0
23	24.5	16.0	---	7.5	9.5	15.5	---	23.0	24.0	30.5	31.0	28.5
24	24.5	16.0	---	7.5	9.5	15.5	---	23.0	25.5	32.0	31.5	28.5
25	23.0	16.0	---	---	9.5	15.5	---	23.0	26.0	31.5	31.5	28.0
26	23.0	16.0	---	---	9.5	15.5	---	23.0	26.0	32.5	32.0	27.5
27	24.0	15.5	---	---	10.0	15.5	---	22.0	27.0	32.0	32.5	28.0
28	23.0	15.0	7.5	7.5	10.0	15.5	---	21.5	26.5	32.0	32.5	27.5
29	23.0	15.0	7.0	7.5	11.0	16.0	---	21.0	27.0	31.5	32.0	27.5
30	23.0	15.0	8.0	7.5	---	15.5	20.0	21.0	28.5	31.5	32.0	27.0
31	22.0	---	8.0	7.5	---	15.5	---	21.0	---	31.0	31.5	---
MEAN	25.0	18.5	12.5	7.5	8.5	13.5	18.5	21.5	24.0	29.5	32.0	29.0

08053500 DENTON CREEK NEAR JUSTIN, TX

LOCATION.--Lat 33°07'08", long 97°17'25", Denton County, Hydrologic Unit 12030104, on right bank at downstream side of bridge on Farm Road 156, 100 ft upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2.2 mi north of Justin, 3.0 mi upstream from Olivers Creek, 12.9 mi upstream from Harriet Creek, and 32.9 mi upstream from Grapevine Dam.

DRAINAGE AREA.--400 mi².

PERIOD OF RECORD.--October 1949 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 1732: 1950(M). WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 606.66 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good. Several small diversions above station. Flow is affected at times by discharge from the flood-detention pools of 84 floodwater-retarding structures with a combined detention capacity of 52,750 acre-ft. These structures control runoff from 197 mi² in the Denton Creek watershed. Gage-height telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years (water years 1950-80) prior to completion of floodwater-retarding structures, 77.4 ft³/s (56,080 acre-ft/yr); 8 years (water years 1981-88) after completion of floodwater-retarding structures, 142 ft³/s (102,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,700 ft³/s Oct. 13, 1981 (gage height, 18.68 ft), from high-water mark; no flow at times in 1949-65, 1967-74, 1976-85, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1935 was the highest since 1908 and reached a stage of 20.6 ft at site about 1,500 ft upstream, from information by local resident. Flood in May 1908 reached a stage about 1.0 ft higher than flood in May 1935, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,290 ft³/s Dec. 26 at 1030 hours (gage height, 8.48 ft); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	5.0	20	61	34	36	34	25	162	.07	.00	.00
2	7.2	5.4	20	53	34	36	42	25	117	.09	.00	.00
3	7.0	5.8	19	49	36	36	64	25	44	.09	.00	.00
4	6.5	6.2	19	47	42	36	48	25	24	.11	.00	28
5	6.1	6.2	18	44	42	36	41	23	16	.12	.00	26
6	5.8	6.2	20	43	41	36	37	23	11	.07	.00	16
7	5.8	6.5	21	37	41	35	35	23	8.6	.01	.00	10
8	5.8	10	20	42	41	34	33	23	7.1	.00	.00	6.2
9	5.8	16	20	47	41	34	32	31	6.7	.00	.00	2.8
10	5.8	10	18	42	41	36	32	26	6.3	.00	.00	1.1
11	6.0	10	17	43	40	38	32	24	5.3	.00	.00	.32
12	6.2	10	17	59	37	35	32	22	4.3	.00	.00	.07
13	6.2	9.6	17	66	36	31	31	22	3.4	.00	.00	.01
14	6.5	8.8	20	60	36	29	30	20	2.9	2.5	.00	.00
15	9.3	12	22	54	36	29	30	20	2.6	6.0	.00	.01
16	11	44	22	53	36	27	30	19	2.2	6.0	.00	.00
17	13	22	20	53	35	30	31	21	2.0	4.6	.00	.00
18	16	14	19	51	39	50	35	20	1.9	3.0	.00	34
19	24	13	37	48	63	55	53	19	1.4	1.9	.00	42
20	21	12	334	47	68	45	44	19	1.2	1.4	.00	27
21	12	9.2	127	42	55	41	38	19	1.0	21	.00	18
22	7.8	8.1	63	40	48	38	34	18	.58	17	.00	10
23	7.1	8.5	46	39	43	37	32	18	.26	12	.00	5.0
24	6.5	8.8	40	38	39	37	28	18	.14	7.4	.00	3.2
25	6.5	118	133	38	37	36	26	18	.07	5.5	.00	1.3
26	10	62	1040	36	37	35	25	17	.04	3.8	.00	.41
27	7.9	36	447	34	37	34	25	17	.04	2.5	.00	.12
28	6.5	32	219	34	37	34	25	16	.03	1.4	.00	.02
29	5.8	26	131	34	37	35	25	15	.03	.58	.00	.00
30	5.4	23	92	34	---	35	25	14	.03	.16	.00	.00
31	5.0	---	75	34	---	34	---	15	---	.03	.00	---
TOTAL	263.0	564.3	3133	1402	1189	1120	1029	640	432.12	97.33	0.00	231.56
MEAN	8.48	18.8	101	45.2	41.0	36.1	34.3	20.6	14.4	3.14	.00	7.72
MAX	24	118	1040	66	68	55	64	31	162	21	.00	42
MIN	5.0	5.0	17	34	34	27	25	14	.03	.00	.00	.00
AC-FT	522	1120	6210	2780	2360	2220	2040	1270	857	193	.0	459

CAL YR 1987 TOTAL 73400.6 MEAN 201 MAX 5140 MIN 1.4 AC-FT 145600
WTR YR 1988 TOTAL 10101.31 MEAN 27.6 MAX 1040 MIN .00 AC-FT 20040

08054500 GRAPEVINE LAKE NEAR GRAPEVINE, TX

LOCATION.--Lat 32°58'21", long 97°03'22", Tarrant County, Hydrologic Unit 12030104, in intake structure of Grapevine Dam on Denton Creek, 2.7 mi northeast of Grapevine, 4.3 mi upstream from bridge on State Highway 121, and 11.7 mi upstream from mouth.

DRAINAGE AREA.--695 mi².

PERIOD OF RECORD.--July 1952 to current year. Prior to October 1970, published as Grapevine Reservoir.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 16, 1953, non-recording gage at site 1,000 ft upstream at present datum.

REMARKS.--The lake is formed by a rolled earthfill dam 12,850 ft long, including a 500-foot uncontrolled off-channel concrete-gravity spillway with an ogee weir section. The dam was completed in June 1952, and deliberate impoundment began July 3, 1952. The controlled outlet works consist of a 13.0-foot-diameter concrete conduit that is controlled by two 6.5- by 13.0-foot broome-type gates and two 30-inch steel pipes with service valves. The capacity table, used since April 1972, is based on a survey made in October 1966. The lake was built for flood control, navigation, and water conservation. The city of Dallas uses part of this water for their municipal supply. An unknown amount of water is diverted for industrial and municipal uses. Inflow is affected at times by discharge from the flood-detention pools of 87 floodwater-retarding structures with a combined detention capacity of 57,850 acre-ft. These structures control runoff from 217 mi² in the Denton Creek watershed. Gage-height tlelemeter 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	588.0	-
Crest of spillway	560.0	425,500
Top of conservation pool	535.0	181,100
Lowest intake to wet wells (invert)	500.5	22,140
Invert of two broome-type gates	475.0	100

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 471,200 acre-ft Nov. 1, 1981 (elevation, 563.29 ft); minimum since lake first filled in 1957, 94,480 acre-ft Feb. 26, 1979 (elevation, 520.67 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 176,600 acre-ft June 3-5 (elevation, 534.38 ft); minimum daily, 149,700 acre-ft Sept 28-30 (elevation, 530.45 ft).

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

530.0	146,800	532.0	160,000	534.0	173,900
531.0	153,300	533.0	166,800	535.0	181,100

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161200	153300	155100	165500	168200	170200	172300	172300	175800	173000	166300	156300
2	160900	153100	155000	165500	168200	171100	172300	172300	176400	172900	165900	156200
3	160600	152900	155100	165600	168300	171000	172300	172200	176600	172800	165500	157100
4	160200	152800	155000	165700	168200	171000	172300	172100	176600	172700	165200	156600
5	160000	152600	155000	165900	168200	171000	172500	172000	176600	172500	165000	156300
6	159700	152400	155300	166100	168200	171000	172400	172000	176500	172300	164600	155900
7	159300	152400	155200	166300	168200	171100	172300	171900	176400	172100	164300	155500
8	158900	152600	155300	166200	168300	171100	172300	171800	176300	171900	164000	155200
9	158600	152700	155200	166400	168400	171100	172400	171800	176200	171800	163700	154900
10	158300	152600	155100	166300	168400	171000	172300	171800	176000	171600	163200	154600
11	158100	152500	155100	166200	168500	171200	172200	171700	175800	172000	162900	154300
12	157800	152400	155100	166400	168500	171100	172100	171600	175600	172400	162500	153900
13	157400	152200	155100	166500	168700	171200	172000	171500	175500	172300	162200	153800
14	157100	152100	155200	166600	168800	171000	171900	171300	175300	172000	161900	153600
15	156700	153800	155000	166800	168800	171000	172000	171200	175200	171800	161500	153500
16	156600	154100	154900	166900	168800	170900	171900	171300	175100	171500	161200	153100
17	156300	153900	154900	167000	168900	171500	172500	171300	174900	171100	160900	153000
18	156100	154300	154900	167300	169500	171500	172600	171100	174800	170800	160600	152700
19	156100	154100	156300	167500	169500	171400	172500	171000	174600	171000	160300	152600
20	155500	154100	156800	167500	169600	171400	172500	171000	174500	170700	160000	152200
21	155200	154000	157100	167500	169700	171400	172500	171000	174300	170200	159600	152000
22	155000	153900	157200	167600	169800	171500	172500	170800	174100	169900	159200	151600
23	154800	153900	157400	167700	169900	171600	172500	170700	174000	169400	159000	151400
24	154700	154000	157800	167700	169900	171800	172500	170600	173800	169100	158700	151000
25	154600	155000	159000	167700	169900	171800	172500	170400	173700	168700	158400	150600
26	154500	155200	162800	167700	170000	171800	172400	170200	173600	168400	158100	150300
27	154200	155300	164100	167700	170100	171600	172300	170100	173500	168100	157700	149900
28	153900	155200	164700	167700	170100	171800	172200	169900	173500	167700	157300	149700
29	153800	155200	165000	167800	170200	172000	172500	169800	173300	167300	157300	149700
30	153600	155200	165200	168000	---	171900	172500	169700	173100	167000	157000	149700
31	153400	---	165500	168000	---	172000	---	170400	---	166600	156600	---
MAX	161200	155300	165500	168000	170200	172000	172600	172300	176600	173000	166300	157100
MIN	153400	152100	154900	165500	168200	170200	171900	169700	173100	166600	156600	149700
(†)	531.02	531.29	532.80	533.17	533.48	533.73	533.80	533.51	533.89	532.96	531.50	530.46
(ϕ)	-8124	+1789	+10260	+2574	+2177	+1769	+497	-2054	+2695	-6548	-9964	-6860

CAL YR 1987 MAX 234900 MIN 152100 (ϕ) -21550
WTR YR 1988 MAX 176600 MIN 149700 (ϕ) -11800

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

08055000 DENTON CREEK NEAR GRAPEVINE, TX

LOCATION.--Lat 32°59'13", long 97°00'45", Denton County, Hydrologic Unit 12030104, on left bank at downstream side of left pier of bridge on State Highway 121, 1.3 mi downstream from Bakers Branch, 4.1 mi downstream from Grapevine Dam, 5.0 mi northeast of Grapevine, and 6.1 mi upstream from mouth.

DRAINAGE AREA.--705 mi².

PERIOD OF RECORD.--October 1947 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 439.11 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Since July 1952, flow regulated by Grapevine Lake (see preceding page). Much of flow is used by the city of Dallas for municipal supply (see station 08055500). The city of Grapevine diverts water from Denton Creek just downstream from Grapevine Dam. There were several observations of water temperature made during the year.

AVERAGE DISCHARGE.--5 years (water years 1948-52) prior to regulation, 140 ft³/s (101,400 acre-ft/yr); 36 years (water years 1953-88) regulated, unadjusted, 159 ft³/s (115,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,900 ft³/s Feb. 26, 1948 (gage height, 30.38 ft), from rating curve extended above 6,000 ft³/s on basis of conveyance-slope study; no flow at times. Maximum discharge since construction of Grapevine Dam in 1952, 9,700 ft³/s Nov. 1, 1981 (gage height, 27.93 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 was slightly higher than the flood in April 1942, which reached a stage of 35.9 ft, from floodmarks, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 263 ft³/s Nov. 15 at 1130 hours (gage height, 7.46 ft); minimum daily, 0.28 ft³/s June 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	74	6.6	11	15	12	11	8.4	49	5.1	77	84
2	69	74	11	14	21	16	7.7	8.2	6.5	5.1	78	84
3	68	74	8.0	12	15	13	7.8	15	4.0	7.7	79	90
4	72	74	8.1	12	19	12	7.3	15	2.2	7.6	79	88
5	70	48	8.4	15	17	11	6.6	8.9	2.0	8.0	77	87
6	67	1.9	8.7	13	18	12	6.6	6.7	2.0	11	79	87
7	70	3.8	8.2	14	16	12	5.6	6.4	.93	6.9	79	93
8	72	5.1	10	13	17	12	4.7	6.8	.93	10	78	96
9	73	11	9.7	13	18	12	5.8	6.8	.78	7.2	77	96
10	73	6.9	7.8	13	17	11	5.1	6.3	.38	6.9	78	96
11	69	4.1	11	14	17	11	6.9	5.3	.38	12	79	95
12	73	4.9	8.3	14	18	13	7.5	4.8	.53	36	79	95
13	73	6.6	11	14	20	11	6.8	4.4	.28	18	79	96
14	75	4.6	11	12	18	11	5.8	3.9	.78	7.6	78	98
15	82	62	11	13	18	13	5.8	2.2	.78	26	78	98
16	82	16	9.7	13	29	12	7.0	4.4	1.1	52	78	98
17	79	6.5	9.5	14	30	13	10	10	.78	53	78	100
18	83	10	12	15	37	10	6.1	6.2	.65	81	77	102
19	85	8.3	64	15	23	9.8	4.8	5.8	1.1	128	78	98
20	81	7.8	19	15	17	10	3.6	7.2	.93	134	78	89
21	72	7.1	13	14	26	9.5	5.5	10	1.1	132	78	89
22	72	8.4	13	15	22	9.6	5.3	11	1.5	115	78	89
23	67	7.9	11	15	10	9.5	4.0	11	.65	81	79	90
24	61	9.6	19	14	8.9	11	6.3	7.7	1.5	80	79	91
25	63	27	51	13	4.9	9.0	5.7	6.7	1.8	80	80	91
26	61	8.5	103	14	6.3	7.8	6.0	6.9	2.2	80	81	91
27	61	9.0	28	14	12	8.9	5.0	6.2	2.0	79	80	125
28	54	8.6	18	15	7.3	9.6	5.0	6.5	6.4	79	81	159
29	32	8.0	13	16	7.6	12	6.0	6.9	7.6	77	85	138
30	73	9.5	13	18	---	12	11	9.6	7.2	77	86	97
31	74	---	15	17	---	11	---	12	---	77	83	---
TOTAL	2176	607.1	550.0	434	505.0	346.7	192.3	237.2	107.98	1580.1	2453	2930
MEAN	70.2	20.2	17.7	14.0	17.4	11.2	6.41	7.65	3.60	51.0	79.1	97.7
MAX	85	74	103	18	37	16	11	15	49	134	86	159
MIN	32	1.9	6.6	11	4.9	7.8	3.6	2.2	.28	5.1	77	84
AC-FT	4320	1200	1090	861	1000	688	381	470	214	3130	4870	5810

CAL YR 1987 TOTAL 125793.1 MEAN 345 MAX 1710 MIN 1.9 AC-FT 249500
WTR YR 1988 TOTAL 12119.38 MEAN 33.1 MAX 159 MIN .28 AC-FT 24040

08055500 ELM FORK TRINITY RIVER NEAR CARROLLTON, TX

LOCATION.--Lat 32°57'57", long 96°56'39", Dallas County, Hydrologic Unit 12030103, near left bank at downstream side of bridge on Sandy Lake Road, 40 ft upstream from Carrollton Dam, 0.3 mi downstream from Denton Creek, 1.0 mi upstream from St. Louis Southwestern Railway Lines bridge, 2.3 mi northwest of Carrollton, and 18.2 mi upstream from mouth.

DRAINAGE AREA.--2,459 mi².

PERIOD OF RECORD.--January 1907 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to November 1923, published as "near Dallas".

REVISED RECORDS.--WSP 788: 1924. WSP 1148: Drainage area at former site. WSP 1632: 1908(M). WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 433.40 ft National Geodetic Vertical Datum of 1929. Prior to November 1923, nonrecording gage at site 15.5 mi downstream at different datum. Nov. 1, 1923, to Nov. 13, 1934, nonrecording gage, and Nov. 14, 1934, to July 6, 1938, water-stage recorder at present site and datum. July 7, 1938 to Apr. 14, 1939, nonrecording gage at site 9.3 mi downstream at datum 22.94 ft lower. Apr. 15, 1939 to Sept. 30, 1955, water-stage recorder at site 8.5 mi downstream at datum 22.94 ft lower.

REMARKS.--No estimated daily discharge. Records good. Flow is largely regulated by Lewisville Lake (station 08052800) since November 1954, and by Grapevine Lake (station 08054500) since July 1952. The city of Dallas diverts water from the pool at gage and from the river 14 mi downstream for municipal use. A water treatment plant returns water to the river below this station. In addition, Dallas Power and Light Co. diverts water from pool at gage into North Lake for cooling water at their electric generating plant. Several observations of water temperature were made during the year. Gage-height telemeters at station.

AVERAGE DISCHARGE.--47 years (water years 1908-54) prior to regulation by Lewisville and Grapevine Lakes, 818 ft³/s (592,600 acre-ft/yr); 34 years (water years 1955-88) regulated, unadjusted, 731 ft³/s (529,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, about 17 ft May 25, 1908, present site and datum, from information by local resident; estimated discharge, 145,000 ft³/s, at site 8.5 mi downstream (from information by U.S. Army Corps of Engineers); maximum gage height subsequent to 1908, 14.5 ft Apr. 26, 1942, present site and datum, from observation by National Weather Service; discharge at site 8.5 mi downstream, 90,700 ft³/s; no flow at times.
Flood in 1866 reached about the same stage as flood of May 25, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,670 ft³/s Dec. 26 at 0300 hours (gage height, 5.33 ft); no flow Nov. 6-8 and 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	30	27	60	77	172	62	116	801	159	157	116
2	105	17	120	52	70	250	83	104	321	216	135	56
3	110	10	124	72	136	106	72	195	97	196	117	137
4	111	6.1	127	101	174	60	32	194	76	201	86	37
5	110	4.8	117	105	124	152	73	83	117	212	71	34
6	99	.00	162	117	72	89	94	87	114	246	104	75
7	112	.00	97	83	76	68	65	186	133	142	90	110
8	119	.00	245	43	75	63	77	152	130	231	90	107
9	110	14	214	39	124	106	49	95	159	109	163	118
10	105	.00	342	66	171	127	34	198	172	198	112	116
11	111	56	260	9.0	174	157	29	25	184	139	129	114
12	115	2.6	355	31	151	154	61	84	158	196	127	123
13	116	11	342	30	129	162	116	153	168	212	145	128
14	113	57	285	36	153	134	181	203	117	61	139	92
15	121	485	227	27	170	152	144	188	127	97	149	77
16	114	192	182	66	181	154	46	181	183	97	148	74
17	87	23	202	112	218	180	178	109	163	118	142	38
18	96	22	161	93	205	84	176	175	118	114	150	51
19	83	87	634	51	120	169	84	211	173	149	137	59
20	53	20	194	31	84	114	35	252	182	260	90	48
21	71	18	23	100	135	89	60	263	207	111	119	74
22	47	18	16	117	152	54	137	261	192	165	93	60
23	10	36	27	116	153	53	98	319	238	122	83	84
24	4.5	61	142	85	87	66	123	127	201	97	80	87
25	14	309	264	80	134	111	131	208	179	92	116	103
26	58	37	987	73	219	88	103	129	127	126	118	102
27	106	36	235	58	122	104	66	163	120	154	104	92
28	87	27	74	87	137	79	268	215	145	158	80	85
29	14	24	46	140	179	153	84	173	164	136	67	77
30	22	22	66	133	---	28	443	162	104	150	38	192
31	77	---	81	89	---	22	---	135	---	167	133	---
TOTAL	2593.5	1625.50	6378	2302.0	4002	3500	3204	5146	5370	4831	3512	2666
MEAN	83.7	54.2	206	74.3	138	113	107	166	179	156	113	88.9
MAX	121	485	987	140	219	250	443	319	801	260	163	192
MIN	4.5	.00	16	9.0	70	22	29	25	76	61	38	34
AC-FT	5140	3220	12650	4570	7940	6940	6360	10210	10650	9580	6970	5290

CAL YR 1987 TOTAL 412423.00 MEAN 1130 MAX 5350 MIN .00 AC-FT 818000
WTR YR 1988 TOTAL 45130.00 MEAN 123 MAX 987 MIN .00 AC-FT 89520

08056500 TURTLE CREEK AT DALLAS, TX

LOCATION.--Lat 32°48'26", long 96°48'08", Dallas County, Hydrologic Unit 12030105, on left bank 68 ft upstream from Hall Street Dam, 210 ft upstream from Hall Street in Dallas, and 2.0 mi north of Dallas County Courthouse.

DRAINAGE AREA.--7.98 mi².

PERIOD OF RECORD.--Water years 1948-51 (annual maximum only), October 1951 to September 1980, April 1984 to current year. Daily discharge records for April 1948 to September 1951, published in WSP 1392, are unreliable and should not be used.

REVISED RECORDS.--See PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 428.13 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 17, 1951, at site 52 ft upstream at same datum.

REMARKS.--Records good. Flow is slightly affected by eight small on-channel dams above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years (water years 1952-80, 1986-88) 8.55 ft³/s (6,190 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s Apr. 28, 1966 (gage height 10.54 ft), from rating curve extended above 2,460 ft³/s on basis of contracted-opening measurement of 12,200 ft³/s; no flow at times during most years.
Maximum stage since at least 1903, that of Apr. 28, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 15	1315	1,730	5.07	July 12	0330	*5,970	*8.93
May 20	1715	2,350	5.82				

Minimum discharge, no flow Jan. 21-22, and Sept. 20-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.85	1.1	1.9	3.0	3.2	3.3	58	2.0	159	1.7	2.3	1.4
2	.84	1.1	1.9	2.6	2.3	68	4.9	2.0	45	46	2.0	2.7
3	.94	.93	1.8	2.7	2.7	8.2	3.6	1.9	8.0	10	19	92
4	1.3	.96	1.7	2.5	2.1	4.5	3.9	1.4	5.6	3.1	4.8	5.1
5	1.0	1.4	2.1	2.3	2.1	4.2	3.8	1.2	3.7	15	2.8	3.3
6	.75	.91	2.0	4.6	2.9	3.7	2.4	1.8	3.3	5.5	2.5	3.5
7	.81	1.1	1.7	5.1	2.1	3.8	2.3	2.2	3.3	2.2	3.2	3.0
8	1.3	26	1.8	7.9	2.3	3.4	2.9	14	3.3	2.3	3.0	2.1
9	1.3	39	1.5	4.8	2.4	3.4	2.6	2.0	2.5	2.2	2.3	1.9
10	1.0	5.2	1.6	4.4	2.9	3.1	3.1	1.3	1.8	9.4	2.6	1.7
11	1.8	2.9	1.6	4.4	4.0	2.9	2.5	1.6	1.8	15	4.2	1.6
12	2.1	1.4	1.2	5.2	2.5	2.5	1.9	1.5	1.8	587	5.5	1.8
13	.67	1.7	7.6	2.9	1.9	2.3	1.7	2.0	1.9	7.6	5.8	34
14	.68	1.8	6.7	3.2	1.9	2.2	2.5	1.9	2.0	4.6	11	7.2
15	.59	137	1.9	3.4	1.6	2.7	3.8	1.5	2.0	3.6	4.1	2.9
16	.68	20	1.6	3.2	1.7	2.5	2.4	1.5	1.6	3.1	2.1	3.0
17	.67	3.7	3.4	2.9	26	47	76	1.1	1.8	2.5	2.2	7.9
18	3.1	8.8	3.8	2.5	47	5.0	5.2	1.5	1.6	2.4	1.7	6.5
19	3.5	4.5	60	3.5	6.0	3.3	3.0	1.3	1.4	4.8	4.6	2.2
20	1.1	2.4	4.2	.68	4.0	3.4	2.9	129	1.3	14	4.0	.00
21	.89	1.9	3.4	.00	3.7	3.2	2.6	7.4	1.3	2.5	2.2	.00
22	.92	2.0	3.0	.00	4.0	3.0	2.3	2.8	1.1	2.1	2.2	.00
23	1.5	2.0	2.4	.64	3.0	3.2	8.5	2.4	1.3	2.6	2.0	.33
24	2.8	2.0	12	2.1	3.1	3.2	1.9	1.6	5.8	2.1	1.9	8.4
25	1.0	57	73	2.2	3.2	2.7	2.6	1.4	1.5	2.0	1.6	3.0
26	1.4	3.0	76	2.9	2.8	2.8	1.7	e1.3	4.3	2.0	1.7	2.2
27	.82	9.9	8.1	2.1	3.0	2.5	1.4	e1.2	4.5	2.1	1.7	2.2
28	1.7	2.6	4.8	3.2	2.8	5.0	1.2	e1.2	1.5	1.8	1.4	2.1
29	2.2	1.9	3.9	3.2	3.0	10	21	e15	2.2	1.9	2.5	37
30	.98	2.2	3.7	3.0	---	3.1	3.4	e3.5	1.8	2.0	1.8	68
31	1.1	---	3.7	2.9	---	3.7	---	19	---	2.3	1.3	---
TOTAL	40.29	346.40	304.0	94.02	150.2	221.8	236.0	229.5	278.0	765.4	110.0	307.03
MEAN	1.30	11.5	9.81	3.03	5.18	7.15	7.87	7.40	9.27	24.7	3.55	10.2
MAX	3.5	137	76	7.9	47	68	76	129	159	587	19	92
MIN	.59	.91	1.2	.00	1.6	2.2	1.2	1.1	1.1	1.7	1.3	.00
AC-FT	80	687	603	186	298	440	468	455	551	1520	218	609

CAL YR 1987 TOTAL 3567.68 MEAN 9.77 MAX 573 MIN .59 AC-FT 7080
WTR YR 1988 TOTAL 3082.64 MEAN 8.42 MAX 587 MIN .00 AC-FT 6110

e Estimated.

08057000 TRINITY RIVER AT DALLAS, TX

LOCATION.--Lat 32°46'29", long 96°49'18", Dallas County, Hydrologic Unit 12030105, on right bank (levee) 90 ft downstream from Commerce Street viaduct in Dallas, 5.2 mi downstream from confluence of West and Elm Forks, and at mile 500.3.

DRAINAGE AREA.--6,106 mi².

PERIOD OF RECORD.--October 1898 to December 1899 (gage heights only published in WSP 28 and 37), July 1903 to current year.

REVISED RECORDS.--WSP 850: 1903-6 (monthly and annual means). WSP 1732: 1937(M). WSP 1922: Drainage area. WDR TX-73-1: 1972.

GAGE.--Water-stage recorder. Datum of gage is 368.02 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1898, to Dec. 31, 1899, nonrecording gage at site 2 mi upstream at different datum. July 1, 1903, to July 20, 1930, non-recording gage at present site and datum. July 21, 1930, to Sept. 30, 1932, nonrecording gage at site 6 mi downstream at datum 3.08 ft lower.

REMARKS.--Records good. At times, flow is affected by storage in seven upstream reservoirs, combined capacity 1,703,000 acre-ft, of which 846,200 acre-ft is for flood control. The city of Dallas diverts water for municipal use from Elm Fork, Lake Ray Hubbard (on the East Fork), and Lake Tawakoni (on the Sabine River), and purchases water from North Texas Municipal Water District (from the East Fork). Sewage effluent is returned to the river downstream from this station. The Trinity River Authority discharges sewage effluent into the river upstream from the station. For additional information on diversions and effluent returns upstream from this station, see stations 08048000, 08049200, and 08049500. Several observations of water temperature were made during the year. Gage-height telemeters at station.

AVERAGE DISCHARGE.--85 years, 1,525 ft³/s (1,105,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 184,000 ft³/s May 25, 1908 (gage height, 52.6 ft), from rating curve extended above 109,000 ft³/s; minimum observed for periods 1903-6, 1920-75, 1.2 ft³/s July 4, 1953, result storage behind temporary dam 4 mi upstream.
Maximum stage since at least 1840, that of May 25, 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1866 reached about the same stage as that of May 25, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,650 ft³/s June 2 at 0145 hours (gage height, 31.16 ft); minimum daily, 277 ft³/s Sept. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	368	364	371	787	399	349	806	734	5330	475	332	292
2	367	364	366	758	399	1200	905	406	7120	491	335	293
3	356	361	403	688	391	2320	493	374	4000	532	360	1400
4	354	363	401	644	393	988	421	364	1350	666	337	1280
5	358	359	376	567	390	478	413	353	731	749	335	486
6	355	365	391	518	389	424	401	349	565	701	e328	344
7	351	359	449	591	406	387	358	347	520	504	e320	313
8	353	421	411	627	407	369	364	387	495	456	320	300
9	358	668	423	647	406	340	367	369	468	448	297	295
10	356	769	460	610	402	345	377	350	455	558	293	285
11	348	467	471	558	399	372	368	349	450	903	288	286
12	352	412	492	523	408	351	360	344	438	4950	291	283
13	361	366	605	492	406	340	364	354	431	2880	305	313
14	351	360	756	461	401	336	365	364	428	881	311	421
15	362	1810	729	452	397	335	415	353	434	454	306	601
16	366	4260	497	439	397	336	382	350	428	383	308	609
17	354	2010	433	435	500	692	990	479	428	348	306	341
18	364	700	419	427	1580	960	1990	414	430	330	304	838
19	395	684	1740	497	1790	538	869	346	425	332	320	873
20	398	530	3690	488	728	412	457	656	423	487	355	396
21	412	413	1130	445	441	371	404	1660	432	358	359	326
22	413	381	539	419	400	361	387	950	428	308	405	291
23	404	367	468	410	384	343	401	642	433	314	353	285
24	391	368	603	404	360	353	388	482	439	304	318	320
25	378	1830	1050	410	356	353	390	418	426	306	306	292
26	373	1450	4980	402	349	344	422	406	465	310	298	290
27	365	602	3800	394	358	340	393	417	458	302	287	284
28	358	493	1210	395	339	350	367	418	440	298	285	277
29	375	423	735	400	343	452	549	420	479	300	282	571
30	369	381	671	403	---	849	683	408	480	326	287	3130
31	363	---	736	403	---	575	---	456	---	335	290	---
TOTAL	11428	22700	29805	15694	14318	16563	15849	14719	29829	20989	9821	16315
MEAN	369	757	961	506	494	534	528	475	994	677	317	544
MAX	413	4260	4980	787	1790	2320	1990	1660	7120	4950	405	3130
MIN	348	359	366	394	339	335	358	344	423	298	282	277
AC-FT	22670	45030	59120	31130	28400	32850	31440	29200	59170	41630	19480	32360

CAL YR 1987 TOTAL 808002 MEAN 2214 MAX 10500 MIN 255 AC-FT 1603000
WTR YR 1988 TOTAL 218030 MEAN 596 MAX 7120 MIN 277 AC-FT 432500

e Estimated.

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX

LOCATION.--Lat 32°45'04", long 96°47'07", Dallas County, Hydrologic Unit 12030105, on right bank at abandoned bridge abutment, 0.2 mi upstream from Cedar Crest Blvd. bridge, 1.8 mi southeast of Dallas City Hall, 2.1 mi downstream from Coombs Creek, and 2.7 mi downstream from Commerce Street Bridge (station 08057000).

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1984 to current year.
pH: February 1984 to current year.
WATER TEMPERATURES: February 1984 to current year.
DISSOLVED OXYGEN: February 1984 to current year.

INSTRUMENTATION.--Beginning February 1984, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance 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. Records of discharge are given for gaging station 08057000. No appreciable inflow between the two stations.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,030 micorsiemens Feb. 12, 1988; minimum, 93 microsiemens Oct. 20, 1984.
pH: Maximum, 8.6 units Oct. 20, 1984; minimum, 6.8 units on Sept. 6, 1988.
WATER TEMPERATURE: Maximum, 33.5°C Aug. 12, 1987; minimum, 7.5°C Jan. 19, Dec. 27, 1987, and Jan. 8, 10, 11, 1988.
DISSOLVED OXYGEN: Maximum, 13.3 mg/L Feb. 7, 19, 1988; minimum, 0.0 mg/L July 21, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,030 microsiemens Feb. 12; minimum, 223 microsiemens Apr. 17.
pH: Maximum, 8.5 units on Jan. 8; minimum, 6.8 units Sept. 6.
WATER TEMPERATURE: Maximum, 32.5°C Aug. 7, 8; minimum, 7.5°C Dec. 27; Jan. 8, 10, 11.
DISSOLVED OXYGEN: Maximum, 13.3 mg/L Feb. 7, 19; minimum, 2.7 mg/L July 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV										
13...	0705	390	784	7.90	16.0	7.7	78	3.0	160	13
FEB										
10...	1545	404	880	7.60	13.0	12.2	117	15	180	2
APR										
12...	1345	656	830	7.70	19.0	8.2	90	2.4	170	11
MAY										
20...	1730	661	--	--	--	--	--	--	--	--
20...	1930	1190	--	--	--	--	--	--	--	--
20...	2130	1430	--	--	--	--	--	--	--	--
20...	2330	1720	--	--	--	--	--	--	--	--
21...	0130	1990	--	--	--	--	--	--	--	--
21...	0330	2180	--	--	--	--	--	--	--	--
21...	0530	2240	--	--	--	--	--	--	--	--
JUN										
09...	1435	707	793	7.80	28.0	7.1	92	1.9	170	34
JUL										
28...	1610	929	823	7.90	31.0	7.2	97	2.3	150	31
SEP										
12...	1430	597	835	7.80	28.5	7.8	320	2.0	140	7

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 WAT WH TOT FET 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)
NOV									
13...	54	7.3	88	3	12	152	90	82	1.0
FEB									
10...	59	7.3	100	3	12	176	100	82	1.0
APR									
12...	57	7.6	98	3	11	163	110	85	1.0
MAY									
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
JUN									
09...	59	6.6	87	3	10	141	100	79	0.90
JUL									
28...	49	7.2	100	4	9.0	121	90	87	1.1
SEP									
12...	46	7.0	110	4	11	137	86	95	1.0

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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-PHOROUS TOTAL (MG/L AS P)
NOV									
13...	8.8	434	4.77	0.230	5.00	0.900	0.60	1.5	2.80
FEB									
10...	8.2	475	3.90	1.50	5.40	5.10	1.9	7.0	1.30
APR									
12...	7.9	475	3.45	0.250	3.70	1.30	1.9	3.2	3.80
MAY									
20...	--	--	3.57	0.430	4.00	0.320	0.98	1.3	1.80
20...	--	--	0.870	0.130	1.00	0.450	0.75	1.2	0.250
20...	--	--	4.82	0.180	5.00	0.180	1.0	1.2	1.70
20...	--	--	3.51	0.090	3.60	0.110	0.69	0.80	1.20
21...	--	--	3.38	0.120	3.50	0.070	0.73	0.80	1.00
21...	--	--	1.81	0.090	1.90	0.090	0.61	0.70	0.580
21...	--	--	2.28	0.120	2.40	0.110	0.79	0.90	0.870
JUN									
09...	8.6	436	6.78	0.020	6.80	0.060	0.94	1.0	3.20
JUL									
28...	8.6	424	11.0	0.040	11.0	0.170	1.4	1.6	4.80
SEP									
12...	9.4	448	6.47	0.030	6.50	0.060	1.0	1.1	3.50

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	11428	804	450	13900	79	2440	98	3030	180
NOV.	1987	22700	568	328	20100	49	3030	72	4400	150
DEC.	1987	29805	512	298	24000	43	3440	65	5260	150
JAN.	1988	15694	765	430	18200	74	3130	94	3980	180
FEB.	1988	14318	798	446	17200	79	3060	97	3750	170
MAR.	1988	16563	714	405	18100	67	3010	88	3950	170
APR.	1988	15849	699	397	17000	65	2790	87	3710	170
MAY	1988	14719	702	398	15800	66	2610	87	3460	170
JUNE	1988	29829	529	305	24500	46	3730	67	5370	140
JULY	1988	20989	672	382	21700	62	3520	84	4730	170
AUG.	1988	9821	827	461	12200	83	2190	100	2660	180
SEPT	1988	16315	587	338	14900	52	2280	74	3260	160
TOTAL		218030	**	**	218000	**	35200	**	47600	**
WTD.AVG.		596	649	370	**	60	**	81	**	160

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	773	723	743	855	823	837	747	723	735	647	600	622
2	792	739	766	860	824	841	762	742	750	624	586	606
3	804	783	794	850	820	832	749	722	734	624	600	611
4	809	778	791	840	823	831	766	720	743	663	620	646
5	807	783	795	868	827	848	798	766	781	683	632	670
6	820	789	804	865	836	846	804	753	786	911	660	720
7	807	794	801	836	827	833	747	700	723	1020	762	896
8	814	776	795	838	631	789	803	710	757	1020	731	835
9	821	812	817	691	552	618	720	681	703	769	692	723
10	821	807	815	610	534	571	771	677	729	732	670	709
11	820	803	812	682	612	644	705	665	688	723	671	705
12	821	800	811	748	680	718	708	624	672	749	710	731
13	826	791	805	801	750	778	637	601	621	754	723	739
14	826	810	816	796	782	790	652	579	618	781	741	763
15	817	795	807	787	293	585	616	525	582	798	776	788
16	828	812	819	448	340	379	687	613	658	810	798	803
17	828	821	825	475	367	418	728	676	706	841	803	818
18	844	746	826	540	482	513	749	696	728	847	804	828
19	807	755	784	604	531	570	747	314	519	839	807	828
20	819	785	802	691	600	651	452	350	390	820	806	811
21	802	761	789	728	680	698	503	398	449	819	800	811
22	785	752	766	754	723	742	606	512	576	845	813	830
23	805	783	790	782	734	759	685	600	656	830	808	817
24	817	797	805	791	742	769	705	568	665	854	818	836
25	832	797	811	757	266	459	615	332	543	888	830	856
26	835	804	817	532	444	464	417	309	342	876	839	856
27	829	805	817	560	477	526	414	325	360	862	833	846
28	815	799	807	660	561	614	553	416	475	856	833	847
29	839	813	822	707	654	680	612	566	596	871	845	858
30	844	838	841	730	681	702	655	607	635	887	868	874
31	838	831	834	---	---	---	625	564	602	902	868	882
MONTH	844	723	804	868	266	677	804	309	630	1020	586	780

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	908	873	889	883	862	876	683	382	598	679	561	598
2	876	866	869	862	371	658	620	448	524	693	629	674
3	878	861	870	631	422	534	770	629	713	718	681	696
4	875	861	868	618	530	557	781	722	750	750	721	739
5	886	864	874	722	618	680	762	743	757	793	743	770
6	909	880	891	801	720	755	778	751	759	812	793	804
7	914	890	898	840	791	823	813	778	797	811	799	805
8	916	892	902	853	821	836	819	790	803	813	770	797
9	907	879	893	863	822	834	831	809	818	802	778	791
10	893	870	880	872	833	855	833	808	821	803	790	794
11	1020	859	921	881	431	798	812	791	803	793	781	790
12	1030	932	977	862	722	822	842	800	818	820	780	794
13	953	890	914	890	842	866	841	813	829	931	819	846
14	909	872	894	880	860	868	860	820	838	980	850	882
15	939	861	890	873	852	864	863	790	830	888	808	832
16	910	869	892	868	842	854	849	789	819	823	800	810
17	992	463	839	848	431	722	843	223	686	822	793	811
18	752	459	587	712	499	611	563	393	494	790	673	720
19	630	541	589	742	692	726	573	530	560	720	650	680
20	678	630	647	742	678	713	730	572	658	810	362	697
21	770	653	729	788	730	764	780	728	747	570	381	490
22	841	770	804	812	790	798	800	779	788	562	478	519
23	870	823	842	822	761	796	803	760	785	563	522	548
24	891	842	865	812	770	790	813	771	792	661	520	578
25	908	870	887	830	790	809	833	788	815	739	663	710
26	922	881	900	859	801	825	839	819	831	779	741	760
27	892	862	879	883	848	861	833	781	801	842	768	801
28	913	870	887	861	841	850	810	781	791	863	842	854
29	903	871	885	853	711	796	818	622	749	841	798	816
30	---	---	---	700	583	637	703	528	639	808	781	796
31	---	---	---	692	663	683	---	---	---	793	693	775
MONTH	1030	459	850	890	371	770	863	223	747	980	362	741

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	671	253	351	863	811	835	853	801	822	881	831	861
2	333	282	314	860	642	802	811	780	799	881	851	874
3	450	312	388	748	663	706	792	641	766	881	240	540
4	530	380	451	813	458	664	793	748	776	531	430	488
5	618	541	589	752	489	606	819	781	801	571	521	543
6	700	611	669	741	581	662	823	799	811	689	558	611
7	751	682	715	---	---	700	852	820	836	761	691	725
8	793	730	752	---	---	800	860	829	839	811	761	793
9	838	783	804	---	---	850	863	808	832	871	800	843
10	858	812	827	---	---	900	841	800	818	899	869	884
11	831	790	814	---	---	700	850	800	826	871	860	866
12	832	798	815	---	---	630	902	830	867	851	840	848
13	848	820	830	423	330	392	903	870	887	848	663	814
14	840	772	816	659	420	533	893	850	870	780	565	648
15	830	763	811	703	613	651	890	832	859	796	629	721
16	833	808	820	783	710	752	878	811	839	612	475	520
17	850	821	832	841	781	809	862	801	826	627	478	565
18	888	811	845	832	799	816	852	810	826	718	427	643
19	862	793	846	823	609	812	910	809	848	482	408	450
20	862	770	832	761	599	682	832	673	792	584	380	520
21	869	791	844	802	601	691	892	792	852	651	537	584
22	833	800	817	842	802	827	882	763	826	757	624	669
23	831	782	814	849	831	839	762	669	711	749	690	718
24	860	821	831	862	843	854	811	731	761	722	529	674
25	833	818	827	873	850	862	853	771	819	761	722	736
26	833	792	815	863	823	846	890	831	846	753	725	738
27	782	720	762	898	832	842	943	833	856	749	729	743
28	811	780	794	851	813	829	881	860	871	757	733	751
29	823	792	809	873	850	860	891	848	870	729	518	610
30	841	793	810	888	850	867	891	840	863	502	275	370
31	---	---	---	888	861	874	891	838	866	---	---	---
MONTH	888	253	741	898	330	758	943	641	828	899	240	678

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.9	7.7	7.8	---	---	---	7.6	7.4	7.5	8.3	8.2	8.3
2	7.9	7.8	7.9	---	---	---	7.5	7.3	7.4	8.3	8.2	8.3
3	7.9	7.8	7.9	---	---	---	7.5	7.5	7.5	8.4	8.2	8.3
4	7.8	7.8	7.8	---	---	---	7.7	7.5	7.6	8.3	8.2	8.3
5	7.9	7.8	7.8	---	---	---	7.7	7.6	7.6	8.3	8.2	8.3
6	7.9	7.8	7.8	---	---	---	7.6	7.4	7.5	8.3	8.1	8.2
7	7.9	7.8	7.8	---	---	---	7.4	7.3	7.4	8.4	8.0	8.1
8	7.8	7.8	7.8	---	---	---	7.3	7.2	7.3	8.5	8.2	8.4
9	7.8	7.8	7.8	---	---	---	7.2	7.1	7.1	8.2	7.9	8.1
10	7.8	7.7	7.8	---	---	---	7.1	7.0	7.1	8.0	7.7	7.9
11	7.8	7.7	7.7	---	---	---	7.2	7.1	7.1	7.8	7.4	7.6
12	7.8	7.7	7.8	---	---	---	7.1	7.0	7.1	7.8	7.4	7.5
13	7.8	7.6	7.7	7.8	7.7	7.7	7.4	7.1	7.3	7.8	7.4	7.6
14	7.7	7.6	7.7	7.8	7.7	7.8	7.7	7.3	7.4	7.8	7.7	7.7
15	7.8	7.7	7.8	8.2	7.8	7.9	7.8	7.7	7.8	7.8	7.6	7.7
16	7.8	7.8	7.8	8.0	7.9	8.0	7.9	7.8	7.9	7.6	7.4	7.5
17	7.8	7.8	7.8	8.0	7.9	8.0	7.9	7.8	7.9	7.4	7.2	7.3
18	7.8	7.8	7.8	7.9	7.9	7.9	7.8	7.6	7.8	7.3	7.0	7.1
19	7.8	7.7	7.7	7.9	7.9	7.9	8.3	7.0	7.8	7.1	7.0	7.0
20	7.8	7.7	7.7	7.9	7.8	7.9	8.3	8.2	8.3	7.2	7.0	7.2
21	---	---	7.7	7.9	7.9	7.9	8.2	7.9	8.1	7.2	7.0	7.1
22	---	---	---	8.1	7.9	8.0	8.0	7.7	7.8	7.3	7.1	7.2
23	---	---	---	8.1	7.9	8.0	7.8	7.7	7.7	7.3	7.1	7.2
24	---	---	---	8.0	7.8	7.9	7.7	7.6	7.7	7.2	7.1	7.2
25	---	---	---	8.4	7.8	8.3	8.0	7.6	7.7	7.4	7.1	7.3
26	---	---	---	8.4	8.1	8.3	8.2	8.0	8.1	7.4	7.2	7.3
27	---	---	---	8.1	8.0	8.1	8.2	8.2	8.2	7.4	7.2	7.3
28	---	---	---	8.1	8.0	8.0	8.2	8.2	8.2	7.5	7.3	7.4
29	---	---	---	8.0	7.8	7.9	8.2	8.1	8.2	7.5	7.2	7.3
30	---	---	---	7.8	7.6	7.7	8.2	8.1	8.2	7.3	7.1	7.3
31	---	---	---	---	---	---	8.3	8.2	8.2	7.3	7.1	7.3
MONTH	7.9	7.6	7.8	8.4	7.6	7.9	8.3	7.0	7.7	8.5	7.0	7.6

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.5	7.2	7.3	7.6	7.4	7.5	---	---	---	---	---	---
2	7.7	7.5	7.6	7.8	7.3	7.5	---	---	---	---	---	---
3	7.7	7.5	7.6	7.8	7.7	7.8	---	---	---	7.9	7.7	7.8
4	7.9	7.7	7.8	7.8	7.4	7.6	---	---	---	7.9	7.8	7.8
5	7.8	7.6	7.7	7.5	7.4	7.5	---	---	---	7.8	7.7	7.8
6	7.9	7.6	7.7	7.5	7.3	7.4	---	---	---	7.8	7.7	7.8
7	7.7	7.6	7.7	7.4	7.3	7.3	---	---	---	7.8	7.7	7.8
8	7.8	7.5	7.6	7.7	7.4	7.6	---	---	---	7.9	7.7	7.8
9	7.7	7.5	7.6	7.7	7.6	7.7	---	---	---	7.8	7.7	7.8
10	---	---	---	7.7	7.6	7.7	7.5	7.3	7.4	7.8	7.7	7.8
11	---	---	---	7.8	7.6	7.7	7.5	7.3	7.4	7.8	7.8	7.8
12	---	---	---	7.7	7.5	7.6	7.9	7.4	7.6	7.8	7.7	7.8
13	---	---	---	7.5	7.4	7.5	7.5	7.3	7.4	7.7	7.6	7.7
14	---	---	---	7.5	7.3	7.4	7.5	7.3	7.5	7.6	7.4	7.5
15	---	---	---	7.4	7.3	7.3	7.6	7.5	7.6	7.6	7.2	7.4
16	---	---	---	7.4	7.3	7.3	7.7	7.6	7.6	7.6	7.5	7.6
17	---	---	---	8.3	7.4	7.6	7.9	7.6	7.8	7.6	7.4	7.5
18	---	---	---	7.9	7.8	7.8	7.9	7.7	7.8	7.5	7.3	7.5
19	---	---	---	7.7	7.6	7.7	7.8	7.7	7.8	7.6	7.3	7.5
20	---	---	---	7.6	7.4	7.5	7.9	7.7	7.8	7.8	7.4	7.7
21	---	---	---	7.5	7.3	7.4	7.8	7.7	7.7	7.7	7.6	7.7
22	8.0	8.0	8.0	7.5	7.2	7.3	7.8	7.7	7.7	7.6	7.3	7.4
23	8.0	7.9	8.0	---	---	---	7.8	7.6	7.7	7.4	7.2	7.3
24	7.9	7.7	7.8	---	---	---	7.8	7.6	7.7	7.4	7.2	7.3
25	7.9	7.7	7.8	---	---	---	7.8	7.7	7.7	7.5	7.4	7.5
26	7.9	7.8	7.8	---	---	---	7.7	7.6	7.7	7.6	7.3	7.5
27	7.8	7.7	7.8	---	---	---	7.7	7.6	7.6	7.4	7.3	7.3
28	7.9	7.6	7.7	---	---	---	7.8	7.6	7.7	7.6	7.3	7.5
29	7.7	7.6	7.6	---	---	---	7.9	7.6	7.7	7.6	7.4	7.5
30	---	---	---	---	---	---	7.6	7.5	7.6	7.7	7.5	7.6
31	---	---	---	---	---	---	---	---	---	7.9	7.7	7.8
MONTH	8.0	7.2	7.7	8.3	7.2	7.5	7.9	7.3	7.7	7.9	7.2	7.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.0	7.6	7.9	7.6	7.3	7.4	8.1	8.0	8.0	7.7	7.5	7.6
2	7.9	7.7	7.8	7.8	7.5	7.6	8.1	8.0	8.0	7.7	7.6	7.7
3	7.9	7.7	7.8	7.7	7.3	7.5	8.0	7.6	7.9	7.8	7.4	7.6
4	7.8	7.7	7.8	7.8	7.3	7.6	7.8	7.6	7.7	7.6	7.4	7.5
5	7.8	7.6	7.7	---	---	---	7.7	7.5	7.6	7.5	6.9	7.2
6	7.7	7.4	7.5	---	---	---	7.7	7.5	7.6	7.7	6.8	7.3
7	7.8	7.6	7.7	---	---	---	7.8	7.6	7.8	7.7	7.6	7.7
8	7.9	7.7	7.8	---	---	---	7.9	7.7	7.8	7.7	7.6	7.6
9	7.9	7.8	7.9	---	---	---	7.8	7.6	7.7	7.8	7.6	7.7
10	8.0	7.8	7.9	---	---	---	7.9	7.6	7.7	7.8	7.7	7.8
11	8.0	7.8	7.9	---	---	---	7.9	7.7	7.9	7.8	7.8	7.8
12	7.9	7.7	7.8	---	---	---	8.0	7.8	7.9	7.9	7.7	7.8
13	---	---	---	---	---	---	7.9	7.8	7.9	7.9	7.6	7.8
14	---	---	---	---	---	---	7.9	7.7	7.8	7.8	7.6	7.7
15	---	---	---	---	---	---	7.9	7.7	7.8	7.6	7.2	7.4
16	---	---	---	---	---	---	7.8	7.3	7.6	7.2	6.9	7.0
17	---	---	---	---	---	---	8.0	7.5	7.8	7.2	7.0	7.1
18	---	---	---	---	---	---	7.9	7.8	7.9	7.5	7.1	7.3
19	---	---	---	---	---	---	---	---	---	7.6	7.3	7.5
20	---	---	---	---	---	---	---	---	---	7.7	7.5	7.6
21	---	---	---	---	---	---	---	---	---	7.8	7.7	7.7
22	---	---	---	---	---	---	---	---	---	8.0	7.6	7.8
23	---	---	---	---	---	---	---	---	---	8.1	7.6	7.9
24	---	---	---	---	---	---	7.3	7.1	7.2	8.0	7.7	7.8
25	---	---	---	---	---	---	7.3	6.9	7.2	8.0	7.7	7.8
26	---	---	---	---	---	---	7.3	6.9	7.1	8.0	7.8	7.9
27	---	---	---	---	---	---	7.4	7.0	7.3	7.9	7.8	7.8
28	---	---	---	---	---	---	7.4	7.2	7.3	8.0	7.8	7.9
29	---	---	---	7.8	7.6	7.8	7.6	7.3	7.5	7.9	7.6	7.7
30	---	---	---	7.9	7.6	7.8	7.7	7.4	7.6	7.7	7.6	7.6
31	---	---	---	8.1	7.9	8.0	7.7	7.5	7.6	---	---	---
MONTH	8.0	7.4	7.8	8.1	7.3	7.7	8.1	6.9	7.7	8.1	6.8	7.6

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	26.0	24.0	25.0	24.0	22.5	23.0	16.5	15.0	16.0	10.5	9.5	10.0
2	25.5	24.0	24.5	23.0	22.5	23.0	17.0	15.0	16.0	10.0	9.5	9.5
3	24.0	22.5	23.5	23.5	22.0	22.5	17.5	16.0	16.5	10.5	9.5	10.0
4	24.0	22.0	23.0	24.0	22.0	23.0	17.5	16.5	17.0	11.0	10.0	10.5
5	25.0	22.0	23.5	23.5	22.5	23.0	18.5	17.0	18.0	11.0	10.0	10.5
6	24.5	22.5	23.5	22.0	21.0	21.5	19.5	18.5	19.0	10.0	8.5	9.5
7	24.5	22.0	23.0	21.0	20.0	20.5	18.5	18.0	18.0	9.0	8.0	8.5
8	24.0	22.0	23.0	21.5	20.5	21.0	19.0	18.0	18.5	9.0	7.5	8.0
9	25.0	22.5	23.5	20.5	17.5	19.0	17.5	16.5	17.0	8.5	8.0	8.0
10	26.0	23.5	24.5	17.5	16.5	17.0	17.5	16.5	17.0	9.0	7.5	8.5
11	24.5	22.5	23.5	17.5	16.0	17.0	17.0	15.5	16.5	10.0	7.5	9.0
12	23.0	21.0	22.0	18.0	16.5	17.0	16.0	15.0	15.5	11.5	9.5	10.5
13	23.0	21.0	22.0	18.5	16.5	17.5	15.0	13.5	14.0	11.0	10.0	10.5
14	23.0	21.0	22.0	19.0	17.5	18.5	14.0	11.5	13.0	11.5	10.0	11.0
15	23.5	21.0	22.0	19.5	16.5	18.0	12.5	11.0	11.5	12.0	10.5	11.5
16	24.0	22.5	23.0	17.0	16.0	16.5	13.0	12.0	12.5	14.0	12.0	13.0
17	24.5	23.0	24.0	16.5	15.5	16.0	12.5	12.0	12.5	15.5	14.0	14.5
18	24.5	23.0	23.5	16.5	15.5	16.0	13.5	12.0	12.5	15.0	14.0	14.5
19	23.5	23.0	23.5	16.0	15.5	16.0	13.5	12.0	13.0	15.5	14.0	15.0
20	23.0	22.0	22.5	17.0	15.5	16.0	12.5	11.0	11.5	14.0	13.0	13.5
21	22.0	20.5	21.5	17.5	16.0	16.5	13.0	11.5	12.0	13.0	11.5	12.5
22	21.0	19.5	20.5	18.5	17.0	17.5	14.5	13.0	13.5	13.0	11.5	12.5
23	21.0	20.5	21.0	20.5	18.5	19.5	15.5	13.5	14.5	13.0	11.0	12.0
24	23.5	21.0	22.0	21.0	20.0	20.5	16.5	15.5	16.0	13.5	12.0	12.5
25	24.0	22.5	23.0	21.0	16.5	17.5	15.0	9.5	13.5	12.5	11.0	12.0
26	25.0	23.0	24.0	17.0	16.0	16.0	10.5	8.0	9.0	13.0	11.0	12.0
27	23.5	22.0	23.0	16.0	15.0	16.0	8.5	7.5	8.0	14.0	11.5	12.5
28	22.5	21.0	22.0	15.5	14.5	15.0	9.0	8.5	9.0	14.5	12.5	13.5
29	23.0	21.0	22.0	16.0	15.0	15.5	10.0	9.0	9.5	15.5	14.0	14.5
30	23.0	22.0	22.5	16.5	14.5	15.5	11.0	9.5	10.5	16.5	15.0	16.0
31	23.5	22.0	23.0	---	---	---	11.5	10.5	11.0	18.0	16.5	17.0
MONTH	26.0	19.5	23.0	24.0	14.5	18.5	19.5	7.5	14.0	18.0	7.5	11.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	18.5	16.5	17.5	17.5	15.0	16.5	18.5	17.0	18.0	22.0	20.0	21.0
2	16.5	13.5	15.0	17.0	14.5	16.0	19.0	16.5	17.5	22.0	20.0	21.0
3	13.5	12.5	13.5	14.0	12.5	13.5	21.0	18.0	19.5	23.0	20.5	22.0
4	12.5	11.5	12.0	14.0	11.0	13.0	22.0	19.0	20.5	24.0	21.0	22.5
5	11.5	10.5	11.0	16.0	13.0	14.5	23.5	21.0	22.5	24.5	22.0	23.0
6	11.5	9.5	10.5	16.5	14.0	15.0	22.5	20.5	21.5	24.0	22.5	23.5
7	12.5	10.5	11.5	17.5	15.0	16.0	22.5	19.5	21.5	23.0	22.0	22.5
8	12.5	11.5	12.0	17.5	16.5	17.0	22.0	20.5	21.5	25.0	22.0	23.5
9	14.0	12.0	13.0	17.5	14.5	16.5	22.5	20.0	21.5	26.0	23.0	24.5
10	14.0	12.5	13.0	18.0	15.5	16.5	20.5	18.0	19.0	26.0	23.5	25.0
11	12.0	10.0	11.0	19.5	16.0	17.5	18.5	17.0	18.0	25.5	24.0	25.0
12	12.5	9.5	11.0	19.0	17.0	18.0	20.0	16.5	18.5	26.0	23.5	24.5
13	14.0	11.5	12.5	18.0	15.5	17.0	21.5	18.0	20.0	26.5	24.0	25.0
14	15.5	13.5	14.5	17.0	14.5	15.5	22.5	19.5	21.0	26.5	24.0	25.5
15	15.0	12.5	14.0	18.0	15.0	16.0	23.0	20.5	22.0	26.5	24.0	25.5
16	15.0	13.0	14.0	16.0	15.0	15.5	23.0	21.5	22.5	27.5	24.5	26.0
17	15.0	14.0	14.5	15.5	13.5	15.0	22.5	19.5	21.0	28.0	25.0	26.5
18	14.5	11.0	12.5	14.0	11.0	13.0	20.0	18.5	19.5	28.0	25.5	26.5
19	12.5	10.5	11.0	16.0	12.0	14.5	20.0	17.5	18.5	27.0	25.0	26.5
20	13.0	11.5	12.5	18.5	15.0	16.5	22.0	18.5	20.0	26.5	23.0	25.5
21	14.5	12.5	13.5	20.0	16.5	18.5	23.0	20.5	21.5	24.5	22.5	24.0
22	15.0	13.5	14.0	21.0	18.5	19.5	24.5	22.0	23.0	24.0	22.5	23.0
23	15.0	13.5	14.5	20.5	19.5	20.0	25.0	22.5	23.5	24.0	22.0	23.0
24	14.5	13.0	14.0	21.5	19.0	20.5	24.0	21.5	23.0	25.0	22.5	23.5
25	15.5	13.0	14.5	22.0	20.0	21.0	23.5	21.5	23.0	26.5	23.5	25.0
26	15.5	14.0	15.0	21.0	19.5	20.5	24.0	21.5	23.0	26.5	23.5	25.0
27	16.5	15.0	15.5	21.0	19.0	20.0	23.0	20.5	22.0	26.5	23.5	25.0
28	17.5	15.0	16.0	20.5	19.5	20.0	23.5	21.0	22.0	26.5	24.0	25.5
29	18.0	16.0	16.5	20.0	17.0	19.0	22.5	21.0	21.5	26.0	24.5	25.0
30	---	---	---	17.5	15.5	16.5	21.5	20.0	21.0	26.0	24.5	25.0
31	---	---	---	17.5	16.5	17.0	---	---	---	26.5	24.5	25.5
MONTH	18.5	9.5	13.5	22.0	11.0	17.0	25.0	16.5	21.0	28.0	20.0	24.5

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.5	21.5	22.5	31.5	28.5	30.0	31.0	29.5	30.5	29.0	26.5	27.5
2	22.5	22.0	22.5	30.5	29.0	30.0	30.5	29.0	30.0	29.5	27.5	28.5
3	23.0	22.0	22.5	30.0	28.5	29.5	29.5	28.5	29.0	29.0	24.5	27.0
4	25.0	22.5	23.5	30.0	27.5	29.0	31.0	28.5	30.0	26.5	25.5	26.0
5	26.0	23.5	24.5	29.5	28.0	29.0	31.5	29.5	30.5	27.0	25.0	26.0
6	27.0	24.0	25.5	29.5	28.0	28.5	32.0	30.0	31.0	27.5	25.0	26.5
7	28.0	25.0	26.5	29.5	28.0	29.0	32.5	30.0	31.0	27.5	25.5	26.5
8	28.5	26.0	27.5	29.0	27.5	28.5	32.5	30.5	31.5	27.5	25.5	26.5
9	29.0	26.5	28.0	30.0	27.5	28.5	32.0	30.0	31.5	28.0	26.0	27.0
10	28.0	26.0	27.5	30.0	27.5	29.0	32.0	29.5	31.0	28.5	26.5	27.5
11	27.5	25.0	26.5	28.0	27.5	27.5	31.0	29.5	30.5	29.0	26.5	27.5
12	27.5	25.0	26.5	28.0	25.0	26.5	31.5	29.0	30.0	29.0	27.0	28.0
13	28.0	25.5	27.0	29.0	27.5	28.0	31.5	29.5	30.5	30.0	27.5	28.5
14	28.5	26.5	27.5	30.5	28.0	29.0	31.5	29.5	30.5	28.5	27.5	28.0
15	29.0	27.0	28.0	31.0	28.5	29.5	31.5	29.5	30.5	29.5	28.0	28.5
16	29.0	27.0	28.0	31.5	29.0	30.0	31.5	29.5	30.5	28.0	27.0	27.5
17	28.5	27.5	28.0	31.5	29.0	30.5	31.5	29.5	30.5	28.0	27.0	27.5
18	29.5	27.0	28.0	32.0	29.5	31.0	31.5	29.5	30.5	28.5	27.0	27.5
19	29.0	27.5	28.5	31.0	28.5	30.0	30.5	29.5	30.0	28.0	26.5	27.5
20	29.5	27.5	28.5	29.5	28.0	29.0	30.5	28.5	29.5	28.0	26.5	27.5
21	30.0	27.5	28.5	30.0	27.5	29.0	31.5	29.0	30.0	29.0	27.0	28.0
22	30.0	27.5	29.0	30.5	28.0	29.0	31.5	29.5	30.5	29.5	27.5	28.5
23	30.5	27.5	29.0	30.5	28.0	29.0	32.0	29.5	31.0	29.0	27.5	28.5
24	30.0	28.0	29.0	30.5	28.0	29.5	32.0	30.0	31.0	28.0	27.0	27.5
25	29.5	28.0	29.0	30.5	28.5	29.5	31.5	29.5	30.5	28.0	25.5	26.5
26	30.0	28.0	29.0	31.0	28.5	29.5	31.0	29.5	30.5	28.0	25.5	26.5
27	30.0	28.5	29.5	31.0	29.0	30.0	30.5	29.0	29.5	28.0	25.5	27.0
28	30.0	29.0	29.5	31.0	28.5	30.0	30.5	28.5	29.5	28.0	26.0	27.0
29	30.5	28.0	29.0	31.0	29.0	30.0	29.0	27.0	28.0	27.0	20.0	24.5
30	31.0	28.0	29.5	31.0	29.0	30.0	28.0	26.0	27.0	23.0	21.0	22.0
31	---	---	---	31.5	29.0	30.0	28.5	26.0	27.0	---	---	---
MONTH	31.0	21.5	27.5	32.0	25.0	29.5	32.5	26.0	30.0	30.0	20.0	27.0

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.9	7.5	7.7	6.8	6.5	6.7	8.8	8.5	8.7	11.2	10.7	10.9
2	7.5	6.9	7.2	6.8	6.6	6.7	8.7	8.5	8.6	11.4	11.0	11.2
3	7.8	7.0	7.4	6.9	6.6	6.8	8.6	8.3	8.4	11.2	10.9	11.1
4	8.3	7.6	7.9	7.0	6.7	6.8	8.3	7.6	8.0	11.0	10.6	10.8
5	8.6	8.0	8.3	6.9	6.6	6.7	7.7	7.1	7.4	11.0	10.6	10.7
6	8.9	8.2	8.5	6.9	6.5	6.6	7.1	6.7	7.0	10.8	10.4	10.5
7	9.3	8.5	9.0	7.0	6.8	6.8	7.5	7.0	7.4	11.2	10.6	10.8
8	9.9	9.1	9.5	6.8	6.6	6.7	7.5	6.9	7.2	11.3	10.8	11.0
9	10.3	9.4	9.8	7.0	6.4	6.8	7.8	7.4	7.6	11.2	11.0	11.1
10	10.6	9.8	10.1	7.2	6.8	7.0	8.2	7.4	7.7	11.4	10.7	11.0
11	10.7	9.6	10.3	7.5	7.0	7.3	8.2	7.7	7.9	11.4	10.4	10.8
12	10.8	10.1	10.4	7.5	7.0	7.3	9.0	7.8	8.1	10.4	9.8	10.1
13	10.0	9.4	9.8	7.1	6.8	7.0	9.0	8.6	8.8	10.1	9.4	9.8
14	9.3	8.9	9.1	6.9	6.6	6.7	9.3	8.5	8.8	9.8	9.1	9.6
15	8.9	8.4	8.7	7.8	6.0	7.0	9.9	9.4	9.8	9.8	9.4	9.7
16	8.3	8.0	8.2	7.4	5.7	6.6	10.0	9.7	9.9	9.6	9.2	9.3
17	8.3	7.9	8.0	7.4	6.6	7.2	10.0	9.9	9.9	9.2	8.8	9.0
18	8.3	7.7	8.2	8.0	7.4	7.6	10.0	9.5	9.8	9.0	8.7	8.9
19	8.1	7.2	7.7	8.1	7.6	7.9	10.4	9.2	9.7	9.2	8.4	8.8
20	8.3	7.7	7.9	8.3	8.1	8.2	10.3	9.4	9.9	9.9	9.2	9.5
21	7.8	7.0	7.4	8.2	7.9	8.2	10.1	9.9	9.9	10.1	9.5	9.9
22	6.9	6.2	6.6	7.8	7.3	7.6	10.0	9.4	9.8	10.2	10.0	10.1
23	6.2	5.8	6.0	7.3	6.9	7.1	9.7	9.1	9.4	10.7	10.1	10.4
24	5.8	5.6	5.7	6.9	6.6	6.8	9.1	8.4	8.8	10.7	10.3	10.5
25	5.7	5.3	5.5	8.1	6.8	7.7	10.9	9.0	9.4	10.8	10.5	10.7
26	5.6	5.2	5.4	8.2	7.4	7.8	11.4	10.6	11.0	11.2	10.5	10.7
27	5.4	5.2	5.3	8.7	8.0	8.3	11.4	11.1	11.3	11.2	10.8	10.9
28	6.6	5.4	5.8	8.9	8.6	8.7	11.2	10.9	11.1	11.0	10.2	10.7
29	6.1	6.0	6.0	9.0	8.8	8.9	11.0	10.7	10.8	10.4	9.8	10.2
30	6.5	6.1	6.2	9.1	8.7	8.9	10.9	10.5	10.7	10.3	9.5	9.8
31	6.6	6.3	6.5	---	---	---	10.9	10.5	10.7	10.4	9.4	9.8
MONTH	10.8	5.2	7.8	9.1	5.7	7.4	11.4	6.7	9.2	11.4	8.4	10.3

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.7	9.3	9.5	7.9	7.3	7.6	8.2	7.0	7.9	---	---	---
2	10.6	9.2	10.1	10.4	6.8	8.1	7.9	7.2	7.5	---	---	---
3	11.3	10.5	10.8	10.7	8.8	9.8	7.9	7.2	7.6	7.8	7.4	7.6
4	12.4	11.0	11.8	10.0	9.4	9.8	8.4	7.8	8.1	8.1	7.6	7.8
5	12.9	11.8	12.3	10.0	9.7	9.9	7.8	7.5	7.6	8.0	7.6	7.8
6	13.2	12.3	12.9	10.0	9.4	9.8	7.8	7.2	7.6	7.9	7.6	7.7
7	13.3	12.5	12.9	9.6	9.0	9.3	7.2	6.6	7.0	7.8	7.4	7.6
8	13.0	12.4	12.7	9.3	8.5	9.0	7.3	6.6	6.9	7.7	7.0	7.3
9	13.0	12.0	12.5	9.3	8.7	8.9	7.2	6.8	7.0	7.6	6.8	7.3
10	12.8	12.0	12.4	9.2	8.8	9.0	8.2	6.9	7.6	7.8	7.0	7.4
11	13.1	12.1	12.6	9.6	8.8	9.2	8.8	7.9	8.4	7.9	7.4	7.6
12	13.2	12.4	12.9	9.7	8.5	9.0	8.3	7.6	8.1	8.0	7.4	7.7
13	12.7	12.3	12.5	10.1	9.2	9.9	8.2	7.5	7.9	7.8	7.0	7.4
14	12.1	11.5	11.8	10.6	10.0	10.3	8.2	7.6	7.8	8.2	6.6	7.5
15	11.9	10.7	11.3	11.0	9.8	10.5	7.8	7.3	7.6	9.0	7.4	8.2
16	11.7	10.3	11.0	11.1	10.1	10.7	7.5	7.2	7.3	8.8	7.8	8.3
17	11.5	9.7	10.6	11.6	10.8	11.0	7.6	6.0	7.0	8.4	7.8	8.1
18	13.0	10.3	11.9	11.5	10.8	11.1	6.9	5.8	6.5	7.8	6.5	7.3
19	13.3	12.2	12.8	11.4	10.8	11.0	7.1	6.4	6.9	7.0	5.5	6.3
20	12.3	11.6	11.9	11.1	10.2	10.8	7.6	7.0	7.3	6.8	4.0	6.0
21	11.8	11.3	11.6	10.5	10.0	10.3	7.4	7.2	7.3	5.2	3.8	4.7
22	11.5	10.9	11.3	10.2	9.5	9.9	7.8	7.2	7.4	5.2	4.8	5.0
23	11.1	10.4	10.7	9.6	9.1	9.4	7.4	6.8	7.1	6.7	5.2	5.9
24	11.1	10.6	10.8	8.8	7.7	8.5	7.9	6.8	7.3	6.8	6.4	6.6
25	10.8	10.3	10.6	7.9	7.1	7.4	8.0	7.0	7.5	6.9	6.4	6.6
26	10.5	9.9	10.2	7.5	6.9	7.2	8.2	7.4	7.7	7.0	6.6	6.7
27	10.3	9.3	9.9	7.5	6.8	7.2	8.6	7.6	8.0	7.2	6.6	6.9
28	9.1	8.3	8.8	7.5	7.0	7.2	8.8	7.8	8.2	7.4	6.8	7.0
29	8.3	7.9	8.0	8.0	6.8	7.1	8.4	6.7	7.7	7.5	7.0	7.2
30	---	---	---	8.9	8.2	8.5	6.9	5.6	6.3	7.3	6.7	7.0
31	---	---	---	8.6	8.2	8.4	---	---	---	7.0	5.7	6.7
MONTH	13.3	7.9	11.4	11.6	6.8	9.2	8.8	5.6	7.5	9.0	3.8	7.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6.7	3.2	5.0	8.0	6.9	7.3	7.0	6.0	6.5	7.4	6.4	6.9
2	4.8	3.6	4.1	7.7	3.3	6.7	6.9	6.0	6.4	7.0	5.8	6.5
3	5.4	4.6	5.0	6.1	4.6	5.4	6.3	5.0	5.9	---	---	---
4	5.6	4.3	5.1	6.9	2.7	5.3	6.4	4.9	5.6	---	---	---
5	6.1	5.6	5.9	5.8	4.9	5.4	6.6	5.5	5.9	---	---	---
6	6.3	5.6	6.1	5.9	4.7	5.3	7.0	5.8	6.3	---	---	---
7	6.7	6.0	6.3	6.3	5.9	6.1	7.1	5.7	6.5	---	---	---
8	6.8	6.0	6.4	6.3	5.8	6.0	7.4	6.1	6.6	---	---	---
9	7.5	6.0	6.6	6.8	5.7	6.2	7.5	5.8	6.6	---	---	---
10	8.7	6.4	7.2	6.9	4.1	6.1	7.9	6.5	7.1	---	---	---
11	8.0	7.0	7.4	5.7	4.3	5.1	7.7	6.3	7.0	---	---	---
12	8.5	6.9	7.6	7.0	5.1	6.0	7.9	6.3	7.1	---	---	---
13	8.9	7.3	8.0	6.5	5.3	5.9	7.8	6.3	7.1	7.2	6.2	6.7
14	9.0	7.4	8.2	5.9	5.3	5.6	7.8	6.2	7.1	---	---	---
15	9.4	7.7	8.5	6.7	5.4	5.9	8.0	6.4	7.1	---	---	---
16	9.5	7.6	8.5	6.9	5.5	6.2	7.8	6.5	7.2	5.4	5.0	5.2
17	9.6	7.7	8.5	7.4	5.6	6.5	8.1	6.5	7.3	6.0	5.4	5.8
18	9.7	7.5	8.6	7.4	6.3	6.8	8.0	6.6	7.3	6.4	3.2	5.8
19	10.1	7.5	8.8	7.0	6.0	6.7	7.4	6.4	6.8	---	---	---
20	9.9	7.6	8.7	6.8	5.3	6.0	6.4	3.8	5.4	---	---	---
21	9.8	7.5	8.5	7.3	5.9	6.8	7.0	5.6	6.3	---	---	---
22	10.1	7.1	8.7	7.5	6.2	7.0	7.0	6.2	6.5	---	---	---
23	9.8	7.2	8.4	7.6	6.3	7.1	6.9	5.8	6.3	---	---	---
24	8.9	6.8	7.7	8.1	6.4	7.3	7.4	6.0	6.6	---	---	---
25	8.4	6.1	7.2	8.1	6.7	7.3	7.6	6.2	6.8	---	---	---
26	8.4	6.0	6.8	7.6	6.8	7.1	7.6	6.2	6.8	---	---	---
27	7.6	4.9	6.4	7.7	6.3	7.0	7.6	6.2	7.0	---	---	---
28	7.5	6.1	6.8	7.2	6.4	6.9	7.6	6.4	6.9	---	---	---
29	7.7	6.1	6.8	6.7	5.7	6.2	6.8	6.2	6.4	---	---	---
30	7.7	6.5	7.0	6.7	5.7	6.2	7.2	6.2	6.6	7.0	5.4	6.1
31	---	---	---	7.0	5.9	6.3	7.4	6.4	6.9	---	---	---
MONTH	10.1	3.2	7.2	8.1	2.7	6.3	8.1	3.8	6.6	7.4	3.2	6.1

08057200 WHITE ROCK CREEK AT GREENVILLE AVENUE, DALLAS, TX

LOCATION.--Lat 32°53'21", long 96°45'23", Dallas County, Hydrologic Unit 12030105, on left bank 20 ft upstream from bridge on Greenville Avenue in Dallas, 1.1 mi downstream from Texas and New Orleans Railroad Co. bridge, 1.2 mi downstream from Cottonwood Creek, 2.9 mi upstream from White Rock Lake, and 8.2 mi northeast of Dallas County Courthouse.

DRAINAGE AREA.--66.4 mi².

PERIOD OF RECORD.--August 1961 to September 1980, April 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 24, 1961, non-recording gage at same site and datum.

REMARKS.--No estimated daily discharge. Records good. Some regulation at low flow by main and tributary channel dams from which many small diversions are made. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years (water years 1962-80, 85-88), 59.8 ft³/s (12.23 in/yr), 43,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,100 ft³/s Sept. 21, 1964 (elevation, 490.43 ft); minimum daily, 0.01 ft³/s July 8, 1970, June 27, July 14, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1886, that of Sept. 21, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base discharge of 2,900 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 15	1445	12,200	486.68	July 12	0315	12,300	486.72
Apr. 17	1500	3,870	483.24	Sept. 3	0215	*19,700	*488.27

Minimum daily discharge, 3.5 ft³/s July 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	13	23	47	23	30	360	20	904	3.5	7.0	9.7
2	8.6	13	21	43	21	431	69	18	137	256	5.9	8.8
3	9.6	12	20	39	22	94	42	16	49	24	47	3320
4	9.6	12	16	40	23	54	35	13	37	12	29	81
5	8.9	11	19	38	25	44	33	13	27	11	12	39
6	7.5	12	19	47	26	40	26	11	22	26	11	28
7	9.2	9.2	22	48	23	38	23	13	18	9.1	8.0	19
8	8.2	64	16	67	24	35	24	51	15	7.3	5.5	16
9	8.5	220	15	55	23	31	21	24	12	7.6	5.4	12
10	7.9	66	16	49	22	28	25	14	11	11	5.9	14
11	9.7	19	14	54	26	30	22	11	9.0	38	5.3	11
12	8.9	16	17	93	25	28	16	11	7.7	1120	6.0	12
13	8.2	16	45	57	22	26	18	11	6.6	115	5.1	153
14	9.1	14	80	44	23	24	15	11	7.9	32	5.6	92
15	8.1	1580	25	44	20	24	16	11	6.4	21	5.0	23
16	8.6	178	16	45	19	25	17	14	6.8	15	4.4	17
17	9.9	52	17	45	123	214	580	9.8	6.8	11	6.2	60
18	14	48	20	44	311	54	73	7.2	7.0	9.2	5.5	39
19	19	52	499	66	103	30	37	7.5	6.0	8.1	5.9	15
20	16	33	76	38	54	29	29	329	6.2	126	7.2	42
21	13	28	44	31	45	26	27	69	5.1	23	6.4	23
22	10	25	37	27	40	25	24	21	6.8	14	5.5	12
23	13	24	33	26	33	18	41	17	12	11	6.0	9.0
24	26	22	129	24	34	23	21	14	7.3	9.4	5.4	45
25	16	426	302	23	34	23	30	11	4.9	7.5	6.0	12
26	14	41	645	22	32	20	18	9.6	45	7.4	5.7	13
27	12	60	136	22	31	18	14	7.8	36	8.0	5.9	13
28	11	32	86	23	31	20	14	6.6	9.1	7.9	5.8	8.3
29	12	26	71	22	31	162	53	46	13	7.0	111	132
30	14	26	63	23	---	40	32	34	6.5	6.3	26	414
31	12	---	56	24	---	31	---	158	---	6.9	12	---
TOTAL	352.5	3150.2	2598	1270	1269	1715	1755	1009.5	1448.1	1971.2	388.6	4692.8
MEAN	11.4	105	83.8	41.0	43.8	55.3	58.5	32.6	48.3	63.6	12.5	156
MAX	26	1580	645	93	311	431	580	329	904	1120	111	3320
MIN	7.5	9.2	14	22	19	18	14	6.6	4.9	3.5	4.4	8.3
AC-FT	699	6250	5150	2520	2520	3400	3480	2000	2870	3910	771	9310
CFSM	.17	1.58	1.26	.62	.66	.83	.88	.49	.73	.96	.19	2.36
IN.	.20	1.76	1.46	.71	.71	.96	.98	.57	.81	1.10	.22	2.63

CAL YR 1987 TOTAL 31624.8 MEAN 86.6 MAX 2630 MIN 7.1 AC-FT 62730 CFSM 1.30 IN. 17.72
WTR YR 1988 TOTAL 21619.9 MEAN 59.1 MAX 3320 MIN 3.5 AC-FT 42880 CFSM .89 IN. 12.11

08057410 TRINITY RIVER BELOW DALLAS, TX

LOCATION.--Lat 32°42'26", long 96°44'08", Dallas County, Hydrologic Unit 12030105, on right bank at downstream side of bridge on South Loop Highway 12, 1.0 mi downstream from White Rock Creek, 1.5 mi upstream from Fivemile Creek, 6.4 mi southeast of Dallas County Courthouse in Dallas, and at mile 491.8.

