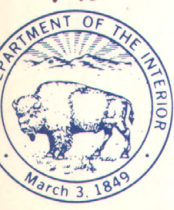
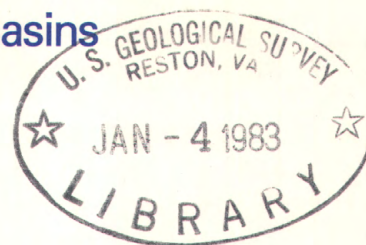
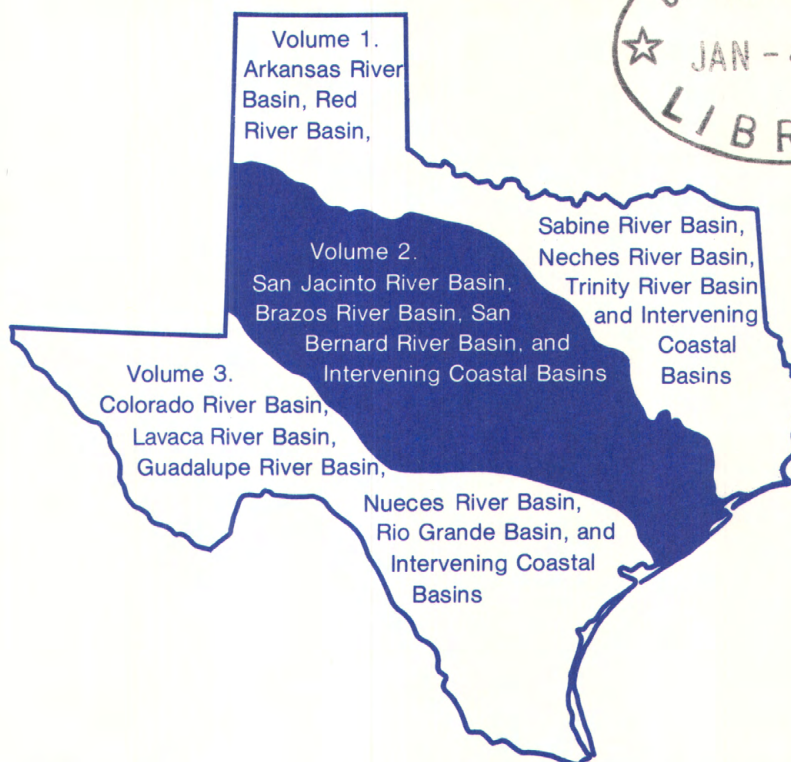


K
(200)
Gra 3
Texas
1981
v. 2



Water Resources Data Texas Water Year 1981

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-81-2
Prepared in cooperation with the State of Texas
and with other agencies

CALENDAR FOR WATER YEAR 1981

1980

OCTOBER

S	M	T	W	T	F	S
			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	

NOVEMBER

S	M	T	W	T	F	S
						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						

DECEMBER

S	M	T	W	T	F	S
	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			

1981

JANUARY

S	M	T	W	T	F	S
				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

FEBRUARY

S	M	T	W	T	F	S
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

MARCH

S	M	T	W	T	F	S
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				

APRIL

S	M	T	W	T	F	S
			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		

MAY

S	M	T	W	T	F	S
					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						

JUNE

S	M	T	W	T	F	S
	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				

JULY

S	M	T	W	T	F	S
			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	

AUGUST

S	M	T	W	T	F	S
						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					

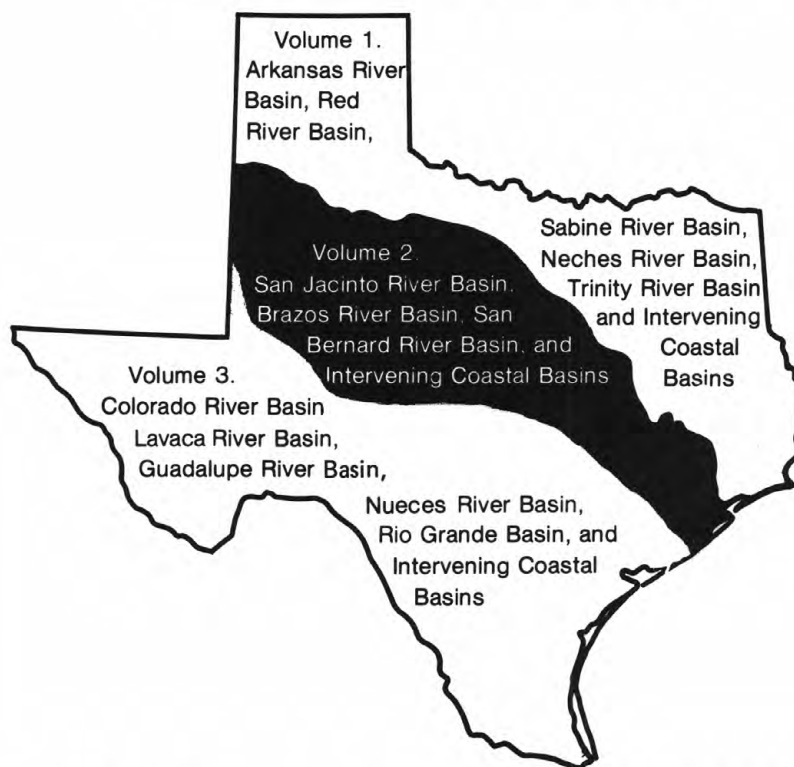
SEPTEMBER

S	M	T	W	T	F	S
		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			



Water Resources Data Texas Water Year 1981

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-81-2
Prepared in cooperation with the State of Texas
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

Compiled by

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

For additional information write to
District Chief, Water Resources Division
U.S. Geological Survey
300 East 8th Street
Austin, Texas 78701

1982

Preface

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

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

Data for Texas are in three volumes as follows:

- Volume 1. Arkansas River basin, Red River basin, Sabine River basin, Neches River basin, Trinity River basin, and intervening and adjacent Coastal basins
- Volume 2. San Jacinto River basin, Brazos River basin, San Bernard River basin, and intervening Coastal basins
- Volume 3. Colorado River basin, Lavaca River basin, Guadalupe River basin, Nueces River basin, Rio Grande basin, and intervening Coastal basins

REPORT DOCUMENTATION PAGE		1. REPORT NO. USGS/WRD/HD-82/069	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data for Texas, Water Year 1981, Volume 2; San Jacinto River, Brazos River, San Bernard River Basins and Intervening Coastal Basins			5. Report Date September 1982	
			6.	
7. Author(s)			8. Performing Organization Rept. No. USGS-WDR-TX-81-2	
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division 300 East Eighth Street Austin, TX 78701			10. Project/Task/Work Unit No.	
			11. Contract(C) or Grant(G) No. (C) (G)	
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division 300 East Eighth Street Austin, TX 78701			13. Type of Report & Period Covered Oct. 1, 1980, to Sept. 30, 1981	
			14.	
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 1981 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 *Texas, *Hydrologic data, *Surface water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water analyses b. Identifiers/Open-Ended Terms c. COSATI Field/Group				
18. Availability Statement No restriction on distribution. This report may be purchased from: National Technical Information Service Springfield, VA 22161		19. Security Class (This Report) UNCLASSIFIED		21. No. of Pages 531
		20. Security Class (This Page) UNCLASSIFIED		22. Price

CONTENTS

	Page
List of gaging stations, in downstream order, for which records are published.....	V
Introduction.....	1
Cooperation.....	2
Hydrologic conditions.....	3
Definition of terms.....	4
Downstream order and station number.....	16
Special networks and programs.....	16
Explanation of stage and water-discharge records.....	17
Collection and computation of data.....	17
Accuracy of field data and computed results.....	21
Other data available.....	22
Records of discharge collected by agencies other than the Geological Survey.....	22
Explanation of surface-water quality records.....	22
Collection and examination of data.....	22
Water analysis.....	23
Water temperature.....	24
Sediment.....	24
Publications of techniques of water-resources investigations.....	26
Gaging-station records.....	29
Discharge at partial-record stations and miscellaneous sites.....	505
Low-flow partial-record stations.....	505
Crest-stage partial-record stations.....	506
Discharge measurements at miscellaneous sites.....	508
Index.....	509

ILLUSTRATION

Figure 1. Comparison of discharge at four long-term representative gaging stations during the 1981 water year with median discharge for the period 1941-70.....	28
---	----

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

Page

WESTERN GULF OF MEXICO BASINS

SAN JACINTO RIVER BASIN

West Fork San Jacinto River (head of San Jacinto River):

Lake Conroe near Conroe.....	29
Lake Conroe at outflow weir near Conroe.....	38
West Fork San Jacinto River below Lake Conroe near Conroe.....	39
Lake Creek near Conroe.....	42
West Fork San Jacinto River near Conroe.....	43
Spring Creek at Spring.....	54
Cypress Creek at Katy-Hockley Road near Hockley.....	55
Cypress Creek at House and Hahl Road near Cypress.....	56
Cypress Creek near Westfield.....	59
Cypress Creek near Humble.....	60
West Fork San Jacinto River near Humble.....	62
East Fork San Jacinto River near Cleveland.....	63
Caney Creek near Splendora.....	65
San Jacinto River:	
Lake Houston near Sheldon.....	66
Lake Houston Plant Intake at Galena Park.....	68
San Jacinto River near Sheldon.....	69
Buffalo Bayou near Katy.....	70
Barker Reservoir near Addicks.....	72
South Mayde Creek:	
Bear Creek near Barker.....	77
Langham Creek at State Highway 6 near Addicks.....	79
Addicks Reservoir near Addicks.....	81
Buffalo Bayou near Addicks.....	86
Buffalo Bayou at West Belt Drive, Houston.....	89
Buffalo Bayou at Piney Point.....	96
Buffalo Bayou at Houston.....	97
Whiteoak Bayou:	
Cole Creek:	
Bingle Road storm sewer at Houston.....	100
Cole Creek at Deihl Road, Houston.....	104
Brickhouse Gully at Costa Rica Street, Houston.....	105
Lazybrook Street storm sewer at Houston.....	108
Whiteoak Bayou at Houston.....	112
Little Whiteoak Bayou at Houston.....	115
Buffalo Bayou at Main Street, Houston.....	118
Buffalo Bayou at 69th Street, Houston.....	119
Brays Bayou:	
Keegans Bayou at Roark Road near Houston.....	120
Brays Bayou at Houston.....	124
Brays Bayou at Scott Street, Houston.....	127
Sims Bayou at Hirma Clarke Street, Houston.....	128

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

VII

Page

WESTERN GULF OF MEXICO BASINS--Continued

SAN JACINTO RIVER BASIN--Continued

San Jacinto River:

Buffalo Bayou:

Sims Bayou at Houston.....	131
Berry Bayou at Forest Oaks Street, Houston.....	134
Vince Bayou at Pasadena.....	136
Hunting Bayou at Falls Street, Houston.....	137
Hunting Bayou at Interstate Highway 610, Houston.....	140
Greens Bayou at U.S. Highway 75 near Houston.....	143
Greens Bayou near Houston.....	144
Halls Bayou at Houston.....	148
Greens Bayou at Ley Road, Houston.....	151

CLEAR CREEK BASIN

Clear Creek near Pearland.....	153
--------------------------------	-----

COASTAL BASIN

Moses Lake-Galveston Bay near Texas City.....	154
---	-----

HIGHLAND BAYOU BASIN

Highland Bayou at Hitchcock.....	155
----------------------------------	-----

CHOCOLATE BAYOU BASIN

Chocolate Bayou near Alvin.....	156
---------------------------------	-----

COASTAL BASIN

East Levee Ditch near Freeport.....	162
Old Brazos River near Freeport.....	163
South Levee Ditch near Freeport.....	164

BRAZOS RIVER BASIN

Double Mountain Fork Brazos River (head of Brazos River) at

Justiceburg.....	165
------------------	-----

Double Mountain Fork Brazos River near Aspermont.....	169
---	-----

Salt Fork Brazos River:

Duck Creek near Girard.....	175
Salt Fork Brazos River near Peacock.....	176

Croton Creek:

Short Croton Creek at mouth near Jayton.....	180
Croton Creek below Short Croton Creek near Jayton.....	181
Croton Creek near Jayton.....	182
Salt Fork Brazos River near Aspermont.....	185
Stinking Creek near Aspermont.....	192

Brazos River:

North Croton Creek near Knox City.....	197
Brazos River at Seymour.....	198
Millers Creek near Munday.....	202

	Page
WESTERN GULF OF MEXICO BASINS--Continued	
BRAZOS RIVER BASIN--Continued	
Brazos River:	
Millers Creek Reservoir near Bomartin.....	203
Elm Creek near Proffitt.....	205
Clear Fork Brazos River near Roby.....	206
Clear Fork Brazos River at Hawley.....	207
Mulberry Creek near Hawley.....	208
Elm Creek at Abilene.....	210
Cedar Creek at Abilene.....	211
Fort Phantom Hill Reservoir near Nugent.....	212
Clear Fork Brazos River at Nugent.....	214
Deadman Creek near Nugent.....	216
Paint Creek:	
Lake Stamford near Haskell.....	217
California Creek near Stamford.....	219
Clear Fork Brazos River at Fort Griffin.....	222
Hubbard Creek:	
Salt Prong Hubbard Creek:	
North Fork Hubbard Creek Near Albany.....	223
Hubbard Creek below Albany.....	227
Big Sandy Creek above Breckenridge.....	230
Hubbard Creek Reservoir near Breckenridge.....	233
Hubbard Creek near Breckenridge.....	243
Clear Fork Brazos River at Eliasville.....	244
Brazos River near South Bend.....	248
Salt Creek:	
Briar Creek near Graham.....	257
Lake Graham near Graham.....	258
Big Cedar Creek near Ivan.....	260
Possum Kingdom Lake near Graford.....	261
Brazos River at Morris Sheppard Dam near Graford.....	274
Brazos River near Palo Pinto.....	277
Palo Pinto Creek:	
Lake Palo Pinto near Santo.....	278
Brazos River near Dennis.....	280
Lake Granbury near Granbury.....	284
Brazos River near Glen Rose.....	295
Paluxy River at Glen Rose.....	298
Squaw Creek:	
Squaw Creek Reservoir near Glen Rose.....	299
Squaw Creek near Glen Rose.....	300
Lake Pat Cleburne near Cleburne.....	301
Nolan River at Blum.....	303
Lake Whitney near Whitney.....	305

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

IX

	Page
WESTERN GULF OF MEXICO BASINS--Continued	
BRAZOS RIVER BASIN--Continued	
Brazos River at Whitney Dam near Whitney.....	316
Brazos River near Aquilla.....	319
Aquilla Creek:	
Hackberry Creek at Hillsboro.....	320
Hackberry Creek below Hillsboro.....	322
Aquilla Creek above Aquilla.....	324
Aquilla Creek near Aquilla.....	329
North Bosque River at Hico.....	333
North Bosque River near Clifton.....	334
North Bosque River at Valley Mills.....	335
South Bosque River:	
Middle Bosque River near McGregor.....	338
Hog Creek near Crawford.....	339
Waco Lake near Waco.....	340
Bosque River near Waco.....	349
Brazos River at Waco.....	351
Brazos River near Highbank.....	352
Pond Creek:	
Little Pond Creek at Burlington.....	362
Leon River (head of Little River):	
Leon Reservoir near Ranger.....	363
Leon River near De Leon.....	365
Sabana River near De Leon.....	367
Proctor Lake near Proctor.....	368
Leon River near Hasse.....	376
Leon River near Hamilton.....	378
Leon River at Gatesville.....	379
Cowhouse Creek at Pidcoke.....	380
Belton Lake near Belton.....	381
Leon River near Belton.....	383
Nolan Creek at Belton.....	384
Lampasas River near Kempner.....	385
Rocky Creek:	
South Fork Rocky Creek near Briggs.....	388
Stillhouse Hollow Lake near Belton.....	391
Lampasas River near Belton.....	401
Little River near Little River.....	403
San Gabriel River:	
North Fork San Gabriel River near Liberty Hill.....	406
Lake Georgetown near Georgetown.....	408
North Fork San Gabriel River near Georgetown.....	415
South Fork San Gabriel River at Georgetown.....	417

X

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

Page

WESTERN GULF OF MEXICO BASINS--Continued

BRAZOS RIVER BASIN--Continued

Brazos River:

Little River:

San Gabriel River:

Berry Creek near Georgetown.....	418
San Gabriel River near Weir.....	420
Granger Lake near Granger.....	424
San Gabriel River at Lanepoint.....	432
San Gabriel River near Rockdale.....	436
Little River near Rockdale.....	437
Little River at Cameron.....	438
Brazos River near Bryan.....	444
Brazos River near College Station.....	445
Middle Yegua Creek (head of Yegua Creek) near Dime Box.....	448
East Yegua Creek near Dime Box.....	449
Somerville Lake near Somerville.....	451
Yegua Creek near Somerville.....	458
Davidson Creek near Lyons.....	460
Brazos River at Washington.....	461
Navasota River:	
Lake Mexia near Mexia.....	463
Navasota River above Groesbeck.....	464
Big Creek near Freestone.....	468
Lake Limestone near Marquez.....	469
Navasota River near Easterly.....	474
Navasota River near Bryan.....	476
Navasota River near College Station.....	483
Brazos River near Hempstead.....	484
Mill Creek near Bellville.....	485
Brazos River at Richmond.....	487
Big Creek near Needville.....	498
SAN BERNARD RIVER BASIN	
San Bernard River near Boling.....	499

WATER RESOURCES DATA, TEXAS, WATER YEAR 1981

VOLUME 2

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

INTRODUCTION

Surface-water data for Texas for the 1981 water year are presented in three volumes, appropriately identified 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. Records for a few pertinent stations in bordering states are also included. These data represent that part of the National Water Data System operated by the U.S. Geological Survey in cooperation with State and Federal agencies in Texas.

Records of discharge (or stage) of streams and contents (or stage) of lakes and reservoirs were first published in a series of Geological Survey Water-Supply Papers entitled, "Surface Water Supply of the United States." Through water year 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperature, and suspended sediment were published from 1941 to 1971 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Virginia 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow and water quality are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report TX-81-2." Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

COOPERATION

Federal agencies that assisted the Geological Survey in the collection of data in this report in the form of funds or services in 1981 are:

Corps of Engineers, U.S. Army.

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

National Park Service.

U.S. Bureau of Reclamation.

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

Texas Department of Water Resources, H. D. Davis, Executive Director; the cities of Abilene, Alice, Arlington, Austin, Brady, Cleburne, Clyde, Corpus Christi, El Paso, Gainesville, Garland, Graham, Houston, Nacogdoches, San Angelo, San Antonio, and Wichita Falls; Athens Municipal Water Authority; Bexar, Medina, and Atascosa Counties Water Control and Improvement District No. 1; Bistone Municipal Water Supply District; Brazos River Authority; Coastal Industrial Water Authority; Colorado River Municipal Water District; Dallas County; 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; Harris-Galveston Coastal Subsidence District; Lavaca-Navidad River Authority; Lower Colorado River Authority; Lower Neches Valley Authority; MacKenzie Municipal Water Authority; North Central Texas Municipal Water Authority; Northeast Texas Municipal Water District; Nueces River Authority; Orange County; Palo Pinto County Municipal Water District; Pecos River Commission; Red Bluff Water Power Control District; Reeves County Water Improvement District No. 1; Sabine River Authority of Texas; Sabine River Compact Administration; San Antonio City Public Service Board; San Antonio City Water Board; San Antonio River Authority; San Jacinto River Authority; Tarrant County Water Control and Improvement District No. 1; Titus County Fresh Water Supply District No. 1; Tom Green County Water Control and Improvement District No. 1; Trinity River Authority; Upper Guadalupe River Authority; Upper Neches River Municipal Water Authority; Upper Trinity Basin Water Quality Compact; West Central Texas Municipal Water District; Wichita County Water Improvement District No. 2; and Wood County.

HYDROLOGIC CONDITIONS

Large variations in rainfall and runoff characterize the usual hydrologic conditions in Texas. In the eastern part of the State, streams generally are deep with wide alluvial flood plains, and streamflow generally is perennial. Normal annual rainfall exceeds 50 inches, and the annual runoff may average as much as 15 inches. In the western part of the State, streams generally flow through arroyos, and streamflow principally is highly ephemeral. Normal annual rainfall is less than 8 inches, and annual runoff averages less than 0.1 inch in many areas.

During the 1981 water year, runoff for the index station North Bosque River near Clifton, located in the central part of the State, and the one in east Texas, was in the deficient range (within the lowest 25 percent of record). Runoff was normal for the index station in west Texas and excessive for the one in south-central Texas. A comparison of monthly and annual mean discharges for the index stations is shown in figure on 1 on page 28. Conservation storage in a selected group of 70 reservoirs throughout the State, with a combined conservation capacity of 31,612,620 acre-feet, increased from 73 percent at the end of September 1980 to 82 percent at the end of September 1981. Records from the 70 reservoirs show that contents increased in 57, decreased in 11, and remained the same in 2.

At the beginning of the 1981 water year, streamflow was in the deficient range in the panhandle and the upper Brazos River basin, excessive (within the highest 25 percent of record) in parts of the Guadalupe River basin in south-central Texas, and about normal in the remainder of the State. At the end of December, accumulated rainfall was less than normal over most of the State, with deficient runoff conditions existing in the entire northeastern one-half of the State. While drought conditions continued through May in northeast Texas, heavy localized rainfall caused severe flooding in parts of south-central Texas during late May. A Memorial Day storm (May 30) produced as much as 10 inches of rainfall in the northwestern part of Austin. The disastrous flood that followed was the worse to occur in that part of the city in at least 60 years.

By the end of June, heavy rain storms covered much of the State, producing excessive runoff in the eastern one-half, with drought conditions existing only in the panhandle of north Texas. For the remainder of the water year, rainfall throughout the State generally was minimal. At the end of September, most of the State had normal runoff conditions, with excessive runoff occurring only in the the coastal areas of the Guadalupe, San Antonio, and Nueces River. Deficient runoff conditions existed only in the upper Brazos and Red River basins of north Texas.

DEFINITION OF TERMS

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

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

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

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

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

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C \pm 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL (milliliters) of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

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

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

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

Bottom material: See Bed material.

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

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-ft, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

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

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

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

Cubic foot per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT^3/S , ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second. This rate is equivalent to approximately 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 μ m membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

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

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

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

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified location. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

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

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

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

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

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

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

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined either by sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

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

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

The particle-size ditribution given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

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

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides and herbicides, which control insects and plants respectively, and are the two categories reported.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

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

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

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

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells/mL of sample.

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

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon 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.

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

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

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

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

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

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream, or is the quantity of sediment, as measured by dry weight or volume, that passes a section during a given time. It is computed by multiplying discharge (ft³/s) times mg/L times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

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

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

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter

at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content in the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

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

Substrate is the physical surface upon which an organism lives.

Natural substrates refers to any naturally occurring emerged or submersed solid surface, such as rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

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

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

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

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

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour day.

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

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

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

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

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata is the following:

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

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

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

WRD is used as an abbreviation for "Water Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

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

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The station numbering system is not used at miscellaneous sites where only random water-quality samples or discharge measurements are taken. The complete number for each station consists of eight digits, such as 08123800. The first two digits, 08 or 07, identify the river basin as previously published in the series of water-supply papers on the Surface Water Supply of the United States. The digits 07 indicate the Lower Mississippi River basin, and the digits 08 indicate the Western Gulf of Mexico Basins. The remaining six digits of the station number are sequential in downstream order.

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

SPECIAL NETWORKS AND PROGRAMS

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

National stream-quality accounting network (NASQAN) is a data collection network designed by the Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled gaging stations where additional samples are collected monthly or twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The basic data collected at gaging stations consist of (1) records of stage; (2) measurements of discharge of streams and canals; and (3) stage, surface area, and contents of lakes and reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement basic data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a non-recording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at 5-, 15-, 30-, or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is often determined by sounding at many points.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables; monthly and yearly mean discharges are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors (based on individual discharge measurements and notes by the hydrologists or observers) are used in applying the gage heights to the rating tables.

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

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

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

At some gaging stations, there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. For such periods, the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

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

The description of the gaging stations, except those partial-record stations published in tabular form in the back of the report, gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, general remarks, and notations of revisions of previously published records. The location of the gaging stations and the drainage areas are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies (U.S. Water Resources Council, 1968). Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records for some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

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

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow at the gaging station is given under "REMARKS." For reservoir stations, information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

* The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the statistic to have little significance. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the maximum stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge, it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations additional peak discharges are listed under EXTREMES FOR THE CURRENT YEAR; if they are all independent peaks above a selected base. The time of occurrence of the peaks and corresponding gage heights are also listed. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CF SM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are generally omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall

over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the significant statistics for the calendar and water years.

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables in the back of the report. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual, maximum stage and (or) discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made and samples collected within a short time period to investigate the seepage and (or) pollutant gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements and analyses are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of discharge data depends primarily on (1) the stability of the stage-discharge relation, or if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft³/s; to tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and

1,000 ft³/s; and to 3 significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial record stations.

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

Other data available

Information of a more detailed nature than that published for most of the gaging stations, such as observations of water temperatures, discharge measurements, gage-height records, and rating tables, is on file in the Texas District Office in Austin. Most gaging-station records are available in computer-usable form, and many statistical analyses have been made.

Records of discharge collected by agencies other than the Geological Survey

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

EXPLANATION OF SURFACE-WATER QUALITY RECORDS

Collection and examination of data

Surface-water samples for analyses usually are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

Water analysis

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

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating loads.

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

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

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

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

Water temperature

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

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

Sediment

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

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

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

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

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

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

- 1-D1. *Water temperature-influential factors, field measurements, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 p.
- 3-A1. *General field and office procedures for indirect measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 p.
- 3-A2. *Measurement of peak discharge by the slope-area methods*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 p.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 p.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 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-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 p.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 p.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 p.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 p.

- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 p.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 p.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 p.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 p.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 p.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad and others: USGS--TWRI Book 5, Chapter A1. 1979. 626 p.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 p.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 p.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 p.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 p.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 p.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 p.

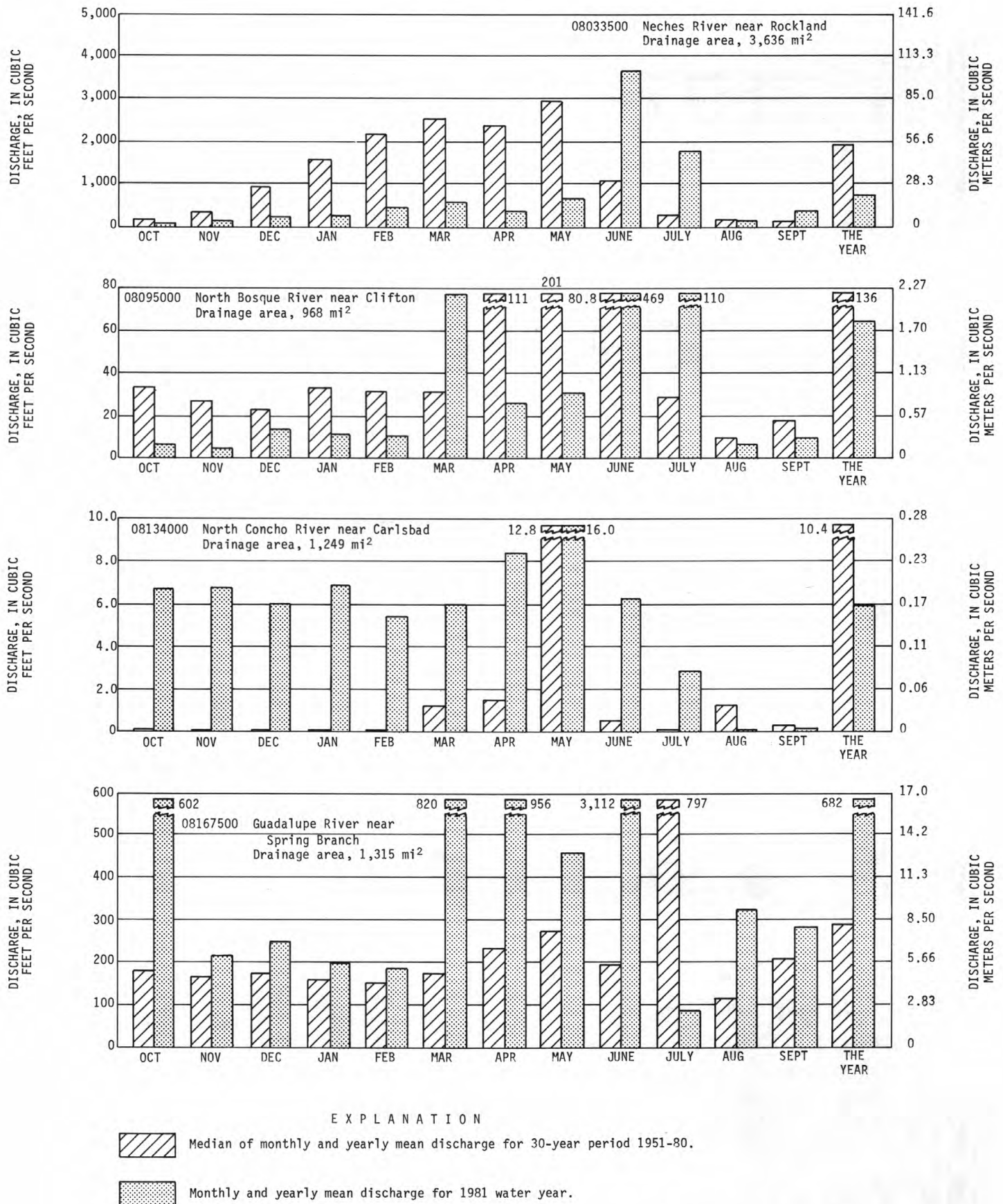


FIGURE 1.--COMPARISON OF DISCHARGE AT FOUR LONG-TERM REPRESENTATIVE GAGING STATIONS DURING THE 1981 WATER YEAR WITH MEDIAN DISCHARGE FOR THE PERIOD 1951-80

08067600 LAKE CONROE NEAR CONROE, TX

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

DRAINAGE AREA.--445 mi² (1,153 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--The lake is formed by an earthfill dam 11,300 ft (3,440 m) long, including a controlled spillway. The dam was completed Sept. 1, 1972, and deliberate impoundment began Jan. 9, 1973. Water is used for municipal and industrial purposes in the Houston metropolitan area. In addition, a small diversion is used for cooling purposes at the Gulf State Utilities generating plant on Lewis Creek Reservoir near Conroe. During the current year, 3,740 acre-ft (4.61 hm³) was diverted to Lewis Creek Reservoir for that purpose. A spillway with five 40- by 30-foot (12 by 9 m) tainter gates is located near the center of dam. Low-flow releases are made through a separate multi-gated inlet tower. The tower has three gated openings and one uncontrolled opening. It is connected to a stilling basin and a concrete weir by a 14-foot-diameter (4 m) conduit through the dam. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 476,600 acre-ft (588 hm³) Apr. 21, 1979, elevation, 203.13 ft (61.914 m); minimum since normal operating level was reached, 360,400 acre-ft (444 hm³) Nov. 22, 1980, elevation, 197.46 ft (60.186 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 440,900 acre-ft (544 hm³) July 9 at 2400 hours, elevation, 201.50 ft (61.417 m); minimum, 360,400 acre-ft (444 hm³) Nov. 22, elevation, 197.46 ft (60.186 m).