DRAINAGE AREA.--6,278 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1956 to September 1961 (monthly records only), October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 365.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except those for Oct. 1 to Mar. 14, which are poor. Flow is affected at times by eight upstream reservoirs with a combined capacity of 1,714,400 acre-ft, of which 846,200 acre-ft is for flood control. Several cities with the Fort Worth-Dallas metroplex divert water for municipal use and return it to the river as sewage effluents above this station. Low flows are sustained by sewage effluents.

AVERAGE DISCHARGE.--31 years (water years 1958-88), 1,809 ft³/s (1,311,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,700 ft³/s May 27, 1957 (gage height, 32.02 ft); minimum daily, 131 ft³/s Dec. 9, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 25, 1908, reached a stage of 41.1 ft, from information by U.S. Army Corps of Engineers, and is the highest since that date. Floods in 1866 and 1908 reached about the same stage at Dallas.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,660 ft³/s June 2 at 0930 hours (gage height, 22.64 ft); minimum daily, 505 ft³/s July 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	661	609	728	1160	629	646	1080	1090	4170	639	576	565
2	664	628	699	1120	640	1490	1570	721	7640	619	593	553
3	635	634	741	1030	631	3060	1010	648	5430	819	691	1630
4	622	638	739	984	638	1900	814	627	2190	898	676	2630
5	635	636	707	898	637	983	757	614	1080	1020	589	1300
6	636	636	698	841	625	851	740	599	816	1050	562	750
7	623	616	784	939	626	786	679	584	742	752	549	648
8	626	711	715	991	625	770	686	622	697	627	557	605
9	631	1130	760	1030	631	728	656	646	667	599	532	590
10	622	1470	746	991	636	712	662	619	636	615	528	560
11	601	972	813	932	656	782	689	600	603	1240	524	549
12	611	791	790	911	660	823	625	586	567	4630	528	556
13	603	699	961	900	641	700	629	604	576	4940	535	559
14	593	693	1180	748	617	698	620	610	581	2240	533	874
15	601	1910	1220	747	641	676	677	583	579	942	532	961
16	616	4860	904	727	622	664	637	591	547	726	543	1090
17	588	3280	772	727	732	1010	1240	727	598	620	540	693
18	605	1370	781	716	2080	1730	2790	714	584	586	529	986
19	674	1230	1820	792	2570	1120	1690	595	554	583	537	1410
20	668	1010	4300	813	1450	835	913	758	554	802	614	775
21	681	807	2180	731	908	750	746	2120	570	712	579	649
22	673	732	1040	687	791	722	695	1480	564	592	677	589
23	670	718	872	658	743	692	699	969	583	573	623	560
24	646	705	1000	648	693	701	669	755	601	531	575	681
25	627	2300	1470	655	657	708	674	622	587	542	550	598
26	631	2240	4980	655	640	680	720	586	593	567	536	568
27	624	1210	5440	651	653	656	688	597	579	554	519	571
28	625	979	2250	636	629	662	626	583	578	521	500	554
29	648	825	1250	620	638	802	802	578	620	509	526	908
30	639	762	1060	627	---	1310	1070	564	640	539	535	3130
31	627	---	1130	624	---	1010	---	622	---	558	558	---
TOTAL	19606	35801	43530	25189	23339	29657	26553	22614	35726	31145	17446	27092
MEAN	632	1193	1404	813	805	957	885	729	1191	1005	563	903
MAX	681	4860	5440	1160	2570	3060	2790	2120	7640	4940	691	3130
MIN	588	609	698	620	617	646	620	564	547	509	500	549
AC-FT	38890	71010	86340	49960	46290	58820	52670	44850	70860	61780	34600	53740

CAL YR 1987 TOTAL 958588 MEAN 2626 MAX 12600 MIN 569 AC-FT 1901000
WTR YR 1988 TOTAL 337698 MEAN 923 MAX 7640 MIN 500 AC-FT 669800

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1967 to current year. Pesticide analyses: October 1970 to July 1981. Sediment analyses: Arpil 1972 to April 1975.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to current year.
pH: January 1977 to current year.
WATER TEMPERATURE: October 1967 to current year.
DISSOLVED OXYGEN: January 1977 to current year.

INSTRUMENTATION.--Beginning October 1976, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument and pump, plugged intake, and pump failures. 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, 1,130 microsiemens Dec. 17, 1977; minimum, 112 microsiemens Oct. 20, 1984.
pH: Maximum, 8.8 units Jan. 23, 1980; minimum, 6.8 units Sept. 17, 18, 1981.
WATER TEMPERATURES: Maximum, 35.0°C Aug. 20, 25, 28, 31, 1972; minimum, 1.0°C Jan. 29, 1968.
DISSOLVED OXYGEN: Maximum, 12.5 mg/L Feb. 8, 1982; minimum, 0.0 mg/L on many days during spring and summer of 1977-81.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 826 microsiemens Mar. 21; minimum, 188 microsiemens July 12.
pH: Maximum, 7.8 units June 12, July 12; minimum, 6.9 units Oct. 4, July 29.
WATER TEMPERATURE: Maximum, 33.0°C Aug. 7-9; minimum, 7.0°C Dec. 26.
DISSOLVED OXYGEN: Maximum, 11.8 mg/L Feb. 6; minimum, 3.0 July 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV										
12...	1045	738	656	7.50	18.0	10.3	109	2.2	150	24
FEB										
10...	1110	610	810	7.40	13.5	10.2	98	15	170	10
APR										
12...	1100	592	760	7.30	18.0	8.1	86	6.0	170	27
17...	1511	1510	--	--	--	--	--	--	--	--
17...	1711	2060	--	--	--	--	--	--	--	--
17...	1911	2370	--	--	--	--	--	--	--	--
17...	2111	2690	--	--	--	--	--	--	--	--
17...	2311	2880	--	--	--	--	--	--	--	--
18...	0111	2970	--	--	--	--	--	--	--	--
18...	0311	3020	--	--	--	--	--	--	--	--
18...	0511	3030	--	--	--	--	--	--	--	--
18...	0711	2990	--	--	--	--	--	--	--	--
18...	0911	2980	--	--	--	--	--	--	--	--
18...	1111	2960	--	--	--	--	--	--	--	--
JUN										
09...	0815	588	729	7.30	28.5	5.6	74	1.9	160	33
JUL										
04...	0008	870	--	--	--	--	--	--	--	--
04...	0208	965	--	--	--	--	--	--	--	--
04...	0408	1060	--	--	--	--	--	--	--	--
04...	0608	1070	--	--	--	--	--	--	--	--
04...	0808	1000	--	--	--	--	--	--	--	--
04...	1008	928	--	--	--	--	--	--	--	--
04...	1208	858	--	--	--	--	--	--	--	--
04...	1408	803	--	--	--	--	--	--	--	--
04...	1608	793	--	--	--	--	--	--	--	--
04...	1808	801	--	--	--	--	--	--	--	--
04...	2008	886	--	--	--	--	--	--	--	--
04...	2208	1030	--	--	--	--	--	--	--	--
10...	2215	917	--	--	--	--	--	--	--	--
11...	0015	1440	--	--	--	--	--	--	--	--
11...	0215	1570	--	--	--	--	--	--	--	--
11...	0415	1530	--	--	--	--	--	--	--	--
11...	0615	1430	--	--	--	--	--	--	--	--
11...	0815	1310	--	--	--	--	--	--	--	--
11...	1015	1210	--	--	--	--	--	--	--	--
11...	1215	1160	--	--	--	--	--	--	--	--
11...	1415	1170	--	--	--	--	--	--	--	--
11...	1615	1160	--	--	--	--	--	--	--	--
11...	1815	1210	--	--	--	--	--	--	--	--
11...	2015	1180	--	--	--	--	--	--	--	--
28...	1015	454	732	7.10	30.0	5.3	71	2.7	130	29
SEP										
09...	1010	550	712	7.10	27.5	6.6	85	--	130	28
29...	1243	907	--	--	--	--	--	--	--	--
29...	1443	1070	--	--	--	--	--	--	--	--
29...	1643	1190	--	--	--	--	--	--	--	--
29...	1843	1200	--	--	--	--	--	--	--	--
29...	2043	1190	--	--	--	--	--	--	--	--
29...	2243	1220	--	--	--	--	--	--	--	--
30...	0043	1400	--	--	--	--	--	--	--	--
30...	0243	1960	--	--	--	--	--	--	--	--
30...	0443	2450	--	--	--	--	--	--	--	--
30...	0643	2840	--	--	--	--	--	--	--	--
30...	0843	3190	--	--	--	--	--	--	--	--
30...	1043	3400	--	--	--	--	--	--	--	--

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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 WAT WH TOT FET 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)
NOV									
12...	49	5.9	70	3	11	123	75	65	1.1
FEB									
10...	56	6.6	93	3	13	157	97	78	1.1
APR									
12...	56	6.5	89	3	10	140	100	80	1.2
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
JUN									
09...	54	5.8	78	3	9.0	126	100	68	1.0
JUL									
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
28...	44	5.9	86	3	9.0	105	83	76	1.3
SEP									
09...	43	5.8	85	3	10	103	78	78	1.3
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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)
NOV									
12...	8.2	359	4.99	0.310	5.30	0.730	--	--	2.80
FEB									
10...	8.4	447	3.50	1.20	4.70	4.50	1.6	6.1	1.30
APR									
12...	7.7	434	2.80	0.600	3.40	1.70	1.8	3.5	3.60
17...	--	--	8.57	0.030	8.60	0.030	1.4	1.4	3.80
17...	--	--	8.78	0.020	8.80	0.030	1.4	1.4	3.90
17...	--	--	8.58	0.020	8.60	0.020	1.1	1.1	4.00
17...	--	--	8.66	0.040	8.70	0.040	1.4	1.4	4.30
17...	--	--	8.38	0.020	8.40	0.040	1.1	1.1	3.90
18...	--	--	8.28	0.020	8.30	0.050	1.2	1.2	4.10
18...	--	--	8.07	0.030	8.10	0.040	1.2	1.2	4.50
18...	--	--	7.48	0.020	7.50	0.030	1.1	1.1	4.80
18...	--	--	7.67	0.030	7.70	0.030	1.2	1.2	4.20
18...	--	--	8.09	0.010	8.10	0.030	0.77	0.80	4.40
18...	--	--	8.27	0.030	8.30	0.020	1.2	1.2	4.40
JUN									
09...	8.2	400	6.36	0.140	6.50	1.00	1.3	2.3	3.70
JUL									
04...	--	--	4.76	0.240	5.00	0.070	1.1	1.2	2.40
04...	--	--	4.73	0.270	5.00	0.060	1.1	1.2	2.40
04...	--	--	4.72	0.280	5.00	0.130	1.4	1.5	2.40
04...	--	--	4.80	0.200	5.00	0.130	1.4	1.5	2.80
04...	--	--	4.83	0.170	5.00	0.150	1.0	1.2	2.90
04...	--	--	4.88	0.120	5.00	0.080	1.1	1.2	2.50
04...	--	--	4.88	0.120	5.00	0.100	1.7	1.8	2.60
04...	--	--	4.91	0.090	5.00	0.110	1.5	1.6	2.10
04...	--	--	4.69	0.110	4.80	0.110	1.6	1.7	1.90
04...	--	--	4.85	0.150	5.00	0.130	1.7	1.8	2.00
04...	--	--	4.82	0.180	5.00	0.140	0.66	0.80	2.20
04...	--	--	4.76	0.240	5.00	0.210	0.89	1.1	2.20
10...	--	--	9.19	0.410	9.60	0.050	1.2	1.3	4.20
11...	--	--	8.62	0.180	8.80	0.010	2.0	2.0	3.90
11...	--	--	3.02	0.380	3.40	<0.010	--	3.2	1.10
11...	--	--	3.54	0.460	4.00	0.020	2.2	2.2	1.30
11...	--	--	4.48	0.220	4.70	0.020	1.7	1.7	2.10
11...	--	--	4.96	0.140	5.10	0.030	1.7	1.7	2.50
11...	--	--	4.76	0.040	4.80	<0.010	--	1.2	2.20
11...	--	--	5.03	0.070	5.10	0.030	1.4	1.4	2.60
11...	--	--	5.83	0.070	5.90	0.030	1.6	1.6	2.80
11...	--	--	6.18	0.120	6.30	0.040	1.8	1.8	3.00
11...	--	--	5.75	0.150	5.90	0.050	1.5	1.5	3.30
11...	--	--	5.94	0.260	6.20	0.040	1.5	1.5	3.00
28...	8.1	376	9.39	0.110	9.50	0.390	1.5	1.9	4.00
SEP									
09...	9.0	372	7.27	0.030	7.30	0.080	1.3	1.4	3.50
29...	--	--	5.31	0.090	5.40	0.940	1.1	2.0	2.50
29...	--	--	4.23	0.070	4.30	0.680	1.1	1.8	2.20
29...	--	--	6.12	0.080	6.20	0.740	1.4	2.1	3.20
29...	--	--	6.62	0.080	6.70	0.610	1.1	1.7	2.80
29...	--	--	5.12	0.080	5.20	0.580	1.2	1.8	2.30
29...	--	--	5.32	0.080	5.40	0.660	1.3	2.0	2.60
30...	--	--	4.51	0.090	4.60	0.590	0.91	1.5	0.780
30...	--	--	3.34	0.060	3.40	0.360	0.84	1.2	1.60
30...	--	--	3.44	0.060	3.50	0.320	0.78	1.1	1.60
30...	--	--	3.51	0.090	3.60	0.240	0.86	1.1	1.60
30...	--	--	3.25	0.050	3.30	0.210	1.1	1.3	1.50
30...	--	--	1.84	0.060	1.90	0.230	0.77	1.0	0.880

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	19606	718	410	21700	62	3280	95	5010	160
NOV.	1987	35801	552	317	30600	44	4210	70	6720	160
DEC.	1987	43530	532	305	35900	41	4870	67	7830	150
JAN.	1988	25189	707	404	27500	61	4150	93	6340	160
FEB.	1988	23339	738	421	26500	65	4090	98	6190	160
MAR.	1988	29657	670	383	30700	57	4530	87	6990	160
APR.	1988	26553	652	373	26800	55	3910	85	6060	160
MAY	1988	22614	675	386	23600	57	3490	88	5380	160
JUNE	1988	35726	540	310	29900	43	4140	68	6590	150
JULY	1988	31145	538	309	26000	43	3600	68	5720	150
AUG.	1988	17446	728	416	19600	63	2980	96	4530	160
SEPT	1988	27092	578	331	24200	46	3390	73	5360	160
TOTAL		337698	**	**	323000	**	46600	**	72700	**
WTD.AVG.		923	619	354	**	51	**	80	**	160

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	718	666	686	734	682	710	---	---	691	---	---	567
2	732	676	702	744	682	706	---	---	706	---	---	551
3	742	700	723	766	704	731	---	---	690	---	---	555
4	722	664	697	758	704	730	724	678	704	---	---	590
5	712	670	690	766	710	738	734	708	723	---	---	614
6	734	706	718	778	716	745	748	704	727	---	---	664
7	740	698	719	760	712	740	730	682	702	---	---	840
8	736	682	711	732	642	705	764	684	714	---	---	779
9	754	702	719	606	520	565	758	686	719	---	---	667
10	740	696	719	568	508	537	774	708	739	---	---	653
11	732	676	709	618	536	575	728	692	707	---	---	649
12	730	676	696	678	624	644	722	674	709	---	---	675
13	742	694	714	702	676	688	668	600	638	---	---	681
14	760	712	728	714	678	700	634	580	604	750	702	721
15	762	712	735	---	---	541	626	544	589	784	746	758
16	760	716	734	---	---	379	656	612	630	770	748	759
17	764	712	738	---	---	418	684	654	672	756	738	750
18	750	698	722	---	---	502	706	676	691	792	740	760
19	722	668	691	---	---	548	736	332	568	794	768	780
20	736	698	715	---	---	618	452	340	398	784	744	759
21	740	710	724	---	---	654	504	398	445	768	730	748
22	730	700	718	---	---	698	598	508	552	788	748	774
23	744	714	727	---	---	715	652	588	614	784	770	777
24	760	726	740	---	---	725	676	578	633	792	766	777
25	746	712	730	---	---	452	650	480	568	786	742	760
26	738	704	719	---	---	464	454	318	365	810	780	792
27	752	704	731	---	---	515	---	---	376	796	756	775
28	748	696	720	---	---	592	---	---	475	778	760	768
29	760	710	725	---	---	647	---	---	540	786	758	775
30	770	716	739	---	---	658	---	---	580	806	780	790
31	762	704	735	---	---	---	---	---	546	790	762	779
MONTH	770	664	719	778	508	621	774	318	613	810	702	719

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	812	762	785	---	---	781	670	480	634	674	570	609
2	814	780	796	---	---	615	548	464	498	672	596	622
3	800	778	789	576	410	506	664	552	608	684	674	679
4	806	778	793	562	492	525	692	650	670	782	678	707
5	812	782	794	650	566	613	712	698	706	752	720	731
6	812	778	794	692	652	663	708	682	699	772	752	759
7	802	760	780	738	696	714	734	710	721	786	746	766
8	798	746	777	754	732	741	750	730	739	776	726	751
9	810	782	792	744	722	729	760	740	748	740	706	718
10	---	---	788	782	736	760	756	728	742	746	718	730
11	---	---	826	784	482	750	740	704	717	758	734	744
12	---	---	882	726	518	661	766	738	750	---	---	738
13	---	---	820	742	714	727	776	748	760	---	---	791
14	---	---	799	756	724	736	772	756	762	---	---	827
15	---	---	795	774	756	763	794	742	773	---	---	777
16	---	---	797	780	752	767	758	740	748	---	---	755
17	---	---	758	780	498	710	766	368	645	---	---	756
18	---	---	587	684	502	581	516	396	458	---	---	665
19	---	---	589	668	638	660	542	500	525	---	---	625
20	---	---	647	752	672	723	676	534	589	---	---	707
21	---	---	697	826	708	766	710	678	697	624	402	501
22	---	---	740	792	738	754	732	716	725	560	498	529
23	---	---	747	738	726	728	748	704	731	574	510	544
24	---	---	770	736	722	727	710	692	701	634	542	576
25	---	---	792	760	736	745	714	686	698	696	638	672
26	---	---	805	766	748	759	764	706	739	724	688	705
27	---	---	784	776	746	759	764	724	745	750	722	732
28	---	---	792	776	738	759	732	720	728	822	754	789
29	---	---	793	806	676	747	766	644	731	802	714	761
30	---	---	---	778	606	656	692	562	640	752	694	724
31	---	---	---	666	594	648	---	---	---	754	708	725
MONTH	814	746	769	826	410	702	794	368	688	822	402	700

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	730	294	421	772	736	749	762	692	729	780	734	750
2	364	336	351	780	676	746	740	688	713	806	760	775
3	468	338	402	712	550	612	726	514	683	808	350	580
4	488	420	454	688	480	603	708	564	657	410	372	389
5	592	490	522	706	480	614	734	702	715	498	416	459
6	662	592	616	536	474	497	738	700	722	582	502	534
7	702	664	680	608	532	562	756	712	726	654	584	624
8	716	700	708	696	610	652	732	688	711	698	652	675
9	752	720	735	730	692	708	766	706	734	748	700	716
10	760	728	739	770	706	715	752	716	732	778	734	751
11	728	---	724	578	308	507	744	706	724	766	720	745
12	---	---	735	594	188	316	764	706	737	744	694	718
13	---	---	750	358	302	332	808	738	777	764	718	739
14	---	---	736	536	356	421	764	720	752	754	522	629
15	---	---	731	594	544	578	758	696	736	742	526	630
16	---	---	740	674	598	639	752	706	725	724	530	585
17	---	---	752	728	670	692	754	702	731	628	526	563
18	---	---	765	722	674	695	746	696	723	718	428	643
19	---	---	766	764	688	713	764	730	743	482	408	451
20	---	---	752	738	594	674	760	706	737	584	380	519
21	---	---	757	646	570	594	786	672	739	636	536	584
22	780	724	748	722	656	698	794	686	755	680	634	657
23	756	728	739	760	716	735	722	644	681	714	662	686
24	774	738	752	764	708	737	708	668	687	704	560	647
25	766	726	745	750	704	728	746	692	718	698	664	681
26	748	712	729	778	718	746	758	730	743	726	676	702
27	736	682	707	766	712	736	786	724	755	782	708	724
28	742	698	723	754	714	729	778	720	751	790	744	773
29	772	730	745	788	718	743	762	720	738	746	536	649
30	754	730	743	786	738	754	772	724	745	568	308	406
31	---	---	---	788	730	763	806	750	771	---	---	---
MONTH	780	294	682	788	188	645	808	514	729	808	308	633

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.2	7.0	7.1	7.3	7.0	7.1	---	---	---	---	---	---
2	7.2	7.0	7.1	7.2	7.0	7.1	---	---	---	---	---	---
3	7.2	7.0	7.1	7.2	7.0	7.1	---	---	---	---	---	---
4	7.2	6.9	7.1	7.2	7.0	7.0	7.4	7.2	7.3	---	---	---
5	7.2	7.0	7.1	7.2	7.0	7.0	7.4	7.1	7.3	---	---	---
6	7.2	7.0	7.1	7.2	7.0	7.1	7.4	7.1	7.2	---	---	---
7	7.1	7.0	7.0	7.2	7.0	7.1	7.4	7.2	7.2	---	---	---
8	7.1	7.0	7.0	7.2	7.0	7.1	7.4	7.2	7.2	---	---	---
9	7.2	7.0	7.1	7.2	7.0	7.1	7.5	7.2	7.3	---	---	---
10	7.2	7.0	7.1	7.4	7.2	7.3	7.4	7.2	7.3	---	---	---
11	7.3	7.0	7.1	7.3	7.1	7.2	7.5	7.2	7.3	---	---	---
12	7.3	7.0	7.1	---	---	---	7.5	7.2	7.3	---	---	---
13	7.2	7.0	7.1	---	---	---	7.5	7.3	7.4	---	---	---
14	7.2	7.0	7.1	---	---	---	7.5	7.3	7.4	7.5	7.3	7.4
15	7.2	7.0	7.1	---	---	---	7.5	7.3	7.4	7.5	7.3	7.3
16	7.3	7.0	7.1	---	---	---	7.4	7.3	7.3	7.5	7.3	7.4
17	7.2	7.0	7.1	---	---	---	7.5	7.2	7.3	7.4	7.3	7.4
18	7.2	7.0	7.1	---	---	---	7.4	7.2	7.3	7.5	7.3	7.4
19	7.2	7.0	7.1	---	---	---	7.5	7.3	7.4	7.4	7.3	7.3
20	7.2	7.0	7.1	---	---	---	7.6	7.5	7.5	7.5	7.3	7.4
21	7.3	7.1	7.1	---	---	---	7.5	7.3	7.5	7.5	7.3	7.3
22	7.4	7.1	7.2	---	---	---	7.4	7.2	7.3	7.4	7.3	7.3
23	7.3	7.1	7.2	---	---	---	7.4	7.2	7.3	7.4	7.2	7.3
24	7.3	7.1	7.2	---	---	---	7.5	7.2	7.3	7.4	7.3	7.3
25	7.3	7.1	7.2	---	---	---	7.5	7.4	7.4	7.4	7.3	7.3
26	7.3	7.0	7.1	---	---	---	7.7	7.5	7.6	7.4	7.3	7.3
27	7.3	7.1	7.1	---	---	---	---	---	---	7.4	7.2	7.3
28	7.3	7.0	7.1	---	---	---	---	---	---	7.4	7.2	7.3
29	7.3	7.1	7.1	---	---	---	---	---	---	7.4	7.2	7.3
30	7.3	7.1	7.1	---	---	---	---	---	---	7.4	7.2	7.3
31	7.2	7.0	7.1	---	---	---	---	---	---	7.4	7.2	7.3
MONTH	7.4	6.9	7.1	7.4	7.0	7.1	7.7	7.1	7.3	7.5	7.2	7.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.3	7.1	7.2	---	---	---	7.4	7.2	7.3	7.5	7.2	7.3
2	7.4	7.2	7.3	---	---	---	7.4	7.3	7.4	7.4	7.2	7.3
3	7.4	7.2	7.3	7.7	7.4	7.6	7.4	7.2	7.3	7.4	7.2	7.2
4	7.4	7.2	7.3	7.7	7.5	7.6	7.3	7.2	7.2	7.4	7.2	7.2
5	7.4	7.2	7.3	7.6	7.4	7.5	7.3	7.2	7.2	7.4	7.1	7.2
6	7.4	7.2	7.3	7.6	7.4	7.5	7.3	7.2	7.2	7.4	7.1	7.2
7	7.4	7.2	7.3	7.5	7.3	7.4	7.3	7.1	7.2	7.4	7.1	7.2
8	7.4	7.2	7.3	7.5	7.3	7.4	7.3	7.1	7.2	7.4	7.1	7.2
9	7.4	7.2	7.2	7.5	7.3	7.4	7.3	7.1	7.2	7.4	7.1	7.2
10	---	---	---	7.5	7.3	7.4	7.3	7.2	7.2	7.4	7.1	7.2
11	---	---	---	7.5	7.3	7.4	7.4	7.2	7.3	7.4	7.1	7.2
12	---	---	---	7.5	7.3	7.4	7.4	7.2	7.2	7.4	7.1	7.2
13	---	---	---	7.5	7.3	7.4	7.4	7.1	7.2	---	---	---
14	---	---	---	7.5	7.3	7.4	7.3	7.1	7.2	---	---	---
15	---	---	---	7.4	7.3	7.3	7.3	7.2	7.2	---	---	---
16	---	---	---	7.4	7.3	7.3	7.3	7.1	7.2	---	---	---
17	---	---	---	7.6	7.3	7.4	7.4	7.2	7.3	---	---	---
18	---	---	---	7.6	7.4	7.6	7.5	7.3	7.4	---	---	---
19	---	---	---	---	---	---	7.5	7.3	7.4	---	---	---
20	---	---	---	---	---	---	7.4	7.1	7.2	---	---	---
21	---	---	---	---	---	---	7.4	7.1	7.2	7.5	7.2	7.4
22	---	---	---	7.4	7.3	7.4	7.3	7.1	7.2	7.5	7.3	7.4
23	---	---	---	7.3	7.1	7.2	7.3	7.1	7.2	7.4	7.2	7.3
24	---	---	---	7.3	7.1	7.2	7.3	7.1	7.2	7.4	7.2	7.3
25	---	---	---	7.3	7.1	7.2	7.3	7.1	7.1	7.4	7.1	7.2
26	---	---	---	7.3	7.2	7.2	7.3	7.0	7.1	7.4	7.1	7.2
27	---	---	---	7.3	7.2	7.2	7.3	7.1	7.1	7.4	7.1	7.2
28	---	---	---	7.3	7.2	7.2	7.3	7.0	7.1	7.4	7.1	7.3
29	---	---	---	7.4	7.2	7.3	7.4	7.1	7.2	7.5	7.2	7.3
30	---	---	---	7.5	7.3	7.4	7.4	7.2	7.3	7.5	7.2	7.3
31	---	---	---	7.4	7.3	7.3	---	---	---	7.5	7.1	7.3
MONTH	7.4	7.1	7.3	7.7	7.1	7.4	7.5	7.0	7.2	7.5	7.1	7.2

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.6	7.2	7.4	7.3	7.1	7.2	7.2	7.0	7.1	7.2	7.0	7.1
2	7.6	7.5	7.5	7.4	7.1	7.2	7.2	7.0	7.1	7.2	7.0	7.1
3	7.5	7.4	7.4	7.3	7.1	7.2	7.2	7.1	7.1	7.4	7.1	7.3
4	7.4	7.2	7.3	7.4	7.0	7.2	7.1	7.0	7.1	7.4	7.3	7.4
5	7.2	7.1	7.2	7.4	7.2	7.3	7.2	7.0	7.1	7.3	7.1	7.3
6	7.2	7.0	7.1	7.3	7.1	7.2	7.2	7.1	7.1	7.2	7.1	7.1
7	7.3	7.1	7.1	7.2	7.0	7.1	7.3	7.1	7.2	7.2	7.0	7.1
8	7.3	7.1	7.2	7.2	7.0	7.0	7.2	7.1	7.2	7.2	7.0	7.1
9	7.4	7.1	7.2	7.2	7.0	7.1	7.2	7.1	7.1	7.2	7.0	7.1
10	7.5	7.2	7.3	7.3	7.0	7.1	7.2	7.1	7.1	7.2	7.0	7.1
11	7.6	7.4	7.5	7.5	7.0	7.2	7.2	7.0	7.1	7.2	7.1	7.1
12	7.8	7.6	7.7	7.8	7.1	7.5	7.2	7.0	7.1	7.3	7.0	7.1
13	---	---	---	7.4	7.3	7.4	7.2	7.1	7.1	7.2	7.0	7.1
14	---	---	---	7.3	7.1	7.3	7.3	7.1	7.2	7.3	7.1	7.2
15	---	---	---	7.3	7.1	7.2	7.2	7.1	7.1	7.3	7.1	7.2
16	---	---	---	7.2	7.1	7.2	7.2	7.1	7.1	7.3	7.1	7.3
17	---	---	---	7.3	7.1	7.2	7.2	7.1	7.1	7.2	7.0	7.1
18	---	---	---	7.3	7.1	7.2	7.1	7.0	7.1	---	---	---
19	---	---	---	7.4	7.0	7.2	7.2	7.0	7.1	---	---	---
20	---	---	---	7.2	7.1	7.2	7.2	7.0	7.1	---	---	---
21	---	---	---	7.2	7.1	7.1	7.4	7.0	7.2	---	---	---
22	7.4	7.1	7.2	7.2	7.0	7.1	7.3	7.1	7.2	---	---	---
23	7.3	7.1	7.1	7.2	7.0	7.1	7.1	7.0	7.1	7.1	7.0	7.0
24	7.3	7.1	7.1	7.3	7.1	7.1	7.1	7.0	7.0	7.2	7.0	7.1
25	7.3	7.1	7.2	7.2	7.0	7.1	7.2	7.0	7.1	7.2	7.0	7.1
26	7.3	7.1	7.2	7.2	7.0	7.1	7.2	7.0	7.1	7.2	7.0	7.1
27	7.7	7.1	7.2	7.3	7.0	7.2	7.2	7.0	7.1	7.5	7.0	7.1
28	7.2	7.1	7.1	7.2	7.0	7.1	7.2	7.0	7.1	7.3	7.1	7.2
29	7.2	7.1	7.1	7.1	6.9	7.0	7.1	7.0	7.0	7.3	7.1	7.2
30	7.2	7.1	7.2	7.3	7.0	7.1	7.2	7.0	7.1	7.5	7.3	7.4
31	---	---	---	7.3	7.0	7.1	7.1	7.0	7.1	---	---	---
MONTH	7.8	7.0	7.3	7.8	6.9	7.2	7.4	7.0	7.1	7.5	7.0	7.2

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	26.5	25.0	26.0	24.0	23.5	24.0	---	---	---	---	---	---
2	26.5	25.0	26.0	24.0	23.0	23.5	---	---	---	---	---	---
3	26.0	24.0	24.5	24.0	22.5	23.5	---	---	---	---	---	---
4	24.5	23.0	24.0	24.5	23.0	24.0	18.5	16.5	18.0	---	---	---
5	25.5	23.5	24.5	24.5	23.5	24.0	19.0	17.5	18.5	---	---	---
6	25.5	23.5	25.0	23.5	22.0	22.5	20.0	19.0	19.5	---	---	---
7	25.5	23.5	24.5	22.0	21.0	21.5	20.0	18.5	19.0	---	---	---
8	25.5	24.0	24.5	22.5	21.5	22.0	19.0	18.0	18.5	---	---	---
9	26.0	24.0	25.0	21.5	18.0	20.0	19.0	17.0	18.0	---	---	---
10	27.0	25.0	26.0	17.5	16.5	17.5	18.0	17.0	18.0	---	---	---
11	26.5	24.5	25.0	18.5	16.5	17.5	17.5	16.5	17.0	---	---	---
12	24.0	22.5	23.5	19.0	17.0	18.5	17.5	16.0	17.0	---	---	---
13	24.0	22.5	23.5	19.5	18.0	19.0	16.0	14.0	15.0	---	---	---
14	24.0	22.5	23.5	20.0	18.0	19.0	14.0	13.0	13.5	12.5	10.5	11.5
15	24.5	22.5	23.5	---	---	---	13.5	11.0	12.5	13.0	11.0	12.5
16	25.0	24.0	24.5	---	---	---	13.5	12.0	13.0	14.5	13.0	13.5
17	25.5	24.5	25.0	---	---	---	14.0	12.0	13.5	16.0	14.5	15.0
18	25.5	24.5	25.0	---	---	---	14.5	13.0	14.0	15.5	14.5	15.0
19	25.5	24.0	24.5	---	---	---	14.5	12.5	14.0	16.0	15.0	15.5
20	24.5	23.5	24.0	---	---	---	12.5	11.0	11.5	15.0	13.0	13.5
21	23.5	21.5	22.5	---	---	---	13.0	11.0	12.0	13.5	12.0	13.0
22	22.5	21.0	21.5	---	---	---	15.0	13.0	14.0	13.5	12.0	13.0
23	22.5	21.0	22.0	---	---	---	16.0	14.0	15.0	14.0	12.0	13.0
24	24.0	22.0	23.0	---	---	---	17.0	16.0	16.5	14.0	12.5	13.5
25	24.5	23.5	24.0	---	---	---	16.0	12.0	14.5	13.5	12.0	12.5
26	25.0	24.0	24.5	---	---	---	11.5	7.0	9.0	13.5	11.5	12.5
27	25.0	23.5	24.0	---	---	---	---	---	---	14.5	12.0	13.5
28	23.5	22.0	23.0	---	---	---	---	---	---	15.5	13.5	14.5
29	23.5	22.0	23.0	---	---	---	---	---	---	16.0	14.5	15.5
30	24.0	23.0	23.5	---	---	---	---	---	---	17.5	16.0	16.5
31	24.0	23.0	23.5	---	---	---	---	---	---	18.5	17.0	17.5
MONTH	27.0	21.0	24.0	24.5	16.5	21.0	20.0	7.0	15.5	18.5	10.5	14.0

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	19.0	18.0	18.5	---	---	---	20.0	18.5	19.0	23.0	21.0	22.0
2	18.0	14.5	16.0	---	---	---	19.5	17.0	18.5	22.5	22.0	22.5
3	14.5	13.5	14.0	17.0	14.0	15.0	21.0	18.5	19.5	23.5	21.5	22.5
4	14.0	12.5	13.0	15.5	13.0	14.0	22.0	20.0	21.0	24.0	22.0	23.0
5	12.5	11.5	12.5	17.0	15.0	16.0	23.5	22.0	23.0	25.0	23.0	24.0
6	12.0	10.5	11.5	17.5	16.0	17.0	23.0	21.5	22.0	24.5	24.0	24.5
7	13.0	11.5	12.0	18.5	16.5	17.5	22.5	21.0	22.0	24.0	23.5	23.5
8	13.5	12.0	13.0	19.0	18.0	18.5	22.5	21.5	22.0	25.0	23.5	24.0
9	15.0	13.0	14.0	18.5	17.0	18.0	23.0	21.5	22.0	26.0	24.5	25.0
10	---	---	---	19.0	17.0	18.0	22.0	19.0	20.5	26.5	25.0	25.5
11	---	---	---	19.5	18.0	18.5	19.5	18.0	18.5	26.0	25.0	25.5
12	---	---	---	20.0	18.5	19.0	20.5	18.0	19.0	26.0	24.5	25.5
13	---	---	---	18.5	17.0	17.5	22.0	19.5	20.5	---	---	---
14	---	---	---	17.0	15.0	16.5	23.0	21.0	22.0	---	---	---
15	---	---	---	18.0	16.0	17.0	23.5	22.0	22.5	---	---	---
16	---	---	---	17.5	16.5	17.0	23.5	22.5	23.0	---	---	---
17	---	---	---	17.0	14.5	16.0	23.0	21.0	22.0	---	---	---
18	---	---	---	14.5	12.5	14.0	21.0	19.0	20.0	---	---	---
19	---	---	---	16.5	13.5	15.0	20.0	17.5	19.0	---	---	---
20	---	---	---	18.5	15.5	17.0	22.5	19.5	21.0	---	---	---
21	---	---	---	20.0	17.0	18.5	23.5	21.5	22.5	25.5	23.5	25.0
22	---	---	---	20.5	18.5	19.5	24.5	23.0	24.0	25.0	23.5	24.0
23	---	---	---	20.5	19.5	20.0	25.0	24.0	24.5	24.5	22.5	23.5
24	---	---	---	22.0	20.0	21.0	24.5	23.0	24.0	25.5	24.0	24.5
25	---	---	---	22.5	21.0	21.5	24.0	23.0	23.5	26.5	24.5	25.5
26	---	---	---	22.0	21.0	21.5	24.0	22.5	23.5	26.5	25.0	26.0
27	---	---	---	21.5	20.0	21.0	24.0	22.0	23.0	26.5	25.0	26.0
28	---	---	---	21.0	20.5	21.0	24.0	22.0	23.0	27.0	25.5	26.0
29	---	---	---	21.0	18.0	20.0	23.5	22.0	23.0	26.0	25.5	26.0
30	---	---	---	18.0	16.5	17.5	22.5	21.5	22.0	26.5	25.5	26.0
31	---	---	---	18.5	17.5	18.0	---	---	---	27.0	25.5	26.0
MONTH	19.0	10.5	14.0	22.5	12.5	18.0	25.0	17.0	21.5	27.0	21.0	24.5

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

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.5	8.0	8.3	---	---	---	8.0	6.7	7.6	8.5	6.7	7.8
2	9.5	8.4	8.9	---	---	---	8.7	7.1	8.3	8.0	7.4	7.7
3	10.0	9.5	9.7	8.1	7.1	7.5	8.4	7.9	8.2	8.1	7.2	7.6
4	10.8	9.7	10.3	8.2	7.9	8.1	9.0	7.8	8.2	8.3	7.2	7.7
5	11.2	10.8	11.0	8.5	8.1	8.3	7.8	7.1	7.5	8.0	7.0	7.5
6	11.8	11.2	11.5	8.8	8.2	8.5	7.9	7.2	7.4	7.6	6.8	7.2
7	11.7	10.8	11.4	8.8	8.4	8.6	7.4	6.8	7.1	7.8	6.9	7.2
8	11.0	10.4	10.8	8.7	8.2	8.5	7.1	6.6	6.9	7.9	6.8	7.3
9	10.6	10.2	10.5	9.2	8.6	8.9	7.4	6.6	7.0	7.9	6.8	7.2
10	---	---	---	9.6	9.0	9.3	8.6	7.0	7.6	7.6	6.7	7.0
11	---	---	---	10.5	8.9	9.5	9.4	8.2	8.7	7.6	6.5	6.9
12	---	---	---	8.9	7.8	8.3	8.5	7.7	8.3	7.6	6.5	7.0
13	---	---	---	8.7	7.5	8.0	8.0	7.4	7.6	---	---	---
14	---	---	---	9.7	8.1	8.8	7.7	7.3	7.5	---	---	---
15	---	---	---	10.0	8.5	9.1	7.5	7.0	7.2	---	---	---
16	---	---	---	10.0	8.8	9.3	7.4	6.9	7.1	---	---	---
17	---	---	---	10.8	9.1	9.6	8.5	6.2	7.1	---	---	---
18	---	---	---	10.3	9.0	9.7	8.2	6.8	7.6	---	---	---
19	---	---	---	10.6	9.1	9.5	8.3	7.4	8.0	---	---	---
20	---	---	---	10.3	8.4	9.3	7.9	7.4	7.6	---	---	---
21	---	---	---	9.2	8.0	8.5	7.6	7.3	7.5	5.9	4.6	5.4
22	---	---	---	9.1	7.6	8.1	7.3	7.0	7.2	6.5	5.7	6.1
23	---	---	---	8.4	7.3	7.8	7.1	6.6	7.0	7.7	5.2	6.5
24	---	---	---	8.0	7.3	7.6	7.4	6.6	7.0	7.9	7.4	7.6
25	---	---	---	7.3	6.5	7.0	7.9	7.1	7.4	7.6	7.2	7.4
26	---	---	---	7.3	6.4	6.8	7.8	7.2	7.5	7.7	7.1	7.3
27	---	---	---	7.5	6.5	7.0	8.2	7.3	7.7	8.0	7.2	7.5
28	---	---	---	7.2	6.5	6.9	8.1	7.6	7.8	8.3	6.5	7.7
29	---	---	---	7.6	6.6	6.9	8.1	7.0	7.6	8.7	7.7	8.2
30	---	---	---	9.0	7.2	8.4	7.5	6.3	6.7	8.8	8.1	8.4
31	---	---	---	8.5	8.0	8.2	---	---	---	8.8	7.7	8.3
MONTH	11.8	8.0	10.3	10.8	6.4	8.3	9.4	6.2	7.5	8.8	4.6	7.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.5	5.0	7.0	6.1	5.2	5.6	6.6	5.8	6.1	6.9	6.2	6.5
2	6.0	5.1	5.6	5.8	4.7	5.4	6.3	5.6	5.9	6.8	6.2	6.5
3	6.8	5.6	6.2	5.4	3.8	4.8	6.3	4.7	5.7	6.6	4.4	5.7
4	---	---	---	6.0	4.7	5.4	5.5	4.4	4.9	5.9	4.8	5.3
5	---	---	---	5.7	4.9	5.3	5.7	4.7	5.2	6.8	5.5	6.0
6	---	---	---	4.9	3.9	4.6	5.9	4.7	5.2	6.7	6.2	6.5
7	6.2	5.0	5.7	5.4	4.7	5.0	5.7	4.8	5.2	7.0	6.2	6.6
8	5.8	4.8	5.3	5.7	4.9	5.2	6.3	5.1	5.5	7.0	6.6	6.8
9	6.8	5.0	6.1	5.8	5.1	5.4	6.2	5.1	5.5	7.0	6.5	6.8
10	---	---	---	5.9	5.1	5.4	6.0	5.2	5.5	7.3	6.6	6.9
11	---	---	---	4.9	3.0	4.3	6.2	5.2	5.6	7.7	6.9	7.2
12	---	---	---	6.0	4.4	5.2	6.4	5.4	5.8	8.0	7.2	7.6
13	---	---	---	4.4	3.7	4.1	6.3	5.3	5.7	7.8	6.8	7.4
14	---	---	---	5.2	3.9	4.4	6.5	5.6	6.0	7.4	5.4	6.6
15	---	---	---	5.3	4.5	4.9	6.6	5.8	6.1	7.7	6.4	6.9
16	---	---	---	5.6	4.9	5.2	6.3	5.6	6.0	6.8	6.2	6.5
17	---	---	---	5.9	5.2	5.5	6.3	5.5	5.9	---	---	---
18	---	---	---	6.4	5.4	5.8	6.3	5.5	5.8	---	---	---
19	---	---	---	6.1	5.2	5.6	6.2	5.3	5.7	---	---	---
20	---	---	---	5.6	3.8	4.9	5.6	4.3	5.0	---	---	---
21	---	---	---	6.0	4.9	5.3	5.8	4.5	5.3	---	---	---
22	8.2	6.8	7.4	6.2	5.1	5.5	6.2	5.3	5.7	7.2	6.7	6.9
23	7.8	6.6	7.1	6.2	5.2	5.6	6.5	5.4	5.8	7.2	6.7	6.9
24	7.5	6.3	6.8	6.6	5.5	5.9	6.2	5.4	5.8	7.0	5.0	6.2
25	7.0	5.5	6.2	6.7	5.6	6.0	6.2	5.4	5.8	7.2	6.3	6.7
26	7.1	6.3	6.6	6.3	5.3	5.7	6.5	5.7	6.0	7.4	6.7	7.0
27	7.0	5.5	6.2	6.1	4.7	5.3	6.5	5.5	6.0	6.9	6.2	6.7
28	6.5	5.6	6.0	6.3	5.1	5.6	6.9	5.9	6.3	6.5	5.0	5.8
29	6.4	5.4	5.8	6.2	5.2	5.7	6.6	6.1	6.4	6.6	4.7	5.7
30	6.3	5.3	5.8	6.4	5.1	5.7	6.9	6.0	6.4	6.3	5.0	5.6
31	---	---	---	6.5	5.5	5.9	6.9	6.2	6.5	---	---	---
MONTH	8.5	4.8	6.3	6.7	3.0	5.3	6.9	4.3	5.8	8.0	4.4	6.5

08057445 PRAIRIE CREEK AT U.S. HIGHWAY 175, DALLAS, TX

LOCATION.--Lat 32°42'17", long 96°40'11", Dallas County, Hydrologic Unit 12030105, on left bank at downstream side of the downstream access road bridge on U.S. Highway 175, 3.4 mi upstream from mouth, and 9.0 mi southeast of Dallas City Hall.

DRAINAGE AREA.--9.03 mi².

PERIOD OF RECORD.--October 1975 to September 1980, April 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 390.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years (water years 1976-80, 1985-88), 6.40 ft³/s (4,640 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,060 ft³/s Oct. 20, 1984 (gage height, 25.12 ft); from rating curve extended above 1,900 ft³/s on basis of velocity-area study; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 26	0200	*532	*15.80				

Minimum discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	1.7	.38	.79	.14	.70	2.8	1.8	46	.00	e.00	.01
2	.90	1.9	.24	.55	.35	34	4.1	1.2	2.4	.00	.00	.01
3	.87	2.1	.35	.47	.28	8.8	1.2	1.4	1.0	.00	.00	11
4	1.1	1.7	.34	.43	.18	4.3	.75	1.1	2.4	.00	.00	1.3
5	1.0	1.3	.30	.30	.14	1.6	.77	1.0	1.2	.00	.00	.04
6	.92	2.1	.28	.54	.12	1.2	.68	.85	.27	3.5	2.7	.00
7	1.1	1.8	.33	2.5	.10	.94	.65	.88	.18	1.0	.04	.00
8	1.2	25	.42	3.0	.08	.87	.64	1.5	.11	.42	.00	.00
9	1.1	24	.65	4.0	.08	.77	.59	3.0	.14	.11	.00	.00
10	.97	7.6	.48	2.4	.17	.70	.54	3.4	.09	.03	.00	.00
11	.70	3.9	.67	2.1	.12	20	.58	2.0	.08	.00	.00	.00
12	.78	3.5	.59	4.6	.19	18	.59	1.6	.11	60	.00	.00
13	.77	1.3	7.2	2.0	.11	2.2	.88	1.2	.14	e1.3	.00	6.4
14	.88	1.2	5.4	.93	.08	1.1	.76	.88	.18	e.10	.00	4.3
15	.91	122	1.9	.70	.06	1.0	.78	.61	.14	e.02	.00	.09
16	.80	26	.50	.61	.14	1.8	.68	.56	.18	e.01	.00	.00
17	.88	5.3	.21	.67	10	30	88	.62	.18	e.00	.00	.02
18	1.2	e2.0	.12	.61	63	6.7	8.0	.65	.22	e.01	.00	2.3
19	1.6	6.1	49	.62	10	1.9	1.3	.57	.18	e.02	.00	.15
20	1.3	2.2	5.0	.61	2.8	1.3	.53	2.3	.08	e7.0	.0	.04
21	1.4	1.3	1.4	1.2	1.8	1.2	.44	8.4	.05	e.02	.00	.00
22	1.4	1.2	.77	.87	1.7	1.1	.42	1.7	.00	e.01	.00	.00
23	1.3	1.2	.59	.53	1.0	1.1	.75	.85	.00	e.00	.00	.00
24	1.7	1.3	31	.49	.81	1.1	1.3	.65	.00	e.00	.00	1.4
25	1.4	59	13	.37	.71	1.4	.39	.53	.00	e.00	.00	.40
26	1.6	2.0	166	.33	.61	1.2	.15	.53	.00	e.00	.00	.0
27	1.5	7.6	13	.31	.75	.78	.10	.53	.00	e.00	.00	.00
28	1.8	2.3	2.9	.29	.85	.77	.22	.59	.00	e.00	.00	.00
29	1.9	.89	1.6	.22	.88	13	1.2	.72	.00	e.00	1.7	12
30	1.7	.55	1.1	.20	---	3.0	5.7	.92	.00	e.00	.88	48
31	1.6	---	1.0	.19	---	1.3	---	.37	---	e.00	.00	---
TOTAL	37.14	320.04	306.72	33.43	97.25	163.83	125.49	42.91	55.33	73.55	5.32	87.46
MEAN	1.20	10.7	9.89	1.08	3.35	5.28	4.18	1.38	1.84	2.37	.17	2.92
MAX	1.9	122	166	4.6	63	34	88	8.4	46	60	2.7	48
MIN	.70	.55	.12	.19	.06	.70	.10	.37	.00	.00	.00	.00
AC-FT	74	635	608	66	193	325	249	85	110	146	11	173

CAL YR 1987 TOTAL 2472.57 MEAN 6.77 MAX 223 MIN .00 AC-FT 4900
WTR YR 1988 TOTAL 1348.47 MEAN 3.68 MAX 166 MIN .00 AC-FT 2670

e Estimated.

08058900 EAST FORK TRINITY RIVER AT MCKINNEY, TX

LOCATION.--Lat 33°14'38", long 96°36'31", Collin County, Hydrologic Unit 12030106, at downstream side of highway embankment near left end of main channel bridge on State Highways 5 and 121, 750 ft downstream from Honey Creek, 1.2 mi upstream from Southern Pacific Railway Co. bridge, 1.7 mi upstream from Clemons Creek, 3.3 mi north of McKinney, 26.1 mi upstream from Lavon Dam, and 86.5 mi upstream from mouth.

DRAINAGE AREA.--164 mi².

PERIOD OF RECORD.--October 1975 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to August 1982, November 1985 to June 198

GAGE.--Water-stage recorder. Datum of gage is 528.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow from 89.1 mi² above this station was affected at times by discharge from the flood-detention pools of 49 floodwater-retarding structures with a combined detention capacity of 26,080 acre-ft. Nonrecording rain gage and gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years regulated, 87.5 ft³/s (63,390 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,800 ft³/s May 13, 1982 (gage height, 22.17 ft, from graph); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1913, about 28 ft in April 1942 (discharge not determined), from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,500 ft³/s Dec. 26 at 1230 hours (gage height, 20.73 ft); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.08	e38	e104	72	39	89	e11	7.8	.01	.00	.00
2	.03	.09	e35	e93	61	350	161	10	24	.0	.00	.0
3	.03	.08	e30	e83	55	471	87	10	13	.0	.00	1.1
4	.01	.06	e28	e74	54	190	62	9.9	11	.01	.00	.03
5	.02	.05	27	e68	55	136	46	8.8	7.6	.0	.00	.00
6	.01	.04	26	e66	54	106	36	8.3	6.2	.00	.00	.00
7	.02	.04	29	e76	55	90	29	8.1	5.7	.00	.00	.00
8	.02	.07	27	e59	56	75	e22	9.5	e4.5	.00	.00	.00
9	.01	.43	26	e47	57	65	e17	33	e3.5	.00	.00	.00
10	.02	e36	23	e40	60	59	e15	14	e2.4	.00	.00	.00
11	.01	e37	23	e36	53	53	e15	11	e1.3	.0	.00	.00
12	.02	e20	21	e65	50	50	e14	9.2	e.64	3.6	.00	.00
13	.02	e15	20	e416	50	44	e13	7.9	e.26	.39	.00	.0
14	.02	14	23	e193	51	38	e13	6.3	e.07	.05	.00	.00
15	.02	65	e46	e148	48	36	e12	5.3	e.02	.01	.00	.00
16	.03	e327	e35	e146	43	35	e11	4.2	e.01	.01	.00	.00
17	.03	e138	e29	e124	43	40	26	4.2	6.7	.0	.00	.00
18	.03	e73	e26	e106	101	115	172	4.0	e1.5	.00	.00	.00
19	.04	e60	321	e129	206	81	65	3.5	e.79	.00	.00	.00
20	.03	e48	e527	e126	134	66	37	3.7	.41	.00	.00	.00
21	.01	39	e212	e101	97	56	27	2.9	.09	.00	.00	.00
22	.02	33	e154	e86	78	48	e20	1.7	.05	.00	.00	.00
23	.02	30	e123	e79	64	44	e19	e1.1	.03	.03	.00	.0
24	.03	28	e110	e74	51	44	e18	e.64	.01	.01	.00	.0
25	.03	e306	e214	e73	47	45	e17	e.15	.01	.0	.00	.00
26	.05	e169	e6480	73	46	42	e16	e.05	10	.00	.00	.00
27	.06	e99	e962	73	46	37	e15	e.01	2.4	.00	.00	.00
28	.04	e71	e346	73	44	36	e14	e.00	.41	.00	.00	.00
29	.05	e54	e166	73	42	59	e13	e.00	.10	.00	.0	.0
30	.08	e43	e131	73	---	120	e12	e.00	.03	.00	.00	.0
31	.09	---	e115	73	---	82	---	e.00	---	.00	.00	---
TOTAL	0.95	1705.94	10373	3050	1873	2752	1113	188.45	110.53	4.12	0.00	1.13
MEAN	.031	56.9	335	98.4	64.6	88.8	37.1	6.08	3.68	.13	.00	.038
MAX	.09	327	6480	416	206	471	172	33	24	3.6	.00	1.1
MIN	.01	.04	20	36	42	35	11	.00	.01	.00	.00	.00
AC-FT	1.9	3380	20570	6050	3720	5460	2210	374	219	8.2	.0	2.2

CAL YR 1987 TOTAL 39591.02 MEAN 108 MAX 6480 MIN .00 AC-FT 78530
WTR YR 1988 TOTAL 21172.12 MEAN 57.8 MAX 6480 MIN .00 AC-FT 41990

e Estimated.

08059400 SISTER GROVE CREEK NEAR BLUE RIDGE, TX

LOCATION.--Lat 33°17'40", long 96°28'58", Collin County, Hydrologic Unit 12030106, on left bank at upstream side of highway embankment of bridge on Farm Road 545, 3.5 mi upstream from Hatler Branch, 4.8 mi west of Blue Ridge, 7.4 mi upstream from Stiff Creek, 14.7 mi upstream from mouth, and 24.7 mi upstream from Lavon Dam.

DRAINAGE AREA.--83.1 mi².

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

GAGE.(revised)--Water-stage recorder. Datum of gage is 526.29 ft above National Geodetic Vertical Datum of 1929. Prior to June 29, 1988 at datum 10.00 ft higher at same site.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. At end of year, flow from 47.4 mi² above this station is affected at times by discharge from the flood-detention pools of 34 floodwater-retarding structures with a combined detention capacity of 12,710 acre-ft. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years regulated, 46.9 ft³/s (33,980 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft³/s May 13, 1982 (gage height, 22.5 ft, from floodmarks); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1900, 20.7 ft probably in July 1913, from information furnished by State Department of Highways and Public Transportation. The probable date is from published records for discontinued station 08059500 located 9.7 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,340 ft³/s Dec. 26 at 1200 hours (gage height, 14.15 ft); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.0	24	103	46	34	41	8.8	7.9	e.00	e.00	e.00
2	.0	.0	21	82	42	106	49	7.8	22	e.00	e.00	e.00
3	.0	.0	20	65	40	409	44	8.3	16	e.00	e.00	e.00
4	.0	.0	18	50	39	188	40	10	18	e.00	e.00	e.00
5	.01	.0	17	41	38	107	39	7.4	12	e.00	e.00	e.00
6	.0	.0	22	44	37	78	36	6.6	9.3	e.00	e.00	e.00
7	.0	.0	19	71	36	66	33	5.8	7.8	e.00	e.00	e.00
8	.0	.01	21	53	37	61	32	6.2	6.4	e.00	e.00	e.00
9	.01	.08	20	47	37	55	31	31	4.7	e.00	e.00	e.00
10	.01	.74	8.9	42	37	50	29	17	e3.7	e.00	e.00	e.00
11	.01	4.8	4.5	42	37	50	26	11	e3.0	e.00	e.00	e.00
12	.01	1.3	3.4	148	35	52	25	8.4	2.1	e2.2	e.00	e.00
13	.0	.70	3.2	313	36	44	24	7.2	e1.5	e1.5	e.00	e.00
14	.01	.63	4.2	212	36	41	23	6.0	e1.3	e1.0	e.00	e.00
15	.01	6.2	20	188	33	39	19	4.9	e.95	e.87	e.00	e.00
16	.01	66	14	206	31	38	18	5.0	e.95	e.69	e.00	e.00
17	.01	40	9.4	199	31	40	23	4.5	e.68	e.20	e.00	e.00
18	.01	22	7.7	156	77	64	106	4.0	1.7	e.00	e.00	e.00
19	.01	11	130	148	199	48	42	3.6	e.78	e.00	e.00	e.00
20	.0	9.7	407	126	126	43	31	3.4	.59	e.00	e.00	e.00
21	.0	6.0	194	96	77	40	30	3.9	e.20	e.00	e.00	e.00
22	.0	3.9	75	83	61	38	24	4.5	e.10	e.00	e.00	e.00
23	.01	3.2	51	78	53	38	17	4.1	e.05	e.00	e.00	e.00
24	.0	3.0	61	75	46	38	13	4.6	e.01	e.00	e.00	e.00
25	.0	71	156	47	43	38	13	4.6	e.01	e.00	e.00	e.00
26	.0	73	909	48	42	35	12	4.8	e1.5	e.00	e.00	e.00
27	.01	44	620	46	41	31	11	5.5	e.50	e.00	e.00	e.00
28	.0	37	407	45	38	31	9.3	5.6	.10	e.00	e.00	e.00
29	.01	32	305	46	36	34	8.9	5.1	e.04	e.00	e.00	e.00
30	.0	28	204	46	---	47	8.9	3.4	e.00	e.00	e.00	e.00
31	.0	---	139	47	---	39	---	3.7	---	e.00	e.00	---
TOTAL	0.16	464.26	3915.3	2993	1467	2022	858.1	216.7	123.86	6.46	0.00	0.00
MEAN	.005	15.5	126	96.5	50.6	65.2	28.6	6.99	4.13	.21	.00	.00
MAX	.02	73	909	313	199	409	106	31	22	2.2	.00	.00
MIN	.00	.00	3.2	41	31	31	8.9	3.4	.00	.00	.00	.00
AC-FT	.3	921	7770	5940	2910	4010	1700	430	246	13	.0	.0

CAL YR 1987 TOTAL 20695.73 MEAN 56.7 MAX 1050 MIN .00 AC-FT 41050
WTR YR 1988 TOTAL 12066.84 MEAN 33.0 MAX 909 MIN .00 AC-FT 23930

e Estimated.

08060500 LAVON LAKE NEAR LAVON, TX

LOCATION.--Lat 33°01'54", long 96°28'56", Collin County, Hydrologic Unit 12030106, in right abutment of spillway in dam on East Fork Trinity River, 3,850 ft upstream from St. Louis Southwestern Railway Lines bridge, 4,000 ft upstream from bridge on State Highway 78, 2.9 mi west of Lavon, and 55.9 mi upstream from mouth.

DRAINAGE AREA.--770 mi².

PERIOD OF RECORD.--September 1953 to current year. Prior to October 1970, published as Lavon Reservoir.
Water-quality records.--Chemical analyses: October 1969 to September 1974, October 1975 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Jan. 20, 1954, non-recording gage in the approach channel at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 18,860 ft long, including a 568-foot gated spillway with twelve 40.0- by 28.0-foot tainter gates. The original dam was 9,499 ft long, but conservation capacity was increased to present size in December 1975. Deliberate impoundment began Sept. 14, 1953, and the dam was completed in October 1953. Low-flow outlets consist of five 36-inch-diameter controlled sluice gates. Capacity Table No. 9, now in use, is based on Design Memo, 1970 Conditions. Lake was designed for flood control and water conservation. Water for municipal supply can be released down to elevation 453.0 ft. Flow is affected at times by discharge from the flood-detention pools of 149 floodwater-retarding structures with a combined detention capacity of 69,170 acre-ft. These structures control runoff from 242 mi² in the East Fork Trinity River, Pilot Grove, and Sister Grove Creek drainage basins. 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	514.0	-
Design flood	509.0	921,200
Top of tainter gates	503.5	748,200
Top of conservation pool	492.0	456,500
Crest of spillway (sill of tainter gates)	475.5	178,300
Lowest gated outlet (invert)	453.0	12,700

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 734,000 acre-ft May 26, 1982 (elevation, 503.02 ft); minimum since lake first filled in 1957, 80,150 acre-ft Apr. 17, 1976 (elevation, 465.96 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 463,900 acre-ft Mar. 4, 5 (elevation, 492.33 ft); minimum daily, 351,800 acre-ft Sept. 28 (elevation, 486.69 ft).

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

486.0	339,200	490.0	415,200	492.0	456,500
488.0	376,200	491.0	435,500	493.0	478,200

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	387100	366800	378900	434700	454100	457700	459600	454900	437600	417200	393900	364600
2	386400	366200	378500	434700	454300	459800	460000	454500	437000	416400	393000	365500
3	385200	365900	378700	435400	454500	463100	460300	454100	438700	415600	392600	368700
4	384100	365100	378500	435800	454300	463900	460000	453400	438100	414400	392200	368300
5	383500	364600	378300	436200	454100	463900	459800	452800	437200	413600	390800	367600
6	383100	363400	380800	437900	453400	463300	460700	451900	436600	413000	389800	366600
7	381600	362700	381600	438100	453000	462800	460300	451500	435800	412000	388700	365700
8	379900	364700	382200	438300	452800	462400	460000	451700	435000	411200	387900	364900
9	379100	366200	382000	438500	453000	461600	460000	451300	434500	410200	386600	364400
10	379300	364600	381800	438500	453000	459800	459400	450900	433300	409300	385400	363400
11	379100	364000	381800	438500	453000	460000	458800	450200	432100	408700	384100	362700
12	377400	363400	381600	440600	453000	459800	458300	449400	431000	412600	383100	361900
13	376400	363100	382300	443700	452800	459600	457900	448700	430200	412200	382200	361800
14	375700	362700	382200	446000	453200	459000	457500	447700	429200	411200	381000	361600
15	374700	367700	382000	446800	452600	458500	457000	446600	428600	410400	380000	360800
16	374500	370400	381800	448300	452100	458100	456600	446200	427800	409600	379100	360100
17	373800	372400	381600	449800	453800	460900	461600	445800	427100	408900	378000	359900
18	373400	373800	381800	451300	457000	460300	463900	445000	426100	407900	377400	357700
19	373800	373200	385400	451700	460500	458800	463900	444500	424900	407900	376800	358800
20	372800	373200	392000	452600	462400	457500	462800	444100	424500	406700	375900	357900
21	371700	372400	392600	452800	462800	457000	462200	443700	423700	405900	374300	356900
22	370900	372600	393900	453000	462800	457300	461600	443100	423100	404700	373600	356000
23	370800	372800	394700	453000	462800	457300	460700	442200	422500	403700	372600	355600
24	371300	372600	396700	453200	462200	457900	459200	441600	421300	402700	371900	355300
25	370400	376200	400200	453200	461100	457900	458300	440800	421900	401700	370800	354400
26	370600	378000	411800	453200	460300	457700	457700	439700	421700	400600	369800	353800
27	369600	378900	422500	453000	459600	457000	457000	438700	421100	399600	368300	352700
28	369100	379100	428600	453000	458800	457000	456400	437900	420200	398600	367600	352000
29	367900	379100	430800	453200	457900	458500	456000	437000	419200	397600	367600	352300
30	367600	379100	432700	453400	---	458500	455500	436200	418200	396700	366600	352900
31	367400	---	434300	453800	---	458800	---	436600	---	395700	365500	---
MAX	387100	379100	434300	453800	462800	463900	463900	454900	438700	417200	393900	368700
MIN	367400	362700	378300	434700	452100	457000	455500	436200	418200	395700	365500	352000
(†)	487.52	488.14	490.93	491.86	492.05	492.09	491.94	491.04	490.14	489.00	487.42	486.74
(ϕ)	-21320	+11730	+55240	+19510	+4060	+857	-3211	-18940	-18370	-22560	-30190	-12610

CAL YR 1987 MAX 503200 MIN 362700 (ϕ) +26800
WTR YR 1988 MAX 463900 MIN 352000 (ϕ) -35800

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

08061000 EAST FORK TRINITY RIVER NEAR LAVON, TX

LOCATION.--Lat 33°01'25", long 96°28'31", Collin County, Hydrologic Unit 12030106, on left bank at downstream side of St. Louis Southwestern Railway Lines bridge, 150 ft upstream from bridge on State Highway 78, 3,550 ft downstream from Lavon Dam, 2.5 mi west of Lavon, and 54.9 mi upstream from mouth.

DRAINAGE AREA.--773 mi².

PERIOD OF RECORD.--October 1953 to current year.
Water-quality record.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is 429.58 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1969, at site 150 ft downstream at same datum.

REMARKS.--Records fair. Flow is regulated by Lavon Lake (station 08060500).

AVERAGE DISCHARGE.--35 years, 326 ft³/s (236,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft³/s May 26, 27, 1957, from records of released flow from Lavon Lake furnished by U.S. Army Corps of Engineers; maximum gage height, 17.34 ft May 26, 1957; no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1894, 22.3 ft in 1913 and in April 1942, from information by St. Louis Southwestern Railway Lines and local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 556 ft³/s Feb. 23 at 1500 (gage height, 10.36 ft); no flow Oct. 1-3 and Oct. 30 to Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.0	.00	.82	1.0	.99	253	1.3	.47	3.7	.12	4.3	.25
2	.0	.0	.62	1.4	3.1	5.2	1.3	.44	1.2	.24	2.4	.33
3	.0	.03	.46	1.4	3.0	3.3	1.1	.32	8.6	.12	1.1	3.6
4	.03	.07	.56	1.1	3.4	239	.89	.22	1.2	.08	.82	.62
5	.04	.14	1.0	1.1	2.9	508	.97	.31	.18	.08	.74	.11
6	.02	.91	1.6	3.5	3.1	511	.50	.46	.13	.07	.74	.16
7	.07	1.1	.89	5.0	1.7	511	.35	.98	.14	.07	.78	.16
8	.06	1.5	.36	5.0	1.1	507	.28	1.0	.17	.08	.56	.18
9	.03	1.0	.41	e2.5	.85	508	.23	.62	.12	.10	.56	.31
10	.05	.23	.75	e2.0	.58	508	.08	.50	.14	.10	.43	.35
11	.03	.11	.56	e1.5	1.5	499	.02	.70	.18	.10	.49	.29
12	.03	.11	.34	e2.0	1.1	244	.07	1.0	.13	11	.59	.22
13	.03	.13	1.2	e1.5	.89	2.2	.07	1.1	.13	1.2	.56	.44
14	.03	.16	1.3	e1.2	2.0	1.2	.15	.71	.18	.33	.49	.78
15	.03	18	.70	e2.0	3.3	1.1	.27	.37	.23	.13	.36	.56
16	.02	5.2	.56	e1.5	3.0	1.4	.20	1.0	.15	.09	.41	.84
17	.03	1.8	.56	e1.3	3.6	2.5	20	15	.27	.03	.45	.56
18	.03	1.4	.56	e1.2	8.8	286	3.1	10	.19	.01	.56	.39
19	.09	1.3	9.3	e1.1	7.0	549	206	2.7	.14	.02	.56	.15
20	.11	1.1	2.0	e1.5	5.0	546	499	2.1	.16	.09	.56	.13
21	.11	1.1	1.5	e1.0	4.6	208	487	2.4	.19	.25	.56	.16
22	.11	1.1	1.5	e1.1	3.4	1.2	487	2.3	.36	.35	.56	.17
23	.11	.89	1.3	e1.0	306	.59	496	1.8	.62	.49	.57	.22
24	.11	.51	1.3	e1.5	552	.73	498	1.4	.93	.33	.72	.44
25	.19	5.8	3.1	e.82	546	1.2	525	.70	.64	.26	.47	.34
26	.22	.32	22	e1.2	546	.96	228	.66	6.6	.22	.36	.27
27	.32	.62	3.8	1.4	543	.73	.98	.37	.73	.23	.33	.21
28	.35	.45	1.2	.92	536	.98	.61	.24	.25	.21	.19	.18
29	.03	.24	1.1	.76	541	2.6	.45	.23	.16	.16	.18	.59
30	.0	.30	1.1	.64	---	1.4	.79	.29	.14	.17	.20	1.0
31	.00	---	.96	.55	---	1.1	---	.55	---	.18	.16	---
TOTAL	2.28	45.62	63.41	49.69	3634.91	5905.39	3459.71	50.94	27.96	16.91	21.76	14.01
MEAN	.074	1.52	2.05	1.60	125	190	115	1.64	.93	.55	.70	.47
MAX	.35	18	22	5.0	552	549	525	15	8.6	11	4.3	3.6
MIN	.00	.00	.34	.55	.58	.59	.02	.22	.12	.01	.16	.11
AC-FT	4.5	90	126	99	7210	11710	6860	101	55	34	43	28

CAL YR 1987 TOTAL 74319.81 MEAN 204 MAX 2080 MIN .00 AC-FT 147400
WTR YR 1988 TOTAL 13292.59 MEAN 36.3 MAX 552 MIN .00 AC-FT 26370

e Estimated.

08061540 ROWLETT CREEK NEAR SACHSE, TX

LOCATION.--Lat 32°57'35", long 96°36'51", Dallas County, Hydrologic Unit 12030106, on left bank at downstream side of bridge on State Highway 78, 150 ft downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 250 ft downstream from Spring Creek, and 1.5 mi southwest of Sachse.

DRAINAGE AREA.--120 mi².

PERIOD OF RECORD.--March 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 450.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No known diversions above station. The North Texas Municipal Water District returns sewage effluent into a tributary above this station. Rain gage and gage-height telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years (water years 1969-88), 97.3 ft³/s (54,990 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,500 ft³/s Mar. 27, 1977 (gage height, 29.31 ft); no flow Aug. 24 to Sept. 2, 1969.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1942, 35.4 ft in 1942, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 3	0330	*4,250	*21.05				

Minimum daily discharge, 14 ft³/s Sept. 1-2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	21	35	80	55	51	337	34	687	24	20	14
2	34	19	34	75	50	632	119	30	108	49	20	14
3	29	19	33	73	51	220	64	31	105	62	16	1940
4	30	18	34	71	51	108	57	28	53	33	31	124
5	30	19	34	67	50	93	55	27	43	26	17	77
6	27	20	35	68	53	86	49	29	40	26	22	70
7	25	18	35	73	56	83	49	29	36	24	25	64
8	24	120	31	72	54	76	47	81	31	25	21	62
9	24	288	29	82	54	72	46	37	28	23	20	58
10	23	96	28	79	51	68	48	29	28	23	19	55
11	23	46	30	82	54	68	48	23	27	44	21	55
12	25	40	33	156	54	65	42	23	25	702	19	51
13	23	38	46	126	49	62	42	24	24	66	20	413
14	21	34	69	84	47	59	42	24	24	38	20	165
15	24	992	38	80	45	59	41	25	24	30	20	44
16	23	267	29	77	42	61	41	23	38	27	17	37
17	24	68	29	76	96	236	518	24	30	25	17	72
18	24	48	29	71	422	95	112	23	25	24	18	97
19	27	53	627	83	193	66	52	21	23	22	31	37
20	31	37	155	69	89	63	46	222	24	80	27	28
21	25	33	66	63	77	58	42	70	21	29	22	22
22	22	32	56	57	70	53	39	34	23	20	21	21
23	22	30	51	62	62	55	47	30	23	18	20	19
24	38	31	136	61	58	55	37	27	25	19	107	58
25	25	617	171	56	57	54	41	23	33	21	29	27
26	23	59	1330	56	55	49	32	25	229	19	22	27
27	20	57	299	55	56	51	29	22	46	19	19	24
28	16	46	133	55	54	54	29	21	32	20	20	22
29	17	41	103	56	55	227	44	23	27	20	278	120
30	21	37	94	58	---	78	48	31	23	18	30	408
31	22	---	91	58	---	65	---	198	---	20	16	---
TOTAL	775	3244	3943	2281	2160	3122	2243	1291	1905	1596	1005	4225
MEAN	25.0	108	127	73.6	74.5	101	74.8	41.6	63.5	51.5	32.4	141
MAX	38	992	1330	156	422	632	518	222	687	702	278	1940
MIN	16	18	28	55	42	49	29	21	21	18	16	14
AC-FT	1540	6430	7820	4520	4280	6190	4450	2560	3780	3170	1990	8380

CAL YR 1987 TOTAL 42441 MEAN 116 MAX 2350 MIN 12 AC-FT 84180
WTR YR 1988 TOTAL 27790 MEAN 75.9 MAX 1940 MIN 14 AC-FT 55120

08061550 LAKE RAY HUBBARD NEAR FORNEY, TX

LOCATION.--Lat 32°48'00", long 96°29'45", Kaufman County, Hydrologic Unit 12030106, near right end of spillway in Forney Dam on East Fork Trinity River, 0.5 mi upstream from Duck Creek, 1.8 mi upstream from bridge on Interstate Highway 20 3.8 mi northwest of Forney, 24 mi downstream from Lavon Dam, and 31.8 mi upstream from mouth.

DRAINAGE AREA.--1,071 mi².

PERIOD OF RECORD.--January 1968 to current year.
Water-quality records.--Chemical analyses: October 1969 to September 1979.

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

REMARKS.--The lake is formed by a rolled earthfill dam 12,500 ft long, including a 664-foot gated spillway with fourteen 40- by 28-foot tainter gates. Closure was made in September 1967, but the gates were not closed until Mar. 22, 1978. Low-flow releases are made through three 4.5- by 6.75-foot sluiceways. The lake was built by the city of Dallas for municipal water supply. Flow is affected at times by discharge from the flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 12,530 acre-ft. These structures control runoff from 44.5 mi² above this station and below Lavon Lake station (08060500). Gage-height telemeter at station. Area and capacity tables are based on surveys made in 1953 and 1959. Figures given herein represent total contents. Data regarding th dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	450.0	-
Design flood	440.5	611,500
Top of tainter gates	437.5	536,700
Top of conservation pool	435.5	489,900
Crest of spillway (sill of tainter gates)	409.5	83,130
Lowest gated outlet (invert)	388.0	80

COOPERATION.--The area and capacity tables were provided by Forrest and Cotton, Consulting Engineers, for the city of Dallas.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 513,900 acre-ft May 13, 1982 (elevation, 436.54 ft); minimum since first appreciable filling following closure of gates on Mar. 22, 1970, 326,600 acre-ft Sept. 29, 30, 1978 (elevation, 427.48 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 492,000 acre-ft Apr. 26 at 1830 hours (elevation, 435.59 ft); minimum, 416,100 acre-ft Nov. 7 (elevation, 432.10 ft).

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

432.0	414,000	435.0	478,600
433.0	435,000	436.0	501,400
434.0	456,500		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	436700	419200	428000	447800	454800	466400	486100	487200	477100	462600	459600	435600
2	436700	419200	426700	446700	453000	470800	486500	487000	477500	462600	459100	435600
3	435000	419000	427400	447200	454800	471900	486300	487700	480000	462400	459100	443100
4	433500	419000	426900	447800	453900	471500	485800	487000	479500	461300	458700	442400
5	435000	417900	425700	447400	453900	473000	487000	486300	479100	461100	458000	441600
6	432800	416900	426700	449500	452600	473500	486100	485400	478200	460400	456900	440700
7	432000	416500	426500	449800	452600	474200	485800	484300	477300	459800	456100	439400
8	430300	421100	426500	449300	452800	475700	485200	485400	476800	459600	455400	438800
9	430700	424200	426100	450000	452800	476400	487200	485400	477100	458700	454500	438400
10	431600	421500	426100	449300	456900	475700	484700	484500	475700	458200	453700	437900
11	430300	420900	426700	448700	453400	479500	483800	484000	474200	457400	452400	436700
12	428800	420400	426100	452800	452800	480900	482500	482700	473500	475900	451700	436000
13	427800	420200	426700	450800	451900	479800	482000	482000	472600	475900	451300	436000
14	426700	419800	428200	451100	454800	478200	481600	480900	471900	475300	450400	437100
15	426100	426700	426300	450400	452800	478000	481300	480200	471000	474200	449500	436200
16	426900	429200	426100	451500	452400	477700	480900	480000	470600	473700	448700	436000
17	425000	428600	425700	452100	455400	482900	486700	479100	469700	473000	448000	436400
18	424200	430700	426100	452800	458700	481300	487000	478000	469000	471900	446500	434300
19	425700	428400	429900	453200	458700	481300	487000	477300	468200	471500	446300	435800
20	421500	428000	430500	453000	459100	482200	487000	479300	467000	471500	446100	435000
21	422300	426900	429500	452600	458900	482500	487000	479100	466400	470800	445200	434100
22	421500	426900	429900	452600	459100	482200	488300	478200	465700	469700	443700	433700
23	421300	426500	430100	453000	460200	482900	489200	477700	464600	468600	443500	434100
24	421700	426900	432800	453000	460400	483800	489500	477300	463500	467900	442900	434100
25	420900	430700	437300	451900	461500	483800	489900	476600	465900	467000	441800	432800
26	422300	429900	445000	452400	462600	483800	492000	475700	466400	465700	440700	432400
27	421500	429900	444600	451900	464200	482500	488800	474400	465700	465300	439400	431600
28	420900	429900	446900	451300	465300	482500	487900	473500	465300	464200	439600	430900
29	420000	429000	446100	450800	466200	485800	488100	473500	464200	462600	439000	433900
30	420000	428800	446500	451300	---	485200	488100	472600	463500	462000	438200	435600
31	419400	---	448000	452600	---	484700	---	473900	---	460900	436700	---
MAX	436700	430700	448000	453200	466200	485800	492000	487700	480000	475900	459600	443100
MIN	419400	416500	425700	446700	451900	466400	480900	472600	463500	457400	436700	430900
(†)	432.26	432.71	433.61	433.82	434.44	435.27	435.42	434.79	434.32	434.20	433.08	433.03
(ϕ)	-20200	+9400	+19200	+4600	+13600	+18500	+3400	-14200	-10400	-2600	-24200	-1100

CAL YR 1987 MAX 496800 MIN 416500 (ϕ) -29100
WTR YR 1988 MAX 492000 MIN 416500 (ϕ) -4000

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

08061700 DUCK CREEK NEAR GARLAND, TX

LOCATION.--Lat 32°49'58", long 96°35'43", Dallas County, Hydrologic Unit 12030106, on right bank in the median area between the dual bridges on Belt Line Road, 6.0 mi southeast of Garland, and 7.7 mi upstream from mouth.

DRAINAGE AREA.--31.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1958 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 430.02 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1962, at datum 4.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow is slightly regulated by several small on-channel dams. There are several small diversions above station including the irrigation of a golf course. Low flows are sustained by effluents from the city of Garland. Recording rain gage at station.

AVERAGE DISCHARGE.--30 years, 30.8 ft³/s (13.24 in/yr), 22,310 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s July 27, 1962 (gage height, 20.80 ft, present datum); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1895, 21.5 ft (present datum) June 13, 1949, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 15	1700	2,710	16.35	July 12	0530	*11,800	*19.72
Apr. 17	1700	2,960	16.59				

Minimum daily discharge, .48 ft³/s Oct. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.1	5.0	6.2	4.4	e7.0	50	4.9	549	1.9	1.4	e1.5
2	.89	1.0	5.0	5.7	4.2	e185	11	4.6	64	2.5	1.4	e5.0
3	1.0	1.0	5.0	5.8	4.2	e70	5.4	4.5	32	24	33	e950
4	1.3	1.3	4.9	5.6	4.2	e10	4.8	5.8	8.1	8.9	9.1	e230
5	1.0	1.0	5.3	5.5	4.2	e7.0	4.6	4.6	4.9	6.8	2.5	e35
6	.73	1.0	9.1	6.8	4.3	e6.0	5.0	5.1	3.9	5.8	1.9	e10
7	2.2	.89	5.8	7.9	4.1	e5.6	4.4	4.6	3.8	2.9	1.9	e5.5
8	3.0	120	4.8	13	3.8	e5.3	4.0	21	3.5	2.5	1.1	1.9
9	1.7	129	4.9	15	3.8	e5.0	3.8	6.3	3.3	2.4	1.0	e1.9
10	1.3	16	6.4	11	4.0	e4.7	3.8	3.8	3.2	2.3	.73	e1.8
11	.70	1.9	4.3	11	4.6	e4.5	3.7	3.7	2.9	3.8	.92	e1.8
12	.48	1.2	4.2	21	5.4	e65	3.3	5.6	3.1	2970	1.9	1.9
13	.63	1.1	48	7.3	4.5	e15	3.3	3.8	3.2	67	1.7	42
14	.69	.90	25	6.1	4.5	e6.8	3.6	3.5	2.7	6.7	e1.6	12
15	.80	652	6.9	5.7	4.0	5.3	3.8	3.6	3.0	4.8	e1.6	4.6
16	.86	106	4.5	5.5	3.8	5.3	3.8	3.8	2.4	3.8	e1.6	3.0
17	.89	6.3	4.5	5.5	13	180	538	3.8	5.6	3.2	e1.4	7.5
18	1.1	6.3	5.3	5.2	292	15	19	2.9	3.5	3.2	1.4	13
19	3.7	10	339	6.6	42	7.2	8.2	3.0	3.1	3.9	e1.4	4.2
20	2.0	4.4	14	4.8	6.1	6.7	7.5	298	3.1	61	e1.4	3.7
21	.92	4.6	6.1	4.0	6.0	6.1	6.8	23	2.8	4.2	e1.2	3.0
22	.93	4.3	5.6	3.8	5.6	5.9	5.9	6.3	2.7	3.5	e1.2	3.4
23	.84	4.2	5.3	3.6	e5.4	5.8	22	5.7	2.6	2.9	e1.2	3.2
24	5.3	3.7	58	4.5	e5.2	5.9	5.8	4.6	2.7	2.3	e2.5	12
25	1.0	280	81	4.3	e5.2	5.8	6.2	4.7	4.0	2.5	e2.0	5.2
26	1.0	7.4	587	4.0	e13	5.6	5.2	4.5	32	2.6	e1.8	3.1
27	1.0	21	42	3.9	e7.0	5.3	4.8	4.5	4.6	2.7	e1.7	3.3
28	.65	7.4	11	4.1	e5.6	7.0	4.4	4.5	3.0	2.6	e1.7	3.0
29	.63	5.5	8.5	4.0	e5.3	44	29	7.8	2.7	2.3	e1.6	109
30	.72	5.1	7.6	4.5	---	6.8	9.4	7.3	2.7	2.2	e1.6	326
31	.96	---	6.8	4.5	---	5.4	---	33	---	1.7	e1.6	---
TOTAL	39.92	1405.59	1330.8	206.4	479.4	720.0	790.5	502.8	768.1	3216.9	87.05	1807.5
MEAN	1.29	46.9	42.9	6.66	16.5	23.2	26.3	16.2	25.6	104	2.81	60.2
MAX	5.3	652	587	21	292	185	538	298	549	2970	33	950
MIN	.48	.89	4.2	3.6	3.8	4.5	3.3	2.9	2.4	1.7	.73	1.5
AC-FT	79	2790	2640	409	951	1430	1570	997	1520	6380	173	3590
CFSM	.04	1.48	1.36	.21	.52	.73	.83	.51	.81	3.28	.09	1.91
IN.	.05	1.65	1.57	.24	.56	.85	.93	.59	.90	3.79	.10	2.13

CAL YR 1987 TOTAL 15776.11 MEAN 43.2 MAX 1070 MIN .48 AC-FT 31290 CFSM 1.37 IN. 18.57
WTR YR 1988 TOTAL 11354.96 MEAN 31.0 MAX 2970 MIN .48 AC-FT 22520 CFSM .98 IN. 13.37

e Estimated.

08061700 DUCK CREEK NEAR GARLAND, TX--Continued

08061700 DUCK CREEK NEAR GARLAND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1969 to September 1982. Sediment analyses: January 1979. Chemical and biochemical analyses: July to September 1988.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July to September 1988.
pH: July to September 1988.
WATER TEMPERATURE: July to September 1988.
DISSOLVED OXYGEN: July to September 1988.

INSTRUMENTATION.--Beginning July 1988, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interuptions in the record were due to malfunction of the insturment. Where maximum or minimum specific conductance values are not shown, mean value is estimated.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 508 microsiemens Aug. 25; minimum, 75 microsiemens Sept. 3.
pH: Maximum, 9.0 units Sept. 3; minimum, 6.9 units Aug. 2.
WATER TEMPERATURE: Maximum, 33.0°C Aug. 9.
DISSOLVED OXYGEN: Maximum, 13.0 mg/L Aug. 6; minimum, 2.7 mg/L Aug. 26, 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
JUL 29...	1230	2.2	400	7.80	27.5	9.0	115	1.6	150	26
SEP 08...	1740	4.0	389	7.80	24.5	8.2	99	1.5	150	27

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 WAT WH TOT FET 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)
JUL 29...	56	2.7	20	0.7	3.9	125	40	18	0.40
SEP 08...	57	2.5	16	0.6	3.9	126	43	14	0.30

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)
JUL 29...	5.1	221	9.46	0.040	9.50	0.070	1.4	1.5	5.20
SEP 08...	7.4	220	0.380	0.020	0.400	<0.010	--	0.70	0.040

08061700 DUCK CREEK NEAR GARLAND, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1				---	---	---	438	434	435	429	424	426
2				---	---	---	441	430	435	435	429	431
3				---	---	---	441	250	411	434	75	169
4				---	---	---	250	224	237	275	221	253
5				---	---	---	281	250	267	321	278	301
6				---	---	315	310	281	294	355	320	338
7				354	328	340	338	310	324	388	358	371
8				361	350	356	361	335	350	391	388	390
9				360	344	353	399	364	386	415	390	402
10				351	344	347	404	395	400	419	410	415
11				360	125	339	395	380	386	424	414	419
12				225	88	158	435	380	404	419	411	416
13				338	230	290	391	380	384	428	210	393
14				391	340	373	385	374	381	294	255	273
15				415	391	405	381	364	373	361	294	325
16				451	418	437	378	354	367	390	345	363
17				449	440	443	379	360	369	429	374	409
18				455	444	447	380	361	370	375	291	317
19				460	251	442	401	380	393	345	315	328
20				380	279	296	415	390	404	400	350	370
21				315	284	302	421	401	409	411	395	401
22				378	315	345	441	420	433	431	410	421
23				364	348	352	450	438	443	434	429	431
24				371	351	365	480	431	446	434	301	360
25				378	370	374	508	474	490	---	---	369
26				390	375	384	480	471	476	---	---	407
27				394	384	389	479	470	473	---	---	419
28				395	385	392	475	465	470	---	---	416
29				401	391	397	469	339	434	---	---	158
30				450	401	419	425	241	392	---	---	290
31				465	434	450	425	420	422	---	---	---
MONTH				465	88	366	508	224	395	435	75	359

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1				---	---	---	7.4	7.1	7.2	8.0	7.5	7.7
2				---	---	---	7.5	6.9	7.1	8.1	7.6	7.8
3				---	---	---	7.9	7.1	7.3	9.0	7.9	8.5
4				---	---	---	7.9	7.6	7.8	8.0	7.7	7.8
5				---	---	---	7.6	7.4	7.5	7.7	7.5	7.6
6				---	---	---	7.5	7.1	7.3	7.8	7.4	7.5
7				7.8	7.3	7.5	7.7	7.1	7.3	7.9	7.5	7.7
8				7.5	7.0	7.3	7.8	7.4	7.5	7.9	7.5	7.7
9				7.6	7.1	7.3	7.9	7.5	7.7	7.9	7.6	7.7
10				7.5	7.2	7.3	7.9	7.5	7.7	7.9	7.5	7.7
11				8.6	7.4	7.6	7.8	7.5	7.6	7.8	7.4	7.5
12				8.6	7.8	8.2	7.9	7.6	7.7	7.5	7.3	7.4
13				7.8	7.5	7.7	7.6	7.4	7.5	7.9	7.3	7.5
14				7.5	7.3	7.4	7.9	7.4	7.5	7.7	7.5	7.5
15				7.3	7.0	7.2	7.7	7.4	7.5	7.7	7.6	7.6
16				7.8	7.2	7.5	8.0	7.4	7.6	7.8	7.7	7.7
17				7.7	7.4	7.5	8.1	7.5	7.7	8.0	7.8	7.9
18				7.7	7.5	7.6	8.0	7.6	7.7	7.9	7.6	7.7
19				8.1	7.6	7.8	7.9	7.5	7.8	7.6	7.5	7.6
20				8.0	8.0	8.0	7.9	7.4	7.6	7.9	7.5	7.6
21				8.1	8.0	8.1	8.0	7.5	7.7	7.9	7.7	7.8
22				8.2	7.9	8.0	7.9	7.6	7.7	8.0	7.8	7.9
23				8.0	7.8	7.9	8.0	7.5	7.7	7.8	7.6	7.7
24				8.1	7.8	8.0	7.8	7.4	7.6	8.1	7.8	7.9
25				8.2	7.9	8.0	7.6	7.3	7.4	---	---	---
26				8.0	7.8	7.9	7.8	7.3	7.5	---	---	---
27				8.1	7.8	7.9	7.8	7.4	7.5	---	---	---
28				8.1	7.8	7.9	7.9	7.3	7.6	---	---	---
29				8.1	7.7	7.8	7.7	7.5	7.6	---	---	---
30				7.8	7.2	7.5	7.8	7.4	7.6	---	---	---
31				7.6	7.1	7.4	7.9	7.4	7.6	---	---	---
MONTH				8.6	7.0	7.7	8.1	6.9	7.6	9.0	7.3	7.7

08061700 DUCK CREEK NEAR GARLAND, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1				---	---	---	30.5	26.5	28.0	27.5	22.5	24.5
2				---	---	---	31.0	26.5	28.0	27.5	24.0	25.5
3				---	---	---	29.5	26.0	27.5	25.5	22.5	24.0
4				---	---	---	29.0	26.0	27.5	25.0	23.0	24.0
5				---	---	---	30.0	25.5	27.5	24.5	21.0	22.5
6				---	---	---	31.0	26.0	28.5	24.5	21.0	23.0
7				29.0	25.5	27.0	31.5	27.5	29.0	24.0	21.0	22.5
8				28.5	25.5	26.5	32.5	27.5	29.5	24.0	21.0	22.5
9				29.0	24.5	26.5	33.0	28.0	30.0	24.5	21.5	23.0
10				29.0	25.0	27.0	32.5	26.5	29.0	24.5	21.0	23.0
11				26.5	24.0	26.0	30.5	26.5	28.0	25.5	22.0	24.0
12				26.5	24.0	25.5	29.5	26.0	27.5	26.5	22.5	24.5
13				29.0	25.5	27.0	30.5	27.0	28.5	27.0	24.0	25.5
14				30.0	26.0	28.0	31.5	27.5	29.0	27.5	25.5	26.5
15				30.0	26.5	28.5	32.0	27.5	29.5	27.5	24.5	26.0
16				30.0	27.0	28.5	32.0	27.0	29.0	26.0	24.0	25.0
17				30.5	27.0	28.5	31.5	27.5	29.0	26.5	24.5	25.5
18				30.5	27.0	29.0	31.0	26.5	28.5	26.5	25.5	26.0
19				29.0	26.0	28.0	29.5	26.5	28.0	27.0	24.5	25.5
20				27.0	25.5	26.5	30.0	26.5	27.5	25.5	24.0	25.0
21				28.0	24.5	26.0	32.0	26.0	28.0	27.0	24.0	25.5
22				29.5	24.5	26.5	32.0	26.5	29.0	27.5	24.5	25.5
23				28.0	25.0	26.5	32.0	27.0	29.0	26.5	24.0	25.0
24				28.5	25.0	26.5	29.5	27.0	28.0	25.0	23.0	24.5
25				28.5	25.0	26.5	30.0	26.0	28.0	---	---	---
26				29.0	25.0	27.0	30.0	26.5	28.0	---	---	---
27				29.5	25.5	27.5	30.0	25.0	27.5	---	---	---
28				29.5	25.5	27.5	30.0	25.0	27.5	---	---	---
29				29.5	25.5	27.5	26.0	23.5	24.5	---	---	---
30				30.0	26.0	28.0	24.5	23.0	23.5	---	---	---
31				30.5	27.0	28.5	26.0	21.5	23.5	---	---	---
MONTH				30.5	24.0	27.0	33.0	21.5	28.0	27.5	21.0	24.5

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1				---	---	---	---	---	---	8.6	5.1	6.6
2				---	---	---	---	---	---	7.6	5.1	6.1
3				---	---	,---	---	---	---	8.0	5.4	6.6
4				---	---	---	---	---	---	6.0	5.6	5.7
5				---	---	---	---	---	---	6.4	5.8	6.1
6				---	---	---	13.0	6.3	9.0	6.6	5.8	6.1
7				8.2	3.8	5.6	11.3	5.4	8.3	7.5	5.7	6.4
8				9.1	3.9	6.4	10.6	5.7	8.2	8.2	5.5	6.6
9				9.3	4.3	6.3	10.7	5.9	8.4	9.7	5.3	7.1
10				9.0	4.3	6.6	10.4	5.9	7.9	10.6	5.6	7.7
11				8.0	4.2	5.9	9.6	6.0	7.4	10.4	5.7	7.7
12				7.3	5.7	6.4	8.3	5.0	6.5	9.3	5.4	7.3
13				6.1	5.7	5.9	9.1	5.0	6.9	8.5	4.5	6.5
14				6.0	5.5	5.7	9.4	5.2	7.3	5.4	4.2	4.6
15				6.6	5.1	5.8	9.3	5.4	7.4	8.1	4.5	5.8
16				7.8	5.0	6.0	8.9	5.6	7.4	8.2	5.0	6.1
17				8.6	4.9	6.4	8.8	5.7	7.3	8.2	5.2	6.4
18				9.0	4.7	6.4	8.1	5.4	6.8	6.9	5.1	5.9
19				7.4	4.6	5.9	7.4	4.1	5.8	8.2	5.0	6.1
20				6.0	5.6	5.7	7.2	4.3	5.7	8.9	5.0	6.6
21				8.4	5.6	6.7	8.5	4.7	6.1	9.1	5.3	7.0
22				9.7	6.0	7.3	8.4	4.0	5.9	9.7	5.0	7.1
23				10.4	6.1	7.8	7.7	4.5	5.7	10.8	5.6	7.8
24				10.7	6.0	8.1	6.7	4.5	5.6	9.2	6.1	7.5
25				10.2	5.9	7.8	5.7	3.5	4.6	---	---	---
26				10.2	5.5	7.6	5.7	2.7	4.1	---	---	---
27				10.1	5.4	7.6	6.2	2.7	4.1	---	---	---
28				9.9	5.4	7.5	6.2	3.1	4.4	---	---	---
29				---	---	---	5.7	3.7	4.4	---	---	---
30				---	---	---	7.8	4.9	6.2	---	---	---
31				---	---	---	8.4	5.1	6.5	---	---	---
MONTH				10.7	3.8	6.6	13.0	2.7	6.5	10.8	4.2	6.6

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX

LOCATION.--Lat 32°46'27", long 96°30'12", Kaufman County, Hydrologic Unit 12030106, on right bank 25 ft downstream from bridge on Interstate Highway 20, 0.2 mi downstream from Duck Creek, 1.9 mi downstream from Lake Ray Hubbard Dam, 2.5 mi upstream from Texas and Pacific Railroad Co. bridge, 2.6 mi northwest of Forney, and 30.8 mi upstream from mouth.

DRAINAGE AREA.--1,118 mi², of which 1,071 mi² is above Lake Ray Hubbard.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 374.86 ft above National Geodetic Vertical Datum of 1929 (from State Department of Highways and Public Transportation bridge plans). Prior to Aug. 26, 1975, recording gage at 3-foot higher datum located at site 126 ft upstream and 868 ft to left. From Aug. 26, 1975, to May 12, 1977, recording gage at 3-foot higher datum located at site 105 ft downstream. From May 13, 1977, to Sept. 30, 1984, recording gage at 3-foot higher datum at current site.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow is regulated by Lake Ray Hubbard (station 08061550). Low flow is sustained by sewage effluent discharged from the city of Garland into Duck Creek, that enters the East Fork Trinity River 0.2 mi upstream from this station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--15 years (water years 1974-88), 517 ft³/s (374,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,400 ft³/s Mar. 27, 1977 (gage height, 16.34 ft); minimum daily, 13 ft³/s Oct. 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,670 ft³/s Dec. 26 at 1200 hours (gage height, 11.67 ft); minimum daily, 17 ft³/s Oct. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	35	42	e57	42	40	56	44	567	e41	32	27
2	50	33	38	e55	35	177	102	38	152	e42	38	25
3	49	28	33	e53	36	230	44	32	150	e56	33	900
4	43	25	35	e52	21	86	37	28	119	e74	74	269
5	42	33	33	e51	33	65	40	32	66	e52	36	47
6	25	35	34	e50	43	54	36	29	41	e97	34	37
7	40	30	48	e50	42	48	34	29	36	e61	32	36
8	52	68	39	e50	37	44	30	47	35	e56	32	30
9	49	239	37	e50	38	43	33	47	35	e54	32	30
10	45	143	38	e50	40	43	53	31	34	e55	32	30
11	44	55	38	e82	51	38	80	29	33	e66	33	29
12	43	38	33	e100	36	84	38	30	33	e418	29	29
13	39	35	53	80	33	42	30	30	33	599	28	32
14	37	35	109	45	36	38	29	29	35	100	27	80
15	38	170	e100	51	38	35	28	28	35	57	29	35
16	35	461	e50	56	41	34	30	27	35	52	26	34
17	33	112	e41	54	38	126	149	28	34	39	32	31
18	34	38	e38	51	352	221	409	28	35	35	32	48
19	43	64	e33	54	234	59	67	27	35	38	28	37
20	45	57	e300	58	82	48	52	46	35	89	27	32
21	25	47	e100	45	65	44	43	292	33	37	29	30
22	34	40	e75	41	56	45	43	56	22	52	25	28
23	42	37	e50	40	52	44	51	38	32	45	32	27
24	47	42	84	41	47	43	56	32	34	34	29	38
25	47	274	115	42	42	46	40	29	35	32	32	38
26	35	59	726	38	50	41	39	25	81	32	26	42
27	36	81	267	40	47	33	35	30	59	32	25	29
28	17	87	93	38	42	38	35	28	24	31	26	29
29	25	50	78	43	38	91	35	32	e40	35	30	98
30	38	48	e70	44	---	78	84	50	e38	32	43	365
31	40	---	e60	44	---	40	---	46	---	32	31	---
TOTAL	1222	2499	2890	1605	1747	2098	1838	1317	1976	2475	994	2542
MEAN	39.4	83.3	93.2	51.8	60.2	67.7	61.3	42.5	65.9	79.8	32.1	84.7
MAX	52	461	726	100	352	230	409	292	567	599	74	900
MIN	17	25	33	38	21	33	28	25	22	31	25	25
AC-FT	2420	4960	5730	3180	3470	4160	3650	2610	3920	4910	1970	5040

CAL YR 1987 TOTAL 145175 MEAN 398 MAX 9400 MIN 17 AC-FT 288000
WTR YR 1988 TOTAL 23203 MEAN 63.4 MAX 900 MIN 17 AC-FT 46020

e Estimated.

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1981 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1981 to current year.
pH: August 1986 to current year.
WATER TEMPERATURE: October 1981 to current year.
DISSOLVED OXYGEN: August 1986 to current year.

INSTRUMENTATION.--Beginning August 1986, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunction 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, 1,100 microsiemens Aug. 29, 1985; minimum, 142 microsiemens July 13, 1986.
pH: Maximum, 8.8 units Mar. 10, 25, 26, 1987; minimum, 6.6 units May 27, 28, 1987.
WATER TEMPERATURE: Maximum, 32.5°C Aug. 18, 1986,; minimum, 4.0°C Jan. 16, Feb. 6, 1982.
DISSOLVED OXYGEN: Maximum, 14.0 mg/L June 28, 1988; minimum, 3.5 mg/L Oct. 21, 1986.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 855 microsiemens Mar. 6; minimum, 142 microsiemens July 13.
PH: Maximum, 8.5 units Aug. 10; minimum, 6.7 units Feb. 27, 28, 29.
WATER TEMPERATURE: Maximum, 32.0°C Aug. 7, 8; minimum, 7.5°C Feb. 5.
DISSOLVED OXYGEN: Maximum, 14.0 mg/l June 28; minimum, 4.1 mg/l May 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 02...	1215	43	650	7.50	22.0	6.4	74	8.6	140	43
JAN 11...	1030	84	545	7.70	7.0	10.6	88	3.9	160	46
MAR 28...	1450	37	630	7.50	20.0	7.8	86	2.5	170	52
JUN 06...	1410	41	581	7.60	25.0	7.1	86	2.1	170	53
JUL 14...	0940	100	450	7.70	26.5	5.6	70	1.7	140	32
SEP 06...	1145	37	590	7.70	25.0	6.6	81	4.6	180	52

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 WAT WH TOT FET 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 02...	51	3.6	65	2	11	99	67	60	1.2	10
JAN 11...	61	3.0	49	2	7.0	119	54	52	0.60	8.2
MAR 28...	60	3.9	67	2	8.6	114	81	53	1.2	8.5
JUN 06...	61	3.6	52	2	8.4	114	58	42	1.2	8.9
JUL 14...	51	2.7	34	1	7.0	107	46	33	0.70	8.4
SEP 06...	65	3.5	47	2	8.0	125	57	46	0.60	10

DATE	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)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
NOV 02...	328	7.40	1.20	8.60	3.40	1.9	5.3	6.00	3	22
JAN 11...	306	5.11	0.090	5.20	0.290	1.3	1.6	0.350	2	39
MAR 28...	352	9.15	0.050	9.20	0.140	1.6	1.7	--	--	--
JUN 06...	303	8.68	0.020	8.70	0.080	1.1	1.2	6.00	--	--
JUL 14...	247	3.57	0.030	3.60	0.090	0.91	1.0	2.20	--	--
SEP 06...	312	--	<0.010	6.40	0.030	2.0	2.0	4.00	--	--

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	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 02...	<1	<10	11	74	<5	64	<0.1	<1	<1.0	41
JAN 11...	1	2	8	130	<5	31	<0.1	<1	<1.0	21
MAR 28...	--	--	--	--	--	--	--	--	--	--
JUN 06...	--	--	--	--	--	--	--	--	--	--
JUL 14...	--	--	--	--	--	--	--	--	--	--
SEP 06...	--	--	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	1222	666	362	1190	57	189	58	193	190
NOV.	1987	2499	492	274	1850	34	231	49	331	150
DEC.	1987	2890	465	260	2030	31	239	48	371	140
JAN.	1988	1605	654	356	1540	55	240	58	252	190
FEB.	1988	1747	549	303	1430	42	196	52	246	160
MAR.	1988	2098	576	317	1800	44	252	54	307	170
APR.	1988	1838	553	305	1510	42	209	52	260	160
MAY	1988	1317	606	331	1180	50	178	55	194	170
JUNE	1988	1976	514	284	1520	38	203	50	265	150
JULY	1988	2475	471	261	1750	34	225	46	309	140
AUG.	1988	994	667	363	973	58	155	58	157	190
SEPT	1988	2542	447	250	1720	29	202	46	314	140
TOTAL		23203	**	**	18500	**	2520	**	3200	**
WTD.AVG.		63	534	295	**	40	**	51	**	160

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	602	---	---	744	---	---	629	---	---	636
2	---	---	648	---	---	776	---	---	644	---	---	644
3	---	---	684	---	---	782	---	---	656	---	---	622
4	---	---	670	---	---	667	---	---	687	---	---	618
5	---	---	646	---	---	649	---	---	644	---	---	637
6	---	---	634	---	---	684	---	---	626	---	---	678
7	---	---	644	---	---	726	---	---	612	---	---	691
8	773	640	700	---	---	616	---	---	596	---	---	686
9	715	626	671	---	---	416	---	---	622	---	---	697
10	673	622	647	---	---	400	---	---	647	---	---	710
11	675	599	637	---	---	520	---	---	668	---	---	689
12	635	565	595	---	---	596	---	---	674	---	---	641
13	649	572	612	---	---	626	---	---	689	---	---	596
14	726	590	675	---	---	644	---	---	512	---	---	612
15	739	704	720	---	---	612	---	---	497	710	568	646
16	802	673	729	---	---	326	---	---	556	720	657	687
17	853	672	770	---	---	406	---	---	612	686	651	666
18	792	642	730	---	---	445	666	600	633	669	617	636
19	651	548	611	---	---	612	649	195	460	717	654	684
20	639	550	615	---	---	586	506	235	385	691	610	639
21	721	620	680	---	---	656	583	492	527	673	636	654
22	768	591	695	---	---	664	621	566	587	703	640	676
23	719	661	692	---	---	649	684	606	644	735	655	697
24	700	581	655	---	---	526	728	362	586	689	611	651
25	631	582	610	705	187	374	---	---	502	608	582	598
26	720	582	616	541	289	422	---	---	346	646	614	634
27	732	641	685	767	485	570	---	---	327	666	604	641
28	702	630	669	---	---	589	---	---	355	666	634	651
29	752	612	715	---	---	612	---	---	347	678	639	656
30	738	680	711	---	---	646	---	---	476	721	630	680
31	843	590	764	---	---	---	---	---	655	664	628	644
MONTH	853	548	669	767	187	585	728	195	561	735	568	655

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	688	596	644	693	634	666	691	561	637	617	594	609
2	676	623	653	682	225	513	565	372	473	618	605	609
3	708	654	683	534	330	447	571	535	556	661	630	649
4	694	550	623	607	523	544	579	542	548	805	662	749
5	692	553	637	671	614	649	620	577	597	777	684	729
6	696	635	662	855	633	698	699	618	653	804	718	759
7	646	607	624	---	---	687	618	590	606	771	692	738
8	618	608	613	---	---	682	728	605	674	700	514	658
9	661	604	640	---	---	692	764	669	712	567	514	530
10	700	660	682	---	---	712	674	494	579	722	578	671
11	722	684	699	---	---	676	599	379	499	770	686	727
12	722	648	692	---	---	500	629	461	572	770	681	721
13	667	625	650	---	---	540	699	636	670	785	689	729
14	629	614	624	---	---	640	705	658	679	795	703	755
15	617	605	610	758	651	694	749	675	713	767	682	724
16	672	617	649	799	688	738	795	681	746	684	634	656
17	694	625	664	846	258	669	734	208	610	714	642	689
18	658	260	345	521	285	416	502	198	341	754	686	726
19	523	294	397	635	522	564	578	489	516	769	695	739
20	617	533	570	728	540	594	655	595	636	784	267	717
21	611	572	590	741	556	620	697	648	670	509	188	367
22	629	587	596	767	608	666	733	664	693	585	518	556
23	667	577	625	734	632	684	783	593	719	593	578	587
24	693	618	655	759	625	671	618	589	602	705	594	666
25	727	622	674	783	632	689	625	586	607	752	673	712
26	785	644	681	760	605	677	664	621	638	752	680	715
27	722	674	699	770	583	663	752	641	697	820	684	762
28	688	599	639	---	---	579	815	732	770	816	732	784
29	668	586	611	671	434	569	807	751	781	777	685	744
30	---	---	---	569	430	500	779	487	566	678	542	590
31	---	---	---	687	576	649	---	---	---	626	582	599
MONTH	785	260	625	855	225	622	815	198	625	820	188	676

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	670	159	309	759	688	727	650	623	636	715	657	687
2	534	316	426	766	694	724	774	651	712	762	677	728
3	519	304	417	732	445	592	741	694	717	755	143	342
4	601	387	507	506	379	458	727	441	525	472	243	344
5	626	558	593	572	371	474	673	544	625	541	461	484
6	600	570	584	592	438	509	738	660	699	609	535	576
7	692	604	660	669	599	638	714	653	685	656	612	631
8	731	673	703	715	644	683	662	621	648	683	641	667
9	769	712	738	737	658	699	691	620	659	692	637	671
10	771	695	735	740	621	678	736	672	698	702	640	672
11	751	696	726	667	590	622	768	664	710	677	640	658
12	772	657	719	683	149	333	729	639	687	650	615	635
13	648	605	619	374	142	221	708	642	678	679	631	655
14	693	625	669	545	386	471	706	656	679	712	406	499
15	712	668	694	659	558	611	673	639	658	656	551	619
16	754	674	718	675	614	645	750	645	700	721	666	689
17	754	690	728	626	610	619	734	673	708	711	657	686
18	730	696	714	633	599	613	762	668	714	754	498	599
19	714	636	681	689	596	636	693	651	676	607	541	573
20	634	607	617	747	391	522	700	658	679	761	611	696
21	686	628	666	742	354	475	737	673	705	814	700	755
22	709	677	697	742	640	688	673	595	635	772	674	722
23	744	695	720	700	637	674	672	626	653	737	655	699
24	769	710	739	713	628	670	737	665	701	719	558	657
25	728	690	712	637	605	621	702	645	673	634	565	597
26	690	429	538	703	613	674	733	644	699	626	537	584
27	543	490	510	763	696	732	726	699	715	667	575	643
28	608	550	585	771	706	740	744	669	712	757	673	716
29	775	553	701	789	710	751	669	605	633	744	294	536
30	782	721	757	785	726	755	670	591	621	427	169	302
31	---	---	---	748	651	703	707	643	678	---	---	---
MONTH	782	159	639	789	142	612	774	441	675	814	143	611

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.6	7.4	7.5	7.5	7.2	7.3	7.6	7.5	7.5	8.0	7.9	7.9
2	7.6	7.4	7.6	---	---	---	7.6	7.4	7.5	8.0	7.9	7.9
3	---	---	---	---	---	---	---	---	---	8.0	7.8	7.9
4	---	---	---	---	---	---	---	---	---	7.8	7.8	7.8
5	---	---	---	7.5	7.4	7.4	---	---	---	7.8	7.7	7.8
6	---	---	---	7.5	7.4	7.4	---	---	---	8.0	7.7	7.8
7	---	---	---	---	---	---	---	---	---	8.0	7.8	7.9
8	---	---	---	---	---	---	---	---	---	8.1	7.9	8.0
9	---	---	---	---	---	---	---	---	---	8.0	7.9	8.0
10	---	---	---	---	---	---	---	---	---	8.0	7.9	8.0
11	---	---	---	---	---	---	7.6	7.5	7.6	---	---	---
12	---	---	---	---	---	---	7.7	7.5	7.6	---	---	---
13	---	---	---	---	---	---	8.0	7.5	7.6	---	---	---
14	---	---	---	---	---	---	7.9	7.7	7.8	---	---	---
15	---	---	---	---	---	---	7.8	7.8	7.8	---	---	---
16	---	---	---	---	---	---	7.9	7.8	7.8	---	---	---
17	7.6	7.5	7.5	---	---	---	7.9	7.8	7.8	---	---	---
18	7.6	7.4	7.5	---	---	---	7.8	7.7	7.7	---	---	---
19	7.6	7.4	7.5	---	---	---	8.1	7.7	7.8	---	---	---
20	7.5	7.5	7.5	---	---	---	7.9	7.8	7.8	---	---	---
21	7.6	7.5	7.6	---	---	---	7.9	7.7	7.8	---	---	---
22	7.7	7.5	7.6	---	---	---	7.8	7.3	7.7	---	---	---
23	7.7	7.5	7.6	---	---	---	7.6	7.3	7.4	---	---	---
24	7.5	7.5	7.5	---	---	---	7.9	7.5	7.6	---	---	---
25	7.5	7.4	7.5	7.9	7.5	7.7	7.9	7.6	7.7	---	---	---
26	7.5	7.5	7.5	7.7	7.5	7.6	8.2	7.8	8.0	---	---	---
27	7.5	7.4	7.5	7.8	7.5	7.6	7.9	7.9	7.9	7.9	7.5	7.7
28	7.5	7.5	7.5	7.7	7.6	7.6	7.9	7.9	7.9	7.7	7.5	7.6
29	7.5	7.3	7.4	7.7	7.6	7.6	8.0	7.9	7.9	7.7	7.6	7.6
30	7.6	7.4	7.5	7.7	7.5	7.6	8.0	7.9	7.9	8.0	7.7	7.8
31	7.4	7.3	7.4	---	---	---	8.0	7.9	7.9	8.0	7.9	8.0
MONTH	7.7	7.3	7.5	7.9	7.2	7.5	8.2	7.3	7.8	8.1	7.5	7.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.0	7.9	8.0	7.4	7.3	7.4	7.8	7.7	7.7	---	---	---
2	8.2	8.0	8.1	8.1	7.2	7.5	7.8	7.6	7.7	---	---	---
3	8.2	8.1	8.1	7.9	7.8	7.8	7.7	7.6	7.7	---	---	---
4	8.2	8.0	8.1	8.0	7.9	7.9	7.6	7.5	7.6	---	---	---
5	8.2	8.0	8.1	7.9	7.8	7.8	7.5	7.3	7.4	---	---	---
6	8.3	8.0	8.1	7.8	7.7	7.7	7.5	7.4	7.5	---	---	---
7	8.0	7.9	8.0	7.6	7.4	7.5	7.5	7.4	7.5	---	---	---
8	8.0	7.8	7.9	---	---	---	7.5	7.3	7.4	---	---	---
9	7.9	7.8	7.8	---	---	---	7.4	7.3	7.3	---	---	---
10	7.8	7.8	7.8	---	---	---	7.5	7.3	7.3	---	---	---
11	7.8	7.8	7.8	---	---	---	7.6	7.3	7.4	---	---	---
12	7.9	7.8	7.9	---	---	---	7.6	7.4	7.5	---	---	---
13	7.8	7.7	7.8	---	---	---	7.5	7.3	7.4	---	---	---
14	7.8	7.6	7.7	---	---	---	7.4	7.3	7.3	---	---	---
15	7.6	7.5	7.6	7.9	7.8	7.9	7.3	7.2	7.3	---	---	---
16	7.6	7.5	7.5	7.9	7.7	7.8	7.3	7.2	7.2	---	---	---
17	7.6	7.3	7.5	8.0	7.7	7.8	7.9	7.0	7.3	---	---	---
18	---	---	---	8.1	7.8	7.9	7.8	7.7	7.8	---	---	---
19	---	---	---	7.9	7.8	7.9	7.8	7.7	7.8	7.5	7.3	7.4
20	---	---	---	7.8	7.7	7.8	7.8	7.7	7.7	7.8	7.4	7.5
21	8.1	7.9	8.0	7.7	7.6	7.6	7.7	7.5	7.6	7.9	7.6	7.7
22	8.0	7.8	7.9	7.7	7.5	7.6	7.6	7.5	7.6	7.8	7.7	7.7
23	7.8	7.6	7.7	7.5	7.2	7.4	7.6	7.4	7.5	7.9	7.7	7.8
24	7.8	7.6	7.7	7.5	7.2	7.3	---	---	---	7.8	7.7	7.7
25	7.8	7.7	7.7	7.2	7.0	7.1	---	---	---	7.9	7.7	7.8
26	---	---	---	7.1	6.9	7.0	---	---	---	7.9	7.8	7.8
27	---	---	---	7.1	6.9	7.0	---	---	---	7.9	7.8	7.8
28	---	---	---	7.0	6.7	6.8	---	---	---	7.8	7.7	7.8
29	7.6	7.5	7.5	8.4	6.6	7.5	---	---	---	7.8	7.6	7.7
30	---	---	---	7.8	7.8	7.8	---	---	---	7.7	7.6	7.7
31	---	---	---	7.8	7.8	7.8	---	---	---	7.6	7.5	7.6
MONTH	8.3	7.3	7.8	8.4	6.6	7.6	7.9	7.0	7.5	7.9	7.3	7.7

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.3	7.6	8.0	7.5	7.4	7.4	7.4	7.3	7.4	7.6	7.6	7.6
2	8.0	7.6	7.8	7.3	7.0	7.2	7.4	7.2	7.3	7.6	7.4	7.5
3	7.8	7.6	7.7	7.2	7.0	7.1	7.5	7.2	7.4	8.1	7.5	7.8
4	7.8	7.6	7.7	7.3	6.9	7.1	7.5	7.4	7.5	8.1	7.7	7.9
5	7.7	7.6	7.6	7.6	7.2	7.3	7.5	7.3	7.4	7.7	7.6	7.7
6	7.7	7.5	7.6	7.6	7.4	7.5	7.5	7.4	7.4	7.7	7.6	7.6
7	7.6	7.5	7.5	7.4	7.3	7.3	7.6	7.3	7.5	7.7	7.6	7.7
8	7.6	7.4	7.5	7.4	7.3	7.3	7.3	7.2	7.3	7.6	7.5	7.5
9	7.6	7.5	7.6	7.4	7.3	7.3	7.3	7.0	7.2	7.5	7.5	7.5
10	7.6	7.5	7.6	7.3	7.1	7.2	7.4	7.2	7.3	7.5	7.4	7.4
11	7.6	7.5	7.5	7.2	7.0	7.1	7.6	7.5	7.5	7.4	7.2	7.3
12	7.5	7.4	7.5	8.1	7.0	7.7	7.6	7.5	7.5	7.2	7.1	7.2
13	7.4	7.3	7.4	8.1	7.5	7.8	7.6	7.5	7.6	7.6	7.1	7.2
14	7.3	7.1	7.2	7.6	7.4	7.5	7.6	7.5	7.6	7.6	7.5	7.5
15	7.2	7.0	7.1	7.6	7.4	7.5	7.6	7.4	7.5	7.5	7.4	7.5
16	7.1	7.0	7.1	7.6	7.4	7.5	7.5	7.4	7.4	7.5	7.4	7.5
17	7.1	7.0	7.1	7.5	7.4	7.5	7.5	7.4	7.4	7.6	7.5	7.5
18	7.2	7.0	7.1	7.5	7.4	7.5	---	---	---	7.7	7.5	7.6
19	7.3	7.2	7.3	7.5	7.4	7.4	---	---	---	7.6	7.5	7.6
20	7.3	7.2	7.3	7.7	7.5	7.6	---	---	---	7.6	7.5	7.6
21	7.3	7.2	7.3	7.7	7.6	7.6	---	---	---	7.5	7.5	7.5
22	7.4	7.3	7.3	7.7	7.6	7.6	---	---	---	7.5	7.4	7.5
23	7.3	7.2	7.2	7.7	7.6	7.6	---	---	---	7.5	7.4	7.4
24	7.2	7.1	7.2	7.6	7.5	7.6	7.4	7.2	7.3	7.8	7.4	7.5
25	7.2	7.0	7.1	7.5	7.4	7.5	7.4	7.3	7.4	7.5	7.5	7.5
26	7.2	7.0	7.1	7.5	7.3	7.4	7.5	7.4	7.4	7.6	7.5	7.5
27	---	---	---	7.3	6.8	7.1	7.5	7.5	7.5	7.6	7.5	7.6
28	---	---	---	7.3	7.1	7.2	7.5	7.5	7.5	7.6	7.1	7.4
29	---	---	---	7.3	7.1	7.2	7.7	7.4	7.5	7.8	7.2	7.4
30	---	---	---	7.3	7.1	7.2	7.6	7.5	7.5	8.2	7.7	7.9
31	---	---	---	7.3	7.2	7.2	7.6	7.5	7.5	---	---	---
MONTH	8.3	7.0	7.4	8.1	6.8	7.4	7.7	7.0	7.4	8.2	7.1	7.5

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	18.5	16.5	17.5	---	---	---
5	---	---	---	---	---	---	18.0	17.0	17.5	---	---	---
6	---	---	---	---	---	---	18.5	18.0	18.5	---	---	---
7	---	---	---	---	---	---	18.5	17.0	17.5	---	---	---
8	22.5	22.0	22.5	---	---	---	18.5	17.5	18.0	---	---	---
9	23.5	21.5	22.5	---	---	---	18.0	17.0	17.5	---	---	---
10	25.0	23.0	24.0	---	---	---	17.5	16.0	16.5	---	---	---
11	23.5	21.0	22.5	---	---	---	18.0	15.5	17.0	---	---	---
12	22.0	20.0	21.0	---	---	---	17.0	16.0	16.5	---	---	---
13	22.0	20.0	21.0	---	---	---	16.0	10.5	14.5	---	---	---
14	22.0	20.5	21.0	---	---	---	11.5	10.0	11.0	---	---	---
15	22.0	20.5	21.5	---	---	---	11.5	9.5	10.5	13.0	9.0	11.5
16	23.5	22.0	22.5	---	---	---	13.0	11.0	12.0	14.5	13.0	13.5
17	24.5	22.0	23.0	---	---	---	13.0	10.5	12.0	16.5	14.5	15.5
18	24.0	22.0	23.0	---	---	---	14.0	13.0	13.5	16.0	15.0	15.5
19	23.5	22.0	23.0	---	---	---	14.0	10.0	12.5	17.0	15.0	16.0
20	22.0	20.5	21.5	---	---	---	13.5	11.5	12.0	14.5	12.0	13.0
21	20.0	18.5	19.5	---	---	---	14.5	13.5	14.0	13.0	11.5	12.5
22	20.0	17.0	18.5	---	---	---	15.5	14.5	15.0	13.0	11.5	12.5
23	21.0	20.0	20.5	---	---	---	15.5	15.0	15.5	13.5	12.0	12.5
24	22.5	21.0	21.5	---	---	---	17.5	14.5	16.5	14.0	12.5	13.0
25	22.5	21.0	21.5	20.5	15.0	17.0	---	---	---	13.0	11.0	12.0
26	24.5	22.0	23.5	16.0	13.5	15.0	---	---	---	13.0	10.5	12.0
27	23.0	20.0	21.5	17.5	14.0	16.5	---	---	---	13.5	12.0	12.5
28	21.0	18.5	20.0	---	---	---	---	---	---	14.5	12.5	13.5
29	22.0	20.0	21.5	---	---	---	---	---	---	16.0	14.0	15.0
30	22.0	21.5	22.0	---	---	---	---	---	---	17.0	15.5	16.5
31	22.5	21.5	22.0	---	---	---	---	---	---	18.5	17.0	17.5
MONTH	25.0	17.0	21.5	20.5	13.5	16.0	18.5	9.5	15.0	18.5	9.0	14.0

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	18.5	17.0	18.0	18.0	17.0	17.5	18.5	17.5	18.0	23.0	20.0	21.5
2	17.0	12.5	14.5	17.5	15.5	17.0	19.0	17.0	18.0	21.0	20.0	20.5
3	13.0	12.5	12.5	15.5	14.0	15.0	21.5	18.0	19.5	23.0	20.0	21.0
4	12.5	8.0	10.5	14.0	13.0	13.5	22.5	19.5	20.5	23.0	19.5	21.0
5	11.0	7.5	9.5	15.0	14.0	14.5	24.0	21.0	22.0	25.0	20.5	22.5
6	11.0	9.0	10.0	15.5	14.5	15.0	22.0	20.0	21.0	23.5	21.5	22.5
7	11.0	10.0	10.5	16.0	15.0	15.0	22.0	19.0	20.5	22.0	21.5	22.0
8	12.0	11.0	11.5	16.0	15.5	16.0	21.5	19.5	20.5	24.5	21.5	23.0
9	15.0	12.0	13.5	16.0	15.0	15.5	22.5	19.5	21.0	25.0	22.0	23.5
10	14.0	13.5	13.5	16.0	15.0	15.5	20.5	16.5	18.5	26.0	22.5	24.0
11	13.0	8.5	10.0	16.0	15.0	15.5	16.5	15.5	16.0	24.5	22.5	24.0
12	10.5	8.0	9.0	16.0	15.5	15.5	19.5	15.0	17.0	25.0	22.5	24.0
13	13.5	10.5	11.5	15.0	14.0	14.5	21.5	17.5	19.5	25.5	22.5	23.5
14	15.5	13.0	14.5	15.5	13.0	14.5	22.0	19.0	20.5	25.5	22.5	24.0
15	14.5	13.0	14.0	16.0	14.5	15.5	23.0	20.0	21.5	25.5	22.0	23.5
16	15.0	13.0	14.0	16.0	15.0	15.5	22.5	21.0	21.5	26.5	22.5	24.5
17	15.5	14.5	15.0	15.5	13.0	15.0	21.0	19.5	20.5	27.0	24.0	25.0
18	15.5	11.0	12.5	13.5	12.5	13.0	19.5	18.0	19.0	26.5	23.5	25.0
19	13.0	11.0	11.5	14.5	13.0	13.5	20.5	17.0	18.5	26.0	23.5	24.5
20	14.5	12.5	13.5	16.5	14.5	15.5	21.5	18.5	20.0	25.5	23.5	24.5
21	15.0	13.5	14.5	17.5	16.0	16.5	22.5	20.5	21.5	24.5	22.0	23.5
22	15.5	14.5	15.0	18.0	17.0	17.5	24.0	21.0	22.5	24.0	21.0	22.5
23	15.0	14.0	14.5	19.0	17.5	18.0	25.0	22.0	23.5	23.5	20.0	22.0
24	15.5	13.0	14.5	20.0	18.5	19.0	23.0	20.5	21.5	25.0	22.0	23.5
25	16.0	14.5	15.0	20.5	19.5	20.0	23.0	20.5	21.5	26.0	22.5	24.0
26	16.0	15.0	15.5	20.0	19.5	19.5	23.5	20.5	21.5	26.0	22.5	24.0
27	17.5	15.5	16.5	20.0	19.0	19.5	21.5	19.5	20.5	25.5	22.0	23.5
28	18.0	16.5	17.0	---	---	---	22.5	19.0	20.5	25.5	22.5	24.0
29	18.0	17.0	17.5	20.0	16.0	18.5	21.5	20.5	21.0	24.5	23.0	24.0
30	---	---	---	17.0	14.5	16.0	21.0	19.0	20.0	25.0	23.5	24.0
31	---	---	---	18.0	16.5	17.0	---	---	---	26.5	24.0	25.0
MONTH	18.5	7.5	13.5	20.5	12.5	16.0	25.0	15.0	20.5	27.0	19.5	23.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.5	21.0	23.0	30.0	27.0	28.0	30.0	27.0	28.0	28.0	25.0	26.5
2	24.0	23.0	24.0	29.0	27.0	28.0	30.0	26.5	28.0	29.0	26.5	27.5
3	24.5	22.5	23.5	28.5	26.5	27.5	28.5	27.0	27.5	27.5	23.0	24.5
4	25.5	22.5	24.0	29.0	27.0	28.0	29.0	27.0	28.0	25.0	24.0	24.5
5	26.5	23.5	25.0	29.0	26.5	27.5	31.0	27.5	29.0	26.0	24.0	25.0
6	27.0	24.0	25.5	28.5	26.5	27.5	31.5	27.5	29.5	27.0	24.0	25.5
7	28.0	24.5	26.0	29.0	26.5	27.5	32.0	28.5	30.0	26.5	24.5	25.5
8	28.0	25.0	26.5	28.0	26.5	27.0	32.0	28.5	30.0	26.5	24.0	25.0
9	28.5	25.5	27.0	29.0	25.5	27.0	31.5	28.5	29.5	27.0	24.5	25.5
10	27.5	25.0	26.5	29.0	26.0	27.5	30.0	27.5	29.0	27.5	25.0	26.0
11	26.5	23.0	25.0	27.5	26.5	27.0	30.0	27.5	28.5	28.0	25.5	26.5
12	27.0	23.0	25.0	27.0	24.0	25.5	29.5	27.5	28.5	28.5	25.5	27.0
13	27.0	24.0	25.5	27.5	24.5	25.5	30.5	27.5	28.5	29.0	26.5	27.5
14	28.0	24.5	26.0	28.5	26.5	27.5	30.5	27.5	29.0	28.5	25.5	27.0
15	28.0	25.0	26.5	29.5	27.0	28.0	30.5	28.0	29.0	29.0	26.5	27.5
16	28.5	25.5	27.0	30.0	27.5	28.5	31.5	27.5	29.5	28.0	26.5	27.0
17	27.5	25.5	26.5	30.0	27.5	28.5	30.0	28.0	29.0	28.5	27.0	27.5
18	28.0	25.5	26.5	30.5	27.5	28.5	31.0	27.5	29.0	27.5	26.0	27.0
19	28.5	25.5	26.5	28.5	27.5	28.0	29.5	27.5	28.5	27.5	25.5	26.5
20	28.0	25.5	26.5	28.0	26.5	27.0	30.0	27.5	28.0	27.5	25.5	26.5
21	29.0	25.5	27.0	28.0	26.0	27.0	30.5	27.5	29.0	29.0	26.5	27.5
22	28.5	25.5	27.0	29.0	26.0	27.5	31.5	27.5	29.0	29.0	26.5	27.5
23	29.0	25.5	27.0	29.0	26.5	27.5	30.5	28.0	29.0	28.0	26.0	27.0
24	29.0	26.5	27.5	29.0	26.0	27.5	31.0	28.0	29.5	27.0	25.0	26.5
25	28.5	26.0	27.0	29.0	26.0	27.5	30.5	28.0	29.0	26.0	24.0	25.0
26	28.5	26.5	27.5	30.0	26.5	28.0	30.0	27.5	28.5	27.0	24.0	25.5
27	30.0	27.5	28.5	30.0	27.0	28.5	29.5	27.0	28.0	27.5	25.0	26.0
28	31.5	27.5	29.5	29.5	27.0	28.0	29.5	26.5	28.0	27.5	25.0	26.0
29	30.0	27.0	28.5	30.0	27.0	28.0	27.5	25.5	26.5	25.5	22.0	24.0
30	29.5	26.5	28.0	30.0	27.0	28.5	26.5	25.0	25.5	22.0	18.5	20.0
31	---	---	---	30.0	27.0	28.5	27.5	24.5	26.0	---	---	---
MONTH	31.5	21.0	26.5	30.5	24.0	27.5	32.0	24.5	28.5	29.0	18.5	26.0

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	8.0	7.6	7.8	---	---	---
5	---	---	---	---	---	---	8.0	7.4	7.8	---	---	---
6	---	---	---	---	---	---	7.4	6.8	7.1	---	---	---
7	---	---	---	---	---	---	7.5	7.0	7.3	---	---	---
8	6.0	4.8	5.4	---	---	---	7.4	7.2	7.4	---	---	---
9	6.0	5.0	5.7	---	---	---	7.8	7.2	7.4	---	---	---
10	6.6	4.9	5.6	---	---	---	8.3	7.6	7.8	---	---	---
11	6.9	5.6	6.1	---	---	---	8.1	7.5	7.7	---	---	---
12	8.7	6.2	7.3	---	---	---	8.2	7.4	7.8	---	---	---
13	8.6	7.4	7.9	---	---	---	9.0	7.8	8.2	---	---	---
14	7.6	7.0	7.3	---	---	---	9.2	8.6	8.9	---	---	---
15	7.5	7.0	7.2	---	---	---	9.6	9.0	9.2	9.8	8.9	9.2
16	7.4	6.8	7.0	---	---	---	9.4	8.7	8.9	9.0	8.7	8.8
17	7.9	6.9	7.4	---	---	---	9.3	8.7	9.0	8.7	8.4	8.5
18	8.6	7.1	7.7	---	---	---	8.8	8.5	8.6	8.4	7.8	8.2
19	7.3	6.9	7.1	---	---	---	9.3	8.5	8.7	8.5	8.1	8.2
20	7.9	7.0	7.3	---	---	---	8.7	8.4	8.6	9.5	8.6	9.0
21	10.4	7.9	8.4	---	---	---	8.6	8.4	8.5	9.5	9.4	9.4
22	10.4	7.5	8.1	---	---	---	8.4	8.2	8.3	9.7	9.4	9.5
23	7.8	7.3	7.6	---	---	---	8.3	8.1	8.2	9.6	9.4	9.5
24	7.9	7.1	7.4	---	---	---	8.4	7.6	8.0	9.8	9.3	9.5
25	7.6	6.7	7.3	7.4	6.6	6.9	---	---	---	10.2	9.5	9.8
26	7.0	6.4	6.7	7.7	6.8	7.3	---	---	---	10.2	9.8	10.0
27	7.2	6.7	7.0	8.2	7.5	7.7	---	---	---	10.9	9.7	10.1
28	9.7	7.1	8.4	---	---	---	---	---	---	10.2	9.7	10.0
29	7.4	6.8	7.1	---	---	---	---	---	---	9.8	9.3	9.6
30	7.3	6.8	7.1	---	---	---	---	---	---	9.3	8.8	9.1
31	7.5	6.8	7.2	---	---	---	---	---	---	9.0	8.5	8.7
MONTH	10.4	4.8	7.1	8.2	6.6	7.3	9.6	6.8	8.2	10.9	7.8	9.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.1	8.1	8.6	10.8	8.0	9.2	8.6	8.0	8.3	8.0	7.5	7.7
2	9.8	8.3	9.0	9.8	7.5	8.4	8.6	7.3	8.1	8.1	7.7	7.9
3	9.7	9.4	9.5	8.8	7.5	8.1	8.8	7.9	8.2	8.4	7.7	8.0
4	11.0	9.2	10.0	9.8	8.6	9.0	8.4	7.9	8.1	8.6	8.0	8.3
5	11.0	9.7	10.1	9.9	8.5	8.9	8.5	7.5	7.9	9.6	8.1	8.6
6	10.4	9.8	10.0	9.6	8.5	9.0	9.0	7.5	8.2	8.9	7.7	8.1
7	10.2	9.7	9.9	9.6	8.7	9.1	8.9	7.9	8.3	8.0	7.5	7.7
8	10.0	9.7	9.8	9.3	8.4	8.8	8.4	7.6	8.0	8.0	7.3	7.6
9	9.9	9.1	9.5	9.1	8.4	8.7	9.4	7.5	8.2	8.8	7.0	7.7
10	9.4	9.0	9.2	9.3	8.2	8.9	9.6	8.2	8.8	11.2	7.3	8.7
11	11.4	9.0	10.5	9.7	8.6	9.0	9.6	8.2	8.9	8.6	7.1	7.8
12	11.0	10.4	10.7	9.0	7.1	8.2	8.7	8.2	8.5	7.7	6.9	7.3
13	10.3	9.6	10.0	9.7	8.7	9.2	8.2	7.6	7.9	7.8	7.0	7.3
14	9.7	8.9	9.3	10.9	9.2	9.9	7.9	7.3	7.6	7.7	7.0	7.3
15	9.8	8.6	9.1	---	---	---	7.7	7.0	7.3	7.9	6.9	7.3
16	9.9	8.7	9.1	---	---	---	7.8	7.1	7.4	9.0	7.0	7.7
17	9.1	8.6	8.8	---	---	---	7.6	6.2	7.1	8.2	7.0	7.7
18	10.0	8.6	9.3	11.4	10.4	10.8	7.5	5.8	6.6	7.7	6.5	6.9
19	10.0	9.5	9.7	10.8	9.9	10.5	8.7	7.4	7.9	7.6	6.2	6.8
20	9.6	9.3	9.4	11.1	9.5	9.9	7.9	7.6	7.7	7.3	4.2	6.7
21	9.8	9.3	9.5	10.2	9.4	9.7	7.6	7.2	7.4	8.5	4.1	6.2
22	9.6	9.1	9.3	9.5	8.7	9.1	8.4	7.2	7.6	8.1	6.7	7.4
23	9.8	8.9	9.3	9.2	8.5	8.8	8.1	7.3	7.6	8.6	7.2	7.7
24	9.8	9.2	9.5	9.2	8.4	8.7	---	---	---	8.5	7.0	7.6
25	9.6	8.9	9.2	9.0	7.9	8.5	---	---	---	8.9	6.8	7.6
26	10.0	8.9	9.4	9.5	7.9	8.6	---	---	---	9.1	6.7	7.6
27	9.3	8.6	9.0	9.8	7.9	8.7	---	---	---	7.7	6.9	7.3
28	9.8	8.4	8.9	---	---	---	---	---	---	7.9	6.6	7.2
29	9.8	8.2	8.9	8.4	7.5	7.9	8.0	7.7	7.9	7.5	6.6	7.0
30	---	---	---	9.2	8.2	8.6	8.2	7.4	7.7	7.6	6.7	7.1
31	---	---	---	8.7	8.2	8.4	---	---	---	7.6	6.8	7.1
MONTH	11.4	8.1	9.5	11.4	7.1	9.0	9.6	5.8	7.9	11.2	4.1	7.5

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6.9	5.1	6.2	6.2	5.3	5.7	6.9	5.9	6.3	8.2	6.8	7.3
2	7.2	6.1	6.7	6.2	5.1	5.6	7.7	5.8	6.5	7.0	6.4	6.8
3	7.4	6.8	7.1	6.3	5.4	5.9	6.3	5.9	6.2	6.4	4.6	5.9
4	8.3	7.2	7.7	8.9	5.5	7.2	6.9	5.5	6.1	7.0	4.7	6.0
5	10.8	7.3	8.7	7.7	6.0	6.6	7.2	6.1	6.5	7.6	7.0	7.3
6	9.0	7.2	7.9	6.7	5.7	6.0	7.4	5.9	6.5	7.3	6.6	7.1
7	7.9	6.9	7.4	6.7	5.9	6.3	7.6	6.3	6.8	7.0	6.5	6.7
8	7.5	6.7	7.0	6.7	5.8	6.3	9.6	5.8	7.0	6.6	6.3	6.4
9	8.3	6.6	7.3	6.7	5.7	6.2	7.9	6.0	6.8	6.6	6.1	6.4
10	8.8	6.8	7.6	6.5	5.6	6.0	8.8	6.0	7.1	6.9	6.0	6.4
11	9.0	7.2	7.8	5.9	5.4	5.6	9.5	6.0	7.5	6.8	5.9	6.3
12	8.6	7.1	7.7	6.3	4.8	5.6	6.8	5.9	6.4	6.4	5.7	6.0
13	8.4	7.0	7.5	5.4	4.2	4.7	6.4	5.8	6.1	6.0	5.6	5.8
14	8.5	6.8	7.4	6.9	5.5	6.3	6.5	5.8	6.1	6.8	4.7	5.6
15	8.0	6.5	7.2	8.6	6.7	7.7	6.8	5.7	6.2	6.0	5.4	5.7
16	7.9	6.4	7.1	8.3	7.9	8.1	10.1	5.8	7.3	5.7	5.3	5.5
17	7.4	6.3	6.8	8.2	7.5	7.9	9.8	6.1	7.5	6.0	5.3	5.6
18	7.9	6.5	7.0	7.9	7.4	7.6	12.9	6.2	8.8	6.2	5.5	5.9
19	8.0	6.5	7.1	7.9	6.8	7.6	7.5	6.2	6.7	6.3	5.9	6.0
20	8.1	6.5	7.1	6.7	5.2	5.8	7.2	6.2	6.5	6.5	5.9	6.2
21	8.0	6.2	7.0	5.3	4.8	5.0	6.8	6.1	6.4	6.5	6.0	6.3
22	8.2	6.3	7.0	5.8	4.9	5.3	8.3	6.0	6.7	6.6	6.2	6.4
23	8.9	6.3	7.3	5.6	5.1	5.3	7.0	6.0	6.5	6.8	6.4	6.6
24	7.8	6.2	7.1	5.5	5.0	5.2	9.8	6.2	7.4	7.1	6.4	6.7
25	9.5	6.3	7.5	7.0	5.4	6.6	7.8	6.4	6.9	7.8	6.9	7.4
26	6.9	5.1	6.1	7.1	6.3	6.6	7.2	6.1	6.6	---	---	---
27	11.5	6.2	8.3	7.9	6.3	6.9	7.3	6.3	6.7	---	---	---
28	14.0	7.0	10.6	7.0	6.2	6.6	7.5	6.3	6.9	7.4	6.7	7.0
29	7.4	5.5	6.5	6.8	6.2	6.4	7.9	6.6	7.1	7.1	6.0	6.6
30	6.7	5.7	6.1	6.8	6.0	6.3	8.8	6.8	7.7	8.3	7.3	7.8
31	---	---	---	6.8	6.0	6.3	9.6	7.0	7.9	---	---	---
MONTH	14.0	5.1	7.3	8.9	4.2	6.3	12.9	5.5	6.8	8.3	4.6	6.4

08061970 EAST FORK TRINITY RIVER ABOVE SEAGOVILLE, TX

LOCATION.--Lat 32°42'01", long 96°31'52", Dallas County, Hydrologic Unit 12030106, at downstream side of downstream bridge on IH 20 (under construction) about 20 ft right of channel; 100 ft downstream from South Mesquite Creek and 3.7 mi north of intersection of U. S. Highway 175 and Malloy Bridge Road in Seagoville.

PERIOD OF RECORD.--Chemical and biochemical analyses: April 1987 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1987 to current year.
pH: March 1987 to current year.
WATER TEMPERATURE: March 1987 to current year.
DISSOLVED OXYGEN: March 1987 to current year.

INSTRUMENTATION.--Beginning March 1987, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD --
SPECIFIC CONDUCTANCE: Maximum, 818 microsiemens Aug. 15, 1987; minimum, 144 microsiemens July 13, 1988.
pH: Maximum, 8.4 units Mar. 29, 1988; minimum 6.6 units Mar. 29, 1988.
WATER TEMPERATURE: Maximum, 32.0°C Aug. 8, 9, 1988; minimum, 3.0°C Jan. 8, 1988.
DISSOLVED OXYGEN: Maximum, 12.2 mg/L Jan. 8, 1988; minimum, 2.2 mg/L Oct. 9, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 780 microsiemens Nov. 2; minimum, 144 microsiemens July 13.
pH: Maximum, 8.4 units Mar. 29; minimum 6.6 units Mar. 29.
WATER TEMPERATURE: Maximum, 32.0°C Aug. 8, 9; minimum, 3.0°C Jan. 8.
DISSOLVED OXYGEN: Maximum, 12.2 mg/L Jan. 8; minimum, 2.2 mg/L Oct. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 05...	1245	670	7.40	21.5	4.6	52	4.6	150	37
JAN 06...	1000	613	7.70	9.5	9.4	82	6.9	180	28
MAR 31...	1000	495	7.80	15.0	7.7	77	4.7	160	22
JUN 09...	1220	717	7.50	26.5	5.5	70	4.0	180	45
JUL 14...	1310	315	7.50	27.0	3.6	46	2.3	110	11
SEP 06...	1515	544	7.60	25.5	5.5	68	4.2	160	36

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 WAT WH TOT FET 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)
NOV 05...	55	3.8	65	2	11	116	65	67	1.4
JAN 06...	67	3.9	51	2	8.7	156	71	45	1.0
MAR 31...	56	3.9	37	1	6.1	134	63	28	0.60
JUN 09...	64	4.2	64	2	5.0	132	78	74	1.0
JUL 14...	41	2.6	16	0.7	6.0	102	29	12	0.40
SEP 06...	56	3.7	43	2	7.8	119	58	38	0.60

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-PHOROUS TOTAL (MG/L AS P)
NOV 05...	9.2	347	5.88	0.220	6.10	1.20	1.6	2.8	5.00
JAN 06...	9.9	351	3.94	0.360	4.30	2.50	1.7	4.2	3.70
MAR 31...	7.2	282	1.78	0.220	2.00	1.40	0.90	2.3	1.40
JUN 09...	8.9	378	5.90	0.300	6.20	1.90	1.9	3.8	6.00
JUL 14...	9.4	178	0.760	0.040	0.800	0.210	0.99	1.2	0.700
SEP 06...	10	288	4.11	0.090	4.20	2.00	1.4	3.4	3.40

08061970 EAST FORK TRINITY RIVER ABOVE SEAGOVILLE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	626	728	673	690	581	544	562	570	514	547
2	726	666	697	780	684	731	600	564	585	551	521	537
3	700	661	686	706	619	650	647	597	620	551	520	538
4	704	662	685	682	602	632	647	629	640	595	550	563
5	706	678	689	691	633	663	655	617	633	624	551	578
6	679	610	635	729	693	708	644	607	625	644	581	612
7	657	581	615	715	660	687	605	498	555	641	605	622
8	745	603	663	686	252	563	568	504	532	622	569	602
9	755	680	729	431	262	341	596	558	576	626	565	584
10	721	678	702	399	324	359	625	577	607	627	546	571
11	682	650	665	532	389	445	660	619	640	587	542	560
12	669	641	657	561	510	538	672	598	639	588	518	557
13	663	635	649	626	580	609	659	461	611	608	537	563
14	693	613	652	629	562	599	546	386	458	688	573	614
15	739	630	671	613	175	475	503	437	456	699	558	628
16	761	724	741	363	218	272	580	512	530	726	598	653
17	768	719	742	447	329	378	611	560	590	741	634	678
18	727	649	688	582	455	507	654	553	606	694	636	666
19	759	655	699	624	446	539	638	327	543	672	626	653
20	703	621	650	602	472	548	427	251	309	701	660	682
21	664	562	617	651	604	616	522	425	462	678	617	646
22	685	642	661	656	613	638	570	509	525	688	648	659
23	735	632	683	659	510	589	608	552	573	713	662	686
24	729	647	684	579	536	564	625	255	518	720	653	685
25	670	591	642	578	172	327	488	278	425	688	628	665
26	625	519	575	398	246	344	292	173	217	664	614	635
27	592	567	580	485	267	409	332	242	283	---	---	662
28	666	540	600	528	473	500	405	348	373	---	---	676
29	669	631	653	587	515	544	499	404	436	---	---	656
30	698	631	655	577	520	542	525	460	493	---	---	668
31	734	689	706	---	---	---	560	500	530	---	---	686
MONTH	768	519	664	780	172	534	672	173	521	741	514	624

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1			656	---	---	671	613	540	583	---	---	524
2			665	---	---	572	611	492	545	---	---	597
3			662	---	---	383	581	496	542	---	---	586
4			706	---	---	515	618	556	579	---	---	622
5			723	---	---	605	656	573	602	---	---	647
6			685	---	---	643	692	620	644	---	---	694
7			695	---	---	640	705	672	691	---	---	708
8			669	---	---	653	708	653	679	---	---	716
9			660	---	---	667	747	664	697	---	---	676
10			677	---	---	719	733	671	705	---	---	620
11			692	---	---	741	677	565	615	---	---	512
12			685	---	---	515	645	458	517	---	---	667
13			683	---	---	532	692	574	620	---	---	686
14			661	---	---	632	715	662	690	---	---	694
15			644	683	630	652	730	675	705	---	---	710
16			641	695	633	667	758	678	716	---	---	676
17			659	694	413	666	738	190	570	---	---	652
18			358	531	252	382	441	224	318	---	---	679
19			374	561	477	514	571	439	494	732	651	690
20			501	601	559	575	623	523	557	730	437	698
21			558	623	590	603	664	602	623	673	246	396
22			581	650	604	632	689	646	664	557	473	514
23			603	700	637	672	---	---	674	616	543	572
24			639	709	671	691	---	---	691	626	597	611
25			677	719	683	703	---	---	642	686	603	646
26			694	727	694	716	---	---	626	718	656	688
27			710	721	691	709	---	---	644	724	667	694
28			657	712	685	699	---	---	657	749	672	710
29			690	708	175	425	---	---	688	746	694	715
30				502	400	436	---	---	697	716	684	700
31				583	477	520	---	---	---	686	587	624
MONTH			638	727	175	605	758	190	623	749	246	643

08061970 EAST FORK TRINITY RIVER ABOVE SEAGOVILLE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	643	217	346	743	694	722	659	631	638	676	627	653
2	520	246	379	695	599	676	651	599	625	681	629	659
3	524	415	465	645	580	619	690	617	658	675	188	391
4	526	456	494	671	466	547	656	530	630	389	201	288
5	602	512	556	592	454	508	569	513	535	510	402	442
6	614	580	601	582	313	445	628	561	586	560	493	520
7	630	587	606	584	489	530	649	605	623	614	553	584
8	679	598	646	647	573	606	640	625	635	637	613	626
9	691	660	681	677	631	656	637	606	621	668	613	642
10	713	668	693	668	630	651	644	585	621	670	644	658
11	722	684	710	659	621	647	659	630	646	649	605	634
12	689	664	678	619	146	320	682	636	657	650	623	638
13	680	648	664	227	144	186	662	620	640	674	482	627
14	673	626	647	419	233	313	644	608	622	651	466	551
15	705	629	664	531	424	458	630	597	611	568	478	516
16	726	649	692	588	508	537	639	618	626	637	549	583
17	728	671	702	589	546	566	666	595	631	682	636	665
18	717	675	702	570	532	556	671	610	645	655	499	597
19	692	676	683	573	548	562	670	634	651	697	545	597
20	684	671	679	668	548	582	649	590	624	602	567	577
21	677	628	649	534	464	503	619	550	588	687	590	642
22	707	631	662	684	449	522	671	608	637	742	680	711
23	733	673	699	691	628	657	663	614	635	688	651	668
24	740	702	723	664	626	646	659	618	634	688	536	627
25	765	717	739	661	608	636	664	606	642	642	561	608
26	725	606	680	621	571	597	652	597	629	616	581	602
27	571	456	524	653	596	619	648	574	612	618	550	592
28	632	528	564	689	645	665	656	596	626	642	544	588
29	650	586	612	697	667	681	651	499	599	662	364	543
30	745	604	686	704	661	683	610	576	591	491	201	293
31	---	---	---	680	634	657	634	581	605	---	---	---
MONTH	765	217	628	743	144	566	690	499	623	742	188	577

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.62	7.42	7.51	7.46	7.18	7.31	7.57	7.47	7.52	7.97	7.90	7.94
2	7.61	7.41	7.55	---	---	---	7.58	7.42	7.51	7.96	7.87	7.92
3	---	---	---	---	---	---	---	---	---	7.97	7.83	7.88
4	---	---	---	---	---	---	---	---	---	7.84	7.77	7.81
5	---	---	---	7.49	7.36	7.43	---	---	---	7.81	7.66	7.75
6	---	---	---	7.48	7.38	7.44	---	---	---	7.98	7.73	7.82
7	---	---	---	---	---	---	---	---	---	8.04	7.79	7.94
8	---	---	---	---	---	---	---	---	---	8.11	7.94	8.00
9	---	---	---	---	---	---	---	---	---	8.04	7.90	7.96
10	---	---	---	---	---	---	---	---	---	8.04	7.89	7.96
11	---	---	---	---	---	---	7.62	7.45	7.55	---	---	---
12	---	---	---	---	---	---	7.66	7.48	7.58	---	---	---
13	---	---	---	---	---	---	8.03	7.48	7.63	---	---	---
14	---	---	---	---	---	---	7.87	7.74	7.80	---	---	---
15	---	---	---	---	---	---	7.82	7.75	7.78	---	---	---
16	---	---	---	---	---	---	7.86	7.78	7.82	---	---	---
17	7.58	7.46	7.51	---	---	---	7.86	7.76	7.80	---	---	---
18	7.61	7.42	7.50	---	---	---	7.78	7.65	7.73	---	---	---
19	7.60	7.40	7.49	---	---	---	8.07	7.65	7.82	---	---	---
20	7.52	7.46	7.49	---	---	---	7.85	7.77	7.81	---	---	---
21	7.62	7.51	7.57	---	---	---	7.86	7.71	7.82	---	---	---
22	7.66	7.52	7.59	---	---	---	7.80	7.34	7.74	---	---	---
23	7.73	7.49	7.62	---	---	---	7.57	7.31	7.43	---	---	---
24	7.54	7.46	7.50	---	---	---	7.92	7.47	7.64	---	---	---
25	7.48	7.43	7.46	7.90	7.49	7.66	7.94	7.61	7.71	---	---	---
26	7.53	7.45	7.50	7.70	7.52	7.57	8.15	7.84	7.99	---	---	---
27	7.48	7.44	7.46	7.75	7.53	7.61	7.91	7.85	7.88	7.89	7.50	7.65
28	7.54	7.46	7.50	7.71	7.58	7.64	7.92	7.86	7.88	7.70	7.50	7.58
29	7.53	7.31	7.44	7.66	7.57	7.61	7.95	7.85	7.89	7.70	7.60	7.62
30	7.56	7.41	7.47	7.65	7.50	7.57	7.95	7.86	7.91	8.00	7.70	7.81
31	7.43	7.27	7.38	---	---	---	7.95	7.89	7.91	8.00	7.90	7.96
MONTH	7.73	7.27	7.50	7.90	7.18	7.54	8.15	7.31	7.75	8.11	7.50	7.84

08061970 EAST FORK TRINITY RIVER ABOVE SEAGOVILLE, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.00	7.90	8.00	7.40	7.30	7.39	7.83	7.67	7.73	---	---	---
2	8.20	8.00	8.08	8.13	7.19	7.53	7.78	7.64	7.72	---	---	---
3	8.20	8.10	8.13	7.94	7.82	7.84	7.69	7.63	7.66	---	---	---
4	8.20	8.00	8.09	7.96	7.85	7.94	7.62	7.48	7.55	---	---	---
5	8.20	8.00	8.12	7.86	7.76	7.83	7.51	7.34	7.44	---	---	---
6	8.30	8.00	8.13	7.77	7.67	7.73	7.51	7.38	7.47	---	---	---
7	8.00	7.90	8.00	7.59	7.38	7.50	7.50	7.43	7.47	---	---	---
8	8.00	7.80	7.90	---	---	---	7.45	7.31	7.39	---	---	---
9	7.90	7.80	7.82	---	---	---	7.38	7.29	7.34	---	---	---
10	7.80	7.80	7.80	---	---	---	7.45	7.28	7.32	---	---	---
11	7.80	7.80	7.80	---	---	---	7.58	7.32	7.42	---	---	---
12	7.90	7.80	7.86	---	---	---	7.60	7.44	7.53	---	---	---
13	7.80	7.70	7.79	---	---	---	7.49	7.33	7.40	---	---	---
14	7.80	7.60	7.70	---	---	---	7.40	7.28	7.34	---	---	---
15	7.60	7.50	7.57	7.89	7.82	7.86	7.33	7.24	7.29	---	---	---
16	7.60	7.50	7.54	7.87	7.73	7.78	7.28	7.19	7.23	---	---	---
17	7.60	7.30	7.45	7.99	7.70	7.77	7.93	7.00	7.33	---	---	---
18	---	---	---	8.10	7.80	7.91	7.84	7.68	7.75	---	---	---
19	---	---	---	7.92	7.81	7.86	7.83	7.74	7.79	7.52	7.34	7.41
20	---	---	---	7.83	7.70	7.76	7.76	7.66	7.72	7.81	7.44	7.54
21	8.10	7.90	8.01	7.74	7.55	7.64	7.73	7.54	7.62	7.91	7.55	7.72
22	8.00	7.80	7.87	7.65	7.50	7.58	7.63	7.52	7.57	7.81	7.66	7.73
23	7.80	7.60	7.73	7.53	7.24	7.41	7.55	7.36	7.47	7.86	7.65	7.75
24	7.81	7.60	7.71	7.46	7.16	7.32	---	---	---	7.79	7.67	7.72
25	7.81	7.71	7.74	7.24	7.00	7.11	---	---	---	7.85	7.69	7.76
26	---	---	---	7.05	6.91	7.01	---	---	---	7.88	7.75	7.80
27	---	---	---	7.11	6.86	7.02	---	---	---	7.94	7.76	7.81
28	---	---	---	6.95	6.74	6.83	---	---	---	7.83	7.74	7.78
29	7.58	7.47	7.51	8.39	6.62	7.50	---	---	---	7.76	7.62	7.69
30	---	---	---	7.82	7.78	7.80	---	---	---	7.71	7.58	7.65
31	---	---	---	7.82	7.75	7.79	---	---	---	7.64	7.54	7.60
MONTH	8.30	7.30	7.84	8.39	6.62	7.57	7.93	7.00	7.50	7.94	7.34	7.69

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.27	7.57	8.04	7.48	7.35	7.43	7.39	7.28	7.36	7.61	7.56	7.58
2	8.02	7.59	7.77	7.34	7.03	7.19	7.35	7.20	7.28	7.64	7.43	7.53
3	7.76	7.60	7.66	7.17	6.95	7.05	7.51	7.21	7.38	8.14	7.48	7.82
4	7.79	7.60	7.68	7.31	6.94	7.10	7.52	7.35	7.45	8.08	7.71	7.86
5	7.73	7.57	7.64	7.58	7.16	7.27	7.54	7.34	7.42	7.73	7.63	7.67
6	7.70	7.53	7.60	7.63	7.41	7.45	7.53	7.37	7.44	7.72	7.57	7.64
7	7.60	7.46	7.53	7.39	7.25	7.32	7.55	7.29	7.45	7.72	7.59	7.68
8	7.57	7.44	7.49	7.36	7.30	7.33	7.32	7.17	7.25	7.60	7.49	7.54
9	7.62	7.49	7.56	7.35	7.25	7.31	7.29	7.03	7.17	7.53	7.47	7.51
10	7.59	7.51	7.55	7.28	7.09	7.17	7.43	7.21	7.32	7.47	7.35	7.42
11	7.57	7.47	7.50	7.16	7.00	7.06	7.58	7.45	7.51	7.37	7.22	7.30
12	7.53	7.43	7.50	8.14	6.97	7.65	7.58	7.49	7.54	7.24	7.11	7.19
13	7.44	7.29	7.38	8.09	7.51	7.76	7.57	7.53	7.55	7.62	7.05	7.20
14	7.29	7.14	7.24	7.61	7.43	7.53	7.57	7.53	7.55	7.58	7.48	7.52
15	7.20	7.01	7.12	7.61	7.39	7.51	7.58	7.42	7.51	7.51	7.42	7.47
16	7.11	6.96	7.06	7.62	7.43	7.50	7.51	7.39	7.44	7.51	7.40	7.48
17	7.10	7.02	7.06	7.50	7.42	7.46	7.48	7.39	7.43	7.61	7.47	7.53
18	7.19	7.02	7.09	7.49	7.38	7.45	---	---	---	7.69	7.54	7.59
19	7.32	7.19	7.27	7.51	7.37	7.42	---	---	---	7.61	7.53	7.57
20	7.30	7.20	7.26	7.71	7.48	7.60	---	---	---	7.60	7.51	7.55
21	7.33	7.24	7.27	7.67	7.56	7.60	---	---	---	7.53	7.48	7.51
22	7.35	7.26	7.29	7.70	7.60	7.64	---	---	---	7.52	7.41	7.46
23	7.29	7.18	7.24	7.69	7.61	7.64	---	---	---	7.45	7.36	7.38
24	7.23	7.09	7.17	7.63	7.47	7.55	7.40	7.22	7.32	7.81	7.37	7.50
25	7.17	7.01	7.09	7.49	7.41	7.45	7.44	7.30	7.38	7.50	7.47	7.49
26	7.15	7.00	7.06	7.51	7.26	7.42	7.47	7.40	7.44	7.55	7.47	7.51
27	---	---	---	7.27	6.84	7.11	7.54	7.45	7.49	7.60	7.48	7.55
28	---	---	---	7.28	7.11	7.21	7.49	7.45	7.47	7.59	7.14	7.36
29	---	---	---	7.33	7.11	7.19	7.68	7.44	7.52	7.76	7.21	7.41
30	---	---	---	7.33	7.13	7.22	7.55	7.50	7.53	8.17	7.71	7.91
31	---	---	---	7.32	7.15	7.24	7.57	7.51	7.54	---	---	---
MONTH	8.27	6.96	7.39	8.14	6.84	7.38	7.68	7.03	7.43	8.17	7.05	7.52

08061970 EAST FORK TRINITY RIVER ABOVE SEAGOVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	22.5	20.5	21.5	14.5	12.0	13.5	11.0	9.5	10.5
2	23.5	21.0	22.5	21.5	20.0	21.0	14.5	12.0	13.5	10.0	8.5	9.5
3	22.5	20.5	21.5	22.0	19.5	21.0	16.5	13.5	15.0	10.5	8.5	9.5
4	22.0	19.0	20.5	23.0	19.5	21.5	16.5	13.5	15.5	10.5	9.5	10.0
5	22.5	18.5	21.0	22.5	20.0	21.5	17.5	14.5	16.0	11.0	9.0	10.5
6	22.5	20.0	21.5	21.0	19.0	20.0	18.0	16.5	17.5	11.5	9.0	10.0
7	22.5	19.5	21.0	20.0	17.5	19.0	17.5	16.0	17.0	8.5	4.5	7.5
8	21.5	18.5	20.5	20.5	18.0	19.0	17.0	15.5	16.5	7.5	3.0	5.5
9	23.0	20.5	22.0	18.0	15.5	17.0	16.5	15.0	16.0	8.5	5.0	6.5
10	24.0	21.5	23.0	16.0	14.0	15.0	16.0	14.0	15.5	8.0	5.5	6.5
11	22.5	20.5	22.0	15.0	13.0	14.5	16.5	14.5	15.5	8.5	5.5	7.0
12	21.5	19.0	20.5	15.5	12.5	14.0	16.5	14.0	15.0	10.0	7.0	9.0
13	21.0	18.0	19.5	16.0	13.0	14.5	16.0	10.5	14.0	9.5	8.0	9.0
14	21.0	18.0	19.5	17.0	14.0	15.5	12.5	9.5	11.5	9.5	8.0	8.5
15	21.5	18.5	20.0	18.0	14.5	16.5	10.5	9.5	10.0	10.0	7.5	9.0
16	22.5	20.0	21.5	15.5	14.5	15.0	11.0	8.5	10.0	13.0	9.0	11.5
17	23.5	21.0	22.5	15.0	13.0	14.5	12.0	9.0	10.5	15.0	13.0	14.0
18	23.5	20.5	22.5	16.5	14.5	15.5	13.0	10.5	12.0	15.5	13.5	14.5
19	23.0	20.5	22.0	16.5	12.5	14.5	14.0	11.5	13.0	16.0	14.5	15.0
20	22.0	20.5	21.5	15.0	12.5	13.5	13.0	12.0	12.5	14.5	12.5	13.5
21	21.0	18.5	19.5	18.0	13.5	15.5	14.0	11.5	13.0	12.5	10.5	11.0
22	20.5	18.0	19.5	18.0	15.0	16.5	14.0	13.0	13.5	11.5	9.0	10.5
23	20.0	17.0	18.5	18.5	17.0	18.0	15.5	13.5	14.5	12.5	8.5	10.5
24	22.0	19.5	20.5	19.5	18.0	19.0	18.0	12.5	16.0	13.0	10.0	11.5
25	22.5	21.0	22.0	19.5	11.5	16.0	15.5	9.5	14.0	11.5	9.5	11.0
26	23.0	21.0	22.0	15.5	14.5	15.0	8.0	6.0	6.5	11.5	8.5	10.5
27	22.0	20.5	21.0	14.5	13.0	13.5	7.5	6.0	6.5	---	---	---
28	21.0	18.5	20.0	14.0	13.0	13.5	8.0	6.5	7.5	---	---	---
29	22.5	18.0	20.5	14.0	12.0	13.5	8.5	6.5	8.0	---	---	---
30	21.0	18.5	20.5	14.0	12.0	13.5	9.5	7.0	8.5	---	---	---
31	22.5	20.5	21.5	---	---	---	11.5	10.0	11.0	---	---	---
MONTH	24.0	17.0	21.0	23.0	11.5	16.5	18.0	6.0	13.0	16.0	3.0	10.0