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

197.0	351,800	200.0	409,600
198.0	370,500	202.0	451,600

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	375700	363200	363200	363200	366200	368600	367300	369700	393300	430300	424900	429000
2	375300	363000	363600	363000	365600	368400	366700	369000	394700	429600	424500	433500
3	374100	363000	363000	363000	365200	368000	366900	375700	397300	429400	424100	434700
4	373700	363000	363000	363200	365400	369300	367300	382400	400100	429200	423200	435000
5	372800	362600	363200	362500	366600	369300	367100	385700	393700	430100	423000	434100
6	372000	362300	363200	363600	366400	368800	366000	385900	395100	429800	422600	433500
7	371200	361900	363200	363200	366700	369000	365800	386200	396900	438200	422600	433000
8	370700	361900	365200	362600	366600	369200	365800	385700	406900	440100	422000	431800
9	369700	361900	365200	363000	366200	369300	365600	386800	406700	440900	421600	430900
10	369300	362100	364900	363000	369500	368800	365600	386600	406700	440300	420800	430300
11	368600	362100	364300	363000	367100	368800	365400	385900	406900	439000	420400	429600
12	367900	361500	364300	362600	366600	369200	365400	385100	416400	437500	420000	429400
13	367100	361200	364300	362500	366600	369200	365200	385100	428800	435800	419500	429000
14	366200	361900	364500	362800	366400	369200	365200	386100	433700	434100	419100	431300
15	366200	361000	364300	362600	366400	369300	365200	384900	435200	432800	418900	431800
16	365800	362300	364700	362600	366400	369200	365100	387200	437300	431500	418500	432600
17	366200	362300	364300	362500	366400	368400	364900	387200	435800	430700	418700	431100
18	367300	361500	364100	362100	366400	369300	365800	388400	434300	430100	418500	430100
19	366400	361000	365100	364300	366200	368400	366600	388600	432800	429600	417700	429200
20	366000	361000	364300	364900	366200	367500	366400	387200	431500	429400	417100	429000
21	365600	360600	363800	365200	367100	367700	366900	386600	431100	429200	416700	428800
22	365200	362100	363400	365200	367100	368000	366600	386600	430900	429000	416200	428600
23	364900	362100	363400	365100	367500	367500	371000	386200	430700	428600	415400	428200
24	364900	362100	364300	365200	367100	367300	370300	387800	430300	428000	415000	427800
25	363900	364100	363400	365100	367100	366900	369900	387800	431300	427400	414600	427400
26	362600	363800	363000	365200	367300	366600	369900	387800	431500	427000	414400	427200
27	364700	363600	363200	365400	367300	366400	369700	387200	431500	427000	414000	427200
28	364900	363400	363000	365200	367500	366200	369300	387000	430900	426500	413100	427200
29	363900	363400	363800	365200	---	367300	369300	386600	430500	426300	412900	427000
30	363600	363000	363200	365600	---	367100	369500	389700	430300	426100	413100	426800
31	363400	---	362800	365200	---	367100	---	392900	---	425300	421000	---
MAX	375700	364100	365200	365600	369500	369300	371000	392900	437300	440900	424900	435000
MIN	362600	360600	362800	362100	365200	366200	364900	369000	393300	425300	412900	426800
(†)	197.62	197.60	197.59	197.72	197.84	197.82	197.95	199.16	201.00	200.76	200.55	200.83
(‡)	-13400	-400	-200	+2400	+2300	-400	+2400	+23400	+37400	-5000	-4300	+5800

CAL YR 1980 MAX 449500 MIN 360600 † -70400
WTR YR 1981 MAX 440900 MIN 360600 ‡ +50000

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

SAN JACINTO RIVER BASIN

08067600 LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY RECORDS

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

302127095335501 LAKE CONROE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)
JAN									
15...	1030	1.00	205	7.8	11.0	1.70	9.9	89	69
15...	1032	10.0	205	7.8	11.0	--	9.9	89	--
15...	1034	20.0	205	7.8	11.0	--	9.8	88	--
15...	1036	30.0	205	7.7	11.0	--	9.7	87	--
15...	1038	40.0	205	7.7	11.0	--	9.6	86	--
15...	1040	54.0	205	7.6	11.0	--	9.2	83	67
MAY									
21...	1235	1.00	202	7.8	24.0	2.06	7.4	87	67
21...	1237	10.0	202	7.6	23.0	--	6.9	80	--
21...	1239	20.0	202	7.4	23.0	--	6.5	75	--
21...	1241	30.0	202	7.3	23.0	--	5.7	66	--
21...	1243	40.0	207	6.7	19.5	--	.3	3	--
21...	1245	49.0	220	6.9	18.0	--	.2	2	77
AUG									
20...	1105	1.00	183	8.0	30.5	1.40	5.6	74	59
20...	1107	10.0	183	7.8	30.0	--	5.4	71	--
20...	1109	20.0	183	7.7	30.0	--	5.2	68	--
20...	1111	30.0	204	6.7	26.0	--	.0	0	--
20...	1113	40.0	215	6.8	22.5	--	.0	0	--
20...	1115	50.0	224	6.9	21.5	--	.0	0	75

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
15...	7	24	2.2	13	.7	2.7	62	8.4	16
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	5	23	2.2	12	.6	2.5	62	7.2	16
MAY									
21...	8	23	2.3	13	.7	2.3	59	7.0	21
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	10	27	2.3	13	.6	2.5	67	6.3	21
AUG									
20...	7	20	2.2	12	.7	2.5	52	1.0	24
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	0	26	2.3	13	.7	2.6	82	2.0	17

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
15...	.2	2.5	106	.26	.72	.98	.020	30	2
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	.18	.80	.98	.040	30	0
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	2.6	103	.18	.83	1.0	.040	30	30
MAY									
21...	.1	1.7	106	.02	.80	.82	.030	<10	3
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	.02	.89	.91	.020	10	0
21...	--	--	--	.06	.67	.73	.020	10	10
21...	--	3.8	119	.02	.98	1.0	.030	30	2100
AUG									
20...	.1	3.2	96	.12	.84	.96	.040	<10	23
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	<.10	.78	--	.040	10	30
20...	--	--	--	<.10	.82	--	.040	1400	1600
20...	--	--	--	--	--	--	--	--	--
20...	--	5.9	123	<.10	1.30	--	.180	1500	3200

SAN JACINTO RIVER BASIN

31

LAKE CONROE NEAR CONROE, TX--Continued

302132095333701 LAKE CONROE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
15...	1054	1.00	205	7.8	11.5	--	10.0	91
15...	1056	10.0	205	7.8	11.0	--	9.9	89
15...	1058	20.0	205	7.8	11.0	--	9.8	88
15...	1100	30.0	205	7.8	11.0	--	9.8	88
15...	1102	45.0	205	7.6	11.0	--	9.4	84
MAY								
21...	1335	1.00	202	7.9	24.0	2.04	7.7	91
21...	1337	10.0	202	7.8	23.5	--	7.4	87
21...	1339	20.0	202	7.6	23.0	--	7.0	81
21...	1341	30.0	202	7.4	23.0	--	6.3	73
21...	1343	40.0	209	6.7	19.5	--	.3	3
21...	1345	50.0	220	6.9	17.5	--	.4	4
AUG								
20...	1146	1.00	185	7.9	30.5	1.35	5.7	75
20...	1148	10.0	185	7.8	30.5	--	5.4	71
20...	1150	20.0	185	7.7	30.5	--	5.4	71
20...	1152	30.0	202	6.7	26.5	--	.0	0
20...	1154	40.0	217	6.8	22.5	--	.0	0
20...	1156	50.0	233	6.8	20.5	--	.0	0
20...	1158	60.0	275	6.8	19.0	--	.0	0
20...	1200	66.0	282	7.0	18.5	--	.0	0

302245095365301 LAKE CONROE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
15...	1000	1.00	201	8.2	11.0	--	10.3	93
15...	1002	10.0	201	8.1	11.0	--	10.1	91
15...	1004	20.0	201	7.9	11.0	--	10.1	91
15...	1006	28.0	201	7.7	11.0	--	10.0	90
MAY								
21...	1144	1.00	186	8.0	24.0	2.20	7.7	91
21...	1146	10.0	186	7.9	24.0	--	7.5	88
21...	1148	20.0	186	7.9	24.0	--	7.1	84
21...	1150	29.0	186	6.9	23.5	--	5.8	68
AUG								
20...	1039	1.00	185	7.9	30.5	1.95	4.9	65
20...	1041	10.0	185	7.7	30.5	--	4.5	59
20...	1043	20.0	185	7.4	30.0	--	3.8	50
20...	1045	27.0	185	6.8	29.5	--	1.1	14

302323095341201 LAKE CONROE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
15...	1118	1.00	205	7.8	11.0	--	9.7	87
15...	1120	10.0	205	7.7	11.0	--	9.6	86
15...	1122	20.0	205	7.7	11.0	--	9.5	85
15...	1124	30.0	205	7.7	11.0	--	9.5	85
15...	1126	43.0	205	7.5	11.0	--	9.1	82
MAY								
21...	1430	1.00	202	7.9	24.0	1.92	7.5	89
21...	1432	10.0	202	7.8	23.5	--	7.4	87
21...	1434	20.0	202	7.7	23.0	--	7.0	81
21...	1436	30.0	202	7.6	23.0	--	6.6	76
21...	1438	40.0	210	6.8	20.0	--	.3	3
21...	1440	48.0	216	6.8	19.5	--	.4	4
AUG								
20...	1250	1.00	182	7.8	30.5	1.80	5.8	77
20...	1252	10.0	182	7.7	30.5	--	5.7	75
20...	1254	20.0	182	7.3	30.0	--	4.8	63
20...	1256	30.0	203	6.8	25.0	--	.0	0
20...	1258	40.0	215	6.8	23.0	--	.0	0
20...	1300	56.0	233	6.8	22.0	--	.0	0

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

302320095334001 LAKE CONROE SITE CL

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
15...	1139	1.00	205	7.7	11.5	--	9.6	87
15...	1141	10.0	205	7.7	11.0	--	9.5	85
15...	1143	20.0	205	7.7	11.0	--	9.5	85
15...	1145	30.0	205	7.7	11.0	--	9.5	85
15...	1147	37.0	205	7.7	11.0	--	9.6	86
MAY								
21...	1400	1.00	202	7.8	23.5	2.12	7.5	88
21...	1402	10.0	202	7.7	23.0	--	7.3	84
21...	1404	20.0	202	7.6	23.0	--	7.0	81
21...	1406	30.0	202	7.4	23.0	--	6.5	75
21...	1408	40.0	209	6.8	20.5	--	1.5	17
21...	1410	46.0	209	6.7	20.0	--	.7	8
AUG								
20...	1230	1.00	182	7.8	30.5	1.87	5.8	77
20...	1232	10.0	182	7.7	30.0	--	5.7	75
20...	1234	20.0	182	7.3	30.0	--	4.8	63
20...	1236	30.0	203	6.8	25.0	--	.0	0
20...	1238	40.0	215	6.8	23.0	--	.0	0
20...	1240	48.0	233	6.8	22.0	--	.0	0

302448095374101 LAKE CONROE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
15...	1202	1.00	205	7.8	11.5	--	9.9	90
15...	1204	10.0	205	7.9	11.0	--	9.8	88
15...	1206	22.0	205	7.8	11.0	--	9.8	88
MAY								
21...	1510	1.00	192	8.1	24.5	1.93	7.4	88
21...	1512	10.0	192	8.1	24.5	--	7.3	87
21...	1514	24.0	198	7.2	23.5	--	5.0	58
AUG								
20...	1334	1.00	183	8.2	31.0	1.68	6.0	80
20...	1336	10.0	183	8.0	30.5	--	5.5	73
20...	1338	20.0	183	7.4	30.5	--	4.2	56
20...	1340	26.0	185	6.8	29.5	--	.7	9

302607095360901 LAKE CONROE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)
JAN									
15...	1219	1.00	205	7.6	11.5	1.20	9.3	85	66
15...	1221	10.0	205	7.6	10.5	--	9.3	83	--
15...	1223	20.0	205	7.6	10.5	--	9.3	83	--
15...	1225	30.0	205	7.5	10.5	--	9.3	83	--
15...	1227	37.0	205	7.6	10.5	--	9.3	83	66
MAY									
21...	1530	1.00	202	8.0	24.5	1.70	7.7	91	64
21...	1532	10.0	202	8.0	24.0	--	7.6	90	--
21...	1536	20.0	202	7.7	23.5	--	6.9	81	--
21...	1538	30.0	210	6.9	22.5	--	5.2	60	--
21...	1540	39.0	212	6.8	21.0	--	.6	7	69
AUG									
20...	1354	1.00	184	7.5	30.5	1.29	5.3	70	59
20...	1356	10.0	184	7.7	30.0	--	5.5	73	--
20...	1358	20.0	184	7.2	30.0	--	4.3	57	--
20...	1400	34.0	224	6.7	25.0	--	.0	0	74

SAN JACINTO RIVER BASIN

33

LAKE CONROE NEAR CONROE, TX--Continued

302607095360901 LAKE CONROE SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
15...	3	23	2.0	12	.6	2.4	63	6.7	16
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	4	23	2.0	13	.7	2.5	62	6.6	16
MAY									
21...	7	22	2.2	13	.7	2.4	57	7.0	23
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	6	24	2.3	13	.7	2.4	63	6.7	21
AUG									
20...	4	20	2.2	12	.7	2.5	55	<1.0	22
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	0	26	2.3	13	.7	2.6	85	4.0	35

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN								
15...	2.3	102	.16	.88	1.0	.020	20	8
15...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
15...	2.4	103	.16	.79	.95	.040	20	10
MAY								
21...	1.9	106	.01	.72	.73	.020	<10	8
21...	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--
21...	--	--	.02	.77	.79	.020	10	40
21...	3.2	111	.01	.83	.84	.030	20	340
AUG								
20...	3.6	89	<.10	.77	--	.050	<10	5
20...	--	--	--	--	--	--	--	--
20...	--	--	<.10	.79	--	.030	60	60
20...	6.1	125	<.10	1.70	--	.300	2800	2200

302714095372201 LAKE CONROE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
15...	1243	1.00	205	7.7	12.0	--	9.7	89
15...	1245	10.0	205	7.8	11.0	--	9.6	86
15...	1247	19.0	205	7.7	11.0	--	9.6	86
MAY								
21...	1610	1.00	195	8.4	24.5	2.05	8.2	98
21...	1612	10.0	195	8.1	24.0	--	7.5	88
21...	1614	20.0	195	7.0	23.0	--	2.8	32
AUG								
20...	1421	1.00	179	8.1	31.0	1.56	6.1	81
20...	1423	10.0	179	7.4	30.0	--	4.6	61
20...	1425	23.0	179	6.6	29.0	--	.0	0

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

303129095360501 LAKE CONROE SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)
JAN									
15...	1316	1.00	228	8.8	11.0	1.80	10.8	97	62
15...	1317	1.00	--	--	11.0	--	--	--	--
15...	1318	10.0	228	8.4	10.5	--	10.5	93	--
15...	1320	20.0	228	8.6	10.5	--	10.5	93	--
15...	1322	26.0	228	8.6	10.5	--	10.5	94	64
MAY									
21...	1645	1.00	240	7.9	25.5	1.01	7.4	90	77
21...	1647	10.0	253	6.9	23.5	--	3.1	36	--
21...	1649	20.0	290	6.7	22.5	--	.4	5	--
21...	1651	31.0	295	6.8	22.5	--	.4	5	100
AUG									
20...	1504	1.00	184	7.7	31.5	1.01	6.8	91	59
20...	1506	10.0	184	6.9	30.5	--	4.0	53	--
20...	1508	20.0	184	6.3	30.0	--	.0	0	--
20...	1510	32.0	185	6.3	29.5	--	.0	0	61

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
15...	3	21	2.3	18	1.0	2.9	59	8.7	26
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	3	22	2.2	19	1.0	3.1	61	8.0	25
MAY									
21...	10	27	2.4	16	.8	3.5	67	10	28
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	12	36	2.7	19	.8	4.8	89	4.8	33
AUG									
20...	3	20	2.1	12	.7	2.7	56	1.0	21
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	0	21	2.1	12	.7	2.5	66	4.0	16

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN								
15...	.3	115	.05	.82	.87	.040	<10	6
15...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
15...	.5	117	.04	1.10	1.1	.050	70	10
MAY								
21...	5.7	133	.02	.99	1.0	.080	20	6
21...	--	--	.02	1.00	1.0	.120	100	180
21...	--	--	--	--	--	--	--	--
21...	8.1	164	.02	1.30	1.3	.380	1100	790
AUG								
20...	6.7	99	.11	1.00	1.1	.050	<10	4
20...	--	--	<.10	.95	--	.060	30	20
20...	--	--	--	--	--	--	--	--
20...	11	111	.12	1.70	1.8	.340	1700	650

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

35

302127095335501 LAKE CONROE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAM- PLING DEPTH (FT)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
JAN							
15...	1030	1.00	0	90	<1	0	<10
15...	1034	20.0	--	--	--	--	--
15...	1040	54.0	1	90	2	0	<10
MAY							
21...	1235	1.00	1	200	<1	10	<10
21...	1241	30.0	--	--	--	--	--
21...	1243	40.0	--	--	--	--	--
21...	1245	49.0	4	300	<1	10	<10
AUG							
20...	1105	1.00	1	70	<1	0	<10
20...	1109	20.0	--	--	--	--	--
20...	1111	30.0	--	--	--	--	--
20...	1115	50.0	10	150	<1	0	<10

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN							
15...	30	<10	2	.2	0	1	<3
15...	30	--	0	--	--	--	--
15...	30	<10	30	.5	0	1	30
MAY							
21...	<10	17	3	.0	0	0	6
21...	10	--	0	--	--	--	--
21...	10	--	10	--	--	--	--
21...	30	<10	2100	.0	0	0	5
AUG							
20...	<10	<10	23	.0	0	0	<3
20...	10	--	30	--	--	--	--
20...	1400	--	1600	--	--	--	--
20...	1500	<10	3200	.1	0	0	<3

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

302127095335501 LAKE CONROE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 15, 81 1031	MAY 21, 81 1236	AUG 20, 81 1106
TOTAL CELLS/ML	2700	9200	65000
DIVERSITY: DIVISION	1.3	0.6	0.4
..CLASS	1.3	0.6	0.4
...ORDER	1.4	1.0	1.9
...FAMILY	1.6	1.1	1.9
...GENUS	1.7	1.2	2.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...ACHNANTHALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	*	0
....COCCONEIS	--	-	*	0	--	-
..BACILLARIALES						
...NITZSCHIA	*	0	64	1	--	-
...EUPODISCALES						
...COSCINODISCALES						
...CYCLOTELLA	52	2	--	-	--	-
...MELOSIRA	1700#	65	--	-	--	-
..FRAGILARIALES						
...FRAGILARIA	--	-	--	-	*	0
...SYNEDRA	--	-	*	0	--	-
...NAVICULALES						
...GOMPHONEMACEAE						
...GOMPHONEMA	--	-	*	0	--	-
...NAVICULACEAE						
...NAVICULA	--	-	*	0	--	-
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHLOROCOCCACEAE						
....SCHROEDERIA	--	-	*	0	--	-
....TETRAEDRON	--	-	*	0	--	-
...DICTYOSPHAERIALES						
...DICTYOSPHAERIACEAE						
...MICRACETINIACEAE	52	2	--	-	--	-
...MICRACETINIUM	64	2	*	0	--	-
...OOCYSTACEAE						
...ANKISTRODESMUS	26	1	120	1	2900	4
...FRANCEIA	--	-	--	-	*	0
...SELENASTRUM	--	-	*	0	--	-
...SCENEDESMACEAE						
...CRUCIGENIA	--	-	100	1	--	-
...SCENEDESMUS	180	7	280	3	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	26	1	180	2	*	0
...ZYGNEMLALES						
...DESMIDIACEAE						
...COSMARUM	--	-	*	0	--	-
...EUASTRUM	--	-	*	0	--	-
...ZYGNEMLACEAE						
...MOUGEOTIA	--	-	--	-	750	1
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	520#	19	390	4	15000#	23
...NOSTOCALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	1700	3
....APHANIZOMENON	--	-	180	2	4500	7
...CYLINDROS PERMUM	--	-	--	-	8400	13
...OSCILLATORIALES						
...OSCILLATORIA						
....LYNGBYA	--	-	--	-	31000#	47
...OSCILLATORIA	--	-	7700#	84	--	-
EUGLENOPHYTA (EUGLENIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	*	0	*	0
....TRACHELOMONAS	*	0	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...DINOKONTAE						
...GLENODINIACEAE						
...GLENODINIUM	--	-	*	0	--	-

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

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

LAKE CONROE NEAR CONROE, TX--Continued

303129095360501 LAKE CONROE SITE GC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 15, 81 1317	MAY 21, 81 1646	AUG 20, 81 1505
TOTAL CELLS/ML	2700	21000	130000
DIVERSITY: DIVISION	0.3	0.8	0.5
..CLASS	0.3	0.8	0.5
..ORDER	0.4	1.6	1.4
...FAMILY	0.4	1.8	1.5
....GENUS	0.6	2.5	2.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...BACILLARIALES						
....NITZSCHACEAE						
....NITZSCHIA	*	0	*	0	--	-
..EUPODISCALES						
...COSCINODISCAEAE						
....CYCLOTELLA	64	2	290	1	*	0
....MELOSIRA	2500#	93	390	2	--	-
..FRAGILARIALES						
...FRAGILARIACEAE						
....SYNEDRA	*	0	*	0	--	-
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....CHLOROCOCCACEAE						
....SCHROEDERIA	--	-	*	0	--	-
....TETRAEDRON	26	1	*	0	--	-
...DICTYOSPHAERIACEAE						
....DICTYOSPHAERIUM	--	-	500	2	--	-
....WESTELLA	--	-	--	-	3500	3
...OOCYSTACEAE						
....ANKISTRODESMUS	39	1	530	3	4100	3
....KIRCHNERIELLA	--	-	180	1	*	0
....OOCYSTIS	--	-	140	1	--	-
...SCENEDESMACEAE						
....COELASTRUM	--	-	--	-	870	1
....CRUCIGENIA	--	-	290	1	--	-
....SCENEDESMUS	--	-	*	0	1700	1
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	*	0	430	2	--	-
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	--	-	*	0
....SPONDYLORIUM	--	-	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
....AGMENELLUM	--	-	4600#	22	22000#	17
....ANACYSTIS	*	0	9800#	48	66000#	51
...NOSTOCALES						
....NOSTOCACEAE						
....ANABAENA	--	-	2100	10	5000	4
...OSCILLATORIALES						
....OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	26000#	20
....OSCILLATORIA	--	-	610	3	--	-
....PHORMIDIUM	--	-	290	1	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
....TRACHELOMONAS	--	-	180	1	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...DINOKONTAE						
....PERIDINIACEAE						
....PERIDINIUM	--	-	110	1	--	-

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

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

SAN JACINTO RIVER BASIN

08067610 LAKE CONROE AT OUTFLOW WEIR NEAR CONROE, TX

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

DRAINAGE AREA.--445 mi² (1,153 km²).

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

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

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

AVERAGE DISCHARGE.--8 years, 13.9 ft³/s (0.394 m³/s), 10,070 acre-ft/yr (12.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 339 ft³/s (9.60 m³/s) Feb. 19-25, 1974; no controlled releases for many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 148 ft³/s (4.19 m³/s) Oct. 9-12; maximum gage height, 2.99 ft (0.911 m) Oct. 8-12; no controlled releases for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	144	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	144	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	144	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	143	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	142	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	140	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	146	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	148	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	148	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	148	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	148	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	147	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	146	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	146	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	146	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	146	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	146	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	146	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	146	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	43	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.32	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	2951.92	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MEAN	95.2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	148	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	5860	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CAL YR 1980	TOTAL	12560.92	MEAN	34.3	MAX	224	MIN	.00	AC-FT	24910		
WTR YR 1981	TOTAL	2951.92	MEAN	8.09	MAX	148	MIN	.00	AC-FT	5860		

SAN JACINTO RIVER BASIN

39

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

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

DRAINAGE AREA.--451 mi² (1,168 km²).

WATER-DISCHARGE RECORDS

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

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

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

AVERAGE DISCHARGE.--9 years (water years 1973-81), 235 ft³/s (6.655 m³/s), 170,300 acre-ft/yr (210 hm³/yr).

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 720 ft³/s (20.4 m³/s) June 16 at 1800 hours, gage height, 20.71 ft (6.312 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	.00	.00	.00	.00	.00	.00	.00	1.3	1.6	2.0	14
2	144	.00	.00	.00	.00	.00	.00	.00	1.3	1.6	2.0	420
3	144	.00	.00	.00	.00	.00	.00	1.8	1.6	1.3	1.6	494
4	144	.00	.00	.00	.00	.00	.00	2.0	1.3	1.3	1.6	468
5	143	.00	.00	.00	.00	.00	.00	.92	1.6	1.6	1.6	455
6	142	.00	.00	.00	.00	.00	.00	.00	.92	1.6	1.3	450
7	140	.00	.00	.00	.00	.00	.00	.00	.92	279	.60	447
8	146	.00	.00	.00	.00	.00	.00	.00	.92	693	.00	446
9	148	.00	.00	.00	.00	.00	.00	.00	.60	677	.00	307
10	148	.00	.00	.00	.00	.00	.00	.00	.32	663	.00	6.3
11	148	.00	.00	.00	.00	.00	.00	.00	.00	673	.00	2.5
12	148	.00	.00	.00	.00	.00	.00	.00	1.3	661	.00	2.5
13	147	.00	.00	.00	.00	.00	.00	.00	.92	654	.00	2.0
14	146	.00	.00	.00	.00	.00	.00	.00	2.5	650	.00	2.9
15	146	.00	.00	.00	.00	.00	.00	.00	107	645	.00	2.9
16	146	.00	.00	.00	.00	.00	.00	.00	480	469	.00	3.3
17	146	.00	.00	.00	.00	.00	.00	.00	683	168	.00	3.3
18	146	.00	.00	.00	.00	.00	.00	.00	544	5.4	.00	2.5
19	146	.00	.00	.00	.00	.00	.00	.00	654	1.6	.00	2.0
20	146	.00	.00	.00	.00	.00	.00	.00	460	1.6	.00	1.6
21	43	.00	.00	.00	.00	.00	.00	.00	151	1.3	.00	1.3
22	.60	.00	.00	.00	.00	.00	.00	.00	7.8	1.3	.00	1.3
23	.32	.00	.00	.00	.00	.00	.00	.00	2.0	1.3	.00	1.3
24	.00	.00	.00	.00	.00	.00	.00	.00	1.6	.92	.00	1.3
25	.00	.00	.00	.00	.00	.00	.00	.00	2.5	.92	.00	1.3
26	.00	.00	.00	.00	.00	.00	.00	.00	2.9	.92	.00	1.3
27	.00	.00	.00	.00	.00	.00	.00	.00	2.9	.92	.00	1.3
28	.00	.00	.00	.00	.00	.00	.00	.00	2.5	.92	.00	1.3
29	.00	.00	.00	.00	---	.00	.00	.00	2.5	1.3	.00	.92
30	.00	.00	.00	.00	---	.00	.00	.00	2.0	1.6	.00	.92
31	.00	---	.00	.00	---	.00	---	.27	---	2.0	1.1	---
TOTAL	2951.92	.00	.00	.00	.00	.00	.00	4.99	3121.20	6263.00	11.80	3545.04
MEAN	95.2	.000	.000	.000	.000	.000	.000	.16	104	202	.38	118
MAX	148	.00	.00	.00	.00	.00	.00	2.0	683	693	2.0	494
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.92	.00	.92
AC-FT	5860	.00	.00	.00	.00	.00	.00	9.9	6190	12420	23	7030
CAL YR 1980	TOTAL	57817.34	MEAN	158	MAX	1760	MIN	.00	AC-FT	114700		
WTR YR 1981	TOTAL	15897.95	MEAN	43.6	MAX	693	MIN	.00	AC-FT	31530		

SAN JACINTO RIVER BASIN

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

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
NOV 05...	1215	<1.0	450	7.6	16.0	7	2.7	8.2	82	.7	170
JAN 07...	1040	<1.0	510	7.8	9.0	3	2.0	10.6	91	.9	180
MAR 11...	0835	<1.0	510	7.9	15.0	5	5.7	9.8	95	1.3	170
MAY 19...	1630	<1.0	260	7.5	25.5	90	15	7.5	91	1.2	89
JUL 21...	1335	1.3	340	7.5	28.5	5	3.5	4.8	61	1.0	130
SEP 02...	1035	420	200	7.7	27.0	5	--	9.0	112	3.4	67

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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 05...	17	58	5.1	25	.8	3.2	149	4.3	52	.1	16
JAN 07...	33	65	4.9	32	1.0	2.4	150	7.2	69	.2	20
MAR 11...	34	61	5.2	36	1.2	2.4	140	14	72	.2	17
MAY 19...	14	31	2.9	17	.8	2.2	75	1.5	39	.1	12
JUL 21...	16	44	3.8	18	.7	2.6	110	12	30	.1	13
SEP 02...	8	23	2.2	12	.7	2.8	59	5.0	25	.1	3.9

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 05...	253	4	0	.00	.000	.00	.070	.53	.60	.080	7.6
JAN 07...	291	4	12	.05	.010	.06	.040	.63	.67	.070	6.2
MAR 11...	292	7	0	.00	.010	.00	.030	.47	.50	.040	5.5
MAY 19...	151	13	14	.04	.000	.04	.080	.39	.47	.090	9.5
JUL 21...	190	3	0	.14	.020	.16	.230	.42	.65	.030	5.0
SEP 02...	109	--	--	.01	.010	.02	.170	1.1	1.3	.030	8.0

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 05...	1215	1	200	<1	0	<10	30
JAN 07...	1040	2	200	3	0	<10	30
MAY 19...	1630	2	90	<1	10	<10	20
JUL 21...	1335	2	130	<1	10	<10	30

SAN JACINTO RIVER BASIN

41

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 05...	59	200	.0	0	0	4
JAN 07...	27	110	.0	0	0	70
MAY 19...	<10	230	.0	0	1	7
JUL 21...	<10	380	.2	0	0	11

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JAN 07...	1040	.00	.0	.00	.0	.00	.00	.00	.00
JUL 21...	1335	.00	.0	.00	.0	.00	.00	.00	.00

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JAN 07...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 21...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 07...	.00	.00	.00	.00	0	.00	--	--	--
JUL 21...	.00	.00	.00	.00	0	.00	.03	.00	.00

SAN JACINTO RIVER BASIN

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

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

DRAINAGE AREA.--291 mi² (754 km²).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 24...	1625	4.8	248	17.5	56	21	18	2.7	21
DEC 08...	0930	5.5	218	17.5	53	16	17	2.5	21
FEB 05...	1530	11	291	9.0	72	21	24	3.0	24
MAR 16...	1250	10	311	15.0	80	24	27	3.1	27
APR 22...	1330	6.9	309	23.5	67	20	22	2.9	31
JUL 01...	1435	22	347	24.0	110	25	39	3.6	22
28...	1730	8.5	272	29.5	78	22	26	3.1	22

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 24...	1.2	3.0	35	3.5	49	.1	18	136
DEC 08...	1.3	2.2	37	3.7	40	.1	20	129
FEB 05...	1.2	2.1	49	7.0	53	.2	15	158
MAR 16...	1.3	2.0	56	13	55	.1	16	177
APR 22...	1.7	2.4	47	1.8	60	.1	17	165
JUL 01...	.9	3.4	87	7.0	46	.1	21	194
28...	1.1	2.6	56	1.0	49	.5	24	--

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

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

DRAINAGE AREA.--828 mi² (2,145 km²).

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Water-discharge records good. Regulated since Jan. 9, 1973, by Lake Conroe (station 08067600), capacity 532,000 acre-ft (656 hm³), 14.5 mi (23.3 km) upstream. No large diversions above station.

AVERAGE DISCHARGE.--36 years (water years 1925-27, 1940-72) prior to regulation by Lake Conroe, 477 ft³/s (13.51 m³/s), 345,600 acre-ft/yr (426 hm³/yr); 9 years (water years 1973-81) regulated, 575 ft³/s (16.28 m³/s), 416,600 acre-ft/yr (514 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110,000 ft³/s (3,120 m³/s) Nov. 25, 1940, gage height, 30.85 ft (9.403 m), present datum, from rating curve extended above 43,000 ft³/s (1,220 m³/s) on basis of velocity-area studies; no flow June 14, 1956, Sept. 19 to Oct. 1, 1965, result of temporary dams.
Maximum stage since at least December 1913, that of Nov. 25, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1913 reached a stage of 30.2 ft (9.20 m), present site and datum, from information by Missouri Pacific Railroad Co., discharge 101,000 ft³/s (2,860 m³/s), from rating curve as explained above.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,900 ft³/s (394 m³/s) June 14 at 1300 hours, gage height, 21.68 ft (6.608 m); minimum daily, 11 ft³/s (0.31 m³/s) Aug. 20-24, 27-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	25	34	26	40	39	31	37	324	67	19	847
2	165	24	32	26	37	41	29	34	382	60	18	579
3	161	24	30	26	31	39	27	340	1010	67	17	1200
4	156	23	30	27	32	149	26	2460	1380	70	16	2200
5	153	22	29	27	42	106	25	1250	1430	67	16	2610
6	150	22	29	29	86	70	23	612	642	92	15	1450
7	149	22	29	38	67	54	22	543	341	490	15	942
8	148	21	31	32	59	51	22	511	676	1860	15	651
9	153	22	75	32	53	45	21	264	454	1550	15	462
10	154	22	53	32	59	40	21	131	475	1110	14	164
11	153	22	41	30	52	36	21	76	511	899	14	89
12	151	21	36	28	50	35	21	53	619	724	14	68
13	150	21	33	27	43	44	20	45	3060	658	15	57
14	149	22	32	28	42	42	21	44	12000	630	15	55
15	150	22	31	28	38	39	20	36	7940	614	14	90
16	153	26	31	28	35	35	19	142	3340	554	13	73
17	153	42	29	28	35	33	21	233	2050	320	13	87
18	176	33	29	27	36	31	44	204	1040	106	12	165
19	257	29	28	45	35	28	145	117	768	65	12	131
20	204	28	27	195	34	26	54	64	652	52	11	72
21	191	27	26	126	34	25	37	44	384	44	11	49
22	86	28	25	95	52	27	31	35	165	38	11	40
23	37	49	26	69	43	25	76	34	117	34	11	34
24	31	37	26	54	39	25	233	33	100	31	11	31
25	27	37	26	47	39	24	128	29	89	28	12	28
26	26	104	26	42	44	24	82	27	165	27	12	27
27	27	74	26	43	41	24	64	32	161	27	11	25
28	32	55	26	41	40	24	53	46	112	30	11	24
29	30	46	26	37	---	35	50	42	99	27	11	22
30	27	38	26	34	---	43	43	29	78	23	11	15
31	26	---	26	32	---	35	---	102	---	21	181	---
TOTAL	3803	988	974	1379	1238	1294	1430	7649	40564	10385	586	12287
MEAN	123	32.9	31.4	44.5	44.2	41.7	47.7	247	1352	335	18.9	410
MAX	257	104	75	195	86	149	233	2460	12000	1860	181	2610
MIN	26	21	25	26	31	24	19	27	78	21	11	15
AC-FT	7540	1960	1930	2740	2460	2570	2840	15170	80460	20600	1160	24370
CAL YR 1980	TOTAL	108174	MEAN	296	MAX	5120	MIN	20	AC-FT	214600		
WTR YR 1981	TOTAL	82577	MEAN	226	MAX	12000	MIN	11	AC-FT	163800		

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1961 to current year.

WATER TEMPERATURES: October 1961 to current year.

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

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 763 micromhos Apr. 20, 1971; minimum daily, 52 micromhos May 12, 1972. WATER TEMPERATURES (1961-81): Maximum daily, 36.0°C Aug. 6, 1964, July 9, 1967; minimum daily, 0.0°C Dec. 22, 1963, Jan. 31, 1968.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 583 micromhos Aug. 16; minimum daily, 59 micromhos June 3.

WATER TEMPERATURES: Maximum daily, 32.5°C July 23, Aug. 16; minimum daily, 6.5°C Jan. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY UNINHIB (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 15...	1040	149	217	7.5	23.0	--	8.0	7.4	86	.9	120
NOV 05...	0900	22	300	7.2	14.5	--	6.3	8.6	83	7.3	3400
DEC 10...	1135	51	220	7.1	12.0	25	26	8.8	80	5.2	1000
JAN 07...	1545	36	225	6.7	12.5	17	12	12.4	115	4.8	210
FEB 18...	1200	36	310	7.2	15.0	10	6.5	8.3	81	7.1	130
MAR 11...	1240	35	270	7.2	15.5	--	15	8.4	82	3.9	230
APR 08...	1320	21	290	7.2	21.0	10	13	8.4	93	5.0	52
MAY 19...	1355	106	260	8.0	23.5	90	52	8.0	94	4.3	580
JUN 09...	0935	451	158	7.2	27.0	160	56	6.0	75	3.6	920
JUL 21...	1130	43	270	6.9	27.5	50	19	6.2	78	3.3	150
AUG 10...	1140	14	290	7.1	27.0	--	5.3	5.2	64	4.3	120
SEP 02...	1325	591	180	7.4	26.0	--	84	6.8	83	4.5	4900

DATE	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 15...	72	67	2	23	2.2	14	.7	2.7	65	5.2	21
NOV 05...	32	69	0	22	3.4	30	1.6	3.8	69	8.7	44
DEC 10...	150	50	8	16	2.4	21	1.3	3.4	42	6.9	38
JAN 07...	40	59	6	19	2.7	21	1.2	2.4	43	9.7	39
FEB 18...	K16	71	10	23	3.3	31	1.6	2.8	61	15	47
MAR 11...	24	65	12	21	3.0	26	1.4	2.4	49	13	44
APR 08...	60	62	2	20	3.0	28	1.5	2.8	60	7.0	43
MAY 19...	36	89	36	31	2.7	18	.8	4.0	70	2.2	38
JUN 09...	3600	51	10	17	2.0	11	.7	3.2	41	6.4	22
JUL 21...	680	74	8	25	2.9	22	1.1	2.9	66	9.0	35
AUG 10...	850	68	0	22	3.2	28	1.5	3.4	71	2.0	41
SEP 02...	4800	56	11	19	2.1	12	.7	2.9	48	5.0	20

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, 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)
OCT 15...	.1	6.2	121	115	--	--	.08	.04	.050	.110	1.2
NOV 05...	.1	21	163	174	--	--	.44	.44	1.500	1.400	.20
DEC 10...	.1	18	147	131	32	22	.33	.27	.300	.310	1.0
JAN 07...	.1	16	141	136	16	5	.39	.39	.320	.250	1.6
FEB 18...	.1	17	184	177	12	4	.33	.34	.910	.950	.79
MAR 11...	.1	17	162	157	--	--	.29	.31	.420	.360	.88
APR 08...	.2	18	169	157	20	10	.49	.48	.700	.670	1.7
MAY 19...	.1	14	172	153	--	--	.66	.67	.280	.310	1.5
JUN 09...	.1	15	136	101	--	--	.10	.11	.140	.110	1.5
JUL 21...	.0	23	174	160	24	2	.33	.32	.860	.850	.54
AUG 10...	.1	24	179	167	--	--	.39	.37	1.300	1.400	.90
SEP 02...	.1	9.5	108	100	--	--	.08	.10	.180	.190	1.2

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 15...	.99	1.2	1.1	.120	.080	6.1	--	--	19	7.6	96
NOV 05...	.90	1.7	2.3	.770	.810	--	7.0	.9	11	.65	97
DEC 10...	.56	1.3	.87	.250	.170	9.8	--	--	36	5.0	100
JAN 07...	1.4	1.9	1.6	.240	.130	--	9.6	1.0	16	1.6	99
FEB 18...	.65	1.7	1.6	.530	.360	7.1	--	--	15	1.5	99
MAR 11...	.58	1.3	.94	.360	.190	6.8	--	--	30	2.8	97
APR 08...	.43	2.4	1.1	.700	.520	3.4	--	--	24	1.4	98
MAY 19...	.99	1.8	1.3	.380	.180	--	12	2.1	121	35	99
JUN 09...	1.1	1.6	1.2	.300	.170	21	--	--	116	141	98
JUL 21...	.55	1.4	1.4	.370	.260	--	5.5	.5	34	3.9	88
AUG 10...	.70	2.2	2.1	.900	.710	5.1	--	--	12	.45	94
SEP 02...	.81	1.4	1.0	.150	.090	15	--	--	165	263	98

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL (UG/L AS CR)
NOV 05...	0900	2	1	1	0	0	100	4	--	<1	0
JAN 07...	1545	2	1	1	100	20	80	1	0	3	0
MAY 19...	1355	10	8	2	200	100	100	0	--	<1	0
JUL 21...	1130	3	1	2	100	0	100	1	--	<1	10

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL (UG/L AS PB)
NOV 05...	0	0	1	<3	5	1	4	660	580	80	48
JAN 07...	0	10	1	<3	4	0	5	700	560	140	17
MAY 19...	0	10	2	<3	6	3	3	3100	3100	30	4
JUL 21...	10	0	0	<3	4	0	4	1200	1000	160	4

DATE	LEAD, SUS- PENDE RECov- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECov. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL (UG/L AS HG)	MERCURY SUS- PENDE RECov- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL (UG/L AS NI)	NICKEL, SUS- PENDE RECov- ERABLE (UG/L AS NI)
NOV 05...	38	10	210	10	200	.1	.1	.0	5	2
JAN 07...	15	2	100	20	80	.1	.0	.6	0	0
MAY 19...	3	1	220	100	120	.2	.2	.0	2	1
JUL 21...	2	2	270	30	240	.5	.3	.2	1	0

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 05...	3	0	0	0	0	0	0	20	10	10
JAN 07...	3	0	0	0	0	0	0	30	0	40
MAY 19...	1	0	0	0	0	0	0	70	40	30
JUL 21...	1	0	0	0	0	0	0	30	10	16

[illegible][illegible]

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

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 5, 80 0900	MAR 11, 81 1240	MAY 19, 81 1335	JUN 9, 81 0935
TOTAL CELLS/ML	1200	4100	1500	2900
DIVERSITY: DIVISION	1.3	1.6	1.6	1.5
..CLASS	1.3	1.6	1.6	1.5
...ORDER	2.3	2.4	2.7	2.0
...FAMILY	2.4	2.7	3.0	2.2
...GENUS	2.6	3.2	3.9	2.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)								
.BACILLARIOPHYCEAE								
..ACHNANTHALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	39	1	28	2	--	-
..BACILLARIALES								
...NITZSCHACEAE								
....NITZSCHIA	190#	16	310	7	240#	16	170	6
..EUPODISCALES								
...COSCINODISCACEAE								
....CYCLOTELLA	13	1	77	2	70	5	28	1
....MELOSIRA	--	-	540	13	28	2	55	2
..FRAGILARIALES								
...FRAGILARIACEAE								
....SYNEDRA	13	1	*	0	--	-	*	0
..NAVICULALES								
...CYMBELLACEAE								
....AMPHORA	--	-	--	-	14	1	--	-
..GOMPHONEMACEAE								
....GOMPHONEMA	--	-	*	0	--	-	--	-
...NAVICULACEAE								
....DIPLONEIS	--	-	--	-	14	1	*	0
....FRUSTULIA	--	-	--	-	14	1	--	-
....NAVICULA	52	4	39	1	130	9	97	3
....PINNULARIA	--	-	--	-	--	-	--	-
..SURIRELLALES								
...SURIRELLACEAE								
....CYMATOPLEURA	--	-	--	-	--	-	*	0
....SURIRELLA	--	-	*	0	42	3	--	-
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...CHLOROCOCCACEAE								
....SCHROEDERIA	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
..MICRACTINIACEAE								
....GOLENKINIA	--	-	*	0	--	-	--	-
....MICRACTINIUM	--	-	*	0	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	13	1	26	1	56	4	55	2
....KIRCHNERIELLA	--	-	100	2	--	-	41	1
....OOCYSTIS	--	-	100	2	14	1	--	-
....QUADRIGULA	--	-	--	-	--	-	28	1
....SELENASTRUM	--	-	64	2	--	-	28	1
..SCENEDESMACEAE								
....COELASTRUM	--	-	130	3	170	12	410	14
....CRUCIGENIA	--	-	260	6	170	12	55	2
....GLOEOACTINIUM	--	-	--	-	--	-	280	10
....SCENEDESMUS	--	-	280	7	110	8	140	5
....TETRASTRUM	52	4	--	-	56	4	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	14	1	--	-
....CHLAMYDOMONAS	39	3	39	1	70	5	28	1
..ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	*	0	--	-	--	-
....COSMARIUM	--	-	--	-	14	1	--	-

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

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

SAN JACINTO RIVER BASIN

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

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981--Continued

DATE TIME	NOV 5,80 0900		MAR 11,81 1240		MAY 19,81 1335		JUN 9,81 0935	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	52	4	--	-	--	-	--	-
....ANACYSTIS	440#	35	440	11	140	10	1300#	46
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-
..NOSTOCALES								
...NOSTOCACEAE								
....APHANIZOMENON	--	-	--	-	--	-	--	-
....CYLINDROSPERMUM	--	-	--	-	--	-	--	-
....NOSTOC	--	-	--	-	--	-	--	-
..OSCILLATORIALES								
...OSCILLATORIAEAE								
....OSCILLATORIA	330#	27	1500#	38	--	-	110	4
....PHORMIDIUM	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	26	2	*	0	14	1	--	-
....PHACUS	--	-	--	-	--	-	*	0
....TRACHELOMONAS	13	1	39	1	42	3	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
..DINOKONTAE								
...GYMNODINIACEAE								
....GYMNODINIUM	--	-	--	-	14	1	--	-

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

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

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	JUL 21,81 1130	AUG 10,81 1140	SEP 2,81 1325			
TOTAL CELLS/ML	340	750	27000			
DIVERSITY: DIVISION	1.2	0.9	0.5			
..CLASS	1.2	0.9	0.5			
...ORDER	2.1	1.9	1.8			
...FAMILY	2.1	1.9	1.8			
....GENUS	2.2	2.0	2.6			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...ACHNANTHALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	*	0
..BACILLARIALES						
...NITZSCHIAEAE						
....NITZSCHIA	64#	19	260#	35	160	1
...EUPODISCALES						
...COSCINODISCACEAE						
....CYCLOTELLA	13	4	--	-	*	0
....MELOSIRA	--	-	--	-	--	-
..FRAGILARIALES						
...FRAGILARIAEAE						
....SYNEDRA	13	4	29	4	--	-
..NAVICULALES						
...CYMBELLACEAE						
....AMPHORA	--	-	--	-	--	-
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....DIPLONEIS	--	-	--	-	--	-
....FRUSTULIA	--	-	--	-	--	-
....NAVICULA	--	-	290#	38	*	0
....PINNULARIA	--	-	14	2	*	0
...SURIRELLALES						
...SURIRELLACEAE						
....CYMATOPLEURA	--	-	--	-	--	-
....SURIRELLA	--	-	--	-	--	-

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

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

SAN JACINTO RIVER BASIN

49

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

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981--Continued

DATE TIME	JUL 21,81 1130	AUG 10,81 1140	SEP 2,81 1325			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHLOROCOCCACEAE						
....SCHROEDERIA	--	-	--	-	*	0
....TETRAEDRON	--	-	--	-	*	0
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
...MICRACTINIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	*	0
....KIRCHNERIELLA	--	-	--	-	*	0
....OOCYSTIS	--	-	--	-	*	0
....QUADRIGULA	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-
...SCENEDESMACEAE						
....COELASTRUM	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-
...GLOEOACTINIUM	--	-	--	-	--	-
....SCENEDESMUS	77#	23	120#	15	1500	5
....TETRASTRUM	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	140#	42	--	-	--	-
..ZYGNEATALES						
...DESMIDIACEAE						
....CLOSTERIUM	--	-	--	-	--	-
....COSMARIUM	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	430	2
....ANACYSTIS	--	-	--	-	2400	9
....GOMPHOSPHAERIA	--	-	--	-	240	1
...NOSTOCALES						
...NOSTOCACEAE						
....APHANIZOMENON	--	-	--	-	1500	6
....CYLINDROSPERMUM	--	-	--	-	11000#	39
....NOSTOC	--	-	--	-	2300	8
...OSCILLATORIALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	7100#	26
....PHORMIDIUM	--	-	--	-	*	0
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	13	4	--	-	--	-
....PHACUS	--	-	--	-	--	-
....TRACHELOMONAS	13	4	43	6	*	0
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...DINOKONTAE						
...GYMNODINIACEAE						
....GYMNODINIUM	--	-	--	-	--	-

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

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

SAN JACINTO RIVER BASIN

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

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	3803	201	110	1130	23	231	6.0	62	64
NOV.	1980	988	247	135	359	31	82	7.3	20	75
DEC.	1980	974	278	151	396	36	96	8.2	22	81
JAN.	1981	1379	257	139	519	32	121	7.6	28	76
FEB.	1981	1238	280	152	507	37	123	8.3	28	81
MAR.	1981	1294	273	148	517	35	124	8.1	28	80
APR.	1981	1430	256	139	537	32	125	7.6	29	76
MAY	1981	7649	196	107	2210	22	458	5.9	121	62
JUNE	1981	40564	113	63	6850	11	1170	3.4	377	39
JULY	1981	10385	188	103	2890	21	582	5.7	158	60
AUG.	1981	586	277	150	237	37	58	8.2	13	80
SEPT	1981	12287	140	78	2570	14	468	4.3	141	47
TOTAL		82577	**	**	18700	**	3640	**	1030	**
WTD. AVG.		226	153	84	**	16	**	4.6	**	50

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	191	187	189	286	256	276	250	226	242	---	---	297
2	190	188	189	291	255	277	258	232	248	---	---	297
3	220	188	197	288	255	277	263	238	253	---	---	297
4	243	190	216	306	265	288	265	241	256	---	---	295
5	242	209	224	297	260	283	318	259	289	303	295	300
6	208	199	203	291	255	278	---	---	291	302	269	283
7	200	191	197	298	260	282	---	---	291	266	225	245
8	198	190	195	290	254	276	---	---	287	275	214	253
9	197	189	193	287	252	273	---	---	243	285	248	270
10	197	186	193	285	248	272	---	---	221	282	243	266
11	197	189	194	290	252	271	---	---	272	279	243	265
12	197	190	194	289	262	279	---	---	279	279	244	267
13	198	188	194	288	255	276	---	---	284	281	232	261
14	197	189	194	291	256	279	---	---	286	283	233	263
15	197	190	194	291	257	280	---	---	287	282	247	270
16	199	190	196	292	252	277	---	---	287	285	247	270
17	200	187	195	283	209	247	---	---	291	288	250	270
18	199	148	188	259	220	244	---	---	291	289	256	277
19	196	162	182	274	250	263	---	---	293	289	212	256
20	196	188	193	271	243	258	---	---	295	214	152	183
21	200	191	196	269	242	259	---	---	297	275	207	229
22	270	200	230	275	243	262	---	---	299	248	225	237
23	270	242	260	276	216	234	---	---	297	258	236	247
24	279	248	261	260	232	240	---	---	297	288	256	270
25	284	253	271	268	217	250	---	---	297	301	269	283
26	285	253	274	239	140	188	---	---	297	316	291	303
27	290	221	266	223	184	210	---	---	297	319	298	310
28	294	247	274	242	204	219	---	---	297	327	308	318
29	282	251	271	244	221	235	---	---	297	317	264	293
30	283	256	274	244	221	235	---	---	297	298	261	279
31	285	255	275	---	---	---	---	---	297	297	260	281
MONTH	294	148	218	306	140	260	318	226	282	327	152	272

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	303	265	287	304	283	296	264	243	251	359	349	354
2	291	247	264	301	278	290	255	246	251	367	344	359
3	282	248	272	302	285	296	257	246	252	359	123	248
4	297	247	272	294	177	227	251	245	249	161	118	135
5	287	243	268	250	203	233	305	248	264	248	166	189
6	258	204	229	271	244	260	---	---	306	260	200	232
7	260	231	246	271	244	258	---	---	306	277	229	261
8	278	255	263	281	262	274	358	285	318	225	196	205
9	278	257	269	284	270	278	316	257	298	208	196	201
10	307	243	274	289	278	285	310	250	270	248	206	214
11	271	231	244	293	273	287	314	279	301	310	209	275
12	293	279	286	297	270	284	311	284	301	316	240	280
13	308	291	298	289	268	281	312	281	301	312	222	257
14	315	309	312	286	266	278	319	304	312	328	256	286
15	316	289	308	287	266	278	311	281	304	348	320	332
16	307	266	288	---	---	280	314	278	305	324	162	235
17	294	266	281	---	---	283	310	287	301	235	159	195
18	311	294	303	---	---	287	330	217	303	299	194	252
19	308	287	300	---	---	293	295	158	209	290	274	282
20	314	287	307	---	---	297	281	253	272	258	250	254
21	316	294	308	---	---	299	288	271	283	275	249	260
22	308	254	286	---	---	295	292	284	288	280	258	271
23	306	281	292	---	---	299	306	177	253	281	268	275
24	309	289	302	---	---	299	245	182	203	281	232	255
25	327	307	315	---	---	302	249	211	230	227	211	218
26	309	287	298	---	---	302	248	237	242	212	204	207
27	299	284	294	---	---	302	271	238	248	232	212	221
28	299	282	294	---	---	302	306	275	296	232	211	223
29	---	---	---	---	---	281	335	298	312	228	214	222
30	---	---	---	321	268	283	350	327	342	230	201	211
31	---	---	---	275	264	269	---	---	---	210	126	156
MONTH	327	204	284	321	177	283	358	158	279	367	118	244
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	148	111	131	287	273	280	300	275	290	108	77	87
2	161	117	143	293	284	290	300	277	293	188	107	147
3	132	59	109	300	287	294	308	278	296	168	112	138
4	131	109	121	314	281	295	311	280	300	115	100	106
5	134	100	117	318	294	307	313	283	301	114	100	106
6	164	116	141	309	261	280	325	305	316	152	116	136
7	189	167	179	304	111	237	337	304	323	166	152	158
8	169	111	139	142	108	128	335	302	321	183	168	175
9	197	144	168	173	142	158	324	294	312	194	184	188
10	232	199	215	180	174	178	317	268	299	219	194	202
11	215	205	209	190	181	184	362	277	322	234	211	221
12	227	78	200	197	189	194	345	262	310	248	229	238
13	112	60	83	200	196	198	343	281	310	277	249	258
14	85	74	77	203	199	201	379	317	348	283	245	266
15	92	77	83	239	200	208	466	328	386	286	239	254
16	127	93	110	244	199	222	583	300	391	258	235	246
17	157	127	142	246	207	218	434	297	367	272	238	258
18	235	159	181	259	222	240	355	271	306	316	232	273
19	243	187	216	270	254	260	314	267	298	324	292	312
20	263	214	236	278	263	270	311	269	296	292	248	277
21	265	225	249	283	259	274	313	278	300	283	253	268
22	301	234	268	284	264	276	315	271	296	293	256	269
23	292	242	271	288	266	280	313	269	297	279	238	256
24	326	255	293	295	268	283	301	270	290	257	239	248
25	334	272	305	293	273	285	308	267	291	281	236	255
26	313	196	251	302	272	289	309	271	294	278	247	262
27	280	178	235	296	270	287	306	268	290	278	251	266
28	287	209	244	304	271	289	311	270	293	277	242	263
29	311	251	282	290	260	277	306	265	291	283	264	273
30	276	266	272	294	272	285	300	261	286	282	255	272
31	---	---	---	298	274	289	282	95	202	---	---	---
MONTH	334	59	189	318	108	250	583	95	307	324	77	223

SAN JACINTO RIVER BASIN

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	26.5	24.0	25.0	17.5	13.0	15.0	15.5	12.0	13.5	12.5	10.0	11.5
2	26.5	24.0	25.5	19.0	15.0	16.5	16.0	14.0	15.0	12.0	10.0	11.0
3	25.5	23.5	24.5	20.0	15.5	17.5	16.0	13.0	14.5	12.5	10.5	11.5
4	25.5	22.5	24.0	20.0	17.0	18.0	15.5	14.0	15.0	12.5	11.0	11.5
5	26.0	23.5	24.5	19.0	14.5	16.5	18.5	15.5	18.0	12.0	10.5	11.0
6	24.5	22.5	23.5	19.0	14.5	16.5	19.0	17.0	18.0	12.5	11.5	12.0
7	24.5	21.5	23.0	20.0	15.5	17.5	20.0	18.0	19.0	12.0	10.5	11.0
8	25.0	22.0	23.5	21.5	17.0	19.0	20.0	18.0	19.0	12.5	8.5	10.5
9	25.0	22.0	23.5	22.5	18.0	20.0	18.0	14.5	16.0	14.0	11.5	12.5
10	24.5	22.0	23.0	22.0	18.5	20.0	14.5	12.5	13.5	14.0	10.5	12.0
11	24.5	22.0	23.0	22.0	17.5	19.5	13.0	11.0	12.0	13.0	11.5	12.0
12	24.0	22.0	23.0	20.5	16.5	18.5	13.0	10.5	11.5	12.5	9.5	11.0
13	23.5	21.0	22.5	19.0	14.5	17.0	13.5	11.5	12.5	11.5	7.0	9.5
14	23.5	21.5	22.5	21.5	18.5	19.5	14.5	13.0	13.5	14.0	10.5	12.0
15	23.5	22.5	23.0	19.0	16.5	17.5	14.5	13.0	14.0	13.0	8.5	10.5
16	24.5	23.0	23.5	16.5	14.5	15.5	15.5	13.0	14.0	11.5	8.0	9.5
17	25.5	24.0	24.5	14.5	11.5	13.0	14.5	12.5	13.5	11.0	8.5	9.5
18	24.5	22.5	23.5	14.0	11.0	12.5	15.5	12.5	14.0	11.0	8.5	9.5
19	23.0	21.0	22.0	13.5	9.5	11.5	14.5	13.0	14.0	10.0	8.0	9.0
20	22.0	20.5	21.5	13.5	10.0	11.5	12.5	10.5	11.5	8.0	7.0	7.5
21	21.5	19.5	20.5	12.5	10.5	11.5	11.0	10.0	10.5	8.5	6.5	7.5
22	21.5	19.0	20.0	12.0	12.0	12.0	11.0	10.0	10.5	10.0	7.0	8.5
23	21.5	17.5	19.5	14.0	11.5	12.5	14.5	11.0	12.5	11.0	7.0	9.0
24	20.0	17.0	19.0	14.0	12.0	13.0	14.5	12.5	13.5	12.0	7.5	10.0
25	18.5	14.5	16.5	13.0	10.5	12.5	12.0	10.0	11.0	13.5	8.5	11.0
26	18.5	14.5	16.5	10.5	8.5	9.5	12.0	9.0	10.5	14.5	11.0	13.0
27	22.5	18.5	20.5	10.0	7.5	8.5	12.0	10.0	11.0	15.0	12.5	13.5
28	20.5	15.5	17.5	10.5	7.0	9.0	12.0	10.0	11.0	15.0	10.5	12.5
29	15.5	14.0	14.5	12.0	8.0	10.0	12.0	10.0	11.0	16.5	13.0	14.5
30	16.5	12.0	14.0	13.5	10.0	12.0	12.5	10.5	11.5	16.0	14.0	15.0
31	16.5	11.5	14.0	---	---	---	12.0	9.5	11.0	14.0	13.0	13.5
MONTH	26.5	11.5	21.5	22.5	7.0	15.0	20.0	9.0	13.5	16.5	6.5	11.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	15.0	13.0	14.0	18.5	17.0	18.0	22.0	18.0	20.0	26.5	24.0	25.0
2	12.5	10.5	11.5	17.5	16.0	16.5	20.0	18.0	19.0	25.0	23.0	24.0
3	11.5	9.0	10.5	16.5	15.5	16.0	23.0	19.0	21.0	23.0	21.0	22.0
4	11.5	11.0	11.0	19.5	16.5	18.0	22.5	20.0	21.0	22.0	21.0	21.5
5	11.0	10.5	11.0	18.5	16.0	17.0	22.0	18.0	20.0	23.0	21.5	22.0
6	11.0	10.0	10.5	16.5	14.5	15.5	21.0	17.5	19.0	24.5	22.0	23.0
7	12.5	10.5	11.5	15.5	14.5	15.0	20.5	18.0	19.5	24.5	22.5	23.5
8	13.0	10.5	12.0	17.5	13.5	15.5	21.5	19.0	20.5	25.0	23.0	24.0
9	13.5	12.0	12.5	18.0	14.0	16.0	23.5	20.5	22.0	23.5	22.5	23.0
10	16.5	13.5	14.5	17.5	15.0	16.5	25.5	21.0	23.0	24.0	20.5	22.0
11	13.0	8.5	10.5	17.5	15.0	16.0	23.5	21.5	22.5	24.0	19.0	21.5
12	11.0	7.0	9.0	16.0	15.0	15.5	25.0	21.0	23.0	24.5	19.5	22.0
13	11.0	8.0	9.0	17.0	14.5	15.5	25.5	21.5	23.5	24.5	21.0	23.0
14	13.0	8.0	10.0	17.5	14.0	16.0	27.5	21.5	24.0	25.5	21.5	23.5
15	13.0	8.5	11.0	19.0	14.5	16.5	26.5	22.0	24.0	23.0	21.0	22.0
16	15.0	11.5	13.0	17.5	15.0	16.5	26.0	21.0	23.5	23.0	20.5	21.5
17	16.5	11.5	14.0	18.5	14.5	16.5	26.0	21.5	23.5	25.0	21.0	23.5
18	16.5	14.0	15.0	19.0	15.5	17.0	24.0	21.0	22.0	26.0	23.5	25.0
19	18.0	15.0	16.5	18.0	13.5	15.5	24.0	20.0	22.0	24.5	23.0	23.5
20	17.5	15.5	16.5	17.5	13.5	15.5	25.0	22.0	23.5	25.0	21.0	23.0
21	18.5	16.5	17.5	18.5	15.5	16.5	26.5	22.0	24.0	25.5	20.5	23.0
22	18.0	15.5	16.5	18.0	15.5	16.5	23.5	22.0	23.0	24.0	21.5	22.5
23	17.5	13.0	15.5	19.5	15.0	17.0	22.0	19.5	20.5	26.0	22.0	23.5
24	18.0	13.5	15.5	19.5	15.0	17.0	22.0	19.5	20.5	26.5	22.5	24.5
25	16.0	15.5	16.0	19.0	15.5	17.5	21.0	19.5	20.5	27.5	23.5	25.0
26	17.5	15.5	16.0	18.5	16.5	17.5	23.5	19.0	21.0	29.0	23.0	26.0
27	18.5	16.5	17.5	20.5	16.0	18.0	24.5	20.0	22.5	28.5	24.5	26.5
28	19.5	17.5	18.5	19.0	18.5	19.0	24.0	22.0	23.0	28.5	24.5	26.5
29	---	---	---	19.0	17.5	18.5	26.5	22.5	24.0	28.0	25.5	26.5
30	---	---	---	21.0	15.5	18.5	28.5	23.0	25.5	28.0	25.0	26.0
31	---	---	---	19.0	17.5	18.5	---	---	---	25.5	23.0	24.5
MONTH	19.5	7.0	13.5	21.0	13.5	16.5	28.5	17.5	22.0	29.0	19.0	23.5

SAN JACINTO RIVER BASIN

53

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

08068520 SPRING CREEK AT SPRING, TX

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

DRAINAGE AREA.--419 mi² (1,085 km²).

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

Water-quality records: Chemical analyses: September 1961 to April 1964. Sediment records: December 1965 to September 1975.

REVISED RECORDS.--WSP 1732: Drainage area.

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

REMARKS.--Records good except those for June 21 to July 26, which are poor. No diversion above station. Several observations of water temperature were made during the current year.

AVERAGE DISCHARGE.--42 years, 219 ft³/s (6.202 m³/s), 7.10 in/yr (180 mm/yr), 158,700 acre-ft/yr (196 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,700 ft³/s (1,210 m³/s) Nov. 25, 1940, gage height, 33.60 ft (10.241 m), former site and datum, from graph based on gage readings; minimum, 1.1 ft³/s (0.031 m³/s) Oct. 23, 24, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1879, 34.3 ft (10.45 m), former site and datum, May 30, 1929, discharge 48,300 ft³/s (1,370 m³/s), from floodmarks identified by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 4	0100	3,420	96.9	14.23	4.337
July 6	unknown	3,000	85.0	--	--
Sept. 1	1800	*8,640	245	21.05	6.416

Minimum discharge, 17 ft³/s (0.48 m³/s) Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	29	41	27	67	39	28	52	104	130	33	7980
2	49	28	34	26	40	40	28	48	153	120	29	6060
3	46	27	30	26	35	40	27	723	545	110	27	2270
4	34	26	28	26	32	115	26	2810	495	110	37	610
5	27	25	26	26	100	126	25	2330	1080	500	35	297
6	23	24	24	26	110	126	24	1500	960	2500	24	191
7	21	23	24	26	90	77	24	733	384	2000	23	117
8	20	24	37	26	70	52	24	263	182	2200	26	87
9	19	24	176	26	60	42	24	157	107	1500	24	71
10	19	23	81	26	70	38	24	181	116	800	21	60
11	18	22	59	27	60	35	23	114	443	450	21	53
12	18	22	52	27	50	33	23	91	660	300	19	48
13	18	22	47	27	45	44	23	74	1820	250	36	44
14	18	21	39	27	42	41	22	73	1370	200	44	50
15	17	20	35	27	40	40	22	61	1480	120	27	72
16	19	20	33	27	38	38	22	118	1210	100	23	65
17	21	29	32	26	37	35	21	168	460	85	22	55
18	211	27	30	26	36	32	24	366	313	75	21	49
19	724	24	30	66	35	30	49	447	240	65	21	41
20	530	24	29	215	35	28	78	191	146	60	19	36
21	258	24	28	162	50	27	51	91	135	55	19	33
22	113	28	28	177	70	27	35	68	160	50	19	32
23	68	37	27	114	50	27	215	56	145	46	19	31
24	51	30	27	68	45	26	449	50	450	43	19	30
25	43	29	27	51	50	25	493	47	600	40	19	29
26	38	109	27	43	45	25	353	78	400	38	19	28
27	34	87	27	39	40	25	142	112	450	37	19	26
28	44	103	27	38	39	25	91	78	350	35	21	27
29	44	79	27	36	---	35	70	58	250	33	20	27
30	36	54	27	33	---	35	59	54	150	36	21	26
31	32	---	27	32	---	30	---	61	---	40	1630	---
TOTAL	2683	1064	1186	1549	1481	1358	2519	11253	15358	12128	2357	18545
MEAN	86.5	35.5	38.3	50.0	52.9	43.8	84.0	363	512	391	76.0	618
MAX	724	109	176	215	110	126	493	2810	1820	2500	1630	7980
MIN	17	20	24	26	32	25	21	47	104	33	19	26
CFSM	.21	.09	.09	.12	.13	.11	.20	.87	1.22	.93	.18	1.48
IN.	.24	.09	.11	.14	.13	.12	.22	1.00	1.36	1.08	.21	1.65
AC-FT	5320	2110	2350	3070	2940	2690	5000	22320	30460	24060	4680	36780
CAL YR 1980	TOTAL	61942	MEAN 169	MAX 3820	MIN 13	CFSM .40	IN 5.50	AC-FT 122900				
WTR YR 1981	TOTAL	71481	MEAN 196	MAX 7980	MIN 17	CFSM .47	IN 6.35	AC-FT 141800				

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

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

DRAINAGE AREA.--110 mi² (285 km²).

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

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

REMARKS.--Records fair except those for periods of no gage-height record, Nov. 3 to Dec. 19 and Apr. 29 to June 8 which are poor. Diversions and return flow for irrigation occur upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years, 70.8 ft³/s (2.005 m³/s), 51,290 acre-ft/yr (63.2 hm³/yr).

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

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

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 19	1800	952 27.0	57.30 17.465
May 5	unknown	*a1,000 28.3	a57.6 17.56

a Estimated.

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	16	18	.63	2.8	4.7	.86	1.0	25	17	.00	729
2	83	11	13	.72	2.3	3.8	.58	.50	20	11	.00	601
3	53	8.0	10	.48	1.7	4.0	.48	100	30	6.9	.00	299
4	40	6.0	7.5	.25	1.9	53	.48	700	50	6.9	.00	124
5	29	4.0	6.0	.19	3.1	58	.38	950	100	8.4	.70	72
6	22	2.5	5.0	.27	13	18	.30	500	80	43	.00	39
7	21	1.4	4.0	.38	19	8.4	.24	130	30	244	.00	24
8	15	1.0	4.0	.34	11	5.2	.24	50	10	652	.00	25
9	11	.60	40	.50	7.0	.58	.30	150	.00	678	1.9	26
10	14	.50	50	.62	5.8	.00	.30	450	.00	330	3.8	22
11	25	.40	20	.57	6.1	.00	.30	300	.00	146	.70	18
12	15	.30	10	.41	5.2	.14	.30	120	136	102	.00	11
13	11	.20	5.0	.32	3.1	6.0	.24	50	462	76	4.4	8.4
14	12	.15	3.5	.36	2.3	2.3	.24	60	459	61	.24	13
15	96	.10	2.8	.35	1.8	1.4	.30	45	159	45	.00	37
16	514	.05	2.3	.26	1.6	3.8	1.0	25	70	41	.00	25
17	417	.20	2.0	.22	1.5	2.3	1.0	15	214	31	.00	14
18	357	.40	1.6	.19	1.5	1.6	1.2	20	374	20	.00	8.7
19	922	.30	1.2	15	1.7	1.2	.00	15	220	19	.03	7.9
20	918	.25	.84	133	2.0	.86	.00	12	76	17	.00	7.7
21	808	.20	.54	125	2.3	.86	4.8	11	37	12	.00	4.9
22	553	.30	.40	57	2.9	1.4	5.4	10	14	6.9	.00	21
23	228	.40	.35	33	2.4	1.4	114	20	3.8	.00	.00	11
24	121	.60	.55	20	3.0	1.2	299	25	6.9	.00	.00	5.8
25	76	7.0	.39	12	5.3	1.2	174	15	2.9	.00	.00	4.1
26	48	60	.36	7.9	17	.08	73	12	.00	2.3	.00	6.6
27	32	160	.44	6.1	14	.00	29	11	72	5.6	.00	5.6
28	32	70	.44	5.3	7.1	.00	58	10	71	7.4	.00	4.1
29	73	40	.44	5.0	---	.30	18	10	37	.00	.00	3.2
30	45	25	.56	3.5	---	.86	3.5	22	22	.00	.86	2.9
31	25	---	.53	2.9	---	1.0	---	40	---	.86	315	---
TOTAL	5763	416.85	211.74	432.76	148.4	183.58	787.44	3879.50	2781.60	2590.26	327.63	2180.9
MEAN	186	13.9	6.83	14.0	5.30	5.92	26.2	125	92.7	83.6	10.6	72.7
MAX	922	160	50	133	19	58	299	950	462	678	315	729
MIN	11	.05	.35	.19	1.5	.00	.00	.50	.00	.00	.00	2.9
AC-FT	11430	827	420	858	294	364	1560	7690	5520	5140	650	4330

CAL YR 1980 TOTAL 20989.26 MEAN 57.3 MAX 1210 MIN .00 AC-FT 41630
WTR YR 1981 TOTAL 19703.66 MEAN 54.0 MAX 950 MIN .00 AC-FT 39080

No gage-height record Nov. 3 to Dec. 17 and Apr. 30 to June 8.

SAN JACINTO RIVER BASIN

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

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

DRAINAGE AREA.--131 mi² (339 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Water-discharge records fair except those for periods of no gage-height record, Dec. 22 to Jan. 22, May 5, and May 9 to June 18, which are poor. Diversions and return flow for irrigation occur upstream from station.

AVERAGE DISCHARGE.--6 years, 96.4 ft³/s (2.730 m³/s), 69,840 acre-ft/yr (86.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,590 ft³/s (73.3 m³/s) Sept. 22, 1979, gage height, 46.33 ft (14.121 m); no flow for many days (result of pumping for irrigation).

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

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 19	1800	1,010 28.6	43.60 13.289
May 5	a0700	*1,200 34.0	a42.8 13.05
Sept. 1	0500	1,140 32.3	44.20 13.472

a Estimated.

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	34	31	.90	.53	6.0	.85	6.2	30	40	.40	1100
2	130	26	24	1.0	.54	5.0	.45	3.2	25	20	.35	832
3	80	18	17	.90	.36	5.5	.37	119	35	15	.30	512
4	60	12	12	.60	.34	62	.34	782	60	10	.30	254
5	40	8.0	9.5	.40	1.2	68	.30	1100	120	10	.71	126
6	30	5.4	7.3	.40	16	20	.25	570	95	50	.33	69
7	24	3.7	5.1	.50	23	9.5	.20	161	25	300	.25	44
8	20	2.4	5.7	.40	11	4.5	.16	58	6.0	790	.20	39
9	18	1.3	55	.70	8.0	1.6	.14	180	3.0	820	.62	35
10	25	.81	60	.90	6.5	.81	.10	540	1.5	400	2.7	25
11	32	.47	35	.80	7.0	.50	.08	360	1.0	200	1.4	20
12	25	.41	17	.60	6.0	.58	.06	140	170	130	.38	15
13	16	.33	8.6	.50	4.5	14	.05	60	560	95	3.7	10
14	20	.21	5.2	.40	3.0	3.6	.03	70	550	75	.40	15
15	150	.15	3.2	.40	2.5	2.0	.00	55	200	55	.20	40
16	624	.10	2.2	.40	2.2	3.2	.08	30	85	40	.10	35
17	525	.47	1.6	.40	2.0	2.0	.50	18	260	30	.05	23
18	458	.66	1.1	.40	2.0	1.0	1.6	25	400	22	.02	15
19	967	.54	.66	40	2.2	.60	2.0	18	360	20	.00	15
20	981	.47	.41	190	2.5	.50	.49	14	112	18	.00	15
21	882	.47	.23	200	3.0	1.0	5.2	13	50	13	.00	9.8
22	639	.54	.20	90	4.0	1.5	7.4	12	24	8.5	.00	23
23	354	.66	.20	39	3.5	.70	220	25	6.6	6.0	.00	15
24	197	.88	1.0	22	4.0	.54	484	30	12	.88	.00	8.4
25	119	2.7	.80	11	8.0	.44	297	20	25	.40	.00	4.8
26	77	136	.60	5.7	16	.42	113	15	25	.55	.00	8.4
27	57	259	.60	3.6	15	.25	45	12	98	2.6	.00	5.7
28	56	138	.60	2.4	9.0	.10	64	11	113	5.6	.00	3.3
29	94	73	.70	1.5	---	.09	43	11	78	3.5	.00	2.4
30	70	41	.80	.95	---	.47	15	25	30	.33	.78	1.8
31	45	---	.70	.62	---	.71	---	50	---	.47	603	---
TOTAL	7015	767.67	308.00	617.37	163.87	217.11	1301.65	4533.4	3560.1	3181.83	616.19	3321.6
MEAN	226	25.6	9.94	19.9	5.85	7.00	43.4	146	119	103	19.9	111
MAX	981	259	60	200	23	68	484	1100	560	820	603	1100
MIN	16	.10	.20	.40	.34	.09	.00	3.2	1.0	.33	.00	1.8
AC-FT	13910	1520	611	1220	325	431	2580	8990	7060	6310	1220	6590

CAL YR 1980 TOTAL 28136.81 MEAN 76.9 MAX 1900 MIN .00 AC-FT 55810
WTR YR 1981 TOTAL 25603.79 MEAN 70.1 MAX 1100 MIN .00 AC-FT 50790

NOTE.--No gage-height record Dec.22 to Jan. 22, May 5, and May to June 18.

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

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
FEB 26...	1105	16	826	7.0	17.0	120	110	9.2	93	3.7	110
MAY 06...	1155	558	110	6.5	24.0	150	47	4.7	55	4.6	28
JUL 30...	1225	.33	248	7.9	32.5	90	40	6.4	86	1.3	58

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (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)
FEB 26...	66	35	5.2	110	4.6	5.9	43	61	190	.1	7.3
MAY 06...	6	7.7	2.0	9.7	.8	4.3	23	6.8	12	.1	6.8
JUL 30...	48	18	3.2	25	1.5	3.1	10	10	31	.5	8.4

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB 26...	441	1	6	.59	.020	.61	.320	1.2	1.5	.550	16
MAY 06...	63	80	2	.10	.050	.15	.410	1.5	1.9	.390	16
JUL 30...	135	34	26	.14	.050	.19	1.300	.00	1.3	.110	8.5

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
FEB 26...	1105	1	100	<1	0	<10	470
MAY 06...	1155	2	70	<1	0	<10	450
JUL 30...	1225	2	110	<1	0	<10	260

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 26...	<10	40	.0	0	0	30
MAY 06...	18	10	.1	0	0	10
JUL 30...	<10	34	.2	0	0	43

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
FEB 26...	1105	.00	.0	.00	.0	.00	.00	.00	.00
MAY 06...	1155	.00	.0	.00	.0	.00	.00	.00	.01
JUL 30...	1225	.00	.0	.00	.0	.00	.00	.00	.00

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
FEB 26...	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAY 06...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 30...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
FEB 26...	.00	.00	.00	.00	0	.00	.05	.00	.00
MAY 06...	.00	.00	.00	.00	0	.00	.03	.01	.00
JUL 30...	.00	.00	.00	.00	0	.00	.00	.01	.00

08069000 CYPRESS CREEK NEAR WESTFIELD, TX

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

DRAINAGE AREA.--285 mi² (738 km²).