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

08061970 EAST FORK TRINITY RIVER ABOVE SEAGOVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.0	21.0	22.0	30.0	28.0	29.0	30.0	28.0	29.0	27.5	25.0	26.0
2	23.0	22.0	22.5	29.5	27.5	28.5	30.5	28.0	29.0	28.5	26.5	27.5
3	23.5	22.5	23.0	28.5	27.0	28.0	29.0	28.0	28.5	27.5	24.0	25.5
4	24.5	23.0	23.5	29.0	27.0	28.0	29.0	27.5	28.0	25.5	24.0	24.5
5	25.0	22.0	23.5	29.5	27.0	28.0	30.5	28.0	29.0	25.5	23.5	24.5
6	26.5	23.0	24.5	29.0	27.0	28.0	31.0	28.5	29.5	26.5	24.0	25.0
7	27.0	24.0	25.5	29.0	27.0	28.0	31.5	29.0	30.0	26.5	24.0	25.0
8	28.5	25.5	26.5	28.5	27.0	27.5	32.0	29.5	30.5	26.5	24.5	25.5
9	28.5	26.5	27.0	28.5	26.0	27.5	32.0	29.5	30.5	26.5	24.0	25.5
10	27.5	25.5	26.5	29.0	26.5	28.0	31.0	29.0	30.0	27.0	24.5	25.5
11	26.0	23.5	25.0	28.0	27.0	28.0	29.5	28.5	29.0	27.5	25.0	26.0
12	26.0	23.0	24.5	27.5	24.5	26.0	29.5	28.0	29.0	28.0	25.5	27.0
13	26.5	24.0	25.0	26.5	25.0	25.5	30.5	28.5	29.5	28.5	26.5	27.0
14	27.0	24.5	26.0	28.5	26.5	27.5	30.5	28.5	29.5	28.0	26.0	27.0
15	28.0	25.0	26.5	29.5	27.5	28.5	31.0	28.5	29.5	28.5	26.5	27.5
16	28.0	25.5	27.0	30.0	28.0	29.0	30.5	28.5	29.5	28.0	27.0	27.5
17	27.5	26.0	26.5	30.5	28.0	29.5	30.5	28.5	29.5	28.0	26.5	27.5
18	28.0	25.5	26.5	31.0	28.5	29.5	30.5	28.0	29.0	28.0	26.0	27.0
19	28.0	26.0	27.0	29.5	28.5	29.0	30.0	28.5	29.0	28.0	26.5	27.5
20	28.0	25.5	27.0	28.5	27.5	28.0	29.5	27.0	28.5	27.0	25.5	26.5
21	28.5	26.0	27.5	29.0	26.0	27.5	30.5	27.0	29.0	28.0	25.5	27.0
22	29.0	26.0	27.5	29.0	26.5	27.5	31.0	28.5	29.5	28.0	26.5	27.0
23	29.0	26.0	27.5	29.5	26.5	28.0	31.0	29.0	30.0	27.5	26.5	27.0
24	29.0	26.5	28.0	29.5	27.0	28.0	31.0	29.0	30.0	27.0	25.0	26.0
25	28.5	27.0	28.0	29.5	27.0	28.0	30.5	28.5	29.5	26.0	23.5	25.0
26	29.0	27.0	28.0	30.0	27.5	28.5	30.0	28.0	29.0	25.5	23.0	24.5
27	30.0	27.5	28.5	30.0	28.0	29.0	29.5	27.5	28.5	26.0	23.5	25.0
28	30.5	28.5	29.0	30.0	28.0	29.0	30.0	27.5	28.5	26.0	24.0	25.0
29	30.5	27.5	29.0	30.0	28.0	29.0	28.5	25.5	27.0	25.5	22.0	24.0
30	30.5	28.5	29.0	30.5	28.0	29.0	26.5	25.5	26.0	22.5	18.5	20.0
31	---	---	---	30.0	28.0	29.0	27.0	24.5	26.0	---	---	---
MONTH	30.5	21.0	26.5	31.0	24.5	28.0	32.0	24.5	29.0	28.5	18.5	26.0

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	5.7	4.1	4.8	---	---	---	10.3	10.0	10.1
2	4.1	3.1	3.6	5.2	4.2	4.7	---	---	---	10.6	10.2	10.5
3	4.4	2.9	3.6	5.7	4.1	4.8	---	---	---	10.6	9.9	10.3
4	4.6	3.0	3.7	6.3	4.2	5.1	---	---	---	9.9	9.6	9.8
5	4.5	3.2	3.8	5.6	4.1	4.7	---	---	---	9.8	9.6	9.7
6	4.7	3.1	3.9	5.3	3.7	4.5	---	---	---	10.0	9.0	9.5
7	5.3	3.1	4.2	6.6	4.0	5.2	---	---	---	11.6	10.1	10.6
8	5.3	2.8	3.8	7.3	4.7	5.6	---	---	---	12.2	10.8	11.4
9	3.7	2.2	3.0	6.9	5.9	6.5	---	---	---	11.9	10.6	11.3
10	4.0	2.6	3.3	7.8	6.5	7.4	---	---	---	12.0	10.8	11.5
11	4.7	2.4	3.4	7.8	6.0	7.4	---	---	---	11.7	10.5	11.3
12	4.9	3.1	3.9	7.3	6.8	7.1	---	---	---	11.3	10.2	10.7
13	5.6	3.9	4.7	7.0	6.6	6.7	---	---	---	10.6	10.3	10.5
14	6.0	4.7	5.1	6.6	6.1	6.4	---	7.8	8.5	10.4	9.8	10.2
15	6.1	4.4	5.1	7.2	5.6	6.1	9.7	9.2	9.5	10.3	9.3	9.9
16	5.7	4.1	4.7	8.1	6.4	7.4	9.9	9.4	9.6	10.0	8.6	9.2
17	5.3	3.7	4.3	8.1	7.3	7.7	9.3	8.8	9.1	8.5	8.1	8.3
18	6.2	3.3	4.5	7.3	7.0	7.2	9.0	8.3	8.7	8.1	7.7	7.9
19	4.5	2.9	3.9	8.3	7.0	7.4	10.2	8.2	9.0	7.7	7.1	7.4
20	4.8	3.3	4.0	8.0	6.8	7.5	9.2	8.8	9.1	8.1	7.3	7.5
21	5.5	4.3	4.7	7.0	6.6	6.8	9.4	8.9	9.2	9.4	8.1	8.7
22	5.9	4.6	5.2	6.5	5.9	6.3	9.0	8.7	8.9	9.5	9.2	9.3
23	6.2	4.5	5.2	6.6	5.8	6.2	8.6	8.1	8.5	9.5	9.2	9.3
24	5.6	4.4	4.8	6.1	4.8	5.5	8.7	7.4	8.1	9.2	8.9	9.0
25	5.5	4.2	4.7	7.6	4.2	6.3	10.9	8.0	9.0	9.4	8.9	9.1
26	5.4	4.6	4.9	---	---	---	11.9	11.2	11.5	9.7	9.0	9.4
27	6.1	4.3	4.8	---	---	---	11.2	10.8	11.0	9.7	8.9	9.5
28	5.7	4.2	4.8	---	---	---	11.3	10.7	11.1	9.4	8.8	9.0
29	6.4	4.1	5.2	---	---	---	11.3	10.7	11.0	9.3	8.4	8.9
30	6.8	4.1	5.2	---	---	---	11.2	10.7	10.9	8.4	7.7	8.1
31	5.8	4.0	4.8	---	---	---	10.6	10.0	10.3	7.7	7.1	7.4
MONTH	6.8	2.2	4.4	8.3	3.7	6.2	11.9	7.4	9.6	12.2	7.1	9.5

08061970 EAST FORK TRINITY RIVER ABOVE SEAGOVILLE, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.4	6.9	7.2	8.3	7.5	7.8	---	---	---	---	---	---
2	8.1	7.0	7.5	8.5	7.1	7.7	---	---	---	---	---	---
3	8.8	7.9	8.4	9.4	7.9	8.5	---	---	---	---	---	---
4	9.8	7.5	9.0	9.6	9.3	9.5	---	---	---	---	---	---
5	9.9	8.7	9.3	9.5	8.9	9.3	---	---	---	---	---	---
6	10.9	9.3	10.1	9.1	8.7	8.9	---	---	---	---	---	---
7	10.2	9.1	9.7	8.9	8.3	8.6	---	---	---	---	---	---
8	9.2	8.7	9.0	8.5	7.9	8.2	---	---	---	---	---	---
9	9.3	8.0	8.7	---	---	---	---	---	---	---	---	---
10	8.7	7.9	8.2	---	---	---	---	---	---	---	---	---
11	9.3	7.5	8.5	---	---	---	---	---	---	---	---	---
12	10.5	9.0	9.9	---	---	---	---	---	---	---	---	---
13	10.3	9.0	9.8	---	---	---	---	---	---	---	---	---
14	9.5	8.0	8.8	---	---	---	---	---	---	---	---	---
15	8.9	7.7	8.1	9.9	8.9	9.3	---	---	---	---	---	---
16	8.7	7.4	7.9	9.8	8.8	9.1	---	---	---	---	---	---
17	8.7	7.1	7.3	10.5	8.3	8.8	---	---	---	---	---	---
18	10.1	8.1	9.2	10.2	9.6	9.9	---	---	---	---	---	---
19	9.9	9.4	9.7	10.3	9.6	9.9	7.1	6.6	6.9	6.2	3.9	4.9
20	9.6	8.9	9.3	9.9	9.3	9.6	6.8	6.5	6.7	6.3	3.3	5.1
21	9.2	8.7	9.0	9.4	8.4	8.9	6.4	5.9	6.1	4.8	3.1	4.0
22	8.7	8.2	8.5	9.0	8.2	8.6	5.9	5.6	5.7	6.6	4.8	5.7
23	8.8	8.0	8.3	8.6	7.7	8.2	6.0	5.5	5.8	7.5	5.7	6.4
24	9.0	8.1	8.6	8.5	7.3	7.9	---	---	---	7.2	5.4	6.2
25	9.3	8.8	9.0	8.4	7.0	7.7	---	---	---	7.4	5.8	6.5
26	---	---	---	8.4	7.2	7.7	---	---	---	8.2	6.1	6.9
27	---	---	---	8.7	7.1	7.9	---	---	---	9.1	6.3	7.2
28	---	---	---	7.9	7.0	7.5	---	---	---	8.5	6.3	7.1
29	8.4	7.5	8.0	8.9	6.7	7.9	---	---	---	7.3	5.4	6.4
30	---	---	---	8.5	7.9	8.3	---	---	---	7.6	5.6	6.6
31	---	---	---	---	---	---	---	---	---	7.5	5.6	6.6
MONTH	10.9	6.9	8.7	10.5	6.7	8.6	7.1	5.5	6.2	9.1	3.1	6.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.1	6.6	7.3	5.5	4.0	4.6	5.8	4.4	4.9	5.9	4.0	5.3
2	6.9	6.3	6.7	5.0	3.9	4.5	6.2	4.3	5.0	5.2	3.5	4.5
3	8.0	6.7	7.5	5.5	3.5	4.7	5.4	4.5	4.9	5.5	4.0	4.7
4	8.5	7.5	7.9	---	---	---	5.4	4.4	4.9	5.4	4.1	4.9
5	8.0	7.1	7.6	---	---	---	6.0	4.5	5.1	5.9	5.4	5.6
6	9.4	6.6	7.7	---	---	---	6.1	4.4	5.0	5.9	5.1	5.5
7	8.3	6.9	7.5	---	---	---	6.0	4.4	5.0	6.2	5.7	5.9
8	8.1	6.1	7.0	---	---	---	7.0	4.4	5.4	6.2	5.5	5.8
9	6.3	5.2	5.8	---	---	---	6.7	4.5	5.2	6.4	5.4	5.8
10	6.5	5.1	5.8	---	---	---	6.6	4.9	5.4	6.5	5.3	5.7
11	6.9	5.7	6.2	---	---	---	6.6	4.8	5.4	6.4	5.0	5.6
12	7.0	5.6	6.2	---	---	---	6.0	4.7	5.3	6.4	5.1	5.6
13	6.5	5.6	6.0	---	---	---	6.6	4.8	5.4	6.4	4.9	5.6
14	6.9	4.7	5.9	---	---	---	6.2	4.3	5.0	5.9	5.1	5.5
15	7.8	5.4	6.3	---	---	---	6.2	4.3	5.0	5.8	4.5	5.2
16	7.0	5.2	6.0	5.5	5.0	5.2	5.8	4.4	5.0	5.9	4.7	5.3
17	6.4	4.8	5.5	5.1	4.5	4.8	6.4	4.2	5.2	6.0	4.7	5.2
18	6.3	4.5	5.4	5.0	4.4	4.8	6.7	4.9	5.6	6.3	4.8	5.3
19	6.3	4.5	5.4	5.1	4.6	4.8	5.6	3.9	5.0	5.5	4.7	5.1
20	6.4	4.5	5.4	5.4	5.0	5.2	5.9	4.2	5.0	5.5	4.8	5.1
21	6.2	4.5	5.2	6.4	4.6	5.3	5.5	4.1	4.7	5.5	4.6	5.0
22	6.2	4.4	5.1	6.3	5.3	5.5	5.5	3.8	4.6	5.3	4.3	4.7
23	6.6	4.3	5.2	6.0	4.8	5.3	5.2	3.7	4.4	5.3	4.0	4.7
24	6.1	4.4	5.1	5.4	4.7	5.1	5.4	4.0	4.6	6.9	4.4	5.4
25	6.2	4.4	5.1	5.5	4.7	5.1	5.5	3.8	4.7	6.0	5.1	5.5
26	6.0	4.2	5.0	5.6	4.6	5.0	5.6	4.1	4.8	6.3	5.7	6.0
27	5.5	3.4	4.6	5.5	4.4	4.9	5.9	3.8	4.6	7.5	5.6	6.4
28	8.0	3.8	5.6	5.9	4.5	5.0	5.8	3.9	4.7	8.3	6.3	7.0
29	9.5	5.0	6.8	5.8	4.6	5.0	5.8	3.9	4.6	9.9	4.6	6.5
30	6.3	4.4	5.6	5.9	4.4	4.9	5.7	4.5	5.1	9.9	7.9	9.2
31	---	---	---	5.8	4.3	4.9	6.8	4.9	5.7	---	---	---
MONTH	9.5	3.4	6.1	6.4	3.5	5.0	7.0	3.7	5.0	9.9	3.5	5.6

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX

LOCATION.--Lat 32°39'53", long 96°31'26", Dallas County, Hydrologic Unit 12030106, on right bank at downstream side of bridge on Malloy Bridge Road, 1.3 mi north of intersection of U. S. Highway 175 and Malloy Bridge Road in Seagoville and 3.5 mi downstream from South Mesquite Creek.

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Chemical and biochemical analyses: April to September 1987.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1987 to current year.
pH: March 1987 to current year.
WATER TEMPERATURE: March 1987 to current year.
DISSOLVED OXYGEN: March 1987 to current year.

INSTRUMENTATION.--Beginning March 1987, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunction 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 office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 820 microsiemens Aug. 15, 1987; minimum, 161 microsiemens July 13, 1988.
pH: Maximum, 8.6 units Mar. 2, 1988; minimum, 6.7 units Mar. 7, 1988.
WATER TEMPERATURE: Maximum, 31.5°C Aug. 7, 8, 9, 1988; minimum, 3.5°C Jan. 8, 1988.
DISSOLVED OXYGEN: Maximum, 11.5 mg/L Jan. 8, 1988; minimum, 0.6 mg/L Sep. 3, 1987.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 796 microsiemens May. 29; minimum, 161 microsiemens July 13.
pH: Maximum, 8.6 units Mar. 2; minimum, 6.7 units Mar. 27.
WATER TEMPERATURE: Maximum, 31.5°C Aug. 7, 8, 9; minimum, 3.5°C Jan. 8.
DISSOLVED OXYGEN: Maximum, 11.5 mg/L Jan. 8; minimum, 0.6 mg/L Sept. 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 05...	0915	680	7.40	20.5	3.8	42	9.8	170	54
JAN 06...	1230	638	7.70	9.5	8.6	75	7.0	190	31
MAR 30...	1410	380	7.80	13.5	7.6	73	5.5	140	26
JUN 09...	0915	668	7.60	26.0	3.8	48	5.1	170	40
JUL 13...	1350	178	7.70	25.5	3.6	44	2.6	72	6
SEP 08...	1315	620	7.60	25.0	5.0	61	6.5	170	47

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV 05...	61	4.1	63	2	11	116	65	74	1.1
JAN 06...	71	3.9	51	2	9.2	163	72	50	0.90
MAR 30...	50	3.3	24	0.9	5.3	113	47	18	0.40
JUN 09...	63	3.9	60	2	10	134	74	61	1.1
JUL 13...	26	1.7	6.7	0.4	5.2	66	16	4.5	0.20
SEP 08...	62	3.9	52	2	9.3	124	61	55	0.80

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, 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)
NOV 05...	9.8	359	5.82	0.380	6.20	0.960	1.6	2.6	4.60
JAN 06...	10	366	3.70	0.600	4.30	3.00	1.6	4.6	0.350
MAR 30...	6.5	222	1.21	0.090	1.30	0.330	0.97	1.3	0.880
JUN 09...	8.8	362	5.43	0.870	6.30	1.30	1.2	2.5	5.20
JUL 13...	6.6	106	0.640	0.060	0.700	0.070	0.73	0.80	0.400
SEP 08...	11	329	5.56	0.340	5.90	1.90	1.1	3.0	3.50

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	635	585	604	706	676	690	578	538	560	571	510	537
2	709	639	676	748	674	701	600	568	580	571	509	546
3	720	681	700	748	629	705	631	594	607	566	529	548
4	696	659	676	695	626	645	652	638	645	584	525	567
5	699	674	685	683	641	668	644	620	631	612	535	586
6	690	620	661	705	634	677	655	620	636	757	586	644
7	655	617	632	721	662	699	618	498	571	715	617	664
8	654	588	622	697	296	640	560	508	535	770	604	665
9	753	650	731	451	261	344	583	528	564	683	613	644
10	724	687	703	359	324	344	610	569	590	695	609	649
11	718	664	687	479	360	411	651	611	624	733	620	663
12	667	643	654	562	482	530	651	602	627	666	530	603
13	663	642	654	617	529	578	663	546	640	588	507	547
14	660	623	646	625	576	604	555	396	487	636	538	584
15	690	637	666	634	206	539	457	406	440	---	---	618
16	749	654	716	373	187	252	544	453	509	---	---	653
17	758	722	744	387	290	341	623	541	593	---	---	665
18	725	656	709	537	398	462	657	567	600	---	---	667
19	740	643	679	600	512	550	665	250	509	---	---	655
20	697	634	667	580	439	518	413	263	311	---	---	678
21	635	580	617	616	581	602	488	368	424	---	---	629
22	676	634	652	652	619	637	534	493	519	---	---	637
23	688	636	668	654	553	623	586	519	561	---	---	656
24	727	647	694	589	525	558	621	267	538	---	---	672
25	670	643	655	577	187	380	480	360	419	---	---	667
26	636	545	606	401	259	319	426	187	241	---	---	643
27	594	531	569	461	373	410	297	220	252	---	---	645
28	619	553	580	524	465	492	375	303	339	---	---	649
29	667	624	650	569	507	524	435	358	390	---	---	657
30	662	633	647	589	524	557	490	437	463	---	---	690
31	707	630	679	---	---	---	537	485	510	616	575	595
MONTH	758	531	662	748	187	533	665	187	513	770	507	630

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	614	591	605	663	640	650	---	---	526	651	539	572
2	583	526	541	683	255	580	---	---	531	639	597	618
3	673	525	590	451	272	348	---	---	537	649	618	632
4	722	675	694	517	408	460	---	---	563	664	624	642
5	769	713	737	634	517	553	---	---	600	669	635	656
6	734	610	690	639	591	618	---	---	627	741	680	726
7	736	683	712	644	611	629	---	---	656	741	697	717
8	702	659	684	648	614	628	---	---	674	764	693	732
9	704	648	671	697	628	669	---	---	676	718	628	671
10	699	647	675	726	667	699	---	---	682	613	571	593
11	710	683	697	752	659	710	---	---	636	672	584	614
12	705	674	691	666	317	515	---	---	502	712	676	697
13	691	654	668	592	489	532	---	---	591	749	706	725
14	696	649	672	664	598	632	---	---	646	765	717	744
15	659	629	642	681	628	651	---	---	688	758	712	740
16	653	623	637	699	640	668	---	---	707	745	723	736
17	673	636	651	703	260	619	---	---	672	724	675	701
18	667	282	437	558	297	389	---	---	322	691	641	672
19	411	349	375	553	446	493	---	---	446	717	676	695
20	527	417	462	598	554	576	---	---	518	770	693	722
21	574	526	542	630	602	615	---	---	566	721	258	432
22	592	566	575	663	602	641	---	---	643	534	363	465
23	608	586	595	716	643	678	---	---	662	599	530	565
24	648	582	625	728	699	715	---	---	647	635	589	618
25	677	600	643	747	701	720	---	---	606	678	612	635
26	704	639	678	772	720	746	633	598	620	721	672	692
27	716	639	683	781	749	759	659	603	637	767	686	716
28	710	678	694	773	735	754	697	631	649	766	694	720
29	706	664	688	---	---	526	734	686	702	796	707	744
30	---	---	---	---	---	476	772	664	709	747	704	717
31	---	---	---	---	---	505	---	---	---	719	584	670
MONTH	769	282	629	781	255	605	772	598	608	796	258	664

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	618	211	399	768	717	750	699	670	685	663	597	624
2	419	210	306	745	706	720	674	635	663	670	622	651
3	487	374	435	704	611	649	722	635	659	661	202	456
4	514	408	458	701	512	621	723	672	690	403	235	302
5	570	468	518	526	459	488	686	519	563	554	411	470
6	610	574	595	577	350	454	628	564	586	614	553	585
7	610	584	596	580	475	523	664	635	646	631	599	617
8	665	601	623	628	538	582	683	663	672	647	584	673
9	709	666	678	686	632	655	672	643	661	655	627	680
10	716	689	697	692	656	675	654	622	645	678	659	711
11	742	715	726	686	656	671	688	645	664	678	627	696
12	726	685	701	658	181	404	705	666	684	655	639	688
13	702	673	687	197	161	180	703	657	676	659	639	691
14	682	651	666	343	196	243	691	643	670	651	447	603
15	672	636	652	466	347	406	659	632	643	555	471	539
16	711	673	692	510	430	481	661	638	654	592	529	598
17	723	679	702	577	506	554	657	601	635	686	584	687
18	728	689	710	560	548	554	659	613	636	686	510	643
19	721	684	700	569	551	560	664	629	650	710	557	681
20	694	676	686	577	530	553	646	596	631	596	553	612
21	687	637	666	653	440	508	628	555	591	675	588	654
22	661	632	645	516	448	486	641	598	614	745	675	749
23	701	662	683	685	471	631	665	630	653	741	663	731
24	723	699	710	654	628	642	636	608	620	682	416	645
25	735	720	726	661	616	637	648	606	632	651	596	661
26	729	647	705	655	605	632	656	589	630	620	573	636
27	673	462	536	645	606	621	636	580	613	612	590	642
28	558	521	543	701	652	672	652	595	625	602	546	571
29	627	554	589	721	696	706	635	498	607	640	391	559
30	696	579	613	723	688	704	596	493	558	523	214	323
31	---	---	---	737	669	707	610	567	587	---	---	---
MONTH	742	210	621	768	161	570	723	493	637	745	202	613

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.5	7.5	7.5	---	---	---	---	---	---	---	---	---
2	7.5	7.5	7.5	---	---	---	---	---	---	---	---	---
3	7.5	7.4	7.4	---	---	---	---	---	---	---	---	---
4	7.5	7.3	7.4	---	---	---	---	---	---	---	---	---
5	7.5	7.4	7.5	---	---	---	7.8	7.7	7.7	---	---	---
6	7.4	7.3	7.4	---	---	---	7.7	7.6	7.6	---	---	---
7	7.4	7.3	7.4	---	---	---	7.6	7.4	7.5	---	---	---
8	7.4	7.3	7.4	---	---	---	7.7	7.5	7.6	7.1	7.1	7.1
9	7.4	7.2	7.3	---	---	---	8.0	7.6	7.7	7.3	7.1	7.1
10	7.2	7.1	7.2	---	---	---	8.1	7.6	7.9	7.4	7.3	7.3
11	7.2	7.1	7.1	---	---	---	7.6	7.5	7.6	7.4	7.4	7.4
12	7.2	7.1	7.1	---	---	---	---	---	---	7.5	7.4	7.5
13	7.5	7.2	7.4	---	---	---	---	---	---	7.5	7.4	7.4
14	7.6	7.4	7.5	---	---	---	---	---	---	7.4	7.3	7.3
15	7.4	7.3	7.4	---	---	---	---	---	---	7.3	7.1	7.2
16	7.2	7.1	7.2	---	---	---	---	---	---	7.1	7.1	7.1
17	7.2	7.1	7.1	---	---	---	---	---	---	7.1	7.0	7.1
18	---	---	---	---	---	---	---	---	---	7.1	7.0	7.0
19	---	---	---	---	---	---	---	---	---	7.1	7.0	7.1
20	---	---	---	---	---	---	---	---	---	7.0	7.0	7.0
21	---	---	---	7.2	7.0	7.1	---	---	---	7.1	7.0	7.0
22	---	---	---	7.2	7.0	7.1	---	---	---	7.1	7.0	7.1
23	---	---	---	7.4	7.1	7.2	---	---	---	7.1	7.1	7.1
24	---	---	---	7.6	7.4	7.5	---	---	---	7.2	7.1	7.2
25	---	---	---	---	---	---	---	---	---	7.2	7.2	7.2
26	---	---	---	7.4	7.0	7.1	---	---	---	7.3	7.2	7.2
27	---	---	---	7.5	7.1	7.3	---	---	---	7.4	7.2	7.3
28	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
29	---	---	---	---	---	---	---	---	---	7.4	7.4	7.4
30	---	---	---	---	---	---	---	---	---	7.5	7.4	7.5
31	---	---	---	---	---	---	---	---	---	7.5	7.5	7.5
MONTH	7.6	7.1	7.3	7.6	7.0	7.2	8.1	7.4	7.7	7.5	7.0	7.2

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.5	7.5	7.5	8.2	8.1	8.1	---	---	---	7.8	7.8	7.8
2	7.6	7.4	7.5	8.6	8.2	8.3	---	---	---	---	---	---
3	---	---	---	8.6	8.3	8.4	---	---	---	---	---	---
4	7.6	7.5	7.5	8.6	8.5	8.5	---	---	---	---	---	---
5	7.7	7.6	7.7	8.5	8.5	8.5	---	---	---	---	---	---
6	7.9	7.7	7.8	8.5	8.4	8.4	---	---	---	---	---	---
7	8.0	7.9	7.9	8.4	8.2	8.3	---	---	---	---	---	---
8	7.9	7.6	7.8	8.2	8.1	8.2	---	---	---	---	---	---
9	7.6	7.5	7.5	8.2	7.9	8.1	---	---	---	---	---	---
10	7.5	7.4	7.5	8.1	7.9	8.0	---	---	---	---	---	---
11	7.5	7.5	7.5	7.9	7.6	7.8	---	---	---	---	---	---
12	7.6	7.5	7.5	8.4	7.6	8.1	---	---	---	---	---	---
13	7.5	7.5	7.5	8.3	8.1	8.2	---	---	---	---	---	---
14	7.5	7.4	7.4	8.1	7.9	8.0	---	---	---	---	---	---
15	7.5	7.4	7.4	7.9	7.8	7.9	---	---	---	---	---	---
16	7.5	7.4	7.5	7.9	7.8	7.8	---	---	---	---	---	---
17	7.5	7.5	7.5	8.3	7.8	7.9	---	---	---	---	---	---
18	8.1	7.5	7.7	8.1	8.0	8.0	---	---	---	---	---	---
19	8.2	8.0	8.1	8.0	7.9	8.0	---	---	---	7.5	7.4	7.5
20	8.1	8.0	8.1	7.9	7.8	7.8	---	---	---	7.6	7.5	7.5
21	8.0	7.8	7.9	7.8	7.5	7.7	---	---	---	7.8	7.5	7.7
22	7.9	7.7	7.8	7.7	7.6	7.7	---	---	---	7.8	7.6	7.7
23	7.8	7.7	7.7	7.6	7.5	7.6	---	---	---	7.7	7.6	7.7
24	7.7	7.7	7.7	7.5	7.3	7.4	---	---	---	7.7	7.5	7.6
25	7.8	7.0	7.7	7.3	7.1	7.2	---	---	---	7.5	7.4	7.4
26	7.9	7.8	7.9	7.1	6.9	7.0	8.2	8.0	8.1	7.5	7.4	7.5
27	8.0	7.9	8.0	7.6	6.7	7.1	8.1	8.0	8.1	7.5	7.4	7.5
28	8.1	8.0	8.0	7.6	7.5	7.6	8.0	8.0	8.0	7.6	7.4	7.5
29	8.1	8.0	8.0	---	---	---	8.0	7.9	7.9	7.5	7.4	7.4
30	---	---	---	---	---	---	7.9	7.8	7.8	7.4	7.3	7.4
31	---	---	---	---	---	---	---	---	---	7.5	7.4	7.5
MONTH	8.2	7.0	7.7	8.6	6.7	7.9	8.2	7.8	8.0	7.8	7.3	7.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.0	7.5	7.8	---	---	---	7.3	7.1	7.2	7.6	7.5	7.6
2	7.9	7.6	7.7	---	---	---	7.2	7.1	7.2	7.6	7.5	7.6
3	7.7	7.6	7.6	---	---	---	---	---	---	8.0	7.5	7.7
4	7.8	7.6	7.7	---	---	---	---	---	---	7.8	7.5	7.6
5	7.8	7.7	7.7	---	---	---	---	---	---	7.5	7.4	7.4
6	7.8	7.7	7.7	---	---	---	---	---	---	7.4	7.3	7.4
7	7.8	7.7	7.8	---	---	---	7.4	7.2	7.3	7.4	7.4	7.4
8	7.8	7.7	7.7	---	---	---	7.5	7.3	7.4	7.6	7.4	7.5
9	7.7	7.4	7.5	---	---	---	7.5	7.4	7.4	---	---	---
10	7.5	7.4	7.5	---	---	---	7.5	7.4	7.5	---	---	---
11	7.5	7.4	7.5	---	---	---	7.5	7.4	7.5	---	---	---
12	7.5	7.5	7.5	---	---	---	7.5	7.5	7.5	---	---	---
13	7.6	7.5	7.5	7.6	7.3	7.5	7.5	7.4	7.5	---	---	---
14	7.5	7.5	7.5	7.5	7.3	7.4	7.4	7.2	7.4	---	---	---
15	7.5	7.4	7.5	7.4	7.3	7.4	7.3	7.1	7.2	---	---	---
16	7.5	7.3	7.4	7.4	7.4	7.4	7.2	7.1	7.2	7.2	7.1	7.2
17	7.5	7.2	7.3	7.5	7.3	7.4	7.4	7.0	7.2	7.3	7.2	7.2
18	7.5	7.3	7.4	7.4	7.3	7.4	---	---	---	7.4	7.2	7.3
19	7.4	7.2	7.3	7.4	7.4	7.4	---	---	---	7.4	7.2	7.3
20	7.4	7.1	7.2	7.5	7.4	7.4	---	---	---	7.4	7.3	7.3
21	7.4	7.1	7.2	7.4	7.2	7.3	---	---	---	7.3	7.1	7.2
22	7.3	7.0	7.2	7.4	7.2	7.3	7.4	7.4	7.4	7.2	7.1	7.2
23	7.1	7.0	7.0	7.4	7.2	7.3	7.5	7.4	7.4	7.3	7.2	7.3
24	7.2	7.0	7.1	7.4	7.2	7.2	7.5	7.4	7.4	7.8	7.3	7.4
25	7.4	7.2	7.3	7.3	7.1	7.2	7.5	7.4	7.4	7.4	7.2	7.3
26	7.4	7.2	7.3	7.6	7.3	7.4	7.4	7.0	7.2	7.3	7.2	7.3
27	7.4	7.3	7.4	7.6	7.5	7.6	7.5	7.0	7.2	7.4	7.2	7.4
28	7.4	7.3	7.4	7.5	7.4	7.5	7.5	7.2	7.3	---	---	---
29	7.5	7.3	7.4	7.5	7.2	7.4	7.5	7.1	7.2	7.5	7.3	7.4
30	---	---	---	7.3	7.2	7.3	7.5	7.5	7.5	7.9	7.5	7.7
31	---	---	---	7.4	7.3	7.3	7.5	7.5	7.5	---	---	---
MONTH	8.0	7.0	7.5	7.6	7.1	7.4	7.5	7.0	7.3	8.0	7.1	7.4

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	23.0	21.5	22.5	22.0	21.0	21.5	13.5	12.5	13.0	9.5	9.0	9.5
2	22.5	21.0	22.0	21.5	21.0	21.0	14.0	12.0	13.0	9.0	7.5	8.5
3	22.0	20.0	21.0	21.5	20.0	21.0	15.5	13.5	14.5	9.0	8.0	8.5
4	21.0	19.0	20.0	22.0	20.0	21.0	15.5	14.5	15.0	9.5	8.5	9.0
5	21.5	19.5	20.5	22.0	20.5	21.0	17.0	15.0	15.5	10.0	9.0	9.5
6	21.5	20.0	21.0	20.5	19.0	19.5	17.5	17.0	17.5	10.0	7.5	9.0
7	21.5	19.0	20.5	19.0	18.0	18.5	17.5	16.5	17.0	8.5	6.5	7.0
8	20.5	19.5	20.0	20.0	18.0	19.5	16.5	16.0	16.5	6.0	3.5	4.5
9	22.5	20.5	21.5	18.5	16.0	17.5	16.5	15.5	15.5	6.0	4.5	5.0
10	23.0	21.5	22.5	16.0	14.0	15.0	15.5	14.0	15.0	6.5	4.5	5.5
11	22.5	20.5	21.5	15.0	13.0	14.0	15.5	14.5	15.0	6.5	5.0	6.0
12	21.0	19.5	20.0	15.0	13.5	14.0	15.5	14.0	14.5	8.5	6.5	7.5
13	20.0	19.0	19.5	15.5	12.5	14.0	15.0	11.0	14.0	8.0	7.0	7.5
14	20.0	18.5	19.5	16.5	14.5	15.5	11.5	9.5	11.0	8.0	7.0	7.5
15	21.0	19.0	20.0	18.0	15.5	17.5	9.5	9.0	9.0	9.0	7.0	8.0
16	22.0	20.5	21.0	16.0	15.0	15.5	9.5	8.0	8.5	12.0	8.5	10.0
17	22.0	21.0	21.5	15.0	14.0	14.5	10.5	8.5	9.5	13.5	12.0	13.0
18	22.5	21.0	22.0	16.0	14.5	15.5	11.5	9.5	10.5	14.5	12.5	13.5
19	22.5	21.0	21.5	16.5	14.0	15.0	13.0	11.0	12.0	15.0	14.0	14.5
20	21.5	20.0	20.5	14.5	13.0	14.0	12.0	11.0	11.0	14.0	12.0	12.5
21	20.5	19.0	19.5	15.5	13.5	14.5	12.0	11.0	11.0	12.0	9.0	10.5
22	19.0	17.5	18.5	17.5	15.5	16.0	13.0	12.0	12.5	9.5	8.5	9.0
23	19.5	18.5	19.0	19.0	17.5	18.0	14.5	12.0	13.0	11.0	9.0	9.5
24	21.5	19.0	20.5	20.0	18.5	19.0	16.5	14.5	15.5	11.5	10.0	10.5
25	22.5	21.5	22.0	19.5	15.0	17.0	14.5	11.5	13.5	11.0	9.5	10.0
26	23.0	22.0	22.5	15.0	14.5	15.0	11.5	5.5	6.5	10.0	8.5	9.5
27	22.0	20.5	21.0	15.0	13.0	14.0	6.0	5.0	5.5	11.0	9.0	10.0
28	20.5	19.0	19.5	13.5	13.0	13.5	6.5	5.5	6.0	12.5	10.0	11.0
29	21.5	18.5	20.0	13.5	12.5	13.0	6.5	6.0	6.5	13.5	11.5	12.5
30	21.0	20.0	20.5	13.5	12.5	13.0	8.0	6.5	7.0	15.5	13.5	14.5
31	22.0	20.5	21.0	---	---	---	10.0	7.0	9.0	17.0	15.5	16.5
MONTH	23.0	17.5	20.5	22.0	12.5	16.5	17.5	5.0	12.0	17.0	3.5	9.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	17.5	16.5	17.0	18.5	16.5	17.5	---	---	---	22.0	19.0	20.5
2	16.5	13.0	14.0	18.5	16.5	17.5	---	---	---	21.0	20.0	20.5
3	12.5	11.0	12.0	16.0	13.0	14.5	---	---	---	22.0	19.5	21.0
4	11.0	9.0	10.0	13.0	11.5	12.0	---	---	---	22.5	19.5	21.0
5	10.0	8.5	9.5	14.5	11.5	13.0	---	---	---	23.0	20.0	21.5
6	9.0	6.5	7.5	15.5	13.5	14.5	---	---	---	22.5	21.0	21.5
7	9.0	7.5	8.0	17.0	14.0	15.5	---	---	---	22.0	21.5	21.5
8	10.0	9.0	9.5	17.0	16.0	16.5	---	---	---	24.5	21.5	23.0
9	11.5	9.5	10.5	17.0	15.0	16.0	---	---	---	25.5	22.5	24.0
10	12.0	10.5	11.0	16.5	14.0	15.5	---	---	---	25.5	22.5	24.0
11	11.0	9.0	9.5	18.5	15.0	17.0	---	---	---	24.5	23.0	24.0
12	9.0	7.5	8.5	17.5	16.0	16.5	---	---	---	25.5	22.5	24.0
13	11.5	8.0	9.5	16.5	14.5	15.5	---	---	---	25.5	22.5	24.0
14	13.5	11.5	12.5	14.5	12.0	13.5	---	---	---	25.5	23.0	24.0
15	13.5	12.0	13.0	14.0	11.5	13.0	---	---	---	25.5	23.0	24.5
16	13.5	11.5	12.5	14.0	13.0	13.5	---	---	---	26.5	23.5	25.0
17	14.5	13.5	14.0	14.5	11.5	13.5	---	---	---	27.0	24.0	25.5
18	15.0	11.0	13.0	11.5	10.5	11.0	---	---	---	26.5	24.0	25.5
19	11.0	10.0	10.5	13.5	10.0	11.5	---	---	---	26.5	24.0	25.5
20	12.5	10.5	11.5	15.5	12.0	14.0	---	---	---	26.0	24.5	25.0
21	14.5	11.5	13.0	17.5	14.0	16.0	---	---	---	24.5	23.0	23.5
22	15.0	13.0	14.0	18.5	16.0	17.0	---	---	---	23.5	22.0	23.0
23	15.0	14.0	14.5	19.5	17.5	18.5	---	---	---	23.5	21.0	22.5
24	14.5	13.0	13.5	21.0	18.5	20.0	---	---	---	24.5	22.0	23.0
25	14.5	11.5	13.0	22.0	19.5	20.5	---	---	---	25.0	22.0	23.5
26	15.0	13.0	14.0	20.5	18.5	19.5	23.0	20.0	21.5	25.0	22.5	24.0
27	16.5	14.0	15.5	20.0	17.5	19.0	22.0	19.5	21.0	25.0	22.0	23.5
28	17.0	15.0	16.0	20.0	19.0	19.5	22.0	19.5	20.5	25.0	22.5	24.0
29	18.0	16.0	17.0	---	---	---	21.5	20.0	20.5	24.5	23.5	24.0
30	---	---	---	---	---	---	21.0	19.0	20.0	25.5	23.0	24.5
31	---	---	---	---	---	---	---	---	---	26.0	24.0	25.0
MONTH	18.0	6.5	12.0	22.0	10.0	16.0	23.0	19.0	20.5	27.0	19.0	23.5

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.0	22.0	23.5	30.5	28.0	29.5	30.5	28.0	29.0	27.0	25.0	26.0
2	23.0	22.0	22.5	29.5	28.0	29.0	30.0	28.0	29.0	28.5	26.5	27.5
3	23.5	22.5	23.0	29.0	27.5	28.0	29.5	28.0	29.0	28.0	24.5	26.0
4	25.0	22.5	23.5	29.0	27.0	28.0	29.0	27.5	28.0	27.0	24.0	25.5
5	25.0	22.5	24.0	29.5	27.0	28.5	30.5	27.5	29.0	27.0	24.5	25.5
6	26.0	23.0	24.5	29.0	27.0	28.0	31.0	28.0	29.5	27.5	25.5	26.5
7	27.0	24.0	25.5	29.0	27.0	28.0	31.5	29.0	30.5	27.5	25.5	26.5
8	28.0	25.0	26.5	28.5	27.0	27.5	31.5	29.5	30.5	27.0	25.0	26.0
9	28.5	26.0	27.0	29.0	26.5	27.5	31.5	29.5	30.5	27.0	25.0	26.0
10	28.0	26.0	27.0	29.0	26.5	28.0	30.5	29.0	30.0	27.0	25.0	26.0
11	26.5	23.5	25.5	28.5	27.5	28.0	30.0	28.5	29.5	27.5	25.5	26.5
12	26.0	23.5	25.0	27.5	25.5	26.5	29.5	28.0	29.0	28.0	26.0	27.0
13	26.5	24.0	25.5	26.5	25.0	25.5	30.5	28.0	29.0	28.0	27.0	27.5
14	27.0	24.5	26.0	28.5	26.5	27.0	30.5	28.5	29.5	28.0	26.5	27.5
15	28.0	25.5	26.5	30.0	28.0	28.5	30.5	28.5	30.0	28.5	26.5	27.5
16	28.0	25.5	27.0	30.5	28.0	29.0	30.0	28.5	29.5	28.0	27.0	27.5
17	27.5	26.0	27.0	30.5	28.5	29.5	30.0	28.5	29.0	28.0	27.5	27.5
18	28.5	25.5	27.0	31.0	28.5	29.5	30.5	28.0	29.0	28.0	27.0	27.5
19	28.0	25.5	27.0	30.5	28.5	29.5	29.5	28.5	29.0	28.5	27.0	28.0
20	28.5	26.0	27.0	29.5	27.5	28.5	29.0	28.0	28.5	28.0	26.5	27.5
21	29.0	26.0	27.5	28.5	26.5	27.5	30.0	27.5	29.0	28.0	26.5	27.5
22	29.0	26.5	27.5	29.0	26.0	27.5	30.5	28.5	29.5	28.5	27.0	28.0
23	29.0	26.5	27.5	29.0	26.0	27.5	31.0	29.0	30.0	28.0	27.0	27.5
24	29.0	27.0	28.0	29.5	26.5	28.0	31.0	29.0	30.0	27.5	26.0	26.5
25	29.0	27.0	28.0	29.5	27.0	28.5	30.5	28.5	29.5	25.5	24.0	25.0
26	29.5	27.0	28.0	30.0	27.5	28.5	30.0	28.0	29.0	25.5	24.0	25.0
27	30.0	27.5	28.5	30.0	28.0	29.0	29.5	27.5	28.5	26.0	24.5	25.0
28	30.5	28.0	29.5	30.0	27.5	29.0	29.5	27.5	28.5	26.5	24.5	25.5
29	30.5	28.0	29.0	30.0	28.0	29.0	29.0	26.0	27.5	26.0	22.5	24.5
30	31.0	28.0	29.5	30.5	28.0	29.0	26.5	25.5	26.0	23.0	19.5	21.0
31	---	---	---	30.0	28.0	29.0	26.5	24.5	26.0	---	---	---
MONTH	31.0	22.0	26.5	31.0	25.0	28.5	31.5	24.5	29.0	28.5	19.5	26.5

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	4.1	2.0	3.4	4.8	4.0	4.4	8.1	7.7	7.9	9.9	9.5	9.7
2	3.7	3.2	3.4	5.0	4.3	4.6	7.9	7.7	7.8	10.2	9.7	9.9
3	4.0	3.2	3.5	4.9	4.1	4.5	7.7	7.2	7.6	10.0	8.9	9.6
4	4.1	3.1	3.6	4.9	4.1	4.5	7.3	7.1	7.2	9.5	8.7	9.1
5	4.1	3.0	3.5	4.5	3.9	4.2	7.3	6.8	7.0	9.2	8.1	9.0
6	4.9	2.8	3.6	5.2	4.2	4.6	6.8	6.4	6.5	9.1	8.2	8.7
7	4.2	3.2	3.6	5.9	4.3	5.0	7.1	6.2	6.7	10.1	5.4	9.3
8	5.4	3.6	4.2	6.0	4.0	5.2	7.3	6.9	7.1	11.5	6.9	10.5
9	3.6	2.7	3.2	6.2	5.0	5.6	7.3	7.0	7.2	11.3	10.2	10.9
10	4.1	3.0	3.4	7.4	5.9	6.9	7.2	7.0	7.1	11.3	10.1	10.9
11	4.3	3.0	3.6	8.0	7.4	7.7	7.1	6.8	6.9	11.0	10.3	10.7
12	5.2	3.5	4.1	7.3	4.3	6.6	7.3	6.8	7.1	10.7	10.0	10.3
13	5.4	3.9	4.5	7.3	6.5	7.0	9.4	6.6	7.0	10.4	9.9	10.2
14	7.0	4.4	5.1	6.9	6.5	6.7	9.4	8.2	8.8	10.1	9.6	9.9
15	6.8	4.5	5.3	7.4	5.8	6.3	9.6	9.1	9.4	9.6	8.4	9.1
16	5.7	4.2	4.9	7.8	6.4	7.0	9.7	9.3	9.6	9.4	7.9	8.7
17	5.0	3.7	4.3	8.0	7.1	7.7	9.4	8.4	8.8	7.9	7.2	7.5
18	5.1	3.5	4.2	7.7	7.5	7.6	8.6	7.8	8.2	7.2	6.8	7.1
19	4.3	3.4	3.8	8.4	7.4	7.7	9.4	7.6	8.3	6.9	6.2	6.6
20	5.1	3.4	4.0	8.3	7.5	8.0	9.1	8.6	8.8	6.9	2.9	6.0
21	5.8	4.0	4.7	7.5	7.2	7.4	9.1	8.8	9.0	8.5	6.9	7.5
22	5.4	4.9	5.2	7.2	6.7	7.0	8.7	8.4	8.5	8.7	8.2	8.4
23	6.2	4.9	5.4	6.7	6.4	6.5	8.7	7.7	8.1	8.8	7.9	8.3
24	5.6	4.2	4.8	6.7	6.3	6.4	8.0	4.7	7.3	8.2	7.6	7.9
25	4.9	4.2	4.6	8.1	6.6	7.2	9.1	7.6	8.3	8.3	7.5	7.8
26	5.2	4.3	4.7	7.7	7.2	7.4	11.3	9.2	10.8	8.7	7.7	8.1
27	5.1	4.2	4.6	8.9	7.6	8.2	10.7	10.5	10.5	8.8	7.9	8.3
28	5.1	4.5	4.8	8.8	8.3	8.6	10.9	10.5	10.8	8.3	7.3	7.8
29	5.2	4.4	4.8	8.6	8.3	8.5	10.9	10.6	10.8	8.0	7.1	7.5
30	5.4	4.1	4.7	8.1	8.0	8.1	10.9	10.5	10.7	7.3	6.5	6.9
31	5.5	4.3	4.7	---	---	---	10.5	9.8	10.1	6.6	5.4	6.0
MONTH	7.0	2.0	4.3	8.9	3.9	6.6	11.3	4.7	8.4	11.5	2.9	8.7

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.1	5.3	5.6	6.8	6.2	6.5	---	---	---	6.1	5.3	5.6
2	6.5	5.5	6.0	8.1	6.0	6.6	---	---	---	5.3	5.1	5.2
3	7.7	6.5	6.9	8.4	7.5	7.9	---	---	---	5.2	5.1	5.1
4	8.4	5.4	7.4	9.0	8.5	8.8	---	---	---	5.3	5.0	5.1
5	8.2	7.3	7.7	9.0	8.3	8.8	---	---	---	5.7	5.0	5.2
6	10.3	8.1	9.1	8.3	7.9	8.2	---	---	---	5.8	4.9	5.3
7	9.2	8.1	8.6	7.9	7.5	7.7	---	---	---	4.8	4.4	4.6
8	8.4	6.6	7.4	7.5	7.1	7.2	---	---	---	4.8	4.5	4.6
9	7.0	5.2	6.4	7.2	7.0	7.1	---	---	---	5.1	4.7	4.9
10	6.8	4.7	5.8	7.3	7.0	7.1	---	---	---	4.7	4.5	4.6
11	8.0	5.9	7.0	7.1	6.6	6.8	---	---	---	5.6	4.3	4.6
12	9.4	7.7	8.4	7.7	6.2	7.4	---	---	---	6.5	4.5	4.9
13	9.0	7.7	8.5	7.5	7.0	7.2	---	---	---	5.0	4.4	4.7
14	8.2	7.0	7.5	7.9	7.3	7.6	---	---	---	5.7	4.2	4.6
15	7.9	6.5	7.1	7.8	7.3	7.6	---	---	---	5.2	4.3	4.6
16	8.0	6.5	7.1	7.3	6.9	7.1	---	---	---	5.1	4.3	4.6
17	6.7	6.1	6.5	8.8	6.5	7.2	---	---	---	4.8	4.1	4.5
18	9.3	5.9	8.2	8.9	8.5	8.7	---	---	---	6.6	4.3	4.9
19	9.5	9.1	9.3	8.8	8.2	8.6	---	---	---	6.0	4.5	5.1
20	9.1	8.6	9.0	8.2	7.5	8.0	---	---	---	5.6	4.2	4.7
21	8.7	8.1	8.5	7.5	6.8	7.1	---	---	---	5.5	2.9	4.5
22	8.1	7.6	7.9	6.8	6.4	6.6	---	---	---	6.6	4.4	5.6
23	7.7	7.4	7.6	6.3	5.9	6.1	---	---	---	6.5	5.7	6.0
24	8.0	7.4	7.6	6.0	5.6	5.7	---	---	---	6.6	5.1	5.6
25	8.6	7.7	8.0	5.8	5.2	5.5	---	---	---	6.4	5.0	5.5
26	8.0	7.6	7.8	5.9	5.2	5.5	6.0	5.6	5.8	6.0	4.9	5.4
27	7.8	7.3	7.5	6.2	5.3	5.6	5.8	5.5	5.7	5.7	4.9	5.3
28	7.4	6.7	7.1	5.7	5.2	5.4	5.8	5.6	5.7	5.8	4.8	5.3
29	7.2	6.4	6.7	---	---	---	5.7	5.5	5.6	5.5	4.5	5.0
30	---	---	---	---	---	---	6.2	5.6	5.8	6.0	4.6	5.0
31	---	---	---	---	---	---	---	---	---	6.4	4.6	5.3
MONTH	10.3	4.7	7.5	9.0	5.2	7.1	6.2	5.5	5.7	6.6	2.9	5.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.9	6.1	6.8	3.8	3.2	3.4	4.3	3.5	3.8	5.6	4.0	4.7
2	7.1	6.3	6.7	3.5	3.0	3.2	4.2	3.3	3.6	3.9	2.1	3.0
3	7.9	6.7	7.2	3.4	3.0	3.1	3.9	3.3	3.6	4.5	.6	3.3
4	7.9	6.7	7.2	4.1	3.0	3.6	4.5	3.4	3.8	4.4	3.2	3.9
5	7.2	6.5	6.9	4.5	3.5	3.9	4.3	3.7	4.0	4.7	4.1	4.3
6	6.8	5.9	6.3	4.4	2.3	3.8	4.1	3.4	3.7	4.3	3.3	3.7
7	6.5	5.8	6.1	4.4	3.5	3.9	3.9	3.1	3.5	4.5	3.5	4.1
8	6.1	5.6	5.8	3.9	3.4	3.6	4.9	2.7	3.4	5.7	4.5	4.9
9	5.7	3.8	4.6	3.8	3.4	3.6	4.0	2.7	3.3	5.2	4.6	4.9
10	4.6	3.7	4.1	3.7	3.2	3.4	4.1	2.9	3.5	5.2	4.6	4.9
11	5.5	4.3	4.8	3.6	3.0	3.2	4.4	3.2	3.8	5.4	4.6	4.9
12	5.4	4.6	4.9	5.2	3.1	4.3	4.2	3.5	3.9	5.4	4.4	4.8
13	5.1	4.3	4.6	4.8	2.6	3.6	4.6	3.7	4.1	5.0	4.4	4.7
14	4.6	3.9	4.2	2.9	2.6	2.7	4.3	3.5	3.8	5.3	4.6	5.0
15	5.1	3.9	4.5	5.0	2.8	4.3	4.5	3.5	3.9	5.4	4.4	4.8
16	5.2	4.0	4.6	5.0	5.0	5.0	4.5	3.7	4.1	4.6	4.2	4.4
17	4.6	3.8	4.2	5.3	4.4	4.8	4.5	3.7	3.9	4.6	3.8	4.2
18	4.7	3.8	4.2	4.8	4.4	4.6	6.9	3.9	4.6	4.4	3.8	4.1
19	4.9	3.8	4.2	4.6	4.3	4.4	4.5	3.7	4.0	3.8	3.4	3.6
20	5.4	3.7	4.2	5.0	4.5	4.7	4.5	3.6	4.0	4.0	3.2	3.5
21	4.4	3.6	4.0	5.0	4.4	4.7	4.1	3.6	3.8	4.4	3.6	3.8
22	4.1	3.4	3.7	5.5	4.7	5.0	4.2	3.4	3.6	4.2	3.4	3.7
23	4.2	3.5	3.8	5.1	4.4	4.7	3.7	3.0	3.3	4.2	3.4	3.7
24	4.3	3.2	3.7	5.0	4.1	4.5	3.9	3.3	3.5	5.0	3.4	4.0
25	4.4	3.3	3.9	4.3	3.9	4.2	4.2	3.1	3.5	4.8	4.2	4.4
26	4.9	3.6	4.1	4.7	3.7	4.1	4.1	3.2	3.5	4.8	4.2	4.4
27	4.8	3.8	4.2	4.2	3.8	4.0	3.6	3.0	3.3	---	---	---
28	4.4	3.7	3.9	4.4	3.6	3.9	3.7	2.7	3.2	8.6	4.4	5.7
29	4.7	3.6	3.9	4.4	3.7	4.0	4.7	3.3	3.7	5.7	4.1	4.6
30	8.0	3.5	4.7	4.3	3.5	3.8	4.8	4.4	4.5	6.3	4.5	5.6
31	---	---	---	4.1	3.5	3.7	4.8	4.6	4.7	---	---	---
MONTH	10.9	3.2	4.9	5.5	2.3	4.0	6.9	2.7	3.8	8.6	.6	4.3

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX

LOCATION.--Lat 32°38'19", long 96°29'17", Kaufman County, Hydrologic Unit 12030106, on right bank 15 ft downstream from downstream eastbound bridge on U.S. Highway 175, 0.7 mi downstream from Mustang Creek, 1.8 mi northwest of Crandall, 4.0 mi upstream from Buffalo Creek, and 11.0 mi upstream from mouth.

DRAINAGE AREA.--1,256 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1922: Drainage area. WDR TX-75-1: 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 338.69 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 21, 1983, at datum 5.00 ft higher.

REMARKS.--Records fair. Flow largely regulated by Lavon Lake (station 08060500) since September 1953 and Lake Ray Hubbard (station 08061550) since Mar. 22, 1970. The city of Forney discharges sewage effluent into a tributary below Lake Ray Hubbard and above this station. The North Texas Municipal Water District discharges sewage effluent into tributaries above this station from the Mesquite and Chandler's Landing sewage treatment plants. Flow is affected at times by discharge from the flood-detention pools of 20 floodwater-retarding structures with a combined detention capacity of 11,760 acre-ft. These structures control runoff from 39.2 mi². Gage-height telemeter at station.

AVERAGE DISCHARGE.--4 years (water years 1950-53) prior to regulation by Lavon Lake, 652 ft³/s (472,400 acre-ft/yr); 35 years (water years 1954-88) regulated, 584 ft³/s (423,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s May 28, 1957 (gage height, 22.81 ft); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,060 ft³/s July 14 at 1100 hours (gage height, 9.62 ft); minimum daily, 40 ft³/s June 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	57	115	e170	e86	72	181	99	341	52	e58	49
2	54	58	105	e160	e71	156	211	76	366	53	e65	46
3	54	59	90	e142	e77	537	153	72	140	64	e61	205
4	53	56	74	129	e72	202	111	64	133	87	e95	587
5	52	52	68	125	e57	139	105	73	107	78	e64	122
6	49	53	65	118	e82	115	108	68	77	103	e58	73
7	42	54	72	116	e79	102	109	61	65	76	e50	63
8	42	63	77	116	e71	93	113	64	61	53	e50	60
9	55	e400	74	117	63	87	115	92	64	46	50	53
10	55	e300	72	118	65	84	126	72	61	44	52	51
11	53	186	69	118	69	103	151	61	59	43	53	51
12	53	111	65	125	73	260	191	59	55	305	56	50
13	53	91	61	144	66	126	141	59	58	1320	52	49
14	52	91	e200	137	62	83	144	56	52	1730	52	94
15	50	138	114	107	63	83	154	56	50	266	49	84
16	50	893	104	e115	63	78	161	56	50	143	48	61
17	47	580	70	e160	67	115	324	55	51	115	48	58
18	44	197	62	e116	422	371	927	56	58	99	59	75
19	44	124	195	e103	530	152	224	54	58	95	53	72
20	51	122	583	e106	202	104	130	52	53	109	61	57
21	51	123	203	e112	136	93	113	225	53	123	63	55
22	49	117	140	e90	114	84	98	126	50	87	51	54
23	45	111	113	67	98	80	95	73	48	92	46	54
24	48	109	145	64	86	77	109	60	53	81	53	72
25	58	432	e300	e83	84	82	91	56	56	67	56	81
26	59	407	e900	e78	78	80	86	52	75	64	54	67
27	59	180	e400	e77	82	74	78	49	100	65	47	76
28	59	170	e250	e76	79	73	75	49	68	e60	47	59
29	48	161	e205	e86	75	577	74	47	40	e61	52	89
30	43	139	e190	e87	---	502	106	52	49	e58	69	394
31	52	---	e180	e89	---	224	---	64	---	e57	61	---
TOTAL	1578	5634	5361	3451	3172	5008	4804	2158	2551	5696	1733	2961
MEAN	50.9	188	173	111	109	162	160	69.6	85.0	184	55.9	98.7
MAX	59	893	900	170	530	577	927	225	366	1730	95	587
MIN	42	52	61	64	57	72	74	47	40	43	46	46
AC-FT	3130	11180	10630	6850	6290	9930	9530	4280	5060	11300	3440	5870

CAL YR 1987 TOTAL 178799 MEAN 490 MAX 6220 MIN 42 AC-FT 354600
WTR YR 1988 TOTAL 44107 MEAN 121 MAX 1730 MIN 40 AC-FT 87490

e Estimated.

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January to April 1964, May 1966 to September 1981, June 1986 to to current year. Pesticide analyses: March 1977 to July 1981. Sediment analyses: Arpil to September 1964.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to September 1981, May 1986 to current year.
pH: March to September 1977, May 1986 to current year.
WATER TEMPERATURE: October 1967 to September 1981, May 1986 to current year.
DISSOLVED OXYGEN: March to September 1977, May 1986 to current year.

INSTRUMENTATION.--From March to November 1977, a four-parameter water quality monitor continuously recorded specific conductance, pH, water temperature, and dissolved oxygen at this station. Beginning May 1986, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunction 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 office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,010 microsiemens Nov. 23, 1968; minimum, 173 microsiemens July 13, 1988.
pH: Maximum, 8.7 units Mar. 11, 27, 1987; minimum, 6.7 units Jan. 20, Feb. 15-18, 1988.
WATER TEMPERATURE: Maximum, 34.0°C June 26, July 1, Aug. 16, 17, 1980; minimum, 1.0°C Jan. 3, 1979.
DISSOLVED OXYGEN: Maximum, 14.5 mg/L July 8, 1977; minimum, .0 mg/L on many days during 1977.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 779 microsiemens Nov. 7; minimum, 173 microsiemens July 13.
pH: Maximum, 8.6 units Jan. 11; minimum, 6.7 units Jan. 20, Feb. 15-18.
WATER TEMPERATURE: Maximum, 32.5°C Aug. 7, 9; minimum, 3.5°C Jan. 8-9.
DISSOLVED OXYGEN: Maximum, 12.1 mg/L Jan. 8; minimum, 0.6 mg/L Sept. 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV 04...	1400	54	650	7.50	20.0	5.3	59	10	140	5
JAN 11...	1500	113	572	7.80	6.5	10.6	86	8.0	160	26
MAR 30...	1000	539	365	7.80	13.5	7.6	73	5.0	130	21
JUN 08...	0930	61	590	7.50	25.0	4.1	50	2.6	160	34
JUL 13...	1015	1320	172	8.00	25.0	4.7	57	3.4	64	7
SEP 08...	0945	60	580	7.60	23.5	5.0	60	2.1	170	41

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 WAT WH TOT FET 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)
NOV 04...	50	3.8	66	3	11	136	64	61	1.2
JAN 11...	59	3.4	49	2	7.3	136	59	53	0.70
MAR 30...	47	3.0	25	1	5.4	109	44	18	0.50
JUN 08...	58	3.6	52	2	8.6	126	62	47	0.70
JUL 13...	23	1.6	7.8	0.4	4.6	57	14	4.7	0.40
SEP 08...	63	3.9	49	2	8.4	133	60	49	0.60

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)
NOV 04...	9.5	348	3.27	0.630	3.90	5.90	--	--	5.00
JAN 11...	8.6	322	3.02	0.380	3.40	2.10	1.9	4.0	0.250
MAR 30...	6.9	215	1.41	0.090	1.50	0.420	0.78	1.2	1.10
JUN 08...	8.7	316	5.44	0.660	6.10	0.900	1.3	2.2	3.90
JUL 13...	5.6	96	0.650	0.050	0.700	0.050	0.65	0.70	0.290
SEP 08...	10	324	6.22	0.380	6.60	0.700	1.2	1.9	3.20

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	1578	650	353	1500	52	223	59	251	150
NOV.	1987	5634	515	286	4360	37	561	52	794	140
DEC.	1987	5361	408	231	3350	26	376	45	655	130
JAN.	1988	3451	579	319	2970	43	405	56	524	150
FEB.	1988	3172	547	302	2590	41	349	54	459	140
MAR.	1988	5008	481	269	3640	33	449	50	681	140
APR.	1988	4804	514	286	3710	37	478	52	675	140
MAY	1988	2158	606	331	1930	47	276	57	330	150
JUNE	1988	2551	532	294	2020	39	270	53	362	140
JULY	1988	5696	378	214	3290	24	372	42	642	120
AUG.	1988	1733	663	359	1680	54	253	59	277	150
SEPT	1988	2961	494	275	2200	35	281	50	403	140
TOTAL		44107	**	**	33200	**	4290	**	6050	**
WTD.AVG.		121	502	279	**	36	**	51	**	140

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	584	708	580	693	---	---	456	498	464	484
2	---	---	626	679	667	674	---	---	536	518	471	500
3	---	---	647	751	671	716	---	---	560	502	478	490
4	---	---	664	702	653	673	---	---	588	519	478	499
5	---	---	687	680	652	664	---	---	622	535	502	518
6	---	---	694	725	674	701	---	---	618	570	508	535
7	---	---	647	779	719	751	---	---	622	585	541	568
8	---	---	627	---	---	726	---	---	597	572	545	562
9	---	---	624	---	---	667	---	---	526	573	543	557
10	---	---	646	---	---	512	---	---	549	587	529	552
11	---	---	685	---	---	329	---	---	563	589	526	547
12	---	---	676	---	---	312	---	---	610	553	520	536
13	---	---	638	---	---	447	---	---	618	555	505	530
14	---	---	644	---	---	536	---	---	634	582	509	540
15	---	---	627	---	---	596	---	---	472	623	549	574
16	---	---	648	---	---	448	---	---	460	637	555	597
17	---	---	688	---	---	608	---	---	538	655	601	623
18	---	---	729	---	---	621	612	578	599	654	616	630
19	---	---	736	---	---	653	606	300	527	663	615	642
20	---	---	709	---	---	569	412	262	305	670	620	637
21	---	---	647	---	---	487	415	336	384	679	647	666
22	---	---	600	---	---	566	486	404	450	673	610	637
23	---	---	629	---	---	618	530	400	484	659	635	649
24	---	---	648	---	---	627	567	517	537	680	665	673
25	---	---	683	---	---	546	473	279	397	696	658	678
26	---	---	667	---	---	412	395	204	267	670	635	658
27	---	---	620	---	---	356	268	221	239	638	618	624
28	---	---	579	---	---	292	323	272	298	659	624	642
29	---	---	586	---	---	281	369	325	342	668	646	659
30	663	633	649	---	---	347	428	374	406	665	636	653
31	677	634	647	---	---	---	473	420	453	671	660	664
MONTH	677	633	651	779	580	548	612	204	492	696	464	591

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	694	646	671	679	630	651	---	---	477	694	541	612
2	658	639	645	662	334	610	561	490	529	608	537	569
3	667	655	660	443	214	326	490	451	472	616	561	596
4	690	637	662	476	357	418	529	478	511	620	584	604
5	702	672	687	534	485	514	549	510	528	643	600	623
6	733	696	709	622	526	595	573	529	549	694	608	639
7	709	603	676	626	591	611	602	565	578	694	675	685
8	698	671	680	631	599	612	631	604	617	718	659	689
9	677	648	660	662	601	621	620	584	602	710	651	675
10	676	638	657	701	646	665	663	600	634	651	573	615
11	690	635	668	690	371	655	690	619	652	600	565	582
12	690	667	679	544	217	410	616	467	558	686	584	632
13	691	648	671	579	472	509	553	443	488	---	---	646
14	689	654	675	609	503	563	643	549	592	---	---	692
15	668	643	654	634	605	623	667	624	650	---	---	704
16	651	632	640	644	605	621	667	635	658	---	---	718
17	651	626	636	659	471	619	678	333	628	---	---	722
18	645	203	443	525	275	361	365	208	290	---	---	683
19	371	313	333	476	385	445	455	333	397	---	---	690
20	472	379	423	567	477	529	522	459	494	---	---	708
21	527	475	510	589	552	570	555	494	521	593	263	399
22	561	519	549	625	579	590	589	558	570	475	318	402
23	579	542	565	646	609	621	616	591	604	553	475	514
24	628	564	588	675	634	658	659	604	633	612	545	572
25	640	588	611	661	641	653	655	573	603	616	596	608
26	670	625	641	684	655	673	604	569	582	671	596	636
27	676	627	654	706	687	698	608	576	588	706	643	674
28	679	657	667	711	677	694	624	600	609	710	663	686
29	681	661	674	682	200	426	651	596	628	725	675	696
30	---	---	---	---	---	354	722	643	678	729	686	707
31	---	---	---	---	---	408	---	---	---	706	675	692
MONTH	733	203	620	711	200	558	722	208	564	729	263	635

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	671	239	465	749	592	665	706	663	684	681	640	658
2	365	212	268	749	710	735	690	659	667	722	682	699
3	475	373	430	706	627	686	663	635	647	707	262	576
4	498	373	428	690	608	642	714	639	679	337	237	270
5	514	427	470	627	459	508	698	549	643	445	345	400
6	584	518	554	561	357	459	600	541	569	549	448	493
7	592	576	584	569	420	486	663	604	627	575	550	558
8	612	569	589	573	490	524	685	651	661	612	579	591
9	651	588	625	643	580	606	690	675	684	631	612	625
10	675	643	664	682	639	661	682	663	670	667	624	643
11	702	663	683	671	639	658	682	651	666	671	651	663
12	714	686	705	647	192	460	706	675	690	659	620	639
13	682	663	674	227	173	198	722	690	705	647	631	640
14	671	651	659	318	220	262	710	678	693	647	486	591
15	667	639	648	416	325	381	702	667	679	647	498	571
16	686	627	656	502	420	468	667	647	659	569	490	529
17	698	663	682	557	490	526	671	651	659	631	561	585
18	714	667	692	553	533	539	701	641	667	678	518	635
19	706	678	694	545	525	534	695	655	676	682	533	624
20	682	667	675	557	537	542	695	672	684	694	549	591
21	671	663	668	639	467	551	675	630	664	600	569	579
22	663	620	635	525	471	499	657	600	627	678	596	639
23	671	616	637	675	475	556	714	657	675	722	678	703
24	690	647	669	667	624	640	714	663	683	675	565	655
25	702	671	686	651	627	639	693	656	676	612	431	550
26	702	675	688	647	616	627	707	658	687	639	576	610
27	675	463	595	620	592	602	692	643	674	608	588	601
28	537	451	492	655	604	625	683	633	660	601	561	586
29	545	518	533	694	655	672	703	647	672	624	424	577
30	620	549	589	710	678	693	693	551	614	510	220	353
31	---	---	---	725	678	701	647	627	637	---	---	---
MONTH	714	212	601	749	173	560	722	541	664	722	220	581

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.8	7.6	7.6	7.3	7.1	7.2	---	---	---	8.1	8.0	8.0
2	7.7	7.5	7.6	7.3	7.1	7.2	---	---	---	8.0	8.0	8.0
3	7.6	7.5	7.6	7.5	7.3	7.4	---	---	---	8.0	7.9	8.0
4	7.6	7.5	7.5	7.6	7.4	7.5	---	---	---	7.9	7.9	7.9
5	7.5	7.4	7.5	7.6	7.5	7.5	---	---	---	7.9	7.9	7.9
6	7.5	7.4	7.4	7.6	7.5	7.5	---	---	---	7.9	7.9	7.9
7	7.4	7.3	7.4	7.6	7.5	7.5	---	---	---	7.9	7.9	7.9
8	7.4	7.3	7.3	7.6	7.5	7.5	---	---	---	8.0	7.7	7.9
9	7.3	7.2	7.3	8.0	7.5	7.7	---	---	---	8.0	7.9	7.9
10	7.3	7.2	7.2	7.7	7.6	7.7	---	---	---	8.0	7.9	7.9
11	7.2	7.1	7.2	7.7	7.6	7.7	7.8	7.7	7.8	8.6	7.8	8.2
12	7.2	7.1	7.1	7.7	7.6	7.6	7.9	7.7	7.8	7.9	7.8	7.9
13	7.1	7.0	7.1	7.6	7.6	7.6	7.9	7.7	7.7	7.9	7.8	7.8
14	7.7	7.0	7.2	7.6	7.5	7.6	8.0	7.7	7.8	7.9	7.8	7.8
15	7.7	7.3	7.5	7.7	7.5	7.5	8.0	7.8	7.8	7.9	7.8	7.8
16	7.4	7.2	7.3	8.1	7.6	7.8	8.0	7.8	7.8	7.9	7.8	7.9
17	7.4	7.2	7.3	7.8	7.6	7.7	---	---	---	7.9	7.8	7.9
18	7.4	7.2	7.3	7.7	7.6	7.7	7.9	7.9	7.9	7.9	7.8	7.8
19	7.3	7.2	7.2	7.7	7.6	7.7	8.1	7.9	7.9	7.8	6.8	6.9
20	7.3	7.2	7.2	7.7	7.6	7.6	8.1	8.0	8.0	7.6	6.7	7.2
21	7.3	7.2	7.2	7.6	7.5	7.5	8.0	8.0	8.0	7.7	7.5	7.6
22	7.3	7.2	7.3	7.5	7.4	7.5	8.0	7.9	8.0	7.7	7.6	7.6
23	7.3	7.3	7.3	7.4	7.4	7.4	8.0	7.9	8.0	7.7	7.6	7.7
24	7.4	7.2	7.3	7.5	7.4	7.5	8.0	7.8	7.9	7.7	7.6	7.6
25	7.3	7.2	7.2	---	---	---	8.1	7.8	7.9	7.7	7.6	7.6
26	7.3	7.2	7.2	---	---	---	8.1	8.0	8.0	7.7	7.6	7.6
27	7.3	7.2	7.3	---	---	---	8.0	8.0	8.0	7.7	7.6	7.6
28	7.3	7.1	7.2	---	---	---	8.2	8.0	8.1	7.7	7.6	7.6
29	7.3	7.2	7.3	---	---	---	8.1	8.1	8.1	7.7	7.6	7.6
30	7.3	7.3	7.3	---	---	---	8.1	8.1	8.1	7.7	7.6	7.6
31	7.4	7.2	7.3	---	---	---	8.1	8.0	8.1	7.7	7.6	7.7
MONTH	7.8	7.0	7.3	8.1	7.1	7.5	8.2	7.7	7.9	8.6	6.7	7.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.7	7.6	7.7	7.3	7.2	7.3						
2	7.7	7.6	7.7	7.6	7.2	7.3						
3	7.7	7.7	7.7	7.7	7.5	7.5						
4	7.8	7.7	7.7	7.6	7.5	7.6						
5	7.8	7.7	7.7	7.7	7.6	7.6						
6	7.9	7.8	7.8	7.6	6.8	7.4						
7	7.9	7.8	7.8	7.6	7.5	7.5						
8	7.8	7.8	7.8	7.5	7.4	7.5						
9	7.8	7.7	7.8	7.5	7.4	7.4						
10	7.8	7.7	7.8	7.5	7.4	7.5						
11	7.8	7.7	7.8	7.8	7.5	7.6						
12	7.8	7.7	7.8	8.0	7.8	7.9						
13	7.9	7.8	7.9	8.0	7.9	7.9						
14	7.9	7.8	7.8	8.0	7.8	7.9						
15	7.8	6.7	7.0	8.5	7.9	8.2						
16	6.8	6.7	6.8	8.4	8.3	8.3						
17	6.8	6.7	6.7	8.4	8.3	8.3						
18	7.2	6.7	6.9	8.5	8.3	8.4						
19	7.0	7.0	7.0	8.3	8.2	8.3						
20	7.1	7.0	7.0	8.3	8.2	8.3						
21	7.1	6.9	7.0	8.2	8.1	8.2						
22	7.0	6.9	7.0	8.1	8.0	8.0						
23	7.0	6.9	6.9	8.0	8.0	8.0						
24	7.0	6.8	6.9	8.0	7.9	8.0						
25	7.1	6.8	7.0	8.0	7.8	7.9						
26	7.1	6.9	7.0	7.9	7.8	7.8						
27	7.2	7.0	7.1	7.8	7.7	7.8						
28	7.3	7.0	7.2	7.7	7.7	7.7						
29	7.3	7.1	7.2	8.0	7.7	7.8						
30	---	---	---	---	---	---						
31	---	---	---	---	---	---						
MONTH	7.9	6.7	7.4	8.5	6.8	7.8						

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
MONTH												

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	22.5	21.0	21.5	---	---	---	9.5	8.0	9.0
2	---	---	---	22.0	20.5	21.0	---	---	---	8.5	8.0	8.5
3	26.5	25.0	25.5	22.5	20.0	21.0	---	---	---	9.0	7.5	8.5
4	26.5	25.0	26.0	22.5	20.0	21.0	---	---	---	9.0	7.5	8.0
5	26.0	25.0	25.5	22.5	20.5	21.5	---	---	---	9.0	8.0	8.5
6	25.0	21.5	23.5	20.0	17.5	19.5	---	---	---	8.5	7.0	8.0
7	24.0	20.0	22.0	18.0	16.5	17.5	---	---	---	7.5	5.5	7.0
8	23.5	20.0	21.5	19.0	17.5	18.0	---	---	---	5.5	3.5	4.5
9	24.0	20.0	22.0	19.5	17.0	18.5	---	---	---	5.5	3.5	4.5
10	25.5	21.5	23.5	19.5	17.0	18.0	---	---	---	6.5	4.0	5.0
11	23.0	21.0	22.0	19.5	16.5	18.0	---	---	---	7.0	4.0	5.5
12	22.0	20.0	20.5	19.5	16.0	17.5	---	---	---	9.0	6.0	7.5
13	21.0	18.0	19.5	18.5	15.5	17.0	---	---	---	8.0	7.0	7.5
14	21.0	18.0	19.5	17.5	15.0	16.0	---	---	---	8.5	6.5	7.5
15	21.5	18.5	19.5	17.5	15.0	16.0	---	---	---	9.0	6.5	7.5
16	23.5	20.5	21.5	18.0	15.0	16.5	---	---	---	10.0	8.5	9.0
17	24.0	21.5	22.5	18.0	15.0	16.0	---	---	---	14.0	10.5	12.0
18	24.0	21.5	22.5	17.0	14.5	15.5	---	---	---	14.0	12.0	13.0
19	23.0	22.0	22.5	15.5	13.5	14.5	13.0	10.5	11.5	15.5	13.5	14.5
20	22.5	20.5	21.5	14.5	12.0	13.0	12.5	11.0	11.5	15.0	12.5	13.0
21	21.0	18.5	20.0	14.0	11.5	13.0	12.0	10.5	11.0	12.5	10.5	11.5
22	19.0	18.0	18.5	15.5	12.5	14.0	13.0	10.5	11.5	11.5	8.5	9.5
23	20.5	18.5	19.0	16.0	14.5	15.5	13.5	11.5	12.5	10.5	8.0	9.5
24	22.0	18.5	20.5	16.0	13.5	15.0	16.0	14.0	15.0	11.5	9.0	10.0
25	23.5	21.5	22.5	---	---	---	16.0	12.0	14.0	11.5	9.0	10.5
26	25.0	22.5	23.5	---	---	---	12.0	6.0	8.0	10.5	8.0	9.5
27	23.0	20.0	22.0	---	---	---	6.0	5.5	6.0	11.0	8.5	10.0
28	22.0	19.5	20.5	---	---	---	6.5	6.0	6.0	12.0	9.5	11.0
29	22.0	19.0	20.5	---	---	---	6.5	6.0	6.0	13.5	11.5	12.5
30	21.5	20.0	21.0	---	---	---	7.5	6.0	6.5	15.5	13.5	14.5
31	22.5	20.0	21.5	---	---	---	10.0	7.0	8.5	17.5	15.5	16.5
MONTH	26.5	18.0	21.5	22.5	11.5	17.5	16.0	5.5	10.0	17.5	3.5	9.5