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

Water-quality records: Sediment records: October 1976 to September 1979.

REVISED RECORDS.--WSP 1732: Drainage area.

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

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No large diversion above station. Low flow is maintained by sewage effluent. Channel below gage was rectified in 1950-51 and 1975. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 160 ft³/s (4.531 m³/s), 115,900 acre-ft/yr (143 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft³/s (626 m³/s) Oct. 8, 1949, gage height, 33.44 ft (10.193 m), present datum, from rating curve extended above 11,000 ft³/s (312 m³/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 34 ft (10.4 m), present datum, in May 1929, discharge 26,000 ft³/s (736 m³/s), from information by local resident. Flood in November 1940 reached a stage of about 32 ft (9.8 m), present datum, discharge 15,000 ft³/s (425 m³/s), from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62.3 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)				
Oct. 18	2400	2,740	77.6	19.97	6.087	July 6	unknown	2,400	68.0	18.82	5.736
May 4	0100	4,100	116	23.75	7.239	Sept. 1	0200	*6,580	186	28.23	8.605
June 11	0200	2,420	68.5	18.87	5.752						

Minimum daily discharge, 10 ft³/s (0.28 m³/s) Apr. 14-17, Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	256	56	50	13	19	24	11	30	112	100	11	5730
2	252	45	39	14	17	20	11	20	153	85	11	3380
3	162	36	31	13	16	17	12	1380	378	82	12	1530
4	92	31	26	12	15	429	15	2920	195	200	11	786
5	66	24	24	12	150	129	14	1340	1060	1200	16	360
6	52	21	23	12	149	93	13	889	243	1700	16	220
7	42	19	21	12	73	43	12	515	134	1300	16	140
8	37	18	78	13	54	30	12	168	67	1500	11	100
9	35	16	415	14	38	24	12	478	41	1100	10	75
10	31	17	133	13	46	19	11	1130	123	600	11	55
11	34	15	91	12	30	15	11	725	1200	400	12	45
12	50	14	57	12	25	22	11	380	865	300	26	40
13	46	13	37	12	22	68	11	150	932	200	35	35
14	34	15	29	11	18	36	10	80	826	150	31	40
15	66	23	26	11	16	28	10	60	664	110	18	50
16	1080	17	24	11	16	22	10	70	363	90	13	60
17	957	43	21	11	14	18	10	90	179	70	12	65
18	1190	18	19	11	13	16	15	150	408	62	11	64
19	2140	13	19	100	14	14	30	160	394	54	13	45
20	1660	13	17	600	14	13	20	70	284	45	16	39
21	1230	12	16	800	30	14	17	50	210	39	12	39
22	912	39	15	400	80	14	17	40	115	33	11	34
23	664	33	15	250	21	13	582	32	90	29	13	55
24	363	18	14	150	15	11	677	28	240	24	12	43
25	194	41	13	80	33	11	562	25	490	21	11	34
26	124	219	13	50	39	11	284	30	330	18	11	40
27	92	229	12	40	31	11	132	40	380	23	11	40
28	68	225	12	30	31	11	132	30	280	27	11	34
29	62	146	13	27	---	44	88	20	200	28	12	29
30	103	82	13	24	---	27	50	26	140	20	18	27
31	78	---	13	21	---	14	---	41	---	13	2240	---
TOTAL	12172	1511	1329	2791	1039	1261	2802	11167	11096	9623	2674	13234
MEAN	393	50.4	42.9	90.0	37.1	40.7	93.4	360	370	310	86.3	441
MAX	2140	229	415	800	150	429	677	2920	1200	1700	2240	5730
MIN	31	12	12	11	13	11	10	20	41	13	10	27
AC-FT	24140	3000	2640	5540	2060	2500	5560	22150	22010	19090	5300	26250

CAL YR 1980 TOTAL 62040 MEAN 170 MAX 3150 MIN 11 AC-FT 123100
WTR YR 1981 TOTAL 70699 MEAN 194 MAX 5730 MIN 10 AC-FT 140200

NOTE.--No gage-height record Dec. 26 to Feb. 5 and June 21 to July 26.

SAN JACINTO RIVER BASIN

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

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

DRAINAGE AREA.--319 mi² (826 km²).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
FEB 26...	1300	45	460	7.2	17.0	60	74	7.2	73	8.6	75
MAY 06...	0945	1100	97	6.7	24.0	150	76	6.0	71	5.3	26
AUG 03...	1305	24	569	8.0	30.0	30	23	6.7	88	5.0	96

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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)
FEB 26...	0	24	3.6	62	3.1	7.4	110	28	51	.2	14
MAY 06...	2	7.9	1.5	8.0	.7	3.7	24	3.4	11	.1	6.6
AUG 03...	0	31	4.6	81	3.6	6.5	150	30	67	.4	19

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB 26...	257	76	10	4.1	.360	4.5	1.600	.90	2.5	4.100	14
MAY 06...	57	136	38	.21	.030	.24	.190	1.4	1.6	.410	17
AUG 03...	330	45	26	2.5	.250	2.7	.380	1.6	2.0	4.400	8.7

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
FEB 26...	1300	3	80	<1	0	<10	130
MAY 06...	0945	2	60	<1	0	<10	320
AUG 03...	1305	5	90	<1	10	<10	<10

SAN JACINTO RIVER BASIN

61

08069200 CYPRESS CREEK NEAR HUMBLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 26...	<10	30	.0	0	0	50
MAY 06...	<10	10	.1	0	0	5
AUG 03...	<10	2	.1	0	0	3

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
FEB 26...	1300	.00	.0	.00	.0	.00	.00	.00	.62
MAY 06...	0945	.00	.0	.00	.0	.00	.00	.00	.04
AUG 03...	1305	.00	.0	.00	.0	.00	.00	.00	.48

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
FEB 26...	.01	.00	.00	.00	.00	.01	.06	.10	.00
MAY 06...	.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG 03...	.00	.00	.00	.00	.00	.00	.52	.03	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
FEB 26...	.00	.00	.00	.00	0	.00	.34	.00	.03
MAY 06...	.00	.00	.00	.00	0	.00	.07	.02	.01
AUG 03...	.00	.00	.00	.00	0	.00	.00	.00	.00

SAN JACINTO RIVER BASIN

08069500 WEST FORK SAN JACINTO RIVER NEAR HUMBLE, TX

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

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

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

REVISED RECORDS.--WSP 1732: Drainage area.

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

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

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

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

1954-81: Maximum gage height since first appreciable storage at Lake Houston, 25.15 ft (7.666 m) Apr. 19, 1979; minimum since first appreciable storage at Lake Houston, 5.5 ft (1.68 m) Dec. 12, 1956.

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 19.52 ft (5.950 m) Sept. 1 at 2200 hours; minimum not determined.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	---		---	19.52
2								---	---		---	19.51
3								16.30	---		---	17.42
4								18.60	---		---	---
5								18.55	16.85		---	---
6								---	16.65		---	---
7								---	---		---	---
8								---	---		---	---
9								---	---		---	---
10								---	---		---	---
11								---	18.10		---	---
12								---	16.13		---	---
13								---	16.60		---	---
14								---	17.63		---	---
15								---	18.45		---	---
16								---	17.85		---	---
17								---	---		---	---
18								---	---		---	---
19								---	---		---	---
20								---	---		---	---
21								---	---		---	---
22								---	---		---	---
23								---	---		---	---
24								---	---		---	---
25								---	---		---	---
26								---	---		---	---
27								---	---		---	---
28								---	---		---	---
29								---	---		---	---
30								---	---		---	---
31								---	---		17.20	---
MEAN								---	---		---	---
MAX								---	---		---	---
MIN								---	---		---	---

SAN JACINTO RIVER BASIN

63

08070000 EAST FORK SAN JACINTO RIVER NEAR CLEVELAND, TX

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

DRAINAGE AREA.--325 mi² (842 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Water-discharge records fair. No large diversion above station. Rain gage and gage-height telemeter located at station.

AVERAGE DISCHARGE.--42 years, 222 ft³/s (6.287 m³/s), 9.28 in/yr (236 mm/yr), 160,800 acre-ft/yr (198 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,000 ft³/s (1,670 m³/s) Nov. 24, 1940, gage height, 24.1 ft (7.35 m), present site and datum, from rating curve extended above 27,000 ft³/s (765 m³/s); minimum daily, 3.0 ft³/s (0.085 m³/s) Aug. 23, 24, Sept. 27, 28, 1956.
Maximum stage since at least 1900, that of Nov. 24, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 5, 1935, reached a stage of 23.6 ft (7.19 m), present site and datum, discharge 53,500 ft³/s (1,520 m³/s), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 992 ft³/s (28.1 m³/s) June 13 at 1000 hours, gage height, 10.41 ft (3.173 m), no peak above base of 2,500 ft³/s (70.8 m³/s); minimum, 13 ft³/s (0.37 m³/s) Aug. 26-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	23	35	28	40	36	35	24	36	41	23	453
2	28	22	33	27	62	37	30	21	48	36	21	178
3	24	22	32	27	46	40	28	82	200	72	18	230
4	21	22	31	27	38	152	27	836	500	122	16	351
5	20	21	31	27	44	163	26	693	700	141	15	507
6	19	21	31	40	84	84	25	427	750	136	15	276
7	19	21	31	47	85	63	24	314	500	453	15	112
8	18	21	31	40	66	58	24	160	300	424	95	66
9	19	21	50	35	56	54	25	98	150	338	36	48
10	18	22	70	32	57	45	24	96	200	366	21	37
11	18	22	50	30	57	39	23	70	440	230	17	31
12	17	22	45	29	47	37	22	53	367	170	15	27
13	17	21	40	28	40	40	22	45	922	120	15	25
14	16	21	36	27	39	45	21	45	864	100	15	25
15	16	21	34	27	39	41	20	50	849	90	15	28
16	16	23	32	26	38	37	19	127	312	82	15	34
17	20	28	31	26	38	35	19	179	173	76	15	28
18	50	47	30	26	38	33	20	100	137	54	16	24
19	70	37	29	35	36	31	106	70	137	42	18	23
20	45	28	28	105	35	30	80	56	97	35	15	22
21	37	25	27	120	36	29	42	42	75	31	15	20
22	30	27	26	73	42	29	32	35	62	28	14	19
23	27	41	27	49	53	28	41	32	53	25	14	18
24	25	56	27	57	41	28	153	29	64	23	14	17
25	24	40	28	45	36	27	110	28	61	21	14	17
26	24	50	28	41	37	27	55	27	66	21	14	16
27	24	76	28	38	38	26	41	25	121	20	13	16
28	42	52	27	36	37	26	33	23	67	19	13	16
29	38	40	27	34	---	27	29	22	50	21	13	16
30	29	36	27	33	---	35	27	27	49	23	13	15
31	25	---	27	31	---	40	---	27	---	22	344	---
TOTAL	826	929	1029	1246	1305	1422	1183	3863	8350	3382	912	2695
MEAN	26.6	31.0	33.2	40.2	46.6	45.9	39.4	125	278	109	29.4	89.8
MAX	70	76	70	120	85	163	153	836	922	453	344	507
MIN	16	21	26	26	35	26	19	21	36	19	13	15
CFSM	.08	.10	.10	.12	.14	.14	.12	.39	.86	.34	.09	.28
IN.	.09	.11	.12	.14	.15	.16	.14	.44	.96	.39	.10	.31
AC-FT	1640	1840	2040	2470	2590	2820	2350	7660	16560	6710	1810	5350
CAL YR 1980	TOTAL	44791	MEAN	122	MAX	3120	MIN 12	CFSM .38	IN 5.13	AC-FT	88840	
WTR YR 1981	TOTAL	27142	MEAN	74.4	MAX	922	MIN 13	CFSM .23	IN 3.11	AC-FT	53840	

SAN JACINTO RIVER BASIN

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

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 05...	1025	21	192	14.5	26	15	7.2	2.0	22
DEC 15...	1735	33	255	12.0	40	19	12	2.4	35
FEB 03...	0900	53	222	10.0	44	19	14	2.2	25
MAR 09...	1450	53	307	15.5	59	25	19	2.9	35
APR 23...	1330	39	223	21.5	39	16	12	2.1	28
JUN 15...	1700	841	145	25.5	49	11	17	1.7	8.9
JUL 21...	1305	31	217	30.0	49	18	16	2.2	21

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 05...	1.9	1.2	11	2.2	47	.0	12	101
DEC 15...	2.4	1.6	21	7.2	60	.0	15	146
FEB 03...	1.6	1.5	25	6.3	48	.1	11	123
MAR 09...	2.0	1.8	34	11	68	.1	14	172
APR 23...	2.0	1.7	23	2.0	51	.1	12	123
JUN 15...	.6	3.4	38	--	--	--	12	--
JUL 21...	1.4	1.9	31	1.0	41	.0	16	118

08070500 CANEY CREEK NEAR SPLENDORA, TX

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

DRAINAGE AREA.--105 mi² (272 km²).

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

REVISED RECORDS.--WSP 1732: Drainage area.

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

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

AVERAGE DISCHARGE.--38 years, 74.9 ft³/s (2.121 m³/s), 9.68 in/yr (246 mm/yr), 54,270 acre-ft/yr (66.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft³/s (991 m³/s) June 14, 1973, gage height, 26.30 ft (8.016 m); minimum, 4.1 ft³/s (0.12 m³/s) Oct. 26, 1956, caused by construction upstream.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 5	1700	1,750 49.6	12.73 3.880
June 6	1300	*2,380 67.4	14.48 4.414

Minimum discharge, 14 ft³/s (0.40 m³/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	18	24	20	20	22	21	20	159	33	19	230
2	20	18	24	20	27	22	20	19	68	29	19	735
3	18	17	24	20	26	22	19	100	222	180	18	147
4	17	17	24	20	23	41	19	1020	806	87	18	60
5	16	17	24	20	24	54	18	1580	1890	47	18	46
6	16	17	24	20	33	34	17	515	2040	53	18	37
7	15	17	24	24	37	27	17	97	373	181	18	32
8	15	17	24	26	30	26	16	68	142	654	18	28
9	15	17	32	24	26	25	17	56	97	173	18	27
10	15	17	38	23	26	24	17	71	69	79	17	25
11	14	17	30	22	28	23	17	53	105	61	17	23
12	14	17	25	22	26	22	16	42	195	58	16	23
13	14	17	23	22	24	22	16	36	472	65	16	22
14	14	17	22	21	23	24	16	35	207	40	17	23
15	14	17	21	21	23	23	15	36	95	35	17	31
16	14	18	21	21	23	22	15	68	67	31	17	29
17	16	24	21	21	22	21	15	124	64	29	16	24
18	26	29	21	21	22	20	20	53	59	27	15	22
19	37	25	21	24	22	20	60	39	45	26	15	21
20	28	22	20	58	22	19	41	32	39	25	15	21
21	21	21	20	69	22	19	27	29	36	24	15	21
22	18	21	20	38	23	19	22	27	34	23	14	21
23	17	26	20	29	27	19	25	27	32	23	14	20
24	16	29	20	25	25	19	144	27	32	23	14	20
25	16	26	20	23	22	19	58	26	48	22	14	20
26	15	32	20	22	22	19	33	25	102	22	14	20
27	15	43	20	22	22	19	26	24	92	22	14	20
28	18	33	20	21	22	19	23	22	48	22	14	20
29	19	27	20	20	---	20	24	22	46	22	14	19
30	18	25	20	20	---	23	23	22	40	21	14	19
31	18	---	20	19	---	25	---	110	---	20	65	---
TOTAL	552	658	707	778	692	733	817	4425	7724	2157	548	1806
MEAN	17.8	21.9	22.8	25.1	24.7	23.6	27.2	143	257	69.6	17.7	60.2
MAX	37	43	38	69	37	54	144	1580	2040	654	65	735
MIN	14	17	20	19	20	19	15	19	32	20	14	19
CFSM	.17	.21	.22	.24	.24	.23	.26	1.36	2.45	.66	.17	.57
IN.	.20	.23	.25	.28	.25	.26	.29	1.57	2.74	.76	.19	.64
AC-FT	1090	1310	1400	1540	1370	1450	1620	8780	15320	4280	1090	3580
CAL YR 1980	TOTAL	17046	MEAN 46.6	MAX 808	MIN 13	CFSM .44	IN 6.04	AC-FT 33810				
WTR YR 1981	TOTAL	21597	MEAN 59.2	MAX 2040	MIN 14	CFSM .56	IN 7.65	AC-FT 42840				

SAN JACINTO RIVER BASIN

08072000 LAKE HOUSTON NEAR SHELDON, TX

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

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

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

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

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 178,600 acre-ft (220 hm³) June 5 at 1500 hours, gage height, 46.93 ft (14.304 m); minimum, 119,800 acre-ft (148 hm³) Oct. 16, gage height, 42.15 ft (12.847 m).

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

41.0	107,900	45.0	152,900
43.0	129,100	47.0	179,600

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122400	148300	140700	136300	141600	141700	142200	149300	153600	154500	148400	174000
2	123100	147900	140600	135600	141100	141300	141300	148500	155900	154100	147900	171800
3	123300	147700	139900	135300	140800	141000	141100	167900	162900	154600	147300	165900
4	123000	147200	139600	134800	140800	145400	141200	177100	168600	155300	146700	162300
5	123000	146600	139300	134200	142500	147600	140500	170900	177100	159400	146200	161100
6	122700	146100	139000	134200	144000	148900	139600	165000	170000	160100	145500	160100
7	122300	145800	138700	133800	145100	149900	139100	161100	164600	164200	145400	158800
8	122100	145200	138400	133400	145600	149900	138500	158800	162000	167300	144700	157700
9	121700	145000	138000	133100	145500	149900	138000	161400	160500	166200	144100	157100
10	121500	144500	137600	132600	147300	149900	137500	159500	163600	163900	143500	156800
11	121400	143900	142100	132300	144600	149800	137000	157700	172700	161400	142900	155300
12	120900	143200	142300	131700	144400	150200	136500	156800	169000	159500	142300	153800
13	121100	142700	142700	131200	144300	150200	136100	156200	170900	158500	141700	153300
14	120100	142500	142500	130900	143900	150100	135600	155400	169700	158000	141100	153700
15	119900	141900	143600	130600	143600	149900	135000	154500	170700	157300	140400	153800
16	120700	141200	143300	130100	143500	149500	134200	154900	166300	156600	139700	153500
17	123500	141000	142800	129700	143300	148700	133600	155500	162000	156200	139100	151400
18	131100	139900	142700	129000	142900	147900	133000	156200	159900	155300	138600	150700
19	141600	139300	142900	131300	142700	146900	132800	154900	158100	154500	137800	150600
20	147800	138900	141700	134600	142300	146600	133000	154000	157600	153700	137000	150500
21	152100	138400	141000	136500	142500	146300	133100	153600	156600	153200	136400	150200
22	154500	138700	140400	138200	141900	145400	133000	153200	155700	152600	135700	149900
23	154600	138600	139800	139200	141900	144900	139800	152700	154900	152100	134900	149500
24	152900	138300	140000	139600	141800	144400	143500	152300	154600	151600	134300	149000
25	152200	139200	138900	139700	142200	144000	146600	152000	154800	151500	133500	148700
26	151800	139400	138600	139800	142100	143500	148300	151500	155700	151100	132800	148300
27	152700	139900	138400	140200	141700	142900	148800	151400	155500	150900	132000	148000
28	151400	140400	150100	140100	141700	142500	149300	151100	155400	150500	131800	147700
29	149400	140700	138000	140000	---	142800	149400	150600	155100	150000	131400	147200
30	148900	140700	137100	139900	---	142400	149300	151200	154900	149600	131400	146700
31	148500	---	136700	139300	---	142300	---	151200	---	149000	156800	---
MAX	154600	148300	150100	140200	147300	150200	149400	177100	177100	167300	156800	174000
MIN	119900	138300	136700	129000	140800	141000	132800	148500	153600	149000	131400	146700
(†)	44.66	44.00	43.65	43.88	44.08	44.13	44.70	44.86	45.15	44.68	45.30	44.49
(‡)	+27300	-7800	-4000	+2400	+600	+7000	+1900	+3700	-5900	+7800	-10100	
(††)	21960	21880	21040	20680	19270	20150	22770	20810	18140	20920	23070	20990

CAL YR 1980 MAX 171000 MIN 105000

WTR YR 1981 MAX 177100 MIN 119900

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal and industrial uses by San Jacinto River Authority and city of Houston.

SAN JACINTO RIVER BASIN

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
APR 03...	1200	236	18.0	50	0	16	2.5	25

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
APR 03...	1.5	2.7	51	11	35	.1	2.0	125

SAN JACINTO RIVER BASIN

08072020 LAKE HOUSTON PLANT INTAKE AT GALENA PARK, TX

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

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

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
FEB 12...	1115	1	100	0	0	31	60
MAY 19...	1040	2	0	0	0	0	200
AUG 20...	1035	3	0	0	0	0	270

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 12...	0	0	.1	0	0	30
MAY 19...	0	40	.0	0	0	10
AUG 20...	0	20	.0	0	0	50

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
MAY 19...	1040	.00	.0	.00	.0	.00	.00	.00	.10
AUG 20...	1035	.00	.0	.00	.0	.00	.00	.00	.02

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
MAY 19...	.00	.00	.00	.00	.00	.00	.00	.01	.00
AUG 20...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 19...	.00	.00	.00	.00	0	.00	.11	.01	.00
AUG 20...	.00	.00	.00	.00	0	.00	.11	.00	.00

SAN JACINTO RIVER BASIN

69

08072050 SAN JACINTO RIVER NEAR SHELDON, TX

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

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

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 11.58 ft (3.530 m) May 4; minimum, -2.02 ft (-0.616 m) Mar. 19.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
	max. min.	max. min.	max. min.	max. min.	max. min.	max. min.	max. min.	max. min.	max. min.	max. min.	max. min.	max. min.
1	- -	- -	- -	0.90-0.36	2.89 0.46	- -	- 0.6	- -	2.54 0.76	3.08 1.14	2.15 0.35	- -
2	2.14 -	- -	- -	1.03 -	1.11-1.46	- -	- -	- -	2.83 .74	3.11 .74	1.96 .25	- -
3	- -	- -	- -	- -	1.67- .23	- -	- -	- -	3.38 1.32	2.89 .78	2.14 .60	- -
4	- -	- -	- -	- -	1.85 .23	- -	- -	11.58 -	5.28 3.08	2.80 .84	2.32 .83	- -
5	- -	- -	- -	- -	2.55 1.00	- -	- -	- -	11.40 5.12	2.83 .77	2.09 .93	- -
6	- -	- -	- -	- -	1.80- .14	2.10 .25	- -	- -	10.78 6.04	2.48 1.30	1.77 .73	- -
7	- -	- -	- -	- -	2.13 .66	2.76 1.17	- -	3.57 2.16	6.04 3.19	3.55 2.08	1.78 .40	- -
8	- -	- -	- -	- -	2.16 .77	2.00 .63	- -	3.57 1.59	3.19 1.85	3.80 3.04	1.64 .15	- -
9	- -	- -	- -	- -	2.93 1.13	1.99 .62	- -	3.48 1.60	2.78 1.68	3.69 3.00	1.65 .15	- -
10	- -	- -	- -	- -	3.20 .54	1.75 .25	- -	3.16 1.06	3.27 1.90	3.00 2.31	1.88 .48	- -
11	- -	- -	- -	- -	.55-1.96	1.63 .06	- -	1.94 .05	6.66 2.02	2.80 1.83	1.90 .30	- -
12	- -	- -	- -	- -	1.10- .32	1.86- .09	- -	2.80 1.22	6.52 4.74	2.49 1.33	2.23 .35	- -
13	- -	- -	- -	- -	1.87 .29	1.93 .34	- -	2.87 1.85	6.15 4.74	2.44 1.03	2.47 .65	- -
14	- -	- -	- -	- -	1.61 -	1.89 .20	- -	2.03 .72	6.05 5.45	2.37 .80	2.30 .74	2.27 -
15	- -	- -	- -	- -	1.63- .20	1.75 .38	- -	2.87 .78	5.78 5.22	2.25 .63	2.20 .51	2.32 .95
16	- -	- -	- -	- -	1.88 .15	1.43- .38	- -	4.15 2.05	5.49 3.68	2.30 .53	2.39 .43	2.18 .57
17	- -	- -	- -	- -	1.59 .00	1.89 .11	- -	3.72 2.35	3.68 2.31	2.24 .40	- -	2.04 .03
18	- -	- -	- -	- -	1.88 .46	1.82-1.32	- -	3.14 1.68	2.47 1.23	2.32 .43	- -	1.81 .73
19	- -	- -	- -	- -	1.83 .19	.18-2.02	- -	1.95 .77	2.70 .87	2.07 .36	- -	2.38 .70
20	- -	- -	- -	- -	1.65 .09	1.65- .26	- -	1.69- .22	2.74 .84	1.96 .36	- -	2.40 1.03
21	- -	- -	- -	- -	1.76 .56	2.30 1.15	- -	2.88 .75	2.75 1.03	1.90 .27	- -	2.59 1.00
22	- -	- -	- -	- -	1.64-1.15	2.06-1.45	- -	3.13 1.17	2.90 1.03	1.80 .18	- -	2.83 1.00
23	- -	- -	- -	0.10	.83- .45	.87-2.01	- -	3.02 1.33	2.46 .90	1.74 .57	- -	2.58 .74
24	- -	- -	- -	- -	1.20- .31	1.52- .32	- -	2.88 .75	2.72 1.12	2.04 .57	- -	2.12 .53
25	- -	- -	- -	- -	1.67 .09	1.65 .18	- -	2.73 1.19	2.50 1.22	2.91 1.34	- -	2.25 .52
26	- -	- -	- -	- -	1.76 .32	1.66- .02	- -	2.45 .96	2.41 1.01	2.97 1.17	- -	2.62 1.07
27	- -	- -	- -	1.73 -	1.73 .53	2.39 .45	- -	2.48 .76	2.42 .93	2.78 1.05	- -	2.50 1.24
28	- -	- -	- -	2.04 .88	- -	3.43 1.30	- -	2.45 1.14	2.57 .80	2.47 .68	- -	2.09 1.20
29	- -	- -	- -	2.12 .78	-----	2.90 1.20	- -	2.76 1.43	2.62 .97	2.19 .16	- -	2.05 1.16
30	- -	- -	- -	1.83 .28	-----	2.39 .66	- -	3.00 1.48	3.28 .66	2.26 .23	- -	2.16 1.57
31	- -	-----	- -	2.65 .66	-----	2.28 .64	-----	2.95 .99	-----	2.41 .36	- -	-----

SAN JACINTO RIVER BASIN

08072300 BUFFALO BAYOU NEAR KATY, TX

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

DRAINAGE AREA.--63.3 mi² (163.9 km²).

WATER-DISCHARGE RECORDS

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,920 ft³/s (82.7 m³/s) Sept. 20, 1979, gage height, 37.54 ft (11.442 m); minimum daily estimated, 0.80 ft³/s (0.023 m³/s) Nov. 20-22, 1980.

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

Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
June 27	0400	889	25.2	32.03	9.763
July 7	1600	1,260	35.7	33.78	10.296
Aug. 31	1600	*2,180	61.7	36.70	11.186

Minimum daily discharge estimated, 0.80 ft³/s (0.023 m³/s) Nov. 20-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	4.0	6.0	.98	40	1.0	1.8	3.5	11	88	5.8	1260
2	75	3.5	4.0	.98	20	1.0	1.5	2.3	9.6	47	7.3	644
3	80	3.0	3.1	.98	10	1.8	1.3	127	27	30	5.2	377
4	70	2.5	2.7	.98	7.0	4.0	1.2	385	19	22	4.5	293
5	59	2.2	2.3	1.0	20	3.3	1.1	270	36	70	4.0	152
6	33	2.0	2.3	1.0	70	2.3	1.1	96	36	106	4.7	97
7	26	1.8	2.3	1.1	25	1.8	1.7	35	23	803	6.4	65
8	29	1.6	3.8	1.0	10	1.7	1.4	18	15	863	6.8	45
9	20	1.4	73	1.6	5.0	1.5	1.3	14	14	501	4.2	38
10	25	1.2	43	1.3	3.5	1.3	1.5	42	9.7	325	5.3	25
11	20	1.1	20	1.0	2.5	1.3	1.4	26	10	304	6.0	17
12	12	1.0	12	.98	2.0	1.4	1.5	12	64	203	7.5	12
13	7.5	.95	7.8	1.0	1.7	2.5	1.7	8.5	178	142	8.2	9.7
14	6.4	.90	5.2	1.1	1.5	1.6	4.0	32	107	123	8.1	27
15	3.4	.90	3.6	1.2	1.3	1.4	3.1	25	56	114	5.3	148
16	16	.90	2.9	1.1	1.2	1.4	1.6	13	31	94	4.6	71
17	26	.85	2.4	1.0	1.1	1.3	2.6	9.9	141	53	5.3	33
18	136	.85	2.3	1.0	1.1	1.2	4.1	11	142	41	7.5	19
19	442	.85	2.2	45	1.0	1.1	18	6.5	110	38	7.1	13
20	224	.80	1.7	187	1.0	1.2	6.7	6.0	60	26	7.9	11
21	131	.80	1.3	79	1.0	1.3	3.9	7.4	25	18	7.8	9.0
22	78	.80	1.1	45	.90	1.3	4.6	8.2	15	16	7.6	52
23	43	4.0	1.0	21	.90	1.2	113	5.1	14	14	8.1	48
24	25	3.0	1.0	16	.90	1.2	279	11	38	10	8.8	22
25	15	2.5	.98	10	4.0	1.1	116	19	259	21	8.2	15
26	12	40	.98	5.0	5.0	1.1	45	20	338	28	6.7	23
27	10	25	.92	3.5	1.6	1.1	19	14	701	21	6.7	33
28	8.0	18	.92	2.0	1.2	1.1	11	11	265	30	9.5	20
29	7.0	13	.98	1.5	---	1.5	7.5	8.8	137	20	24	28
30	6.0	9.0	.92	1.2	---	1.8	5.4	16	113	19	16	29
31	5.0	---	.98	1.0	---	1.8	---	24	---	12	1280	---
TOTAL	1737.3	148.40	213.68	436.50	240.40	48.6	663.0	1287.2	3004.3	4202	1505.1	3635.7
MEAN	56.0	4.95	6.89	14.1	8.59	1.57	22.1	41.5	100	136	48.6	121
MAX	442	40	73	187	70	4.0	279	385	701	863	1280	1260
MIN	3.4	.80	.92	.98	.90	1.0	1.1	2.3	9.6	10	4.0	9.0
AC-FT	3450	294	424	866	477	96	1320	2550	5960	8330	2990	7210

CAL YR 1980 TOTAL 15162.88 MEAN 41.4 MAX 1430 MIN .80 AC-FT 30080
WTR YR 1981 TOTAL 17122.18 MEAN 46.9 MAX 1280 MIN .80 AC-FT 33960

NOTE.--No gage-height record Oct. 25 to Dec. 3 and Jan. 25 to Mar. 5.

08072300 BUFFALO BAYOU NEAR KATY, TX--Continued

WATER-QUALITY RECORDS

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

DRAINAGE AREA.--63.3 mi² (163.9 km²).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, (PER- CENT SATUR- ATION)	OXYGEN BIOCHEM UNINHIB 5 DAY (MG/L)
MAR										
03...	1030	1.8	885	7.3	16.5	15	29	8.3	85	7.5
MAY										
03...	1910	337	110	6.5	22.5	120	230	5.9	68	13
04...	1130	373	81	7.2	22.0	120	120	5.4	61	11
05...	1515	236	88	7.1	23.5	150	90	5.4	--	5.5
AUG										
12...	1445	6.0	690	8.3	30.5	15	5.6	8.3	109	2.7

DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
MAR									
03...	3000	84	40	170	47	52	8.9	110	3.7
MAY									
03...	31000	7700	10000	36	11	12	1.5	8.4	.6
04...	40000	3500	3900	26	6	8.3	1.2	4.3	.4
05...	14000	2000	1000	24	13	7.8	1.2	4.7	.4
AUG									
12...	6700	130	4000	180	30	59	8.0	66	2.2

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDEED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDEED (MG/L)
MAR									
03...	9.5	120	140	100	.9	13	506	48	4
MAY									
03...	3.8	25	24	8.5	.0	4.7	78	545	20
04...	3.2	20	10	5.4	.1	5.5	50	226	9
05...	3.3	11	15	7.9	.2	5.7	53	146	7
AUG									
12...	8.4	150	53	94	.3	28	407	0	0

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC SUS- PENDEED (MG/L AS C)
MAR									
03...	8.1	1.500	9.6	8.600	.10	8.7	9.700	8.9	--
MAY									
03...	.47	.050	.52	.440	2.4	2.8	.810	17	--
04...	.39	.050	.44	.360	2.5	2.9	.630	14	4.9
05...	.38	.060	.44	.320	1.3	1.6	.390	15	--
AUG									
12...	2.0	.050	2.0	.090	1.4	1.5	1.100	6.4	--

SAN JACINTO RIVER BASIN

08072500 BARKER RESERVOIR NEAR ADDICKS, TX

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

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

WATER-DISCHARGE RECORDS

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

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

GAGE (revised).--Water-stage recorders. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence (since 1973). Prior to Oct 1, 1980, 0.33 ft (0.101 m) below National Geodetic Vertical Datum of 1929, unadjusted for land-surface subsidence.

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

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	112.5	-
Ground elevation at ends of dam.....	106.0	209,000
Design flood.....	105.4	199,000
Crest of spillway (invert).....	73.2	0

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 30,410 acre-ft (37.5 hm³) Sept. 4 at 1100 to 2100 hours, elevation, 92.37 ft (28.154 m); minimum, 0.11 acre-ft (136 m³) for many days, elevation, 73.63 ft (22.442 m).

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

73.2	0	78.4	14	81.6	193	86.0	3,979
75.2	1	79.2	22	82.2	331	87.0	6,005
76.3	2	79.8	32	83.0	671	89.0	11,760
76.9	4	80.4	49	84.0	1,367	91.0	20,530
77.6	8	81.0	100	85.0	2,433	92.4	30,670

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.60	.17	.13	.11	.43	.12	.14	.16	.26	3000.0	.16	23460.0
2	3.60	.19	.13	.11	.24	.12	.14	.16	.20	2710.0	.15	28130.0
3	.85	.22	.13	.11	.15	.12	.14	29.20	.32	2200.0	.15	29980.0
4	.58	.21	.12	.11	.18	10.00	.14	753.00	.29	1610.0	.15	30330.0
5	.40	.14	.13	.11	.30	.64	.13	2290.00	13.40	1180.0	.15	29470.0
6	.29	.13	.13	.11	.79	.18	.13	3370.00	42.10	1280.0	.15	28380.0
7	.30	.13	.13	.11	.25	.14	.14	3780.00	94.40	2730.0	.15	27100.0
8	.31	.13	.18	.11	.19	.13	.14	3920.00	1.60	6320.0	.15	25400.0
9	.26	.13	2.00	.11	.15	.13	.14	4080.00	.17	8410.0	.15	23730.0
10	.28	.13	.38	.12	.14	.13	.14	4190.00	.16	8980.0	.15	21890.0
11	.27	.13	.24	.12	.11	.13	.14	4280.00	.21	9390.0	.15	20210.0
12	.22	.26	.18	.12	.11	.13	.14	3590.00	1.00	9760.0	.17	18640.0
13	.18	.13	.15	.12	.11	.13	.14	2470.00	31.60	10010.0	.16	16980.0
14	.17	.13	.14	.12	.11	.13	.14	1510.00	77.50	9070.0	.16	15700.0
15	.19	.13	.13	.11	.11	.13	.14	810.00	31.10	7570.0	.16	14530.0
16	.19	.12	.13	.11	.11	.13	.14	226.00	.43	6160.0	.15	13120.0
17	.21	.14	.13	.11	.11	.13	.14	.26	1.00	5610.0	.15	11610.0
18	.58	.13	.13	.11	.11	.13	.14	.18	7.60	2940.0	.15	10040.0
19	117.00	.12	.13	.95	.11	.13	.19	.18	7.00	1340.0	.16	8640.0
20	747.00	.12	.13	42.40	.11	.13	.17	.16	1.00	285.0	.17	7150.0
21	1080.00	.12	.12	168.00	.11	.13	.14	.15	.30	9.8	.16	6070.0
22	1000.00	.17	.12	43.90	.11	.13	.14	.15	.21	.3	.18	5370.0
23	635.00	.14	.12	.43	.11	.13	.44	.16	.24	.3	.16	4710.0
24	232.00	.13	.12	.35	.11	.13	18.90	.17	.31	.2	.23	4030.0
25	9.20	.14	.12	.31	.29	.13	66.40	.24	2.60	.3	.23	3020.0
26	.28	.42	.12	.26	.16	.13	44.50	.22	91.20	.3	.23	1890.0
27	.30	.30	.12	.22	.12	.13	.41	.20	717.00	.4	.21	912.0
28	.24	.22	.12	.19	.12	.13	.23	.17	2310.00	.3	.16	164.0
29	.19	.17	.12	.18	---	.19	.19	.17	2990.00	.3	.29	.4
30	.19	.14	.11	.12	---	.14	.16	.18	3080.00	.2	.27	.3
31	.18	---	.11	.12	---	.14	---	.34	---	.2	9570.00	---
MAX	1080	.42	2.0	168	.79	10	66	4280	3080	10010	9570	30330
MIN	.17	.12	.11	.11	.11	.12	.13	.15	.16	.20	.15	.30

CAL YR 1980 MAX 17060 MIN .11
WTR YR 1981 MAX 30330 MIN .11

08072500 BARKER RESERVOIR NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: June 1978 to September 1981 (discontinued).