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	18.0	16.5	17.0	18.5	16.5	17.5	---	---	---	22.5	19.5	21.0
2	16.0	12.5	14.0	18.0	16.5	17.5	18.5	16.0	17.0	21.0	20.0	20.5
3	12.5	11.0	12.0	16.5	13.5	15.0	20.0	16.5	18.5	23.0	19.5	21.0
4	11.0	9.5	10.0	13.5	11.5	12.5	21.5	18.0	19.5	23.5	19.5	21.5
5	9.5	8.5	9.0	13.5	11.5	12.5	23.5	20.0	21.5	24.5	20.5	22.0
6	9.5	7.5	8.5	15.5	13.0	14.0	22.5	20.0	21.5	23.5	21.0	22.0
7	8.5	6.0	7.5	16.5	14.5	15.5	20.5	19.0	20.0	22.0	21.0	21.5
8	9.5	8.0	9.0	16.5	15.5	16.0	22.0	19.0	20.5	25.0	21.0	23.0
9	11.5	9.5	10.5	17.0	15.0	15.5	22.5	19.0	20.5	26.0	23.0	24.5
10	11.5	10.0	11.0	16.5	14.5	15.5	20.0	17.0	18.5	26.5	23.5	25.0
11	10.5	9.0	10.0	17.5	10.5	16.0	18.0	16.0	17.0	25.5	23.5	24.5
12	10.0	8.0	9.0	16.5	14.5	15.5	16.5	15.0	16.0	26.5	23.0	24.5
13	11.0	8.0	9.5	15.5	13.5	15.0	20.0	16.0	18.0	26.5	23.0	24.5
14	14.0	10.5	12.0	14.0	12.0	13.0	21.5	17.5	19.0	26.5	23.0	25.0
15	13.5	11.5	12.5	14.5	11.5	13.0	22.5	19.0	20.5	26.5	23.0	25.0
16	14.0	11.5	12.5	13.5	12.5	13.0	22.5	20.0	21.0	27.5	23.5	25.5
17	14.0	13.0	13.5	13.5	12.0	13.0	21.5	20.0	20.5	28.0	24.5	26.0
18	14.0	11.5	13.0	11.5	10.5	11.0	20.0	18.0	19.0	28.0	25.0	26.5
19	11.5	10.5	11.0	13.0	10.0	11.5	19.0	16.5	17.5	27.5	24.5	26.0
20	12.5	10.5	11.5	15.0	12.0	13.5	20.5	16.5	18.5	26.5	25.0	26.0
21	14.0	11.5	12.5	17.0	14.0	15.0	21.0	19.0	20.0	25.5	23.5	24.5
22	13.5	12.5	13.0	18.0	16.0	17.0	24.0	21.0	22.0	23.5	22.5	23.0
23	15.5	12.5	14.0	19.0	17.5	18.0	25.0	22.0	23.5	24.5	21.0	22.5
24	14.0	12.5	13.5	20.5	18.5	19.5	23.5	21.0	22.5	25.5	22.5	24.0
25	14.0	12.5	13.0	22.0	20.0	21.0	24.0	21.0	22.5	25.5	22.5	24.0
26	14.0	13.0	13.5	21.0	19.5	20.0	24.0	20.5	22.0	26.0	22.5	24.0
27	16.5	13.0	15.0	20.5	15.0	19.5	23.0	20.0	21.5	25.5	22.5	24.0
28	17.5	15.0	16.5	20.0	16.0	19.5	22.5	19.5	21.0	26.0	23.0	24.5
29	18.5	16.0	17.0	18.0	15.0	16.0	21.0	20.0	20.5	25.0	23.5	24.5
30	---	---	---	---	---	---	21.5	19.5	20.5	26.0	23.5	24.5
31	---	---	---	---	---	---	---	---	---	26.0	24.5	25.0
MONTH	18.5	6.0	12.0	22.0	10.0	15.5	25.0	15.0	20.0	28.0	19.5	24.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.5	22.5	24.0	31.5	29.0	30.0	31.0	28.0	29.5	27.5	25.5	26.5
2	23.0	22.5	22.5	31.0	29.0	30.0	31.0	28.5	29.5	29.0	26.5	27.5
3	24.0	22.5	23.0	29.5	28.0	29.0	30.0	28.5	29.0	28.0	25.0	27.0
4	25.5	22.5	24.0	29.5	27.5	28.5	30.0	28.0	28.5	25.0	24.5	24.5
5	25.5	23.0	24.0	30.5	27.5	29.0	30.0	28.0	29.0	26.0	23.5	25.0
6	26.5	23.5	25.0	29.5	28.0	28.5	31.5	28.5	30.0	26.5	24.0	25.0
7	27.5	24.5	26.0	29.5	27.5	28.5	32.5	29.5	31.0	26.5	24.5	25.5
8	28.5	21.0	26.5	28.5	27.5	28.0	31.0	30.0	30.5	26.5	23.0	25.0
9	29.5	26.5	28.0	29.5	27.0	28.0	32.5	30.0	31.0	27.0	24.5	25.5
10	28.5	26.5	27.5	30.0	27.5	28.5	32.0	29.5	30.5	27.0	24.5	26.0
11	27.5	24.5	26.0	28.5	28.0	28.0	30.5	29.0	29.5	27.5	25.0	26.5
12	27.0	24.0	25.5	27.5	26.5	27.0	30.0	28.5	29.0	28.0	25.5	27.0
13	27.5	24.5	26.0	27.0	25.0	26.0	31.0	28.5	29.5	28.0	26.5	27.5
14	28.0	25.0	26.5	28.5	26.5	27.5	31.5	29.0	30.0	28.0	26.5	27.5
15	28.5	26.0	27.0	30.0	28.0	29.0	32.0	29.0	30.5	28.5	26.5	27.5
16	29.0	26.5	27.5	31.0	28.0	29.5	31.0	29.0	30.0	28.0	27.0	27.5
17	28.0	26.5	27.5	31.5	28.5	30.0	30.5	27.5	29.5	28.0	27.0	27.5
18	29.0	26.0	27.5	32.0	29.0	30.5	31.0	28.0	29.5	28.5	26.5	27.5
19	29.0	26.5	27.5	30.5	29.0	30.0	30.0	28.5	29.5	28.5	26.5	27.5
20	29.0	26.5	27.5	29.5	28.0	29.0	29.5	28.0	28.5	28.0	26.5	27.5
21	29.5	26.5	28.0	29.0	27.0	28.0	31.0	28.0	29.0	28.5	26.0	27.5
22	30.0	27.0	28.0	30.0	26.5	28.0	31.5	28.5	30.0	29.0	26.5	27.5
23	30.0	27.0	28.5	29.5	27.0	28.0	32.0	29.0	30.5	28.0	26.5	27.5
24	30.0	27.5	28.5	30.0	27.0	28.5	31.5	29.5	30.5	27.5	25.5	27.0
25	29.5	27.5	28.5	30.5	27.5	29.0	31.0	29.0	30.0	26.5	24.0	25.0
26	30.0	27.5	28.5	31.0	27.0	29.0	30.5	28.5	29.5	26.5	23.5	25.0
27	30.5	28.0	29.0	31.0	28.0	29.5	30.0	28.0	29.0	26.0	22.0	24.5
28	31.0	29.0	29.5	31.0	28.0	29.5	30.5	27.5	29.0	26.5	24.0	25.0
29	31.5	28.0	30.0	31.0	28.5	29.5	29.0	27.0	28.0	25.5	22.5	24.5
30	31.0	28.5	30.0	31.0	28.5	29.5	26.5	25.5	26.0	22.5	19.5	21.0
31	---	---	---	31.0	28.5	29.5	27.5	25.0	26.0	---	---	---
MONTH	31.5	21.0	27.0	32.0	25.0	29.0	32.5	25.0	29.5	29.0	19.5	26.0

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6.1	2.2	3.8	5.9	4.7	5.3	---	---	---	9.3	9.0	9.1
2	5.6	2.5	4.4	5.8	4.6	5.3	---	---	---	9.5	9.1	9.4
3	4.7	2.1	3.7	5.4	2.5	4.7	---	---	---	9.7	8.7	9.4
4	5.2	2.3	3.8	5.2	3.8	4.6	---	---	---	9.6	8.7	9.2
5	5.4	2.2	3.8	5.4	3.9	4.6	---	---	---	9.4	9.0	9.1
6	5.5	2.3	3.7	5.6	4.1	4.7	---	---	---	9.4	9.0	9.1
7	5.4	2.3	3.9	6.5	4.2	5.6	---	---	---	10.1	8.8	9.5
8	6.6	2.4	4.7	6.6	4.2	5.5	---	---	---	12.1	7.1	10.4
9	6.2	2.4	3.9	---	---	---	---	---	---	12.0	11.1	11.5
10	5.4	2.6	4.0	---	---	---	---	---	---	12.0	11.1	11.6
11	5.6	2.6	4.3	---	---	---	---	---	---	12.0	10.9	11.4
12	6.1	2.6	4.8	---	---	---	---	---	---	11.2	10.6	11.0
13	6.8	2.6	4.7	---	---	---	---	---	---	11.1	10.6	10.9
14	7.4	2.7	5.3	---	---	---	---	---	---	10.9	10.1	10.6
15	7.7	3.0	6.2	---	---	---	---	---	---	10.7	7.9	9.9
16	8.1	4.7	6.5	---	---	---	---	---	---	9.5	7.9	9.1
17	6.8	4.6	5.4	---	---	---	---	---	---	9.1	6.0	8.1
18	5.7	2.4	4.2	---	---	---	---	---	---	7.3	5.8	6.0
19	4.1	2.3	3.3	---	---	---	6.5	5.5	5.9	7.2	6.6	7.0
20	4.9	2.3	3.4	---	---	---	6.5	6.1	6.3	7.0	5.8	6.5
21	5.1	2.3	3.6	---	---	---	6.5	6.3	6.4	7.8	5.0	6.9
22	4.9	2.3	3.2	---	---	---	6.7	6.1	6.4	8.9	6.1	8.1
23	5.0	2.3	3.5	5.8	5.4	5.6	6.7	6.1	6.4	8.8	8.3	8.5
24	5.7	2.5	4.2	5.7	5.4	5.5	6.5	5.8	6.1	8.5	7.8	8.1
25	3.9	2.3	3.4	---	---	---	7.1	5.8	6.2	8.1	7.6	7.8
26	4.6	2.5	3.5	---	---	---	9.0	7.2	8.4	8.3	7.5	7.9
27	6.3	3.2	4.7	---	---	---	9.3	8.8	8.9	8.2	7.7	8.0
28	7.5	4.6	5.8	---	---	---	9.7	8.9	9.3	8.5	7.6	8.1
29	6.8	4.5	5.3	---	---	---	10.0	9.5	9.7	7.7	5.7	6.3
30	6.0	5.2	5.7	---	---	---	9.8	9.5	9.7	7.1	5.6	6.7
31	7.0	4.8	5.7	---	---	---	9.7	8.9	9.4	6.7	3.8	6.0
MONTH	8.1	2.1	4.4	6.6	2.5	5.1	10.0	5.5	7.6	12.1	3.8	8.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.0	3.8	4.9	---	---	---	---	---	---	---	---	---
2	6.6	3.8	5.9	---	---	---	7.8	7.0	7.3	---	---	---
3	7.5	6.5	7.1	---	---	---	7.2	6.6	6.9	---	---	---
4	8.9	7.2	8.2	---	---	---	6.8	5.8	6.4	---	---	---
5	8.5	6.8	7.9	---	---	---	6.6	5.4	5.9	---	---	---
6	9.1	7.2	8.1	---	---	---	6.8	5.2	5.9	---	---	---
7	9.4	7.9	8.7	---	---	---	6.6	5.4	5.9	---	---	---
8	8.3	5.9	7.7	---	---	---	7.2	5.4	6.0	---	---	---
9	6.7	5.2	6.1	---	---	---	7.4	5.4	6.1	---	---	---
10	6.5	5.0	5.5	---	---	---	7.2	5.2	6.1	---	---	---
11	7.5	5.3	6.4	8.6	4.6	6.6	8.0	5.8	6.8	---	---	---
12	8.3	6.7	7.6	8.7	4.5	7.1	8.0	6.4	7.5	---	---	---
13	8.8	6.5	8.0	7.5	7.1	7.2	8.8	6.4	7.6	---	---	---
14	7.7	6.4	7.2	7.7	7.2	7.4	7.8	5.6	6.5	---	---	---
15	7.9	6.2	6.8	7.8	7.0	7.4	7.2	5.0	5.8	---	---	---
16	7.9	6.3	6.9	7.5	6.6	7.1	6.6	4.6	5.4	---	---	---
17	6.6	6.3	6.4	8.4	6.6	6.9	5.8	3.8	4.9	---	---	---
18	9.7	5.2	7.5	9.1	8.4	8.9	6.2	4.4	5.5	---	---	---
19	10.0	9.7	9.9	8.9	8.6	8.7	8.2	6.4	7.3	---	---	---
20	9.7	9.3	9.6	8.6	6.1	7.7	8.1	6.9	7.6	---	---	---
21	9.2	8.5	8.9	7.5	6.4	7.1	7.3	6.7	7.0	5.5	4.2	4.7
22	8.6	6.4	7.5	6.8	5.9	6.3	7.6	6.5	7.0	5.5	4.7	5.1
23	8.0	6.3	7.0	6.4	4.2	5.2	8.6	6.3	7.2	5.9	5.1	5.5
24	9.2	6.4	7.5	6.1	4.2	5.2	---	---	---	6.1	4.9	5.3
25	9.0	6.2	7.8	6.1	4.1	5.0	---	---	---	5.6	4.7	5.1
26	8.7	6.1	7.6	6.3	4.1	5.0	---	---	---	6.0	4.8	5.2
27	8.4	6.2	7.4	6.5	4.2	5.2	---	---	---	5.8	4.8	5.2
28	---	---	---	5.6	4.8	5.2	---	---	---	6.1	4.6	5.2
29	---	---	---	7.6	4.7	6.5	---	---	---	5.3	4.7	5.0
30	---	---	---	---	---	---	---	---	---	5.6	4.5	5.0
31	---	---	---	---	---	---	---	---	---	5.6	4.8	5.1
MONTH	10.0	3.8	7.4	9.1	4.1	6.6	8.8	3.8	6.5	6.1	4.2	5.1

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6.3	4.6	5.4	6.4	4.0	5.0	5.9	3.0	4.2	5.4	4.3	4.7
2	6.3	5.5	6.0	4.8	3.2	3.9	5.5	3.0	4.0	4.8	3.7	4.1
3	6.6	6.0	6.2	5.0	3.4	4.2	4.7	3.0	3.8	3.9	.6	2.9
4	6.7	6.3	6.4	5.0	3.0	3.9	5.1	3.2	3.8	4.3	3.6	4.0
5	6.8	5.6	6.2	5.2	4.2	4.5	5.3	3.7	4.5	4.7	4.2	4.4
6	5.9	5.0	5.6	4.6	2.8	3.8	6.4	3.7	4.7	4.9	4.0	4.5
7	5.8	4.6	5.4	5.0	4.0	4.4	6.6	3.7	4.9	5.1	3.8	4.4
8	5.2	4.0	4.5	4.6	4.0	4.3	5.2	3.7	4.4	5.8	4.7	5.2
9	6.7	4.0	4.9	5.0	4.2	4.6	6.8	3.7	4.9	5.8	4.8	5.1
10	6.1	4.0	4.8	5.0	4.0	4.5	6.0	3.7	4.8	6.4	4.6	5.3
11	6.7	4.4	5.3	4.8	4.0	4.3	5.4	3.9	4.6	6.5	4.6	5.3
12	7.2	4.9	5.9	5.6	4.6	5.1	5.6	3.7	4.6	6.9	4.4	5.3
13	6.4	4.7	5.4	5.2	3.2	4.2	6.2	3.7	4.8	6.5	4.3	5.1
14	6.2	4.7	5.3	3.8	3.2	3.3	6.2	3.8	4.9	4.9	4.3	4.6
15	6.2	4.2	5.0	5.4	4.0	5.0	6.0	3.9	4.8	5.3	4.3	4.9
16	6.5	4.4	5.3	5.6	5.4	5.4	6.5	3.9	4.9	4.9	3.9	4.4
17	5.9	4.2	4.8	5.8	4.8	5.4	5.8	4.0	4.7	5.7	3.9	4.5
18	6.2	4.2	4.9	5.4	4.4	4.9	6.0	3.6	4.7	5.1	3.9	4.4
19	6.1	4.3	4.9	5.4	4.4	4.8	5.6	3.8	4.7	4.9	3.9	4.3
20	6.5	4.3	5.0	5.8	4.8	5.1	5.2	3.6	4.1	5.0	3.9	4.3
21	6.9	4.0	5.2	5.8	4.6	5.2	5.5	3.8	4.4	5.0	3.9	4.3
22	6.3	4.0	4.9	6.7	4.4	5.0	5.3	3.4	4.2	5.0	3.7	4.1
23	6.7	3.8	4.8	6.1	4.2	4.9	4.9	3.2	4.0	5.2	3.5	4.0
24	6.3	3.9	4.8	6.9	4.0	5.0	4.9	3.0	3.7	4.5	3.2	3.7
25	6.1	3.9	4.9	6.8	3.8	5.0	4.3	3.0	3.5	4.7	3.8	4.2
26	6.3	3.3	4.6	6.4	3.8	5.0	5.1	2.8	3.8	5.3	4.1	4.6
27	6.2	4.4	5.4	6.2	3.8	4.8	5.5	3.6	4.5	5.8	4.5	5.1
28	6.1	4.0	4.9	6.2	3.8	4.7	6.4	3.6	4.9	7.4	4.6	5.7
29	6.8	3.4	5.0	6.2	3.6	4.6	5.1	3.9	4.5	5.8	5.0	5.4
30	9.8	3.4	5.7	6.3	3.4	4.6	4.7	4.3	4.4	6.6	5.0	5.8
31	---	---	---	5.9	3.4	4.4	5.6	4.7	5.0	---	---	---
MONTH	9.8	3.3	5.3	6.9	2.8	4.6	6.8	2.8	4.4	7.4	.6	4.6

08062500 TRINITY RIVER NEAR ROSSER, TX

LOCATION.--Lat 32°25'35", long 96°27'46", Ellis County, Hydrologic Unit 12030105, on right bank at downstream side of right pier of bridge on State Highway 34, 2.5 mi south of Rosser, 8.5 mi downstream from East Fork Trinity River, and at mile 451.4.

DRAINAGE AREA.--8,147 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to September 1925, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1922: Drainage area. WDR TX-77-1: 1942(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 302.65 ft above National Geodetic Vertical Datum of 1929. July 25, 1924, to Sept. 30, 1925, nonrecording gage at abandoned lock and dam No. 7, 1.7 mi upstream from present site at datum 6.94 ft higher.

REMARKS.--No estimated daily discharges. Records good. At times, flow is affected by storage in 15 upstream reservoirs having combined capacity of 3,572,000 acre-ft, of which 1,138,000 acre-ft is for flood control. A levee system constructed in 1916 extends several miles upstream and downstream from station. The cities of Fort Worth with Dallas and several small cities divert considerable water for municipal use, of which about 60 percent is returned as sewage effluents that sustains low flows at this site. Flow may be effected at times by discharge from the flood-detention pools of 38 floodwater-retarding structures with a combined detention capacity of 22,680 acre-ft. These structures control runoff from 76.7 mi². Two separate gage-height telemeters at station.

AVERAGE DISCHARGE.--51 years (water years 1925, 1939-88), 1,178 ft³/s (1,895,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 150,000 ft³/s Apr. 23, 1942, following numerous breaks in levee systems along both banks; maximum gage height, 41.55 ft Apr. 22, 1942, just prior to levee breaks; minimum discharge, 32 ft³/s for several days in 1924-25.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 reached a stage of about 33 ft (present site and datum), from information by U.S. Army Corps of Engineers (discharge believed to have been about the same as that of Apr. 22, 1942.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,200 ft³/s Dec. 27 at 0400 hours (gage height, 21.23 ft); minimum daily, 465 ft³/s Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	687	627	873	1660	820	866	1460	1290	1590	784	526	498
2	645	618	826	1590	818	892	2040	1200	6710	766	542	524
3	633	630	809	1470	819	3710	1830	869	7640	947	551	719
4	613	633	836	1340	803	3790	1250	808	5710	1080	692	3340
5	600	629	827	1280	805	1960	1080	786	2270	1150	632	2700
6	614	619	793	1180	793	1270	1020	780	1260	1220	540	1040
7	602	629	810	1170	826	1110	966	760	1010	1180	523	693
8	590	637	918	1290	825	1020	897	762	929	843	515	618
9	603	1160	859	1330	810	966	865	844	888	749	504	577
10	615	1710	838	1350	821	920	850	839	836	710	481	568
11	600	1530	910	1290	818	908	873	775	806	1080	476	555
12	581	987	897	1230	872	2180	890	746	766	2290	473	554
13	598	818	942	1280	847	1360	821	736	726	7200	479	569
14	608	750	1270	1170	819	1040	800	752	739	7020	489	684
15	592	776	1520	1030	798	961	802	751	733	2970	489	947
16	608	4450	1340	984	814	907	877	721	725	1090	500	1050
17	618	5680	1010	977	813	902	813	740	686	797	515	921
18	602	3030	902	962	2110	2560	3660	907	744	630	513	667
19	650	1520	1030	952	4420	2140	3520	795	732	592	507	1270
20	700	1360	4710	1040	3220	1330	1780	721	692	626	548	1170
21	692	1070	4690	1010	1730	1070	1120	1750	703	879	710	743
22	698	891	2030	928	1220	977	966	2470	710	665	601	605
23	678	819	1240	886	1070	926	904	1500	700	578	658	545
24	688	806	1100	867	989	904	939	1080	706	546	589	535
25	688	1540	1950	845	929	955	871	854	719	494	543	664
26	664	3450	5990	853	886	918	873	751	701	514	522	562
27	638	2240	10800	838	874	861	885	721	782	533	499	532
28	600	1480	7250	824	888	828	843	730	726	510	472	537
29	621	1150	2940	808	860	1420	800	718	725	499	465	544
30	621	946	1910	823	---	2900	1200	716	769	497	615	2040
31	633	---	1680	818	---	2040	---	748	---	522	508	---
TOTAL	19580	43185	64500	34075	33117	44591	36495	28620	43433	39961	16677	26971
MEAN	632	1439	2081	1099	1142	1438	1216	923	1448	1289	538	899
MAX	700	5680	10800	1660	4420	3790	3660	2470	7640	7200	710	3340
MIN	581	618	793	808	793	828	800	716	686	494	465	498
AC-FT	38840	85660	127900	67590	65690	88450	72390	56770	86150	79260	33080	53500

CAL YR 1987 TOTAL 1220094 MEAN 3343 MAX 14500 MIN 581 AC-FT 2420000
WTR YR 1988 TOTAL 431205 MEAN 1178 MAX 10800 MIN 465 AC-FT 855300

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1954 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: January 1968 to July 1981. Sediment analyses: 1962, April to September 1964, April 1972 to April 1975.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1954 to current year.
pH: March 1977 to current year.
WATER TEMPERATURE: October 1954 to current year.
DISSOLVED OXYGEN: March 1977 to current year.

INSTRUMENTATION.--Beginning March 1977, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance 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, 2,990 microsiemens Oct. 13, 1956; minimum, 122 microsiemens Sept. 30, 1981.
pH: Maximum, 9.9 units July 12, 1982; minimum, 6.8 units Oct. 3, 19, 20, Nov. 19, 1980.
WATER TEMPERATURE: Maximum, 36.0°C July 1, 1955; minimum, 1.0°C on many days during winter months.
DISSOLVED OXYGEN: Maximum, 11.4 mg/L Feb. 12, 1986; minimum, 0.0 mg/L on several days during 1979-81.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 855 microsiemens Nov. 7; minimum, 248 microsiemens July 13.
pH: Maximum, 8.3 units June 22; minimum, 7.2 units on several days during year.
WATER TEMPERATURE: Maximum, 32.5°C Aug. 7-10; minimum, 7.0°C Dec. 28, Jan. 10.
DISSOLVED OXYGEN: Maximum, 10.2 mg/L Dec. 29; minimum, 1.1 mg/L May 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV										
04...	0900	547	740	7.50	21.5	6.1	69	4.1	140	20
JAN										
05...	1515	1140	577	7.70	10.0	9.7	85	6.8	170	41
MAR										
29...	1515	804	720	7.30	19.5	4.6	50	9.1	170	32
APR										
18...	1330	4500	--	--	--	--	--	--	--	--
18...	1541	4610	--	--	--	--	--	--	--	--
18...	1741	4630	--	--	--	--	--	--	--	--
18...	1941	4590	--	--	--	--	--	--	--	--
18...	2141	4550	--	--	--	--	--	--	--	--
18...	2341	4460	--	--	--	--	--	--	--	--
19...	0141	4310	--	--	--	--	--	--	--	--
19...	0341	4180	--	--	--	--	--	--	--	--
19...	0541	4020	--	--	--	--	--	--	--	--
19...	0741	3870	--	--	--	--	--	--	--	--
19...	0941	3720	--	--	--	--	--	--	--	--
19...	1141	3540	--	--	--	--	--	--	--	--
MAY										
21...	1308	2030	--	--	--	--	--	--	--	--
21...	1508	2260	--	--	--	--	--	--	--	--
21...	1708	2480	--	--	--	--	--	--	--	--
21...	1908	2640	--	--	--	--	--	--	--	--
21...	2108	2770	--	--	--	--	--	--	--	--
21...	2308	2830	--	--	--	--	--	--	--	--
22...	0108	2850	--	--	--	--	--	--	--	--
22...	0308	2850	--	--	--	--	--	--	--	--
22...	0508	2810	--	--	--	--	--	--	--	--
22...	0708	2760	--	--	--	--	--	--	--	--
22...	0908	2680	--	--	--	--	--	--	--	--
22...	1108	2600	--	--	--	--	--	--	--	--
JUN										
01...	1652	1560	--	--	--	--	--	--	--	--
01...	1852	2640	--	--	--	--	--	--	--	--
01...	2052	3580	--	--	--	--	--	--	--	--
01...	2252	4390	--	--	--	--	--	--	--	--
02...	0052	5040	--	--	--	--	--	--	--	--
02...	0252	5580	--	--	--	--	--	--	--	--
02...	0452	6010	--	--	--	--	--	--	--	--
02...	0652	6350	--	--	--	--	--	--	--	--
02...	0852	6630	--	--	--	--	--	--	--	--
08...	1245	929	610	7.60	27.5	6.4	82	1.6	150	38
JUL										
11...	1330	1080	673	7.40	29.5	5.6	74	3.5	140	54
SEP										
09...	0945	577	570	7.50	26.0	6.8	85	1.9	130	31

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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 WAT WH TOT FET 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)
NOV									
04...	46	5.4	86	3	12	117	80	74	1.3
JAN									
05...	58	5.7	49	2	8.7	128	71	49	0.60
MAR									
29...	59	5.5	78	3	11	138	88	80	1.1
APR									
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
MAY									
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
JUN									
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
08...	53	4.6	57	2	9.0	114	79	49	0.60
JUL									
11...	47	5.3	77	3	10	85	85	71	1.0
SEP									
09...	44	4.7	62	2	9.9	98	68	53	0.70

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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-PHOROUS TOTAL (MG/L AS P)
NOV									
04...	8.8	384	6.91	0.290	7.20	0.160	1.5	1.7	4.00
JAN									
05...	8.0	327	4.66	0.340	5.00	0.850	1.2	2.1	2.40
MAR									
29...	6.7	412	4.30	1.20	5.50	1.90	0.50	2.4	3.20
APR									
18...	--	--	2.50	0.700	3.20	1.30	2.6	3.9	2.20
18...	--	--	2.11	0.590	2.70	0.470	1.0	1.5	1.30
18...	--	--	2.88	0.620	3.50	0.310	1.1	1.4	1.60
18...	--	--	2.85	0.550	3.40	0.340	0.96	1.3	1.30
18...	--	--	2.19	0.510	2.70	0.440	1.2	1.6	1.20
18...	--	--	2.24	0.460	2.70	0.410	1.4	1.8	1.50
19...	--	--	2.08	0.420	2.50	0.420	1.1	1.5	1.40
19...	--	--	1.92	0.380	2.30	0.390	0.91	1.3	1.10
19...	--	--	1.78	0.320	2.10	0.370	1.0	1.4	0.880
19...	--	--	1.62	0.280	1.90	0.320	0.88	1.2	0.770
19...	--	--	1.54	0.260	1.80	0.310	0.79	1.1	0.780
19...	--	--	1.93	0.270	2.20	0.310	0.59	0.90	0.860
MAY									
21...	--	--	7.72	0.480	8.20	0.130	1.2	1.3	3.60
21...	--	--	7.51	0.490	8.00	0.110	1.8	1.9	3.30
21...	--	--	7.25	0.550	7.80	0.160	1.3	1.5	2.90
21...	--	--	7.78	0.720	8.50	0.320	1.4	1.7	3.50
21...	--	--	6.69	0.610	7.30	0.210	0.99	1.2	3.10
21...	--	--	6.21	0.490	6.70	0.160	1.4	1.6	2.50
22...	--	--	5.98	0.620	6.60	0.230	1.3	1.5	4.00
22...	--	--	4.28	0.520	4.80	0.350	1.6	1.9	1.70
22...	--	--	4.67	0.530	5.20	0.300	1.1	1.4	1.80
22...	--	--	4.38	0.420	4.80	0.160	1.9	2.1	1.80
22...	--	--	3.64	0.360	4.00	0.130	0.77	0.90	1.40
22...	--	--	2.99	0.310	3.30	0.110	0.69	0.80	1.10
JUN									
01...	--	--	9.19	0.210	9.40	0.030	2.2	2.2	3.50
01...	--	--	8.12	0.180	8.30	0.060	1.1	1.2	3.00
01...	--	--	8.36	0.140	8.50	0.070	1.3	1.4	3.20
01...	--	--	8.81	0.290	9.10	0.160	1.3	1.5	3.30
02...	--	--	7.32	0.180	7.50	0.140	1.1	1.2	2.90
02...	--	--	5.82	0.280	6.10	0.260	1.0	1.3	2.00
02...	--	--	3.68	0.220	3.90	0.130	0.57	0.70	1.40
02...	--	--	3.44	0.160	3.60	0.150	0.65	0.80	1.10
02...	--	--	2.96	0.140	3.10	0.160	0.74	0.90	0.810
08...	7.3	328	6.00	0.100	6.10	0.100	0.70	0.80	2.50
JUL									
11...	7.7	355	9.00	0.200	9.20	0.170	1.5	1.7	4.60
SEP									
09...	8.3	309	7.73	0.070	7.80	0.080	1.1	1.2	3.30

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	19580	739	413	21800	66	3470	94	4970	160
NOV.	1987	43185	587	330	38500	46	5390	72	8390	150
DEC.	1987	64500	448	254	44200	31	5400	53	9220	140
JAN.	1988	34075	641	360	33100	52	4820	79	7310	160
FEB.	1988	33117	651	365	32700	54	4840	81	7260	160
MAR.	1988	44591	592	333	40100	46	5570	72	8720	160
APR.	1988	36495	626	352	34700	51	5000	77	7630	160
MAY	1988	28620	658	369	28500	55	4230	82	6340	160
JUNE	1988	43433	538	303	35500	42	4870	66	7690	140
JULY	1988	39961	491	277	29900	36	3930	59	6380	140
AUG.	1988	16677	696	390	17500	59	2670	87	3940	160
SEPT	1988	26971	578	326	23700	45	3270	71	5140	150
TOTAL		431205	**	**	380000	**	53400	**	83000	**
WTD.AVG.		1178	581	327	**	46	**	71	**	150

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	744	694	710	---	---	780	586	544	566	550	518	537
2	756	725	741	---	---	770	602	588	595	542	522	534
3	761	715	740	---	---	760	630	598	610	550	530	540
4	761	696	729	---	---	750	652	622	633	548	528	538
5	756	717	734	825	754	787	670	644	660	580	536	559
6	765	702	731	854	781	817	674	660	666	666	582	627
7	743	674	709	855	776	816	676	648	662	638	590	612
8	729	678	703	821	777	803	674	662	666	670	630	640
9	737	685	710	849	725	817	660	620	643	760	680	720
10	731	677	702	770	662	705	626	606	618	760	656	698
11	735	690	712	672	598	637	662	624	644	698	614	642
12	769	697	730	670	572	626	666	630	648	628	608	618
13	766	687	721	681	623	655	672	632	649	625	595	609
14	740	659	696	723	682	699	642	612	631	643	613	627
15	719	628	684	750	699	716	624	548	576	649	621	633
16	722	679	701	762	419	591	582	552	565	681	653	662
17	739	701	722	511	412	461	560	532	546	701	675	691
18	756	708	735	529	460	483	608	562	585	697	673	685
19	760	716	741	597	532	554	638	594	621	693	673	683
20	787	739	762	614	544	582	594	334	472	689	671	680
21	802	729	760	645	568	611	410	354	377	709	673	691
22	768	739	754	661	606	630	436	378	401	711	675	691
23	771	759	763	659	636	645	506	436	473	697	683	689
24	769	735	751	672	650	660	564	508	533	697	677	685
25	763	733	748	678	620	662	570	486	542	709	689	701
26	776	748	762	604	408	479	512	262	404	711	679	693
27	815	769	789	476	418	460	314	272	288	697	669	683
28	842	746	789	460	446	453	344	304	319	708	672	690
29	807	745	779	506	458	484	416	348	375	708	688	696
30	---	---	800	542	506	524	478	418	447	728	704	713
31	---	---	790	---	---	---	512	476	495	730	704	718
MONTH	842	628	739	855	408	647	676	262	545	760	518	651

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	722	698	712	742	710	728	586	551	564	726	638	682
2	718	700	708	746	714	727	624	592	607	666	594	634
3	718	700	708	718	464	585	611	510	534	626	568	594
4	728	694	711	528	416	483	572	517	537	614	588	598
5	726	713	718	514	478	493	651	564	598	672	620	647
6	739	709	724	560	510	532	666	648	654	684	666	674
7	735	717	726	634	564	594	686	663	673	694	684	689
8	715	709	713	646	628	634	695	667	681	732	692	705
9	720	706	711	668	636	653	712	684	695	736	706	721
10	749	708	726	694	668	678	729	712	724	736	706	718
11	770	743	755	700	670	687	745	716	725	722	688	708
12	779	737	757	686	498	597	766	718	736	710	680	694
13	753	731	742	586	466	530	731	684	705	724	692	706
14	808	743	772	626	532	573	744	700	713	730	710	720
15	799	775	783	668	628	645	747	726	736	740	698	715
16	778	742	760	678	658	670	757	739	749	748	720	731
17	768	724	750	696	678	687	778	757	767	768	744	756
18	718	589	683	688	546	621	777	442	605	774	720	737
19	587	436	488	544	476	512	492	428	468	760	710	740
20	530	477	501	576	484	538	533	496	515	768	722	751
21	584	517	543	622	576	598	562	528	549	724	596	679
22	607	588	597	628	586	608	630	558	581	646	428	511
23	640	604	621	648	626	635	680	636	657	564	506	532
24	668	644	657	672	650	663	704	682	695	550	526	542
25	702	668	687	680	656	670	710	694	702	592	538	567
26	708	692	701	678	646	663	714	672	694	606	574	591
27	730	704	714	690	662	671	702	682	690	670	582	624
28	736	712	726	704	690	696	720	690	704	712	660	687
29	742	722	731	744	467	682	728	718	722	738	706	723
30	---	---	---	578	399	494	718	694	705	776	734	745
31	---	---	---	627	571	589	---	---	---	792	762	777
MONTH	808	436	694	746	399	617	778	428	656	792	428	674

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	768	616	709	740	706	719	730	710	719	710	586	670
2	550	328	381	742	720	731	738	718	728	746	712	723
3	360	338	347	754	652	733	740	714	726	756	710	735
4	460	356	410	724	658	692	718	676	693	724	354	544
5	460	416	433	666	570	610	700	668	683	418	356	383
6	538	460	496	680	522	621	684	570	616	448	410	427
7	594	534	565	666	502	581	672	644	661	504	452	477
8	658	594	620	542	504	517	694	670	679	542	506	524
9	688	660	676	570	546	560	698	672	686	606	548	573
10	714	688	706	650	576	609	702	678	692	642	610	623
11	744	698	720	698	654	674	694	680	687	670	648	659
12	750	722	734	688	408	577	710	686	700	700	674	687
13	752	732	739	452	248	287	698	690	694	716	702	710
14	760	724	740	320	292	305	708	694	700	702	674	690
15	740	720	727	406	324	362	720	692	707	692	660	674
16	750	720	733	520	408	463	750	716	736	682	520	595
17	754	738	745	568	526	551	732	696	719	692	564	652
18	760	734	745	622	570	592	722	688	700	624	534	564
19	770	740	753	658	626	637	732	690	706	642	526	557
20	758	734	744	670	642	655	734	700	716	672	462	551
21	760	738	747	682	638	656	714	694	703	502	462	483
22	758	726	741	696	642	666	722	586	691	548	502	518
23	740	708	727	642	560	584	726	576	662	586	542	562
24	760	728	746	654	572	605	750	722	734	638	586	613
25	760	730	743	696	660	683	718	668	697	664	638	648
26	754	734	744	708	696	702	672	650	657	672	594	646
27	762	740	750	708	690	699	686	670	678	646	578	613
28	752	720	734	704	682	696	710	688	700	686	646	664
29	728	690	706	720	692	705	716	702	710	704	680	690
30	718	692	699	714	694	703	728	702	715	716	514	657
31	---	---	---	710	692	703	708	580	673	---	---	---
MONTH	770	328	669	754	248	609	750	570	696	756	354	604

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.7	7.6	7.6	---	---	---	7.8	7.7	7.7	7.8	7.7	7.7
2	7.7	7.6	7.7	---	---	---	7.7	7.7	7.7	7.8	7.7	7.7
3	7.7	7.6	7.7	---	---	---	7.7	7.6	7.6	7.8	7.8	7.8
4	7.7	7.6	7.7	---	---	---	7.6	7.5	7.6	7.8	7.8	7.8
5	7.7	7.6	7.6	7.5	7.3	7.4	7.6	7.5	7.5	7.8	7.7	7.8
6	7.7	7.6	7.6	7.4	7.4	7.4	7.6	7.5	7.5	7.8	7.7	7.7
7	7.8	7.6	7.7	7.5	7.3	7.4	7.5	7.4	7.5	7.8	7.7	7.7
8	7.7	7.6	7.7	7.4	7.3	7.4	7.5	7.4	7.5	7.7	7.7	7.7
9	7.7	7.6	7.6	7.4	7.3	7.4	7.6	7.5	7.5	7.8	7.7	7.7
10	7.7	7.6	7.6	7.4	7.2	7.3	7.6	7.5	7.5	7.8	7.7	7.7
11	7.7	7.6	7.6	7.5	7.3	7.4	7.6	7.5	7.6	7.7	7.7	7.7
12	7.7	7.6	7.6	7.5	7.5	7.5	7.6	7.4	7.5	7.7	7.6	7.6
13	7.7	7.6	7.6	7.5	7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.6
14	7.8	7.6	7.7	7.5	7.4	7.5	7.6	7.5	7.5	7.6	7.6	7.6
15	7.8	7.4	7.6	7.5	7.4	7.4	7.8	7.6	7.7	7.6	7.6	7.6
16	7.5	7.4	7.5	7.6	7.3	7.4	7.7	7.6	7.6	7.6	7.5	7.5
17	7.5	7.4	7.4	7.6	7.5	7.6	7.8	7.7	7.7	7.5	7.4	7.5
18	7.4	7.3	7.4	7.6	7.5	7.6	7.7	7.6	7.6	7.5	7.4	7.5
19	7.5	7.3	7.4	7.6	7.5	7.5	7.7	7.5	7.6	7.4	7.4	7.4
20	7.4	7.3	7.4	7.6	7.5	7.5	7.7	7.5	7.6	7.5	7.4	7.4
21	7.5	7.4	7.4	7.5	7.5	7.5	7.8	7.7	7.7	7.5	7.5	7.5
22	7.5	7.4	7.4	7.5	7.4	7.5	7.8	7.7	7.7	7.5	7.5	7.5
23	7.5	7.4	7.4	7.6	7.4	7.5	7.7	7.6	7.7	7.5	7.5	7.5
24	7.4	7.3	7.4	7.6	7.5	7.5	7.6	7.5	7.6	7.5	7.5	7.5
25	7.4	7.3	7.4	7.6	7.4	7.5	7.6	7.5	7.5	7.5	7.4	7.5
26	7.4	7.3	7.3	7.6	7.5	7.6	8.1	7.6	7.8	7.5	7.4	7.5
27	7.4	7.2	7.3	7.8	7.6	7.7	8.0	7.9	8.0	7.5	7.4	7.4
28	7.4	7.3	7.4	7.8	7.7	7.7	7.9	7.9	7.9	7.4	7.4	7.4
29	7.5	7.2	7.4	7.8	7.7	7.7	7.9	7.8	7.9	7.4	7.4	7.4
30	---	---	---	7.7	7.7	7.7	7.8	7.8	7.8	7.4	7.4	7.4
31	---	---	---	---	---	---	7.8	7.7	7.7	7.4	7.3	7.3
MONTH	7.8	7.2	7.5	7.8	7.2	7.5	8.1	7.4	7.6	7.8	7.3	7.6

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.4	7.3	7.3	7.4	7.3	7.4	7.5	7.4	7.4	7.4	7.3	7.3
2	7.4	7.3	7.3	7.4	7.3	7.4	7.4	7.3	7.3	7.3	7.3	7.3
3	7.4	7.3	7.3	7.4	7.3	7.4	7.4	7.3	7.3	7.5	7.3	7.4
4	7.5	7.3	7.4	7.6	7.4	7.5	7.4	7.3	7.3	7.4	7.4	7.4
5	7.5	7.5	7.5	7.6	7.6	7.6	7.4	7.3	7.3	7.4	7.3	7.4
6	7.6	7.5	7.5	7.6	7.5	7.5	7.4	7.3	7.3	7.4	7.3	7.3
7	7.6	7.5	7.5	7.5	7.4	7.5	7.4	7.3	7.3	7.4	7.3	7.3
8	7.6	7.5	7.5	7.5	7.4	7.4	7.3	7.3	7.3	7.4	7.3	7.4
9	7.6	7.5	7.5	7.4	7.4	7.4	7.4	7.3	7.3	7.4	7.3	7.3
10	7.5	7.5	7.5	7.4	7.4	7.4	7.4	7.3	7.3	7.4	7.3	7.3
11	7.6	7.5	7.6	7.4	7.4	7.4	7.5	7.4	7.4	7.4	7.3	7.3
12	7.6	7.6	7.6	7.5	7.4	7.4	7.5	7.4	7.4	7.5	7.4	7.4
13	7.6	7.6	7.6	7.5	7.4	7.5	7.5	7.4	7.4	7.5	7.4	7.5
14	7.6	7.6	7.6	7.5	7.4	7.4	7.4	7.3	7.4	7.5	7.4	7.5
15	7.6	7.6	7.6	7.5	7.4	7.4	7.4	7.3	7.3	7.5	7.4	7.4
16	7.6	7.6	7.6	7.5	7.4	7.4	7.3	7.3	7.3	7.5	7.4	7.4
17	7.6	7.6	7.6	7.5	7.4	7.4	7.3	7.2	7.3	7.6	7.4	7.5
18	7.6	7.5	7.5	7.5	7.4	7.4	7.4	7.2	7.3	7.7	7.5	7.6
19	7.7	7.5	7.6	7.6	7.4	7.5	7.4	7.4	7.4	7.7	7.5	7.6
20	7.7	7.6	7.7	7.5	7.5	7.5	7.5	7.4	7.5	7.7	7.6	7.6
21	7.6	7.6	7.6	7.6	7.5	7.5	7.5	7.4	7.4	7.7	7.3	7.5
22	7.6	7.5	7.5	7.5	7.4	7.4	7.4	7.3	7.4	7.5	7.2	7.4
23	7.5	7.5	7.5	7.4	7.4	7.4	7.3	7.3	7.3	7.6	7.5	7.6
24	7.5	7.5	7.5	7.4	7.3	7.3	7.3	7.3	7.3	7.6	7.5	7.6
25	7.5	7.4	7.5	7.3	7.3	7.3	7.4	7.3	7.3	7.6	7.5	7.6
26	7.5	7.4	7.4	7.3	7.3	7.3	7.4	7.3	7.3	7.6	7.5	7.6
27	7.4	7.4	7.4	7.3	7.2	7.3	7.4	7.3	7.4	7.6	7.5	7.5
28	7.4	7.4	7.4	7.3	7.3	7.3	7.5	7.4	7.4	7.6	7.5	7.5
29	7.4	7.3	7.4	7.5	7.3	7.3	7.5	7.3	7.4	7.6	7.5	7.6
30	---	---	---	7.6	7.4	7.5	7.4	7.3	7.4	7.6	7.6	7.6
31	---	---	---	7.5	7.4	7.4	---	---	---	7.7	7.6	7.6
MONTH	7.7	7.3	7.5	7.6	7.2	7.4	7.5	7.2	7.4	7.7	7.2	7.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.7	7.4	7.6	7.9	7.7	7.8	7.9	7.8	7.9	7.7	7.6	7.7
2	7.7	7.4	7.6	7.9	7.7	7.8	7.9	7.8	7.8	7.7	7.6	7.7
3	7.7	7.6	7.6	7.8	7.5	7.6	7.9	7.8	7.9	7.6	7.5	7.5
4	7.6	7.6	7.6	7.5	7.5	7.5	7.9	7.6	7.7	7.5	7.3	7.4
5	7.6	7.5	7.6	7.6	7.5	7.5	7.7	7.5	7.6	7.5	7.5	7.5
6	7.6	7.5	7.5	7.6	7.5	7.5	7.6	7.4	7.5	7.5	7.5	7.5
7	7.7	7.6	7.6	7.6	7.4	7.5	7.5	7.5	7.5	7.6	7.5	7.6
8	7.7	7.6	7.6	7.5	7.5	7.5	7.5	7.5	7.5	7.6	7.6	7.6
9	7.7	7.5	7.6	7.5	7.5	7.5	7.6	7.5	7.6	7.6	7.5	7.6
10	7.7	7.6	7.6	7.5	7.5	7.5	7.7	7.5	7.6	7.6	7.6	7.6
11	7.8	7.6	7.7	7.5	7.3	7.4	7.9	7.7	7.7	7.7	7.6	7.6
12	7.8	7.7	7.7	7.4	7.3	7.4	7.8	7.6	7.7	7.7	7.6	7.6
13	8.0	7.8	7.9	7.7	7.4	7.6	7.7	7.6	7.7	7.7	7.6	7.6
14	8.0	7.8	7.9	7.5	7.4	7.5	7.8	7.6	7.7	7.7	7.6	7.7
15	8.0	7.8	7.9	7.5	7.4	7.4	7.8	7.6	7.7	7.7	7.4	7.5
16	8.1	7.9	8.0	7.5	7.4	7.4	7.8	7.6	7.7	7.5	7.4	7.4
17	8.0	7.7	7.9	7.5	7.4	7.5	7.8	7.6	7.7	7.6	7.4	7.5
18	7.8	7.8	7.8	7.6	7.5	7.5	7.8	7.7	7.7	7.6	7.6	7.6
19	8.1	7.8	8.0	7.7	7.5	7.6	7.8	7.6	7.7	7.6	7.3	7.5
20	8.0	7.9	8.0	7.7	7.6	7.6	7.6	7.6	7.6	7.5	7.4	7.5
21	8.2	8.1	8.2	7.7	7.5	7.6	7.6	7.5	7.5	7.6	7.5	7.6
22	8.3	8.2	8.2	7.7	7.5	7.6	7.6	7.5	7.5	7.6	7.5	7.5
23	8.2	8.0	8.1	7.8	7.6	7.7	7.6	7.4	7.5	7.5	7.4	7.5
24	8.1	7.9	8.0	7.8	7.6	7.7	7.6	7.5	7.6	7.5	7.4	7.5
25	8.0	7.8	7.9	7.9	7.8	7.8	7.9	7.6	7.7	7.5	7.5	7.5
26	7.9	7.8	7.8	8.0	7.8	7.9	7.7	7.5	7.6	7.6	7.5	7.5
27	7.9	7.7	7.8	8.1	7.8	8.0	7.7	7.5	7.6	7.6	7.5	7.5
28	7.9	7.7	7.8	8.2	7.9	8.0	7.7	7.6	7.6	7.6	7.5	7.6
29	8.0	7.8	7.9	8.1	7.8	8.0	7.7	7.6	7.6	7.6	7.5	7.5
30	7.9	7.8	7.8	8.2	7.8	8.0	7.6	7.6	7.6	7.5	7.4	7.4
31	---	---	---	8.0	7.8	7.9	7.8	7.6	7.7	---	---	---
MONTH	8.3	7.4	7.8	8.2	7.3	7.6	7.9	7.4	7.6	7.7	7.3	7.5

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	17.5	16.5	17.0	19.0	18.0	18.5	18.0	17.0	17.5	22.5	21.5	22.0
2	16.5	14.0	15.5	18.5	18.0	18.5	19.5	17.0	18.0	22.5	21.5	22.0
3	14.0	13.5	13.5	18.0	15.5	16.5	19.5	18.5	19.0	22.0	21.0	21.5
4	13.5	11.5	12.5	15.5	14.0	14.5	21.0	19.0	20.0	23.0	21.5	22.0
5	11.0	10.0	10.5	14.5	13.5	14.0	22.5	21.0	22.0	24.0	22.0	23.0
6	10.0	9.5	10.0	15.5	14.0	15.0	22.0	21.5	21.5	24.5	23.0	23.5
7	10.0	9.0	9.5	17.0	15.5	16.0	22.0	21.0	21.5	23.5	23.0	23.0
8	10.0	9.5	9.5	17.0	16.5	17.0	22.0	21.5	22.0	24.5	22.5	23.5
9	11.5	10.0	10.5	17.0	16.5	16.5	22.0	21.0	21.5	25.5	24.5	25.0
10	12.0	11.0	11.5	17.0	16.5	17.0	21.5	19.0	20.5	26.0	25.0	25.5
11	11.0	10.0	10.5	18.0	17.0	17.5	19.0	18.0	18.5	26.0	25.5	25.5
12	11.0	10.0	10.5	18.0	16.0	17.0	19.0	18.0	18.5	26.0	25.0	25.5
13	12.0	11.0	11.5	17.0	15.5	16.0	19.5	18.5	19.0	26.5	25.0	26.0
14	13.0	12.0	12.5	15.5	14.5	15.0	20.5	19.5	20.0	26.5	25.5	26.0
15	13.5	13.0	13.0	15.0	14.5	15.0	22.0	20.5	21.0	26.5	25.5	26.0
16	14.0	12.5	13.5	15.0	14.5	15.0	22.5	21.5	22.0	27.0	25.5	26.5
17	14.5	14.0	14.5	14.5	14.0	14.5	22.0	21.5	22.0	28.0	26.5	27.5
18	14.5	13.5	14.0	14.0	13.0	13.5	21.5	20.0	20.5	28.0	27.0	27.5
19	13.5	12.5	13.0	13.5	12.5	13.0	20.0	18.5	19.0	28.0	27.0	27.5
20	13.0	11.5	12.0	15.0	13.5	14.0	20.0	18.5	19.5	28.0	26.5	27.0
21	14.0	12.5	13.0	16.5	15.0	15.5	21.5	20.0	20.5	27.0	26.0	26.5
22	14.5	13.5	14.0	18.0	17.0	17.0	23.5	21.5	22.5	26.0	23.5	24.5
23	14.5	14.0	14.5	19.0	18.0	18.5	24.5	23.5	24.0	24.5	23.0	24.0
24	14.5	14.0	14.0	20.5	19.0	19.5	24.0	23.0	23.5	24.5	24.0	24.5
25	15.0	14.0	14.5	21.0	20.0	20.5	24.0	23.5	23.5	25.0	24.0	24.5
26	15.0	15.0	15.0	21.0	20.5	20.5	24.0	23.0	23.5	26.0	24.5	25.0
27	16.5	15.0	16.0	21.0	20.0	20.5	23.5	22.5	23.0	26.0	24.5	25.5
28	17.5	16.5	17.0	21.0	20.5	20.5	23.0	22.0	22.5	26.5	25.5	26.0
29	18.5	17.5	18.0	20.5	17.0	19.5	23.0	21.5	22.5	26.0	25.5	26.0
30	---	---	---	17.0	15.5	16.5	22.5	21.0	21.5	26.5	25.0	25.5
31	---	---	---	17.0	16.5	16.5	---	---	---	26.5	26.0	26.5
MONTH	18.5	9.0	13.0	21.0	12.5	16.5	24.5	17.0	21.0	28.0	21.0	25.0

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6.6	6.0	6.3	---	---	---	8.0	7.5	7.7	9.4	8.9	9.1
2	6.7	6.2	6.5	---	---	---	8.1	7.6	7.8	9.3	8.8	9.0
3	7.2	6.7	7.0	---	---	---	8.0	7.1	7.5	9.4	9.3	9.3
4	7.3	6.6	7.0	---	---	---	7.2	6.6	6.8	9.5	9.3	9.4
5	6.7	6.0	6.4	6.1	5.1	5.7	6.8	6.4	6.6	9.7	9.3	9.5
6	7.1	6.2	6.7	6.1	5.2	5.7	6.8	5.9	6.3	9.4	9.2	9.3
7	7.5	6.7	7.2	6.7	5.6	6.2	6.3	5.6	5.8	9.5	9.2	9.4
8	7.3	6.6	7.0	6.5	5.6	6.1	6.0	5.3	5.7	9.4	9.1	9.3
9	6.9	6.5	6.7	6.0	4.8	5.5	6.6	5.5	6.0	9.6	9.3	9.5
10	6.8	6.1	6.5	5.6	4.3	5.1	6.6	5.9	6.3	9.8	9.6	9.7
11	6.9	6.3	6.6	7.0	5.4	6.2	6.7	6.1	6.4	9.8	9.5	9.7
12	7.0	6.4	6.7	7.3	7.0	7.1	6.4	5.6	5.9	9.5	8.8	9.2
13	7.0	6.5	6.8	7.7	7.0	7.3	6.7	6.3	6.5	9.1	8.4	8.8
14	7.4	6.7	7.1	7.5	7.0	7.2	6.7	6.0	6.3	8.7	8.4	8.5
15	7.6	6.5	7.2	7.4	6.1	6.7	8.2	6.8	7.6	8.9	8.4	8.6
16	7.0	6.4	6.7	6.3	4.0	5.2	8.4	7.8	8.1	8.6	7.9	8.2
17	6.8	6.0	6.4	7.3	6.1	6.5	9.0	8.5	8.8	7.9	7.1	7.4
18	6.4	5.9	6.2	7.8	7.2	7.5	8.7	8.2	8.4	7.1	6.5	6.8
19	6.3	5.1	6.0	7.7	7.6	7.7	8.6	7.4	8.2	6.7	6.2	6.3
20	5.8	5.0	5.5	7.9	7.6	7.7	8.3	7.0	7.4	6.7	6.1	6.4
21	6.6	5.6	6.1	8.2	7.6	7.8	8.6	8.0	8.3	6.8	6.4	6.6
22	6.5	5.8	6.2	7.6	7.2	7.4	8.6	8.5	8.6	7.5	6.8	7.1
23	6.5	6.0	6.3	7.2	6.6	6.8	8.6	7.8	8.2	7.7	7.3	7.5
24	6.5	5.9	6.2	6.7	6.1	6.3	7.8	7.0	7.5	7.5	6.9	7.1
25	6.4	5.8	6.2	6.6	5.3	6.1	7.3	6.3	6.9	7.2	6.5	6.8
26	6.2	5.2	5.7	7.1	5.4	6.1	10.0	7.3	8.5	7.4	6.9	7.1
27	6.1	5.3	5.7	7.6	7.2	7.3	10.1	9.8	9.9	7.5	7.1	7.3
28	6.6	5.3	6.1	7.7	7.4	7.5	10.1	10.0	10.1	7.4	7.0	7.2
29	6.7	5.8	6.3	7.8	7.6	7.8	10.2	10.1	10.1	7.2	6.6	6.9
30	---	---	---	7.9	7.6	7.7	10.1	9.9	9.9	6.9	6.3	6.5
31	---	---	---	---	---	---	9.9	9.1	9.4	6.5	5.8	6.0
MONTH	7.6	5.0	6.5	8.2	4.0	6.7	10.2	5.3	7.7	9.8	5.8	8.1

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.0	5.1	5.5	5.7	5.1	5.4	5.9	5.0	5.5	4.6	4.0	4.4
2	5.6	5.0	5.2	5.7	5.0	5.3	5.3	4.2	4.8	4.8	4.0	4.3
3	5.8	5.6	5.7	5.5	4.4	4.8	5.2	3.6	4.4	5.6	4.6	5.2
4	6.5	5.7	6.0	7.4	5.7	6.7	5.2	4.9	5.1	5.8	4.9	5.3
5	7.0	6.5	6.7	7.5	7.2	7.4	4.9	4.7	4.8	5.7	5.2	5.4
6	7.8	7.0	7.2	7.4	6.6	7.0	5.1	4.6	4.8	5.6	5.1	5.3
7	7.9	7.6	7.8	6.6	6.2	6.4	4.9	4.4	4.7	5.7	5.0	5.4
8	7.8	7.5	7.6	6.2	5.7	5.9	4.7	4.2	4.5	5.9	5.1	5.5
9	7.6	7.1	7.3	5.9	5.6	5.8	4.9	4.3	4.6	5.3	4.8	5.0
10	7.2	6.6	6.9	5.9	5.6	5.7	5.1	4.2	4.5	5.5	4.6	5.0
11	7.4	6.6	6.8	5.8	5.5	5.7	5.6	4.8	5.1	5.6	4.8	5.2
12	7.4	7.0	7.2	5.9	5.2	5.6	6.0	4.9	5.3	6.1	5.6	5.9
13	7.5	6.9	7.1	5.9	5.2	5.7	6.1	5.5	5.8	6.5	6.1	6.3
14	7.4	6.8	7.0	6.2	5.8	6.0	5.9	5.1	5.5	6.6	6.3	6.4
15	6.8	6.4	6.7	6.6	6.1	6.3	5.3	4.7	4.9	6.6	6.1	6.3
16	6.8	6.4	6.6	6.5	6.2	6.4	4.8	4.2	4.5	6.4	5.8	6.2
17	6.8	5.8	6.3	6.6	6.1	6.3	4.5	4.1	4.3	6.6	5.7	6.2
18	6.1	5.0	5.6	7.4	6.2	6.7	4.2	2.6	3.2	6.9	6.0	6.4
19	8.0	5.7	6.8	8.2	6.8	7.5	5.6	3.5	4.9	6.9	5.7	6.3
20	8.5	7.9	8.3	8.0	7.3	7.7	6.0	5.5	5.7	6.4	5.9	6.2
21	8.2	7.5	7.9	7.6	6.9	7.4	5.9	5.1	5.6	6.4	2.9	5.0
22	7.4	7.0	7.1	7.0	6.7	6.8	5.1	4.6	4.8	4.9	1.1	3.3
23	7.0	6.6	6.7	6.7	6.1	6.3	4.6	4.1	4.4	5.4	4.9	5.2
24	6.7	6.4	6.6	6.3	5.4	5.7	4.5	4.0	4.3	5.7	5.3	5.5
25	6.6	6.3	6.4	5.7	5.0	5.2	4.6	4.1	4.3	6.4	5.5	5.9
26	6.5	6.1	6.3	5.3	4.7	5.0	5.0	4.2	4.5	6.4	6.0	6.2
27	6.6	6.0	6.2	5.6	4.7	5.0	5.5	4.4	4.9	6.4	5.9	6.1
28	6.0	5.5	5.8	5.1	4.7	4.8	5.7	4.9	5.3	6.3	6.0	6.2
29	6.0	5.3	5.6	5.1	4.5	4.7	5.6	4.7	5.1	6.4	6.1	6.3
30	---	---	---	5.8	5.1	5.5	5.6	4.4	4.9	6.5	6.3	6.4
31	---	---	---	5.9	4.8	5.2	---	---	---	6.7	6.4	6.5
MONTH	8.5	5.0	6.7	8.2	4.4	6.0	6.1	2.6	4.8	6.9	1.1	5.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6.7	4.4	6.2	7.7	6.4	7.1	8.4	7.4	8.0	7.3	6.4	7.0
2	4.3	3.0	3.7	7.6	6.5	7.1	8.0	7.1	7.6	7.3	6.5	6.9
3	4.6	4.0	4.4	6.8	4.2	5.8	8.3	6.9	7.6	6.5	6.0	6.3
4	5.6	4.5	5.1	5.2	4.5	5.0	7.8	6.5	7.2	6.1	2.6	4.0
5	6.0	5.5	5.7	5.3	4.9	5.1	6.9	5.8	6.3	5.1	4.1	4.6
6	6.1	5.6	6.0	5.6	5.0	5.3	6.2	5.1	5.7	5.9	5.2	5.6
7	6.6	6.0	6.4	5.4	4.7	5.1	6.1	5.7	5.9	6.6	5.8	6.2
8	6.7	6.2	6.5	5.5	4.7	5.1	6.4	5.8	6.0	6.9	6.5	6.7
9	6.5	6.0	6.3	5.7	5.3	5.5	6.6	5.9	6.2	6.8	6.6	6.7
10	6.8	6.1	6.4	5.7	5.4	5.6	7.0	6.2	6.5	7.1	6.8	7.0
11	7.4	6.3	6.8	6.0	4.9	5.5	7.4	6.7	7.0	7.3	6.9	7.1
12	7.5	6.9	7.2	5.1	3.0	4.3	7.2	6.5	6.8	7.3	6.9	7.0
13	8.4	7.2	7.8	5.1	2.2	3.5	7.0	6.4	6.7	7.7	6.8	7.1
14	8.2	7.6	7.9	3.7	3.5	3.6	7.4	6.4	6.7	7.6	6.8	7.1
15	8.7	7.7	8.1	4.7	3.6	4.1	7.6	6.7	7.0	7.1	5.9	6.5
16	8.6	7.9	8.3	5.1	4.8	5.0	7.4	6.5	6.9	5.9	5.2	5.5
17	8.1	7.3	7.7	5.6	4.9	5.3	7.1	6.6	6.8	6.1	5.4	5.7
18	8.2	7.4	7.8	6.1	5.4	5.7	7.4	6.9	7.1	6.2	6.0	6.1
19	8.9	7.9	8.4	6.9	5.7	6.3	7.3	6.6	6.9	6.4	5.1	5.8
20	8.9	7.7	8.4	7.4	6.1	6.6	6.6	6.3	6.5	5.6	4.9	5.2
21	9.3	8.3	8.8	7.3	6.1	6.6	6.3	6.0	6.2	6.2	5.6	5.9
22	9.4	8.2	8.8	6.9	5.8	6.3	6.2	5.3	5.8	6.4	6.2	6.2
23	9.0	8.0	8.6	7.6	6.2	6.9	6.0	5.3	5.6	6.3	5.7	6.0
24	8.9	8.0	8.4	8.0	6.7	7.4	6.3	5.9	6.1	6.2	6.0	6.1
25	8.4	7.6	8.0	8.2	7.2	7.7	7.7	6.4	6.9	6.5	6.2	6.4
26	8.5	7.3	7.9	8.8	7.5	8.1	7.0	6.2	6.6	6.7	6.0	6.4
27	7.8	6.9	7.5	9.1	7.6	8.3	7.4	6.2	6.7	6.7	5.9	6.4
28	8.1	6.9	7.4	9.3	7.7	8.4	6.9	6.2	6.5	7.0	6.6	6.8
29	7.9	6.9	7.4	8.6	7.7	8.1	6.9	6.3	6.6	6.8	6.2	6.6
30	7.5	6.9	7.3	9.0	7.4	8.1	6.7	6.1	6.4	6.0	4.0	5.0
31	---	---	---	8.5	7.4	8.0	7.6	6.3	6.8	---	---	---
MONTH	9.4	3.0	7.2	9.3	2.2	6.2	8.4	5.1	6.6	7.7	2.6	6.2

08062700 TRINITY RIVER AT TRINIDAD, TX
(National stream-quality accounting network)

LOCATION.--Lat 32°08'05", long 96°06'20", Henderson County, Hydrologic Unit 12030105, on left bank at pumping station of Texas Power and Light Co., near southwest boundary of Trinidad, 0.5 mi downstream from St. Louis Southwestern Railway Lines bridge, 0.9 mi downstream from bridge on State Highway 31, 8 mi upstream from Cedar Creek, and at mile 391.2.

DRAINAGE AREA.--8,538 mi², not including 1,007 mi² upstream from Cedar Creek Reservoir.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. Records of gage height collected in this vicinity for period October 1913 to September 1915 are contained in reports of U.S. Army Corps of Engineers, and records collected since October 1915 are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 239.21 ft above National Geodetic Vertical Datum of 1929. Prior to May 3, 1967, at site 0.9 mi upstream at datum 1.28 ft higher.

REMARKS.--No estimated daily discharge. Record good. There are 62 floodwater-retarding structures with a combined detention capacity of 38,690 acre-ft in drainage basin above this station. These structures control runoff from 126 mi². For regulation by upstream reservoirs, see Trinity River near Rosser (station 08062500). The spillway outflow from Cedar Creek Reservoir (station 08062650) enters the Trinity River 13 mi upstream from station. There are many diversions above station for municipal supply for the cities of Fort Worth, Dallas, and several smaller towns. Low flows are maintained by sewage effluent from the Dallas-Fort Worth metroplex. Gage-height telemeter at station.

AVERAGE DISCHARGE.--24 years, 3,559 ft³/s (2,578,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,000 ft³/s May 8, 1969 (gage height, 44.10 ft); minimum daily, 312 ft³/s Aug. 9, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1908, 49.8 ft Apr. 25, 1942 (present site and datum), from records of the National Weather Service. Flood in 1908 reached a stage of 48.3 ft, present site and datum, from records of the National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,800 ft³/s Dec. 29 at 0900 hours (gage height, 28.44 ft); minimum daily, 463 ft³/s Aug. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	773	629	981	3460	791	883	1980	1070	719	698	509	510
2	774	628	904	1780	789	1200	1500	1220	1860	712	518	493
3	727	620	866	1600	782	4620	1920	1150	5320	706	524	506
4	719	629	842	1460	787	5590	1770	880	6120	864	531	660
5	699	628	861	1330	777	3840	1260	803	5030	1000	631	2480
6	687	627	1120	1250	774	2080	1080	772	2270	1050	625	2290
7	687	621	2170	1760	769	1320	1020	757	1170	1090	542	1060
8	682	629	1060	1610	793	1670	969	739	942	1060	513	658
9	665	658	1000	1240	798	2310	901	745	849	823	507	571
10	669	971	946	1270	789	1040	873	792	799	704	494	529
11	677	1470	915	1290	797	956	849	803	754	664	477	506
12	668	1410	941	1230	794	972	861	747	729	946	475	484
13	649	976	982	1170	821	3350	882	717	697	2450	473	469
14	653	797	1080	1190	825	2740	832	698	665	5450	482	474
15	658	731	1250	1130	793	1100	804	706	670	5490	485	537
16	646	828	1450	1020	772	977	800	707	673	2870	485	764
17	652	3750	1320	963	792	1210	872	686	665	1030	485	907
18	663	4820	1070	952	3310	3800	902	691	638	771	493	795
19	647	3040	1000	942	10100	5500	3280	815	677	660	493	602
20	673	1550	1430	928	8990	3110	3240	783	677	609	492	1110
21	713	1310	4280	973	6000	1430	1770	751	648	622	517	978
22	696	1100	4240	971	3280	1120	1120	1510	653	821	646	677
23	702	940	2160	899	1440	1020	954	2170	664	690	584	563
24	689	870	1280	860	1190	961	890	1430	656	584	616	512
25	690	890	1770	836	1080	929	905	1030	656	560	566	517
26	686	1520	4900	820	1000	948	864	835	674	515	525	593
27	664	3100	9140	821	943	941	845	727	657	515	505	526
28	642	2180	10800	812	913	1250	861	690	708	527	486	504
29	620	1440	12600	799	918	2240	834	692	682	517	468	520
30	620	1150	9080	786	---	2390	801	697	668	500	463	599
31	621	---	4820	791	---	2620	---	688	---	496	562	---
TOTAL	21011	40512	87258	36943	52607	64117	36439	27501	38590	35994	16172	22394
MEAN	678	1350	2815	1192	1814	2068	1215	887	1286	1161	522	746
MAX	774	4820	12600	3460	10100	5590	3280	2170	6120	5490	646	2480
MIN	620	620	842	786	769	883	800	686	638	496	463	469
AC-FT	41680	80360	173100	73280	104300	127200	72280	54550	76540	71390	32080	44420

CAL YR 1987 TOTAL 1286085 MEAN 3524 MAX 16300 MIN 620 AC-FT 2551000
WTR YR 1988 TOTAL 479538 MEAN 1310 MAX 12600 MIN 463 AC-FT 951200

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: May 1966 to current year. Pesticide analyses: November 1977 to June 1982. Sediment analyses: November 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: September 1967 to September 1981, May 1986 to current year.
PH: September 1967 to October 1969, May 1986 to current year.
WATER TEMPERATURE: September 1967 to September 1981, May 1986 to current year.
DISSOLVED OXYGEN: September 1967 to October 1969, May 1986 to current year.

INSTRUMENTATION.--From April 1967 to October 1969, a four-parameter water-quality monitor continuously recorded specific conductance, pH, water temperature, and dissolved oxygen. Since May 1986, a four-parameter water quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen 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, 1,000 micromhos Dec. 28, 1977; minimum daily, 196 micromhos Dec. 9, 1986.
PH: Maximum, 8.8 units July 28, 1988; minimum, 5.7 units Aug. 13, 1988.
WATER TEMPERATURE: Maximum daily, 34.0°C July 17, 1979, and July 9, 13, 1980; minimum daily 3.5°C Jan. 5, 1979.
DISSOLVED OXYGEN: Maximum, 15.6 mg/L Sept. 15, 1988; minimum, 0.0 mg/L May 3, 1987.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 795 microsiemens Feb. 17; minimum, 212 microsiemens Mar. 29.
pH: Maximum, 8.8 units July 28; minimum, 5.7 units Aug. 13.
WATER TEMPERATURE: Maximum, 32.5°C July 31; minimum, 5.5°C Jan. 7, 10, 11.
DISSOLVED OXYGEN: Maximum, 15.6 mg/L Sept. 15; minimum, 0.3 mg/L Apr. 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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 TOTAL (MG/L AS CACO3)
NOV 03...	1100	635	740	7.70	20.0	22	7.0	77	4.2	K30	970	140
JAN 05...	1000	1310	570	7.90	8.0	82	10.4	87	6.9	65	190	180
MAR 29...	1020	895	675	7.60	20.0	3.7	6.5	72	4.4	44	1300	180
JUN 07...	1210	1170	432	7.50	25.0	150	5.2	63	2.3	220	330	140
JUL 12...	1230	946	538	7.90	30.0	34	6.5	87	2.7	150	4400	130
SEP 07...	1050	1060	384	7.50	25.0	360	5.1	62	2.7	1000	>200000	120

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET 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, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV 03...	18	48	5.6	86	3	14	126	81	76	1.3	8.9	447
JAN 05...	42	62	5.2	49	2	7.7	135	67	43	0.60	8.2	350
MAR 29...	47	62	5.5	66	2	9.6	131	90	60	0.90	6.2	417
JUN 07...	35	49	3.8	31	1	6.2	104	54	26	0.50	6.2	268
JUL 12...	34	45	4.8	55	2	9.3	98	60	50	0.70	6.3	334
SEP 07...	21	41	3.7	33	1	6.3	97	44	29	0.50	7.7	242

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	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-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)
NOV 03...	445	7.96	0.240	8.20	0.300	0.310	1.8	2.1	4.00	4.00	3.90	12
JAN 05...	341	3.31	0.190	3.50	1.00	1.10	0.60	1.6	1.90	1.60	1.30	4.0
MAR 29...	414	5.73	0.470	6.20	0.300	0.330	1.3	1.6	2.90	2.90	2.50	7.7
JUN 07...	252	2.26	0.140	2.40	0.140	0.150	0.46	0.60	0.790	0.740	0.680	2.1
JUL 12...	324	6.12	0.080	6.20	0.070	0.060	2.1	2.2	2.80	2.50	2.30	7.1
SEP 07...	236	2.01	0.090	2.10	0.090	0.100	0.71	0.80	0.890	0.840	0.770	2.4

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV 03...	44	75	97	<10	3	32	<0.5	<1	2	<3	2	16
JAN 05...	84	297	97	<10	3	46	<0.5	<1	<1	<3	5	19
MAR 29...	31	75	90	--	--	--	--	--	--	--	--	--
JUN 07...	259	818	99	20	3	38	<0.5	1	1	<3	5	18
JUL 12...	28	72	94	--	--	--	--	--	--	--	--	--
SEP 07...	267	764	99	10	3	31	<0.5	1	<1	<3	4	30

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 03...	<5	37	4	<0.1	<10	13	<1	<1.0	390	<6	32
JAN 05...	<5	10	12	<0.1	<10	11	<1	<1.0	460	<6	12
MAR 29...	--	--	--	--	--	--	--	--	--	--	--
JUN 07...	<5	8	3	<0.1	<10	5	2	<1.0	390	<6	10
JUL 12...	--	--	--	--	--	--	--	--	--	--	--
SEP 07...	<5	6	2	<0.1	<10	7	<1	<1.0	350	<6	21

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROSIEMENS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1987	21011	696	394	22400	59	3360	89	5030	160
NOV.	1987	40512	535	305	33300	40	4330	65	7140	150
DEC.	1987	87258	394	225	53100	25	6000	46	10900	130
JAN.	1988	36943	614	348	34800	49	4920	77	7650	150
FEB.	1988	52607	521	297	42100	40	5640	64	9110	140
MAR.	1988	64117	471	269	46500	32	5570	56	9720	140
APR.	1988	36439	604	343	33800	48	4690	75	7390	160
MAY	1988	27501	663	376	27900	55	4100	84	6220	160
JUNE	1988	38590	535	304	31700	40	4210	66	6840	150
JULY	1988	35994	511	291	28300	38	3680	62	6060	140
AUG.	1988	16172	711	402	17600	62	2690	91	3970	160
SEPT	1988	22394	592	336	20300	46	2790	73	4430	150
TOTAL		479538	**	**	392000	**	52000	**	84500	**
WTD.AVG.		1310	532	303	**	40	**	65	**	150

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	706	688	695	702	693	696	527	462	475	470	323	350
2	716	690	707	714	691	703	533	502	519	519	475	502
3	691	673	685	718	703	712	571	534	550	561	520	547
4	673	664	668	718	700	708	608	572	590	559	551	555
5	691	668	682	737	713	724	622	612	616	570	561	568
6	703	680	694	737	726	730	632	592	618	572	563	569
7	689	678	683	727	708	715	597	350	443	574	335	516
8	693	675	682	714	698	703	594	437	502	597	351	485
9	713	691	704	723	694	709	746	602	663	617	598	603
10	702	684	692	718	697	705	727	648	675	640	621	633
11	682	674	678	726	595	695	718	676	686	757	643	702
12	704	679	693	617	548	584	746	662	686	746	674	708
13	700	691	696	547	516	527	677	625	649	773	650	710
14	701	687	694	529	514	523	657	633	645	658	643	650
15	719	691	702	515	502	507	701	646	668	656	629	641
16	718	704	710	564	514	535	677	644	667	654	633	644
17	716	702	706	664	385	576	640	585	606	661	649	655
18	704	681	690	415	366	392	591	571	579	680	656	664
19	703	689	694	398	365	380	605	536	579	721	681	696
20	708	665	697	435	400	416	596	503	540	728	715	723
21	713	701	707	487	437	458	648	442	562	729	715	722
22	718	701	710	520	489	504	443	375	410	720	712	717
23	725	698	712	569	514	524	408	384	394	728	706	715
24	711	685	702	571	550	556	434	409	422	731	723	728
25	686	669	677	599	561	580	412	351	383	736	724	732
26	705	689	699	635	592	608	376	316	347	733	725	728
27	709	697	703	646	423	575	346	268	319	742	728	734
28	698	688	694	472	419	436	280	263	269	749	743	745
29	706	689	699	485	458	475	279	264	274	744	731	736
30	715	704	708	462	459	461	308	271	286	735	724	729
31	713	702	707	---	---	---	322	308	314	744	725	732
MONTH	725	664	696	737	365	581	746	263	514	773	323	650

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	745	737	740	---	---	736	568	421	514	733	695	713
2	755	738	744	---	---	626	606	564	583	729	703	716
3	756	755	756	---	---	422	585	549	560	718	690	709
4	755	751	753	---	---	401	623	592	610	683	634	661
5	755	750	753	---	---	422	589	515	535	662	611	640
6	765	751	757	---	---	396	526	506	516	649	602	624
7	761	744	752	---	---	392	595	531	566	622	603	612
8	759	755	757	---	---	429	651	599	631	680	624	650
9	759	752	755	---	---	478	672	652	660	693	680	688
10	773	756	764	---	---	518	688	675	684	709	689	700
11	769	751	757	---	---	596	685	680	684	738	710	720
12	759	751	755	---	---	529	703	681	694	742	736	739
13	764	748	754	---	---	442	718	704	712	740	731	735
14	777	758	767	---	---	439	744	715	722	745	721	735
15	778	769	774	---	---	418	748	724	736	720	708	715
16	775	768	771	---	---	426	723	701	712	726	710	722
17	795	761	773	---	---	372	721	674	706	743	728	736
18	781	244	582	365	290	337	726	708	717	744	731	739
19	354	262	294	408	333	384	749	457	667	757	735	747
20	383	355	364	573	384	510	467	415	444	771	740	761
21	---	---	408	529	482	516	488	435	472	746	708	726
22	---	---	524	576	502	528	530	480	505	729	702	716
23	---	---	588	627	569	591	565	527	540	717	563	640
24	---	---	604	647	620	635	631	555	568	581	438	488
25	---	---	646	667	616	632	650	572	604	540	501	516
26	---	---	688	682	651	660	740	651	678	559	544	552
27	---	---	693	714	671	695	715	689	702	560	540	549
28	---	---	704	702	333	609	720	706	714	586	543	562
29	---	---	722	678	212	529	712	690	700	602	587	595
30	---	---	---	722	215	555	739	694	703	636	591	605
31	---	---	---	725	406	582	---	---	---	689	639	666
MONTH	795	244	679	725	212	510	749	415	628	771	438	667

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	708	689	696	739	705	725	739	708	724	653	623	636
2	764	685	725	712	682	698	726	713	723	---	---	622
3	674	354	442	737	671	688	729	713	721	---	---	618
4	388	345	354	760	670	702	742	722	730	---	---	611
5	417	343	384	725	693	707	749	732	741	---	---	602
6	467	422	447	731	659	696	750	738	744	520	392	445
7	442	421	430	732	577	652	738	708	721	412	382	399
8	492	443	465	660	570	611	727	706	718	432	406	422
9	546	494	516	665	542	604	737	709	723	461	432	443
10	598	549	574	642	516	567	723	708	715	507	462	483
11	636	599	611	601	508	524	721	718	720	547	509	528
12	666	640	655	573	475	547	727	720	723	602	548	571
13	685	666	676	702	510	637	726	719	722	655	605	633
14	690	676	684	529	282	354	723	719	720	688	656	671
15	715	688	703	329	290	304	723	715	719	717	690	702
16	718	699	709	365	333	345	726	708	717	744	719	737
17	730	709	720	404	365	381	714	708	711	735	712	722
18	719	699	711	463	404	428	721	701	713	720	645	692
19	711	689	703	541	467	502	743	712	727	642	598	617
20	726	704	716	584	541	565	739	713	727	727	611	679
21	721	700	713	627	588	599	714	689	699	643	601	616
22	742	710	722	675	631	651	709	682	693	716	645	684
23	731	679	719	675	663	668	743	696	730	707	567	620
24	722	706	714	686	663	672	739	728	732	572	558	564
25	714	706	711	702	671	688	732	699	724	586	572	578
26	705	684	697	678	600	648	694	647	663	620	587	607
27	716	684	704	620	565	588	709	674	694	669	622	644
28	742	712	728	685	593	641	714	694	705	675	663	670
29	737	726	733	709	686	699	692	644	671	680	653	674
30	748	726	738	719	707	712	641	631	634	650	590	616
31	---	---	---	724	710	716	630	613	619	---	---	---
MONTH	764	343	637	760	282	597	750	613	710	744	382	604

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1				---	---	---	7.7	7.6	7.7	8.1	8.0	8.0
2				---	---	---	7.7	7.5	7.6	8.1	8.0	8.0
3				---	---	---	7.6	7.4	7.5	8.0	7.9	8.0
4				---	---	---	7.5	7.4	7.4	8.0	7.9	7.9
5				---	---	---	7.4	7.2	7.4	---	---	---
6				---	---	---	7.6	7.1	7.2	---	---	---
7				---	---	---	7.7	7.4	7.5	---	---	---
8				---	---	---	7.4	7.1	7.3	---	---	---
9				---	---	---	7.3	7.1	7.2	---	---	---
10				---	---	---	7.6	7.3	7.5	---	---	---
11				---	---	---	7.5	7.2	7.3	---	---	---
12				---	---	---	7.7	7.2	7.5	---	---	---
13				---	---	---	7.7	7.4	7.6	---	---	---
14				---	---	---	7.6	7.4	7.5	---	---	---
15				---	---	---	7.9	7.5	7.8	---	---	---
16				---	---	---	7.9	7.9	7.9	---	---	---
17				---	---	---	8.0	7.9	8.0	---	---	---
18				---	---	---	8.0	7.9	8.0	---	---	---
19				---	---	---	8.0	7.9	8.0	---	---	---
20				---	---	---	8.0	8.0	8.0	---	---	---
21				---	---	---	8.0	7.8	7.9	---	---	---
22				---	---	---	8.0	7.9	7.9	---	---	---
23				---	---	---	8.0	8.0	8.0	---	---	---
24				7.8	7.8	7.8	8.0	8.0	8.0	---	---	---
25				7.8	7.7	7.8	8.0	8.0	8.0	---	---	---
26				7.9	7.8	7.8	8.0	7.9	8.0	---	---	---
27				7.8	7.7	7.7	8.1	8.0	8.0	---	---	---
28				7.8	7.7	7.7	8.2	8.1	8.1	---	---	---
29				7.8	7.8	7.8	8.1	8.0	8.1	---	---	---
30				7.8	7.7	7.7	8.0	8.0	8.0	---	---	---
31				---	---	---	8.1	8.0	8.1	---	---	---
MONTH				7.9	7.7	7.8	8.2	7.1	7.7	8.1	7.9	8.0