294617095390501 BARKER RES LINE 10, SITE 10

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAY							
04...	1243	1.00	208	6.8	24.5	4.1	49
04...	1245	3.00	208	6.7	23.5	4.0	47
07...	1144	1.00	144	6.3	23.5	3.6	42
07...	1146	6.00	140	6.2	22.5	.2	2
07...	1148	12.0	140	6.1	22.0	.3	3
11...	1120	1.00	139	6.0	23.5	2.2	25
11...	1122	5.00	139	5.9	22.0	.2	2
11...	1124	9.50	139	6.1	22.0	.4	4
13...	1045	1.00	139	6.2	23.5	3.1	36
13...	1047	5.00	139	6.0	23.0	1.4	16
13...	1049	9.50	142	6.0	22.0	.3	3
15...	1020	1.00	146	6.2	23.0	.9	10
15...	1022	3.50	146	6.2	23.0	.9	10
15...	1024	7.50	148	6.1	22.5	.7	8

294617095390502 BARKER RES LINE 10, SITE 20

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
MAY												
04...	1150	1.00	208	6.7	22.5	150	230	4.3	--	9.6	38000	4200
04...	1152	5.00	205	6.7	22.5	--	--	4.0	46	--	--	--
04...	1154	8.00	201	6.7	22.5	270	380	4.0	--	11	88000	4600
07...	1116	1.00	138	6.3	24.5	120	62	3.8	--	5.1	7300	140
07...	1118	5.00	138	6.0	22.0	--	--	.2	2	--	--	--
07...	1120	11.5	125	6.2	22.0	120	70	.2	--	4.8	6700	500
11...	1138	1.00	140	6.0	23.0	90	35	2.9	--	5.2	2200	62
11...	1140	6.50	139	6.0	22.0	--	--	.8	9	--	--	--
11...	1142	13.0	140	5.9	21.5	120	25	.2	--	6.4	8300	170
13...	1055	1.00	121	5.9	22.5	90	29	.1	--	5.3	2100	40
13...	1057	6.50	125	5.8	22.5	--	--	.1	1	--	--	--
13...	1059	13.0	121	5.9	22.0	90	29	.1	--	6.1	2900	66
15...	1250	1.00	178	6.1	22.5	50	22	.4	--	5.4	2000	76
15...	1252	5.50	192	6.2	22.0	--	--	.4	4	--	--	--
15...	1254	11.0	198	6.3	22.0	100	24	.4	--	4.9	1800	62

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
MAY												
04...	5600	51	0	16	2.8	18	1.1	5.9	51	23	18	.3
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	7400	51	1	16	2.8	22	1.3	6.1	50	20	19	.2
07...	580	36	0	11	2.0	11	.8	4.5	36	2.2	12	.1
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	1400	34	1	11	1.5	8.3	.6	4.8	33	5.1	8.7	.1
11...	80	39	1	12	2.2	10	.7	5.1	38	4.6	13	.1
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	650	42	0	13	2.4	9.5	.6	5.2	43	4.3	15	.1
13...	190	39	1	12	2.3	7.7	.5	4.6	38	4.8	8.6	.1
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	230	42	1	13	2.3	7.9	.5	4.7	41	3.3	13	.1
15...	150	55	1	17	3.1	13	.8	4.6	54	4.1	14	.2
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	190	59	0	18	3.3	15	.9	4.6	61	3.9	16	.2

BARKER RESERVOIR NEAR ADDICKS, TX--Continued

294617095390502 BARKER RES LINE 10, SITE 20--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
MAY												
04...	8.8	123	334	16	1.1	.110	1.2	.460	2.2	2.70	3.9	1.50
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	8.5	125	365	16	.76	.080	.84	.410	2.5	2.90	3.7	4.00
07...	6.9	71	31	16	.49	.080	.57	.260	1.7	2.00	2.6	.640
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	6.7	66	55	18	.02	.020	.04	.260	1.9	2.20	2.2	.600
11...	7.3	77	21	13	.06	.030	.09	.090	1.2	1.30	1.4	.610
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	7.8	83	27	19	.00	.010	.00	.120	1.5	1.60	1.6	.650
13...	7.9	71	23	3	.00	.010	.00	.100	1.6	1.70	1.7	.490
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	7.8	77	20	14	.00	.010	.00	.100	1.6	1.70	1.7	.640
15...	11	99	19	18	.00	.020	.01	.280	1.5	1.80	1.8	.670
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	12	110	130	2	.00	.040	.03	.370	1.4	1.80	1.8	.720

294617095390503 BARKER RES LINE 10, SITE 30

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAY							
04...	1304	1.00	201	6.6	24.0	3.5	42
04...	1306	3.00	201	6.6	23.0	3.4	40
07...	1052	1.00	138	6.5	24.5	3.3	39
07...	1054	4.50	145	6.4	24.0	1.4	16
11...	1220	1.00	142	6.1	24.5	2.1	25
11...	1222	3.00	142	6.1	22.0	1.5	17
11...	1224	7.50	142	6.1	22.0	1.5	17
13...	1145	1.00	145	6.3	24.0	3.1	36
13...	1147	3.50	145	6.3	24.0	2.5	29
13...	1149	7.00	146	6.2	23.5	1.7	20
15...	1325	1.00	145	6.3	23.5	2.9	34
15...	1327	4.50	145	6.2	23.0	2.5	29

294610095385400 BARKER RESERVOIR OUTFLOW

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)
MAR										
03...	1010	681	7.6	15.0	40	54	10.6	105	10	13000
MAY										
12...	1050	127	6.4	22.0	120	35	7.4	83	5.3	4200
13...	0940	127	6.9	22.5	90	28	5.8	66	5.4	2800
15...	0945	196	7.0	21.5	60	26	5.2	58	4.8	1600
AUG										
12...	1355	680	8.3	30.0	20	26	10.2	134	3.2	600

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
MAR									
03...	130	120	150	0	46	8.1	79	2.8	7.2
MAY									
12...	80	200	40	1	12	2.3	9.2	.6	5.0
13...	60	270	40	2	12	2.4	8.1	.6	4.7
15...	66	170	57	0	17	3.4	14	.8	4.4
AUG									
12...	100	500	160	4	53	7.7	82	2.9	6.0

SAN JACINTO RIVER BASIN

75

BARKER RESERVOIR NEAR ADDICKS, TX--Continued

294610095385400 BARKER RESERVOIR OUTFLOW

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
MAR 03...	150	43	91	.3	14	379	70	7	4.9
MAY 12...	39	5.0	9.7	.1	7.4	74	19	18	.00
13...	38	5.2	8.8	.2	7.8	72	18	7	.00
15...	57	4.0	14	.2	12	104	5	0	.00
AUG 12...	160	47	95	.3	21	408	13	10	1.0

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)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR 03...	.110	5.0	.940	1.6	2.50	7.5	3.20	10	170
MAY 12...	.010	.00	.060	1.1	1.20	1.2	.550	190	2
13...	.010	.00	.070	1.5	1.60	1.6	.460	--	--
15...	.030	.01	.310	1.5	1.80	1.8	.710	410	20
AUG 12...	.070	1.1	.090	1.2	1.30	2.4	1.30	10	36

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAR 03...	1010	6	100	<1	0	<10	10
MAY 12...	1050	3	70	<1	0	<10	190
15...	0945	4	100	<1	10	<10	410
AUG 12...	1355	13	160	<1	0	<10	10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAR 03...	<10	170	.2	0	0	20
MAY 12...	<10	2	.0	0	0	3
15...	<10	20	.0	0	0	30
AUG 12...	<10	36	.0	0	0	10

SAN JACINTO RIVER BASIN
BARKER RESERVOIR NEAR ADDICKS, TX--Continued

294610095385400 BARKER RESERVOIR OUTFLOW
WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)
MAR 03...	1010	.00	.00	.00	.00	.00	.00	.00
MAY 12...	1050	.00	.00	.00	.00	.00	.00	.00
15...	0945	.00	.00	.00	.00	.00	.00	.00
AUG 12...	1355	.00	.00	.00	.00	.00	.00	.00

DATE	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
MAR 03...	.53	.00	.00	.00	.00	.00	.01	.00	.00
MAY 12...	.22	.00	.00	.00	.00	.00	.00	.01	.00
15...	.06	.00	.00	.00	.00	.00	.00	.00	.00
AUG 12...	.16	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR 03...	.00	.00	.00	.00	.00	.10	.00	.00
MAY 12...	.00	.00	.00	.00	.00	.09	.22	.01
15...	.00	.00	.00	.00	.00	.08	.10	.02
AUG 12...	.00	.00	.00	.00	.00	.03	.02	.00

SAN JACINTO RIVER BASIN

77

08072730 BEAR CREEK NEAR BARKER, TX

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

DRAINAGE AREA.--19.8 mi² (51.3 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Water-discharge records fair except those below 5 ft³/s (0.14 ft³/s), which are poor. Channel rectified in 1981 water year. Diversions and return of irrigation water from area above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,060 ft³/s (58.3 m³/s) Aug. 31, 1981, gage height, 15.86 ft (4.834 m); maximum gage height, 16.72 ft (5.096 ft) Sept. 20, 1979, occurred prior to channel rectification; no flow for many days.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 27	0400	379 10.7	10.02 3.054
July 7	unknown	534 15.1	11.19 3.411
Aug. 31	1700	*2,060 58.3	15.86 4.834

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	4.6	3.9	.38	25	.31	.07	2.4	5.5	47	1.7	944
2	14	4.0	3.3	.35	11	.22	.05	1.3	4.5	19	1.7	404
3	11	3.4	2.8	.32	4.3	.16	.03	39	4.0	11	1.6	234
4	6.0	3.0	2.4	.29	3.0	15	.02	113	12	7.5	.63	179
5	3.9	2.5	1.9	.26	8.0	2.4	.01	79	8.0	15	.15	110
6	3.3	2.2	1.5	.23	23	.51	.00	29	5.1	40	.23	62
7	4.3	1.9	1.2	.22	8.6	.29	.00	14	3.4	400	.06	38
8	6.5	1.7	3.5	.20	2.8	.94	.00	7.3	1.6	250	.32	25
9	6.3	1.5	31	.18	1.3	.39	.00	16	.89	100	.12	17
10	3.8	1.2	20	.17	1.1	.22	.00	99	.50	30	.61	12
11	3.6	1.1	12	.15	.85	.17	.00	55	.69	15	1.4	9.3
12	4.3	.94	6.7	.13	.96	.12	.00	19	51	10	1.4	7.2
13	3.3	.81	5.0	.12	.75	.09	.00	6.6	166	8.0	1.3	6.0
14	3.0	.70	4.2	.11	.46	.06	.00	13	77	6.0	1.2	6.2
15	19	.60	3.6	.10	.38	.03	.00	8.2	47	5.0	.75	16
16	136	.55	2.9	.10	.35	.02	.00	3.2	30	4.0	.34	12
17	84	.50	2.4	.09	.35	.00	.00	2.6	43	3.0	.52	8.3
18	109	.46	2.2	.09	.31	.00	.00	2.7	22	2.0	.46	6.9
19	215	.42	1.9	16	.32	.00	.00	2.3	11	1.5	1.2	5.5
20	127	.38	1.8	47	.28	.00	.00	2.1	5.2	1.4	1.7	4.4
21	83	.36	1.5	27	.25	.00	.00	1.9	3.1	2.0	2.6	3.4
22	50	.34	1.4	16	.25	.00	.00	1.8	1.9	3.1	1.7	2.4
23	34	.32	1.1	7.4	.22	.00	65	2.5	3.7	2.2	1.1	1.6
24	28	.31	1.0	3.9	.22	.00	95	2.0	19	5.4	1.3	1.4
25	23	2.2	.81	2.6	1.4	.00	43	1.8	82	1.7	2.4	1.6
26	19	18	.70	1.6	1.5	.00	25	1.7	132	1.5	1.3	1.6
27	15	12	.55	1.1	.50	.00	16	1.6	282	5.2	.77	1.8
28	13	7.8	.50	1.3	.38	.00	7.1	1.6	67	4.4	.48	2.2
29	9.2	5.2	.46	1.1	---	.60	6.2	1.5	34	2.1	.46	2.0
30	6.4	4.5	.46	.66	---	.16	4.5	3.0	38	1.2	3.9	1.7
31	5.3	---	.42	.51	---	.10	---	7.5	---	1.3	1120	---
TOTAL	1067.2	83.49	123.10	129.66	97.83	21.79	261.98	541.6	1161.08	1005.5	1153.40	2126.5
MEAN	34.4	2.78	3.97	4.18	3.49	.70	8.73	17.5	38.7	32.4	37.2	70.9
MAX	215	18	31	47	25	15	95	113	282	400	1120	944
MIN	3.0	.31	.42	.09	.22	.00	.00	1.3	.50	1.2	.06	1.4
AC-FT	2120	166	244	257	194	43	520	1070	2300	1990	2290	4220
CAL YR 1980	TOTAL	4750.66	MEAN	13.0	MAX	427	MIN	.00	AC-FT	9420		
WTR YR 1981	TOTAL	7773.13	MEAN	21.3	MAX	1120	MIN	.00	AC-FT	15420		

SAN JACINTO RIVER BASIN

08072730 BEAR CREEK NEAR BARKER, TX--Continued

WATER-QUALITY RECORDS

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

DRAINAGE AREA.--19.8 mi² (51.3 km²).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

								OXYGEN, DIS- SOLVED	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	(PER- CENT SATUR- ATION)	(MG/L)		
MAR 03...	0930	.16	210	7.4	14.5	360	320	7.4	73	3.1	680	190
MAY 03...	1815	14	123	6.5	22.5	30	380	6.4	74	13	9300	4000
04...	0940	32	70	7.0	21.5	120	100	5.3	60	5.1	10000	2400
05...	1415	12	78	6.9	23.0	180	140	5.6	--	7.5	7000	650
AUG 12...	1530	1.5	415	8.0	28.5	40	32	7.7	97	1.7	2800	580
DATE	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
MAR 03...	150	56	0	17	3.4	20	1.2	7.3	66	15	22	.3
MAY 03...	7500	33	8	10	1.9	12	.9	4.5	25	28	10	.1
04...	4900	20	0	6.1	1.1	4.2	.4	2.9	23	2.6	4.4	.2
05...	980	22	4	6.9	1.2	4.0	.4	3.7	18	14	6.5	.2
AUG 12...	720	110	0	38	4.8	38	1.6	4.2	130	1.0	51	.3
DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR 03...	3.3	128	148	8	.07	.220	.29	.150	2.0	2.10	.110	20
MAY 03...	4.9	86	940	21	.26	.100	.36	.940	1.9	2.80	.470	20
04...	5.6	41	156	11	.17	.050	.22	.380	1.1	1.50	.340	12
05...	6.3	54	148	0	.20	.090	.29	.490	1.4	1.90	.400	16
AUG 12...	17	232	27	7	.00	.020	.02	.120	.76	.88	.130	5.9

SAN JACINTO RIVER BASIN

79

08072760 LANGHAM CREEK AT STATE HIGHWAY 6 NEAR ADDICKS, TX

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

DRAINAGE AREA.--25.8 mi² (66.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1977 to current year (discharge measurements and supplemental peak discharges only Oct. 1, 1980, to Sept. 30, 1981).

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

REMARKS.--Water-discharge records poor. No gage-height record was obtained during the 1981 water year, except during visits and from peak marks.

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

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

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Oct. 16	unknown	507	14.4	19.67	5.995	July 7	unknown	439	12.4	19.13	5.831
Oct. 19	unknown	608	17.2	20.41	6.221	Aug. 31	unknown	*1,000	28.3	22.80	6.949
May 10	unknown	524	14.8	19.80	6.035						

Minimum discharge not determined.

DISCHARGE MEASUREMENTS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Dec. 10.....	34	May 3.....	195
Jan. 14.....	.29	June 8.....	1.1
Mar. 3.....	1.0	July 22.....	8.7
Mar. 10.....	.48	Sept. 4.....	184
Apr. 20.....	4.8		

SAN JACINTO RIVER BASIN

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

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
MAR													
03...	0850	1.0	820	7.3	15.0	60	36	7.8	77	3.4	4100	580	
MAY													
03...	1710	208	84	6.9	22.5	180	290	6.1	70	7.8	16000	8200	
03...	2045	214	124	6.3	23.0	150	200	4.9	57	8.4	13000	5800	
04...	1025	147	91	6.8	22.0	120	80	4.3	49	7.8	30000	3700	
05...	1340	146	98	6.8	22.5	180	93	4.6	--	5.8	9300	1000	
AUG													
12...	1610	3.6	510	9.2	35.0	30	66	16.0	225	3.2	7000	150	
		STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
MAR													
03...	1600	120	0	39	5.6	120	4.8	7.6	130	30	160		.2
MAY													
03...	14000	20	0	6.2	1.2	6.5	.6	4.0	21	2.7	6.8		.2
03...	10000	25	0	7.6	1.5	11	1.0	4.9	26	3.6	15		.2
04...	8200	20	4	5.9	1.2	8.8	.9	2.9	16	8.7	12		.1
05...	5500	22	0	6.7	1.3	8.2	.8	3.2	26	3.9	11		.2
AUG													
12...	550	96	0	31	4.4	63	2.9	5.5	130	5.0	66		.3
		SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR													
03...	16	457	30	11	2.5	.210	2.7	.200	1.4	1.60	4.60	11	
MAY													
03...	4.8	45	442	20	.45	.040	.49	.300	2.0	2.30	.810	17	
03...	7.9	67	318	14	.39	.080	.47	.360	2.2	2.60	.720	16	
04...	6.5	56	144	13	.26	.030	.29	.170	1.7	1.90	.400	--	
05...	6.4	57	146	7	.15	.060	.21	.240	1.6	1.80	.420	18	
AUG													
12...	16	269	68	2	1.6	.060	1.7	.110	1.4	1.50	1.70	8.7	

08073000 ADDICKS RESERVOIR NEAR ADDICKS, TX

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

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

WATER-DISCHARGE RECORDS

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

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

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

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

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 34,350 acre-ft (42.3 hm³) Sept. 4 at 1600 hours, elevation, 97.37 ft (29.678 m); minimum, 0.29 acre-ft (358 m³) Mar. 28, 29, elevation, 71.57 ft (21.815 m).

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

71.1	0	77.2	54	83.0	598	92.0	9,926
73.6	2	78.0	85	84.5	1,033	94.0	16,700
75.1	8	79.0	134	86.0	1,676	96.0	26,260
75.7	16	80.0	202	88.0	3,190	97.4	34,540
76.4	30	81.5	351	90.0	5,707		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80.10	.99	.55	.34	193.00	.31	.31	.39	.78	1380.00	.77	27660.0
2	1.60	1.00	.43	.34	434.00	.31	.31	.45	.67	1060.00	.46	31970.0
3	1.60	.89	.38	.35	460.00	.31	.30	467.00	.71	705.00	.48	33760.0
4	1.20	.73	.36	.36	511.00	185.00	.30	2640.00	.64	393.00	.47	34220.0
5	.80	.43	.34	.39	635.00	79.30	.30	4570.00	141.00	435.00	.43	33760.0
6	.66	.43	.33	.38	1010.00	.44	.31	5370.00	257.00	715.00	.41	32920.0
7	.88	.43	.33	.38	1180.00	.38	.30	5550.00	309.00	2600.00	.62	31590.0
8	1.00	.43	.91	.36	1240.00	.38	.30	5600.00	74.20	5980.00	.89	30190.0
9	1.00	.43	128.00	.36	1260.00	.38	.30	5760.00	.38	6600.00	.46	28270.0
10	.74	.59	139.00	.36	718.00	2.80	.31	6670.00	.34	6040.00	.57	26130.0
11	.82	.51	35.60	.36	1.80	11.30	.31	7830.00	.42	6110.00	.45	24170.0
12	.84	.49	1.60	.36	.41	17.60	.31	7310.00	72.20	6320.00	.47	21960.0
13	.62	.46	.54	.38	13.10	28.50	.31	5330.00	481.00	6600.00	.56	19910.0
14	.71	.43	.47	.35	23.20	36.40	.32	3460.00	579.00	6040.00	.93	18410.0
15	19.30	.42	.69	.36	29.50	43.10	.33	2160.00	433.00	5010.00	.55	16560.0
16	546.00	.41	.61	.34	35.60	.38	.32	1530.00	248.00	3790.00	.44	14650.0
17	1050.00	.66	.49	.34	41.00	.31	.33	941.00	194.00	2510.00	.43	12700.0
18	1240.00	.50	.38	.33	48.00	.31	.38	431.00	77.50	1250.00	.70	10780.0
19	3430.00	.46	.36	100.00	53.60	.31	.44	87.90	.82	313.00	.43	8910.0
20	4280.00	.38	.34	613.00	57.30	.31	.38	.39	.67	.87	.43	7150.0
21	3710.00	.35	.34	795.00	60.80	.31	.40	.35	.50	.76	.44	5740.0
22	2530.00	1.20	.36	620.00	67.10	.31	.40	.33	.50	.49	.43	4690.0
23	1210.00	.78	.34	390.00	75.40	.31	311.00	.42	1.20	.44	.41	3630.0
24	146.00	.54	.34	176.00	80.10	.30	1220.00	.34	3.00	.59	.43	2590.0
25	1.60	.84	.34	12.10	122.00	.30	1120.00	.41	29.30	.44	.42	1780.0
26	1.30	14.70	.34	.74	175.00	.33	821.00	.36	502.00	.41	.41	1190.0
27	2.50	1.80	.34	.89	47.00	.31	438.00	.36	1420.00	.83	.40	644.0
28	1.80	1.20	.34	.71	.31	.29	132.00	.36	1820.00	.74	.39	238.0
29	1.50	.80	.34	1.60	---	.48	.85	.47	1680.00	.57	.40	.6
30	1.30	.55	.34	11.10	---	.38	.44	.45	1460.00	.46	1.50	.5
31	1.10	---	.34	20.20	---	.32	---	1.10	---	.44	17100.00	---
MAX	4280	14	139	795	1260	185	1220	7830	1820	6600	17100	34220
MIN	.62	.35	.33	.33	.31	.29	.30	.33	.34	.41	.39	.50
CAL YR 1980	MAX	12060	MIN	.00								
WTR YR 1981	MAX	34220	MIN	.29								

SAN JACINTO RIVER BASIN

08073000 ADDICKS RESERVOIR NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: June 1978 to September 1981 (discontinued).

294729095372501 ADDICKS RES LINE 10, SITE 10

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAY							
04...	1513	1.00	96	6.2	26.0	4.4	54
04...	1515	4.00	96	6.2	22.5	3.8	44
04...	1517	8.00	96	6.2	22.5	4.2	49
07...	1428	1.00	105	6.2	27.0	6.0	74
07...	1430	7.00	105	5.9	22.5	.6	7
07...	1432	16.0	105	6.0	22.5	.9	10
11...	0948	1.00	108	5.9	22.5	1.5	17
11...	0950	7.50	106	5.9	22.5	1.8	20
11...	0952	15.0	106	6.0	22.0	2.0	22
13...	0920	1.00	106	6.1	23.0	3.0	34
13...	0922	7.50	107	6.0	23.0	3.0	34
13...	0924	15.0	107	6.1	22.5	2.2	25
15...	1050	1.00	114	6.0	23.0	.1	1
15...	1052	5.50	114	6.0	22.5	.2	2
15...	1054	12.0	114	6.0	22.5	.4	5

294729095372502 ADDICKS RES LINE 10, SITE 20

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
MAY												
04...	1435	1.00	111	6.2	23.0	210	230	3.9	--	5.6	30000	4000
04...	1437	7.00	104	6.2	22.5	--	--	3.8	44	--	--	--
04...	1439	13.5	104	6.5	22.5	270	--	3.8	--	5.2	25000	3100
07...	1400	1.00	98	6.2	26.0	150	46	3.7	--	4.1	2500	92
07...	1402	8.00	104	6.0	22.5	--	--	1.0	11	--	--	--
07...	1404	16.5	112	6.3	22.5	120	66	.5	--	4.3	7300	160
11...	0936	1.00	106	5.7	22.5	90	36	.7	--	4.4	700	K18
11...	0938	9.00	112	5.7	22.0	--	--	.4	4	--	--	--
11...	0940	17.5	111	5.8	22.0	150	42	.1	--	7.4	3400	210
13...	0900	1.00	108	6.1	23.0	120	30	2.0	--	4.3	820	34
13...	0902	7.50	108	5.9	21.5	--	--	.1	1	--	--	--
13...	0904	15.5	95	6.1	20.5	120	68	.1	--	4.5	2700	260
15...	1026	1.00	112	5.8	22.5	100	30	.7	--	5.0	1800	120
15...	1028	7.50	106	5.7	21.0	--	--	.4	4	--	--	--
15...	1030	15.0	109	5.9	21.0	100	38	.4	--	4.5	1700	76

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
MAY												
04...	6600	32	0	10	1.8	7.5	.6	4.4	33	3.2	9.7	.2
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	3900	33	0	10	1.9	7.8	.6	4.3	33	3.0	8.7	.1
07...	220	29	1	8.9	1.6	7.0	.6	4.1	28	3.1	7.9	.1
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	1300	32	2	10	1.8	8.2	.6	4.5	30	2.0	9.0	.1
11...	52	36	2	11	2.0	7.4	.5	4.5	34	4.7	8.4	.1
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	650	36	0	11	2.0	7.7	.6	4.6	36	4.2	8.5	.1
13...	K130	35	0	11	1.8	7.8	.6	4.5	35	4.7	8.3	.1
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	310	31	1	9.6	1.6	6.4	.5	3.7	30	4.1	7.4	.1
15...	580	36	2	11	2.0	7.6	.6	3.8	34	3.7	8.4	.2
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	240	35	0	11	1.9	7.7	.6	3.5	38	2.1	8.3	.2

SAN JACINTO RIVER BASIN

83

ADDICKS RESERVOIR NEAR ADDICKS, TX--Continued

294729095372502 ADDICKS RES LINE 10, SITE 20--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
MAY												
04...	6.5	63	172	5	.34	.100	.44	.340	1.7	2.00	2.4	.590
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	6.2	61	--	--	.30	.040	.34	.170	1.5	1.70	2.0	.570
07...	5.8	55	34	20	.23	.040	.27	.120	.98	1.10	1.4	.360
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	6.3	75	31	23	.08	.030	.11	.180	1.1	1.30	1.4	.470
11...	6.8	65	19	4	.00	.020	.02	.080	1.2	1.30	1.3	.380
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	7.0	67	46	20	.00	.010	.00	.290	1.2	1.50	1.5	.560
13...	6.9	66	11	10	.00	.010	.01	.110	1.2	1.30	1.3	.380
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	5.6	57	70	25	.00	.010	.01	.090	1.7	1.80	1.8	.420
15...	7.4	65	23	16	.00	.040	.03	.210	1.2	1.40	1.4	.420
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	6.3	64	14	9	.00	.050	.05	.250	1.3	1.50	1.6	.460

294729095372503 ADDICKS RES LINE 10, SITE 30

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAY							
04...	1423	1.00	137	6.5	25.0	3.6	43
04...	1425	3.00	137	6.5	23.0	2.7	31
07...	1316	1.00	106	6.1	25.0	3.3	39
07...	1318	7.00	106	6.0	22.5	.4	5
07...	1320	15.0	106	6.1	22.5	.5	6
11...	0922	1.00	112	5.8	22.5	.6	7
11...	0924	7.00	112	5.8	22.0	.2	2
11...	0926	14.0	115	5.9	22.0	.2	2
13...	0850	1.00	122	6.0	22.5	1.2	14
13...	0852	6.50	99	5.9	21.0	.3	3
13...	0854	13.5	101	6.0	20.5	.3	3
15...	0956	1.00	130	6.0	22.0	.5	6
15...	0958	5.00	130	6.0	22.0	.4	4
15...	1000	10.0	118	5.9	21.0	.3	3

294706095372400 ADDICKS RESERVOIR OUTFLOW

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)
MAR										
03...	0840	580	7.5	15.0	20	96	9.5	94	4.2	2600
MAY										
12...	0945	117	6.3	22.0	120	46	7.0	79	6.2	6700
13...	0845	112	6.9	22.0	120	46	7.2	81	4.9	4100
15...	0900	112	7.1	21.5	100	43	6.6	74	4.7	2400
AUG										
12...	1310	520	7.8	28.0	20	150	8.3	105	5.3	7000

SAN JACINTO RIVER BASIN

ADDICKS RESERVOIR NEAR ADDICKS, TX--Continued

294706095372400 ADDICKS RESERVOIR OUTFLOW--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCHI KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CaCO3)	HARD-NESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)
MAR 03...	360	190	110	0	36	5.8	72	2.9	6.7
MAY 12...	190	700	38	2	12	2.0	8.0	.6	4.7
13...	150	370	35	2	11	1.9	7.3	.5	4.2
15...	50	390	35	3	11	1.9	7.1	.5	3.6
AUG 12...	550	2900	110	0	37	5.4	62	2.6	6.5

DATE	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
MAR 03...	120	27	86	.4	14	320	124	4	1.7
MAY 12...	36	4.9	11	.1	7.3	72	30	18	.00
13...	33	4.5	8.3	.1	6.5	64	28	15	.00
15...	32	13	7.7	.2	6.7	71	170	21	.00
AUG 12...	130	<5.0	67	.4	17	273	54	0	2.2

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)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)
MAR 03...	.200	1.9	.170	1.4	1.60	3.5	2.60	90	140
MAY 12...	.010	.01	.140	1.4	1.50	1.5	.480	170	5
13...	.010	.00	.090	1.3	1.40	1.4	.430	--	--
15...	.040	.04	.250	1.2	1.40	1.4	.430	230	20
AUG 12...	.250	2.4	.410	1.6	2.00	4.4	4.30	22	2

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR 03...	0840	6	100	<1	0	<10	90
MAY 12...	0945	5	70	<1	10	<10	170
15...	0900	5	200	<1	10	<10	230
AUG 12...	1310	7	120	<1	0	<10	22

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR 03...	<10	140	.1	0	0	7
MAY 12...	<10	5	.0	0	0	<3
15...	<10	20	.1	0	0	6
AUG 12...	13	2	.0	0	0	<3

SAN JACINTO RIVER BASIN

85

ADDICKS RESERVOIR NEAR ADDICKS, TX--Continued

294706095372400 ADDICKS RESERVOIR OUTFLOW

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)
MAR 03...	0840	.00	.00	.00	.00	.00	.00	.00
MAY 12...	0945	.00	.00	.00	.00	.00	.00	.00
MAY 15...	0900	.00	.00	.00	.00	.00	.00	.00
AUG 12...	1310	.00	.00	.00	.00	.00	.00	.00

DATE	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
MAR 03...	.37	.00	.00	.00	.00	.00	.02	.00	.00
MAY 12...	.37	.00	.00	.00	.00	.00	.00	.02	.00
MAY 15...	.17	.00	.00	.00	.00	.00	.00	.01	.00
AUG 12...	.80	.00	.00	.00	.00	.00	.04	.05	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR 03...	.00	.00	.00	.00	.00	.21	.00	.00
MAY 12...	.00	.00	.00	.00	.00	.13	.01	.00
MAY 15...	.00	.00	.00	.00	.00	.05	.02	.01
AUG 12...	.00	.00	.00	.00	.00	.03	.01	.00

08073500 BUFFALO BAYOU NEAR ADDICKS, TX

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

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

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1922: Drainage area.

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

REMARKS.--Water-discharge records fair except those for period of no gage-height record, which are poor. Flood-flow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 3.2 and 3.0 mi (5.1 and 4.8 km) upstream, respectively, total capacity 315,900 acre-ft (390 hm³). Extreme low flow is sustained by drainage from irrigated lands.

AVERAGE DISCHARGE.--36 years, 210 ft³/s (5.947 m³/s), 152,100 acre-ft/yr (188 hm³/yr).

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,200 ft³/s (119 m³/s) Aug. 31 at 1230 hours, gage height, 73.12 ft (22.287 m); minimum daily, 11 ft³/s (0.31 m³/s) Dec. 27 and Feb. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	450	33	25	12	27	23	16	27	140	579	64	1250
2	420	34	20	12	86	20	16	29	76	569	72	504
3	250	34	17	14	30	19	16	850	65	550	63	578
4	180	33	15	13	26	336	17	600	100	531	74	1010
5	120	31	13	14	49	450	14	335	321	590	55	1450
6	90	30	12	17	116	172	14	111	61	547	50	1400
7	80	28	12	19	100	36	14	35	42	890	60	1290
8	85	26	70	17	39	27	14	24	263	705	47	1300
9	90	24	288	15	25	25	14	42	162	1330	51	1580
10	90	22	314	14	178	21	14	63	46	1580	41	1700
11	90	20	224	15	493	16	14	27	64	1080	40	1690
12	85	18	96	15	50	17	14	642	160	900	42	1680
13	80	16	42	15	21	18	14	1580	457	412	57	1670
14	80	15	26	18	14	19	13	1580	502	822	57	1700
15	200	15	24	17	14	16	13	1240	481	1420	55	1680
16	426	20	21	16	13	29	17	611	411	1500	44	1630
17	438	70	20	14	13	18	14	529	290	1460	38	1610
18	630	40	18	15	13	16	14	315	330	1400	37	1590
19	782	20	17	207	13	15	14	264	279	1290	73	1570
20	810	15	16	474	14	14	25	94	172	914	48	1540
21	922	15	12	484	13	15	30	29	93	310	46	1350
22	1070	85	13	456	18	17	29	26	56	148	46	852
23	1020	50	12	390	14	16	341	25	86	103	49	817
24	902	30	12	239	11	15	510	28	308	103	58	794
25	522	90	13	184	54	17	582	32	229	96	56	774
26	164	250	12	55	38	15	566	33	434	97	50	744
27	85	130	11	24	92	16	492	33	573	121	45	699
28	66	70	12	23	82	14	324	30	614	160	46	597
29	48	40	12	21	---	17	174	55	604	124	73	405
30	41	30	12	19	---	29	33	51	590	100	103	115
31	36	---	12	15	---	19	---	122	---	79	2820	---
TOTAL	10352	1334	1423	2863	1656	1497	3382	9462	8009	20510	4460	35569
MEAN	334	44.5	45.9	92.4	59.1	48.3	113	305	267	662	144	1186
MAX	1070	250	314	484	493	450	582	1580	614	1580	2820	1700
MIN	36	15	11	12	11	14	13	24	42	79	37	115
AC-FT	20530	2650	2820	5680	3280	2970	6710	18770	15890	40680	8850	70550

CAL YR 1980 TOTAL 75721 MEAN 207 MAX 1770 MIN 11 AC-FT 150200
WTR YR 1981 TOTAL 100517 MEAN 275 MAX 2820 MIN 11 AC-FT 199400

NOTE.--No gage-height record Nov. 8 to Dec. 8.