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	7.6	7.5	7.5	8.5	8.4	8.4
2	---	---	---	---	---	---	7.5	7.4	7.5	8.4	8.3	8.3
3	---	---	---	---	---	---	7.6	7.5	7.6	8.4	8.3	8.3
4	---	---	---	---	---	---	7.6	7.4	7.5	8.3	8.2	8.2
5	8.0	7.9	7.9	---	---	---	7.3	7.0	7.2	8.3	8.0	8.2
6	8.0	7.9	7.9	---	---	---	7.0	6.8	6.9	8.4	8.1	8.2
7	7.9	7.9	7.9	---	---	---	6.7	6.4	6.6	---	---	---
8	7.9	7.8	7.8	---	---	---	6.5	6.4	6.4	---	---	---
9	7.8	7.7	7.8	---	---	---	7.3	6.5	7.1	---	---	---
10	7.7	7.6	7.7	---	---	---	7.6	7.3	7.5	---	---	---
11	7.6	7.5	7.6	---	---	---	7.6	7.4	7.5	---	---	---
12	7.5	7.4	7.5	---	---	---	7.8	7.4	7.6	---	---	---
13	---	---	---	---	---	---	7.7	7.6	7.6	---	---	---
14	---	---	---	---	---	---	7.8	7.5	7.7	---	---	---
15	---	---	---	---	---	---	7.9	7.6	7.7	---	---	---
16	---	---	---	---	---	---	7.8	7.6	7.7	---	---	---
17	---	---	---	7.6	7.2	7.4	7.6	7.3	7.5	---	---	---
18	---	---	---	---	---	---	7.7	7.5	7.6	---	---	---
19	---	---	---	---	---	---	7.7	7.4	7.5	---	---	---
20	---	---	---	---	---	---	7.5	7.2	7.4	---	---	---
21	---	---	---	---	---	---	7.8	6.9	7.6	---	---	---
22	---	---	---	---	---	---	7.8	7.8	7.8	---	---	---
23	---	---	---	---	---	---	8.1	7.8	8.0	---	---	---
24	---	---	---	---	---	---	8.2	7.9	8.0	---	---	---
25	---	---	---	---	---	---	8.1	7.4	8.0	---	---	---
26	---	---	---	---	---	---	8.3	8.0	8.1	---	---	---
27	---	---	---	---	---	---	8.4	8.1	8.2	---	---	---
28	---	---	---	---	---	---	8.4	8.3	8.3	---	---	---
29	---	---	---	---	---	---	8.4	8.2	8.3	---	---	---
30	---	---	---	8.0	7.6	7.7	8.5	8.3	8.4	---	---	---
31	---	---	---	7.6	7.4	7.5	---	---	---	---	---	---
MONTH	8.0	7.4	7.8	8.0	7.2	7.5	8.5	6.4	7.6	8.5	8.0	8.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1				---	---	---	7.5	7.0	7.1	---	---	---
2				---	---	---	8.0	7.1	7.3	---	---	---
3				---	---	---	8.1	7.9	8.0	---	---	---
4				---	---	---	7.9	7.4	7.7	---	---	---
5				---	---	---	7.7	7.2	7.5	---	---	---
6				---	---	---	7.3	6.9	7.1	---	---	---
7				---	---	---	8.0	6.7	7.4	---	---	---
8				---	---	---	8.1	7.3	7.8	---	---	---
9				---	---	---	7.7	7.0	7.4	7.7	7.5	7.6
10				---	---	---	7.3	6.7	6.9	7.7	7.4	7.6
11				---	---	---	7.6	6.7	7.2	7.9	7.6	7.8
12				---	---	---	7.2	6.7	6.9	8.0	7.6	7.9
13				---	---	---	7.6	6.4	7.1	8.0	7.5	7.7
14				---	---	---	8.5	7.3	7.8	7.9	7.6	7.8
15				---	---	---	8.2	7.7	7.9	7.8	7.4	7.6
16				---	---	---	8.7	7.6	8.3	7.8	7.5	7.7
17				---	---	---	8.5	7.8	8.1	7.6	7.0	7.4
18				---	---	---	8.3	7.8	8.0	7.2	6.8	7.0
19				---	---	---	8.4	8.1	8.2	7.1	6.7	7.0
20				---	---	---	8.3	8.1	8.2	7.4	7.1	7.3
21				---	---	---	8.3	8.0	8.1	7.4	7.2	7.3
22				---	---	---	8.1	7.9	8.0	7.5	7.2	7.3
23				---	---	---	7.9	7.8	7.9	7.5	7.3	7.4
24				---	---	---	7.9	7.8	7.8	7.7	7.3	7.5
25				---	---	---	---	---	---	7.9	7.5	7.7
26				---	---	---	---	---	---	7.9	7.6	7.8
27				---	---	---	---	---	---	7.8	7.5	7.7
28				8.8	8.0	8.4	---	---	---	8.0	7.7	7.9
29				8.0	7.4	7.7	---	---	---	8.0	7.9	8.0
30				7.4	7.2	7.2	---	---	---	7.9	7.7	7.8
31				7.2	6.8	7.0	---	---	---	---	---	---
MONTH				8.8	6.8	7.6	8.7	6.4	7.7	8.0	6.7	7.6

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	24.5	23.5	24.0	21.5	20.5	21.0	12.5	12.0	12.5	8.5	8.0	8.5
2	24.5	23.0	24.0	21.0	20.5	21.0	12.5	11.5	12.0	8.5	8.0	8.0
3	24.0	22.5	23.0	21.0	20.0	21.0	13.0	12.0	12.5	8.5	8.0	8.5
4	22.5	21.5	22.0	21.0	20.0	21.0	13.5	12.5	13.0	8.5	8.5	8.5
5	22.5	21.0	22.0	21.0	20.5	21.0	14.0	12.5	13.5	8.5	8.0	8.5
6	22.5	21.5	22.0	20.5	19.5	20.0	15.0	14.0	14.5	8.5	7.0	8.0
7	21.5	20.5	21.5	19.0	18.5	19.0	15.5	15.0	15.5	7.0	5.5	6.5
8	21.5	20.5	21.0	19.5	19.0	19.0	16.0	15.5	15.5	6.5	6.0	6.5
9	22.0	21.0	21.5	19.0	17.5	18.5	15.5	14.5	15.0	6.0	6.0	6.0
10	23.0	21.5	22.5	17.5	16.5	17.0	15.5	14.5	15.0	6.0	5.5	6.0
11	22.5	21.5	22.0	16.5	15.5	16.0	15.5	15.0	15.5	6.5	5.5	6.0
12	21.5	21.0	21.0	15.5	15.0	15.5	15.5	15.0	15.0	7.0	6.5	7.0
13	21.0	20.0	20.5	15.5	14.5	15.0	15.0	13.0	14.0	7.5	6.5	7.0
14	20.5	19.5	20.0	15.0	14.0	15.0	13.0	12.0	13.0	7.5	6.5	7.0
15	21.0	20.0	20.5	15.5	15.0	15.5	11.5	12.0	12.0	8.0	7.0	7.5
16	21.5	20.5	21.0	16.0	15.5	15.5	11.5	10.5	11.0	9.0	7.5	8.5
17	22.0	21.0	21.5	17.0	15.5	16.0	10.5	10.0	10.0	11.0	9.0	10.0
18	22.5	21.5	22.0	16.0	15.5	15.5	10.0	9.5	10.0	11.5	10.0	10.5
19	22.0	21.5	22.0	15.5	14.5	15.0	11.0	10.0	10.5	12.5	11.5	12.0
20	22.0	21.0	21.5	14.5	13.5	14.0	10.5	10.0	10.5	12.0	11.5	12.0
21	21.0	20.0	20.5	14.0	13.5	14.0	12.5	11.0	12.0	11.5	11.0	11.5
22	20.0	19.0	19.5	14.5	14.0	14.5	12.0	11.0	11.5	11.5	10.5	11.0
23	19.5	19.0	19.0	16.0	14.5	16.0	12.0	11.0	11.5	11.0	10.0	10.5
24	20.0	19.0	19.5	17.0	16.0	16.5	12.5	12.0	12.5	10.5	10.0	10.5
25	20.5	19.5	20.0	17.0	16.0	16.5	12.0	11.0	12.0	10.0	9.5	9.5
26	21.5	20.5	21.0	16.5	16.0	16.0	11.0	9.0	10.0	9.5	8.5	9.0
27	21.5	20.5	21.0	17.0	16.0	16.5	9.0	7.0	8.5	9.5	8.5	9.0
28	20.5	19.5	20.5	15.5	14.0	15.0	8.5	7.0	8.0	10.5	9.0	9.5
29	20.5	19.5	20.0	14.0	13.0	13.5	8.0	7.0	7.5	11.5	10.0	10.5
30	21.0	20.0	20.5	13.0	12.5	13.0	7.5	7.0	7.0	13.0	11.5	12.0
31	21.0	20.5	21.0	---	---	---	8.5	7.5	8.0	14.0	13.0	13.5
MONTH	24.5	19.0	21.0	21.5	12.5	17.0	16.0	7.0	12.0	14.0	5.5	9.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	15.5	14.0	14.5	---	---	---	17.5	16.5	17.0	23.0	21.0	22.0
2	15.0	13.5	14.0	---	---	---	18.0	16.5	17.5	22.5	21.5	22.0
3	13.5	12.5	13.0	---	---	---	19.0	17.0	18.0	23.0	21.5	22.0
4	12.5	11.0	11.5	---	---	---	20.5	18.0	19.5	23.5	21.0	22.5
5	11.0	10.0	10.5	---	---	---	21.5	20.5	21.0	24.0	22.0	23.0
6	10.0	9.0	9.5	---	---	---	22.0	20.5	21.0	24.0	22.5	23.0
7	9.0	8.5	9.0	---	---	---	22.5	20.0	21.5	---	---	---
8	9.0	8.0	8.5	---	---	---	22.5	21.0	21.5	---	---	---
9	10.0	8.5	9.0	---	---	---	22.5	21.0	21.5	---	---	---
10	10.0	9.0	9.5	---	---	---	21.5	19.0	20.5	---	---	---
11	9.5	8.0	8.5	---	---	---	19.0	18.5	19.0	---	---	---
12	9.0	7.5	8.0	---	---	---	19.5	17.5	18.5	---	---	---
13	10.0	8.5	9.0	---	---	---	20.5	18.5	19.5	---	---	---
14	11.5	10.0	11.0	---	---	---	21.0	19.0	20.0	---	---	---
15	11.5	10.5	11.0	---	---	---	21.5	20.0	21.0	---	---	---
16	12.5	10.5	11.5	---	---	---	21.5	20.5	21.0	---	---	---
17	13.0	12.0	12.5	---	---	---	21.0	21.0	21.0	---	---	---
18	13.0	9.0	12.0	12.5	12.0	12.0	21.5	20.5	21.0	---	---	---
19	10.5	9.5	10.0	12.5	11.5	12.0	21.0	20.0	20.5	---	---	---
20	11.5	10.0	10.5	14.5	12.0	13.0	20.5	19.5	20.0	---	---	---
21	---	---	---	15.0	13.5	14.5	22.0	19.5	20.5	---	---	---
22	---	---	---	16.5	14.5	15.5	22.5	21.0	21.5	---	---	---
23	---	---	---	18.0	16.0	17.0	24.0	22.0	22.5	---	---	---
24	---	---	---	19.5	17.5	18.0	24.0	22.0	23.0	---	---	---
25	---	---	---	20.5	19.0	19.5	24.5	22.5	23.5	---	---	---
26	---	---	---	21.0	19.5	20.0	25.0	23.0	24.0	---	---	---
27	---	---	---	21.0	19.5	20.5	24.0	22.5	23.5	---	---	---
28	---	---	---	21.0	17.5	20.0	24.0	22.5	23.0	---	---	---
29	---	---	---	20.0	15.0	18.0	23.5	22.0	22.5	---	---	---
30	---	---	---	18.0	15.0	17.0	22.5	21.5	22.0	---	---	---
31	---	---	---	17.5	16.5	17.0	---	---	---	---	---	---
MONTH	15.5	7.5	10.5	21.0	11.5	16.5	25.0	16.5	21.0	24.0	21.0	22.5

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	32.0	30.5	31.5	28.5	27.0	28.0
2	---	---	---	---	---	---	31.5	30.5	31.0	29.0	27.5	28.5
3	---	---	---	---	---	---	32.0	30.0	31.0	29.0	28.0	28.5
4	---	---	---	---	---	---	31.5	30.0	31.0	28.5	27.0	27.5
5	---	---	---	---	---	---	31.5	30.5	31.0	27.5	26.0	27.0
6	---	---	---	---	---	---	31.5	30.0	30.5	26.5	25.5	26.0
7	---	---	---	---	---	---	31.5	30.5	31.0	26.0	25.0	25.5
8	28.0	25.5	26.5	---	---	---	32.0	31.0	31.5	26.5	25.0	25.5
9	28.5	26.5	27.5	---	---	---	32.0	31.0	32.0	---	---	---
10	28.5	26.5	27.5	---	---	---	32.0	31.0	31.5	---	---	---
11	28.0	26.0	27.5	---	---	---	31.5	31.0	31.0	---	---	---
12	28.0	26.5	27.0	---	---	---	31.0	30.0	30.5	---	---	---
13	28.5	26.5	27.5	---	---	---	31.5	30.0	30.5	---	---	---
14	28.5	26.5	27.5	---	---	---	31.5	30.0	31.0	---	---	---
15	29.0	26.5	28.0	---	---	---	31.0	30.0	30.5	---	---	---
16	29.0	26.5	28.0	---	---	---	31.0	30.0	30.5	28.5	28.0	28.0
17	28.5	27.0	28.0	---	---	---	31.0	30.0	30.5	28.5	27.5	28.0
18	29.0	24.0	26.5	---	---	---	31.0	30.0	30.5	28.5	27.5	28.0
19	29.0	27.0	28.0	---	---	---	31.5	29.5	30.5	28.0	27.0	27.5
20	29.5	27.5	28.5	---	---	---	31.0	30.5	30.5	28.5	27.5	28.0
21	29.5	27.5	28.5	---	---	---	31.5	30.0	30.5	28.5	27.5	28.0
22	29.0	27.5	28.5	---	---	---	31.5	30.0	31.0	29.0	27.5	28.0
23	---	---	---	---	---	---	32.0	30.5	31.0	29.5	26.0	27.5
24	---	---	---	---	---	---	31.5	30.0	30.5	---	---	---
25	---	---	---	---	---	---	32.0	30.5	31.0	---	---	---
26	---	---	---	---	---	---	31.5	30.0	31.0	---	---	---
27	---	---	---	---	---	---	31.0	29.5	30.5	---	---	---
28	---	---	---	32.0	30.0	31.0	31.0	29.5	30.5	---	---	---
29	---	---	---	32.0	30.5	31.5	30.0	29.0	29.5	26.5	21.5	23.5
30	---	---	---	32.0	30.5	31.5	29.0	28.0	28.5	25.0	20.5	23.5
31	---	---	---	32.5	30.5	31.5	28.5	27.0	28.0	---	---	---
MONTH	29.5	24.0	27.5	32.5	30.0	31.5	32.0	27.0	30.5	29.5	20.5	27.0

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	9.8	7.1	8.4	8.5	7.5	8.0	---	---	---	11.1	10.4	10.9
2	9.0	6.3	7.5	8.1	7.4	7.7	---	---	---	10.5	10.1	10.3
3	9.3	6.7	7.8	7.5	7.0	7.3	---	---	---	10.3	10.0	10.2
4	9.1	7.1	7.9	7.6	7.0	7.3	---	---	---	10.2	9.9	10.0
5	8.6	6.9	7.6	7.5	6.9	7.2	---	---	---	10.5	10.2	10.3
6	9.7	7.0	8.2	8.0	7.1	7.6	---	---	---	10.6	10.4	10.5
7	8.8	7.3	8.1	8.4	7.6	8.0	---	---	---	11.8	10.6	10.9
8	8.2	6.9	7.6	8.2	7.8	8.0	---	---	---	11.6	10.5	11.0
9	8.3	6.4	7.4	7.8	7.6	7.7	---	---	---	10.8	10.7	10.8
10	9.0	7.2	8.1	8.0	7.5	7.8	---	---	---	10.8	10.5	10.6
11	8.7	7.4	8.1	7.8	6.6	7.4	---	---	---	10.8	10.6	10.7
12	9.3	7.4	8.4	6.9	5.8	6.5	---	---	---	10.7	10.6	10.6
13	10.1	8.2	9.1	7.6	6.0	6.9	---	---	---	10.5	10.3	10.4
14	11.3	8.0	9.6	8.3	7.7	8.0	---	---	---	10.4	10.1	10.2
15	10.3	8.4	9.1	8.5	8.3	8.4	---	---	---	10.0	9.5	9.7
16	9.2	7.6	8.4	8.6	8.1	8.4	8.8	8.5	8.6	9.6	8.6	9.1
17	9.3	7.7	8.5	8.4	3.2	5.6	9.4	8.6	9.1	9.3	8.7	9.0
18	9.6	8.1	8.9	6.6	4.5	6.0	9.3	9.0	9.2	9.0	8.5	8.8
19	9.0	7.6	8.1	7.7	6.7	7.3	9.4	9.0	9.2	8.5	8.1	8.3
20	8.2	7.3	7.8	8.9	7.7	8.1	9.6	9.1	9.4	8.1	7.9	8.0
21	8.7	7.3	8.0	8.9	8.4	8.7	9.1	6.6	7.4	8.0	7.8	7.9
22	9.0	7.8	8.4	9.0	8.3	8.7	8.7	7.1	8.1	8.1	7.9	8.0
23	8.4	7.4	7.9	8.3	7.8	8.0	8.8	8.7	8.8	8.5	8.0	8.3
24	9.0	7.4	8.0	7.8	7.1	7.5	9.0	8.8	8.8	8.6	8.2	8.5
25	8.2	7.2	7.6	7.2	7.0	7.1	9.2	8.7	8.9	9.1	8.6	8.8
26	7.7	6.9	7.2	7.1	6.9	7.0	9.7	9.3	9.5	9.2	9.0	9.1
27	7.9	6.9	7.3	6.9	5.6	6.1	10.0	9.0	9.3	9.1	8.9	9.0
28	8.2	7.2	7.6	8.2	6.1	7.3	10.8	10.0	10.5	8.9	8.6	8.7
29	8.5	7.4	7.9	---	---	---	10.8	10.5	10.6	8.9	8.6	8.8
30	8.0	7.3	7.7	---	---	---	10.9	10.6	10.7	8.7	8.4	8.6
31	8.3	7.3	7.8	---	---	---	11.0	10.9	11.0	8.4	7.8	8.2
MONTH	11.3	6.3	8.1	9.0	3.2	7.5	11.0	6.6	9.3	11.8	7.8	9.5

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.8	7.3	7.6	---	---	---	5.4	4.6	5.0	6.5	4.8	5.9
2	7.3	7.0	7.1	---	---	---	5.9	4.6	5.0	5.4	4.0	4.7
3	7.1	6.8	7.0	---	---	---	6.3	5.1	5.9	5.6	3.8	4.6
4	7.4	6.9	7.2	---	---	---	5.4	4.2	4.8	5.6	3.6	4.5
5	7.9	7.3	7.6	---	---	---	5.5	4.0	4.6	7.0	4.0	5.5
6	8.6	7.9	8.2	---	---	---	6.2	5.5	5.9	7.6	4.8	6.1
7	8.7	8.3	8.5	---	---	---	6.6	6.1	6.3	6.9	5.6	6.1
8	9.0	8.4	8.7	---	---	---	6.7	6.3	6.5	9.0	4.5	6.4
9	9.0	8.5	8.7	---	---	---	7.6	6.6	7.0	9.0	7.1	8.0
10	8.7	8.4	8.5	---	---	---	7.4	6.7	7.0	9.8	7.2	8.3
11	9.0	8.3	8.6	---	---	---	7.9	6.4	7.2	8.7	7.8	8.2
12	9.2	8.6	8.9	---	---	---	8.9	6.9	7.9	9.8	7.3	8.5
13	9.2	8.6	8.8	---	---	---	8.7	7.0	7.9	10.6	7.7	9.1
14	8.7	8.1	8.4	---	---	---	9.6	7.0	8.3	10.7	7.9	9.3
15	8.9	7.7	8.3	---	---	---	9.1	7.5	8.3	10.4	7.8	9.1
16	8.9	7.6	8.3	---	---	---	9.3	7.8	8.4	10.8	7.8	9.2
17	8.4	7.6	8.0	9.0	6.6	7.0	7.7	6.4	7.2	11.3	7.9	9.5
18	11.0	7.5	8.4	---	---	---	7.0	6.3	6.6	10.5	7.5	9.0
19	10.9	8.6	9.8	---	---	---	6.1	.3	2.5	9.5	7.3	8.4
20	9.4	7.9	8.9	---	---	---	4.1	1.4	2.4	8.5	6.7	7.5
21	---	---	---	---	---	---	5.2	4.3	4.9	7.2	6.1	6.6
22	---	---	---	---	---	---	6.0	5.2	5.6	---	---	---
23	---	---	---	---	---	---	6.7	6.0	6.4	---	---	---
24	---	---	---	---	---	---	6.5	6.1	6.3	---	---	---
25	---	---	---	---	---	---	7.0	5.7	6.3	---	---	---
26	---	---	---	---	---	---	9.0	6.0	7.4	---	---	---
27	---	---	---	---	---	---	8.9	6.5	7.7	---	---	---
28	---	---	---	---	---	---	9.1	6.0	7.6	---	---	---
29	---	---	---	---	---	---	8.4	7.2	7.8	---	---	---
30	---	---	---	10.2	5.6	7.3	8.0	6.3	7.2	---	---	---
31	---	---	---	5.4	2.7	4.2	---	---	---	---	---	---
MONTH	11.0	6.8	8.3	10.2	2.7	6.2	9.6	.3	6.4	11.3	3.6	7.4

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	10.3	6.4	8.3	9.3	6.3	7.9	8.4	6.4	7.4
2	---	---	---	10.0	6.8	8.4	9.1	6.5	7.7	8.9	6.7	7.7
3	---	---	---	7.9	6.1	7.1	9.2	6.1	7.5	8.1	6.6	7.4
4	---	---	---	6.8	5.6	5.9	9.3	6.3	7.7	8.1	6.7	7.4
5	---	---	---	6.6	5.2	5.9	8.3	6.4	7.4	6.9	2.6	4.5
6	---	---	---	6.2	5.3	5.6	8.5	6.2	7.2	4.3	2.7	3.5
7	---	---	---	6.2	5.1	5.6	10.1	6.6	8.1	5.8	4.3	5.2
8	5.8	5.4	5.6	6.4	5.2	5.8	9.6	6.4	7.8	8.3	5.8	6.5
9	6.4	5.7	6.0	6.2	5.1	5.6	10.3	6.5	8.3	8.1	7.2	7.7
10	7.4	6.3	6.7	7.2	5.7	6.5	10.5	6.6	8.5	8.5	7.6	8.0
11	8.8	6.7	7.5	7.5	6.1	6.8	9.0	6.4	7.8	8.4	7.6	8.0
12	11.2	7.5	9.0	7.1	5.9	6.5	9.5	6.0	7.7	8.8	8.4	8.6
13	13.0	8.2	10.3	5.7	1.9	4.7	9.8	6.0	7.7	9.0	8.6	8.8
14	15.0	8.7	11.6	2.7	1.0	1.9	8.8	6.3	7.7	9.4	8.7	9.0
15	13.5	9.0	11.3	3.5	2.7	3.0	9.1	6.4	7.6	15.6	8.9	10.5
16	13.2	8.8	10.9	3.7	3.4	3.5	8.3	6.4	7.4	13.6	11.9	12.5
17	11.6	8.1	9.8	4.6	3.7	4.2	8.3	6.2	7.3	11.8	10.4	11.1
18	11.5	7.4	9.3	5.2	4.6	4.9	8.4	6.5	7.3	10.3	9.5	9.9
19	11.0	7.5	9.2	5.8	5.0	5.3	8.9	6.5	7.5	11.8	10.0	11.0
20	11.9	7.8	9.7	7.6	5.7	6.8	7.9	6.3	7.1	11.2	9.8	10.7
21	12.8	7.8	10.1	8.5	7.0	7.6	8.5	6.3	7.3	9.7	6.8	7.9
22	10.2	6.8	8.7	9.7	7.0	8.2	7.6	6.2	6.9	7.3	6.7	7.0
23	9.9	6.4	8.2	10.0	7.0	8.4	7.6	6.1	6.8	8.3	7.2	7.8
24	10.6	6.7	8.5	7.5	7.1	7.2	7.1	6.1	6.6	8.8	7.5	8.1
25	9.8	7.1	8.4	7.7	6.9	7.3	7.3	6.0	6.7	9.5	7.4	8.4
26	11.3	6.6	8.7	7.7	6.7	7.3	7.2	5.9	6.6	9.1	7.7	8.1
27	10.0	6.7	8.5	10.7	6.6	8.7	8.3	6.4	7.2	9.3	7.6	8.4
28	9.2	6.5	7.8	10.5	6.9	8.6	10.5	6.6	8.3	8.4	7.3	7.9
29	9.7	6.0	7.7	10.2	6.7	8.4	8.3	6.9	7.7	7.8	7.3	7.6
30	10.2	6.4	8.1	10.3	6.5	8.3	7.9	6.4	7.2	7.5	7.3	7.4
31	---	---	---	9.9	6.3	8.1	8.2	6.6	7.3	---	---	---
MONTH	15.0	5.4	8.8	10.7	1.0	6.5	10.5	5.9	7.5	15.6	2.6	8.1

08063010 CEDAR CREEK RESERVOIR NEAR TRINIDAD, TX

LOCATION.--Lat 32°14'35", long 96°08'26", Henderson County, Hydrologic Unit 12030107, inside pumphouse on lower level, 1,000 ft north of spillway, 5.5 mi upstream from Joe B. Hogsett Dam on Cedar Creek, and 8.0 mi northwest of Trinidad.

DRAINAGE AREA.--1,007 mi².

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 15, 1972, at unfinished pumphouse at same site and datum. May 16, 1972, to Sept. 8, 1975, at site 0.25 mi north and upstream from pumphouse at same datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam 17,539 ft long. The spillway is located on the right bank 5.5 mi upstream from the dam and discharges into the Trinity River through a cut channel 2 mi long. Deliberate impoundment began July 2, 1965, and the dam was completed in February 1966. The spillway is 474 ft long and has eight 40- by 24-foot radial gates and two automatically operated 40- by 8.5-foot hinged gates. Low-flow releases may be made downstream through a 5.0-foot-diameter conduit through the dam. The dam is the property of Tarrant County Water Control and Improvement District No. 1 and was built for municipal and industrial supply and for recreational purposes. The area and capacity tables were based on a survey during the period 1940-58. Water is diverted from the reservoir for municipal and industrial uses by lakeside developments and by the cities of Arlington, Fort Worth, Mansfield, Kemp, Trinidad, and Mabank. 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	340.0	-
Top of radial gates	325.0	785,100
Top of automatic gates	322.5	696,400
Top of conservation pool	322.0	679,200
Crest of spillway (automatic gates)	314.0	441,000
Crest of spillway (radial gates)	302.0	197,800
Lowest gated outlet (invert)	263.5	430

COOPERATION.--Records of diversions provided by the Tarrant County Water Control and Improvement District No. 1. The area and capacity tables were provided by Freese and Nichols, Consulting Engineers, for Tarrant County Water Control and Improvement District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 722,000 acre-ft June 4, 1973 (elevation, 323.24 ft); minimum since first appreciable storage in 1966, 332,900 acre-ft Mar. 19, 1967 (elevation, 309.42 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 687,100 acre-ft Mar. 17 at 2400 hours (elevation, 322.23 ft); minimum, 543,800 acre-ft Sept. 29 (elevation, 317.71 ft).

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

317.0	523,000	321.0	646,000
319.0	582,600	323.0	713,500

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	600700	579000	582600	677200	675200	677900	680900	668300	648400	627400	602300	571600
2	602000	578700	582600	676200	672600	683000	679200	666900	647700	625400	604200	570400
3	599500	578400	580800	677200	674300	678900	681600	666900	650000	625400	602300	570300
4	598200	578100	581100	677900	671900	677600	680600	666600	651000	627000	600400	568600
5	597600	577500	580800	677600	672300	679200	682700	665000	650700	627000	600100	567200
6	596000	575700	595100	679600	669900	678200	680900	663600	650000	626100	599200	566200
7	595100	575700	600100	677600	669600	677600	680900	662300	649400	625700	598300	564400
8	593600	579600	601700	676900	669900	679200	680600	663600	647700	625700	597000	563200
9	592600	580200	601700	677200	669900	677600	682700	665000	648000	624500	596000	562300
10	593200	577500	601400	675900	672900	677600	677900	663300	646700	623800	595100	561700
11	591700	576000	601700	676200	670600	680600	676600	662000	645400	621900	592700	559600
12	590700	575100	600700	677200	668600	680600	675600	661000	643500	622200	592100	559300
13	589500	574400	603500	675600	667900	683300	674900	660000	642200	621600	591100	558700
14	587600	573800	604500	675600	668600	678600	674300	658600	641800	622500	590000	558700
15	587000	576600	602300	674600	668300	678900	674300	658300	641200	622200	589200	557500
16	587300	578700	602000	675600	667900	676600	673600	657300	640600	621900	588800	556300
17	587000	578700	601400	676900	673300	687100	675900	657000	639600	621200	588200	554800
18	586400	578700	600700	676900	681300	684700	677200	656000	638600	620300	586700	552300
19	587000	579600	604500	677600	683000	679900	675900	654300	638000	619900	586700	555100
20	586700	578400	607600	676200	648400	680600	674900	654700	636000	619300	584800	553500
21	584800	578100	609200	675600	680300	680600	673900	656700	636000	618300	582700	551700
22	584200	576300	609800	674900	678600	679200	674900	654300	634800	617400	582300	551500
23	584200	577200	610400	673600	680300	680600	674900	653300	634100	615400	582000	550900
24	584800	576300	615800	675200	679600	681300	673900	652700	634800	613200	581300	549700
25	583300	576900	626400	672900	679200	681600	672600	651700	633200	612300	580200	548500
26	584200	583900	623500	674300	679600	682300	671900	650300	633200	610700	578700	547600
27	582600	581400	678200	672600	679600	680300	671300	648700	632500	608500	576900	546200
28	581400	581700	680900	672600	678900	679200	670300	647000	630900	607600	577300	544700
29	580200	582300	680900	672600	678900	679200	669900	646700	629300	606700	575700	548800
30	579600	582600	679600	672300	---	678200	670300	647700	628000	606000	574400	552000
31	579000	---	678200	672600	---	678900	---	648000	---	604500	572600	---
MAX	602000	583900	680900	679600	683000	687100	682700	668300	651000	627400	604200	571600
MIN	579000	573800	580800	672300	648400	676600	669900	646700	628000	604500	572600	544700
(†)	318.88	319.00	321.97	321.80	321.99	321.99	321.73	321.06	320.44	319.70	318.67	317.99
(ϕ)	-23900	+3600	+95600	-5600	+6300	0	-8600	-22300	-20000	-23500	-31900	-20600

CAL YR 1987 MAX 686100 MIN 573800 (ϕ) +600
WTR YR 1988 MAX 687100 MIN 544700 (ϕ) -50900

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

08063050 NAVARRO MILLS LAKE NEAR DAWSON, TX

LOCATION.--Lat 31°57'27", long 96°41'21", Navarro County, Hydrologic Unit 12030108, in left abutment of spillway of Navarro Mills Dam on Richland Creek, 1.7 mi upstream from bridge on State Highway 31, 3.0 mi upstream from St. Louis Southwestern Railway Lines bridge, 4.2 mi upstream from Post Oak Creek, 4.6 mi north of Dawson, and 63.9 mi upstream from mouth.

DRAINAGE AREA.--320 mi².

PERIOD OF RECORD.--August 1962 to current year. Prior to October 1970, published as Navarro Mills Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 8, 1962, nonrecording gage in low-water channel at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 7,570 ft long, including a 240-foot off-channel gated spillway with six 40.0- by 29.0-foot tainter gates. From Aug. 27, 1962, to Mar. 14, 1963, lake was operated as a detention basin only. Deliberate impoundment began Mar. 15, 1963, and dam was completed in September 1963. Low-flow outlet works consist of two 36-inch-diameter gate-controlled conduits. Lake was built for flood control and water conservation. Capacity table prior to September 1976 is based on survey made in February 1956 by U.S. Army Corps of Engineers. Capacity table after Aug. 31, 1976, is based on a sedimentation survey made in September 1972. Flow is affected at times by discharge from the flood-detention pools of 51 floodwater-retarding structures with a combined detention capacity of 26,160 acre-ft. These structures control runoff from 86.9 mi² in the Richland Creek drainage basin. An unknown amount of water is diverted for municipal and industrial uses. 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	457.0	-
Design flood	451.9	329,500
Top of gates (top of flood-control storage pool)	443.0	206,200
Top of conservation pool	424.5	56,960
Crest of spillway	414.0	18,840
Lowest gated outlet (invert)	400.0	1,150

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 183,300 acre-ft May 18, 1968 (elevation, 440.36 ft); minimum since since initial filling in May 1965, 32,490 acre-ft Dec. 28, 1978 (elevation, 418.89 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 69,610 acre-ft Feb. 21 (elevation, 426.86 ft); minimum, 44,320 acre-ft Sept. 28 (elevation, 421.84 ft).

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

421.0	40,710	424.0	54,460	426.0	64,810
422.0	45,020	425.0	59,520	427.0	70,380
423.0	49,590				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48770	46580	49930	64230	57700	60260	59320	56130	55060	53440	49640	45980
2	48680	46530	49890	63810	57700	59570	59220	56080	55470	53390	49500	45940
3	48450	46530	49890	63330	57700	58410	58660	55980	55720	53290	49410	46030
4	48360	46480	49890	62800	57650	58050	58050	55880	56080	53140	49360	45800
5	48270	46300	49890	62010	57650	57900	57500	55820	56180	53190	49270	45710
6	48220	46210	49930	61740	57650	57240	57140	55770	56130	53000	49180	45480
7	48080	46160	49980	61210	57650	57240	57090	55770	56080	52800	49040	45430
8	47990	46760	49980	60580	57700	57240	56380	55770	56030	52710	48860	45300
9	47860	46760	49930	60050	57800	57290	56230	55720	55820	52660	48770	45200
10	47810	46620	49930	59470	57750	57290	56180	55620	55670	52510	48630	45110
11	47670	46580	49890	58860	57900	57440	56080	55570	55570	52610	48590	45020
12	47490	46480	49890	58300	57900	57440	55980	55570	55420	52560	48450	44890
13	47490	46390	49890	57650	57900	57550	55930	55470	55370	52420	48270	44850
14	47350	46350	49930	56990	57900	57500	55980	55370	55320	52270	48180	44850
15	47220	46760	49890	56790	57900	57500	55930	55270	55170	52120	48040	44940
16	47260	47900	49840	57040	57900	57500	55880	55170	55060	51980	48040	44850
17	47170	47990	49790	57090	58660	58610	56230	55060	54910	51880	47810	44810
18	47030	48220	49740	57240	66040	58960	56180	54960	54810	51690	47810	44680
19	47310	48040	50420	57390	68550	59010	56130	54860	54710	51590	47760	45110
20	47310	48040	50710	57390	69270	58710	56030	55220	54560	51440	47580	45110
21	47170	47990	50810	57340	69610	58050	55980	55170	54410	51300	47400	45070
22	47120	48040	50860	57390	69610	57440	55980	55060	54260	51100	47260	44980
23	47080	47990	50960	57340	68940	57290	55980	54910	54310	51050	47170	44850
24	47120	48040	51250	57440	67990	57440	55930	54760	54120	50810	47080	44760
25	47120	49040	51880	57390	66650	57440	55880	54660	53970	50660	46940	44630
26	47080	49270	61000	57390	65370	57440	55770	54510	54070	50570	46850	44500
27	46940	49840	63540	57390	64070	57390	55670	54410	53920	50320	46670	44420
28	46940	49840	64550	57390	62800	57550	55570	54260	53920	50180	46530	44330
29	46760	49930	65200	57440	61480	58150	56030	54220	53730	50080	46300	45250
30	46670	49980	65260	57650	---	58460	56080	54170	53580	50030	46260	46440
31	46620	---	64810	57650	---	58610	---	54120	---	49840	46070	---
MAX	48770	49980	65260	64230	69610	60260	59320	56130	56180	53440	49640	46440
MIN	46620	46160	49740	56790	57650	57240	55570	54120	53580	49840	46070	44330
(†)	422.35	423.08	426.00	424.63	425.37	424.82	424.32	423.93	423.82	423.05	422.23	422.31
(ϕ)	-2286	+3361	+14830	-7167	+3883	-2870	-2531	-1960	-536	-3745	-3763	+365

CAL YR 1987 MAX 99680 MIN 46160 (ϕ) -2920
WTR YR 1988 MAX 69610 MIN 44330 (ϕ) -2470

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

08063100 RICHLAND CREEK NEAR DAWSON, TX

LOCATION.--Lat 31°56'18", long 96°40'52", Navarro County, Hydrologic Unit 12030108, at downstream side of bridge on State Highway 31, 1.3 mi upstream from St. Louis Southwestern Railway Lines bridge, 1.7 mi downstream from Navarro Mills Dam, 2.5 mi upstream from Post Oak Creek, and 3.6 mi northeast of Dawson.

DRAINAGE AREA.--333 mi².

PERIOD OF RECORD.--October 1960 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 367.52 ft above National Geodetic Vertical Datum of 1929. Nov. 21, 1960, to Sept. 30, 1982, water-stage recorder at same site and at 3.00-foot higher datum. Prior to Nov. 21, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good except those below 2.0 ft³/s and those for estimated daily discharges, which are fair. Flow regulated since Mar. 15, 1963, by Navarro Mills Lake (station 08063050). Flow is affected at times by discharge from the flood-detention pool of a floodwater-retarding structure with a capacity of 297 acre-ft. This structure controls runoff from 1.28 mi² below Navarro Mills Lake and above this station. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--28 years, 141 ft³/s (102,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,500 ft³/s July 3, 1961 (gage height, 25.50 ft), from rating curve extended above 14,000 ft³/s; no flow at times. Maximum discharge since completion of Navarro Mills Dam in 1963, 3,850 ft³/s Nov. 24, 1974 (gage height, 22.85 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1895, about 31 ft June 19, 1929, from information by local residents. Floods in 1946 and 1957 reached a stage of about 26 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 769 ft³/s Feb. 25 at 1800 hours (gage height, 11.80 ft); no flow Aug. 29-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	.72	e.33	389	1.5	731	.06	e.77	5.2	3.5	1.5	.01
2	5.8	.66	e.43	389	.93	727	205	.63	3.8	3.2	1.5	.01
3	6.0	.63	e.70	392	.81	725	382	.77	3.8	2.6	1.1	.11
4	6.3	1.2	e1.0	395	1.2	324	379	1.1	12	3.2	.93	.01
5	6.0	.97	e.93	397	2.1	226	377	.50	4.0	2.6	.95	.01
6	6.9	.73	e.85	401	1.2	407	250	.57	1.2	2.5	1.1	.01
7	7.0	.71	e.77	403	1.4	276	1.5	.82	.88	2.9	.77	.01
8	6.7	1.4	e.70	405	2.0	4.1	379	1.6	1.3	2.1	.66	.58
9	1.4	1.1	.63	407	2.5	2.9	84	1.1	3.0	2.0	.80	.92
10	1.5	.29	.49	404	1.8	2.0	.85	1.1	1.3	1.7	.63	1.2
11	1.7	.36	.55	402	2.1	1.9	.49	2.3	.80	1.8	.55	.93
12	2.4	.50	.77	401	2.9	2.1	.43	2.8	.60	1.6	.32	1.4
13	2.3	.56	1.2	402	3.2	2.0	e.37	1.3	.57	1.3	.21	1.6
14	1.9	.47	1.2	399	2.9	1.2	.63	2.0	.63	1.0	.14	1.9
15	.78	1.1	1.4	157	e2.9	.86	.85	1.6	.64	.89	.08	3.4
16	.61	1.9	2.0	.77	3.4	.78	e.85	1.1	.70	.77	.07	1.2
17	.97	.38	2.6	.33	e3.7	22	e1.1	1.7	.73	.72	.16	1.3
18	1.3	.18	1.2	.27	e3.7	15	e1.1	1.8	.73	.58	.06	1.2
19	3.6	.17	2.7	2.6	e3.7	3.5	e1.2	1.4	.61	.60	.07	2.2
20	.91	.10	2.0	3.5	e3.8	208	e1.5	1.6	.65	.48	.04	2.6
21	.67	.07	1.1	2.1	e3.7	382	e1.5	5.8	.68	.43	.04	1.4
22	2.4	e.14	.85	.14	e107	379	1.8	3.1	.63	.40	.02	1.1
23	1.2	e.12	.93	.63	e396	187	e2.2	1.9	.63	.43	.01	1.1
24	1.1	e.10	1.5	.54	e548	.97	e2.2	1.1	.57	.36	.03	1.5
25	2.0	e.25	2.2	.49	771	.53	e1.5	1.1	.61	.30	.01	1.0
26	1.6	e.21	32	.55	763	.14	e1.5	1.0	.83	.61	.02	1.1
27	2.5	e.16	2.5	.84	752	.11	e.93	.88	.70	.63	.01	2.8
28	2.5	e.25	.08	.89	747	.07	e.85	.73	.79	.72	.01	2.4
29	.98	e.25	.10	.96	739	.22	e.93	.82	2.2	2.2	.0	4.0
30	.31	e.25	226	1.0	---	.11	e.93	1.1	3.2	2.0	.0	137
31	1.1	---	388	1.4	---	.07	---	1.1	---	1.6	.01	---
TOTAL	85.63	15.93	677.71	5760.01	4874.44	4632.56	2081.27	45.19	53.98	45.72	11.80	174.00
MEAN	2.76	.53	21.9	186	168	149	69.4	1.46	1.80	1.47	.38	5.80
MAX	7.0	1.9	388	407	771	731	382	5.8	12	3.5	1.5	137
MIN	.31	.07	.08	.14	.81	.07	.06	.50	.57	.30	.00	.01
AC-FT	170	32	1340	11420	9670	9190	4130	90	107	91	23	345

CAL YR 1987 TOTAL 60273.59 MEAN 165 MAX 1250 MIN .01 AC-FT 119600
WTR YR 1988 TOTAL 18458.24 MEAN 50.4 MAX 771 MIN .00 AC-FT 36610

e Estimated.

08063500 RICHLAND CREEK NEAR RICHLAND, TX

LOCATION.--Lat 31°57'02", long 96°25'16", Navarro County, Hydrologic Unit 12030108, at left end of downstream bridge on U.S. Highway 75 (Interstate Highway 45), 800 ft downstream from Texas and New Orleans Railroad Co. bridge, 1.0 mi north of Richland, 3.5 mi downstream from Pin Oak Creek, and 36.7 mi upstream from mouth.

DRAINAGE AREA.--734 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1924 to February 1925 (discharge measurements and gage heights only), March 1939 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 299.12 ft above National Geodetic Vertical Datum of 1929. Dec. 11, 1924, to Feb. 11, 1925, nonrecording gage at site 800 ft upstream. Mar. 17, 1939, to Feb. 14, 1958, water-stage recorder at site 50 ft upstream. Feb. 15, 1958, to Jan. 28, 1959, nonrecording gage at present site. June 8, 1955, Feb. 14, 1958, and since Feb. 6, 1959, supplementary water-stage recorder at overflow channel 3,900 ft to right of main channel gage. All gages at present datum.

REMARKS.--Records fair except those for Oct. 1 to Nov. 6, Nov. 27 to Dec. 6 (when a low-water crossing existed about 1.5 mi downstream that invalidated the stage-discharge relationship at the main gage), Dec. 13-17, 19-22, and Dec. 25 to Jan. 3 (when the discharges at the supplemental gage were estimated and large enough to have an effect on the total flow for both gages), which are poor. Since October 1962, flow is partly regulated by Navarro Mills Lake (station 08063050) about 25 mi upstream. Flow is also affected at times by discharge from the flood-detention pools of 73 floodwater-retarding structures with a combined detention capacity of 42,060 acre-ft. These structures control runoff from 143 mi² in the Richland Creek drainage basin. Several observations of water temperature were made during the year. Gage height telemeter at station.

AVERAGE DISCHARGE.--23 years (water years 1940-62) prior to regulation by Navarro Mills Lake, 404 ft³/s (292,700 acre-ft/yr); 26 years (water years 1963-88) regulated, unadjusted, 323 ft³/s (234,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,900 ft³/s May 12, 1948 (gage height, 24.16 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 25.5 ft in December 1913 (discharge not determined), from information by Texas and New Orleans Railroad Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,320 ft³/s Dec. 27 at 1500 hours (gage height, 21.46 ft); maximum gage height at main channel, 21.48 ft Dec. 27 at 1300 hours; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	.51	.11	927	1.8	711	43	4.6	9.3	.38	.00	.00
2	.00	.73	.01	781	1.2	725	32	5.3	33	.38	.0	.00
3	.00	.87	.0	702	1.0	1340	245	9.0	26	.25	.00	.00
4	.00	.92	34	647	.67	1100	346	6.0	384	.16	.00	.00
5	.00	.90	6.0	613	.80	324	337	4.2	573	.10	.09	.00
6	.00	55	175	586	.92	287	328	2.6	195	.10	.00	.00
7	.00	2.4	588	700	.92	383	177	1.3	91	.05	.00	.00
8	.00	.80	76	785	1.0	225	26	.72	44	.07	.00	.00
9	.00	.92	13	654	1.0	68	381	.49	28	.31	.00	.00
10	.00	.88	7.3	596	1.2	68	84	.17	21	.45	.00	.00
11	.00	.74	2.8	568	1.4	32	16	.01	16	.45	.00	.00
12	.00	1.5	.47	553	1.3	20	8.3	.00	9.5	.38	.00	.00
13	.00	2.2	.55	540	1.4	14	7.0	.01	6.3	.22	.00	.00
14	.00	1.9	2.8	535	1.6	12	7.6	.02	4.6	.11	.00	.00
15	.03	2.8	7.1	525	1.9	9.2	6.6	.09	3.1	.07	.00	.00
16	.05	7.4	50	193	1.2	7.7	5.2	.0	2.4	.05	.00	.00
17	.05	7.3	16	28	2.4	85	18	.00	1.8	.03	.00	.00
18	.05	6.9	3.8	14	1990	1140	56	.00	1.5	.03	.00	.00
19	.03	7.1	103	11	4360	464	76	.00	1.4	.03	.00	.00
20	.10	3.9	815	7.7	2220	146	40	.0	1.3	.04	.00	.00
21	.16	3.3	241	7.6	775	290	22	.17	1.3	.03	.00	34
22	.12	4.3	68	7.4	381	354	12	.09	1.2	.01	.00	18
23	.10	4.1	23	6.9	387	335	8.6	3.2	.92	.0	.00	6.2
24	.10	2.6	12	8.0	479	128	7.7	5.3	.92	.0	.00	1.7
25	.10	3.1	168	7.0	695	25	6.6	3.0	.92	.00	.00	.34
26	.10	2.2	3100	4.2	758	17	5.3	1.7	.81	.00	.00	.05
27	.10	1.1	4910	3.7	745	18	4.3	7.9	.81	.00	.00	.0
28	.07	.05	3000	3.3	731	12	3.3	12	.71	.00	.00	.00
29	.05	.04	1440	2.9	721	79	3.1	9.5	.62	.00	.00	.12
30	.02	.03	895	2.8	---	136	3.4	9.0	.45	.00	.00	821
31	.15	---	960	3.0	---	84	---	8.1	---	.00	.00	---
TOTAL	3.98	126.49	16717.94	10022.5	14263.71	8638.9	2316.0	94.47	1460.86	3.70	0.09	881.41
MEAN	.13	4.22	539	323	492	279	77.2	3.05	48.7	.12	.003	29.4
MAX	2.6	55	4910	927	4360	1340	381	12	573	.45	.09	821
MIN	.00	.03	.00	2.8	.67	7.7	3.1	.00	.45	.00	.00	.00
AC-FT	7.9	251	33160	19880	28290	17140	4590	187	2900	7.3	.2	1750

CAL YR 1987 TOTAL 142078.50 MEAN 389 MAX 4910 MIN .00 AC-FT 281800
WTR YR 1988 TOTAL 54530.05 MEAN 149 MAX 4910 MIN .00 AC-FT 108200

08063500 RICHLAND CREEK NEAR RICHLAND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to December 1973. Chemical and biochemical analyses: August 1983 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to September 1969, August 1983 to current year.
WATER TEMPERATURE: October 1967 to September 1969, August 1983 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,920 microsiemens Nov. 5, 1968; minimum daily, 119 microsiemens Oct. 30, 1967.
WATER TEMPERATURE: Maximum daily, 34.0°C Aug. 18, 1969; minimum daily, 2.0°C Dec. 22, 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC												
08...	1350	56	366	7.70	15.0	68	91	7.2	72	0.9	120	25
JAN												
27...	1635	3.6	797	8.20	9.5	14	3.5	14.4	125	2.8	280	110
MAR												
17...	1000	7.9	739	7.80	12.0	27	25	12.4	116	2.0	260	78
MAY												
04...	1320	6.0	900	--	22.0	3	18	7.0	90	<0.1	320	93
JUN												
22...	1040	1.2	787	7.75	33.0	16	9.7	5.6	89	1.4	240	57

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 WAT WH TOT FET 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)
DEC											
08...	40	4.0	25	1	6.6	92	43	28	0.30	11	213
JAN											
27...	96	9.0	61	2	5.2	172	120	73	0.30	8.5	476
MAR											
17...	93	7.9	51	1	4.4	187	110	60	0.30	3.3	442
MAY											
04...	110	10	75	2	4.9	223	120	87	0.40	8.0	549
JUN											
22...	83	8.9	67	2	5.9	187	100	72	<0.10	12	461

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC											
08...	82	8	0.270	0.030	0.300	0.040	2.4	2.4	0.360	20	7
JAN											
27...	13	3	--	<0.010	<0.100	0.030	0.67	0.70	0.080	7.1	--
MAR											
17...	47	9	--	0.020	<0.100	0.040	0.76	0.80	0.060	--	1
MAY											
04...	44	5	0.080	0.020	0.100	0.050	0.95	1.0	0.090	7.4	--
JUN											
22...	17	<1	--	<0.010	<0.100	0.050	0.95	1.0	0.080	7.4	4

DATE	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)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC											
08...	51	<1	<5	4	67	5	30	<0.1	<1	<1.0	12
JAN											
27...	--	--	--	--	--	--	--	--	--	--	--
MAR											
17...	100	<1	<1	1	20	<5	70	<0.1	<1	<1.0	10
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
JUN											
22...	100	<1	<1	2	<3	<5	3	<0.1	<1	<1.0	5

08063500 RICHLAND CREEK NEAR RICHLAND, TX--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	---	395	847	1290			
2					---	---	432	865	1330			
3					---	325	412	884	1370			
4					853	344	383	900	798			
5					1000	335	366	958	389			
6					992	436	371	986	393			
7					995	351	403	1060	428			
8					1040	386	485	1120	464			
9					1060	---	369	1170	493			
10					1120	---	511	1230	514			
11					---	430	586	1270	533			
12					1090	---	622	---	547			
13					959	---	652	1360	560			
14					1070	---	710	1390	578			
15					1140	---	759	1420	597			
16					1130	---	800	---	618			
17					1130	---	739	---	644			
18					252	---	565	---	669			
19					206	---	389	---	696			
20					241	---	610	---	725			
21					313	---	643	1540	751			
22					---	367	650	1550	787			
23					318	365	680	1580	803			
24					324	413	683	1610	828			
25					333	482	705	1440	850			
26					---	540	727	1420	870			
27					336	606	751	1460	888			
28					339	624	787	1500	908			
29					341	548	808	1460	925			
30					---	415	856	1360	940			
31					---	350	---	1250	---			
MEAN					721	430	595	1270	740			

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0					---	12.0	---				---
2	---					---	13.0	---				---
3	---					---	---	---				---
4	---					---	14.0	---				---
5	---					---	---	---				---
6	---					---	13.5	19.5				---
7	---					---	15.0	---				---
8	---					---	14.5	---				---
9	---					---	15.0	---				---
10	---					---	11.0	---				---
11	---					18.0	13.0	28.0				---
12	---					---	---	---				---
13	---					---	15.5	---				---
14	---					---	16.0	---				---
15	---					---	17.0	26.0				---
16	---					---	16.0	---				---
17	---					---	15.0	---				---
18	---					---	14.5	---				---
19	---					---	12.5	---				---
20	---					---	15.0	---				---
21	---					---	---	---				---
22	---					16.0	18.0	28.0				---
23	---					16.5	19.5	---				---
24	---					18.5	19.5	---				---
25	---					19.0	---	---				---
26	---					19.0	18.5	---				---
27	---					18.5	18.5	---				---
28	---					20.0	17.5	---				---
29	---					13.0	---	---				---
30	---					9.5	17.0	---				18.5
31	---					10.0	---	---				---
MEAN	23.0					16.0	15.5	25.5				18.5

08063700 BARDWELL LAKE NEAR ENNIS, TX

LOCATION.--Lat 32°15'00", long 96°38'49", Ellis County, Hydrologic Unit 12030109, in intake structure of Bardwell Dam on Waxahachie Creek, 5 mi south of Ennis, and 5.6 mi upstream from mouth.

DRAINAGE AREA.--178 mi².

PERIOD OF RECORD.--November 1965 to current year. Prior to October 1970, published as Bardwell Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Apr. 25, 1966, nonrecording gage on intake structure at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 15,400 ft long, including a 350-foot uncontrolled off-channel concrete-gravity spillway with ogee weir section. Deliberate impoundment began Nov. 20, 1965, and dam was completed Mar. 27, 1966. Controlled low-flow outlet works consists of a 10.0-foot-diameter concrete conduit with two 5.0- by 10.0-foot sluice gates. Lake was built for flood control and water conservation. Capacity table beginning October 1976 is based on a survey completed in 1972. Runoff from 81.4 mi² above Bardwell Lake is modified by Lake Waxahachie, with a capacity of 13,500 acre-ft at spillway elevation. The city of Waxahachie divertes water from Lake Waxahachie and returns an unknown amount of effluent to Waxahachie Creek. Inflow is affected at times by discharge from flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 15,370 acre-ft. These structures control runoff from 52.4 mi² in the Chambers Creek watershed. 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	460.0	-
Design flood	455.9	-
Crest of spillway (top of flood-control pool)	439.0	137,600
Top of conservation pool	421.0	52,300
Lowest gated outlet (invert)	391.0	690

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 103,300 acre-ft May 19, 1969 (elevation, 432.35 ft); minimum since initial filling, 39,720 acre-ft Nov. 10, 1978 (elevation, 417.21 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 55,850 acre-ft Feb. 22 (elevation, 421.98 ft): minimum daily, 45,990 acre-ft Nov. 7 (elevation, 419.18 ft).

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

419.0	45,390	421.0	52,290
420.0	48,780	422.0	55,920

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47750	46220	48360	55300	53330	54600	53400	52860	53010	52080	50350	48260
2	47710	46220	48360	55080	53360	54960	53220	52900	53150	52040	50240	48160
3	47580	46190	48360	54850	53360	55110	52900	52900	53220	52360	50240	48400
4	47510	46190	48360	54710	53330	55040	52680	52860	53620	52290	50170	48230
5	47400	46120	48360	54600	53330	54960	52650	52830	53620	52220	50140	48120
6	47300	46020	48470	54520	53290	54780	52540	52790	53580	52150	50070	48050
7	47300	45990	48430	54420	53330	54600	52470	52760	53580	52080	50000	47920
8	47130	46830	48430	54270	53360	54600	52500	53040	53470	52010	49930	47810
9	47130	46860	48430	54020	53330	54450	52650	53080	53470	51940	49860	47780
10	47100	46730	48430	53760	53220	54230	52580	53010	53400	51860	49750	47710
11	47100	46660	48430	53540	53110	54200	52500	53010	53330	52110	49610	47580
12	47000	46630	48400	53440	53010	54120	52470	52970	53220	52010	49540	47540
13	46960	46590	48470	53220	52930	53980	52500	52930	53180	51970	49470	47540
14	46860	46530	48540	52970	52860	53800	52500	52860	53150	51860	49400	47540
15	46800	47100	48400	52930	52830	53620	52580	52790	53080	51790	49340	47440
16	46800	47470	48360	52970	52790	53470	52580	52790	53040	51760	49300	47400
17	46800	47470	48360	53040	53470	53910	52720	52760	53010	51650	49200	47340
18	46760	47750	48360	53040	55080	53800	52860	52680	52900	51580	49160	47130
19	46800	47580	49060	53040	55480	53650	52830	52610	52860	51550	49060	47240
20	46800	47540	49440	53110	55700	53470	52830	52830	52790	51480	48990	47130
21	46690	47540	49470	53110	55810	53330	52790	53010	52720	51370	48850	47100
22	46660	47540	49510	53150	55850	53260	52900	52930	52650	51260	48780	47030
23	46630	47510	49650	53110	55700	53150	53010	52900	52610	51160	48780	46960
24	46660	47510	49860	53110	55520	53080	52970	52790	52580	51050	48710	46860
25	46630	48260	50310	53110	55370	52930	52930	52720	52500	50980	49600	46760
26	46660	48300	54850	53110	55220	52790	52900	52650	52430	50880	48540	46690
27	46630	48430	55220	53150	55080	52580	52830	52580	52360	50800	48400	46590
28	46590	48360	55440	53110	54890	52470	52760	52500	52360	50660	48360	46530
29	46320	48400	55520	53110	54780	53260	52860	52470	52260	50590	48260	47130
30	46290	48400	55520	53150	---	53290	52900	52430	52150	50520	48160	47540
31	46260	---	55480	53290	---	53290	---	52470	---	50420	48020	---
MAX	47750	48430	55520	55300	55850	55110	53400	53080	53620	52360	50350	48400
MIN	46260	45990	48360	52930	52790	52470	52470	52430	52150	50420	48020	46530
(†)	419.26	419.89	421.28	421.28	421.69	421.28	421.17	421.05	420.96	420.47	419.78	419.64
(ϕ)	-1489	+2141	+7081	-2186	+1488	-1488	-395	-429	-320	-1731	-2398	-479

CAL YR 1987 MAX 66290 MIN 45990 (ϕ) +2240
WTR YR 1988 MAX 55850 MIN 45990 (ϕ) -210

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

08063800 WAXAHACHIE CREEK NEAR BARDWELL, TX

LOCATION.--Lat 32°14'36", long 96°38'24", Ellis County, Hydrologic Unit 12030109, on left bank at downstream side of highway embankment near left end of bridge on county road, 0.8 mi downstream from Bardwell Dam, 3.6 mi southeast of Bardwell, 3.8 mi downstream from bridge on State Highway 34, and 4.1 mi upstream from mouth.

DRAINAGE AREA.--178 mi².

PERIOD OF RECORD.--October 1963 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 370.18 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Bardwell Lake (station 08063700) 0.8 mi upstream. Gage-height telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 71.5 ft³/s (51,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,960 ft³/s Feb. 9, 1965 (gage height, 17.55 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1944, about 23 ft in 1944 and 1945, from information by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 231 ft³/s Apr. 3 at 1345 hours (gage height, 5.38 ft); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	75	.00	113	95	.12	.35	.01	.00	.00
2	.00	.00	.00	74	.00	113	175	.18	.15	.01	.00	.00
3	.00	.00	.02	75	.00	112	225	.17	.26	.01	.00	.00
4	.00	.00	.05	71	.00	111	147	.17	.40	.33	.00	.00
5	.00	.00	.04	71	.00	111	96	.20	.11	.06	.00	.00
6	.00	.00	.05	71	.00	111	96	.20	.22	.03	.00	.00
7	.00	.00	.05	70	.00	111	46	.22	.56	.03	.00	.00
8	.00	.12	.05	70	.00	112	.65	.28	.18	.02	.00	.00
9	.00	.09	.05	71	47	113	.82	.18	.17	.02	.00	.00
10	.00	.00	.05	71	103	114	1.5	.17	.15	.02	.00	.00
11	.00	.00	.05	71	112	115	2.3	.18	.15	.02	.00	.00
12	.00	.00	.05	72	69	116	2.6	.17	.14	.12	.00	.00
13	.00	.00	.08	70	.20	116	2.8	.17	.15	.07	.00	.00
14	.00	.00	.10	70	.14	114	2.9	.20	.17	.03	.00	.00
15	.00	.12	.08	31	.15	115	2.8	.17	.11	.02	.00	.00
16	.00	.11	.03	.00	.17	116	2.8	.15	.08	.01	.00	.00
17	.00	.00	.02	.00	1.5	116	3.3	.09	.08	.0	.00	.00
18	.00	.00	.03	.0	4.1	115	3.1	.06	.08	.0	.00	.00
19	.00	.00	.70	.01	.38	115	3.1	.04	.07	.00	.00	.00
20	.00	.00	.29	.02	.13	115	3.1	.09	.05	.00	.00	.00
21	.00	.00	.12	.01	.11	115	3.0	.11	.02	.00	.00	.00
22	.00	.00	.06	.02	33	115	1.6	.05	.02	.00	.00	.00
23	.00	.00	.05	.02	112	115	.13	.05	.02	.00	.00	.00
24	.00	.00	.06	.02	111	115	.20	.05	.01	.00	.00	.00
25	.00	.77	.45	.02	111	113	.12	.05	.01	.00	.00	.00
26	.00	.03	8.2	.02	112	112	.11	.05	.01	.00	.00	.00
27	.00	.08	1.6	.00	112	112	.17	.04	.02	.00	.00	.00
28	.00	.03	.12	.00	112	65	.18	.04	.02	.00	.00	.00
29	.00	.01	.08	.00	113	.37	.23	.05	.02	.00	.00	.00
30	.00	.01	.25	.00	---	36	.15	.05	.02	.00	.00	.20
31	.00	---	75	.00	---	94	---	.10	---	.00	.00	---
TOTAL	0.00	1.37	87.78	1033.14	1153.88	3266.37	917.66	3.85	3.80	0.81	0.00	0.20
MEAN	.00	.046	2.83	33.3	39.8	105	30.6	.12	.13	.026	.00	.007
MAX	.00	.77	75	75	113	116	225	.28	.56	.33	.00	.20
MIN	.00	.00	.00	.00	.00	.37	.11	.04	.01	.00	.00	.00
AC-FT	.0	2.7	174	2050	2290	6480	1820	7.6	7.5	1.6	.0	.4

CAL YR 1987 TOTAL 28114.46 MEAN 77.0 MAX 966 MIN .00 AC-FT 55770
WTR YR 1988 TOTAL 6468.86 MEAN 17.7 MAX 225 MIN .00 AC-FT 12830

08064100 Chambers Creek near Rice, Tex.

LOCATION.--Lat 32°11'54, long 96°31'12", Navarro County, Hydrologic Unit 12030109, on downstream side of highway embankment 20 ft left of left end of bridge on Farm Road 1126, 3.6 mi downstream from Oak Branch, 3.9 mi upstream from Cummins Creek, 4.2 mi upstream from bridge on Interstate Highway 45, 5.0 miles downstream from Waxahachie Creek, and 3.4 mi southwest of Rice.

DRAINAGE AREA.--807 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 340.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good. Flow from 178 mi² is affected by storage in Bardwell Lake on Waxahachie Creek. Flood releases from Bardwell Lake will sustain higher flows from time to time. In addition, flow is affected at times by discharge from the flood-detention pools of numerous floodwater-retarding structures in the drainage basin above this station.

AVERAGE DISCHARGE.--5 years (water years 1984-1988) regulated, unadjusted, 341 ft³/s (247,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,400 ft³/s June 6, 1986, at 2200 hours (gage height, 31.12 ft), from rating curve extended above 15,000 ft³/s on basis of velocity-area study; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood information for next downstream station (08064500) indicates that the maximum stage since at least 1870 occurred in August 1887 and other significant floods occurred in December 1913, May 1944, and May 1958. Stages for these floods are unknown for this station and over the years a levee system has been developed along the main channel to limit crop land flooding.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,820 ft³/s Dec. 26 at 2400 hours (gage height, 27.39 ft); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	.64	33	470	44	217	289	23	12	.00	.00	.00
2	2.1	.66	30	407	43	231	369	28	64	.00	.00	.00
3	1.3	.66	24	361	40	424	470	25	29	.00	.00	.00
4	1.0	.63	23	339	36	363	343	20	182	.00	.00	.00
5	.73	.58	21	315	33	300	212	16	197	.0	.00	.00
6	.46	.46	20	299	32	262	196	13	67	.00	.00	.00
7	.28	.37	18	309	32	242	165	11	27	.00	.00	.00
8	.20	.54	17	305	33	234	53	11	14	1.1	.00	.00
9	.13	4.1	16	276	58	236	43	14	8.0	1.2	.00	.00
10	.09	35	15	265	170	220	38	17	5.2	.19	.00	.00
11	.06	15	14	258	193	212	37	11	2.8	.03	.00	.00
12	.04	4.6	13	255	189	220	38	9.5	1.9	.00	.00	.00
13	.03	1.5	12	253	44	464	37	7.3	1.1	.00	.00	.00
14	.02	.75	12	242	28	276	34	6.0	.77	.00	.00	.00
15	.01	.64	13	203	25	227	33	4.3	.53	.00	.00	.00
16	.00	320	14	83	24	211	32	3.4	.34	.00	.00	.00
17	.00	308	14	80	24	212	31	2.5	.23	.00	.00	.00
18	.00	97	14	79	2100	371	36	1.7	.17	.00	.00	.00
19	.00	48	30	74	3380	302	76	1.4	.06	.00	.00	.00
20	.03	45	614	67	1100	246	48	1.6	.05	.00	.00	.00
21	.03	32	327	55	487	220	35	5.3	.0	.00	.00	.00
22	.01	21	148	47	318	208	30	3.0	.00	.00	.00	.00
23	.01	16	97	44	351	202	27	2.0	.00	.00	.00	.00
24	.02	14	75	44	300	199	22	1.5	.00	.00	.00	.00
25	.02	277	109	42	265	196	19	.92	.00	.00	.00	.00
26	.02	387	3360	40	251	190	17	.82	.00	.00	.00	.00
27	.02	138	4850	37	240	188	15	.68	.00	.00	.00	.00
28	.01	156	1420	36	231	172	13	.58	.00	.00	.00	.00
29	.02	76	753	37	225	83	13	.50	.00	.00	.00	.00
30	.16	41	532	40	---	442	21	.63	.00	.00	.00	.00
31	.49	---	539	43	---	393	---	.99	---	.00	.00	---
TOTAL	9.99	2042.13	13177	5405	10296	7963	2792	243.62	613.15	2.52	0.00	0.00
MEAN	.32	68.1	425	174	355	257	93.1	7.86	20.4	.081	.00	.00
MAX	2.7	387	4850	470	3380	464	470	28	197	1.2	.00	.00
MIN	.00	.37	12	36	24	83	13	.50	.00	.00	.00	.00
AC-FT	20	4050	26140	10720	20420	15790	5540	483	1220	5.0	.0	.0

CAL YR 1987 TOTAL 144748.55 MEAN 397 MAX 4850 MIN .00 AC-FT 287100
WTR YR 1988 TOTAL 42544.41 MEAN 116 MAX 4850 MIN .00 AC-FT 84390

08064100 Chambers Creek near Rice, Tex.--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1983 to current year.
WATER TEMPERATURE: October 1983 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, 1,630 microsiemens Nov. 13, 1987; minimum daily, 187 microsiemens Dec. 18, 1984.
WATER TEMPERATURE: Maximum daily, 38.0°C Aug. 16, 1987; minimum daily, 3.0°C Jan. 1, 13, 20, 12, 1984.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,630 microsiemens Nov. 13; minimum daily 325 microsiemens Dec. 29.
WATER TEMPERATURE: Maximum daily 29.0°C June 9, July 9; minimum daily, 4.0°C Jan. 10, 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
DEC												
10...	1300	15	647	7.90	12.5	14	46	7.6	72	0.4	200	37
JAN												
28...	1730	36	564	8.30	8.0	4	8.3	12.4	104	1.0	220	47
MAR												
18...	1400	385	448	8.10	10.0	27	96	13.0	115	2.1	170	45
MAY												
05...	1016	16	640	--	23.0	17	0.40	9.2	120	0.8	220	46

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 WAT WH TOT FET 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)
DEC											
10...	74	4.5	58	2	4.3	167	93	48	0.50	8.0	391
JAN											
28...	83	3.7	36	1	2.4	176	75	28	0.40	3.5	338
MAR											
18...	61	3.3	26	0.9	3.0	121	63	19	0.40	4.5	253
MAY											
05...	79	4.9	50	2	2.4	172	94	40	0.50	4.9	379

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE 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-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC											
10...	70	8	1.07	0.030	1.10	0.020	0.48	0.50	0.030	7.0	4
JAN											
28...	16	4	--	<0.010	1.40	0.030	0.37	0.40	0.040	2.7	--
MAR											
18...	179	22	0.670	0.030	0.700	0.060	0.64	0.70	0.050	8.5	3
MAY											
05...	62	6	--	<0.010	0.200	0.020	0.58	0.60	0.060	4.7	--

DATE	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)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC											
10...	66	1	1	2	11	<5	41	<0.1	<1	<1.0	13
JAN											
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
18...	100	<1	1	2	30	<5	<10	<0.1	<1	1.0	10
MAY											
05...	--	--	--	--	--	--	--	--	--	--	--

08064100 Chambers Creek near Rice, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	9.99	1260	753	20	160	4.2	250	6.9	280
NOV.	1987	2042.13	459	269	1480	26	142	67	367	160
DEC.	1987	13177	450	263	9350	22	780	62	2220	160
JAN.	1988	5405	428	250	3650	19	284	58	850	160
FEB.	1988	10296	460	269	7470	22	619	64	1770	170
MAR.	1988	7963	471	275	5920	23	493	65	1410	170
APR.	1988	2792	528	309	2330	29	217	76	572	180
MAY	1988	243.62	677	398	262	46	30	110	69	220
JUNE	1988	613.15	495	290	479	26	43	70	117	170
JULY	1988	2.52	1170	698	4.7	140	0.9	230	1.6	280
AUG.	1988	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT	1988	0.00	*	*	0.00	*	0.00	*	0.00	*
TOTAL		42544.41	**	**	31000	**	2620	**	7380	**
WTD.AVG.		116	461	270	**	23	**	64	**	160

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	1600	513	360	574	427	506	660	722	---		
2	1200	1610	526	370	571	460	502	650	663	---		
3	1300	1610	543	375	605	478	477	638	562	---		
4	1260	1610	570	392	628	451	481	644	386	---		
5	1230	1610	576	394	642	503	509	634	463	---		
6	1240	1610	585	395	631	496	480	614	478	---		
7	1270	1620	598	405	645	481	476	610	703	---		
8	1280	1620	620	405	655	465	629	655	658	1040		
9	1330	1600	643	410	672	457	641	708	675	1250		
10	1310	1540	666	416	436	453	642	743	673	1410		
11	1360	1250	666	423	420	444	641	726	683	1570		
12	1360	1500	653	430	410	455	624	706	692	---		
13	1440	1630	660	434	460	470	624	691	701	---		
14	1460	1550	669	433	515	482	613	695	703	---		
15	1450	1540	677	431	570	478	601	700	721	---		
16	---	577	696	520	635	465	606	701	737	---		
17	---	360	700	555	630	460	611	709	760	---		
18	---	395	710	586	570	455	617	723	781	---		
19	---	422	693	592	408	445	610	737	804	---		
20	1520	424	550	585	395	440	607	750	830	---		
21	1510	445	445	579	440	455	617	758	---	---		
22	1500	575	607	582	485	467	658	775	---	---		
23	1510	735	690	582	440	441	668	790	---	---		
24	1530	756	800	590	442	454	678	802	---	---		
25	1540	418	640	595	443	450	684	841	---	---		
26	1560	343	570	587	445	445	681	858	---	---		
27	1570	381	400	596	443	442	682	888	---	---		
28	1580	420	333	591	440	451	683	908	---	---		
29	1580	440	325	585	436	605	658	926	---	---		
30	1590	449	336	580	---	560	668	943	---	---		
31	1600	---	349	575	---	514	---	906	---	---		
MEAN	1420	1020	581	495	520	469	606	745	670	1320		

08064100 Chambers Creek near Rice, Tex.--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	---	9.0	6.0	18.0	17.0	17.0	---	---	---		
2	22.0	---	8.0	---	13.0	---	---	---	---	---		
3	20.0	---	13.0	---	---	13.0	18.0	22.0	24.0	---		
4	---	---	10.0	6.0	8.0	12.0	19.0	21.0	22.0	---		
5	21.0	---	14.0	6.0	7.0	13.0	22.0	23.0	24.0	---		
6	17.0	---	---	---	6.0	13.0	20.0	23.0	27.0	---		
7	21.0	---	14.0	---	---	---	20.0	---	26.0	---		
8	19.0	---	13.0	---	7.0	---	22.0	24.0	28.0	28.0		
9	23.0	---	12.0	---	9.0	---	---	25.0	29.0	29.0		
10	22.0	---	15.0	4.0	8.0	---	---	26.0	27.0	---		
11	19.0	---	12.0	4.0	---	---	---	25.0	---	28.0		
12	20.0	---	12.0	6.0	8.0	---	17.0	26.0	---	---		
13	20.0	---	---	5.0	---	---	---	26.0	26.0	---		
14	20.0	14.0	10.0	---	---	---	20.0	---	27.0	---		
15	21.0	15.0	8.0	6.0	---	---	21.0	---	28.0	---		
16	---	15.0	7.0	---	13.0	---	---	26.0	28.0	---		
17	---	12.0	7.0	---	---	---	21.0	27.0	27.0	---		
18	---	12.0	---	13.0	---	---	20.0	27.0	---	---		
19	---	14.0	9.0	13.0	10.0	---	20.0	27.0	---	---		
20	19.0	12.0	---	---	---	---	21.0	---	28.0	---		
21	19.0	12.0	11.0	9.0	---	---	21.0	25.0	---	---		
22	17.0	---	11.0	8.0	13.0	---	24.0	---	---	---		
23	18.0	---	---	8.0	12.0	---	---	25.0	---	---		
24	21.0	16.0	12.0	---	13.0	18.0	---	25.0	---	---		
25	25.0	15.0	---	8.0	---	19.0	24.0	25.0	---	---		
26	22.0	14.0	---	8.0	12.0	19.0	24.0	25.0	---	---		
27	---	13.0	---	9.0	10.0	17.0	---	25.0	---	---		
28	---	12.0	5.0	10.0	---	---	23.0	---	---	---		
29	---	---	5.0	---	16.0	18.0	21.0	---	---	---		
30	---	9.0	7.0	---	---	---	25.0	---	---	---		
31	---	---	7.0	---	---	15.0	---	25.0	---	---		
MEAN	20.5	13.0	10.0	7.5	11.0	16.0	21.0	25.0	26.5	28.5		

08064700 TEHUACANA CREEK NEAR STREETMAN, TX

LOCATION.--Lat 31°50'54", long 96°17'23", Freestone County, Hydrologic Unit 12030201, at downstream side of bridge on U.S. Highway 75, 2.8 mi southeast of Streetman, 3.1 mi downstream from Chicago, Rock Island, and Pacific Railroad Co. bridge, 3.8 mi upstream from Caney Creek, and 25 mi upstream from mouth.

DRAINAGE AREA.--142 mi².

PERIOD OF RECORD.--April 1968 to current year.
Water-quality records.--Chemical analyses: February 1968 to September 1985.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 287.58 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--20 years, 69.1 ft³/s (6.61 in/yr), 50,060 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,600 ft³/s Feb. 3, 1986 (gage height, 27.71 ft); no flow at times most years.
Maximum stage since at least 1932, that of Feb. 3, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1932 reached a stage of about 24 ft, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Feb. 18	1930	*5,880	*22.66	Mar. 3	0100	3,250	21.95

Minimum discharge, no flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.15	e.49	6.7	41	2.2	3.9	29	2.3	1.6	e.56	e.09	e.00
2	e.13	e.48	5.6	19	2.4	290	24	2.2	1.7	e.60	e.08	e.00
3	e.11	e.43	4.4	13	2.4	1420	20	2.0	2.8	e.64	e.07	e.72
4	e.10	e.39	4.1	11	2.4	128	14	2.0	3.5	e.68	e.06	e.31
5	e.09	e.37	3.7	12	2.4	53	11	1.9	3.2	e.72	e.05	e.15
6	e.08	e.36	80	8.4	2.4	31	8.2	1.8	2.0	e.75	e.04	e.03
7	e.07	e.35	198	17	2.5	19	6.7	1.8	e1.8	e.68	e.04	e.00
8	e.07	e.34	35	23	2.6	103	5.6	1.6	e1.7	e.59	e.03	e.00
9	e.06	e.32	13	24	2.7	158	4.9	2.0	e1.6	e.52	e.02	e.00
10	e.06	e.31	7.2	14	2.8	44	4.3	24	e1.5	e.45	e.01	e.00
11	e.05	e.30	5.5	9.5	3.0	23	4.2	5.1	e1.4	e.39	.00	e.00
12	e.05	e.29	4.6	6.8	3.1	13	5.0	2.6	e1.3	e.38	e.00	e.00
13	e.04	e.28	4.6	5.6	3.2	8.5	4.8	1.9	e1.2	e.42	e.00	e.00
14	e.04	e.27	29	4.9	3.3	5.3	4.5	1.5	e1.2	e.75	e.00	e.00
15	e.04	e.26	38	4.5	3.4	4.2	4.1	1.4	e1.1	e.70	e.00	e.00
16	e.03	e.25	13	4.1	3.3	4.5	4.0	1.3	e1.1	e.55	e.00	e.00
17	e.03	26	7.2	4.3	3.8	51	3.9	1.1	e1.0	e.43	e.00	e.00
18	e.03	17	5.5	4.1	2850	769	3.9	1.1	e.98	e.47	e.00	e.00
19	4.1	9.8	169	3.9	1570	118	3.7	1.0	e.97	e.33	e.00	e.00
20	5.4	8.2	523	3.1	131	63	3.2	1.0	e.96	e.32	e.00	e.56
21	e4.1	8.1	65	3.1	50	41	2.9	1.6	e.96	e.40	e.00	e.20
22	e3.0	8.0	24	2.7	27	29	2.9	1.7	e.92	e.50	e.00	e.04
23	e1.9	8.0	10	2.2	14	22	2.9	1.6	e.90	e.63	e.00	e.00
24	e1.5	7.9	6.9	2.4	8.7	17	2.3	1.2	e.88	e.58	e.00	e.00
25	e1.2	11	149	2.3	6.8	15	2.0	1.1	e.85	e.40	e.00	e.00
26	e.90	24	151	2.2	5.6	13	2.0	1.0	e.82	e.21	e.00	e.00
27	e.80	13	156	2.0	5.0	12	1.9	.94	e.79	e.16	e.00	e.00
28	e.69	23	146	1.9	4.7	10	1.8	.80	e.75	e.14	e.00	e.00
29	e.65	14	51	1.9	4.4	17	1.9	.94	e.71	e.12	e.00	e.67
30	e.60	7.7	28	1.9	---	96	2.3	1.1	e.64	e.11	e.00	e.21
31	e.52	---	27	1.9	---	48	---	1.2	---	e.10	e.00	---
TOTAL	26.59	191.19	1971.0	257.7	4725.1	3629.4	191.9	72.78	40.83	14.28	0.49	2.89
MEAN	.86	6.37	63.6	8.31	163	117	6.40	2.35	1.36	.46	.016	.096
MAX	5.4	26	523	41	2850	1420	29	24	3.5	.75	.09	.72
MIN	.03	.25	3.7	1.9	2.2	3.9	1.8	.80	.64	.10	.00	.00
AC-FT	53	379	3910	511	9370	7200	381	144	81	28	1.0	5.7
CFSM	.01	.04	.45	.06	1.15	.82	.05	.02	.01	.00	.00	.00
IN.	.01	.05	.52	.07	1.24	.95	.05	.02	.01	.00	.00	.00

CAL YR 1987 TOTAL 18125.05 MEAN 49.7 MAX 1920 MIN .03 AC-FT 35950 CFSM .35 IN. 4.75
WTR YR 1988 TOTAL 11124.15 MEAN 30.4 MAX 2850 MIN .00 AC-FT 22060 CFSM .21 IN. 2.91

e Estimated.