08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
MAR												
03...	1135	20	700	7.6	16.0	40	66	7.2	73	11	65000	7700
23...	1020	16	786	7.9	14.5	10	16	6.5	62	5.4	38000	2800
MAY												
12...	1200	647	139	6.4	22.5	90	52	6.2	70	6.6	9000	680
13...	1040	1600	120	6.8	22.5	120	40	5.5	61	5.2	7700	140
15...	1045	1460	144	7.1	22.0	50	36	5.5	62	4.4	6700	550
JUL												
13...	1320	305	140	7.6	29.0	100	57	6.1	78	3.7	41000	3600
14...	1035	665	109	7.1	27.5	100	56	6.2	78	2.9	28000	2900
15...	1100	1400	110	7.4	29.0	100	35	5.5	71	2.7	5500	170
AUG												
12...	1215	42	680	7.6	27.5	20	32	3.8	48	4.5	60000	2600

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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)
MAR												
03...	4000	160	13	51	8.6	75	2.6	6.6	150	53	89	.5
23...	330	--	--	--	--	--	--	--	--	--	--	--
MAY												
12...	820	42	0	13	2.3	9.4	.6	4.8	42	4.4	11	.1
13...	290	36	0	11	2.0	7.9	.6	4.5	38	5.9	8.6	.1
15...	270	40	0	12	2.4	8.3	.6	3.7	43	3.9	10	.2
JUL												
13...	2300	48	0	15	2.6	9.0	.6	2.7	49	2.9	11	.1
14...	2700	35	1	11	1.8	7.1	.5	2.6	34	3.4	9.6	.1
15...	1400	--	--	--	--	--	--	--	--	--	--	--
AUG												
12...	2100	150	0	48	7.7	84	3.1	6.3	160	41	88	.3

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR												
03...	15	389	71	10	3.2	.130	3.3	.740	1.5	2.2	4.100	10
23...	--	--	12	7	2.6	.360	3.0	.600	1.1	1.7	3.800	11
MAY												
12...	7.4	78	95	25	.01	.020	.03	.140	1.5	1.6	.630	15
13...	7.1	70	32	18	.00	.010	.00	.070	1.3	1.4	.460	16
15...	8.2	75	27	2	.02	.030	.05	.290	1.4	1.7	.530	14
JUL												
13...	12	84	64	11	.02	.070	.09	.280	1.1	1.4	.350	11
14...	9.2	65	58	12	.00	.060	.04	.270	.93	1.2	.360	8.8
15...	--	--	23	11	.00	.040	.02	.200	1.2	1.4	.280	7.7
AUG												
12...	19	391	38	0	1.7	.430	2.1	.550	1.4	1.9	3.000	6.0

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAR							
03...	1135	6	100	<1	10	<10	40
MAY							
12...	1200	4	70	<1	10	<10	210
15...	1045	4	80	<1	10	<10	270
JUL							
13...	1320	4	70	<1	10	<10	270
AUG							
12...	1215	15	150	<1	0	<10	16

SAN JACINTO RIVER BASIN

08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAR 03...	<10	90	.1	0	0	30
MAY 12...	<10	5	.1	0	0	6
MAY 15...	40	10	.0	0	0	20
JUL 13...	<10	20	.0	0	0	10
AUG 12...	<10	60	.1	0	0	<3

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
MAR 03...	1135	.00	.0	.00	.0	.00	.00	.00	.47
MAY 15...	1045	.00	.0	.00	.0	.00	.00	.00	.15
JUL 13...	1320	.00	.0	.00	.0	.00	.00	.00	.11
AUG 12...	1215	.00	.0	.00	.0	.00	.00	.00	.70

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
MAR 03...	.00	.00	.00	.00	.00	.00	.02	.01	.00
MAY 15...	.00	.00	.00	.00	.00	.00	.00	.01	.00
JUL 13...	.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG 12...	.00	.00	.00	.00	.00	.00	.02	.21	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR 03...	.00	.00	.00	.00	0	.00	.12	.00	.00
MAY 15...	.00	.00	.00	.00	0	.00	.03	.02	.00
JUL 13...	.00	.00	.00	.00	0	.00	.03	.01	.00
AUG 12...	.00	.00	.00	.00	0	.00	.04	.02	.00

SAN JACINTO RIVER BASIN

89

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX

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

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

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Water-discharge records good. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 10.1 and 10.3 mi (16.3 and 16.6 km) upstream, respectively. Low flow is sustained by sewage effluent from Houston suburbs. Gage-height telemeter at station.

AVERAGE DISCHARGE.--10 years, 322 ft³/s (9.119 m³/s), 233,300 acre-ft/yr (288 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,350 ft³/s (152 m³/s) Aug. 31, 1981, gage height, 64.58 ft (19.684 m); minimum daily, 25 ft³/s (0.71 m³/s) Nov. 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,350 ft³/s (152 m³/s) Aug. 31 at 1400 hours, gage height, 64.58 ft (19.684 m); minimum daily, 40 ft³/s (1.13 m³/s) Feb. 19, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	478	60	63	46	63	53	50	66	150	598	80	2170
2	453	58	58	47	140	50	50	74	122	584	86	571
3	264	54	52	49	77	48	50	1630	99	571	78	562
4	205	51	49	49	82	334	51	1210	139	560	106	946
5	166	48	48	51	133	432	50	529	562	716	94	1500
6	126	48	46	67	174	217	50	152	110	600	72	1500
7	101	48	45	60	149	80	50	75	74	1120	78	1390
8	109	50	133	50	89	66	50	57	225	698	67	1340
9	113	52	448	50	65	59	50	88	209	1270	69	1620
10	113	52	362	49	183	54	50	107	77	1620	64	1790
11	120	50	274	47	520	50	50	68	200	1380	64	1810
12	115	48	166	49	133	51	50	468	245	1070	67	1800
13	108	48	102	49	58	52	50	1450	459	719	104	1780
14	101	48	79	48	44	51	49	1590	505	711	83	1760
15	232	47	73	46	42	50	51	1330	487	1360	76	1740
16	495	50	66	44	42	68	52	617	423	1480	69	1720
17	449	91	62	41	42	55	50	528	295	1460	65	1700
18	736	64	61	42	41	49	50	330	325	1420	65	1670
19	884	55	59	325	40	47	56	279	295	1320	145	1650
20	875	49	59	489	41	48	67	156	204	1050	76	1620
21	914	47	57	466	42	50	59	67	142	322	69	1510
22	1090	120	54	436	72	50	58	64	95	174	67	935
23	1060	88	50	383	44	49	457	63	139	116	71	858
24	965	65	50	247	40	48	455	64	366	111	94	837
25	608	99	48	207	164	49	506	80	293	103	80	809
26	206	326	47	111	107	48	508	84	427	114	72	774
27	130	252	47	68	96	49	452	76	598	143	68	733
28	107	159	46	61	124	49	304	70	626	173	82	651
29	87	104	46	56	---	50	196	170	622	138	91	446
30	67	77	46	50	---	65	72	130	614	115	132	139
31	65	---	48	45	---	53	---	155	---	94	3820	---
TOTAL	11542	2408	2844	3828	2847	2474	4093	11827	9127	21910	6254	38331
MEAN	372	80.3	91.7	123	102	79.8	136	382	304	707	202	1278
MAX	1090	326	448	489	520	432	508	1630	626	1620	3820	2170
MIN	65	47	45	41	40	47	49	57	74	94	64	139
AC-FT	22890	4780	5640	7590	5650	4910	8120	23460	18100	43460	12400	76030
CAL YR 1980	TOTAL	88278	MEAN	241	MAX	1740	MIN	36	AC-FT	175100		
WTR YR 1981	TOTAL	117485	MEAN	322	MAX	3820	MIN	40	AC-FT	233000		

SAN JACINTO RIVER BASIN

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1979 to current year.

WATER TEMPERATURES: June 1979 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, 922 micromhos June 25, 1979; minimum daily, 78 micromhos Aug. 31, 1981.

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

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 883 micromhos Apr. 15; minimum daily, 78 micromhos Aug. 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. PER (COLS./ 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV												
10...	1130	53	750	7.8	25.0	--	5.2	6.6	79	1.4	--	K4
JAN												
05...	1255	54	830	7.7	20.0	13	10	8.2	89	7.8	--	56
MAR												
04...	1350	378	390	7.7	19.5	--	270	7.1	77	20	--	19000
23...	1130	49	840	7.8	21.0	15	4.1	7.9	87	2.7	270	34
MAY												
05...	0925	422	210	7.4	22.0	--	120	6.9	78	4.5	--	950
13...	1120	1480	137	7.0	23.0	90	46	5.7	66	5.2	3700	270
15...	1205	1420	156	6.8	22.0	60	36	5.8	65	4.8	3900	620
JUL												
13...	1355	331	240	7.8	28.0	80	65	6.0	75	6.6	35000	5700
14...	1225	609	156	7.4	28.0	--	60	6.2	78	3.8	--	2000
15...	1200	1360	130	7.2	29.0	100	40	5.4	69	2.7	7000	950
AUG												
24...	1245	66	740	7.7	29.0	5	4.9	5.7	73	7.2	K420	K6
SEP												
01...	1205	2030	118	7.4	25.0	--	54	6.2	75	3.8	--	15000

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (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...	K1	130	0	40	8.0	100	3.8	8.2	221	31	88	.3
JAN												
05...	K12	140	0	43	7.7	110	4.1	6.3	250	31	82	.5
MAR												
04...	4300	79	0	25	3.9	40	2.0	5.2	90	29	42	.3
23...	K10	--	--	--	--	--	--	--	--	--	--	--
MAY												
05...	520	71	10	22	3.9	11	.6	4.2	61	9.9	12	.2
13...	480	42	0	13	2.2	10	.7	4.6	43	5.8	10	.1
15...	550	49	3	15	2.7	12	.8	3.9	46	8.6	12	.2
JUL												
13...	1900	75	0	24	3.6	17	.9	3.1	81	7.0	16	.2
14...	1600	44	0	14	2.2	12	.8	2.8	51	5.0	11	.1
15...	1400	--	--	--	--	--	--	--	--	--	--	--
AUG												
24...	40	130	0	40	7.1	93	3.7	6.5	200	13	78	.3
SEP												
01...	16000	38	0	12	1.9	7.2	.5	3.0	40	5.0	7.9	.1

SAN JACINTO RIVER BASIN

91

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, 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)
NOV 10...	23	437	423	--	--	--	--	2.2	2.3	2.90	2.90	1.5
JAN 05...	20	454	459	16	16	--	--	1.8	1.8	9.50	9.70	--
MAR 04...	11	218	212	--	--	1.1	.190	1.3	1.3	1.90	1.70	2.6
MAY 23...	--	--	--	5	5	1.1	.420	1.5	--	7.50	--	4.5
MAY 05...	9.9	158	112	--	--	1.6	.140	1.7	1.8	.530	.520	1.8
MAY 13...	7.4	--	79	54	21	.00	.020	.01	--	.310	--	1.3
MAY 15...	8.6	--	91	52	9	.01	.030	.04	--	.510	--	1.4
JUL 13...	16	--	136	103	18	.12	.210	.33	--	.910	--	1.1
JUL 14...	9.6	100	88	--	--	--	--	.12	.13	.520	.450	1.4
JUL 15...	--	--	--	34	0	.00	.060	.06	--	.420	--	.78
AUG 24...	23	--	381	16	21	.89	.610	1.5	--	7.00	--	.00
SEP 01...	6.0	82	67	--	--	--	--	.13	.13	.350	.380	.95

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 10...	1.0	4.40	3.9	4.10	3.30	--	14	1.3	9	1.3	90
JAN 05...	--	--	--	3.50	2.20	--	11	5.8	12	1.7	97
MAR 04...	1.4	4.50	3.1	2.90	1.40	21	--	--	531	542	97
MAY 23...	--	12.0	--	3.00	--	17	--	--	--	--	--
MAY 05...	1.5	2.30	2.0	.640	.540	--	12	--	197	224	94
MAY 13...	--	1.60	--	.520	--	16	--	--	--	--	--
MAY 15...	--	1.90	--	.540	--	60	--	--	--	--	--
JUL 13...	--	2.00	--	.420	--	11	--	--	--	--	--
JUL 14...	.85	1.90	1.3	.410	.260	--	7.9	.7	176	289	65
JUL 15...	--	1.20	--	.350	--	9.6	--	--	--	--	--
AUG 24...	--	6.90	--	2.70	--	5.4	--	--	--	--	--
SEP 01...	.82	1.30	1.2	.270	.270	8.3	--	--	71	389	67

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
NOV 10...	1130	7	2	5	200	0	200	0	0	1	0
JAN 05...	1255	5	1	4	200	100	100	1	0	1	0
MAY 05...	0925	4	0	4	0	0	80	0	--	<1	30
JUL 13...	1355	--	--	5	--	--	90	--	--	<1	--
JUL 14...	1225	3	0	4	100	30	70	0	--	<1	10
AUG 24...	1245	--	--	8	--	--	140	--	--	<1	--

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CHROMIUM, SUS-PENDED RECOV. (UG/L AS CR)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUS-PENDED RECOVERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUS-PENDED RECOVERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUS-PENDED RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
NOV 10...	0	0	2	0	3	9	5	4	260	220	40
JAN 05...	0	10	0	--	<3	10	6	4	170	130	40
MAY 05...	30	0	1	--	<3	18	10	8	3200	3100	120
JUL 13...	--	0	--	--	--	--	--	<10	--	--	280
JUL 14...	10	0	13	--	<3	10	8	2	2400	2300	130
AUG 24...	--	0	--	--	--	--	--	<10	--	--	13
DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOVERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUS-PENDED RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG)	MERCURY, SUS-PENDED RECOVERABLE (UG/L AS HG)	MERCURY, DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUS-PENDED RECOVERABLE (UG/L AS NI)
NOV 10...	25	19	6	70	20	50	.2	.1	.1	7	1
JAN 05...	16	13	3	40	0	40	.1	.0	.1	1	0
MAY 05...	21	19	2	110	100	10	8.0	4.2	3.8	5	3
JUL 13...	--	--	<10	--	--	10	--	--	.1	--	--
JUL 14...	6	5	1	110	80	30	.3	.3	.0	6	5
AUG 24...	--	--	11	--	--	45	--	--	.1	--	--
DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUS-PENDED TOTAL (UG/L AS SE)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUS-PENDED RECOVERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUS-PENDED RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	
NOV 10...	6	0	0	0	0	0	0	40	20	20	
JAN 05...	2	0	0	0	0	0	0	60	30	30	
MAY 05...	2	0	0	0	0	0	0	50	40	10	
JUL 13...	--	--	--	0	--	--	0	--	--	20	
JUL 14...	1	0	0	0	0	0	1	30	20	10	
AUG 24...	--	--	--	0	--	--	1	--	--	11	
DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)		
JUL 13...	1355	.00	.00	.00	.10	.00	.00	.00	.29		
AUG 24...	1245	.00	.00	.00	.10	.00	.00	.00	.92		
DATE	DI-ELDRIN, TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE, TOTAL (UG/L)	LINDANE, TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)		
JUL 13...	.00	.00	.00	.00	.00	.01	.01	.02	.00		
AUG 24...	.01	.00	.00	.00	.01	.01	.04	.04	.00		
DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)		
JUL 13...	.00	.00	.00	.00	0	.00	.06	.01	.00		
AUG 24...	.00	.00	.00	.00	0	.00	.05	.03	.00		

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

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 10,80 1130		MAR 4,81 1350		MAY 5,81 0925		JUL 14,81 1225		SEP 1,81 1205			
TOTAL CELLS/ML			440		12000		12000		26000		15000	
DIVERSITY: DIVISION			0.7		1.1		0.7		0.3		0.1	
...CLASS			0.7		1.1		0.7		0.3		0.1	
...ORDER			0.7		2.1		1.1		0.4		0.2	
...FAMILY			0.7		2.3		1.1		0.4		0.2	
...GENUS			0.7		2.8		1.1		0.5		0.3	
ORGANISM			CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)												
.BACILLARIOPHYCEAE												
..ACHNANTHALES												
...ACHNANTHACEAE												
...ACHNANTHES												
..BACILLARIALES												
...NITZSCHIAEAE												
...NITZSCHIA												
...EPITHEMIALES												
...EPITHEMIAEAE												
...EPITHEMIA												
..EUPODISCALES												
...COSCINODISCAEAE												
...CYCLOTELLA												
..FRAGILARIALES												
...FRAGILARIAEAE												
...SYNEDRA												
..NAVICULALES												
...CYMBELLACEAE												
...AMPHORA												
...GOMPHONEMACEAE												
...GOMPHONEMA												
...NAVICULACEAE												
...GYROSIGMA												
...NAVICULA												
...PINNULARIA												
..SURIRELLALES												
...SURIRELLACEAE												
...SURIRELLA												
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...DICTYOSPHAERIAEAE												
...DICTYOSPHAERIUM												
...OOCYSTACEAE												
...ANKISTRODESMUS												
...CHODATELLA												
...CLOSTERIOPSIS												
...SCENEDESMACEAE												
...SCENEDESMUS												
...TETRASTRUM												
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
...CHLAMYDOMONAS												
...VOLVOCACEAE												
...PANDORINA												
..ZYGNEMATALES												
...DESMIDIACEAE												
...COSMARIUM												
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
...ANACYSTIS												
..NOSTOCALES												
...HAMMATOIDEACEAE												
...RAPHIDIOPSIS												
...NOSTOCACEAE												
...ANABAENA												
..OSCILLATORIALES												
...OSCILLATORIAEAE												
...LYNGBYA												
...OSCILLATORIA												
...SPIRULINA												
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
...EUGLENA												
...LEPOCINCLIS												
...PHACUS												
...TRACHELOMONAS												

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

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

SAN JACINTO RIVER BASIN

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

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1980	11542	234	131	4080	22	673	14	433	57
NOV.	1980	2408	531	295	1920	53	348	26	167	110
DEC.	1980	2844	492	273	2100	50	381	24	182	100
JAN.	1981	3828	390	217	2240	39	404	19	198	81
FEB.	1981	2847	453	252	1940	45	346	23	176	96
MAR.	1981	2474	551	305	2040	57	379	25	167	110
APR.	1981	4093	406	225	2490	41	451	20	218	83
MAY	1981	11827	209	117	3720	19	619	12	390	51
JUNE	1981	9127	261	146	3590	24	595	15	378	63
JULY	1981	21910	168	94	5570	15	893	11	622	43
AUG.	1981	6254	287	159	2690	29	482	14	241	60
SEPT	1981	38331	131	73	7570	11	1190	8.5	877	35
TOTAL		117485	**	**	40000	**	6760	**	4050	**
WTD. AVG.		322	226	126	**	21	**	13	**	53

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	224	540	645	758	645	704	748	630	461	172	570	96
2	286	544	673	750	257	726	782	593	510	182	595	165
3	372	601	711	775	397	742	826	121	532	200	630	183
4	410	602	734	795	399	273	792	141	429	210	602	133
5	412	643	742	812	391	239	800	215	209	184	601	126
6	479	652	758	823	392	341	803	410	450	202	656	126
7	550	678	767	735	463	570	816	589	593	146	643	131
8	490	734	439	771	540	630	802	679	334	192	650	133
9	477	730	235	787	635	667	805	543	352	137	660	95
10	477	696	262	783	372	698	817	491	600	103	687	93
11	462	663	302	800	226	666	820	620	355	130	729	104
12	472	679	391	820	439	727	810	229	320	150	730	99
13	488	695	503	825	599	732	801	128	242	177	715	110
14	506	738	574	790	776	755	816	122	221	166	591	118
15	329	735	598	774	794	726	883	134	225	126	585	117
16	223	700	630	817	735	766	828	199	254	133	615	123
17	234	534	650	810	755	658	818	216	291	128	634	120
18	182	640	656	820	764	754	815	214	219	129	728	143
19	165	692	667	277	780	784	820	223	214	134	419	142
20	149	734	667	224	783	816	811	269	262	192	564	140
21	142	750	679	200	750	809	770	573	424	270	708	125
22	151	463	698	171	601	810	722	624	464	326	703	161
23	162	543	726	183	746	812	232	665	511	454	700	168
24	173	512	726	217	780	803	233	670	260	459	600	170
25	240	636	742	349	400	793	220	570	272	449	509	173
26	249	318	750	526	490	809	220	622	217	450	647	177
27	422	316	750	526	579	813	234	634	177	492	688	182
28	382	400	758	565	455	810	287	605	153	454	713	194
29	419	498	758	684	---	812	359	386	198	398	533	235
30	441	581	758	682	---	720	602	458	165	474	440	429
31	508	---	742	682	---	602	---	405	---	535	78	---
MEAN	344	608	635	630	569	696	670	419	330	257	610	150

SAN JACINTO RIVER BASIN

95

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

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

SAN JACINTO RIVER BASIN

08073700 BUFFALO BAYOU AT PINEY POINT, TX

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

DRAINAGE AREA.--317 mi² (821 km²).

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

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

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

AVERAGE DISCHARGE.--13 years (water years 1963-76), 265 ft³/s (7.505 m³/s), 192,000 acre-ft/yr (237 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated 5,700 ft³/s (161 m³/s) Aug. 31, 1981 gage height, 57.20 ft (17.435 m), from floodmark; minimum daily, 6.0 ft³/s (0.17 m³/s) Dec. 6, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge estimated, 5,700 ft³/s (161 m³/s) Aug. 31, gage height, 57.20 ft (17.435 m) Aug. 31 at about 1600 hours, from floodmark; minimum, 32.49 ft (9.903 m) Mar. 19.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.82	33.40	33.60	33.08	33.82	33.52	32.93	34.42	35.15	39.37	33.85	---
2	37.82	33.40	33.39	33.08	34.53	33.52	32.88	34.62	34.57	39.08	34.05	39.29
3	36.80	33.40	33.32	33.13	34.05	33.08	32.89	52.32	34.10	39.47	---	40.30
4	35.40	33.28	33.27	33.13	34.64	37.81	33.01	50.78	35.30	39.45	---	43.15
5	35.03	33.24	33.26	33.13	36.17	37.60	32.97	46.05	43.01	42.78	---	44.33
6	34.59	33.25	33.20	33.65	35.95	37.20	32.95	36.14	36.44	41.77	---	44.33
7	33.98	33.22	33.21	33.38	34.87	33.95	32.92	34.30	37.71	44.67	---	44.05
8	34.13	33.30	40.39	33.18	34.16	33.50	32.86	33.57	37.90	42.23	---	43.87
9	34.20	33.30	40.41	33.10	33.61	33.34	32.90	35.76	37.90	43.50	---	45.10
10	34.00	33.27	36.80	33.12	37.90	33.13	32.86	35.70	34.25	47.05	---	45.48
11	33.88	33.24	36.28	33.13	38.45	33.00	32.87	34.00	38.20	47.03	---	45.48
12	33.80	33.22	35.47	33.13	37.54	33.00	32.87	41.92	38.25	45.47	---	45.48
13	33.70	33.25	33.93	33.06	33.52	33.17	32.85	44.07	38.46	45.57	---	45.48
14	33.51	33.15	33.73	33.41	33.12	32.99	32.85	45.28	38.51	42.10	---	46.29
15	39.30	33.16	33.66	33.09	33.07	32.98	32.93	44.19	38.46	43.60	---	46.28
16	39.18	33.18	33.54	33.05	33.04	34.15	32.94	41.95	38.20	43.95	---	45.42
17	38.27	34.66	33.31	33.07	33.00	34.29	32.90	39.09	37.30	43.93	---	45.16
18	42.50	33.50	33.30	33.15	32.96	32.92	32.88	38.38	37.02	43.92	---	45.03
19	42.45	33.24	33.25	39.73	32.94	32.90	33.12	36.74	37.02	43.54	---	44.90
20	40.70	33.17	33.32	39.64	32.92	33.03	33.35	36.20	35.82	42.98	---	44.79
21	41.73	33.10	33.32	37.89	33.18	33.05	33.27	33.60	35.25	40.00	---	44.67
22	42.04	36.20	33.23	37.75	35.09	33.05	33.15	33.43	34.14	36.42	---	43.45
23	42.00	34.40	33.14	37.46	33.12	32.96	41.91	33.39	36.73	34.43	---	41.15
24	41.71	33.70	33.10	36.70	32.95	32.89	38.97	33.41	40.32	34.38	---	40.95
25	40.97	36.90	33.10	35.57	37.70	32.91	38.57	34.08	38.63	34.34	---	40.80
26	36.85	37.68	33.08	35.15	35.25	32.87	38.57	33.90	39.87	35.05	---	40.63
27	35.91	35.83	33.08	33.69	35.39	32.89	38.30	33.66	39.87	35.38	---	40.41
28	34.20	34.98	33.08	33.45	35.55	32.92	37.67	33.64	39.51	35.38	---	40.14
29	33.89	34.24	33.08	33.37	---	32.92	36.24	37.90	39.45	34.96	---	39.14
30	33.67	33.75	33.06	33.19	---	33.40	34.22	37.42	39.53	34.54	---	37.50
31	33.52	---	33.06	33.10	---	33.12	---	37.06	---	34.21	57.20	---
MEAN	37.02	33.92	34.03	34.31	34.59	33.61	34.32	37.97	37.56	40.34	---	---
MAX	42.50	37.68	40.41	39.73	38.45	37.81	41.91	52.32	43.01	47.05	---	---
MIN	33.51	33.10	33.06	33.05	32.92	32.87	32.85	33.39	34.10	34.21	---	---

08074000 BUFFALO BAYOU AT HOUSTON, TX

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

DRAINAGE AREA.--358 mi² (927 km²), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Water-discharge records fair. Although floodflows are regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) located 26.3 and 26.8 mi (42.3 and 42.6 km) upstream, respectively, flood peaks from the urbanized areas below these reservoirs are often independent of the regulation. Discharge is computed using a stage-fall-discharge relationship for all storms which produce peak discharges above 1,500 ft³/s (42.5 m³/s). Discharges below 1,000 ft³/s are computed or estimated following designated storm periods only. Low flow is mostly sustained by sewage effluent from Houston suburbs. Gage heights are affected by tides, backwater from Whiteoak Bayou, and other streams. Gage-height telemeter at station.

AVERAGE DISCHARGE.--8 years (water years 1936-44) unregulated, 272 ft³/s (7.703 m³/s), 197,100 acre-ft/yr (243 hm³/yr); 26 years (water years 1944-57, 1962-75) regulated, 274 ft³/s (7.760 m³/s), 198,500 acre-ft/yr (245 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft³/s (309 m³/s) Aug. 30, 1945, gage height, 28.82 ft (8.784 m), at site 0.8 mi (1.3 km) downstream at present datum; minimum daily, 1.3 ft³/s (0.037 m³/s) May 24, 1939, Nov. 5, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--All flood data at site 0.8 mi (1.3 km) downstream at present datum. Maximum gage height since at least 1835, 49.0 ft (14.94 m) Dec. 9, 1935, discharge 40,000 ft³/s (1,130 m³/s); furnished by engineer for Harris County. Flood of May 31, 1929, reached a gage height of 43.5 ft (13.26 m), discharge 19,000 ft³/s (538 m³/s), at bridge on Capitol Avenue affected by bridge; furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,830 ft³/s (250 m³/s) Aug. 31 at 1600 hours, gage height, 26.40 ft (8.047 m); minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						---	---	---	---		5120
2	---						---	---	---	---		1520
3	---						---	3220	---	---		753
4	---						---	4650	---	---		935
5	---						---	2200	1500	1840	---	1460
6	---						---	---	---	1250	---	1690
7	---						---	---	---	2170	---	1590
8	---						---	---	---	1180	---	1450
9	---						---	---	---	1260	---	1610
10	---						---	---	---	1960	---	1920
11	---						---	---	---	2440	---	2030
12	---						---	---	---	1220	---	2010
13	---						---	1320	---	1630	---	1990
14	---						---	1990	---	689	---	2100
15	500						---	1740	---	1370	---	2170
16	1500						---	1060	---	1650	---	1970
17	500						---	---	---	1690	---	1870
18	1090						---	---	---	1680	---	1860
19	1370						---	---	---	1570	---	1820
20	---						---	---	---	1410	---	1790
21	---						---	---	---	657	---	1750
22	---						---	---	---	---	---	1340
23	---						1040	---	---	---	---	1020
24	---						801	---	---	---	---	968
25	---						---	---	937	---	---	956
26	---						---	---	718	---	---	950
27	---						---	---	---	---	---	908
28	---						---	---	---	---	---	870
29	---						---	---	---	---	---	690
30	---						---	---	---	---	---	---
31	---						---	---	---	---	6270	---
TOTAL	---						---	---	---	---	---	---
MEAN	---						---	---	---	---	---	---
MAX	---						---	---	---	---	---	---
MIN	---						---	---	---	---	---	---
AC-FT	---						---	---	---	---	---	---

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
DATE	TIME											
MAR 23...	1230	37	800	7.7	17.5	10	6.6	5.2	53	11	400000	75000
MAY 13...	1255	1440	173	7.3	23.0	150	74	5.6	64	10	58000	10000
15...	1350	1710	169	7.4	23.0	70	76	6.1	70	6.1	28000	3000
JUL 13...	1450	1520	150	7.7	27.5	80	80	--	--	6.1	800000	51000
14...	1405	650	220	7.3	28.5	100	68	6.0	76	5.2	75000	26000
15...	1320	1480	150	7.5	29.0	120	65	6.0	77	3.6	29000	6700
	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (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)
DATE	TIME											
MAR 23...	3700	--	--	--	--	--	--	--	--	--	--	--
MAY 13...	3400	52	0	18	1.7	12	.7	4.7	58	13	11	.1
15...	2000	55	3	18	2.5	12	.7	4.0	52	12	13	.2
JUL 13...	30000	48	0	16	1.9	9.0	.6	2.6	48	7.0	8.6	.1
14...	4000	--	--	--	--	--	--	--	--	--	--	--
15...	5000	--	--	--	--	--	--	--	--	--	--	--
	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DATE	TIME											
MAR 23...	--	--	7	0	1.2	.450	1.6	5.500	8.5	14	5.000	12
MAY 13...	8.0	104	330	64	.04	.050	.09	.460	2.3	2.8	.730	24
15...	8.5	101	144	21	.05	.070	.12	.560	1.5	2.1	.650	12
JUL 13...	7.0	81	76	12	.49	.150	.64	.390	1.2	1.6	.500	8.3
14...	--	--	92	16	.23	.220	.45	.500	1.1	1.6	.660	10
15...	--	--	200	11	--	--	.25	.510	.99	1.5	.790	12
				ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)			
DATE	TIME											
JUL 13...	1450			4	60	<1	10	<10	130			
				LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)			
DATE	TIME											
JUL 13...				<10	6	.1	0	1	10			

SAN JACINTO RIVER BASIN

99

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUL 13...	1450	.00	.0	.00	.0	.00	.00	.00	.70
DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUL 13...	.00	.00	.00	.00	.00	.00	.00	.14	.00
DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL 13...	.00	.00	.00	.00	0	.00	.06	.01	.00

SAN JACINTO RIVER BASIN

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

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

DRAINAGE AREA.--0.21 mi² (0.54 km²).

WATER-DISCHARGE RECORDS

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, rating definition pending; maximum gage height, 13.97 ft (4.258 m) Aug. 31, 1981, is a recorded pressure head in the access pipe and exceeds gage height for full pipe flow.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base gage-height of 11.00 ft (3.353 m) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Oct. 15	1835	(a)	-	b13.94	4.249	June 11	0115	(a)	-	b12.27	3.740
Apr. 23	c0950	(a)	-	bc11.50	3.510	Aug. 31	0235	(a)	-	b12.99	3.959
May 3	1050	(a)	-	b11.94	3.639	Aug. 31	1120	(a)	-	*b13.97	4.258
May 9	1835	(a)	-	b11.75	3.581						

a Discharge not determined; rating definition pending.

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

c About.

Minimum discharge, no flow.

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
FEB												
25...	1000	3.4	102	--	--	120	85	--	--	16	--	--
25...	1015	5.1	84	--	--	100	60	--	--	--	--	--
25...	1030	5.4	78	--	--	70	60	--	--	11	--	--
25...	1045	5.7	73	--	--	60	65	--	--	7.1	--	--
25...	1100	4.6	68	--	--	80	80	--	--	--	--	--
25...	1115	4.6	69	--	--	90	70	--	--	--	--	--
25...	1130	4.6	74	--	--	90	75	--	--	9.0	--	--
25...	1145	4.6	86	--	--	90	55	--	--	--	--	--
APR												
23...	1021	94	72	--	--	90	260	--	--	10	36000	2000
23...	1037	23	90	--	--	120	280	--	--	11	62000	29000
23...	1447	6.2	115	--	--	120	140	--	--	13	40000	3000
JUL												
06...	2325	2.4	193	--	--	15	25	--	--	--	--	--
06...	2340	3.3	404	--	--	20	20	--	--	--	--	--
06...	2355	1.9	194	--	--	15	41	--	--	--	--	--
07...	0010	2.0	155	--	--	20	40	--	--	--	--	--
07...	0025	4.3	121	--	--	15	20	--	--	--	--	--
07...	0040	6.0	121	--	--	10	25	--	--	--	--	--
07...	0055	8.7	102	--	--	15	30	--	--	--	--	--
07...	0110	5.3	117	--	--	20	65	--	--	--	--	--
AUG												
12...	1227	2.5	144	--	--	--	90	--	--	--	--	--
12...	1234	37	195	--	--	--	140	--	--	--	540000	14000
12...	1241	66	87	--	--	--	160	--	--	--	--	--
12...	1249	73	86	--	--	--	160	--	--	--	52000	9000
12...	1257	48	73	--	--	--	95	--	--	--	--	--
12...	1304	29	80	--	--	--	110	--	--	--	--	--
12...	1312	18	83	--	--	--	100	--	--	--	--	--
12...	1319	12	92	--	--	--	100	--	--	--	--	--
12...	1422	1.5	145	--	--	60	110	--	--	16	41000	25000
30...	1333	20	156	--	--	--	--	--	--	--	--	--
30...	1348	6.2	179	--	--	--	--	--	--	--	--	--
30...	1403	3.0	219	--	--	--	--	--	--	--	--	--
30...	1418	1.9	222	--	--	--	--	--	--	--	--	--
30...	1433	1.4	223	--	--	--	--	--	--	--	--	--
30...	1448	1.2	211	--	--	--	--	--	--	--	--	--
30...	1503	1.0	206	--	--	--	--	--	--	--	--	--
31...	1100	136	--	8.3	24.5	--	--	--	--	--	--	--
31...	1120	--	390	7.6	24.0	--	--	8.3	98	--	29000	8700

101

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOL- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE (MG/L AS N)	NITRO- GEN, NITRITE (MG/L AS N)	NITRO- GEN, NO2+NO3 (MG/L AS N)	NITRO- GEN, AMMONIA (MG/L AS N)	NITRO- GEN, ORGANIC (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB												
25...	--	--	--	--	.79	.070	.86	.250	.63	.88	.210	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	.48	.050	.53	.210	.59	.80	.150	--
25...	--	--	--	--	.44	.040	.48	.190	1.3	1.5	.170	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	.32	.030	.35	.160	.57	.73	.150	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
23...	--	--	660	28	.26	.030	.29	.160	1.4	1.6	.240	27
23...	--	--	644	30	.37	.000	.37	.270	1.4	1.7	.250	24
23...	--	--	298	23	.52	.000	.52	.250	1.3	1.5	.280	29
JUL												
06...	--	--	28	10	.62	.090	.71	.450	.95	1.4	.130	13
06...	--	--	51	37	.18	.040	.22	.280	1.2	1.5	.140	9.8
06...	--	--	67	19	.33	.070	.40	.220	.98	1.2	.090	18
07...	--	--	28	7	.45	.060	.51	.230	1.1	1.3	.100	14
07...	--	--	22	8	.37	.070	.44	.290	.63	.92	.060	14
07...	--	--	38	17	.29	.060	.35	.260	.94	1.2	.060	9.4
07...	--	--	40	6	.29	.050	.34	.300	.35	.65	.070	14
07...	--	--	74	17	.30	.040	.34	.270	.39	.66	.160	15
AUG												
12...	--	--	162	30	1.2	.050	1.2	.660	2.2	2.9	.250	40
12...	--	--	372	122	.87	.070	.94	.950	.15	1.1	1.100	83
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	270	20	.58	.040	.62	.290	1.5	1.8	.240	36
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	4.7	86	60	4	.58	.070	.65	.240	1.4	1.6	.240	28
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
AUG							
30...	1330	1	0	0	0	0	70
30...	1400	3	0	0	0	0	70
30...	1445	3	0	0	0	0	80
31...	1100	0	0	0	0	1	70
31...	1120	0	0	0	0	1	40

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
AUG						
30...	0	0	.0	0	0	40
30...	0	0	.0	0	0	30
30...	0	0	.0	0	0	50
31...	2	0	.0	0	0	10
31...	1	0	.0	0	0	10

SAN JACINTO RIVER BASIN

103

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
AUG									
31...	1100	.00	.0	.00	.0	.00	.00	.00	.02
31...	1120	.00	.0	.00	.0	.00	.00	.00	.01
DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
AUG									
31...	.00	.00	.00	.00	.00	.00	.00	.00	.00
31...	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
AUG									
31...	.00	.00	.00	.00	0	.00	.01	.00	.00
31...	.00	.00	.00	.00	0	.00	.01	.00	.00

SAN JACINTO RIVER BASIN

08074150 COLE CREEK AT DEIHL ROAD, HOUSTON, TX

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

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

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

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

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

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

AVERAGE DISCHARGE.--17 years, 7.76 ft³/s (0.220 m³/s), 5,620 acre-ft/yr (6.93 hm³/yr).