08064800 CATFISH CREEK NEAR TENNESSEE COLONY, TX

LOCATION.--Lat 31°52'51", long 95°52'07", Anderson County, Hydrologic Unit 12030201, on left bank at downstream side of bridge on U.S. Highway 287, 2 mi upstream from Beaver Creek, 3.5 mi northwest of Tennessee Colony, 12 mi downstream from Coon Creek Lake, and 12 mi upstream from mouth.

DRAINAGE AREA.--207 mi².

PERIOD OF RECORD.--April 1962 to current year.
Water-quality records.--Chemical analyses: April 1964 to June 1965.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 234.93 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-- Records good except those for estimated daily discharges, which are fair. Some regulation upstream by Coon Creek Lake. No known diversions above station. There were several observations of water temperature made during the year.

AVERAGE DISCHARGE.--26 years, 101 ft³/s (73,170 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,550 ft³/s May 11, 1968 (gage height, 15.90 ft); minimum daily, 0.8 ft³/s Aug. 19-21, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1927, 22 ft in June 1944 as a result of dam failure at Coon Creek Lake, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 28	1600	*784	*10.44				

Minimum daily discharge, 3.3 ft³/s Sept. 9-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	25	e170	308	124	112	233	72	28	8.8	9.3	3.5
2	22	25	e140	265	127	117	228	84	33	8.3	9.2	3.5
3	19	25	e116	239	127	202	222	88	43	7.9	11	3.5
4	e18	25	e110	205	126	430	261	83	55	8.8	16	3.5
5	e18	25	e100	184	119	581	255	73	66	15	16	3.5
6	17	25	e95	175	112	443	209	64	76	16	13	3.5
7	17	25	111	175	106	334	176	56	78	12	10	3.5
8	17	25	147	172	102	280	158	50	65	10	8.3	3.4
9	17	28	272	184	99	280	142	46	52	10	6.8	3.3
10	e16	34	307	187	99	245	127	65	39	10	6.0	3.3
11	e15	41	239	176	99	216	113	66	30	9.3	5.4	3.3
12	e14	40	172	165	99	185	103	56	24	13	5.2	3.3
13	e13	35	150	153	100	161	95	47	19	25	4.8	3.3
14	e13	33	148	145	100	151	86	40	17	29	4.6	3.3
15	e12	33	148	140	96	144	78	35	15	28	4.4	3.3
16	e20	45	158	132	96	130	74	31	14	23	4.3	3.3
17	e30	64	160	128	96	133	73	29	13	20	4.2	3.3
18	e29	72	150	126	149	206	73	26	13	17	4.2	3.4
19	e28	88	146	126	214	300	73	25	13	16	4.3	3.5
20	e27	93	162	127	504	436	78	23	12	14	4.1	3.5
21	e26	82	179	134	557	368	82	27	12	25	4.1	3.6
22	e26	70	228	151	413	286	78	31	11	40	4.0	3.7
23	e25	61	219	153	304	232	70	37	11	35	3.9	3.7
24	e25	53	182	144	228	198	64	34	11	26	3.9	3.8
25	e27	71	183	138	185	179	60	29	11	20	3.9	4.2
26	e28	110	256	135	158	165	54	26	11	17	3.9	5.2
27	30	156	421	130	138	156	49	23	11	15	3.8	6.4
28	31	250	690	125	125	148	45	21	11	12	3.7	7.2
29	30	252	677	121	117	141	41	19	10	11	3.6	8.3
30	27	204	488	120	---	156	54	21	9.5	9.6	3.6	9.7
31	26	---	391	121	---	197	---	24	---	9.4	3.6	---
TOTAL	691	2115	7115	4984	4919	7312	3454	1351	813.5	521.1	193.1	123.8
MEAN	22.3	70.5	230	161	170	236	115	43.6	27.1	16.8	6.23	4.13
MAX	31	252	690	308	557	581	261	88	78	40	16	9.7
MIN	12	25	95	120	96	112	41	19	9.5	7.9	3.6	3.3
AC-FT	1370	4200	14110	9890	9760	14500	6850	2680	1610	1030	383	246

CAL YR 1987 TOTAL 42167.8 MEAN 116 MAX 1380 MIN 8.1 AC-FT 83640
WTR YR 1988 TOTAL 33592.5 MEAN 91.8 MAX 690 MIN 3.3 AC-FT 66630

e Estimated.

08065000 TRINITY RIVER NEAR OAKWOOD, TX

LOCATION.--Lat 31°38'54", long 95°47'21", Anderson County, Hydrologic Unit 12030201, on left bank at downstream side of bridge on U.S. Highways 79 and 84, 1.5 mi upstream from Missouri Pacific Railroad Co. bridge, 6 mi northeast of Oakwood, and at mile 313.4.

DRAINAGE AREA.--12,833 mi².

PERIOD OF RECORD.--October 1923 to September 1924 (monthly discharge only), October 1924 to current year. Records of January 1905 to September 1923, published in WSP 850 and 878, have been found unreliable and should not be used. Gage-height records collected in this vicinity since 1904 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1442: 1934. See also PERIOD OF RECORD. WSP 1922: Drainage area. WRD TX-81-1: 1980 (M,m).

GAGE.--Water-stage recorder. Datum of gage is 175.06 ft above National Geodetic Vertical Datum of 1929. Prior to July 1932, nonrecording gage at site 1.5 mi downstream at datum 1.06 ft lower. July 15, 1932, to Oct. 7, 1934, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Twenty-one major reservoirs with a capacity of 4,200,000 acre-ft, of which 1,362,000 acre-ft is for flood control, partly regulate the flow. Streamflow is affected at times by discharge from the flood-detention pools of 252 floodwater-retarding structures with a combined detention capacity of 183,300 acre-ft. These structures control runoff from 614 mi² in the Richland, Chambers and Tehuacana Creeks drainage basins. The Industrial Generating Co., Fairfield, makes a minor diversion from the river at a site about 34 mi upstream. The diversion to Big Brown Lake is used to maintain the normal pool elevation for that lake. Gage-height telemeter at station.

AVERAGE DISCHARGE.--30 years (water years 1924-53) unregulated, 5,045 ft³/s (3,655,000 acre-ft/yr); 35 years (water years 1954-88) regulated, 4,476 ft³/s (3,243,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 153,000 ft³/s Apr. 29, 1942 (gage height, 51.64 ft); minimum observed, 28 ft³/s Aug. 24, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1890 reached a stage of 53 ft (discharge about 180,000 ft³/s) and was the highest since that date, from information in local newspapers. Flood of June 4, 1908, reached a stage of 52.2 ft, present site and datum, from information by the National Weather Service (discharge, about 164,000 ft³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge (estimated), 12,400 ft³/s Dec. 29 at time unknown (gage height, about 29.50 ft); minimum daily, 499 ft³/s Aug. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	643	651	1740	e7500	992	1210	3910	967	752	645	563	526
2	674	649	1390	e5300	995	1200	5670	991	748	639	564	592
3	694	650	1160	e3700	1050	2560	3730	1300	1060	668	585	551
4	683	650	1040	e2820	1040	6600	2900	1360	3770	686	605	557
5	648	642	971	2360	1010	8440	2810	1180	6030	807	606	554
6	630	645	1080	2120	993	7800	2340	965	6480	996	628	1450
7	612	643	1620	2250	970	5120	1840	874	4670	1050	729	2570
8	617	643	3470	2220	961	3010	1570	840	2430	1090	685	1960
9	630	662	3020	2720	979	2460	1420	815	1400	1130	607	1070
10	625	707	1710	2180	999	3370	1310	819	1090	1000	581	714
11	611	745	1400	1900	1010	2640	1200	852	941	e800	572	621
12	617	1240	1310	1870	990	1780	1130	900	850	e770	563	577
13	627	1620	1220	1820	980	1500	1090	903	790	e800	544	553
14	617	1430	1240	1720	982	2460	1110	838	750	1310	538	532
15	603	1100	1410	1640	1010	3530	1100	793	708	3710	560	522
16	616	1100	1530	1600	993	2330	1030	770	679	5540	570	534
17	624	1140	1640	1500	958	1590	996	772	671	5040	551	713
18	625	2170	1680	1380	1590	2650	1000	763	662	e3000	541	917
19	631	4430	1590	1330	4960	5690	1110	746	646	e2000	577	1050
20	641	4270	1930	1280	9950	7460	2090	769	627	e1400	600	853
21	641	2750	2930	1230	11900	6590	3500	909	657	e1000	566	843
22	642	1760	4200	1210	11700	4050	2860	911	641	e880	546	1290
23	708	1400	4900	1260	8340	2440	1840	1060	616	e800	610	1020
24	721	1150	3880	1240	4270	1850	1300	2010	619	e850	700	777
25	738	1250	2650	1160	2330	1620	1110	1980	634	e750	659	651
26	723	1370	4580	1110	1770	1490	1040	1430	652	683	661	599
27	722	1360	8190	1090	1530	1400	1030	1070	646	635	606	637
28	718	2590	10900	1060	1370	1380	971	866	649	592	564	669
29	699	2990	e12200	1040	1270	1360	966	770	637	590	538	623
30	675	2310	e12000	1020	---	2110	997	746	679	598	518	638
31	655	---	e10500	1000	---	3460	---	751	---	579	499	---
TOTAL	20310	44717	109081	61630	77892	101150	54970	30720	42184	41038	18236	25163
MEAN	655	1491	3519	1988	2686	3263	1832	991	1406	1324	588	839
MAX	738	4430	12200	7500	11900	8440	5670	2010	6480	5540	729	2570
MIN	603	642	971	1000	958	1200	966	746	616	579	499	522
AC-FT	40280	88700	216400	122200	154500	200600	109000	60930	83670	81400	36170	49910

CAL YR 1987 TOTAL 1813155 MEAN 4968 MAX 22400 MIN 603 AC-FT 3596000
WTR YR 1988 TOTAL 627091 MEAN 1713 MAX 12200 MIN 499 AC-FT 1244000

e Estimated.

08065200 UPPER KEECHI CREEK NEAR OAKWOOD, TX

LOCATION.--Lat 31°34'11", long 95°53'17", Leon County, Hydrologic Unit 12030201, at right bank at downstream side of bridge on U.S. Highway 79, 1.9 mi upstream from Missouri Pacific Railroad Co. bridge, 2 mi southwest of Oakwood, 11 mi upstream from Buffalo Creek, and 21 mi upstream from mouth.

DRAINAGE AREA.--150 mi².

PERIOD OF RECORD.--April 1962 to current year.
Water-quality records: Chemical analyses: June 1962 to April 1964, November 1967 to September 1975.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 240.11 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-- Records good. No known diversions or regulation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years (water years 1963-88), 72.0 ft³/s, 6.52 in/yr (52,160 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,000 ft³/s May 16, 1965 (gage height, 14.91 ft), and Apr. 25, 1966, from rating curve extended above 5,800 ft³/s; maximum gage height, 15.46 ft Oct. 31, 1974; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, about 21 ft in 1932, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 2	0100	*890	*12.24				

Minimum discharge, no flow Sept. 20-29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.9	9.1	63	13	14	211	6.8	2.3	1.5	.52	.04
2	1.5	1.9	8.5	54	13	19	573	6.1	2.8	1.3	.51	.04
3	1.4	2.0	7.3	43	12	60	99	5.4	6.5	1.2	.71	.04
4	1.3	2.1	6.9	40	12	138	40	5.1	4.0	1.5	.63	.07
5	1.3	2.1	6.1	33	12	80	27	4.6	2.6	1.7	.53	.07
6	1.4	2.1	e16	32	12	34	20	4.2	2.0	1.8	.40	.07
7	1.4	2.1	120	70	12	24	16	3.7	1.4	1.7	.35	.07
8	1.4	2.2	90	116	13	20	13	3.8	1.1	1.7	.27	.06
9	1.4	3.2	34	108	14	19	12	4.1	1.1	1.5	.25	.06
10	1.4	3.8	17	47	14	23	10	4.2	1.2	1.4	.24	.05
11	1.5	3.8	12	34	14	20	9.3	3.9	1.5	1.3	.22	.04
12	1.6	3.4	10	30	14	17	11	3.9	1.5	1.8	.27	.04
13	1.5	3.1	10	26	14	14	8.6	4.0	1.5	2.2	.23	.03
14	1.4	3.1	11	23	15	13	7.0	4.3	1.6	2.9	.19	.03
15	1.4	4.9	13	21	14	11	6.7	4.2	1.6	6.3	.15	.02
16	1.4	12	13	21	13	11	6.4	3.7	1.6	5.8	.13	.02
17	1.6	24	12	22	12	29	6.6	3.3	1.6	4.6	.17	.02
18	1.6	38	10	22	78	196	6.5	3.0	1.5	3.5	.16	.01
19	1.6	12	21	21	178	238	6.7	2.4	1.4	3.0	.15	.01
20	1.7	5.9	86	19	242	259	6.2	2.4	1.5	2.8	.15	.00
21	1.7	4.0	134	17	116	59	5.9	12	1.3	2.5	.13	.00
22	1.6	3.3	59	15	40	36	5.5	7.5	1.1	2.2	.09	.00
23	1.6	3.1	26	15	28	29	4.6	5.9	1.0	2.1	.08	.00
24	1.8	3.2	21	14	22	26	4.1	4.1	.93	2.0	.08	.00
25	1.8	22	58	13	18	25	3.9	3.1	1.1	1.8	.09	.00
26	1.8	79	227	12	16	24	3.8	2.5	1.9	1.7	.09	.00
27	1.7	70	240	12	15	21	3.3	2.0	1.7	1.5	.09	.00
28	1.7	24	265	12	15	19	3.2	1.6	2.0	1.4	.08	.00
29	1.6	14	145	12	14	28	3.8	1.7	1.9	1.3	.07	.00
30	1.7	11	45	12	---	66	5.6	2.4	1.6	1.0	.06	.05
31	1.8	---	49	13	---	70	---	2.1	---	.75	.05	---
TOTAL	48.1	367.2	1781.9	992	1005	1642	1139.7	128.0	54.83	67.75	7.14	0.84
MEAN	1.55	12.2	57.5	32.0	34.7	53.0	38.0	4.13	1.83	2.19	.23	.028
MAX	1.8	79	265	116	242	259	573	12	6.5	6.3	.71	.07
MIN	1.3	1.9	6.1	12	12	11	3.2	1.6	.93	.75	.05	.00
AC-FT	95	728	3530	1970	1990	3260	2260	254	109	134	14	1.7
CFSM	.01	.08	.38	.21	.23	.35	.25	.03	.01	.01	.00	.00
IN.	.01	.09	.44	.25	.25	.41	.28	.03	.01	.02	.00	.00

CAL YR 1987 TOTAL 14175.44 MEAN 38.8 MAX 830 MIN .00 AC-FT 28120 CFSM .26 IN. 3.52
WTR YR 1988 TOTAL 7234.46 MEAN 19.8 MAX 573 MIN .00 AC-FT 14350 CFSM .13 IN. 1.79

e Estimated.

08065350 TRINITY RIVER NEAR CROCKETT, TX
(National stream-quality accounting network)

LOCATION.--Lat 31°20'18", long 95°39'22", Houston-Leon County line, Hydrologic Unit 12030201, on left bank at an abandon bridge abutment near left end of an abandoned lock and dam, 1,000 ft upstream from State Highway 7, 6.9 mi downstream from Upper Keechi Creek, 11.9 mi west of Crockett, and at mile 265.4.

DRAINAGE AREA.--13,911 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 141.15 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 13, 1983, water-stage recorder at site 1,000 ft downstream at datum 4.56 ft lower. Gage-height telemeter at station.

REMARKS.-- Records fair. For statement regarding regulation by upstream reservoirs, see station 08065000. Flow from 44 mi² of Elkhart Creek basin is affected by storage in Houston County Lake near Crockett (capacity 19,500 acre-ft). There are many diversions above station for irrigation, municipal, and industrial uses.

AVERAGE DISCHARGE.--24 years (water years 1965-88), 5,621 ft³/s (4,072,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,000 ft³/s May 15, 1969 (gage height, 52.24 ft); at former site and datum; minimum, 275 ft³/s Aug. 13, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 56.1 ft Apr. 30 or May 1, 1942, at former site and datum from information by Texas Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,300 ft³/s Dec. 31 at about 0200 hours (gage height, 22.63 ft); minimum daily, 692 ft³/s Oct. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	768	815	2500	e13500	1470	1870	4390	1660	1140	957	855	711
2	763	807	2070	e9300	1480	1840	6560	1560	1150	897	830	745
3	803	804	1760	e6700	1490	2090	6350	1630	1160	883	839	863
4	823	811	1530	e4900	1530	4440	4610	1900	2060	924	864	826
5	798	807	1400	3600	1520	8210	4360	1900	4780	1160	902	800
6	757	793	2330	3100	1490	9800	3780	1690	6570	1250	905	819
7	732	790	5190	3490	1470	8080	2940	1430	6380	1420	946	2000
8	708	807	4300	3470	1450	4980	2400	1310	4240	1460	1040	2830
9	715	857	4790	3440	1440	3450	2130	1290	2590	1520	969	2340
10	725	888	3730	3570	1470	3250	1970	1260	1820	1540	902	1580
11	703	934	2640	3010	1500	3720	1840	1270	1480	1370	823	1130
12	692	1000	2140	2610	1490	2950	1740	1320	1270	1130	814	998
13	716	1620	1920	2460	1470	2300	1650	1370	1150	1050	791	935
14	726	1890	1840	2210	1470	2090	1610	1350	1050	1170	765	894
15	711	1690	1850	2080	1470	3330	1640	1250	997	2250	749	856
16	695	1640	1960	2030	1480	3600	1620	1180	943	4650	804	839
17	713	1660	2030	1990	1470	2670	1560	1150	905	5780	817	873
18	725	1680	2130	1900	2010	3530	1550	1140	893	4680	798	1160
19	720	3170	2460	1810	3920	4680	1560	1120	888	2830	822	1430
20	736	4660	3230	1770	8190	7530	1700	1100	909	1740	854	1540
21	738	3910	3400	1730	12700	8850	2990	1190	878	1290	890	1290
22	731	2620	4140	1670	14500	6900	3680	1400	903	1100	834	1400
23	765	2020	5300	1650	13400	4180	2940	1480	867	1040	843	1750
24	890	1720	5440	1670	8410	2860	2150	1850	829	1150	880	1480
25	923	1840	4220	1640	4150	2400	1740	2620	847	1250	1010	1200
26	943	2320	5780	1580	2840	2210	1570	2440	948	1090	966	1030
27	923	2090	10500	1530	2370	2070	1500	1870	1050	992	962	958
28	916	2210	12900	1510	2140	1980	1460	1530	1110	928	873	1020
29	897	3230	e15000	1490	1980	2070	1660	1280	1060	877	804	1090
30	867	3120	e17000	1480	---	2600	1770	1200	971	875	761	1040
31	838	---	e17000	1480	---	3320	---	1150	---	883	732	---
TOTAL	24160	53203	152480	94370	101770	123850	77420	45890	51838	50136	26644	36427
MEAN	779	1773	4919	3044	3509	3995	2581	1480	1728	1617	859	1214
MAX	943	4660	17000	13500	14500	9800	6560	2620	6570	5780	1040	2830
MIN	692	790	1400	1480	1440	1840	1460	1100	829	875	732	711
AC-FT	47920	105500	302400	187200	201900	245700	153600	91020	102800	99440	52850	72250

CAL YR 1987 TOTAL 2141272 MEAN 5866 MAX 22100 MIN 692 AC-FT 4247000
WTR YR 1988 TOTAL 838188 MEAN 2290 MAX 17000 MIN 692 AC-FT 1663000

e Estimated.

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1964 to current year. Chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: November 1971 to July 1981. Sediment records: November 1972 to September 1977.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1964 to current year.
pH: March 1975 to current year.
WATER TEMPERATURE: February 1964 to September 1971, March 1975 to current year.
DISSOLVED OXYGEN: March 1975 to current year.
SUSPENDED-SEDIMENT DISCHARGE: July 1972 to September 1977.

INSTRUMENTATION.--Beginning March 1975, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen 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, 2,370 microsiemens Sept. 22, 1964; minimum, 105 microsiemens July 28, 1979.
pH: Maximum, 9.6 units Aug. 11, 12, 1981; minimum, 5.9 units Aug. 12, 1977.
WATER TEMPERATURE (1975-88): Maximum, 37.0°C July 4, 1970, Sept. 4, 1978; minimum, 1.0°C Jan. 17, 1978, Nov. 24, 1984.
DISSOLVED OXYGEN: Maximum, 19.3 mg/L Feb. 10, 1981; minimum, 0.0 mg/L Apr. 20, 1976.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 848 microsiemens Oct. 26; minimum, 165 microsiemens Dec. 7.
pH: Maximum, 9.1 units Oct. 10, 12, 15; minimum, 7.2 units Aug. 19, 21, 22.
WATER TEMPERATURE: Maximum, 35.5°C July 25; minimum, 4.5°C Jan. 10, 11.
DISSOLVED OXYGEN: Maximum, 13.1 mg/L Oct. 15; minimum, 5.2 mg/L Aug. 19, 23, Sep. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (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 TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
OCT 28...	1650	916	735	8.00	22.0	9.8	112	2.2	150	19
DEC 16...	1605	1990	540	7.60	11.0	9.6	86	--	120	29
FEB 03...	1740	1490	648	7.60	13.5	8.0	77	4.7	170	50
MAR 23...	0955	4280	357	7.50	15.0	8.0	80	2.6	96	29
MAY 11...	1640	1290	651	8.20	26.0	8.9	110	3.5	160	40
AUG 16...	1945	803	743	7.90	33.0	9.5	134	3.2	160	31

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 WAT WH TOT FET 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 28...	49	6.3	80	3	12	130	76	--	1.1	8.1
DEC 16...	40	5.9	54	2	8.5	95	70	57	0.70	11
FEB 03...	54	7.5	60	2	9.0	116	89	70	0.70	11
MAR 23...	30	5.2	29	1	5.0	67	48	32	0.40	7.6
MAY 11...	53	7.0	61	2	8.0	121	80	70	0.80	7.3
AUG 16...	53	5.8	87	3	9.0	125	79	92	1.1	6.8

DATE	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)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
OCT 28...	--	6.77	0.030	6.80	0.050	1.7	1.8	3.50	1	58
DEC 16...	304	3.67	0.230	3.90	0.130	1.6	1.7	0.180	--	--
FEB 03...	371	3.37	0.330	3.70	0.660	1.0	1.7	0.030	--	--
MAR 23...	197	1.50	0.100	1.60	0.100	1.7	1.8	0.760	--	--
MAY 11...	360	3.28	0.020	3.30	0.020	0.98	1.0	1.60	--	--
AUG 16...	409	6.15	0.050	6.20	0.020	0.88	0.90	1.10	7	50

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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)	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 28...	<1	10	3	23	<5	23	<0.1	<1	1.0	21
DEC 16...	--	--	--	--	--	--	--	--	--	--
FEB 03...	--	--	--	--	--	--	--	--	--	--
MAR 23...	--	--	--	--	--	--	--	--	--	--
MAY 11...	--	--	--	--	--	--	--	--	--	--
AUG 16...	<1	<1	5	9	<5	4	<0.1	<1	<1.0	<3

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	24160	759	424	27700	84	5480	95	6200	160
NOV.	1987	53203	555	316	45400	52	7430	69	9890	150
DEC.	1987	152480	337	196	80900	24	9700	41	17000	120
JAN.	1988	94370	439	253	64400	36	9150	54	13800	130
FEB.	1988	101770	450	259	71200	38	10400	56	15300	130
MAR.	1988	123850	426	247	82500	33	11000	52	17500	140
APR.	1988	77420	503	289	60400	43	9080	62	13000	140
MAY	1988	45890	663	374	46400	67	8310	83	10200	160
JUNE	1988	51838	530	303	42400	48	6700	66	9200	150
JULY	1988	50136	552	314	42500	51	6970	68	9270	150
AUG.	1988	26644	719	404	29000	77	5520	90	6460	160
SEPT	1988	36427	639	361	35500	64	6280	80	7820	150
TOTAL		838188	**	**	628000	**	96000	**	136000	**
WTD.AVG.		2290	484	278	**	42	**	60	**	140

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	740	684	694	773	745	759	593	467	552	288	277	284
2	802	674	700	757	717	733	464	422	433	275	261	267
3	761	643	701	743	721	732	423	407	414	311	273	292
4	761	689	708	752	734	738	453	420	443	335	314	327
5	835	697	720	779	727	736	461	443	451	348	336	341
6	775	703	714	783	724	735	446	235	423	440	348	406
7	744	725	733	803	734	745	221	165	193	439	426	433
8	745	724	730	794	753	765	342	204	243	451	420	431
9	802	741	753	773	726	739	430	361	401	458	425	435
10	774	752	759	784	721	736	430	275	358	491	460	473
11	768	745	750	749	722	727	276	241	253	496	467	490
12	743	731	736	767	726	733	313	256	275	451	367	383
13	749	726	733	771	736	745	400	318	362	521	376	460
14	793	750	758	778	714	734	477	405	438	544	524	531
15	767	752	759	751	709	728	527	479	507	566	544	557
16	771	754	759	739	679	715	600	517	541	642	567	599
17	786	757	766	669	559	621	607	579	593	642	612	633
18	788	783	785	582	506	547	588	513	568	659	609	634
19	786	774	778	544	494	516	535	482	509	616	592	600
20	781	773	775	666	491	585	470	402	428	599	592	595
21	820	782	798	465	388	412	479	415	447	598	586	591
22	805	798	800	469	395	414	468	409	442	612	592	601
23	804	792	798	470	397	409	445	349	399	617	610	613
24	809	797	803	433	402	408	582	448	534	628	615	618
25	803	777	791	413	383	400	491	392	426	654	628	639
26	848	769	791	387	315	349	427	236	359	665	655	660
27	788	782	785	403	376	388	287	220	239	657	652	654
28	786	780	784	430	382	402	311	231	263	657	649	652
29	825	763	776	520	435	481	258	244	250	653	647	650
30	812	762	772	589	505	555	282	253	264	665	651	659
31	813	760	777	---	---	---	282	256	266	665	659	663
MONTH	848	643	758	803	315	610	607	165	396	665	261	522

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	668	661	664	534	509	522	600	302	514	567	521	545
2	671	662	668	548	532	539	435	297	351	628	570	601
3	680	668	673	583	550	567	458	321	380	663	630	644
4	684	678	681	633	461	600	466	365	416	695	667	680
5	684	673	677	492	268	398	414	365	385	705	685	694
6	685	678	682	378	270	306	472	417	440	685	672	679
7	681	678	679	458	378	394	481	474	477	699	678	693
8	677	670	673	467	432	446	521	482	496	703	684	696
9	680	669	672	438	410	420	528	522	527	686	680	683
10	684	681	682	471	441	461	527	494	513	687	682	685
11	685	678	681	455	437	445	499	491	494	685	656	666
12	682	679	681	485	351	429	502	493	496	657	618	634
13	693	682	689	371	353	362	540	505	522	634	599	619
14	692	686	688	386	373	378	581	541	559	608	594	603
15	695	688	691	586	390	505	605	583	594	638	601	613
16	688	684	687	660	467	583	629	604	614	645	605	630
17	700	687	694	502	471	493	636	628	633	690	617	660
18	694	599	675	468	367	417	637	626	632	706	692	697
19	588	470	516	447	343	386	654	643	650	727	707	717
20	581	389	501	456	296	404	670	656	662	735	726	730
21	387	253	290	341	284	302	709	673	696	735	726	731
22	345	269	311	384	346	372	742	687	713	732	692	712
23	345	328	337	383	351	364	741	488	618	706	691	699
24	365	329	349	476	373	442	492	471	483	703	683	694
25	370	364	367	476	451	466	491	463	476	735	699	718
26	380	364	368	478	454	467	517	469	493	728	691	706
27	455	384	434	483	472	477	528	518	525	717	674	703
28	482	456	466	531	484	508	555	525	539	671	629	652
29	508	482	493	548	517	538	564	379	509	629	591	609
30	---	---	---	527	476	502	520	402	470	591	491	542
31	---	---	---	574	481	527	---	---	---	538	489	506
MONTH	700	253	575	660	268	452	742	297	529	735	489	659

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	571	538	552	722	711	717	690	667	677	753	742	747
2	583	573	577	736	722	730	711	690	699	754	748	752
3	584	579	582	744	734	740	700	645	677	749	675	711
4	606	568	579	745	734	740	650	611	621	760	693	727
5	729	607	660	763	739	751	696	625	656	763	749	758
6	666	378	447	761	609	715	723	698	716	746	710	734
7	375	350	357	772	618	713	728	721	725	755	700	721
8	393	352	367	752	713	736	749	724	736	759	679	729
9	434	395	417	708	674	689	763	695	733	755	647	722
10	454	435	442	732	679	702	727	718	724	633	472	529
11	480	454	469	741	727	732	730	725	727	469	423	446
12	481	467	475	743	684	717	748	732	741	428	420	423
13	483	463	479	691	682	687	760	749	756	438	430	433
14	503	480	490	679	607	632	765	755	761	471	439	452
15	539	503	521	674	602	624	754	720	738	483	466	473
16	575	540	556	714	558	624	719	713	717	509	479	490
17	620	576	597	575	335	403	714	693	704	516	496	504
18	646	622	636	354	340	347	688	648	665	560	514	534
19	678	648	663	382	341	359	699	687	694	622	564	590
20	686	676	683	404	384	393	718	699	705	692	626	663
21	705	687	700	427	406	416	719	698	710	721	695	708
22	718	703	708	464	428	442	736	715	726	746	721	736
23	762	719	737	464	390	435	738	675	707	737	717	724
24	759	739	750	388	330	358	735	696	723	719	611	676
25	774	754	764	444	312	363	737	731	734	680	585	614
26	771	747	758	561	449	515	751	736	742	712	643	687
27	747	716	740	600	566	581	775	750	765	640	589	606
28	707	671	685	613	596	602	773	748	761	617	589	597
29	688	677	682	652	619	636	749	735	741	688	619	647
30	711	655	684	678	653	663	761	742	748	709	595	676
31	---	---	---	685	664	672	766	752	760	---	---	---
MONTH	774	350	592	772	312	595	775	611	719	763	420	627

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.4	8.1	8.3	8.1	8.0	8.1	7.5	7.4	7.5	8.0	7.9	8.0
2	8.4	8.2	8.3	8.2	8.0	8.1	7.5	7.4	7.5	8.0	7.9	8.0
3	8.6	8.3	8.4	8.0	7.9	8.0	7.6	7.5	7.6	8.0	7.9	7.9
4	8.6	8.5	8.5	8.1	7.9	8.0	7.7	7.6	7.7	7.9	7.8	7.9
5	8.6	8.3	8.5	8.2	7.9	8.0	7.8	7.7	7.7	7.9	7.8	7.9
6	8.7	8.5	8.5	8.2	7.9	8.0	7.9	7.7	7.7	7.8	7.8	7.8
7	9.0	8.6	8.9	8.2	7.9	8.0	8.0	7.5	7.8	7.8	7.7	7.8
8	9.0	8.9	9.0	8.2	7.9	8.0	7.5	7.4	7.4	7.7	7.7	7.7
9	9.0	8.9	8.9	8.0	7.8	7.9	7.6	7.5	7.6	7.8	7.7	7.7
10	9.1	8.8	8.9	8.1	7.8	7.9	7.6	7.6	7.6	7.8	7.8	7.8
11	9.0	8.9	9.0	7.9	7.8	7.8	7.7	7.6	7.7	7.9	7.7	7.8
12	9.1	8.9	9.0	7.9	7.8	7.8	7.8	7.6	7.6	7.8	7.7	7.8
13	9.0	8.8	8.9	7.9	7.8	7.8	7.6	7.6	7.6	8.0	7.8	7.9
14	8.9	8.8	8.8	8.0	7.8	7.9	7.7	7.5	7.6	8.0	7.9	7.9
15	9.1	8.9	9.0	7.9	7.7	7.8	7.7	7.6	7.6	7.9	7.8	7.9
16	9.0	8.9	9.0	7.9	7.7	7.8	7.8	7.6	7.7	7.9	7.9	7.9
17	9.0	8.9	8.9	7.7	7.5	7.6	7.8	7.7	7.8	7.9	7.9	7.9
18	8.9	8.7	8.8	7.8	7.4	7.5	7.8	7.7	7.7	7.9	7.8	7.9
19	8.8	8.7	8.7	7.7	7.5	7.6	7.8	7.6	7.7	7.8	7.8	7.8
20	8.8	8.6	8.6	7.6	7.4	7.5	7.5	7.4	7.5	7.8	7.8	7.8
21	8.7	8.5	8.6	7.8	7.5	7.6	7.7	7.4	7.5	7.8	7.4	7.6
22	8.6	8.5	8.6	7.9	7.6	7.6	7.7	7.6	7.6	7.7	7.5	7.6
23	8.7	8.5	8.6	8.0	7.6	7.7	7.8	7.6	7.8	7.8	7.7	7.7
24	8.4	8.2	8.3	7.8	7.6	7.7	7.6	7.5	7.6	7.8	7.7	7.8
25	8.3	8.1	8.2	7.7	7.6	7.6	7.7	7.6	7.7	7.9	7.8	7.8
26	8.4	8.0	8.2	7.6	7.3	7.4	7.9	7.6	7.7	7.9	7.8	7.8
27	8.3	8.1	8.2	7.5	7.4	7.4	7.9	7.7	7.8	7.8	7.7	7.8
28	8.1	8.0	8.1	7.5	7.4	7.4	8.0	7.7	7.9	7.8	7.7	7.8
29	8.1	7.9	8.0	7.5	7.4	7.4	8.0	7.9	7.9	7.9	7.8	7.8
30	8.4	7.9	8.1	7.5	7.4	7.4	8.0	7.9	7.9	7.9	7.8	7.9
31	8.3	8.1	8.2	---	---	---	7.9	7.9	7.9	7.9	7.8	7.8
MONTH	9.1	7.9	8.6	8.2	7.3	7.7	8.0	7.4	7.7	8.0	7.4	7.8

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.8	7.7	7.8	7.5	7.5	7.5	7.7	7.4	7.6	7.8	7.7	7.8
2	7.8	7.7	7.7	7.6	7.5	7.5	7.8	7.4	7.7	7.9	7.8	7.9
3	7.7	7.6	7.6	7.5	7.5	7.5	7.6	7.4	7.5	8.3	7.9	8.1
4	7.7	7.6	7.6	7.5	7.3	7.4	7.7	7.4	7.6	8.2	8.0	8.1
5	7.7	7.6	7.6	7.8	7.4	7.5	7.7	7.5	7.6	8.1	7.9	8.0
6	7.7	7.6	7.7	7.8	7.5	7.7	7.6	7.5	7.5	8.2	7.9	8.0
7	7.7	7.6	7.7	7.5	7.4	7.5	7.6	7.5	7.6	8.0	7.9	7.9
8	7.7	7.6	7.7	7.5	7.4	7.5	7.6	7.5	7.6	7.9	7.8	7.8
9	7.8	7.6	7.7	7.5	7.5	7.5	7.6	7.6	7.6	7.9	7.7	7.8
10	7.8	7.7	7.8	7.6	7.5	7.5	7.7	7.6	7.6	8.2	7.8	8.0
11	8.1	7.7	7.9	7.6	7.5	7.5	7.8	7.7	7.7	8.0	8.0	8.0
12	8.1	7.9	8.0	7.7	7.5	7.6	7.8	7.8	7.8	8.0	7.9	7.9
13	8.2	7.9	8.0	7.7	7.6	7.7	7.9	7.8	7.8	8.0	7.9	7.9
14	8.3	8.0	8.1	7.7	7.7	7.7	8.1	7.9	8.0	8.1	7.9	8.0
15	8.3	7.9	8.1	7.7	7.6	7.7	8.3	8.0	8.1	8.3	7.9	8.1
16	8.3	7.9	8.1	7.7	7.6	7.6	8.4	8.1	8.2	8.3	8.1	8.2
17	8.1	7.9	8.0	7.6	7.5	7.5	8.3	8.1	8.2	8.4	8.0	8.2
18	8.0	7.7	7.9	7.7	7.5	7.6	8.7	8.0	8.3	8.7	8.1	8.3
19	7.7	7.4	7.5	7.8	7.6	7.7	8.9	8.3	8.6	8.8	8.2	8.5
20	7.6	7.3	7.4	7.8	7.5	7.6	9.0	8.5	8.8	8.4	8.2	8.3
21	7.8	7.5	7.7	7.8	7.7	7.7	8.9	7.9	8.5	8.1	8.0	8.1
22	7.8	7.6	7.7	7.7	7.6	7.6	7.9	7.5	7.6	8.1	7.9	8.0
23	7.8	7.7	7.7	7.7	7.5	7.6	7.5	7.4	7.4	8.1	7.9	8.0
24	7.8	7.6	7.7	7.7	7.6	7.6	7.5	7.4	7.5	7.9	7.8	7.9
25	7.6	7.6	7.6	7.6	7.5	7.6	7.5	7.5	7.5	7.8	7.7	7.8
26	7.6	7.6	7.6	7.6	7.5	7.6	7.6	7.5	7.6	7.7	7.6	7.6
27	7.6	7.5	7.5	7.6	7.6	7.6	7.7	7.6	7.6	7.7	7.6	7.6
28	7.5	7.4	7.5	7.7	7.6	7.6	7.7	7.7	7.7	7.6	7.6	7.6
29	7.5	7.4	7.5	7.7	7.6	7.7	7.8	7.5	7.7	7.6	7.6	7.6
30	---	---	---	7.6	7.5	7.6	7.7	7.6	7.6	7.6	7.6	7.6
31	---	---	---	7.7	7.5	7.6	---	---	---	7.7	7.6	7.6
MONTH	8.3	7.3	7.7	7.8	7.3	7.6	9.0	7.4	7.8	8.8	7.6	7.9

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.7	7.6	7.6	8.0	7.7	7.9	8.6	8.5	8.6	8.0	7.7	7.9
2	7.7	7.7	7.7	7.9	7.8	7.9	8.7	8.5	8.6	8.0	7.7	7.8
3	7.8	7.7	7.8	7.9	7.8	7.8	8.8	8.5	8.7	7.9	7.7	7.8
4	7.8	7.7	7.7	7.9	7.8	7.8	8.7	8.6	8.7	8.0	7.7	7.8
5	7.7	7.6	7.7	7.9	7.8	7.9	8.6	8.4	8.5	8.0	7.8	7.9
6	7.7	7.6	7.6	7.9	7.6	7.8	8.6	8.3	8.5	8.1	7.8	7.9
7	7.7	7.6	7.7	8.1	7.6	7.8	8.5	8.2	8.4	7.9	7.7	7.8
8	7.7	7.5	7.6	8.0	7.8	7.9	8.5	8.1	8.3	7.6	7.3	7.5
9	7.6	7.5	7.5	7.8	7.7	7.8	8.4	8.0	8.1	7.4	7.3	7.4
10	7.6	7.5	7.5	7.8	7.7	7.8	8.1	7.8	8.0	7.4	7.4	7.4
11	7.6	7.4	7.5	7.8	7.7	7.8	8.0	7.7	7.8	7.4	7.4	7.4
12	7.5	7.4	7.5	7.8	7.8	7.8	7.9	7.6	7.7	7.4	7.4	7.4
13	7.5	7.5	7.5	7.8	7.7	7.7	7.9	7.7	7.8	7.5	7.4	7.4
14	7.6	7.5	7.5	8.1	7.6	7.7	7.9	7.7	7.8	7.5	7.4	7.4
15	7.6	7.5	7.6	8.6	7.5	7.9	7.9	7.7	7.8	7.5	7.4	7.4
16	7.6	7.5	7.6	7.8	7.5	7.6	7.8	7.6	7.7	7.5	7.4	7.5
17	7.7	7.6	7.6	7.7	7.6	7.6	7.8	7.5	7.7	7.6	7.5	7.5
18	7.7	7.6	7.6	7.7	7.5	7.6	7.5	7.3	7.4	7.6	7.5	7.6
19	7.8	7.6	7.7	8.7	7.6	8.0	7.3	7.2	7.3	7.6	7.5	7.6
20	7.6	7.5	7.6	8.2	7.8	8.0	7.3	7.3	7.3	7.6	7.5	7.5
21	7.6	7.5	7.6	---	---	---	7.3	7.2	7.2	7.6	7.5	7.5
22	8.0	7.6	7.8	---	---	---	8.0	7.2	7.6	7.6	7.5	7.5
23	8.0	7.7	7.9	---	---	8.0	8.0	7.5	7.7	7.6	7.5	7.5
24	7.9	7.7	7.8	8.0	7.8	7.9	7.9	7.7	7.8	7.5	7.4	7.5
25	8.1	7.8	8.0	8.0	7.9	7.9	7.9	7.6	7.8	7.5	7.4	7.5
26	8.3	8.0	8.1	8.1	7.9	8.0	7.8	7.6	7.7	7.6	7.5	7.5
27	8.1	7.8	7.9	8.3	8.0	8.2	8.0	7.7	7.8	7.6	7.5	7.5
28	7.8	7.7	7.8	8.5	8.2	8.3	7.9	7.7	7.8	7.6	7.5	7.5
29	7.9	7.7	7.8	8.6	8.3	8.4	8.0	7.7	7.8	7.6	7.5	7.5
30	8.2	7.8	7.9	8.7	8.4	8.5	8.0	7.7	7.8	7.7	7.6	7.6
31	---	---	---	8.7	8.5	8.6	8.1	7.7	7.9	---	---	---
MONTH	8.3	7.4	7.7	8.7	7.5	7.9	8.8	7.2	7.9	8.1	7.3	7.6

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	25.0	23.5	24.5	21.0	20.0	20.5	14.0	13.0	13.5	8.0	7.5	7.5
2	25.0	23.5	24.0	21.0	20.0	20.5	13.5	12.5	13.0	7.5	7.5	7.5
3	24.0	22.5	23.5	21.5	20.0	20.5	13.5	12.0	12.5	8.5	7.5	8.0
4	23.5	22.0	22.5	21.5	20.0	20.5	13.5	12.0	12.5	8.0	7.5	8.0
5	23.0	21.5	22.0	21.5	20.0	20.5	13.5	12.5	13.0	8.5	7.5	8.0
6	23.0	22.0	22.0	20.5	19.0	19.5	14.5	13.0	13.5	8.0	7.0	7.5
7	23.0	21.0	22.0	19.5	18.5	19.0	15.0	14.5	15.0	7.0	6.0	6.5
8	23.0	21.5	22.0	19.5	18.5	19.0	15.0	14.5	15.0	6.0	5.5	5.5
9	23.0	21.5	22.0	19.0	18.0	18.5	15.0	14.0	14.5	5.5	5.0	5.0
10	23.5	22.0	22.5	19.0	16.5	18.0	15.0	14.0	14.5	5.0	4.5	5.0
11	23.0	22.0	22.5	17.0	15.5	16.0	15.5	14.5	15.0	5.0	4.5	4.5
12	22.5	21.0	22.0	16.5	15.0	15.5	15.0	14.0	14.5	6.0	5.0	5.5
13	22.0	20.5	21.0	15.5	14.0	15.0	14.5	14.0	14.0	6.0	5.0	5.5
14	21.5	20.0	20.5	15.5	14.5	15.0	14.0	12.5	13.5	6.5	5.5	6.0
15	21.5	20.0	20.5	16.0	15.5	16.0	12.5	11.0	12.0	7.0	5.5	6.0
16	22.5	20.5	21.5	16.5	16.0	16.0	11.0	10.5	11.0	7.5	6.5	7.0
17	23.0	21.5	22.0	16.0	15.0	15.5	10.5	10.0	10.0	9.0	7.5	8.5
18	22.5	21.0	22.0	16.0	15.0	15.5	10.0	9.5	10.0	9.5	8.5	9.0
19	22.5	21.5	22.0	15.5	14.5	15.0	11.0	9.5	10.0	10.5	9.5	10.0
20	22.0	21.0	21.5	15.5	14.0	15.0	11.5	11.0	11.0	10.5	9.5	10.0
21	22.0	20.0	20.5	15.5	14.5	15.0	11.5	11.0	11.0	10.0	9.0	9.5
22	20.0	19.5	19.5	15.0	14.5	15.0	11.5	11.0	11.0	10.0	8.5	9.0
23	19.5	19.5	19.5	15.5	15.0	15.5	12.0	11.0	11.5	9.5	8.5	9.0
24	20.0	19.5	19.5	16.5	15.5	16.0	13.5	12.0	13.0	9.5	8.5	9.0
25	21.0	19.5	20.0	16.5	16.0	16.5	13.5	13.0	13.5	9.0	8.0	8.5
26	21.5	20.0	21.0	16.0	15.5	15.5	13.0	11.0	12.0	9.5	8.0	8.5
27	21.5	20.0	20.5	15.5	14.5	15.0	11.0	10.0	10.5	10.0	8.0	9.0
28	20.5	19.5	20.0	14.5	14.0	14.5	10.0	8.5	9.0	10.0	8.5	9.0
29	20.5	19.0	19.5	13.5	13.5	13.5	8.5	7.5	8.0	11.0	9.0	10.0
30	20.5	19.5	20.0	14.0	13.0	13.5	7.5	7.0	7.0	12.0	10.0	11.0
31	21.0	19.5	20.0	---	---	---	8.0	7.5	7.5	13.0	11.5	12.5
MONTH	25.0	19.0	21.5	21.5	13.0	16.5	15.5	7.0	12.0	13.0	4.5	8.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	14.5	13.0	13.5	17.0	15.5	16.5	18.0	17.5	17.5	23.0	21.0	22.0
2	14.0	13.5	13.5	17.0	16.5	16.5	18.0	16.0	17.0	23.0	21.5	22.5
3	13.0	12.5	13.0	17.0	16.0	16.5	18.5	17.5	18.0	23.5	22.0	22.5
4	12.5	11.5	12.0	16.0	15.0	15.5	19.5	18.5	19.0	24.0	22.0	23.0
5	11.5	10.5	11.0	16.0	14.0	15.0	20.5	19.5	20.0	24.5	22.5	23.5
6	11.0	9.5	10.0	14.5	13.5	14.0	20.5	19.5	20.0	24.5	23.0	23.5
7	9.5	9.0	9.5	15.5	14.0	14.5	21.0	19.5	20.0	23.5	23.0	23.5
8	9.5	8.5	9.0	16.5	15.5	16.0	21.0	19.5	20.5	24.0	23.0	23.5
9	10.5	9.0	9.5	17.0	16.0	16.5	21.0	20.0	20.5	25.5	23.5	24.5
10	10.5	9.5	10.0	17.0	15.5	16.0	20.5	19.0	20.0	27.0	24.5	25.5
11	10.0	8.5	9.0	17.0	16.0	16.5	19.0	18.0	18.5	25.5	25.0	25.5
12	9.5	8.0	8.5	18.0	16.5	17.0	19.0	17.0	18.0	25.5	24.5	25.0
13	10.5	8.5	9.5	17.0	16.0	16.5	20.0	17.5	18.5	26.0	23.5	24.5
14	11.5	10.0	10.5	16.0	15.0	15.5	20.5	18.5	19.5	26.5	24.5	25.5
15	11.5	10.0	10.5	16.0	14.5	15.5	21.5	19.5	20.5	26.5	24.5	25.5
16	11.5	10.0	11.0	15.5	14.5	15.0	21.5	20.0	21.0	27.0	25.0	25.5
17	12.0	11.0	11.5	15.0	14.0	14.5	21.5	20.5	21.0	27.0	25.5	26.0
18	12.5	12.0	12.5	14.0	12.0	13.0	22.0	21.0	21.5	27.5	25.5	26.5
19	12.5	12.0	12.5	12.5	11.0	12.0	22.5	20.0	21.0	28.0	26.0	27.0
20	13.0	12.0	12.5	13.0	12.0	12.5	23.0	20.5	21.5	28.0	26.0	27.0
21	12.5	10.5	11.5	13.5	12.0	12.5	23.0	21.5	22.0	27.5	26.0	26.5
22	12.0	11.0	11.5	15.0	13.0	14.0	23.0	22.0	22.5	26.0	25.0	26.0
23	12.5	12.0	12.0	15.5	14.5	15.0	24.0	22.5	23.0	26.5	24.5	25.5
24	13.0	12.0	12.5	17.5	15.5	16.5	24.0	22.5	23.0	26.5	24.5	25.5
25	13.0	12.0	12.5	18.5	17.0	18.0	24.5	22.5	23.5	27.0	25.0	26.0
26	13.5	12.5	13.0	19.0	18.0	18.5	25.0	22.5	23.5	27.0	25.0	26.0
27	14.5	13.0	14.0	20.0	18.0	19.0	24.5	23.0	23.5	27.5	24.5	26.0
28	16.0	14.0	15.0	20.5	19.0	19.5	24.5	22.5	23.5	27.0	25.0	26.0
29	16.5	15.0	15.5	20.5	18.5	19.5	23.5	20.0	22.0	26.5	25.5	26.0
30	---	---	---	18.5	16.0	17.0	22.5	20.5	21.0	27.5	25.5	26.0
31	---	---	---	17.5	15.0	16.5	---	---	---	27.0	25.5	26.5
MONTH	16.5	8.0	11.5	20.5	11.0	16.0	25.0	16.0	20.5	28.0	21.0	25.0

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	28.0	25.0	26.5	33.0	31.5	32.0	32.5	31.0	31.5	31.0	29.0	30.0
2	26.5	25.5	26.0	33.0	30.5	31.5	32.5	31.0	31.5	30.5	29.0	29.5
3	26.0	25.5	25.5	33.5	30.0	31.5	32.0	30.5	31.0	29.5	29.0	29.5
4	27.0	25.0	26.0	32.0	30.0	31.0	32.0	30.5	31.5	29.5	28.5	29.0
5	27.5	25.5	26.5	31.5	30.0	30.5	32.5	31.0	31.5	29.0	27.5	28.0
6	26.5	25.5	26.0	31.5	29.0	30.0	33.0	31.0	32.0	28.5	27.0	27.5
7	27.0	25.0	26.0	30.5	29.0	29.5	33.0	31.5	32.0	27.5	26.5	27.0
8	27.5	25.5	26.5	30.5	29.0	29.5	33.5	32.0	32.5	27.0	26.0	26.5
9	28.5	26.0	27.5	31.0	29.0	29.5	33.5	32.0	32.5	27.5	26.0	26.5
10	28.5	26.5	27.5	31.0	29.0	30.0	33.0	31.5	32.0	27.0	25.5	26.5
11	28.5	25.5	27.0	30.5	29.5	30.0	32.0	31.0	31.5	27.5	26.0	26.5
12	28.5	25.5	27.0	29.5	28.5	29.5	32.0	30.5	31.0	28.0	26.5	27.0
13	29.0	26.0	27.5	30.0	28.5	29.0	32.0	30.5	31.0	28.5	27.0	28.0
14	29.0	27.0	28.0	32.5	28.0	30.0	32.5	30.5	31.5	29.0	27.5	28.0
15	29.5	27.0	28.0	31.5	28.5	30.0	32.5	31.0	31.5	29.5	28.0	28.5
16	30.0	27.0	28.5	30.5	29.5	30.0	32.5	31.0	31.5	29.0	28.0	28.5
17	29.5	27.5	28.5	29.5	28.5	29.0	32.5	31.0	31.5	29.5	28.0	28.5
18	30.0	27.0	28.5	30.5	28.5	29.5	32.0	30.5	31.0	29.0	28.0	28.5
19	30.5	27.0	28.5	31.0	27.5	29.0	32.0	30.0	31.0	28.5	27.5	28.0
20	29.0	26.5	27.5	30.0	27.0	28.5	32.0	30.5	31.0	29.0	27.5	28.0
21	29.5	26.0	27.5	30.0	27.0	28.0	32.5	31.0	31.5	29.5	27.5	28.5
22	29.5	26.0	27.5	31.5	26.5	28.5	32.5	31.0	31.5	29.5	28.5	29.0
23	32.0	26.0	28.0	35.0	27.5	31.0	32.5	30.5	31.5	29.5	28.5	29.0
24	28.5	25.0	26.5	35.0	29.5	32.5	32.5	31.0	32.0	29.5	28.5	29.0
25	27.5	25.0	26.5	35.5	31.0	33.0	32.5	31.0	31.5	28.5	27.0	28.0
26	29.5	27.5	28.5	34.5	30.0	31.5	31.5	30.5	31.0	28.5	27.0	27.5
27	31.0	28.5	29.5	32.0	31.0	31.5	31.5	30.0	31.0	28.0	26.5	27.5
28	32.0	29.5	31.0	32.0	30.5	31.0	31.5	30.0	30.5	28.0	26.5	27.0
29	33.0	30.5	31.5	32.0	30.0	31.0	31.5	30.5	30.5	27.0	26.0	26.5
30	33.0	31.0	32.0	32.0	30.0	31.0	31.0	29.5	30.5	26.5	25.5	26.0
31	---	---	---	32.5	31.0	31.5	31.0	29.5	30.0	---	---	---
MONTH	33.0	25.0	27.5	35.5	26.5	30.5	33.5	29.5	31.5	31.0	25.5	28.0

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.2	8.3	9.1	9.0	8.2	8.6	8.1	7.8	7.9	10.5	10.3	10.4
2	10.1	8.4	9.3	9.6	8.2	8.7	8.7	8.1	8.4	10.6	10.4	10.5
3	10.5	8.1	9.1	8.8	8.0	8.4	9.2	8.7	9.0	10.9	10.6	10.7
4	11.1	9.3	10.1	8.8	7.9	8.3	9.3	9.2	9.2	11.1	10.9	11.0
5	10.4	8.8	9.5	9.3	8.1	8.6	9.4	9.3	9.4	11.2	11.1	11.1
6	11.0	9.0	9.8	9.0	8.1	8.5	9.4	8.0	9.2	12.0	11.1	11.2
7	12.1	9.7	10.8	9.3	8.4	8.7	8.3	7.6	8.0	12.0	11.4	11.6
8	12.6	10.3	11.4	8.8	8.3	8.5	8.2	7.6	7.8	11.9	11.7	11.8
9	11.8	9.9	10.7	8.7	8.4	8.5	8.4	8.0	8.2	12.0	11.8	11.9
10	11.8	9.8	10.6	9.4	8.4	8.7	8.1	7.2	7.6	12.4	12.1	12.2
11	12.1	10.4	11.1	9.3	8.6	8.8	7.9	7.6	7.8	12.6	12.3	12.5
12	12.2	10.2	11.2	9.3	8.7	8.9	8.2	7.9	8.1	12.6	12.4	12.5
13	12.1	10.1	10.8	9.6	8.9	9.2	8.5	8.2	8.4	12.6	12.1	12.4
14	11.8	9.9	10.7	9.3	8.9	9.1	9.0	8.4	8.6	12.2	11.8	12.0
15	13.1	10.9	11.9	8.8	8.5	8.6	9.0	8.6	8.9	12.0	11.5	11.7
16	13.0	10.7	11.6	8.5	8.3	8.4	9.2	9.0	9.1	11.5	11.3	11.4
17	12.3	10.7	11.3	8.2	7.7	8.0	9.5	9.3	9.4	11.2	10.9	11.1
18	11.8	10.0	10.8	8.1	7.7	7.9	9.8	9.5	9.7	11.0	10.4	10.8
19	11.3	9.9	10.5	8.5	8.0	8.2	10.0	9.1	9.8	10.4	9.7	10.1
20	11.1	8.9	10.0	8.3	5.4	6.8	9.4	9.1	9.3	9.8	9.6	9.7
21	11.7	8.8	9.9	7.3	5.7	6.6	9.5	9.0	9.2	9.6	6.4	8.1
22	11.7	9.7	10.4	7.8	7.3	7.6	9.5	9.2	9.4	9.7	6.8	8.8
23	12.6	10.1	11.2	8.0	7.8	7.9	9.1	8.9	9.0	10.1	9.8	10.0
24	10.5	9.5	10.1	8.2	8.0	8.1	8.9	7.1	7.9	10.2	9.8	10.0
25	10.2	8.9	9.5	9.2	8.1	8.3	8.2	7.2	7.6	10.4	10.1	10.2
26	9.9	8.5	9.1	8.1	7.4	7.7	9.3	8.2	8.7	10.4	10.1	10.3
27	9.9	8.5	9.1	7.9	7.5	7.7	9.2	9.0	9.1	10.2	10.0	10.2
28	9.5	8.4	8.8	8.4	7.8	8.2	9.5	9.1	9.2	10.3	10.0	10.1
29	9.3	8.3	8.7	8.6	8.2	8.5	9.7	9.5	9.6	10.4	10.0	10.1
30	9.5	8.2	8.8	8.1	7.7	7.8	10.2	9.8	9.9	10.4	9.9	10.1
31	9.6	8.7	9.0	---	---	---	10.3	10.0	10.1	10.1	9.3	9.7
MONTH	13.1	8.1	10.2	9.6	5.4	8.3	10.3	7.1	8.8	12.6	6.4	10.8

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.6	8.9	9.2	8.8	8.5	8.6	8.4	7.5	8.0			
2	9.2	8.7	8.9	8.5	8.2	8.4	9.0	7.3	8.3			
3	8.8	8.2	8.5	8.5	8.1	8.3	7.3	6.7	7.0			
4	8.9	8.2	8.5	8.4	6.8	7.8	6.8	6.6	6.8			
5	9.1	8.6	8.8	8.7	6.3	7.0	7.0	6.4	6.7			
6	9.9	9.0	9.4	8.8	8.3	8.7	7.2	7.0	7.1			
7	10.1	9.5	9.8	8.2	6.3	7.6	7.4	7.2	7.3			
8	10.6	9.7	10.0	6.9	6.1	6.4	7.5	7.2	7.3			
9	11.2	9.9	10.5	8.0	6.9	7.4	7.6	7.4	7.5			
10	11.3	10.3	10.7	8.4	7.9	8.1	8.0	7.5	7.8			
11	11.7	10.3	10.9	8.4	8.3	8.4	8.7	7.9	8.3			
12	12.1	10.7	11.3	8.9	8.2	8.4	9.0	8.5	8.8			
13	12.3	11.0	11.5	9.3	8.8	9.0	9.6	8.8	9.2			
14	11.9	10.7	11.2	9.5	9.1	9.3	---	---	---			
15	12.6	10.4	11.3	9.4	8.9	9.1	---	---	---			
16	12.5	10.7	11.4	9.0	7.8	8.4	---	---	---			
17	11.2	10.1	10.6	8.7	8.3	8.5	---	---	---			
18	10.6	9.1	10.1	9.3	8.7	9.0	---	---	---			
19	9.0	8.2	8.6	9.7	9.1	9.5	---	---	---			
20	8.2	5.9	7.1	9.5	8.8	9.2	---	---	---			
21	8.8	5.9	8.1	9.7	9.5	9.6	---	---	---			
22	8.5	7.3	8.0	9.6	8.9	9.2	---	---	---			
23	8.2	7.2	7.7	9.1	8.6	8.9	---	---	---			
24	8.1	7.8	8.0	9.0	7.8	8.3	---	---	---			
25	9.0	8.1	8.6	8.3	7.8	8.1	---	---	---			
26	9.2	9.0	9.1	8.2	7.9	8.0	---	---	---			
27	9.2	8.5	8.8	8.3	8.2	8.3	---	---	---			
28	8.7	8.5	8.6	8.3	8.2	8.3	---	---	---			
29	8.8	8.6	8.6	8.4	7.9	8.2	---	---	---			
30	---	---	---	8.6	8.1	8.3	---	---	---			
31	---	---	---	8.6	8.3	8.5	---	---	---			
MONTH	12.6	5.9	9.4	9.7	6.1	8.4	9.6	6.4	7.7			

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1				---	---	---	10.7	8.6	9.4	7.9	6.1	6.9
2				---	---	---	10.7	8.3	9.0	7.7	6.0	6.7
3				---	---	---	10.8	8.3	9.3	7.2	6.1	6.6
4				---	---	---	10.1	8.1	9.0	7.6	6.0	6.6
5				---	---	---	10.1	7.5	8.6	8.0	6.5	7.0
6				---	---	---	9.6	7.2	8.4	8.3	6.6	7.3
7				---	---	---	9.5	6.8	8.1	7.5	6.6	7.1
8				---	---	---	8.7	6.5	7.6	6.6	5.4	6.0
9				---	---	---	8.8	6.2	7.2	5.4	5.2	5.3
10				---	---	---	8.1	6.1	6.9	5.6	5.3	5.5
11				---	---	---	7.3	5.7	6.2	6.1	5.6	5.8
12				---	---	---	7.2	5.4	6.1	6.2	5.8	6.0
13				---	---	---	7.7	5.5	6.3	6.2	5.7	5.9
14				---	---	---	7.5	5.6	6.4	6.6	5.9	6.2
15				---	---	---	7.8	5.9	6.6	6.8	6.0	6.3
16				---	---	---	7.7	5.9	6.5	6.9	6.2	6.4
17				---	---	---	8.0	5.7	6.6	7.3	6.4	6.7
18				---	---	---	6.5	5.3	5.7	7.2	6.6	6.9
19				---	---	---	7.6	5.2	6.2	7.0	6.5	6.7
20				---	---	---	7.7	6.2	6.8	6.7	6.2	6.4
21				---	---	---	6.9	5.4	6.2	7.0	6.0	6.4
22				---	---	---	7.7	5.4	6.2	6.8	6.1	6.4
23				---	---	---	7.7	5.2	6.1	6.6	6.1	6.4
24				---	---	---	7.0	5.3	6.2	6.3	5.9	6.0
25				---	---	---	6.8	5.3	6.0	6.7	5.9	6.2
26				---	---	---	7.0	5.5	6.2	7.0	6.0	6.4
27				9.2	7.9	8.5	7.8	5.8	6.6	7.3	6.3	6.7
28				10.5	8.0	9.0	7.5	5.8	6.5	7.2	6.5	6.8
29				10.2	8.4	9.2	7.5	5.8	6.5	7.4	6.6	6.9
30				11.7	8.6	9.9	7.7	5.9	6.6	7.6	6.8	7.1
31				11.3	8.7	9.9	8.0	6.0	6.8	---	---	---
MONTH				11.7	7.1	9.3	10.8	5.2	7.0	8.3	5.2	6.5

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX

LOCATION.--Lat 30°53'03", long 95°46'39", Madison-Walker County line, Hydrologic Unit 12030202, on right bank at downstream side of bridge on U.S. Highways 75 and 190, 0.5 mi upstream from Interstate Highway 45, 1.5 mi downstream from Caney Creek, and 9.5 mi southeast of Madisonville.

DRAINAGE AREA.--321 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 150.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are no diversions above station. Flow may be slightly affected at times by discharge from the flood-detention pools of three floodwater-retarding structures with a combined detention capacity of 1,290 acre-ft. These structures control runoff from 2.71 mi² in the upper Caney Creek and Town Branch drainage basins.

AVERAGE DISCHARGE.--21 years, 204 ft³/s (8.63 in/yr), 147,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,800 ft³/s Sept. 14, 1974 (gage height, 25.07 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1910, 34 ft in May 1922 (discharge unknown), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,400 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 21	1300	*1,990	*16.43				

Minimum discharge, no flow on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	.08	10	35	e3.1	4.3	221	49	.97	.35	.25	.01
2	.54	.08	6.3	27	e3.2	3.9	821	48	1.1	.35	.17	.01
3	.54	.08	4.5	23	e3.2	3.8	935	18	1.3	.35	.08	.00
4	.49	.08	3.6	22	e3.1	3.7	653	9.2	1.3	.35	.04	.01
5	.31	.08	2.7	21	e3.0	3.7	134	5.8	1.0	.35	.04	.01
6	.23	.07	11	18	e3.0	4.4	56	4.3	1.1	.48	.16	.01
7	.18	.05	103	34	e3.1	5.2	38	3.5	2.2	.83	.27	.00
8	.14	.06	89	55	e3.2	5.1	26	2.8	2.1	1.6	.27	.00
9	.11	.28	62	71	e3.2	4.5	19	2.3	1.9	3.8	.24	.00
10	.09	.34	28	58	e3.1	4.2	14	1.9	1.7	3.8	.15	.00
11	.07	3.6	14	33	e3.0	3.8	10	1.4	1.2	2.3	.09	.00
12	.04	2.9	7.7	23	2.9	3.4	7.7	1.2	.87	1.6	.08	.00
13	.03	1.8	5.3	16	2.8	3.3	5.9	1.2	.70	1.5	.08	.00
14	.03	1.2	3.9	12	2.7	3.3	5.3	1.2	.65	1.2	.08	.00
15	.02	1.1	2.7	10	2.7	3.2	4.8	1.2	.61	1.1	.21	.00
16	.02	1.1	2.4	8.7	2.6	2.9	4.4	1.1	.49	.90	.26	.00
17	.01	1.1	2.0	7.6	2.6	5.1	4.1	.87	e.40	.50	.27	.00
18	.00	4.3	1.8	6.9	2.6	310	3.8	.73	e.35	.31	.26	.00
19	.00	3.5	271	6.1	15	717	3.4	.53	e.30	.21	.18	.00
20	.00	2.1	1070	5.6	233	700	3.1	.44	.27	.14	.12	.00
21	.00	1.4	1740	4.9	113	153	3.0	.48	.27	e.12	.07	.00
22	.00	.85	1100	4.1	51	61	2.8	.49	.29	e.10	.04	.00
23	.00	.71	185	3.8	29	38	2.6	1.1	.39	e.08	.02	.00
24	.00	.63	66	3.7	18	27	2.6	1.4	.44	e.07	.01	.00
25	.00	156	44	3.5	12	20	2.6	1.1	.44	e.06	.01	.00
26	.00	626	57	3.5	8.8	16	2.3	.99	.44	.04	.01	.00
27	.00	531	283	3.2	6.9	13	2.1	.80	.44	.04	.01	.00
28	.04	128	482	3.0	5.7	10	1.6	.78	.44	.03	.01	.00
29	.07	36	233	2.9	4.9	11	3.0	.78	.44	.01	.01	.00
30	.07	18	86	2.9	---	248	7.6	.78	.41	.10	.01	.00
31	.08	---	49	e3.0	---	303	---	.78	---	.41	.01	---
TOTAL	5.01	1522.49	6025.9	531.4	550.4	2694.8	2999.7	164.15	24.51	23.08	3.51	0.05
MEAN	.16	50.7	194	17.1	19.0	86.9	100	5.30	.82	.74	.11	.002
MAX	1.9	626	1740	71	233	717	935	49	2.2	3.8	.27	.01
MIN	.00	.05	1.8	2.9	2.6	2.9	1.6	.44	.27	.01	.01	.00
AC-FT	9.9	3020	11950	1050	1090	5350	5950	326	49	46	7.0	.1
CFSM	.00	.16	.61	.05	.06	.27	.31	.02	.00	.00	.00	.00
IN.	.00	.18	.70	.06	.06	.31	.35	.02	.00	.00	.00	.00

CAL YR 1987 TOTAL 53485.08 MEAN 147 MAX 2810 MIN .00 AC-FT 106100 CFSM .46 IN. 6.20
WTR YR 1988 TOTAL 14545.00 MEAN 39.7 MAX 1740 MIN .00 AC-FT 28850 CFSM .12 IN. 1.69

e Estimated.

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1962 to April 1964; January 1968 to September 1974. Chemical and biochemical analyses: September 1970 to September 1974; April 1985 to June 1988. Pesticide analyses: April 1985 to April 1988.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1984 to September 1987.
WATER TEMPERATURE: October 1984 to September 1987.
SUSPENDED SEDIMENT DISCHARGE: October 1984 to September 1986.

INSTRUMENTATION.--From September 1984 to September 1987 specific conductance and water temperature was recorded continuously at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,680 microsiemens Sept. 1, 1987; minimum, 56 microsiemens Nov. 27, 1985.
WATER TEMPERATURES: Maximum, 31.5°C Aug. 9, 10, 1985; minimum, 2.5°C Feb. 3, 1985.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 915 mg/L Oct. 19, 28, 1985; minimum daily mean, 10 mg/L July 25, 1985 and Aug. 11, 1986.
SEDIMENT LOADS: Maximum daily, 7,510 tons Nov. 26, 1985; minimum daily, no flow on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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)
DEC 08...	1035	89	156	7.40	15.0	7.9	78	34	18	9.2	2.7	14
FEB 16...	1105	2.6	718	7.70	8.5	11.4	98	150	90	38	13	83
APR 07...	1110	38	287	6.90	17.5	7.2	75	68	48	18	5.5	25
JUN 16...	1035	0.52	856	7.40	24.0	4.0	48	160	38	40	15	110

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	ARSENIC TOTAL (UG/L AS AS)
DEC 08...	1	5.9	16	32	17	0.20	10	101	16	18	4	2
FEB 16...	3	7.3	59	130	100	0.20	12	419	11	8.4	1	2
APR 07...	1	5.7	20	54	35	0.20	17	172	22	16	<1	1
JUN 16...	4	8.2	124	110	130	0.30	15	503	12	11	3	6

DATE	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS BA)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)
DEC 08...	9	<100	<10	10	2	3400	<100	10	100	210	<0.10	<0.10
FEB 16...	--	200	--	20	--	440	<100	--	110	--	<0.10	--
APR 07...	24	100	<100	40	5	1800	<100	20	260	11000	0.50	<0.01
JUN 16...	--	<100	--	20	--	1100	<100	--	650	--	<0.10	--

DATE	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
DEC 08...	<0.1	<1	<0.10	<1.0	<0.010	<0.1	<0.1	<1.0	<0.010	<0.1	<0.010	<0.1
FEB 16...	--	--	--	--	--	--	--	--	--	--	--	--
APR 07...	<0.1	<1	<0.10	<1.0	<0.010	<0.1	<0.1	<1.0	<0.010	<0.1	<0.010	<0.1
JUN 16...	--	--	--	--	--	--	--	--	--	--	--	--

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)
DEC 08...	<0.010	<0.1	<0.01	<0.1	<0.010	<0.1	<0.010	<0.1	<0.010	<0.1	<0.01
FEB 16...	--	--	--	--	--	--	--	--	--	--	--
APR 07...	<0.010	<0.1	<0.01	<0.1	<0.010	<0.1	<0.010	<0.1	<0.010	<0.1	<0.01
JUN 16...	--	--	--	--	--	--	--	--	--	--	--

DATE	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)
DEC 08...	<0.1	<0.010	<0.1	<0.010	<0.1	<0.010	<0.1	<0.01	<0.1	<0.01	<0.1
FEB 16...	--	--	--	--	--	--	--	--	--	--	--
APR 07...	<0.1	<0.010	<0.1	<0.010	<0.1	<0.010	<0.1	<0.01	<0.1	<0.01	--
JUN 16...	--	--	--	--	--	--	--	--	--	--	--

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOTAL (UG/L)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL (UG/L)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE TOTAL (UG/L)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	SILVEX, TOTAL (UG/L)
DEC 08...	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.1	<1.00	<0.01
FEB 16...	--	--	--	--	--	--	--	--	--	--	--
APR 07...	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.1	<1.00	<0.01
JUN 16...	--	--	--	--	--	--	--	--	--	--	--

DATE	SILVEX, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOTTOM MATERIAL (UG/KG)	2, 4-DP TOTAL (UG/L)	2,4-DP, IN BOTTOM MAT. (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOTTOM MATERIAL (UG/KG)
DEC 08...	<0.1	<1	<10	<0.01	<0.1	0.01	<0.1	<0.01	<0.1	<0.01	<0.1
FEB 16...	--	--	--	--	--	--	--	--	--	--	--
APR 07...	<0.1	<1	<10	<0.01	<0.1	0.06	<0.1	<0.01	<0.1	<0.01	<0.1
JUN 16...	--	--	--	--	--	--	--	--	--	--	--

08066170 KICKAPOO CREEK NEAR ONALASKA, TX

LOCATION.--Lat 30°54'25", long 95°05'18", Polk County, Hydrologic Unit 12030202, on right bank 114 ft downstream from old bridge site, 1.2 mi downstream from Magnolia Creek, 6.2 mi upstream from Rocky Creek, 7.3 mi northeast of Onalaska, and 15.9 mi upstream from mouth.

DRAINAGE AREA.--57.0 mi².

PERIOD OF RECORD.--December 1965 to current year.
Water-quality records.--Chemical analyses: December 1963 to September 1969. Chemical and biochemical analyses: October 1969 to September 1974.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 139.85 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharge, which are fair. No diversion above station. Low flow is sustained by sewage effluent.

AVERAGE DISCHARGE.--22 years (water years 1967-88), 41.0 ft³/s (9.77 in/yr), 29,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft³/s June 7, 1981, from rating curve extended above 6,800 ft³/s on basis of slope-area measurement of peak flow (gage height, 30.37 ft); minimum, 0.01 ft³/s July 19, 20, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 25	1000	*4,510	*15.40	Dec. 6	2000	3,750	14.26

Minimum daily discharge (estimated), 0.20 ft³/s Aug. 8-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	e.32	4.0	90	4.3	3.7	31	5.5	e.34	.55	.28	e.24
2	.33	e.31	3.1	51	4.6	4.9	27	2.6	e.40	.41	.23	e.24
3	.31	e.30	2.8	41	4.9	13	14	1.7	42	.35	e.22	e.23
4	e.30	e.30	2.4	41	4.9	6.8	7.5	1.3	4.9	40	e.22	e.22
5	e.29	e.29	2.1	26	11	4.2	5.6	1.0	1.9	12	e.21	e.22
6	e.28	e.29	1010	40	22	3.3	4.8	.89	.94	3.9	e.21	e.22
7	e.27	e.29	338	276	11	2.8	3.3	.77	.69	1.9	e.21	e.21
8	e.27	e.30	49	69	7.8	12	2.7	.77	.50	1.1	e.20	e.21
9	e.26	.37	22	42	7.1	18	2.4	.77	.39	1.3	e.20	e.21
10	e.26	.68	12	28	6.1	6.0	2.2	.77	.35	.75	e.20	e.23
11	e.25	.60	9.0	21	5.5	3.6	2.1	.74	.30	.50	.23	e.25
12	e.25	.49	6.9	19	4.5	3.0	1.7	.69	.27	10	.33	.27
13	e.25	.44	5.2	21	4.2	2.4	1.5	.69	e.26	24	.58	.29
14	e.24	.44	4.8	16	4.1	1.8	1.3	.67	e.25	3.2	.76	.31
15	e.24	.91	3.5	13	4.1	1.5	1.3	.61	e.25	1.1	.77	.33
16	e.24	40	2.9	12	4.1	1.5	1.2	.56	.30	.71	.50	1.3
17	e.24	12	2.5	18	3.9	179	1.2	.54	.35	.59	.37	2.0
18	e.24	2.6	2.4	18	260	368	5.8	.50	.35	.44	.34	1.4
19	e.24	1.2	182	18	153	66	3.9	.49	1.7	.37	.35	.86
20	e.24	.80	124	12	50	40	1.8	.44	6.0	10	.35	.63
21	e.24	.66	57	8.3	24	25	1.5	.48	.77	22	.35	.49
22	.31	.62	36	6.7	15	17	1.4	.50	.44	2.3	.34	.42
23	.41	.60	22	6.0	11	14	1.3	.50	.35	.82	.31	.38
24	.44	.56	32	5.8	8.1	13	1.2	.48	.31	.49	.31	.35
25	.44	1180	34	5.3	6.0	11	1.0	.44	8.2	.35	.31	e.34
26	.44	80	214	4.5	5.1	9.2	.90	.43	4.6	.28	.31	e.32
27	.44	26	490	4.3	4.5	6.9	.85	.39	4.5	6.9	.30	e.31
28	.42	15	121	e4.2	4.3	5.0	.81	e.37	6.2	10	.27	e.31
29	.37	7.7	51	e4.1	4.1	12	16	e.36	1.4	1.2	e.26	e.34
30	.35	5.4	34	e4.0	---	71	26	e.35	.76	.50	e.25	1.7
31	e.34	---	51	e4.0	---	50	---	e.34	---	.34	e.25	---
TOTAL	9.57	1379.47	2930.6	929.2	659.2	975.6	173.26	26.64	89.97	158.35	10.02	14.83
MEAN	.31	46.0	94.5	30.0	22.7	31.5	5.78	.86	3.00	5.11	.32	.49
MAX	.44	1180	1010	276	260	368	31	5.5	42	40	.77	2.0
MIN	.24	.29	2.1	4.0	3.9	1.5	.81	.34	.25	.28	.20	.21
AC-FT	19	2740	5810	1840	1310	1940	344	53	178	314	20	29
CFSM	.01	.81	1.66	.53	.40	.55	.10	.02	.05	.09	.01	.01
IN.	.01	.90	1.91	.61	.43	.64	.11	.02	.06	.10	.01	.01

CAL YR 1987 TOTAL 10810.15 MEAN 29.6 MAX 1180 MIN .00 AC-FT 21440 CFSM .52 IN. 7.06
WTR YR 1988 TOTAL 7356.71 MEAN 20.1 MAX 1180 MIN .20 AC-FT 14590 CFSM .35 IN. 4.80

e Estimated.

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX

LOCATION.--Lat 30°38'00", long 95°00'36", Polk-San Jacinto County line, Hydrologic Unit 12030202, at left end of gated spillway at Livingston Dam on Trinity River, 4.4 mi northwest of Goodrich, 7 mi southwest of Livingston, 11.7 mi upstream from Long King Creek, and at mile 129.2.

DRAINAGE AREA.--16,583 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Trinity River Authority). Prior to Feb. 26, 1969, temporary nonrecording gages at site about 200 ft upstream and at same datum.

REMARKS.--The reservoir is formed by an earthfill dam 14,400 ft long. The dam was completed Sept. 29, 1968, and deliberate impoundment began June 26, 1969. The reservoir is operated for industrial water supply in the Houston metropolitan area. The spillway has twelve 40 x 35 ft tainter gates located near the left end of dam. Low-flow realeases may be made through multi-gated inlet tower. There are five gated openings at various elevations located in the tower, and all discharge into a 10 ft-diameter concrete conduit through the dam. Flow is affected at times by discharge from the flood-detention pools of 255 floodwater-retarding structures with a combined detention capacity of 184,600 acre-ft. These structures control runoff from 617 mi² in the Richland, Chambers, Tehuacana, and Bedias Creeks drainage basins. 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	145.0	-
Design flood	135.0	2,136,000
Top of tainter gates	134.0	2,046,000
Top of conservation pool	131.0	1,788,000
Crest of spillway (sill of tainter gates)	99.0	157,900
Lowest gated outlet (invert)	58.0	335

COOPERATION.--The capacity table, furnished by the Trinity River Authority, is based on Geological Survey topographic maps.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,948,000 acre-ft May 23, 1983 (elevation, 132.88 ft); minimum since conservation pool capacity was reached on Nov. 2, 1971, 1,362,000 acre-ft Sept. 28, 29, 1988 (elevation, 125.46 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,851,000 acre-ft Jan. 1 at 0600 to 2400 hours (elevation, 131.75 ft); minimum, 1,362,000 acre-ft Sept. 28, 29 (elevation, 125.46 ft).