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

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

Date	Time	Discharge		Elevation		Date	Time	Discharge		Elevation	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
Oct. 15	a1930	1,040	29.5	77.23	23.540	May 9	1900	487	13.8	74.59	22.735
Apr. 23	1100	487	13.8	74.59	22.735	June 11	0100	584	16.5	75.43	22.991
May 3	1230	1,220	34.6	76.90	23.439	Aug. 31	1200	*1,400	39.6	78.50	23.927

a About.

Minimum daily discharge, 0.08 ft³/s (0.002 m³/s) Oct. 7, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.21	.38	.25	1.7	1.7	.55	.74	2.2	.97	.42	300
2	.47	.20	.29	.28	1.4	1.0	.46	.59	4.2	.86	.58	100
3	.20	.20	.30	.35	.92	.95	.35	470	2.5	.82	.72	40
4	.11	.20	.30	.51	5.0	37	.37	210	5.8	1.5	.63	10
5	.10	.20	.34	.65	13	4.8	.37	25	91	12	.67	5.0
6	.10	.19	.27	3.0	12	1.7	.30	7.6	14	4.5	.87	3.5
7	.08	.19	.25	1.5	3.1	1.0	.35	3.2	5.1	47	.82	2.5
8	.14	.19	7.9	.80	1.8	.81	.28	2.6	3.0	19	.72	2.0
9	.42	.17	10	.50	1.2	.75	.29	83	1.5	20	.63	1.8
10	.52	.16	1.2	.35	1.7	.78	.24	51	7.0	13	.67	1.3
11	.52	.67	.83	.30	1.7	.74	.20	9.3	175	8.5	3.1	1.1
12	.24	.39	.66	.25	1.6	.98	.21	5.8	19	1.5	12	.93
13	.21	.17	.37	1.0	1.4	1.2	.46	2.2	2.0	1.7	11	.93
14	.08	.20	.32	.50	1.4	.74	.30	4.1	.90	1.7	9.3	6.6
15	223	.19	.52	.30	1.7	.65	.38	2.0	.97	.85	1.2	4.7
16	182	.34	.69	.25	1.5	.69	.35	2.1	.86	.66	.56	1.4
17	6.3	2.1	.66	.22	1.4	.66	.46	1.2	.82	.89	.46	1.1
18	69	.36	.38	.20	1.4	.51	.50	1.1	.87	1.4	7.1	1.3
19	45	.19	.24	50	1.5	.53	.67	.96	.91	.64	1.7	1.2
20	4.2	.21	.22	10	8.0	.56	.38	.99	1.0	.65	.63	1.0
21	1.4	.34	.23	5.0	2.3	.64	.31	1.0	1.0	.66	.48	.93
22	.78	4.1	.28	2.0	1.5	.57	.38	1.0	.91	.57	.60	1.2
23	.71	1.3	.33	1.0	1.6	.54	100	.92	.86	1.2	.56	1.4
24	.40	.46	.21	.70	1.4	.52	13	1.0	.97	.62	.43	1.5
25	.26	4.7	.26	.50	12	.53	3.2	2.2	2.3	.87	.44	2.0
26	.26	11	.26	.40	38	.41	1.8	1.1	5.9	3.2	.48	3.2
27	.74	1.1	.24	1.3	5.8	.76	1.2	.86	4.6	4.6	.44	3.3
28	.38	.59	.25	.93	2.3	.51	.90	.91	.91	.98	.25	3.3
29	.25	.50	.26	.92	---	.54	.78	1.9	.76	.67	.25	3.1
30	.22	.41	.27	.57	---	1.1	.69	2.2	1.0	.63	4.4	2.4
31	.21	---	.27	.62	---	1.0	---	1.0	---	.58	641	---
TOTAL	539.40	31.23	28.98	85.15	128.32	64.87	129.73	897.57	357.84	152.72	703.11	508.69
MEAN	17.4	1.04	.93	2.75	4.58	2.09	4.32	29.0	11.9	4.93	22.7	17.0
MAX	223	11	10	50	38	37	100	470	175	47	641	300
MIN	.08	.16	.21	.20	.92	.41	.20	.59	.76	.57	.25	.93
AC-FT	1070	62	57	169	255	129	257	1780	710	303	1390	1010
(††)	6.88	1.93	1.08	2.30	2.22	1.31	2.78	8.03	6.50	4.43	9.64	1.81

CAL YR 1980 TOTAL 2612.47 MEAN 7.14 MAX 340 MIN .08 AC-FT 5180 †† 40.42
WTR YR 1981 TOTAL 3627.61 MEAN 9.94 MAX 641 MIN .08 AC-FT 7200 †† 48.91

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

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX

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

DRAINAGE AREA.--11.4 mi² (29.5 km²). Prior to Oct. 1, 1973, 11.6 mi² (30.0 km²).

WATER-DISCHARGE RECORDS

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

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

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

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

AVERAGE DISCHARGE.--17 years, 14.0 ft³/s (0.396 m³/s), 10,140 acre-ft/yr (12.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft³/s (164 m³/s) Mar. 20, 1972, elevation, 69.20 ft (21.092 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)
Oct. 15	1845	1,720 48.7	61.82 18.843	June 11	0115	1,870 53.0	62.20 18.959
Apr. 23	1130	2,400 68.0	63.45 19.340	Aug. 31	1200	*3,880 110	66.37 20.230
May 3	1130	3,790 107	66.20 20.178				

Minimum daily discharge, 0.77 ft³/s (0.022 m³/s) Nov. 11-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	.88	4.0	3.7	10	2.0	3.0	2.2	6.3	7.4	7.0	91
2	3.7	.86	3.7	3.6	3.3	2.5	6.4	3.7	12	4.9	4.0	60
3	1.9	.84	3.0	2.4	1.8	2.0	4.1	866	13	6.6	1.5	20
4	2.0	.82	4.6	1.7	17	50	4.9	201	28	19	8.4	12
5	2.0	.80	4.7	1.7	47	15	4.9	46	175	99	4.1	8.6
6	2.4	.80	4.1	6.1	19	7.0	4.5	18	8.6	14	2.0	6.4
7	1.9	.80	3.2	1.9	5.5	4.0	4.9	11	6.4	179	1.5	5.4
8	2.8	.78	62	3.1	3.2	3.8	3.0	8.0	3.3	45	1.4	4.5
9	2.1	.78	33	1.8	2.7	4.1	4.9	71	4.5	20	1.3	4.0
10	2.8	.78	2.4	1.4	8.6	4.1	4.1	24	18	66	1.4	3.7
11	1.9	.77	1.6	1.4	4.9	4.5	4.1	12	215	21	2.5	3.4
12	1.5	.77	1.6	1.8	2.2	6.4	4.9	9.8	61	40	30	3.2
13	3.1	.77	1.2	2.7	2.2	3.7	5.4	7.4	23	20	28	3.0
14	2.8	.78	1.2	1.8	2.7	2.0	4.1	21	10	9.8	34	20
15	248	.78	4.2	2.5	2.2	1.6	3.7	5.8	7.4	5.8	4.5	10
16	34	2.0	2.6	2.5	2.5	1.8	8.6	6.4	7.4	4.9	2.5	6.0
17	5.5	6.0	1.6	2.7	2.5	2.2	2.7	3.7	6.9	25	1.5	5.0
18	123	3.0	1.6	2.7	2.0	2.5	2.7	2.5	4.9	5.4	3.4	4.5
19	22	1.5	1.4	103	2.0	2.7	3.0	2.7	4.1	2.2	18	4.0
20	3.0	1.0	1.6	29	2.5	2.7	2.5	2.7	3.3	3.3	3.0	3.7
21	1.5	2.0	2.3	4.3	5.8	3.3	4.9	3.3	3.0	2.7	1.8	3.5
22	1.2	10	2.9	2.5	15	2.5	6.9	3.0	3.0	2.5	1.4	3.3
23	1.2	5.0	3.2	3.0	5.0	2.5	239	2.9	7.3	2.5	2.0	3.2
24	1.0	2.0	2.7	3.7	2.0	5.4	9.8	2.4	6.9	3.3	10	3.1
25	.92	12	1.5	5.8	20	8.0	2.2	11	23	4.5	3.3	3.0
26	.92	30	4.8	3.3	10	4.5	1.8	3.4	39	9.8	3.1	3.0
27	11	10	6.5	5.5	5.0	2.0	1.2	4.0	20	20	3.6	3.0
28	1.8	6.0	5.2	2.7	3.0	2.2	2.5	3.2	6.4	4.9	2.8	3.3
29	1.4	4.5	5.5	1.7	---	5.4	1.8	12	5.4	2.2	2.9	3.7
30	1.0	4.0	13	3.0	---	6.4	1.0	12	17	2.0	22	4.5
31	.94	---	3.7	1.7	---	5.8	---	5.1	---	2.2	1380	---
TOTAL	495.28	111.01	194.6	214.7	209.6	172.6	357.5	1387.2	749.1	654.9	1592.9	312.0
MEAN	16.0	3.70	6.28	6.93	7.49	5.57	11.9	44.7	25.0	21.1	51.4	10.4
MAX	248	30	62	103	47	50	239	866	215	179	1380	91
MIN	.92	.77	1.2	1.4	1.8	1.6	1.0	2.2	3.0	2.0	1.3	3.0
AC-FT	982	220	386	426	416	342	709	2750	1490	1300	3160	619
CAL YR 1980	TOTAL	4843.19	MEAN	13.2	MAX	332	MIN	.77	AC-FT	9610		
WTR YR 1981	TOTAL	6451.39	MEAN	17.7	MAX	1380	MIN	.77	AC-FT	12800		

SAN JACINTO RIVER BASIN

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

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
DATE	TIME											
FEB 03...	1015	2.0	700	7.6	8.0	5	4.3	17.0	139	3.0	820000	210000
JUN 03...	0955	17	420	8.5	25.0	20	14	9.2	110	6.9	520000	110000
AUG 24...	1145	9.8	660	9.0	30.5	0	4.6	17.9	236	2.5	29000	2500
29...	1735	3.0	680	9.2	28.0	5	1.7	15.5	196	2.9	--	--
	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (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)
DATE	100 ML)											
FEB 03...	13000	--	--	--	--	--	--	--	--	--	--	--
JUN 03...	2300	110	0	35	5.7	37	1.5	4.6	130	12	39	.2
AUG 24...	3000	160	0	49	10	81	2.9	2.4	220	1.0	77	.3
29...	--	180	0	53	12	80	2.7	2.7	220	6.0	87	.3
	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DATE	AS SIO2)											
FEB 03...	--	--	2	4	.53	.020	.55	.390	2.1	2.5	.650	--
JUN 03...	13	224	53	25	.11	.020	.13	.040	.96	1.0	.540	13
AUG 24...	23	376	32	8	.12	.040	.16	.260	.36	.62	.440	2.3
29...	19	393	22	8	.01	.000	.01	.060	1.1	1.2	.310	5.1
				ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)			
DATE												
TIME												
JUN 03...	0955			25	400	<1	0	<10	20			
AUG 24...	1145			5	370	<1	0	<10	<10			
29...	1735			27	350	<1	0	2	16			
				LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)			
DATE												
JUN 03...				<10	9	.1	0	0	10			
AUG 24...				<10	2	.1	0	1	<3			
29...				2	<1	.0	0	1	<3			

SAN JACINTO RIVER BASIN

107

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUN 03...	0955	.00	.0	.00	.2	.00	.00	.00	.80
AUG 24...	1145	.00	.0	.00	.0	.00	.00	.00	.05
DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUN 03...	.00	.00	.00	.00	.00	.03	.01	.08	.00
AUG 24...	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 03...	.09	.00	.00	.00	0	.00	.04	.01	.00
AUG 24...	.00	.00	.00	.00	0	.00	.00	.00	.00

SAN JACINTO RIVER BASIN

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

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

DRAINAGE AREA.--0.13 mi² (0.34 km²).

WATER-DISCHARGE RECORDS

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 119 ft³/s (3.37 m³/s) represents full storm sewer discharge and usually occurs many times annually, gage height, 58.09 ft (17.706 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 85 ft³/s (2.41 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 23	0940	*119 3.37	58.09 17.706	June 25	1125	89 2.52	57.58 17.550
May 3	1010	*119 3.37	58.09 17.706	June 26	1800	114 3.23	58.00 17.678
May 4	1800	*119 3.37	58.09 17.706	Aug. 31	1050	112 3.17	57.97 17.669

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. PER (COLS./ 100 ML)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)
MAR												
04...	0305	.55	436	--	--	--	20	--	--	--	--	--
04...	0320	1.4	221	--	--	--	40	--	--	--	--	--
04...	0335	1.3	263	--	--	--	20	--	--	--	--	--
04...	0350	.96	313	--	--	--	15	--	--	--	--	--
04...	0405	1.1	200	--	--	--	15	--	--	--	--	--
04...	0420	1.0	156	--	--	--	20	--	--	--	--	--
04...	0435	.75	123	--	--	--	35	--	--	--	--	--
04...	0450	.55	132	--	--	--	25	--	--	--	--	--
APR												
23...	0909	.71	725	--	--	--	20	--	--	--	--	--
23...	0915	2.6	355	8.3	22.5	60	75	43	150000	30000	100000	90
23...	0924	4.5	329	--	--	50	25	--	--	--	--	--
23...	0939	119	205	--	--	30	39	--	--	--	--	--
23...	0949	99	91	6.9	20.0	50	33	18	200000	35000	94000	22
23...	0954	78	203	--	--	40	24	--	--	--	--	--
23...	1009	17	282	--	--	--	25	--	--	--	--	--
23...	1016	10	135	6.9	19.0	40	32	--	460000	180000	99000	--
23...	1024	6.2	194	--	--	60	20	--	--	--	--	--
23...	1039	3.2	198	--	--	--	15	--	--	--	--	--
23...	1054	1.7	197	--	--	--	15	--	--	--	--	--
MAY												
03...	0710	.55	848	--	--	--	--	--	--	--	--	--
03...	0725	2.6	310	--	--	--	--	--	--	--	--	--
03...	0740	2.4	325	--	--	--	--	--	--	--	--	--
03...	0755	4.0	203	--	--	--	--	--	--	--	--	--
03...	0810	9.4	200	--	--	--	--	--	--	--	--	--
03...	0825	5.6	206	--	--	--	--	--	--	--	--	--
03...	0840	4.4	168	--	--	--	--	--	--	--	--	--
03...	0855	4.7	170	--	--	--	--	--	--	--	--	--
04...	1743	.55	244	--	--	120	--	--	--	--	--	--
04...	1758	119	55	--	--	30	--	--	--	--	--	--
04...	1813	68	64	--	--	--	--	--	--	--	--	--
04...	1828	21	78	--	--	50	--	--	--	--	--	--
04...	1843	10	72	--	--	--	--	--	--	--	--	--
04...	1858	6.4	78	--	--	--	--	--	--	--	--	--
04...	1913	4.9	79	--	--	70	--	--	--	--	--	--
04...	1928	5.2	80	--	--	--	--	--	--	--	--	--
JUN												
25...	1050	1.5	398	--	--	60	16	--	1200000	440000	62000	--
25...	1105	27	120	--	--	--	20	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
JUN											
25...	1120	68	179	30	21	200000	110000	12000	--	--	--
25...	1135	53	151	30	8.0	160000	120000	10000	--	--	--
25...	1150	22	69	--	15	--	--	--	--	--	--
25...	1205	9.2	95	--	15	--	--	--	--	--	--
25...	1220	5.7	127	--	10	--	--	--	--	--	--
25...	1235	4.0	129	40	8.0	140000	36000	7000	--	--	--
JUL											
07...	0020	.55	255	30	5.0	--	--	--	--	--	--
07...	0035	2.2	242	20	20	--	--	--	--	--	--
07...	0050	4.5	59	30	15	--	--	--	--	--	--
07...	0105	2.2	101	--	10	--	--	--	--	--	--
07...	0120	1.1	93	50	10	--	--	--	--	--	--
07...	0135	.67	97	--	5.0	--	--	--	--	--	--
07...	0230	.55	99	--	5.0	--	--	--	--	--	--
07...	0245	1.4	100	--	5.0	--	--	--	--	--	--
10...	1753	1.0	564	50	10	--	--	--	--	--	--
10...	1808	47	168	50	20	--	--	--	--	--	--
10...	1822	23	55	40	10	--	--	--	13	1	4.5
10...	1823	23	150	--	10	--	--	--	--	--	--
10...	1838	11	107	40	5.0	--	--	--	--	--	--
10...	1853	5.4	125	--	5.0	--	--	--	--	--	--
10...	1908	3.1	106	--	5.0	--	--	--	--	--	--
10...	1920	2.1	90	70	5.0	--	--	--	25	4	8.2
10...	1923	1.9	104	--	5.0	--	--	--	--	--	--
10...	1938	1.2	109	--	5.0	--	--	--	--	--	--

[illegible]

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN										
25...	47	20	.94	.160	1.1	1.000	1.9	2.9	.920	18
25...	18	1	1.4	.100	1.5	.970	1.6	2.6	.820	16
25...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
25...	13	1	.87	.080	.95	.810	1.2	2.0	.710	11
JUL										
07...	0	13	.54	.130	.67	2.000	.20	2.2	.900	11
07...	4	4	.55	.120	.67	1.100	.70	1.8	.620	11
07...	20	6	.33	.030	.36	.420	.68	1.1	.230	8.2
07...	--	--	--	--	--	--	--	--	--	--
07...	7	4	.54	.030	.57	.590	.71	1.3	.500	.8
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
10...	21	7	.47	.050	.52	3.400	.20	3.6	2.900	13
10...	33	11	.61	.030	.64	1.100	1.0	2.1	.750	13
10...	18	2	.58	.020	.60	.400	1.2	1.6	.580	10
10...	--	--	--	--	--	--	--	--	--	--
10...	11	3	.81	.030	.84	.620	.98	1.6	.700	9.4
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	5	4	.79	.040	.83	.370	1.2	1.6	.810	13
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
APR							
23...	0915	1	200	8	0	0	170
23...	0949	1	400	0	0	0	50
23...	1016	2	20	1	0	<10	70

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
APR						
23...	100	70	.1	1	0	60
23...	0	10	.1	1	0	40
23...	11	30	.1	0	0	50

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
APR									
23...	0915	<5.0	<5.0	<.50	68	<.50	<.50	<.50	.95
23...	0949	.00	.0	.00	.5	.00	.01	.02	.71

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
APR									
23...	<.50	<.50	<.50	.00	2.4	<.50	.14	.00	<.50
23...	.07	.00	.00	.00	.01	.04	.03	3.0	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
APR									
23...	.00	.00	<.50	.00	<5	.00	.00	.00	.00
23...	.00	.00	.00	.00	0	.00	.15	.12	.02

08074500 WHITEOAK BAYOU AT HOUSTON, TX

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

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

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

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

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

AVERAGE DISCHARGE.--45 years, 80.7 ft³/s (2.285 m³/s), 58,470 acre-ft/yr (72.1 hm³/yr).

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

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

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 15	2100	5,720 162	29.31 8.939	June 5	0930	4,090 116	26.74 8.150
Apr. 23	1115	4,360 123	27.18 8.284	Aug. 31	1330	*12,700 360	38.21 11.646
May 3	2130	7,530 213	31.86 9.711				

Minimum daily discharge, 21 ft³/s (0.59 m³/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	21	22	25	149	39	36	42	32	70	41	1940
2	36	21	22	25	84	34	33	39	179	29	42	747
3	26	22	22	25	33	32	33	3760	269	27	33	315
4	25	21	22	24	116	549	40	2030	176	47	33	165
5	24	21	22	25	308	128	33	538	1470	642	32	92
6	26	21	22	54	257	44	32	205	285	166	30	58
7	25	21	25	30	69	32	30	117	190	1050	29	45
8	23	22	240	27	41	30	36	66	69	367	28	40
9	24	21	437	26	36	30	30	640	37	301	28	42
10	24	23	61	24	78	31	29	1390	186	70	30	36
11	28	22	32	24	41	33	30	349	1450	50	50	36
12	22	23	27	25	32	41	29	172	716	80	100	35
13	24	22	24	26	33	50	27	96	487	100	180	37
14	25	22	24	28	32	39	27	174	152	70	200	178
15	1090	23	32	25	30	35	27	71	62	57	100	131
16	1210	26	30	27	31	36	30	56	51	41	40	45
17	162	92	28	28	30	38	28	43	49	63	30	34
18	937	26	26	26	30	36	27	37	35	82	50	33
19	863	25	25	579	30	35	27	35	31	36	73	41
20	185	25	25	455	30	34	27	31	29	41	50	35
21	71	25	28	99	35	48	30	31	29	36	35	35
22	41	174	28	42	102	47	30	29	29	32	30	37
23	32	60	27	32	34	33	1020	28	50	31	35	38
24	27	33	26	29	30	33	302	28	97	34	50	39
25	27	124	25	29	252	34	63	74	284	45	35	41
26	25	365	30	29	96	32	34	39	255	163	30	43
27	151	59	30	45	39	33	27	32	177	105	30	49
28	29	30	27	30	33	33	28	30	60	72	30	47
29	23	25	25	27	---	40	30	54	30	35	35	42
30	22	22	40	28	---	43	27	98	124	39	200	42
31	22	---	26	26	---	37	---	54	---	41	9000	---
TOTAL	5381	1437	1480	1944	2111	1739	2202	10388	7090	4022	10709	4498
MEAN	174	47.9	47.7	62.7	75.4	56.1	73.4	335	236	130	345	150
MAX	1210	365	437	579	308	549	1020	3760	1470	1050	9000	1940
MIN	22	21	22	24	30	30	27	28	29	27	28	33
AC-FT	10670	2850	2940	3860	4190	3450	4370	20600	14060	7980	21240	8920
(††)	6.30	1.96	1.21	2.43	2.49	1.35	2.50	8.22	7.75	4.95	8.09	2.45

CAL YR 1980 TOTAL 37528 MEAN 103 MAX 1910 MIN 21 AC-FT 74440 †† 40.71
WTR YR 1981 TOTAL 53001 MEAN 145 MAX 9000 MIN 21 AC-FT 105100 †† 49.70

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

SAN JACINTO RIVER BASIN

113

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
DATE	TIME												
FEB													
03...	1110	31	680	7.1	11.0	100	19	10.4	91	12	2300	66	
MAY													
03...	1640	5660	110	7.9	22.0	120	200	8.1	91	7.8	160000	45000	
04...	1320	1220	154	7.5	23.0	120	80	7.4	86	8.7	800000	170000	
JUN													
03...	1100	216	400	7.8	27.0	80	150	6.7	83	14	620000	120000	
JUL													
07...	1435	1380	174	7.5	25.0	60	140	6.7	80	--	1800000	320000	
AUG													
19...	1345	38	600	7.9	30.0	40	14	8.2	108	12	26000	2300	
19...	1640	136	339	7.8	29.5	30	15	4.9	64	12	400000	210000	
19...	1725	312	280	7.8	30.5	30	72	4.8	63	16	980000	180000	
19...	2100	84	460	7.6	29.0	30	18	4.2	54	12	700000	180000	
		STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
DATE													
FEB													
03...	40	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	48000	39	0	13	1.6	8.2	.6	3.2	39	8.5	5.2	.1	.1
04...	50000	50	3	16	2.4	9.0	.6	3.5	52	7.8	8.2	.1	.1
JUN													
03...	7300	95	0	30	4.7	38	1.7	4.3	110	1.7	45	.2	.2
JUL													
07...	>1000000	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
19...	6700	130	0	40	7.5	62	2.5	5.6	170	3.0	64	.3	.3
19...	45000	--	--	--	--	--	--	--	--	--	--	--	--
19...	49000	76	0	24	3.8	28	1.5	3.2	94	2.0	27	.2	.2
19...	25000	--	--	--	--	--	--	--	--	--	--	--	--
		SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DATE													
FEB													
03...	--	--	18	6	1.8	.420	2.2	2.900	4.8	7.7	3.800	25	
MAY													
03...	5.7	69	496	8	.36	.060	.42	.370	1.6	2.0	.700	24	
04...	6.8	89	194	17	.15	.020	.17	.310	1.7	2.0	.610	17	
JUN													
03...	12	202	410	62	.71	.140	.85	1.400	1.7	3.1	2.600	12	
JUL													
07...	--	--	308	52	.14	.120	.26	.600	1.4	2.0	.700	13	
AUG													
19...	15	300	21	10	.86	.240	1.1	2.600	1.8	4.4	2.900	15	
19...	--	--	27	10	.63	.110	.74	1.600	2.0	3.6	1.600	19	
19...	8.3	153	104	23	.53	.070	.60	.690	2.6	3.3	.780	22	
19...	--	--	34	14	.73	.190	.92	2.800	1.8	4.6	2.300	17	

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAY							
03...	1640	5	50	<1	10	<10	190
JUN							
03...	1100	11	300	<1	0	<10	40
JUL							
07...	1435	9	60	<1	10	<10	110
AUG							
19...	1345	23	170	<1	0	<10	42
19...	1640	9	200	0	0	50	90
19...	1725	28	110	<1	10	<10	48
19...	2100	18	200	0	10	50	30

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY						
03...	<10	<1	.1	0	0	5
JUN						
03...	<10	6	.0	0	0	30
JUL						
07...	<10	3	.1	0	0	20
AUG						
19...	<10	32	.1	0	0	18
19...	0	30	.1	0	0	30
19...	<10	3	.1	0	0	17
19...	0	30	.1	1	0	20

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUN									
03...	1100	.00	.00	.00	.10	.00	.00	.00	.70
AUG									
19...	1345	.00	.00	.00	.10	.00	.00	.00	1.1
19...	1640	.10	.00	.00	.30	.00	.02	.00	.77
19...	1725	.00	.00	.00	.20	.00	.01	.00	.37
19...	2100	.00	.00	.00	.10	.00	.00	.00	.64

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUN									
03...	.01	.00	.00	.00	.00	.01	.03	.13	.00
AUG									
19...	.00	.00	.00	.00	.00	.01	.03	.34	.00
19...	.03	.00	.00	.00	.01	.03	.04	6.0	.00
19...	.01	.00	.00	.00	.02	.02	.03	4.2	.00
19...	.00	.00	.00	.00	.00	.01	.03	1.6	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN									
03...	.00	.00	.00	.00	0	.00	.15	.05	.00
AUG									
19...	.00	.00	.00	.00	0	.00	1.4	.02	.00
19...	.00	.00	.00	.00	1	.00	15	.49	.00
19...	.00	.00	.00	.00	0	.00	6.3	.29	.00
19...	.00	.00	.00	.00	0	.00	22	.17	.00

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

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

DRAINAGE AREA.--18.0 mi² (46.6 km²).

WATER-DISCHARGE RECORDS

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft³/s (135 m³/s) Sept. 19, 1979; maximum elevation, 38.59 ft (11.771 m) Aug. 31, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft³/s (39.6 m³/s), revised, and maximum (*):

Date	Time	Discharge		Elevation		Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
Apr. 23	unknown	1,620	45.9	30.42	9.272	July 5	1445	2,670	75.6	35.14	10.711
May 3	2300	2,410	68.3	33.02	10.064	Aug. 31	0300	2,410	68.2	34.29	10.452
May 4	2030	2,430	68.8	33.08	10.083	Aug. 31	1230	4,070	115	38.59	11.762
June 5	0800	2,370	67.1	33.40	10.180						

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
FEB 03...	1205	4.6	480	6.9	--	5	68	6.1	54	4.5
MAY 03...	1645	1240	132	7.8	22.5	90	84	7.9	89	7.5
04...	1310	204	230	7.5	23.0	90	41	11.4	133	10
JUN 03...	1135	19	236	7.7	25.0	50	58	4.6	55	10
JUL 07...	1147	713	160	7.3	23.5	50	64	6.3	72	6.9
AUG 13...	1500	90	180	7.4	28.5	60	68	5.5	70	12
28...	1550	2.8	758	7.6	28.0	20	2.0	3.6	46	9.0
31...	1335	3270	103	8.0	24.0	50	110	7.0	82	3.4
SEP 01...	1030	52	285	7.4	25.5	50	5.0	4.5	55	7.1

DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI, FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
FEB 03...	1300000	240000	6200	--	--	--	--	--	--
MAY 03...	250000	150000	42000	51	4	17	2.0	6.4	.4
04...	2200000	580000	300000	79	2	26	3.4	13	.6
JUN 03...	1100000	300000	58000	69	0	23	2.8	17	.9
JUL 07...	1200000	>600000	120000	64	0	22	2.3	7.3	.4
AUG 13...	--	--	--	--	--	--	--	--	--
28...	--	--	--	160	0	47	10	95	3.5
31...	520000	150000	240000	45	3	16	1.2	3.4	.2
SEP 01...	1600000	440000	140000	98	1	32	4.3	18	.8

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)
FEB 03...	--	--	--	--	--	--	--	78	22
MAY 03...	3.2	47	3.1	5.0	.1	4.7	70	280	18
04...	3.9	82	2.7	10	.2	7.6	118	112	7
JUN 03...	2.8	85	3.8	12	.1	6.4	120	135	29
JUL 07...	2.5	67	2.5	6.6	.1	7.8	92	186	29
AUG 13...	--	--	--	--	--	--	--	123	11
28...	4.9	240	25	73	.5	16	415	360	14
31...	2.3	42	5.0	4.8	.1	3.4	61	137	27
SEP 01...	4.3	97	8.0	16	.2	9.3	150	79	6

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
FEB 03...	.32	.070	.39	1.500	1.2	2.7	.970	15	--
MAY 03...	.54	.060	.60	.430	1.3	1.7	.600	15	--
04...	.41	.090	.50	.710	1.7	2.4	.740	--	19
JUN 03...	.43	.050	.48	.910	.99	1.9	.500	9.2	--
JUL 07...	.17	.070	.24	.450	1.4	1.8	.510	14	--
AUG 13...	.45	.050	.50	.440	1.6	2.0	.390	23	--
28...	.03	.010	.04	.720	2.1	2.8	1.100	19	--
31...	.22	.020	.24	.230	1.4	1.6	.430	15	--
SEP 01...	.19	.040	.23	.830	2.0	2.8	.680	15	--

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JUN 03...	1135	11	300	<1	0	<10	120
JUL 07...	1147	6	60	<1	10	<10	70
AUG 13...	1500	4	0	0	0	50	70
28...	1550	8	160	<1	0	2	36

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
------	--	--	--	---	--	--

JUN 03...	<10	50	.0	0	0	10
JUL 07...	<10	3	.2	0	1	20
AUG 13...	0	10	.0	0	0	20
28...	2	100	.1	1	0	13

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUN 03...	1135	.00	.0	.00	.1	.00	.00	.00	.40
AUG 13...	1500	.00	.0	.00	.4	.00	.01	.05	.44

SAN JACINTO RIVER BASIN

117

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUN 03...	.01	.00	.00	.00	.00	.01	.00	.31	.00
AUG 13...	.01	.00	.00	.00	.01	.02	.02	.47	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 03...	.00	.00	.00	.00	0	.00	.35	.03	.00
AUG 13...	.00	.00	.00	.00	0	.00	.08	.10	.00

SAN JACINTO RIVER BASIN

08074600 BUFFALO BAYOU AT MAIN STREET, HOUSTON, TX

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

DRAINAGE AREA.--469 mi² (1,215 km²).

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, (estimated) about 22 ft (6.7 m) on Aug. 31; minimum, -0.6 ft (0.18 m) Mar. 19, 23.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	3.2	2.0	3.0	1.7	3.2	2.1	2.3	1.0	4.2	1.8	3.0	1.6	-	-	3.3	2.3	4.0	2.2	4.4	2.6	3.5	1.8	-	-
2	3.5	1.7	3.1	1.7	3.3	1.7	2.7	1.0	2.3	.1	3.0	1.5	-	-	4.4	2.3	4.2	2.1	4.8	2.2	3.2	1.8	-	-
3	3.0	1.6	3.1	1.9	3.5	1.5	2.8	1.3	3.1	1.2	4.1	-	-	-	17.4	3.6	6.0	2.4	4.4	2.3	-	-	-	-
4	3.2	1.8	2.8	1.6	3.6	2.1	2.8	1.0	3.3	1.7	5.1	2.7	-	-	17.2	7.0	5.1	3.1	4.2	2.3	-	-	-	-
5	3.0	1.6	3.0	1.5	3.7	2.0	3.4	1.5	3.9	2.8	-	-	-	-	8.4	2.9	12.3	5.0	11.0	2.3	-	-	-	-
6	3.7	2.5	3.2	1.7	3.6	2.1	3.8	1.7	3.6	1.6	-	-	-	-	3.9	2.1	5.2	3.0	4.5	2.8	-	-	-	-
7	3.4	2.1	3.1	1.6	4.1	2.3	2.8	.7	3.4	2.0	4.0	2.6	-	-	4.2	2.3	4.3	2.1	7.9	3.3	-	-	-	-
8	3.4	2.3	3.4	1.8	5.6	2.5	2.9	1.5	3.4	2.1	3.3	2.1	-	-	4.8	2.5	3.8	2.0	4.7	3.2	-	-	-	-
9	3.4	2.2	3.4	2.1	5.0	1.6	3.2	1.6	4.3	2.5	-	2.0	-	-	7.5	2.7	3.9	2.5	3.8	3.1	-	-	-	-
10	3.4	2.1	3.4	1.7	2.9	.9	3.1	1.6	4.5	1.8	-	-	-	-	7.2	2.0	4.5	2.9	6.5	2.9	-	-	-	-
11	3.4	1.7	3.6	1.9	3.2	1.5	3.2	1.4	1.9	-.2	-	-	-	-	3.3	1.3	7.6	3.4	5.5	3.3	-	-	-	-
12	3.4	1.9	4.3	2.5	3.2	1.7	2.8	1.6	3.2	1.2	3.3	1.4	-	-	4.1	2.5	5.1	3.5	3.8	2.7	-	-	-	-
13	3.4	1.9	4.9	3.8	3.1	1.7	2.8	1.8	3.4	1.7	3.4	1.8	3.9	-	4.4	3.4	5.3	3.6	4.2	2.4	-	-	-	-
14	3.4	2.1	5.2	2.9	3.0	1.6	2.8	1.6	3.1	1.2	3.2	1.7	3.6	2.3	4.3	3.1	5.6	4.0	3.6	2.1	-	-	-	-
15	7.9	2.8	3.9	1.8	2.9	2.0	2.6	1.2	3.0	1.1	3.2	1.6	3.5	2.3	4.6	3.0	5.2	3.8	3.9	2.1	-	-	-	-
16	7.9	2.7	4.2	1.9	3.1	1.2	2.8	1.1	3.2	1.4	2.7	1.1	3.7	2.5	6.0	3.7	4.5	3.0	4.0	2.4	-	-	-	-
17	4.3	2.7	3.7	.6	3.1	1.3	2.8	.6	3.0	1.4	3.3	1.5	3.8	2.8	5.0	3.6	3.9	2.2	3.9	2.4	-	-	-	-
18	7.5	2.6	2.1	.4	3.5	1.9	2.8	1.0	3.2	1.8	3.2	.2	4.0	3.1	4.4	2.7	3.7	1.9	4.0	2.6	-	-	-	-
19	6.3	2.1	3.3	1.6	3.3	1.2	4.3	1.9	3.2	1.6	1.6	-.6	4.0	2.8	3.4	1.8	4.0	2.0	3.8	2.3	-	-	-	-
20	3.7	1.9	3.1	1.6	2.5	.2	4.2	1.7	3.1	1.4	3.1	1.1	3.6	2.4	3.2	1.1	4.0	2.0	3.5	2.3	-	-	-	-
21	3.7	2.5	3.2	1.1	3.1	.9	2.5	.5	3.1	1.9	3.7	2.5	3.8	2.0	4.3	2.1	4.0	2.1	3.2	1.9	-	-	4.3	3.0
22	3.7	2.5	4.0	2.3	3.3	1.5	2.7	1.3	3.0	.4	3.1	.0	3.9	2.3	4.5	2.5	4.1	2.2	3.1	1.6	-	-	4.6	2.7
23	3.8	2.4	4.0	1.8	3.7	2.0	2.7	1.4	2.0	.8	2.2	-.6	8.8	2.3	4.4	2.7	3.7	2.2	3.1	2.0	-	-	4.1	2.4
24	3.6	1.3	3.4	1.0	3.5	.5	2.7	1.4	2.5	1.1	2.9	1.1	4.3	2.6	4.3	2.1	4.4	2.5	3.6	2.1	-	-	3.7	2.2
25	3.2	1.4	3.6	1.6	2.4	.7	2.8	2.1	3.4	1.4	3.0	1.6	4.4	2.5	4.4	2.6	4.2	2.7	4.3	2.6	-	-	3.8	2.2
26	3.9	2.3	4.2	.9	2.9	1.6	3.1	2.2	3.2	1.8	3.1	1.4	4.3	2.8	3.8	2.2	6.0	2.4	5.5	2.5	-	-	4.1	2.6
27	4.6	2.4	2.4	.3	3.0	1.5	3.2	2.2	3.4	1.9	4.1	1.9	4.3	2.7	4.0	2.1	4.1	2.5	4.2	2.4	-	-	3.9	2.8
28	3.8	.5	1.8	.8	2.9	1.9	3.2	2.2	3.3	1.9	4.9	2.8	4.2	2.6	3.8	2.5	4.0	2.3	3.8	2.1	-	-	4.0	2.8
29	1.9	.6	2.4	1.5	3.0	1.7	3.4	2.1	---	---	4.5	2.8	3.7	2.2	4.0	2.8	3.9	2.5	3.6	1.6	-	-	4.0	2.7
30	3.5	1.2	3.0	2.0	2.3	.9	3.2	1.7	---	---	-	-	3.6	2.0	4.6	2.8	4.8	2.1	3.6	1.7	-	-	4.1	2.9
31	3.7	1.5	---	---	2.6	1.1	4.0	2.1	---	---	-	-	---	---	4.7	2.3	---	---	3.8	1.7	(22.0)	-	---	---

SAN JACINTO RIVER BASIN

119

08074700 BUFFALO BAYOU AT 69TH STREET, HOUSTON, TX

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

DRAINAGE AREA.--476 mi² (1,233 km²).