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

125.0	1,329,000	129.0	1,627,000	132.0	1,872,000
127.0	1,474,000	131.0	1,788,000		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1721000	1699000	1781000	1851000	1786000	1787000	1808000	1783000	1710000	1635000	1550000	1418000
2	1720000	1699000	1778000	1849000	1792000	1792000	1820000	1783000	1709000	1630000	1546000	1413000
3	1719000	1700000	1782000	1845000	1793000	1797000	1825000	1786000	1711000	1627000	1542000	1412000
4	1715000	1700000	1781000	1833000	1788000	1793000	1826000	1784000	1709000	1623000	1539000	1408000
5	1713000	1701000	1775000	1817000	1792000	1798000	1825000	1782000	1708000	1623000	1533000	1401000
6	1716000	1695000	1809000	1816000	1784000	1809000	1816000	1778000	1713000	1618000	1530000	1395000
7	1710000	1691000	1809000	1804000	1784000	1817000	1806000	1776000	1723000	1617000	1524000	1389000
8	1705000	1699000	1809000	1792000	1785000	1827000	1798000	1777000	1727000	1614000	1517000	1389000
9	1705000	1704000	1804000	1790000	1786000	1818000	1796000	1779000	1729000	1609000	1517000	1388000
10	1706000	1693000	1798000	1788000	1786000	1805000	1788000	1779000	1730000	1606000	1508000	1384000
11	1708000	1689000	1798000	1784000	1788000	1798000	1781000	1778000	1723000	1599000	1505000	1378000
12	1704000	1685000	1790000	1798000	1781000	1808000	1779000	1775000	1716000	1601000	1501000	1379000
13	1700000	1683000	1786000	1793000	1779000	1807000	1775000	1775000	1711000	1597000	1497000	1376000
14	1700000	1679000	1793000	1793000	1790000	1793000	1772000	1772000	1708000	1593000	1494000	1374000
15	1697000	1689000	1783000	1792000	1782000	1791000	1772000	1766000	1704000	1593000	1489000	1371000
16	1780000	1702000	1776000	1796000	1780000	1792000	1770000	1767000	1700000	1591000	1484000	1371000
17	1782000	1697000	1776000	1796000	1782000	1824000	1772000	1762000	1696000	1596000	1476000	1369000
18	1781000	1697000	1777000	1793000	1802000	1830000	1779000	1759000	1692000	1599000	1482000	1365000
19	1782000	1700000	1801000	1797000	1803000	1824000	1768000	1754000	1686000	1604000	1477000	1369000
20	1785000	1697000	1820000	1798000	1806000	1826000	1764000	1749000	1681000	1604000	1472000	1366000
21	1780000	1695000	1818000	1794000	1816000	1828000	1764000	1750000	1677000	1603000	1468000	1369000
22	1695000	1703000	1813000	1791000	1826000	1832000	1770000	1748000	1673000	1599000	1463000	1366000
23	1697000	1704000	1811000	1793000	1834000	1829000	1779000	1748000	1669000	1590000	1459000	1366000
24	1700000	1704000	1809000	1801000	1836000	1822000	1774000	1743000	1665000	1586000	1454000	1372000
25	1699000	1780000	1815000	1783000	1827000	1818000	1775000	1738000	1662000	1580000	1451000	1371000
26	1704000	1783000	1822000	1785000	1814000	1809000	1774000	1738000	1661000	1575000	1445000	1369000
27	1702000	1792000	1822000	1782000	1806000	1794000	1772000	1726000	1657000	1573000	1440000	1366000
28	1699000	1780000	1830000	1780000	1798000	1788000	1766000	1722000	1651000	1571000	1438000	1362000
29	1695000	1780000	1833000	1781000	1796000	1798000	1777000	1717000	1642000	1562000	1435000	1365000
30	1696000	1780000	1833000	1781000	---	1798000	1784000	1716000	1640000	1560000	1430000	1366000
31	1697000	---	1849000	1785000	---	1800000	---	1712000	---	1555000	1424000	---
MAX	1785000	1792000	1849000	1851000	1836000	1832000	1826000	1786000	1730000	1635000	1550000	1418000
MIN	1695000	1679000	1775000	1780000	1779000	1787000	1764000	1712000	1640000	1555000	1424000	1362000
(†)	129.88	130.90	131.73	130.96	131.09	131.14	130.95	130.06	129.16	128.06	126.31	125.52
(ϕ)	-27000	+83000	+69000	-64000	+11000	+4000	-16000	-72000	-72000	-85000	-131000	-58000

CAL YR 1987 MAX 1899000 MIN 1679000 (ϕ) +40000
WTR YR 1988 MAX 1851000 MIN 1362000 (ϕ) -358000

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

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

WATER-QUALITY RECORDS

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

303807095011101 - LIVINGSTON RES SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
FEB									
09...	1238	1.00	390	8.20	9.0	0.75	10.2	87	120
09...	1240	10.0	390	8.20	9.0	--	10.1	86	--
09...	1242	20.0	390	8.10	9.0	--	10.1	86	--
09...	1244	30.0	390	8.10	9.0	--	10.1	86	--
09...	1246	40.0	390	8.10	9.0	--	10.1	86	--
09...	1248	50.0	390	8.10	9.0	--	10.1	86	--
09...	1250	60.0	390	8.10	9.0	--	10.1	86	--
09...	1252	70.0	390	8.10	9.0	--	9.6	82	--
09...	1254	74.0	390	8.00	9.0	--	9.5	81	130
AUG									
25...	1248	1.00	420	8.90	31.0	0.94	5.8	78	120
25...	1250	10.0	425	8.70	30.0	--	3.0	40	--
25...	1252	20.0	425	8.40	30.0	--	2.0	27	--
25...	1254	30.0	430	7.70	29.0	--	0.5	7	--
25...	1256	40.0	430	7.50	28.0	--	0	0	--
25...	1258	50.0	430	7.20	25.5	--	0	0	--
25...	1300	67.0	445	7.00	22.5	--	0	0	140

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
FEB									
09...	25	42	4.4	31	1	6.3	98	41	30
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	34	44	4.4	30	1	6.2	94	41	30
AUG									
25...	18	42	4.8	36	1	5.3	107	47	39
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	0	46	4.9	32	1	5.2	135	31	34

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB								
09...	0.40	6.6	220	0.600	0.60	0.120	8	2
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	0.600	0.50	0.130	<10	<10
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	6.6	219	0.600	0.70	0.160	43	13
AUG								
25...	0.40	6.2	245	--	2.2	0.240	8	11
25...	--	--	--	--	--	--	--	--
25...	--	--	--	<0.100	1.1	0.230	10	140
25...	--	--	--	<0.100	1.2	0.410	30	590
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	--	10	246	<0.100	4.7	1.20	94	1500

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

303821095005001 - LIVINGSTON RES SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
09...	1310	1.00	390	8.20	9.0	0.75	10.2	87
09...	1312	10.0	390	8.20	9.0	--	10.2	87
09...	1314	20.0	390	8.20	9.0	--	10.2	87
09...	1316	30.0	390	8.20	9.0	--	10.2	87
09...	1318	44.0	390	8.10	9.0	--	10.2	87
AUG								
25...	1332	1.00	420	9.00	31.5	0.91	5.8	79
25...	1334	10.0	425	8.70	30.0	--	3.7	49
25...	1336	20.0	425	8.40	30.0	--	2.8	37
25...	1338	30.0	430	7.70	29.0	--	0.3	4
25...	1340	41.0	445	7.50	28.5	--	0	0

303935095055401 - LIVINGSTON RES SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
09...	1210	1.00	390	8.20	9.0	0.74	10.1	86
09...	1212	10.0	390	8.20	9.0	--	10.1	86
09...	1214	20.0	390	8.20	8.5	--	10.1	85
09...	1216	30.0	385	8.20	8.5	--	10.1	85
09...	1218	40.0	385	8.20	8.5	--	10.1	85
09...	1220	50.0	385	8.20	8.5	--	10.1	85
09...	1222	63.0	385	8.10	8.5	--	9.9	84
AUG								
25...	1150	1.00	420	8.90	31.0	0.92	4.7	63
25...	1152	10.0	425	8.60	30.0	--	3.0	40
25...	1154	20.0	425	8.40	29.5	--	2.0	26
25...	1156	30.0	430	7.90	29.5	--	0.4	5
25...	1158	40.0	435	7.50	29.0	--	0	0
25...	1200	50.0	445	7.10	26.0	--	0	0
25...	1202	63.0	460	6.90	24.0	--	0	0

304144095073001 - LIVINGSTON RES SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
09...	1130	1.00	390	8.10	9.0	0.60	10.2	87
09...	1132	10.0	390	8.10	8.5	--	10.1	85
09...	1134	20.0	390	8.10	8.5	--	10.1	85
09...	1136	30.0	390	8.10	8.5	--	10.1	85
09...	1138	40.0	390	8.10	8.5	--	10.1	85
09...	1140	50.0	390	8.00	8.5	--	9.8	83
09...	1142	60.0	390	8.00	8.5	--	10.1	85
AUG								
25...	1116	1.00	435	8.80	31.0	0.77	5.2	70
25...	1118	10.0	435	8.60	30.0	--	3.2	42
25...	1120	20.0	440	8.50	30.0	--	2.4	32
25...	1122	30.0	445	7.80	29.5	--	0	0
25...	1124	40.0	445	7.50	29.0	--	0	0
25...	1126	50.0	460	7.00	26.0	--	0	0
25...	1128	64.0	470	7.00	25.5	--	0	0

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

304521095075501 - LIVINGSTON RES SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
FEB									
09...	1014	1.00	370	8.20	9.0	0.50	10.3	88	120
09...	1016	10.0	370	8.10	8.5	--	10.3	87	--
09...	1018	20.0	370	8.10	8.5	--	10.3	87	--
09...	1020	30.0	370	8.10	8.5	--	10.0	84	--
09...	1022	40.0	375	8.10	8.5	--	9.9	83	--
09...	1024	50.0	375	8.10	8.5	--	9.9	83	--
09...	1026	58.0	375	8.10	8.5	--	9.7	82	120
AUG									
25...	1036	1.00	440	8.90	31.0	0.72	6.6	89	130
25...	1038	10.0	445	8.60	30.0	--	3.6	48	--
25...	1040	20.0	445	8.60	30.0	--	3.6	48	--
25...	1042	30.0	445	8.60	30.0	--	3.6	48	--
25...	1044	40.0	450	8.10	29.5	--	0.8	11	--
25...	1046	52.0	465	7.50	29.0	--	0	0	140

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
FEB								
09...	24	40	4.2	29	1	6.2	93	40
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	24	40	4.2	29	1	6.1	93	40
AUG								
25...	19	44	4.7	39	2	5.5	110	48
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	8	46	5.0	38	1	6.0	128	46

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB								
09...	29	7.2	211	0.700	1.0	0.210	26	2
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	0.700	0.70	0.170	20	<10
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	29	7.0	211	0.700	0.70	0.200	15	13
AUG								
25...	42	6.9	256	<0.100	1.1	0.270	<3	4
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	--	--	--	<0.100	1.9	0.260	20	60
25...	--	--	--	<0.100	1.4	0.320	10	270
25...	48	8.0	275	--	2.0	0.950	23	950

304453095064901 - LIVINGSTON RES SITE DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
09...	0954	1.00	375	8.20	8.5	0.50	10.6	89
09...	0956	10.0	375	8.20	8.5	--	10.6	89
09...	0958	22.0	375	8.20	8.5	--	10.4	88
AUG								
25...	1020	1.00	430	8.90	30.5	0.59	5.8	78
25...	1022	10.0	435	8.80	30.0	--	4.5	60
25...	1024	15.0	435	8.80	30.0	--	4.5	60

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

304659095052001 - LIVINGSTON RES SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)
FEB							
09...	0932	1.00	365	8.10	9.0	0.41	10.4
09...	0934	10.0	365	8.10	9.0	--	10.2
09...	0936	20.0	365	8.10	9.0	--	10.2
09...	0938	30.0	365	8.20	9.0	--	10.1
AUG							
25...	0950	1.00	445	8.90	30.5	0.67	5.0
25...	0952	10.0	445	8.80	30.5	--	4.1
25...	0954	20.0	450	8.60	30.0	--	2.8
25...	0956	27.0	450	8.50	30.0	--	2.5

DATE	OXYGEN, DISSOLVED (PERCENT SATURATION)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB						
09...	89	0.800	0.40	0.170	20	<10
09...	87	--	--	--	--	--
09...	87	--	--	--	--	--
09...	86	0.700	0.70	0.190	30	<10
AUG						
25...	67	<0.100	1.2	0.330	20	20
25...	55	--	--	--	--	--
25...	37	--	--	--	--	--
25...	33	<0.100	1.1	0.310	20	30

304843095104001 - LIVINGSTON RES SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
09...	1354	1.00	350	8.10	11.0	0.34	9.7	87
09...	1356	10.0	350	8.00	9.0	--	10.0	86
09...	1358	20.0	350	8.00	9.0	--	10.0	86
09...	1400	30.0	355	8.00	9.0	--	10.0	86
09...	1402	40.0	355	8.00	9.0	--	10.0	86
09...	1404	56.0	355	8.10	9.0	--	9.9	85
AUG								
25...	1426	1.00	470	8.90	32.0	0.50	5.6	77
25...	1428	10.0	485	8.60	30.5	--	2.0	27
25...	1430	20.0	485	8.50	30.5	--	1.8	24
25...	1432	30.0	490	8.30	30.5	--	1.2	16
25...	1434	40.0	495	8.20	30.5	--	0.7	9
25...	1436	55.0	500	8.20	30.5	--	0.6	8

305411095144901 - LIVINGSTON RES SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
FEB									
09...	1438	1.00	440	8.50	9.0	0.34	10.8	93	120
09...	1440	10.0	455	8.30	8.5	--	11.0	93	--
09...	1442	20.0	470	8.30	8.0	--	11.1	93	--
09...	1444	30.0	485	8.40	8.0	--	11.1	93	--
09...	1446	40.0	495	8.40	8.0	--	11.2	94	--
09...	1448	55.0	500	8.40	7.5	--	11.2	93	150
AUG									
25...	1516	1.00	490	9.00	32.5	0.48	7.1	99	140
25...	1518	10.0	500	8.60	31.0	--	2.3	31	--
25...	1520	20.0	510	8.30	30.5	--	1.7	23	--
25...	1522	30.0	515	8.10	30.5	--	0.9	12	--
25...	1524	40.0	500	7.90	30.0	--	0.6	8	--
25...	1526	45.0	490	7.80	30.0	--	0.6	8	140

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

305411095144901 - LIVINGSTON RES SITE GC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
FEB								
09...	33	41	4.9	35	1	6.6	90	55
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	50	49	5.6	44	2	7.1	96	62
AUG								
25...	9	48	4.6	46	2	7.8	130	52
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	6	48	5.1	42	2	6.4	135	49

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB								
09...	41	7.1	245	1.60	0.70	0.510	17	2
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	1.90	0.90	0.670	20	<10
09...	--	--	--	--	--	--	--	--
09...	50	9.3	285	2.00	1.0	0.650	3	3
AUG								
25...	47	12	295	<0.100	1.0	0.560	<3	5
25...	--	--	--	--	--	--	--	--
25...	--	--	--	0.500	1.9	0.560	10	20
25...	--	--	--	0.400	1.4	0.570	10	80
25...	--	--	--	--	--	--	--	--
25...	42	26	300	0.200	1.1	0.770	9	130

305447095161401 - LIVINGSTON RES SITE HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)
FEB							
09...	1510	1.00	415	8.30	10.0	0.42	10.0
09...	1512	10.0	440	8.20	9.0	--	10.1
09...	1514	20.0	460	8.20	8.5	--	10.3
09...	1516	30.0	470	8.20	8.5	--	10.4
09...	1518	40.0	475	8.30	8.5	--	10.5
AUG							
25...	1550	1.00	490	9.00	32.5	0.41	7.4
25...	1552	10.0	525	8.20	30.5	--	2.0
25...	1554	20.0	525	8.20	30.5	--	1.8
25...	1556	36.0	535	8.10	30.0	--	1.6

DATE	OXYGEN, DISSOLVED (PERCENT SATURATION)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB						
09...	88	0.900	0.80	0.270	10	<10
09...	87	--	--	--	--	--
09...	87	--	--	--	--	--
09...	88	--	--	--	--	--
09...	89	1.70	0.80	0.570	10	10
AUG						
25...	103	<0.100	1.5	0.560	10	20
25...	27	--	--	--	--	--
25...	24	--	--	--	--	--
25...	21	<0.100	1.2	0.650	10	40

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

305135095193601 - LIVINGSTON RES SITE IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
FEB								
10...	0818	1.00	570	7.70	9.5	0.45	9.2	80
10...	0820	10.0	575	7.70	9.5	--	8.9	78
10...	0822	20.0	580	7.70	9.5	--	8.8	77
10...	0824	30.0	580	7.70	9.5	--	8.7	76
10...	0826	41.0	580	7.70	9.5	--	8.7	76
AUG								
25...	1618	1.00	610	8.90	32.5	0.56	7.7	107
25...	1620	10.0	625	8.10	31.0	--	2.2	30
25...	1622	20.0	595	8.00	30.5	--	1.0	13
25...	1624	30.0	570	7.90	30.5	--	0.6	8
25...	1626	38.0	565	7.90	30.5	--	0.2	3

305135095235401 - LIVINGSTON RES SITE JC

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (M)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
FEB									
10...	0848	1.00	615	7.60	10.5	0.45	9.0	80	170
10...	0850	10.0	615	7.60	10.0	--	8.7	77	--
10...	0852	20.0	615	7.50	10.0	--	8.7	77	--
10...	0854	30.0	605	7.50	10.0	--	8.8	78	--
10...	0856	38.0	575	7.60	9.5	--	8.9	78	160
AUG									
25...	1640	1.00	645	9.00	33.0	0.52	9.6	134	150
25...	1642	10.0	670	8.20	31.0	--	3.0	41	--
25...	1644	20.0	660	7.90	31.0	--	1.4	19	--
25...	1646	35.0	625	7.90	31.0	--	1.1	15	160

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
FEB								
10...	58	57	6.8	56	2	8.8	113	80
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
10...	52	53	6.3	54	2	8.2	107	73
AUG								
25...	14	52	4.8	70	3	8.5	136	76
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	18	54	5.2	64	2	8.1	139	67

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB								
10...	62	12	350	3.30	1.5	1.60	32	4
10...	--	--	--	--	--	--	--	--
10...	--	--	--	3.20	1.5	1.50	10	10
10...	--	--	--	--	--	--	--	--
10...	57	12	328	3.00	1.5	1.20	13	3
AUG								
25...	73	9.1	375	2.40	1.5	0.920	13	11
25...	--	--	--	--	--	--	--	--
25...	--	--	--	2.80	1.1	0.910	20	50
25...	65	9.2	356	1.70	1.8	0.840	<3	78

08066191 LIVINGSTON RESERVOIR AT OUTFLOW WEIR NEAR GOODRICH, TX

LOCATION.--Lat 30°37'55", long 95°01'11", San Jacinto County, Hydrologic Unit 12030202, at end of conduit into stilling basin, 1,700 ft to right of right spillway abutment, 4.8 mi northwest of Goodrich, 11.7 mi upstream from Long King Creek, and at mile 129.2.

DRAINAGE AREA.--16,583 mi².

PERIOD OF RECORD.--August 1969 to current year.
Water-quality records.--Chemical and biochemical analyses: October 1969 to September 1972.

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Trinity River Authority). Oct. 1, 1974, to Jan. 30, 1976, staff gage and control only.

REMARKS.--Records poor. For details concerning outlet works, see Livingston Reservoir (station 08066190). The purpose this station is to record selective withdrawal releases at outflow weir, crest 61.90 ft. These releases do not constitute the total flow from Livingston Reservoir since flow through taintor gates is not included in these totals.

AVERAGE DISCHARGE.--19 years, 216 ft³/s (156,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,990 ft³/s Jan 7, 1982; maximum elevation, about 93.0 ft June 14, 1973 (backwater from Trinity River); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 377 ft³/s on many days; maximum elevation, 64.70 ft Jan. 2 at 0200 hours (backwater from Trinity River); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e51	e176	e372	.00	368	363	368	359	354	354	e350	e350
2	e176	e176	e372	.00	363	363	368	359	354	354	e350	e350
3	e176	e176	e315	.00	363	363	377	359	354	e354	e350	e350
4	e176	e176	e176	.00	363	363	377	359	354	e354	e350	e350
5	e176	e176	e176	.00	363	359	377	359	354	e354	e350	e350
6	e176	e176	e176	.00	363	363	377	359	354	354	e350	e350
7	e176	e176	e176	.00	363	368	368	363	354	350	e350	e350
8	e176	e176	e176	.00	368	372	368	363	359	e350	e350	e350
9	e176	e176	e176	.00	368	377	363	359	359	e350	e350	e350
10	e176	e226	e176	.00	368	372	359	359	359	e350	e350	e350
11	e176	e261	e176	150	368	372	359	359	354	e350	e350	e350
12	e176	e261	e176	368	368	368	359	359	359	e350	e350	e350
13	e176	e312	e176	368	368	368	359	359	368	e350	e350	e350
14	e176	e372	e176	368	368	368	354	354	368	e350	e350	e350
15	e176	e372	e176	368	368	368	354	354	368	e350	e350	e350
16	e176	e372	e176	368	368	368	354	359	372	e350	e350	e220
17	e176	e372	e176	368	368	368	354	359	377	e350	e350	e141
18	e176	e372	e176	368	372	377	359	359	372	350	e350	e141
19	e176	e372	e176	368	372	372	354	359	377	354	e350	e141
20	e176	e372	e176	368	372	372	354	359	372	e354	e350	e141
21	e176	e372	e176	363	372	372	359	359	257	e354	e350	e141
22	e176	e372	e176	368	338	377	354	e359	363	e354	e350	e141
23	e176	e372	e176	368	.00	377	359	e354	359	e354	e350	e141
24	e176	e372	e176	363	.00	377	354	e354	e355	e354	e350	e141
25	e176	e372	e176	368	.00	372	354	e350	e355	e354	e350	e141
26	e176	e372	e176	363	.00	372	354	e350	e355	e354	e350	e141
27	e176	e372	e176	363	.00	368	354	e350	e355	e354	e350	e141
28	e176	e372	e125	363	197	368	359	350	e355	e354	e350	e141
29	e176	e372	.00	368	363	363	359	350	350	e354	e350	e141
30	e176	e372	.00	363	---	363	359	350	354	e354	e350	e141
31	e176	---	.00	368	---	368	---	350	---	e354	e350	---
TOTAL	5331	8968	5408.00	7480.00	8612.00	11441	10827	11054	10700	10926	10850	7444
MEAN	172	299	174	241	297	369	361	357	357	352	350	248
MAX	176	372	372	368	372	377	377	363	377	354	350	350
MIN	51	176	.00	.00	.00	359	354	350	257	350	350	141
AC-FT	10570	17790	10730	14840	17080	22690	21480	21930	21220	21670	21520	14770

CAL YR 1987 TOTAL 92832.00 MEAN 254 MAX 742 MIN .00 AC-FT 184100
WTR YR 1988 TOTAL 109041.00 MEAN 298 MAX 377 MIN .00 AC-FT 216300

e Estimated.

08066200 LONG KING CREEK AT LIVINGSTON, TX

LOCATION.--Lat 30°42'58", long 94°57'31", Polk County, Hydrologic Unit 12030202, on right bank at downstream side of bridge on U.S. Highway 190, 2 mi west of Livingston, 2 mi upstream from Choates Creek, and 14.8 mi upstream from mouth.

DRAINAGE AREA.--141 mi².

PERIOD OF RECORD.--January 1963 to current year.
Water-quality records.--Chemical analyses: January 1963 to September 1974.

GAGE.--Water-stage recorder. Datum of gage is 100.12 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. No diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 91.9 ft³/s (8.85 in/yr), 66,580 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,500 ft³/s Nov. 5, 1973 (gage height, 27.06 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1870, about 41 ft in May 1929.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 26	0030	*5,870	*15.39	Dec. 27	1330	2,700	10.45
Dec. 7	0100	5,690	15.14	Mar. 18	1030	3,090	11.14

Minimum discharge, 0.27 ft³/s Aug. 29 to Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.5	e1.1	31	167	21	21	82	34	1.2	2.0	1.4	.27
2	e1.2	1.0	25	123	23	55	97	16	1.1	1.6	1.1	.27
3	e1.0	1.1	21	80	23	226	62	11	7.8	1.4	.93	.27
4	e1.0	1.1	19	88	22	82	39	8.4	55	2.0	.95	.28
5	e.90	1.1	18	64	30	48	29	6.8	22	14	.73	.34
6	e.85	1.2	1150	57	75	36	27	6.0	9.4	6.4	.75	.33
7	e.80	1.1	3560	623	52	29	24	5.5	5.3	5.2	.63	.33
8	e.75	1.1	216	177	39	166	20	5.9	3.7	7.0	.48	.40
9	e.70	1.7	82	92	34	435	18	5.6	2.7	4.3	.44	.33
10	e.70	2.5	56	68	35	83	16	5.4	2.2	3.0	.44	e.32
11	e.75	2.0	46	56	31	49	14	4.9	1.7	2.3	.71	e.32
12	e.75	1.9	40	52	26	39	13	4.7	1.5	2.1	1.2	e.32
13	e.80	2.0	34	51	24	30	12	4.8	1.3	8.2	1.2	e.31
14	e.80	2.0	30	46	23	23	12	4.3	1.2	5.3	1.0	e.31
15	e.80	2.6	25	40	24	21	11	3.8	1.4	3.4	1.2	e.31
16	e.85	286	22	38	23	19	10	3.3	1.3	2.4	.95	e.31
17	e.85	274	20	49	21	246	10	3.1	1.1	1.7	.64	e.31
18	e.90	39	20	54	570	2210	15	2.9	1.1	1.3	3.1	e.30
19	e1.0	21	292	51	625	248	33	2.6	1.2	1.1	73	e.30
20	e1.2	15	744	49	121	88	16	2.3	1.5	1.1	11	e.30
21	e1.3	11	281	37	66	60	12	7.1	2.0	1.7	3.2	e.30
22	e1.5	9.2	117	30	47	48	11	4.7	1.5	1.9	1.6	e.30
23	e1.7	8.0	72	27	40	40	9.5	3.3	2.0	1.2	1.1	e.31
24	e1.9	8.3	72	26	32	37	8.9	2.7	1.9	.99	.77	e.32
25	e1.9	1880	88	24	26	35	7.6	2.3	5.9	.85	.67	.34
26	e1.9	2210	90	21	24	33	6.9	2.0	13	.66	.54	.35
27	e1.9	113	1680	20	22	29	6.3	1.7	8.4	.61	.44	.33
28	e1.7	88	688	20	22	25	5.8	1.5	6.6	4.1	.33	.33
29	e1.5	53	125	19	22	26	21	1.4	4.0	7.0	.31	.33
30	e1.3	40	81	19	---	58	82	1.3	2.7	3.5	.27	1.1
31	e1.2	---	81	20	---	149	---	1.3	---	2.2	.27	---
TOTAL	35.90	5079.0	9826	2288	2143	4694	731.0	170.6	171.7	100.51	111.35	10.24
MEAN	1.16	169	317	73.8	73.9	151	24.4	5.50	5.72	3.24	3.59	.34
MAX	1.9	2210	3560	623	625	2210	97	34	55	14	73	1.1
MIN	.70	1.0	18	19	21	19	5.8	1.3	1.1	.61	.27	.27
AC-FT	71	10070	19490	4540	4250	9310	1450	338	341	199	221	20
CFSM	.01	1.20	2.25	.52	.52	1.07	.17	.04	.04	.02	.03	.00
IN.	.01	1.34	2.59	.60	.57	1.24	.19	.05	.05	.03	.03	.00

CAL YR 1987 TOTAL 33692.98 MEAN 92.3 MAX 3560 MIN .45 AC-FT 66830 CFSM .65 IN. 8.89
WTR YR 1988 TOTAL 25361.30 MEAN 69.3 MAX 3560 MIN .27 AC-FT 50300 CFSM .49 IN. 6.69

e Estimated.

08066250 TRINITY RIVER NEAR GOODRICH, TX

LOCATION (revised).--Lat 30°34'19", long 94°56'55", Polk-San Jacinto County line, Hydrologic Unit 12030202, on left bank at downstream bridge on U.S. Highway 59, 0.2 mi downstream from Long King Creek, 3.0 mi southeast of Goodrich, 11.9 mi downstream from Livingston dam, and at mile 117.3.

DRAINAGE AREA.--16,844 mi².

PERIOD OF RECORD.--December 1965 to current year.
Water-quality records.--March 1966 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 40.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow is completely regulated except during periods of flooding by Long King Creek. Regulation by Livingston Reservoir (station 08066190) 11.9 mi upstream, with capacity of capacity of 2,046,000 acre-ft, that began Sept. 29, 1968. No diversions between Livingston Reservoir and gaging station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years (water years 1967-88), 6,879 ft³/s (4,984,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 96,200 ft³/s June 14, 1973 (gage height, 46.36 ft); minimum daily, 191 ft³/s Aug. 6, 1971 (regulation by Livingston Reservoir).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1929, 52.0 ft in May 1942, from information by State Department of Highways and Public Transportation and by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,500 ft³/s Jan. 2 at 0100 hours (gage height, 20.45 ft); minimum daily (estimated), 400 ft³/s Oct. 16-19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	561	e420	2190	14200	1490	3750	3370	1580	2310	2440	2480	2280
2	561	e420	1920	14400	1480	2290	3600	1460	2300	2450	2470	2270
3	529	e420	1470	14300	1470	2660	6290	1420	2320	2440	2460	2260
4	e520	e420	1350	14200	1480	2360	7950	1380	2410	2460	2450	2260
5	e510	e500	1320	13700	1510	2180	8470	1370	2360	2490	2440	2260
6	e510	888	1890	11500	1600	2430	8470	1370	1950	2510	2440	2250
7	e510	960	8710	10300	1610	4470	8110	1380	1030	2500	2440	2230
8	e510	966	8500	9060	1550	5630	7340	1380	1430	2480	2430	2070
9	e510	966	7590	6250	1530	7270	5820	1380	1830	2470	2460	2040
10	e500	948	7270	3870	1520	7000	4530	1380	1980	2480	2530	2040
11	e500	997	6350	2670	1510	6470	3540	1370	2320	2480	2550	2040
12	e500	942	5780	2350	1480	4780	2210	1360	2480	2470	2550	2040
13	e500	1140	5500	2280	1480	4400	1980	1360	2480	2470	2550	2040
14	e450	1710	3710	2250	1480	3790	1970	1340	2480	2470	2550	2000
15	e420	1780	2180	2230	1470	2200	1970	1340	2480	2460	2550	1810
16	e400	2180	1510	2220	1450	2060	1950	1340	2480	2470	2540	1390
17	e400	2360	1410	2220	1480	2260	1950	1450	2460	2470	2540	e560
18	e400	1950	1420	2230	1710	7100	1940	1890	2460	2460	2450	e520
19	e400	1820	1740	2240	2780	7810	1570	2030	2460	2460	2420	e500
20	e420	1760	4040	2180	2630	7130	1510	2300	2470	2480	2420	e500
21	e440	1750	7390	2190	4250	7150	1470	2360	2380	2480	2370	564
22	e450	1740	8660	2170	5860	7650	1450	2340	2400	2480	2340	614
23	e440	1530	8470	2160	9070	7640	1440	2310	2430	2480	2310	760
24	e430	1040	8400	2150	10500	7610	1440	2310	2430	2480	2300	817
25	e430	1790	8400	2130	10600	7610	1420	2310	2460	2480	2300	828
26	e420	6410	8360	1930	10600	7340	1410	2310	2460	2490	2300	828
27	e420	4790	9630	1530	9570	6490	1410	2310	2470	2500	2300	828
28	e420	4400	10000	1500	6460	5080	1400	2310	2460	2510	2300	828
29	e420	3980	10500	1490	4560	4050	1450	2310	2440	2620	2300	832
30	e420	2830	11400	1490	---	3210	1750	2310	2440	2510	2280	840
31	e420	---	12100	1490	---	3350	---	2310	---	2480	2280	---
TOTAL	14321	53807	179160	154880	104180	155220	99180	55370	68860	76920	75100	43099
MEAN	462	1794	5779	4996	3592	5007	3306	1786	2295	2481	2423	1437
MAX	561	6410	12100	14400	10600	7810	8470	2360	2480	2620	2550	2280
MIN	400	420	1320	1490	1450	2060	1400	1340	1030	2440	2280	500
AC-FT	28410	106700	355400	307200	206600	307900	196700	109800	136600	152600	149000	85490

CAL YR 1987 TOTAL 2340356 MEAN 6412 MAX 32200 MIN 400 AC-FT 4642000
WTR YR 1988 TOTAL 1080097 MEAN 2951 MAX 14400 MIN 400 AC-FT 2142000

e Estimated.

08066300 MENARD CREEK NEAR RYE, TX

LOCATION.--Lat 30°28'52", long 94°46'46", Liberty County, Hydrologic Unit 12030202, on left bank 20 ft downstream from bridge on State Highway 146, 2.3 mi northwest of Rye, and about 6 mi upstream from mouth.

DRAINAGE AREA.--152 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of of gage is 62.32 ft above National Geodetic Vertical Datum of 1929. September 1974 to August 1976, wire-weight gage read twice daily.

REMARKS.--Records good except those for estimated daily discharges, which are poor. No known diversions above station. Regulation by Bear Foot Lake on Mill Creek located 0.5 mi upstream from station. A section of the dam on this lake washed out on June 26-27, 1986, and was repaired in 1987.

AVERAGE DISCHARGE.--22 years (water years 1967-88), 122 ft³/s (88,390 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft³/s June 27, 1986 (gage height, 30.78 ft); minimum daily, 2.6 ft³/s Nov. 1, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1929 reached a stage of about 39.4 ft, from information by the State Department of Highways and Public Transportation. Flood in September 1961 reached a stage of about 34.0 ft, from information by local resident. Flood of May 1929 may have been equaled or exceeded by other floods during the period 1929-65.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 915 ft³/s Mar. 3 at 1200 hours (gage height, 16.60 ft); minimum daily, 9.8 ft³/s Sept. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	17	63	e189	65	55	e196	81	15	24	17	14
2	26	17	53	e204	e70	162	e262	172	14	21	17	15
3	23	16	47	e245	e70	819	225	88	20	20	17	15
4	22	16	43	e210	e68	620	167	53	47	19	18	15
5	20	16	39	e153	87	519	112	43	49	20	17	15
6	19	13	59	e136	126	287	91	36	35	24	16	15
7	18	19	185	e132	152	160	80	33	28	24	16	14
8	18	16	316	e135	163	121	72	31	23	26	15	14
9	18	16	514	e168	115	127	64	30	20	25	15	14
10	17	16	629	e187	102	137	58	28	18	24	15	13
11	17	16	222	e188	96	153	54	28	16	23	15	13
12	17	17	95	e157	89	103	50	27	15	21	16	13
13	17	17	76	e131	80	85	47	26	14	20	17	13
14	16	19	66	e110	75	76	44	26	14	19	16	13
15	16	19	58	e100	78	67	44	25	14	19	16	13
16	16	44	53	e94	76	59	43	24	14	18	15	13
17	15	111	48	e102	73	64	40	22	13	18	15	13
18	15	139	45	e112	82	344	40	21	13	17	15	13
19	16	114	59	e151	116	390	38	19	14	17	16	13
20	16	62	177	e123	140	491	36	19	19	17	16	13
21	16	44	354	e98	146	471	35	22	23	19	27	11
22	16	36	524	e92	101	164	34	22	22	28	32	11
23	16	33	612	e88	83	115	33	21	17	20	23	10
24	17	31	443	e84	73	99	32	22	15	17	20	10
25	17	57	232	e79	66	91	31	20	21	16	18	10
26	17	119	186	e74	61	91	27	19	27	18	17	10
27	17	139	229	e70	57	82	26	17	41	18	16	10
28	17	155	383	e66	55	76	25	16	33	16	15	9.9
29	17	98	468	e64	55	80	27	16	29	16	15	9.8
30	17	77	621	e63	---	e166	38	16	27	16	15	9.8
31	17	---	373	e62	---	e282	---	15	---	17	15	---
TOTAL	556	1509	7272	3867	2620	6556	2071	1038	670	617	533	375.5
MEAN	17.9	50.3	235	125	90.3	211	69.0	33.5	22.3	19.9	17.2	12.5
MAX	30	155	629	245	163	819	262	172	49	28	32	15
MIN	15	13	39	62	55	55	25	15	13	16	15	9.8
AC-FT	1100	2990	14420	7670	5200	13000	4110	2060	1330	1220	1060	745

CAL YR 1987 TOTAL 58577 MEAN 160 MAX 2260 MIN 13 AC-FT 116200
WTR YR 1988 TOTAL 27684.5 MEAN 75.6 MAX 819 MIN 9.8 AC-FT 54910

e Estimated.

08066300 MENARD CREEK NEAR RYE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1950 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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 26...	1440	17	116	21.0	18	7	5.2	1.3	14
DEC 14...	1340	65	78	16.0	16	9	4.4	1.3	8.6
FEB 01...	1505	65	90	15.0	17	10	4.8	1.3	10
MAR 14...	1507	74	88	17.0	18	10	5.0	1.3	9.9
MAY 04...	1052	49	81	19.0	16	8	4.7	1.1	9.8
JUN 27...	1325	45	105	26.5	18	7	5.0	1.4	12
AUG 16...	1440	16	128	29.0	21	10	6.1	1.4	15

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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 26...	1	0.90	11	4.1	26	0.10	14	72
DEC 14...	1	1.7	7	8.8	14	0.10	11	54
FEB 01...	1	0.80	7	8.8	18	0.10	13	61
MAR 14...	1	0.90	8	9.1	17	0.10	11	59
MAY 04...	1	1.0	8	11	15	0.20	10	58
JUN 27...	1	1.0	11	5.1	22	0.10	11	64
AUG 16...	1	1.0	11	3.7	29	0.10	13	76

08066400 BIG CREEK NEAR SHEPHERD, TX

LOCATION.--Lat 30°30'59", long 94°59'06", San Jacinto County, Hydrologic Unit 12030202, on left bank at downstream side of downstream bridge on U.S. Highway 59, 1.5 mi northeast of Shepherd, and 11.6 mi upstream from mouth.

DRAINAGE AREA.--38.8 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 94.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. There is no known regulation above station.

AVERAGE DISCHARGE.--22 years, 28.2 ft³/s, 9.87 in/yr (20,430 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s June 13, 1973 (gage height, 25.69 ft); minimum daily, 1.0 ft³/s Aug. 7, 1967.
Maximum stage since at least 1949, that of June 13, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1957 reached a stage of 20.3 ft (discharge about 5,500 ft³/s), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 18	0600	*400	*10.11				

Minimum discharge, 4.3 ft³/s Sept. 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	10	14	33	16	15	22	13	e6.1	e4.9	7.7	5.0
2	11	10	13	25	16	30	20	10	e6.0	e4.8	7.5	5.0
3	11	10	13	25	16	57	17	9.0	e6.0	e4.7	8.5	5.5
4	11	9.9	12	26	16	21	15	8.5	13	e4.6	7.3	6.0
5	11	9.8	12	22	19	17	15	8.0	11	5.7	6.6	5.4
6	11	9.8	49	22	27	16	14	7.7	e9.0	6.6	6.4	4.8
7	11	9.8	169	86	19	16	13	7.6	e8.0	7.6	6.1	4.7
8	11	9.8	32	36	17	44	12	7.9	e7.5	8.9	5.7	4.7
9	11	9.8	21	26	19	44	12	8.3	e7.1	7.7	5.5	4.7
10	11	9.8	18	24	20	24	12	7.9	e6.8	7.1	5.2	4.7
11	11	9.8	16	22	17	21	11	7.4	e6.5	8.6	5.5	4.6
12	11	9.8	15	22	16	20	11	7.4	e6.3	6.9	6.6	4.7
13	10	9.8	14	21	16	e18	11	7.4	e6.1	7.4	6.5	5.0
14	10	9.8	13	19	16	16	11	7.2	e6.0	7.6	5.8	5.3
15	10	10	13	19	16	16	11	7.1	e5.9	6.1	5.6	5.0
16	10	58	12	20	16	17	11	6.9	e5.8	5.7	6.1	5.0
17	10	32	12	23	16	52	11	6.9	e5.7	5.5	5.3	6.1
18	11	14	13	21	20	239	11	6.9	e5.6	6.9	5.2	6.5
19	11	12	47	21	24	40	10	6.9	e6.5	5.6	5.3	5.6
20	11	11	117	19	18	26	10	6.6	e6.0	5.6	5.7	4.9
21	11	11	145	17	16	22	10	8.0	e7.0	10	10	4.7
22	11	11	49	16	16	20	10	11	e6.6	6.8	7.2	4.7
23	10	11	31	16	16	19	10	7.1	e6.2	5.9	6.1	4.6
24	10	11	33	16	15	19	10	6.5	e7.0	5.5	5.8	4.6
25	10	54	30	16	15	18	10	6.3	e8.0	5.4	5.6	5.2
26	10	66	30	16	15	18	10	6.6	e7.5	11	5.5	5.3
27	10	24	80	16	15	16	9.8	6.7	e6.9	12	5.2	4.8
28	10	28	59	16	15	15	9.8	e6.5	e5.5	32	5.0	4.6
29	10	18	31	16	15	16	12	e6.4	e5.3	13	4.9	4.7
30	10	16	25	16	---	23	25	e6.3	e5.0	9.0	5.3	5.1
31	10	---	27	16	---	35	---	e6.2	---	8.2	5.3	---
TOTAL	327	524.9	1165	709	498	970	376.6	236.2	205.9	247.3	190.0	151.5
MEAN	10.5	17.5	37.6	22.9	17.2	31.3	12.6	7.62	6.86	7.98	6.13	5.05
MAX	11	66	169	86	27	239	25	13	13	32	10	6.5
MIN	10	9.8	12	16	15	15	9.8	6.2	5.0	4.6	4.9	4.6
AC-FT	649	1040	2310	1410	988	1920	747	469	408	491	377	301
CFSM	.27	.45	.97	.59	.44	.81	.32	.20	.18	.21	.16	.13
IN.	.31	.50	1.12	.68	.48	.93	.36	.23	.20	.24	.18	.15

CAL YR 1987 TOTAL 11026.7 MEAN 30.2 MAX 748 MIN 7.0 AC-FT 21870 CFSM .78 IN. 10.57
WTR YR 1988 TOTAL 5601.4 MEAN 15.3 MAX 239 MIN 4.6 AC-FT 11110 CFSM .39 IN. 5.37

e Estimated.

08066400 BIG CREEK NEAR SHEPHERD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1950 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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									
26...	1625	10	78	21.0	15	5	3.5	1.4	7.5
DEC									
14...	1515	13	70	18.0	16	9	3.8	1.5	7.6
FEB									
01...	1650	16	69	17.0	15	7	3.7	1.4	7.7
MAR									
14...	1638	16	72	14.0	17	7	4.3	1.4	7.5
MAY									
02...	1508	9.8	69	18.0	15	7	3.6	1.4	7.4
JUN									
27...	1520	7.1	69	26.0	15	5	3.5	1.4	7.2
AUG									
16...	1640	5.9	70	27.0	15	5	3.5	1.4	7.4

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET 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								
26...	0.9	1.1	10	5.1	12	0.10	16	53
DEC								
14...	0.9	1.0	7	9.3	11	0.20	16	55
FEB								
01...	0.9	1.0	8	9.2	11	0.10	15	54
MAR								
14...	0.8	0.90	10	9.3	11	0.10	15	55
MAY								
02...	0.9	1.1	8	7.9	11	0.20	15	52
JUN								
27...	0.8	1.0	10	5.2	12	0.10	15	51
AUG								
16...	0.9	1.1	10	4.9	12	0.10	16	52

08066500 TRINITY RIVER AT ROMAYOR, TX
(National stream-quality accounting network)

LOCATION.--Lat 30°25'30", long 94°51'02", Liberty County, Hydrologic Unit 12030202, near right bank at downstream side of bridge on State Highway 787, 1.9 mi south of Romayor, 1.9 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.7 mi downstream from Big Creek, and at mile 94.3.

DRAINAGE AREA.--17,186 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1392: 1932, 1935. WSP 1922: Drainage area. WRD TX-81-1: 1980(M, m).

GAGE.--Water-stage recorder. Datum of gage is 35.92 ft above National Geodetic Vertical Datum of 1929. Prior to September 1943, nonrecording gage at datum 53.57 ft higher at railroad bridge 1.9 mi upstream. Sept. 15, 1975, to June 16, 1977, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records fair. Since Sept. 28, 1968, flow is regulated by Livingston Reservoir (station 08066190), capacity 1,788,000 acre-ft, 35 mi upstream. There are no large diversions between Livingston Reservoir and this station.

AVERAGE DISCHARGE.--44 years (water years 1925-68) unregulated, 7,155 ft³/s (5,184,000 acre-ft/yr); 20 years (water year 1969-1988) flow regulated by Livingston Reservoir, 7,260 ft³/s (5,260,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 111,000 ft³/s May 9, 1942 (gage height, 35.8 ft, from floodmarks), present site and datum; minimum, 102 ft³/s Aug. 24, 25, 1956.
Maximum stage since at least 1908, that of May 9, 1942.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,000 ft³/s Jan. 2 at 1300 hours (gage height, 12.86 ft); minimum daily, 413 ft³/s Oct. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	812	474	2580	15100	1680	4430	4060	2110	2540	2520	2590	2370
2	813	469	2290	15900	1670	3350	4030	1990	2530	2510	2580	2380
3	800	467	1820	15900	1660	4110	5690	1900	2540	2500	2570	2380
4	771	467	1600	15800	1660	3830	8240	1720	2680	2510	2570	2360
5	765	459	1530	15500	1710	3310	9160	1660	2660	2540	2570	2350
6	761	799	1730	13600	1910	3020	9220	1620	2470	2580	2570	2350
7	751	1170	7380	11700	1950	4070	9100	1600	1300	2580	2560	2350
8	744	1190	10400	11000	1940	5460	8240	1600	1140	2590	2540	2250
9	736	1200	8990	8560	1880	7340	6870	1600	1620	2580	2520	2140
10	735	1190	8630	6090	1830	7730	5220	1590	1770	2570	2610	2130
11	728	1190	7600	4480	1790	7360	4330	1570	2100	2570	2670	2130
12	722	1220	6400	3170	1770	5740	3170	1570	2390	2570	2700	2130
13	699	1230	6120	2750	1740	4650	2550	1570	2450	2550	2700	2130
14	557	1660	4840	2660	1720	4390	2480	1570	2480	2550	2700	2130
15	448	1920	2980	2600	1720	3040	2430	1550	2480	2550	2710	2020
16	420	2310	1980	2570	1690	2450	2420	1540	2480	2550	2700	1840
17	418	2730	1650	2580	1690	2480	2400	1540	2480	2540	2690	1010
18	418	2520	1620	2590	1740	6130	2390	1980	2490	2540	2670	640
19	413	2240	1770	2630	2700	9340	2120	2220	2510	2540	2580	568
20	452	2070	3620	2700	3080	8490	1890	2480	2560	2550	2600	613
21	488	1970	7240	2600	3640	8250	1860	2640	2500	2570	2500	668
22	483	1950	9960	2510	5240	8520	1830	2670	2420	2560	2480	684
23	490	1920	10000	2450	8330	8490	1810	2620	2480	2560	2440	781
24	495	1450	9760	2440	10800	8400	1800	2590	2490	2550	2430	872
25	486	1450	9510	2400	11300	8350	1790	2570	2540	2540	2420	913
26	471	5390	9360	2340	11300	8230	1760	2560	2560	2580	2400	907
27	457	5820	10100	1880	10900	7390	1760	2550	2550	2560	2400	905
28	448	4900	11600	1710	8030	5940	1720	2560	2550	2600	2400	892
29	455	4590	11500	1700	5310	4800	1750	2560	2540	2720	2400	889
30	465	3580	12700	1690	---	3850	2080	2560	2530	2690	2390	889
31	470	---	13100	1690	---	3900	---	2550	---	2620	2370	---
TOTAL	18171	59995	200360	181290	112380	176840	114170	63410	70830	79540	79030	46671
MEAN	586	2000	6463	5848	3875	5705	3806	2045	2361	2566	2549	1556
MAX	813	5820	13100	15900	11300	9340	9220	2670	2680	2720	2710	2380
MIN	413	459	1530	1690	1660	2450	1720	1540	1140	2500	2370	568
AC-FT	36040	119000	397400	359600	222900	350800	226500	125800	140500	157800	156800	92570

CAL YR 1987 TOTAL 2633579 MEAN 7215 MAX 34700 MIN 413 AC-FT 5224000
WTR YR 1988 TOTAL 1202687 MEAN 3286 MAX 15900 MIN 413 AC-FT 2386000

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1941 to November 1949, February 1950 to September 1951, October 1953 to current year. Chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: February 1968 to July 1981, August 1983 to current year. Sediment records: March 1959 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1941 to September 1942, January 1944 to September 1951, October 1953 to current year.
WATER TEMPERATURE: October 1941 to September 1950, October 1953 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1954 to September 1955, October 1968 to September 1971.

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 (1945-50, 1953-88): Maximum daily, 3,800 microsiemens Oct. 30, 1956; minimum daily, 103 microsiemens Nov. 9, 1946.
WATER TEMPERATURES (1953-58, 1961-88): Maximum daily, 37.0°C July 18, 27, 1953; minimum daily, 3.0°C Jan. 18, 1956, Jan. 15, 16, 1968, Jan. 2, 3, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily 457 microsiemens Sept. 27, 30; minimum daily, 280 microsiemens Dec. 7.
WATER TEMPERATURE: Maximum daily, 33.0°C Aug. 8; minimum daily, 7.0°C Jan. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	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)
NOV											
09...	0911	1200	386	8.00	20.0	--	1.3	8.7	96	2.0	84
JAN											
21...	1210	2610	365	8.20	9.0	--	5.4	12.7	109	1.4	48
FEB											
10...	0750	1830	360	7.80	9.5	19	5.1	11.5	100	3.3	120
23...	1135	8400	382	8.00	11.5	--	5.0	12.3	112	1.7	80
APR											
20...	1108	1880	399	8.20	19.5	--	6.3	10.8	117	1.2	88
JUN											
07...	0905	1290	396	8.30	26.0	14	3.1	7.8	96	3.5	32
14...	1120	2480	412	8.30	26.0	--	1.3	9.0	110	2.0	88
AUG											
03...	1025	2570	425	8.50	28.0	--	0.60	8.0	102	3.1	120
23...	1020	2440	428	8.10	30.0	11	3.0	7.5	99	2.9	130

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD 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 WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV											
09...	170	140	25	47	4.7	27	1	5.1	112	35	29
JAN											
21...	36	120	24	40	4.0	28	1	5.0	93	38	30
FEB											
10...	80	110	23	39	3.9	28	1	5.3	91	39	31
23...	44	120	23	42	4.3	30	1	5.0	100	41	30
APR											
20...	60	120	19	39	4.3	30	1	4.9	96	44	35
JUN											
07...	40	120	24	41	4.6	33	1	5.1	98	45	34
14...	130	130	25	43	4.7	33	1	5.0	102	44	34
AUG											
03...	170	130	23	43	4.7	36	1	5.5	104	44	38
23...	1900	120	20	42	4.8	36	1	5.1	105	45	39

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
NOV											
09...	0.30	6.3	227	222	--	--	--	--	<0.010	<0.010	<0.100
JAN											
21...	0.30	7.6	220	211	--	--	0.490	--	0.010	<0.010	0.500
FEB											
10...	0.30	8.3	--	209	11	3	--	--	<0.010	--	0.500
23...	0.40	6.5	235	222	--	--	--	--	<0.010	<0.010	0.500
APR											
20...	0.40	4.8	236	221	--	--	0.250	0.250	0.050	0.050	0.300
JUN											
07...	0.40	4.4	--	226	20	16	--	--	<0.010	--	<0.100
14...	0.50	4.3	244	230	--	--	--	--	<0.010	<0.010	<0.100
AUG											
03...	0.30	5.4	246	240	--	--	--	--	0.030	0.020	<0.100
23...	0.40	6.0	--	241	12	9	--	--	<0.010	--	<0.100

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	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-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)
NOV											
09...	<0.100	0.010	<0.010	0.69	0.70	0.060	0.040	0.040	0.12	--	4
JAN											
21...	0.500	0.010	0.030	0.49	0.50	0.110	0.080	0.090	0.28	--	8
FEB											
10...	--	0.020	--	0.78	0.80	0.140	--	--	--	8.0	--
23...	0.550	0.010	0.020	0.49	0.50	0.130	0.070	0.080	0.25	--	89
APR											
20...	0.300	0.020	0.010	0.68	0.70	0.080	0.070	0.050	0.15	--	6
JUN											
07...	--	<0.010	--	--	0.60	0.140	--	--	--	6.3	--
14...	<0.100	0.030	<0.010	0.67	0.70	0.110	0.100	0.080	0.25	--	13
AUG											
03...	<0.100	0.030	0.010	0.77	0.80	0.200	0.150	0.130	0.40	--	16
23...	--	0.020	--	0.88	0.90	0.280	--	--	--	7.0	--

DATE	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	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)
NOV											
09...	13	97	<10	2	72	<0.5	<1	<1	<3	2	8
JAN											
21...	56	99	--	--	--	--	--	--	--	--	--
FEB											
10...	--	--	--	--	--	--	--	--	--	--	--
23...	2020	55	130	1	54	<0.5	<1	<1	<3	2	15
APR											
20...	30	95	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
14...	87	72	<10	5	51	<0.5	<1	1	<3	2	<3
AUG											
03...	111	86	<10	6	53	<0.5	<1	<1	<3	<1	8
23...	--	--	--	--	--	--	--	--	--	--	--

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	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											
09...	<5	15	6	<0.1	<10	<1	<1	<1.0	350	<6	5
JAN											
21...	--	--	--	--	--	--	--	--	--	--	--
FEB											
10...	--	--	--	--	--	--	--	--	--	--	--
23...	<5	4	4	<0.1	<10	9	<1	<1.0	310	<6	4
APR											
20...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
14...	<5	14	1	<0.1	<10	4	<1	<1.0	310	<6	7
AUG											
03...	<5	11	3	<0.1	<10	1	<1	<1.0	320	<6	7
23...	--	--	--	--	--	--	--	--	--	--	--

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	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.	1987	18171	378	217	10600	32	1570	40	1950	120
NOV.	1987	59995	366	210	34100	31	4950	38	6190	120
DEC.	1987	200360	366	210	114000	31	16600	38	20700	120
JAN.	1988	181290	395	226	111000	34	16600	42	20700	120
FEB.	1988	112380	386	221	67000	33	9970	41	12400	120
MAR.	1988	176840	371	213	102000	31	14900	39	18600	120
APR.	1988	114170	394	225	69500	34	10500	42	13000	120
MAY	1988	63410	405	231	39600	35	6040	44	7500	130
JUNE	1988	70830	409	233	44600	36	6840	44	8490	130
JULY	1988	79540	418	238	51100	37	7940	46	9830	130
AUG.	1988	79030	432	246	52400	39	8280	48	10200	130
SEPT	1988	46671	449	254	32000	41	5170	50	6360	140
TOTAL		1202687	**	**	727000	**	109000	**	136000	**
WTD.AVG.		3286	391	224	**	34	**	42	**	120

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	367	381	384	402	391	395	363	369	409	414	424	440
2	374	383	390	404	394	393	360	373	411	413	426	441
3	378	382	390	406	393	305	375	369	410	413	427	444
4	380	382	390	407	390	284	390	394	399	416	426	444
5	382	382	392	410	385	315	396	402	396	413	428	445
6	379	383	393	409	370	335	398	402	402	411	428	446
7	380	395	280	399	360	372	400	407	404	408	430	446
8	380	392	304	371	354	381	400	405	407	410	431	447
9	380	393	361	383	357	382	400	407	410	415	431	449
10	380	390	375	376	361	369	398	407	410	415	431	452
11	379	392	366	377	365	381	398	410	410	413	433	451
12	382	394	390	377	369	384	399	407	410	416	432	451
13	379	395	397	376	374	386	402	408	411	418	430	449
14	380	399	396	380	375	389	400	408	412	419	431	449
15	378	399	395	380	376	388	402	409	412	420	434	450
16	377	373	390	385	379	390	401	410	412	420	441	449
17	378	354	392	383	381	392	399	410	413	420	434	448
18	379	317	393	381	379	343	400	412	413	421	435	448
19	379	357	394	378	376	291	401	411	409	421	434	449
20	377	377	316	367	315	355	400	413	408	422	429	454
21	376	389	313	375	346	363	400	402	411	419	420	452
22	379	395	356	390	381	380	400	406	411	421	433	455
23	379	394	369	384	394	388	401	410	410	422	434	455
24	377	394	374	394	397	392	401	409	410	431	436	456
25	378	375	386	394	398	394	401	409	409	429	438	454
26	379	293	389	396	399	395	402	411	409	419	438	455
27	379	338	386	391	398	395	400	411	411	426	438	457
28	376	362	332	390	397	394	402	412	410	425	439	455
29	377	378	372	389	395	393	403	413	410	416	438	454
30	379	385	386	392	---	390	359	414	409	417	435	457
31	378	---	390	393	---	377	---	413	---	418	439	---
MEAN	378	377	372	388	378	371	395	405	409	418	432	450

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

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

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

Trinity River at Romayor (08066500)

Phytoplankton Analyses September 1987 to October 1988

Date	6-7-88
Time	0905
TOTAL CELLS/mL	32,952
NUMBER OF SPECIES	34
DEPTH COLLECTED (ft.)	

Organisms	Cells/mL
CHLOROPHYTA (green algae)	
Actinastrum hantzschii	5000
Ankistrodesmus convolutus	500
Ankistrodesmus falcatus	375
Chlamydomonas sp.	125
Coelastrum microporum	2000
Coelastrum reticulatum	128
Cosmarium sp.	16
Dictyosphaerium pulchellum	864
Golenkinia sp.	125
Pandorina morum	256
Scenedesmus bijuga	32
Scenedesmus dimorphus	500
Scenedesmus intermedius	500
Scenedesmus quadricauda	3500
Sphaerocystis schroeteri	250
Tetraedron caudatum	16
Tetraedron trigonum	375
Tetrastrum staurogeniaeforme	128
CYANOPHYTA (blue-green algae)	
Anabaena spiroides	2125
Chroococcus dispersus	625
Chroococcus minor	1250
Merismopedia glauca	320
Merismopedia tenuissima	9000
Schizothrix calcicola	625
Spirulina laxissima	48
EUGLENOPHYTA (euglenoid algae)	
Trachelomonas sp.	125
PYRRHOPHYTA (dinoflagellates)	
Peridinium quadridens	125
BACILLARIOPHYTA (diatoms)	
Order Centrales	
Melosira granulata	250
Stephanodiscus minutus	2000
Order Pennales	
Eunotia sp.	16
Fragilaria construens	125
Mastogloia smithii	125
Nitzschia holsatica	128
Nitzschia sp.	1375

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

Trinity River at Romayor (08066500)

Phytoplankton Analyses October 1987 to September 1988

Date	8-23-88
Time	1020
TOTAL CELLS/mL	261,530
NUMBER OF SPECIES	53
DEPTH COLLECTED (ft.)	?

Organisms	Cells/mL
CHLOROPHYTA (Green algae)	
Actinastrum hantzschii var. *fluviatile*	1664
Ankistrodesmus falcatus	208
Chlamydomonas globosa?	2289
Chlamydomonas sp.	208
Closterium sp.	208
Euastrum sp.	416
Franceia sp.	416
Kirchneriella sp.	1873
Nephrocytium lunatum	2497
Pediastrum biradiatum	1664
Pediastrum simplex	1664
Scenedesmus abundans	2081
Scenedesmus acuminatus	1664
Scenedesmus arcuatus var. *platydisca*	1664
Scenedesmus quadricauda	7906
Scenedesmus sp.	416
Sphaerocystis schroeteri	2081
Tetraedron muticum	208
unidentified green algal flagellates	208
CHRYSOPHYTA (Golden-brown algae)	
small chrysophyte flagellates	832
CYANOPHYTA (Blue-green algae)	
Anabaena sp.	6034
Anabaenopsis elenkinii	33914
Aphanocapsa delicatissima	5618
Chroococcus dispersus	11651
Chroococcus limneticus	5826
Chroococcus pallidus	832
Chroococcus sp.	2497
Dactylococcopsis fascicularis	208
Gleotrichia sp.	2289
Marssoniella elegans	2497
Merismopedia elegans	13316
Merismopedia punctata	5826
Merismopedia tenuissima	20806
Oscillatoria limnetica	76358
Raphidiopsis curvata	3745
Spirulina laxa	6034
Spirulina sp.	6242
Synechococcus sp.	16645
PYRRHOPHYTA (Dinoflagellates)	
unidentified dinoflagellates	208
BACILLARIOPHYTA (Diatoms)	
Order Centrales	
Cyclotella meneghiniana	208
Cyclotella kutzingiana	624
Melosira granulata var. *angustissima*	1040
Melosira italica	416
Stephanodiscus subtilis	208
Stephanodiscus vestibulis	208
Order Pennales	
Navicula hustedtii	208
Nitzschia fonticola	624
Nitzschia frustulum	624
Nitzschia palea	1248
Nitzschia paleacea	416
Nitzschia subacicularis	208
Nitzschia sp.	3953
Synedra delicatissima	832

08067000 TRINITY RIVER AT LIBERTY, TX

LOCATION.--Lat 30°03'27", long 94°49'05", Liberty County, Hydrologic Unit 12030203, at upstream side of upstream bridge on U.S. Highway 90 in Liberty, 345 ft downstream from Texas and New Orleans Railroad Co. bridge, and at mile 40.3.

DRAINAGE AREA.--17,468 mi².

PERIOD OF RECORD.--October 1938 to September 1940 (gage heights, discharge measurements, and some records of daily discharge), October 1940 to current year (high-water records only). Gage-height records collected in this vicinity since 1903 are contained in reports of the National Weather Service.
Water-quality records.--Chemical and biochemical analyses: October 1970 to September 1972. Pesticide analyses: May 1971 to September 1972.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2.22 ft below National Geodetic Vertical Datum of 1929; unadjusted for land-surface subsidence. Prior to Mar. 13, 1973, nonrecording gage at site 105 ft downstream at same datum.

REMARKS.--Records poor. Estimated discharge below 10,000 ft³/s not published. Published discharges are estimated using records for Trinity River near Romayor (station 08066500), intervening area computation, and discharge measurements. Considerable regulation of flow by Livingston Reservoir (station 08066190) 88.9 mi upstream. Many diversions above station for municipal supplies, industrial uses, and irrigation. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 114,000 ft³/s May 12, 1942 (gage height, 29.38 ft); minimum not determined (affected by tides); minimum gage height observed, 2.32 ft Nov. 24, 1970.
Maximum stage since at least 1903, that of May 12, 1942.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 8-11, 1922, reached a stage of 28.6 ft, present datum, from observation by the National Weather Service at nonrecording gage on railroad bridge upstream.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 16,000 ft³/s Jan. 4, 5; maximum gage height, 18.35 ft Jan. 4 at 1500 to 1700 hours; minimum discharge not determined (affected by tides); minimum gage height, 3.45 ft Oct. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	13500	---	---	---	---	---	---	---	---
2	---	---	---	14500	---	---	---	---	---	---	---	---
3	---	---	---	15700	---	---	---	---	---	---	---	---
4	---	---	---	16000	---	---	---	---	---	---	---	---
5	---	---	---	16000	---	---	---	---	---	---	---	---
6	---	---	---	15800	---	---	---	---	---	---	---	---
7	---	---	---	15000	---	---	---	---	---	---	---	---
8	---	---	---	13500	---	---	---	---	---	---	---	---
9	---	---	---	11700	---	---	---	---	---	---	---	---
10	---	---	10500	10000	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	10400	---	---	---	---	---	---	---	---	---
24	---	---	10700	---	---	---	---	---	---	---	---	---
25	---	---	10400	---	10500	---	---	---	---	---	---	---
26	---	---	10000	---	11500	---	---	---	---	---	---	---
27	---	---	10000	---	11500	---	---	---	---	---	---	---
28	---	---	11000	---	11000	---	---	---	---	---	---	---
29	---	---	12000	---	---	---	---	---	---	---	---	---
30	---	---	12000	---	---	---	---	---	---	---	---	---
31	---	---	13000	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

CAL YR 1987 TOTAL -- MEAN -- MAX -- MIN -- AC-FT --
WTR YR 1988 TOTAL -- MEAN -- MAX -- MIN -- AC-FT --

08067070 CIWA CANAL NEAR DAYTON, TX

LOCATION.--Lat 29°57'40", long 94°48'36", Liberty County, Hydrologic Unit 12030203, at flume on left bank of Coastal Industrial Water Authority canal, 1,000 ft west of the Trinity River, 2 mi east of Farm Road 1409, and 7.4 mi southeast of Dayton.

PERIOD OF RECORD.--April 1981 to current year.

GAGE.--Water-stage recorder. National Geodetic Vertical Datum of gage not determined.

REMARKS.--No estimated daily discharges. Records good. No diversion between pump plant and gage. Water is pumped from Trinity River for industrial use.

AVERAGE DISCHARGE.--7 years, 308 ft^3/s (223,100 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 593 ft^3/s July 19, 1988; minimum daily, 52 ft^3/s Aug. 18, 1983 and Nov. 10, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 593 ft^3/s July 19; minimum daily, 234 ft^3/s Mar. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	358	354	377	303	358	347	350	461	482	440	384	377
2	373	377	350	303	325	373	350	453	478	440	392	369
3	365	388	365	303	332	381	350	444	482	465	440	354
4	350	388	362	303	328	362	350	436	453	486	444	336
5	339	392	358	303	365	343	358	428	396	482	396	318
6	332	392	347	303	388	343	381	444	400	478	396	373
7	332	404	350	303	388	347	388	440	400	457	396	384
8	339	408	350	300	253	381	388	436	400	457	420	296
9	354	384	362	296	321	381	396	432	404	461	444	362
10	362	369	358	293	336	388	388	436	404	461	459	365
11	381	369	343	286	347	388	384	425	453	461	374	369
12	369	377	339	283	347	388	408	469	457	457	388	369
13	396	377	336	300	347	381	420	482	490	448	388	354
14	328	381	336	296	350	350	440	469	503	453	388	321
15	408	396	328	339	350	350	404	469	552	461	381	303
16	388	388	325	328	350	373	412	469	482	482	362	321
17	384	404	336	296	358	234	381	453	556	490	362	339
18	373	416	343	293	362	424	354	440	521	508	365	350
19	373	377	377	262	358	381	373	436	499	593	373	354
20	373	362	384	266	358	388	412	440	453	409	377	384
21	365	365	373	290	362	373	420	444	412	440	377	365
22	396	369	318	358	365	354	420	440	388	400	381	362
23	408	396	300	347	336	343	420	440	384	369	396	365
24	400	396	296	350	358	347	412	444	436	392	377	365
25	388	358	293	343	362	343	412	440	396	416	377	358
26	358	347	293	343	332	343	412	391	420	420	381	362
27	325	347	321	350	332	354	424	428	436	420	384	356
28	339	350	332	350	336	358	416	440	402	424	384	356
29	347	388	279	350	350	358	465	461	440	428	388	369
30	358	384	307	354	---	358	457	478	444	396	373	369
31	354	---	300	358	---	354	---	482	---	384	373	---
TOTAL	11315	11403	10438	9752	10054	11188	11945	13850	13423	13878	12120	10625
MEAN	365	380	337	315	347	361	398	447	447	448	391	354
MAX	408	416	384	358	388	424	465	482	556	593	459	384
MIN	325	347	279	262	253	234	350	391	384	369	362	296
AC-FT	22440	22620	20700	19340	19940	22190	23690	27470	26620	27530	24040	21070

CAL YR 1987 TOTAL 139444 MEAN 382 MAX 503 MIN 191 AC-FT 276600
WTR YR 1988 TOTAL 139991 MEAN 382 MAX 593 MIN 234 AC-FT 277700

08067500 CEDAR BAYOU NEAR CROSBY, TX

LOCATION.--Lat 29°58'21", long 94°59'08", Liberty County, Hydrologic Unit 12040203, on left bank at downstream side of bridge on U.S. Highway 90 and 6.6 mi northeast of Crosby.

DRAINAGE AREA.--64.9 mi².

PERIOD OF RECORD.--March to August 1946, March 1963 to February 1964, May to August 1971 (discharge measurements only), October 1971 to current year.
Water-quality records.--Chemical, biochemical, and pesticide analyses: May 1971 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 31.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Stage discharge relationship affected by seasonal vegetal growth. Low flow is sustained by drainage from irrigated lands. Diversion for irrigation upstream from station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--17 years (water years 1972-88), 79.9 ft³/s (57,890 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,760 ft³/s June 5, 1981 (gage height, 23.92 ft); maximum gage height, 24.91 ft June 13, 1973; no flow occasionally during pumping season of some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s and maximum (*):

Date	Time	Discharge (ft]³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 20	0400	*996	*14.95				

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	4.5	8.3	39	3.4	.39	232	17	.34	.12	.04	9.5
2	6.4	4.5	5.7	27	2.8	95.5	86	7.6	.23	.06	.60	5.2
3	6.5	4.5	4.6	14	2.6	354	33	4.2	64	.04	4.7	3.5
4	4.8	4.2	3.7	9.4	5.3	77	7.7	.54	284	.55	1.2	4.8
5	5.2	3.9	2.6	7.4	22	21	6.8	2.9	140	.35	.67	5.5
6	5.0	3.7	5.2	6.4	77	3.6	3.5	1.4	45	.60	.33	8.0
7	4.9	3.0	193	392	27	1.4	3.2	2.0	18	29	.32	9.0
8	4.9	3.2	48	115	15	.45	2.1	1.0	8.8	2.4	.32	5.2
9	4.7	3.3	20	43	12	2.3	1.5	.69	7.7	.40	.49	2.7
10	3.5	2.9	10	32	11	2.2	3.5	3.2	5.8	.28	1.1	1.4
11	3.1	2.8	7.1	19	9.4	1.7	4.3	2.5	2.9	1.0	2.2	4.9
12	2.8	2.7	6.2	16	6.9	5.1	4.2	.88	2.5	.09	122	13
13	2.6	5.0	5.2	13	4.2	4.9	3.9	11	2.1	.00	54	6.4
14	2.6	5.2	4.1	8.5	3.4	4.0	3.7	6.7	3.3	.00	22	18
15	2.0	4.6	2.9	6.4	3.1	2.4	3.4	2.8	3.4	.00	26	13
16	1.8	34	2.0	5.7	2.6	2.2	3.7	3.4	4.0	.00	44	2.7
17	1.7	46	2.4	12	1.6	18	3.8	2.8	3.4	.00	32	.87
18	1.4	39	1.6	15	56	566	3.7	.93	4.7	.00	19	.20
19	1.2	54	95	22	69	159	3.6	11	5.2	.01	33	.08
20	1.2	17	699	18	15	61	5.0	9.1	6.1	.00	31	.03
21	1.8	7.7	764	9.1	6.2	19	5.2	18	1.8	.11	13	.02
22	1.7	4.3	425	6.3	2.1	6.0	5.2	47	.93	.27	4.4	.06
23	1.7	3.3	154	5.9	.49	6.6	5.9	25	.72	.01	8.0	.06
24	1.8	2.5	104	3.7	.06	7.8	5.1	6.7	.08	.00	7.2	.06
25	1.9	117	86	3.4	.48	9.4	4.6	3.8	.63	.00	7.6	.06
26	2.9	137	57	2.9	.05	6.5	4.8	2.3	.22	.00	6.9	.06
27	2.6	53	326	3.7	.02	5.3	5.0	2.1	.08	.00	6.7	.06
28	2.7	56	277	2.4	.07	1.7	3.2	1.1	.06	.00	11	.08
29	3.4	20	82	2.7	.52	1.0	7.2	.63	.26	.83	20	.18
30	5.5	12	36	3.9	---	54	45	.43	.30	.71	15	.86
31	5.0	---	24	4.0	---	714	---	.38	---	.09	12	---
TOTAL	99.9	660.8	3461.6	868.8	359.29	2213.44	509.8	199.08	616.55	36.92	506.77	115.48
MEAN	3.22	22.0	112	28.0	12.4	71.4	17.0	6.42	20.6	1.19	16.3	3.85
MAX	6.5	137	764	392	77	714	232	47	284	29	122	18
MIN	1.2	2.5	1.6	2.4	.02	.39	1.5	.38	.06	.00	.04	.02
AC-FT	198	1310	6870	1720	713	4390	1010	395	1220	73	1010	229

CAL YR 1987 TOTAL 38930.84 MEAN 107 MAX 3600 MIN .74 AC-FT 77220
WTR YR 1988 TOTAL 9648.43 MEAN 26.4 MAX 764 MIN .00 AC-FT 19140

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 station during water year 1988

Station no.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Arkansas River basin				
07227700	Chicken Creek near Amarillo, Tex.	Lat 35°28'29", long 101°45'35", Potter County, about 1.5 mi northeast of LX Ranch headquarters and about 18 mi northeast of Amarillo.	(a)	1953-88	12- 1-87 6- 7-88	3.0 .91
		Red River basin				
07299750	Wanderers Creek at Odell, Tex.	Lat 34°20'50", long 99°25'15", Wilbarger County, at county road bridge and 0.25 mi northwest of Odell Post Office.	199	1949-50, 1952-88	1-12-88 6- 2-88	7.95 2.44
07299890	Lelia Lake Creek below Bell Creek near Hedley, Tex.	Lat 34°56'08", long 100°41'46", Donley County, 150 ft downstream from county road crossing, 1.0 mi downstream from mouth of Bell Creek, and about 5 mi north of Hedley.	74	1964-88	11-30-87 6- 6-88	9.21 2.10
07303300	Elm Creek near Shamrock, Tex.	Lat 35°07'21", long 100°17'07", Collingsworth County, at county road bridge, 1,500 ft downstream from Fort Worth and Denver (Burlington) Railway Company bridge, and about 6 mi southwest of Shamrock.	(a)	1947-88	12- 3-87 6- 8-88	6.30 1.75
07307700	Roaring Springs near Roaring Springs, Tex.	Lat 33°51'12", long 100°51'53", Motley County, 3.5 mi south of Roaring Springs.	(a)	1937, 1943-88	1-11-88	1.30
		Neches River basin				
08041550	Village Creek at State Highway 327 near Silsbee, Tex.	Lat 30°20'49", long 94°14'20", Hardin County, at bridge on State Highway 327, about 1.6 mi upstream from Mill Creek, and 2.7 mi west of Silsbee.	-	1979-88	6- 3-88 7-21-88 9-13-88	106 110 68
08041720	Pine Island Bayou at State Highway 105 near Sour Lake, Tex.	Lat 30°08'08", long 94°16'44", Hardin-Jefferson County line, at bridge on State Highway 105, about 2.0 mi upstream from mouth of Little Pine Island Bayou, and 7.9 mi east of Sour Lake.	-	1979-88	11-19-87 4-14-88 6- 3-88 9-12-88	44 41 25 27

a Not applicable.

Crest-stage partial-record stations

The following table contains annual maximum stage and (or) discharge at partial-record stations operated primarily for the purpose of defining the flooding characteristics of the streams. At stations where discharge is given, or is footnoted "to be determined", a stage-discharge relation has been, or will be, defined by discharge measurements obtained by current meter or by indirect procedures. Water-stage recorders are located at these flood-hydrograph stations to facilitate complete hydrograph definition. At stations where only the maximum stage is given (discharge column is dashed), data are generally collected for use in stage-frequency studies of flood-profile definition. Gages at these stations usually consist of a device that will register the peak stage occuring between inspections of the gage. The years used in the column "Period of record" identify the years in which the annual maximum has been determined.

Annual maximum stage and (or) discharge during water year 1988

Station no.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Red River basin					
07301200	McClellan Creek near McLean, Tex.	Lat 35°19'45", long 100°36'32", Gray County, on left bank at downstream side of bridge on State Highway 273, 5 mi upstream from mouth.	759	1967-80† 1987-88	7-19-88	a7.37	62
07308200	Pease River near Vernon, Tex.	Lat 34°10'44", long 99°16'40", Wilbarger County, near left bank on downstream side of bridge on U.S. Highway 283, 1.9 mi north of Vernon, and 10 mi upstream from mouth.	3,488	1959-82† 1984-88	9-19-88	11.48	3,200
		Sabine River basin					
08017210	Long Branch at Greenville, Tex.	Lat 33°07'20", long 96°05'54", Hunt County, on left edge of low-water channel 80 ft upstream from culvert under Moulton St. (Business Route U.S. Highway 69), 0.5 mi upstream from Interstate Highway 30, 0.6 mi downstream from Wesley St. (Business Route U.S. Highway 67), and 1.3 mi southeast of Hunt County Courthouse in Greenville.	5.37	1986-88	7-12-88	8.12	-
		Neches River basin					
08033000	Neches River near Diboll, Tex.	Lat 31°07'58", long 94°48'35", Angelina-Polk County line, at downstream bridge on U.S. Highway 59, 700 ft downstream from Texas and New Orleans Railroad Co. bridge, 2.9 mi downstream from Alabama Creek, 3.8 mi south of Diboll, and at mile 203.5.	2,724	1924-25† 1939-85† 1986-88	1-10-88	13.81	6,000
08038000	Attoyac Bayou near Chireno, Tex.	Lat 31°30'15", long 94°18'15", Nacogdoches-San Agustine County line, at bridge on State Highway 21, 2.2 mi upstream from Amaladeros Creek, 2.8 mi east of Chireno, 5.4 mi downstream from Arenoso Creek, and 41 mi upstream from mouth.	503	1924-25† 1939-54† 1956-85† 1986-88	11-19-87	16.04	2,660
08039100	Ayish Bayou near San Augustine, Tex.	Lat 31°23'46", long 94°09'03", San Augustine County, at bridge on State Highway 103, 3.0 mi upstream from Turkey Creek, and 9.5 mi south of San Augustine.	89.0	1959-85† 1986-88	4- 2-88	12.96	2,990
		Trinity River basin					
08045850	Clear Fork Trinity River near Weatherford, Tex.	Lat 32°44'25", long 97°39'06", Parker County, near left end of bridge on weigh station exit road associated with Interstate Highway 20, 150 ft downstream from Squaw Creek, 2.8 mi downstream from Lake Weatherford Dam on the Clear Fork Trinity River, 3.8 mi upstream from South Fork Trinity River, and 8.5 mi east of county courthouse in Weaterford.	121	1980-85† 1986-88	6-16-88	11.11	210
08048800	Big Fossil Creek at Haltom City, Tex.	Lat 33°48'32", long 97°15'02", Tarrant County, at center of channel at downstream side of downstream bridge on State Highway 183, 2.0 mi upstream from Little Fossil Creek, 3.5 mi upstream from mouth, and 6.0 mi northeast of downtown section of Fort Worth.	52.8	1960-73† 1974-84ϕ 1985-88	4-30-85 4-19-86 5-28-87 6- 1-88	9.16 7.90 7.06 6.39	- - - -
08051190	Elm Fork Trinity River above Aubrey, Tex.	Lat 33°19'12", long 97°01'34", Denton County, attached to trees on left bank, 0.1 mi downstream from Bray Branch, 1.4 mi downstream from abandoned county road bridge, 1.6 mi upstream from bridge on Farm Road 428, and 2.6 mi northwest of Aubrey.	-	1981-88	10-18-87	*532.03	-
08053010	Indian Creek at Hebron Parkway, Carrollton, Tex.	Lat 33°01'06", long 96°55'27", Denton County, Hydrologic Unit 12030103, on left bank at downstream side of downstream bridge on Hebron Parkway in Carrollton, 0.9 mi downstream from bridge on Farm Road 2281 (Old Denton Road) and 2.2 mi upstream from mouth.	14.7	1987-88	12-26-87	9.10	376
08053030	Furneaux Creek at Josey Lane, Carrollton, Tex.	Lat 33°00'05", long 96°53'10", Denton County, Hydrologic Unit 12030103, on right bank at downstream side of downstream bridge on Josey Lane in Carrollton, 0.5 mi upstream from bridge on Frankford Road, and 1.1 mi downstream from bridge on Rosemeade Parkway.	4.13	1987-88	11-15-87	6.68	381

* Elevation.
† Operated as a continuous-record station.
a Stage-discharge relationship affected by bridge construction.

Annual maximum stage and (or) discharge during water year 1988--Continued

Station no.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Trinity River basin--Continued					
08053050	Furneaux Creek at Dickerson Parkway, Carrollton, Tex.	Lat 32°59'10", long 96°55'09", Dallas County, Hydrologic Unit 12030103, on left bank at downstream side of downstream bridge on Dickerson Parkway in Carrollton, 0.6 mi downstream from bridge on Farm Road 2281 (Old Centon Road), and 1.5 mi upstream from mouth.	9.84	1987-88	11-15-87	7.67	1,280
08053090	Hutton Branch at Broadway, Cartollton, Tex.	Lat 32°57'24", long 96°54'37", Dallas County, Hydrologic Unit 12030103, on right bank at downstream side of bridge on Broadway (Loop 310) in Carrollton, 100 ft downstream from M-K-T Railroad Co. bridge, 600 ft upstream from traffic bridges on Interstate Highway 35E, and 0.2 mi downstream from bridge on Denton Drive.	9.14	1987-88	7-12-88	9.38	1,240
		Cedar Bayou basin					
08067510	Cedar Bayou near Baytown, Tex.	Lat 29°46'12", long 94°54'59", Chambers-Harris County line, at bridge on State Highway 146, 0.2 mi downstream from Cary Bayou, 0.2 mi upstream from Saw Pit Gully, and 4.3 mi northeast of Baytown.	169	1984-88	9-17-88	*3.29	

* Elevation.
† Operated as a continuous-record station.
ϕ Operated as an unpublished stage-only station.

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table:

Discharge measurements made at miscellaneous sites during water year 1988

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
Trinity River basin						
West Fork Trinity River	Trinity River	Lat 32°47'18", long 97°08'23", Tarrant County, Hydrologic Unit 12030102, at upstream side of bridge on Arlington Bedford Road, 1.4 mi downstream from Village Creek, and 3.2 mi northwest of intersection of Interstate Highway 30 and Farm Road 157 in Arlington.	-	1974* 1987	6- 1-88	7,090

* Although measurement was at a slightly different site location, the drainage area is comparable to prior miscellaneous measurement.

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October 1, 1978

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).

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
8011 Cameron Road, Bldg. 1
Austin, TX 78753