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 7.7 ft (2.35 m) June 5; minimum, -0.4 ft (-0.12 m) Mar. 19, 23.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	3.3	2.0	3.2	1.9	3.4	2.3	2.5	1.2	-	2.0	3.2	1.8	3.5	2.4	3.4	2.5	4.1	2.4	4.7	2.9	3.6	1.9	5.4	3.7
2	3.6	1.8	3.3	1.9	3.5	1.9	2.9	1.3	2.4	.4	3.3	1.7	3.8	2.5	5.5	2.5	4.4	2.3	4.9	2.5	3.4	1.8	4.1	3.0
3	3.2	1.7	3.3	2.1	3.6	1.9	3.0	1.6	3.3	1.4	4.3	2.4	4.2	2.8	7.1	3.8	4.7	2.3	4.7	2.6	3.6	2.1	3.8	2.5
4	3.4	2.0	3.0	1.9	3.8	2.5	3.0	1.2	3.5	1.8	4.8	2.4	4.5	2.6	5.3	3.0	5.1	3.0	4.5	2.6	3.8	2.3	3.8	2.7
5	3.1	1.8	3.2	1.8	3.9	2.2	3.7	1.7	4.1	2.7	3.5	1.2	3.2	1.9	3.6	2.7	7.7	4.6	4.6	2.6	3.6	2.5	3.7	2.5
6	3.7	2.7	3.3	1.9	3.8	2.3	4.0	1.9	3.4	1.7	3.7	1.9	3.6	1.4	4.0	2.1	4.7	3.2	4.1	2.6	3.2	2.3	4.2	2.5
7	3.6	2.3	3.3	1.8	4.3	2.6	3.1	1.0	3.7	2.2	4.4	2.8	4.3	2.1	4.4	2.5	4.3	2.4	5.2	3.7	3.2	1.9	4.9	3.3
8	3.6	2.5	3.6	2.0	4.4	2.7	3.2	1.7	3.7	2.4	3.6	2.3	4.3	2.5	4.8	2.7	4.0	2.3	4.3	3.2	3.1	1.7	4.7	2.0
9	3.5	2.3	3.6	2.3	4.4	1.5	3.4	1.9	4.5	2.8	3.5	2.3	4.2	2.2	4.8	2.9	4.1	2.7	4.0	2.9	3.1	1.8	3.7	2.1
10	3.5	2.2	3.6	1.9	3.1	1.0	3.2	1.8	4.7	1.9	3.3	1.9	4.4	2.2	4.0	1.7	4.6	3.1	3.8	2.7	3.4	2.0	4.0	2.5
11	3.5	1.9	3.7	2.1	3.2	1.7	3.3	1.7	1.9	-.3	3.2	1.7	4.3	2.7	3.4	1.4	6.1	3.4	4.1	2.2	3.5	1.9	4.3	2.8
12	3.4	2.1	4.5	2.7	3.4	1.9	2.9	1.8	3.6	1.4	3.5	1.6	4.0	2.4	4.2	2.7	4.9	3.6	4.1	2.6	4.1	2.0	4.2	2.8
13	3.5	2.1	5.1	4.0	3.3	1.9	3.0	2.1	3.6	2.0	3.5	2.0	4.0	2.5	4.2	3.2	5.4	3.5	4.1	2.6	4.3	2.3	4.1	2.6
14	3.5	2.3	5.5	3.1	3.2	1.9	3.0	1.8	3.3	1.4	3.5	1.8	3.7	2.5	3.6	2.4	5.8	4.2	4.0	2.4	3.9	2.3	4.3	2.6
15	3.8	2.9	4.2	2.1	3.2	2.4	2.9	1.5	3.2	1.4	3.3	1.9	3.7	2.5	4.4	2.4	5.4	4.1	4.9	2.3	3.6	2.0	3.8	2.6
16	4.4	2.6	4.3	2.2	3.3	1.7	3.0	1.3	3.4	1.7	3.0	1.3	3.8	2.7	5.7	3.6	5.8	3.2	4.0	2.2	3.8	2.0	3.6	2.2
17	4.4	2.8	3.9	.7	3.4	1.7	3.0	.9	3.2	1.7	3.4	1.7	3.8	3.0	5.1	3.6	4.2	2.5	3.9	2.1	3.5	3.2	3.5	1.7
18	3.9	2.5	2.3	.5	3.7	2.1	3.0	1.3	3.4	2.1	3.4	.3	4.1	3.2	5.5	2.8	4.1	2.2	4.1	2.2	3.5	2.0	3.4	2.4
19	3.5	1.8	3.4	1.8	3.6	1.6	3.3	1.7	3.3	1.8	2.7	-.4	4.1	2.9	3.5	1.9	4.3	2.3	4.0	2.2	3.6	2.1	4.0	2.4
20	3.6	1.6	3.4	1.8	2.6	.5	3.9	1.7	3.3	1.7	3.2	1.3	3.8	2.5	3.3	1.3	4.3	2.3	3.7	2.2	3.5	2.4	4.0	2.6
21	3.6	2.4	3.4	1.4	3.3	1.2	2.6	.5	3.3	2.2	3.9	2.8	3.9	2.1	4.4	2.2	4.3	2.6	3.6	2.1	3.5	2.2	4.2	2.6
22	3.6	2.4	4.1	2.4	3.5	1.8	2.8	1.4	3.1	.7	3.1	.2	4.1	2.4	4.7	2.7	4.4	2.6	-	1.9	3.5	2.1	4.5	2.5
23	3.7	2.2	4.1	2.2	3.9	2.3	2.8	1.6	2.3	1.1	2.4	-.4	4.8	2.5	4.5	2.9	4.0	2.6	-	-	3.7	2.4	4.0	2.2
24	3.6	.9	3.6	1.3	3.7	.8	2.8	1.6	2.8	1.4	3.1	1.3	4.2	2.4	4.5	2.3	4.5	2.8	3.6	-	4.0	2.3	3.7	2.1
25	3.2	1.3	3.8	1.9	2.8	1.0	3.0	2.3	3.3	1.8	3.2	1.8	4.5	2.5	4.4	2.7	4.1	2.9	4.4	2.7	4.4	2.3	3.9	2.2
26	4.0	2.4	4.0	-	3.1	1.9	3.2	2.4	3.5	2.0	3.2	1.5	4.4	2.9	4.0	2.5	4.7	2.7	4.5	2.7	4.4	2.5	4.2	2.7
27	4.7	2.5	2.5	.5	3.2	1.8	3.4	2.4	3.6	2.2	4.1	2.1	4.4	2.8	4.1	2.4	4.1	2.6	4.3	2.3	4.6	2.8	4.1	2.9
28	3.9	.7	2.0	1.2	3.1	2.2	3.3	2.3	3.6	2.2	5.0	2.9	4.2	2.8	4.0	2.7	4.3	2.6	3.9	2.1	4.5	2.9	4.2	2.9
29	2.0	.8	2.6	1.7	3.1	1.9	3.6	2.3	---	---	4.5	2.9	3.8	2.3	4.1	3.1	4.2	2.7	3.6	1.7	4.7	2.9	4.2	2.9
30	2.6	1.2	3.2	2.2	2.5	1.2	3.4	1.9	---	---	3.9	2.3	3.8	2.2	4.6	3.9	5.0	2.4	3.7	1.8	4.7	3.3	4.4	3.2
31	2.8	1.5	---	---	2.8	1.4	-	2.4	---	---	3.7	2.2	---	---	4.6	2.5	---	---	3.8	1.8	6.8	3.9	---	---

SAN JACINTO RIVER BASIN

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX

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

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

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Water-discharge records fair. Channel in process of rectification during latter part of 1981 water year. Recording rain gage at station.

AVERAGE DISCHARGE.--17 years, 12.3 ft³/s (0.348 m³/s), 8,910 acre-ft/yr (11.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,270 ft³/s (64.3 m³/s) Aug. 31, 1981, elevation, 73.27 ft (22.333 m); maximum gage height, 74.54 ft (22.720 m) Sept. 19, 1979, occurred prior to channel rectification in 1981; no flow for many days.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)
May 3	1115	958 27.1	71.32 21.738	Aug. 19	1545	955 27.0	69.27 21.113
July 5	1630	423 12.0	67.75 20.650	Aug. 31	1200	*2,270 64.3	73.27 22.333
July 7	1000	482 13.7	68.05 20.742				

Minimum daily discharge, 3.1 ft³/s (0.088 m³/s) Mar. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	4.5	4.6	5.1	13	5.4	3.2	3.6	4.1	14	5.2	309
2	12	4.9	4.3	5.1	5.8	5.1	3.3	3.7	12	4.8	5.0	88
3	8.4	5.0	4.4	4.8	3.9	4.7	3.8	419	17	3.6	4.8	41
4	6.7	5.6	4.3	5.6	8.0	113	3.9	133	5.8	3.5	5.0	17
5	6.7	5.4	4.4	5.2	34	11	3.7	44	95	123	5.2	10
6	6.6	5.8	4.5	6.5	19	6.8	3.2	29	14	52	5.2	7.2
7	6.2	5.7	5.0	4.6	7.3	5.3	3.7	16	5.4	218	5.0	6.9
8	6.1	5.5	18	4.4	5.3	5.2	3.7	8.9	4.2	71	4.8	6.5
9	6.1	5.7	35	4.3	4.8	5.0	3.5	14	4.2	27	4.8	6.1
10	6.0	5.7	9.8	4.2	8.2	3.7	3.8	11	9.3	23	5.0	6.3
11	5.9	5.6	5.6	4.2	5.4	4.6	3.9	6.3	48	23	6.4	5.1
12	7.1	5.7	4.2	4.4	4.8	4.7	4.5	4.9	59	12	5.6	5.3
13	7.2	5.4	3.9	4.0	4.5	4.2	4.4	4.7	23	9.4	5.3	5.1
14	7.2	5.9	4.2	8.0	4.4	3.5	3.7	26	9.1	8.4	5.1	19
15	7.4	6.2	7.6	4.4	4.3	4.2	4.4	7.6	6.0	7.0	5.0	15
16	7.3	6.3	5.1	4.1	4.5	4.0	4.8	6.5	4.9	6.3	4.8	11
17	9.1	11	4.9	4.2	3.9	3.6	4.6	6.3	4.4	10	4.6	9.6
18	37	5.8	4.7	4.3	4.5	3.2	4.6	5.6	4.5	6.5	4.6	9.3
19	20	5.0	4.2	66	4.1	3.3	4.7	5.2	4.0	5.3	181	9.6
20	8.8	4.6	4.1	42	4.1	3.3	4.7	5.2	4.0	4.8	33	10
21	7.2	4.7	4.3	9.6	5.1	3.9	4.4	5.1	4.4	4.5	10	11
22	5.2	18	4.4	5.4	9.5	4.0	4.5	5.0	4.3	4.3	8.5	9.7
23	5.6	9.4	4.2	4.2	6.1	3.9	60	4.4	5.3	4.2	7.1	9.8
24	5.5	6.5	4.2	3.8	3.8	3.2	15	4.7	5.1	4.1	6.5	9.5
25	5.5	18	4.2	4.1	32	3.1	10	6.0	21	4.0	6.2	11
26	6.0	44	4.3	4.1	12	3.2	5.7	5.7	10	8.1	6.0	9.3
27	9.4	8.5	4.8	4.4	7.6	3.2	4.0	5.3	8.3	24	6.0	9.4
28	7.0	5.3	4.8	3.9	4.9	3.4	3.6	5.2	4.5	23	81	9.4
29	5.8	4.9	5.0	4.1	---	4.1	3.5	5.4	4.1	8.2	21	8.1
30	5.0	4.4	5.1	4.0	---	3.8	3.7	5.8	35	6.3	62	8.7
31	4.6	---	5.1	3.9	---	3.3	---	4.9	---	5.5	1350	---
TOTAL	271.6	239.0	193.2	246.9	234.8	242.9	194.5	818.0	439.9	728.8	1869.7	692.9
MEAN	8.76	7.97	6.23	7.96	8.39	7.84	6.48	26.4	14.7	23.5	60.3	23.1
MAX	37	44	35	66	34	113	60	419	95	218	1350	309
MIN	4.6	4.4	3.9	3.8	3.8	3.1	3.2	3.6	4.0	3.5	4.6	5.1
AC-FT	539	474	383	490	466	482	386	1620	873	1450	3710	1370
(††)	1.60	2.36	1.41	2.19	2.32	1.23	1.54	5.98	5.24	5.89	11.76	1.24
CAL YR 1980	TOTAL	4400.4	MEAN 12.0	MAX 403	MIN 3.3	AC-FT 8730	†† 33.95					
WTR YR 1981	TOTAL	6172.2	MEAN 16.9	MAX 1350	MIN 3.1	AC-FT 12240	†† 42.76					

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

SAN JACINTO RIVER BASIN

121

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

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
MAR										
23...	0920	4.4	837	7.7	15.0	20	8.7	7.5	73	14
APR										
23...	1035	197	119	8.6	20.0	70	130	7.8	85	21
23...	1210	160	258	7.7	20.0	50	--	5.5	60	16
24...	1205	9.3	470	7.7	21.0	50	30	3.6	40	4.3
JUL										
08...	0930	73	200	7.7	26.0	100	58	4.4	53	4.3
AUG										
17...	1445	4.6	780	7.7	33.5	5	4.5	6.7	93	8.1
29...	1740	19	575	7.4	27.5	30	45	3.6	45	5.2
30...	1530	71	300	7.4	27.0	40	35	5.9	73	7.2
30...	1750	75	258	7.6	27.0	50	320	4.9	60	4.3
30...	2050	102	221	7.5	27.0	100	190	6.1	75	5.2
31...	0900	1670	107	7.8	24.5	65	160	6.8	81	1.5
31...	1120	2200	90	8.5	24.0	80	230	7.4	87	3.0
31...	1440	1610	98	8.4	24.0	60	140	7.0	82	2.2
31...	1940	866	92	7.7	25.0	65	84	5.8	70	2.8
SEP										
01...	0830	359	112	7.2	25.0	60	44	5.0	60	2.6
02...	1350	78	178	7.2	29.0	100	41	4.4	57	1.9

DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
MAR									
23...	130	K2	K6	--	--	--	--	--	--
APR									
23...	81000	20000	10000	--	--	--	--	--	--
23...	71000	16000	13000	--	--	--	--	--	--
24...	3300	60	40	--	--	--	--	--	--
JUL									
08...	59000	15000	17000	66	0	20	3.9	11	.6
AUG									
17...	--	--	--	180	0	54	11	84	2.9
29...	--	--	--	140	3	43	8.6	52	2.0
30...	--	--	--	75	1	23	4.2	23	1.2
30...	--	--	--	72	1	22	4.2	22	1.2
30...	--	--	--	61	4	19	3.4	17	1.0
31...	49000	19000	18000	35	0	11	1.9	5.5	.4
31...	120000	32000	28000	32	0	9.9	1.8	4.4	.4
31...	120000	35000	24000	38	0	12	1.9	4.7	.3
31...	60000	14000	26000	31	0	9.3	1.9	4.2	.3
SEP									
01...	50000	15000	19000	39	0	12	2.3	5.0	.4
02...	58000	5700	6100	67	0	20	4.1	9.9	.6

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)
MAR 23...	--	--	--	--	--	--	--	8	4
APR 23...	--	--	--	--	--	--	--	194	26
23...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	32	6
JUL 08...	4.4	72	8.0	10	.1	14	114	88	24
AUG 17...	8.7	200	37	96	.0	28	439	21	9
29...	7.4	140	23	61	.3	21	300	156	21
30...	5.4	74	15	31	.1	11	157	306	27
30...	5.0	71	15	28	.2	11	150	360	25
30...	4.3	57	12	24	.2	9.1	123	480	10
31...	3.1	38	5.0	5.6	.1	4.9	60	490	14
31...	2.5	34	5.0	4.6	.1	4.3	53	278	35
31...	3.0	41	5.0	5.0	.1	4.5	61	170	32
31...	3.1	36	5.0	4.0	.1	5.0	55	105	14
SEP 01...	4.0	41	6.0	5.3	.1	6.7	66	112	10
02...	5.3	67	9.0	11	.1	12	111	168	2

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
MAR 23...	3.6	.730	4.3	6.900	3.1	10	.060	20	--
APR 23...	.51	.040	.55	.490	1.1	1.6	.660	22	--
23...	.82	.120	.94	1.300	1.6	2.9	2.200	20	--
24...	1.3	.410	1.7	1.600	.90	2.5	3.900	9.9	--
JUL 08...	.33	.110	.44	.430	1.2	1.6	.760	12	--
AUG 17...	1.4	.200	1.6	3.200	1.8	5.0	8.200	8.3	--
29...	4.5	.220	4.7	.800	2.0	2.8	4.100	12	--
30...	2.3	.110	2.4	.550	2.6	3.1	2.300	17	1.7
30...	1.5	.110	1.6	.410	2.8	3.2	1.700	24	--
30...	1.3	.090	1.4	.330	2.4	2.7	1.500	28	--
31...	--	--	--	--	--	--	--	12	--
31...	.19	.020	.21	.120	1.7	1.8	.370	15	--
31...	.20	.020	.22	.160	1.5	1.7	.430	13	--
31...	.26	.020	.28	.110	1.4	1.5	.390	12	--
SEP 01...	.18	.020	.20	.190	1.3	1.5	.460	13	--
02...	.36	.040	.40	.240	1.3	1.5	.620	13	--

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JUL 08...	0930	8	50	<1	10	<10	120
AUG 17...	1445	8	90	<1	0	<10	10
30...	1530	9	53	<1	10	3	43
31...	1940	2	27	<1	10	3	63
SEP 01...	0830	4	32	<1	0	2	61

SAN JACINTO RIVER BASIN

123

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUL 08...	<10	7	.2	0	0	9
AUG 17...	<10	47	.0	2	0	22
30...	1	13	.2	1	1	17
31...	2	<1	.1	0	1	<3
SEP 01...	2	6	.1	0	0	13

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUL 08...	0930	.00	.0	.00	.0	.00	.00	.00	.19
AUG 17...	1445	.00	.0	.00	.1	.00	.00	.00	.75
30...	1530	.00	.0	.00	.1	.00	.00	.00	.50

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUL 08...	.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG 17...	.00	.00	.00	.00	.00	.00	.02	.03	.00
30...	.00	.00	.00	.00	.00	.01	.01	.23	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL 08...	.00	.00	.00	.00	0	.00	.03	.00	.00
AUG 17...	.00	.00	.00	.00	0	.00	<.01	.01	.00
30...	.00	.00	.00	.00	0	.00	--	--	--

SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TX

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

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

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.16 ft (2.182 m) National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence. Prior to June 20, 1936, nonrecording gage, and June 20, 1936, to Nov. 25, 1959, water-stage recorder at site 0.8 mi (1.3 km) downstream at same datum.

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

AVERAGE DISCHARGE.--45 years, 119 ft³/s (3.370 m³/s), 86,220 acre-ft/yr (106 hm³/yr).

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

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

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 3	1230	19,400 549	46.70 14.234
Aug. 31	1230	*25,400 719	50.32 25.338

Minimum daily discharge, 80 ft³/s (2.27 m³/s) Apr. 6, 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	89	97	87	249	101	82	81	120	160	100	1560
2	110	91	97	89	114	104	82	84	111	103	100	427
3	98	91	92	88	93	92	83	7340	245	122	104	271
4	94	90	89	91	162	929	89	1790	292	126	101	163
5	93	90	86	94	471	165	81	699	1380	1270	104	129
6	93	96	87	141	290	100	80	218	215	399	103	120
7	89	99	89	109	125	93	81	137	116	2070	106	119
8	88	96	203	90	102	97	80	115	103	438	106	118
9	89	93	660	92	101	89	80	157	93	187	104	111
10	90	95	155	93	147	88	84	181	162	401	113	110
11	90	96	100	90	102	88	89	105	686	322	200	107
12	89	94	92	90	95	102	83	91	619	141	168	109
13	88	91	99	87	89	105	85	91	358	127	176	115
14	90	97	101	168	91	91	81	434	151	112	149	797
15	92	109	149	97	88	88	81	124	112	108	104	340
16	99	106	112	88	90	85	82	104	101	105	101	160
17	102	180	92	88	89	86	83	99	102	105	109	120
18	606	104	93	86	88	84	81	97	95	105	108	110
19	385	94	87	815	86	85	83	91	95	103	1010	105
20	114	94	90	542	84	82	85	85	104	108	297	100
21	96	97	90	146	86	93	87	88	93	104	116	100
22	91	326	92	102	163	86	86	85	99	102	102	100
23	91	180	93	94	102	88	584	84	119	103	99	100
24	87	113	94	93	87	81	292	81	603	104	101	100
25	88	199	82	93	409	82	253	122	516	104	102	100
26	92	523	87	89	186	81	110	96	295	339	107	95
27	145	141	90	106	105	84	85	89	285	369	101	95
28	132	101	90	92	92	84	94	85	205	256	337	95
29	89	97	91	87	---	97	86	91	128	126	165	95
30	86	97	88	85	---	88	82	105	240	106	306	95
31	85	---	90	84	---	83	---	128	---	102	13100	---
TOTAL	3882	3869	3657	4196	3986	3701	3414	13177	7843	8427	18099	6166
MEAN	125	129	118	135	142	119	114	425	261	272	584	206
MAX	606	523	660	815	471	929	584	7340	1380	2070	13100	1560
MIN	85	89	82	84	84	81	80	81	93	102	99	95
AC-FT	7700	7670	7250	8320	7910	7340	6770	26140	15560	16710	35900	12230
(††)	1.63	1.84	1.31	2.15	2.20	1.13	1.61	7.89	6.63	5.16	11.72	2.26

CAL YR 1980 TOTAL 63789 MEAN 174 MAX 4880 MIN 78 AC-FT 126500 †† 34.28
WTR YR 1981 TOTAL 80417 MEAN 220 MAX 13100 MIN 80 AC-FT 159500 †† 45.53

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

SAN JACINTO RIVER BASIN

125

08075000 BRAYS BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
MAR												
11...	1010	76	780	8.0	19.0	5	18	11.0	116	.2	270	K14
JUL												
08...	1030	398	340	7.8	27.5	70	71	6.6	82	7.7	>800000	>600000
AUG												
18...	1215	111	730	8.2	31.0	5	5.9	15.2	200	6.1	130	K18
29...	1615	152	677	7.8	28.0	20	13	7.9	100	23	--	--
29...	1905	161	685	7.7	28.0	30	30	5.2	66	24	--	--
30...	2120	1430	239	7.8	26.0	15	38	7.8	95	18	--	--
31...	1310	24900	80	8.5	24.0	60	160	7.4	87	1.9	150000	40000
31...	1550	18400	104	8.3	24.0	70	130	7.0	82	2.8	220000	48000
SEP												
01...	1040	1420	198	7.8	25.5	60	54	--	--	13	380000	74000
02...	1250	433	360	7.6	29.0	60	60	6.3	82	3.8	1000	20

DATE	TIME	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (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)
MAR													
11...	K4	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
08...	9100	99	0	30	5.8	29	1.3	4.4	110	4.0	24	.2	
AUG													
18...	K16	130	0	38	7.3	110	4.5	5.6	230	40	73	.5	
29...	--	130	0	40	7.4	94	3.8	6.1	200	33	77	.5	
29...	--	120	0	36	7.3	84	3.5	6.9	190	30	68	.5	
30...	--	51	0	16	2.7	25	1.6	3.0	72	5.0	20	.1	
31...	36000	33	2	10	1.9	4.4	.4	2.2	31	5.0	3.5	.1	
31...	20000	40	0	13	1.9	5.1	.4	2.7	40	5.0	7.8	.1	
SEP													
01...	29000	65	0	20	3.7	14	.8	4.2	67	10	16	.1	
02...	330	96	0	29	5.7	34	1.5	5.1	110	12	36	.3	

DATE	TIME	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR													
11...	--	--	--	18	3	2.8	.950	3.7	4.400	.00	.80	3.700	12
JUL													
08...	15	179	130	23	.43	.250	.68	.840	1.2	2.0	.780	8.4	
AUG													
18...	24	437	27	12	1.0	.280	1.3	4.300	1.8	6.1	2.900	8.2	
29...	21	399	102	4	1.0	.380	1.4	4.000	2.7	6.7	1.400	8.8	
29...	20	367	102	25	.90	.300	1.2	4.400	8.6	13	4.600	34	
30...	7.4	122	54	34	.53	.080	.61	1.200	3.3	4.5	1.800	24	
31...	4.2	50	434	15	.18	.020	.20	.120	1.1	1.2	.360	10	
31...	4.4	64	310	8	.18	.030	.21	.210	1.1	1.3	.370	10	
SEP													
01...	9.6	118	392	6	.18	.070	.25	.670	1.8	2.5	.660	14	
02...	15	203	292	10	.41	.220	.63	1.200	1.4	2.6	.760	17	

SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JUL 08...	1030	27	80	<1	10	<10	60
AUG 18...	1215	8	130	<1	0	<10	10
29...	1905	16	110	<1	0	3	24
30...	2120	11	44	<1	0	4	37

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUL 08...	<10	5	.2	0	0	20
AUG 18...	<10	17	.1	1	0	16
29...	2	15	.2	1	1	22
30...	3	<1	.1	0	0	13

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUL 08...	1030	.00	.0	.00	.1	.00	.00	.00	.58
AUG 18...	1215	.00	.0	.00	.1	.00	.00	.00	1.0
29...	1905	.00	.0	.00	.2	.00	.00	.00	.86
30...	2120	.00	.0	.00	.3	.00	.00	.00	.42

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUL 08...	.01	.00	.00	.00	.00	.01	.02	.03	.00
AUG 18...	.01	.00	.00	.00	.00	.01	.04	.01	.00
29...	.02	.00	.00	.00	.00	.01	.05	.26	.00
30...	.02	.00	.00	.00	.01	.02	.02	.51	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL 08...	.00	.00	.00	.00	0	.00	.05	.01	.00
AUG 18...	.00	.00	.00	.00	0	.00	.19	.02	.00
29...	.00	.00	.00	.00	0	.00	1.5	.01	.00
30...	.00	.00	.00	.00	0	.00	.12	.02	.01

SAN JACINTO RIVER BASIN

127

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

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

DRAINAGE AREA.--106 mi² (275 km²).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: May 1971 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
MAY 04...	0925	1320	270	7.4	22.0	120	58	7.5	85	12	2200000	460000	
DATE	TIME	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LILITY (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)
MAY 04...	130000	86	9	27	4.4	22	1.0	4.4	77	22	18	.2	
DATE	TIME	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY 04...	9.8	154	128	10	.99	.110	1.1	.590	1.6	2.2	.830	18	

SAN JACINTO RIVER BASIN

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX

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

DRAINAGE AREA.--20.2 mi² (52.3 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Water-discharge records fair. Channel bed was lowered 5 to 6 ft (1.5 to 1.8 m) during rectification of 1978. No known diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Records furnished by Houston Lighting and Power Co. show that during the current year, about 553 acre-ft (682,000 m³) of ground water was used for cooling purposes then released to the bayou about 300 ft (90 m) upstream from gage. Rain gage and gage-height telemeters located at station.

AVERAGE DISCHARGE.--16 years (water years 1965-78, 1980-81), 27.7 ft³/s (0.784 m³/s), 20,070 acre-ft/yr (24.7 hm³/yr).

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

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)
May 3	1145	3,320 94.0	51.83 15.798	Aug. 31	1330	*3,820 108	54.58 16.636
July 7	1230	709 20.1	43.12 13.143	Sept. 14	1715	1,040 29.5	46.09 14.048

Minimum daily discharge, 9.6 ft³/s (0.27 m³/s) Apr. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	12	11	14	28	12	11	16	17	16	17	431
2	28	13	12	13	18	12	12	16	17	13	17	165
3	21	14	10	11	14	11	12	1450	43	13	18	73
4	19	12	14	11	19	125	14	544	29	12	47	33
5	15	12	12	11	67	38	12	98	150	66	21	22
6	15	13	12	12	77	16	10	38	34	40	17	18
7	18	11	15	13	22	15	10	23	16	345	16	16
8	13	13	19	12	17	13	10	19	13	102	16	14
9	13	13	97	11	16	13	9.6	34	13	38	16	14
10	13	12	32	11	37	16	10	54	15	23	14	12
11	14	13	16	11	18	14	11	21	83	24	18	12
12	16	12	14	12	17	16	10	15	113	18	22	12
13	14	12	14	12	17	20	14	14	84	17	54	13
14	14	14	15	22	14	16	12	52	29	17	37	294
15	16	14	19	15	13	13	12	20	20	15	19	158
16	13	13	17	12	13	12	12	16	18	15	15	33
17	14	17	12	12	12	13	12	17	16	15	86	19
18	57	12	12	13	12	12	12	17	14	17	96	15
19	53	12	11	99	11	17	12	16	14	16	93	15
20	16	14	10	129	11	16	14	15	15	15	65	14
21	14	15	11	31	12	16	11	14	14	16	18	13
22	13	34	11	20	13	14	12	14	14	15	16	14
23	12	31	10	14	11	13	62	16	36	15	15	14
24	12	18	11	11	13	15	37	16	83	15	13	13
25	12	24	11	9.8	33	13	56	20	45	16	13	12
26	12	63	10	10	24	14	58	15	50	61	13	16
27	13	20	10	16	14	13	20	14	60	103	13	15
28	14	12	11	16	12	13	17	17	26	61	13	17
29	14	15	10	14	---	14	14	15	26	24	14	14
30	12	12	10	12	---	12	15	15	21	18	39	12
31	13	---	12	11	---	12	---	15	---	17	2350	---
TOTAL	615	502	491	620.8	585	569	533.6	2666	1128	1198	3221	1523
MEAN	19.8	16.7	15.8	20.0	20.9	18.4	17.8	86.0	37.6	38.6	104	50.8
MAX	92	63	97	129	77	125	62	1450	150	345	2350	431
MIN	12	11	10	9.8	11	11	9.6	14	13	12	13	12
AC-FT	1220	996	974	1230	1160	1130	1060	5290	2240	2380	6390	3020
(††)	.87	1.87	1.39	2.05	2.04	1.78	1.58	8.12	6.48	5.10	12.38	2.86

CAL YR 1980 TOTAL 12334.3 MEAN 33.7 MAX 1430 MIN 7.7 AC-FT 24470 †† 33.07
WTR YR 1981 TOTAL 13652.4 MEAN 37.4 MAX 2350 MIN 9.6 AC-FT 27080 †† 46.52

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

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

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
DATE	TIME											
MAR 11...	1050	14	1000	7.8	18.0	10	24	8.3	86	1.9	40	K7
MAY 04...	1420	343	180	7.8	25.0	120	94	5.6	--	9.6	400000	16000
JUL 08...	1120	85	420	7.8	28.0	80	70	6.7	84	3.9	500	22
AUG 17...	1340	13	810	8.6	33.0	10	17	13.6	186	5.2	--	--
DATE	100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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)
MAR 11...	20	--	--	--	--	--	--	--	--	--	--	--
MAY 04...	1400	59	0	18	3.5	14	.8	3.7	61	3.4	13	.1
JUL 08...	370	100	0	30	6.0	40	1.7	4.3	100	15	54	.2
AUG 17...	--	140	0	40	8.5	120	4.7	5.2	240	51	76	.5
DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR 11...	--	--	29	0	1.9	.160	2.1	1.900	1.6	3.5	3.400	12
MAY 04...	8.3	101	300	20	.25	.060	.31	.210	2.3	2.5	.720	17
JUL 08...	14	224	130	46	.19	.100	.29	.730	1.1	1.8	1.300	11
AUG 17...	24	470	28	6	3.0	.220	3.2	.980	1.2	2.2	1.600	5.6
				ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)			
JUL 08...				1120	11	90	<1	10	<10	60		
AUG 17...				1340	8	110	<1	0	<10	14		
				LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)			
JUL 08...				<10	20	.2	0	0	8			
AUG 17...				<10	17	.1	0	0	9			

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUL 08...	1120	.00	.0	.00	.1	.00	.00	.00	.33
AUG 17...	1340	.00	.0	.00	.0	.00	.00	.00	.48

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUL 08...	.00	.00	.00	.00	.00	.01	.01	.27	.00
AUG 17...	.01	.00	.00	.00	.00	.01	.02	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL 08...	.00	.00	.00	.00	0	.00	.14	.00	.00
AUG 17...	.00	.00	.00	.00	0	.00	.03	.01	.00

08075500 SIMS BAYOU AT HOUSTON, TX

Location.--Lat 29°40'27", long 95°17'21", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on State Highway 35 in southeast Houston and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--63.0 mi² (163.2 km²). Prior to Oct. 1, 1976, 64.0 mi² (165.8 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1922: 1960. WDR TX-76-2: 1975(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.09 ft (0.942 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Low flow is largely sustained by sewage effluent from Houston suburbs and industrial wastes. Rainfall and gage-height telemeter at station.

AVERAGE DISCHARGE.--29 years, 80.8 ft³/s (2.288 m³/s), 58,540 acre-ft/yr (72.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s (317 m³/s) June 9, 1975, and June 16, 1976; maximum gage height, 33.17 ft (10.110 m) June 9, 1975; minimum daily, 0.9 ft³/s (0.025 m³/s) Aug. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62.3 m³/s) and maximum (*):

Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
May 4	a0100	7,470	212	29.90	9.114
June 5	a0900	7,340	208	30.11	9.178
Aug. 31	1700	*8,610	244	31.89	9.720

a About.

Minimum daily discharge, 30 ft³/s (0.85 m³/s) Apr. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	45	47	46	74	44	34	32	35	51	39	2190
2	62	45	45	49	59	45	33	31	42	39	36	278
3	50	46	45	44	45	42	36	2950	260	54	35	174
4	47	44	46	42	63	433	38	3010	350	46	39	95
5	46	42	48	43	165	120	36	348	3550	203	60	66
6	71	41	46	54	205	52	32	98	427	175	36	55
7	45	42	46	52	73	44	30	61	78	820	34	49
8	44	41	54	44	53	43	32	51	49	259	33	49
9	42	42	184	45	48	42	33	82	41	87	34	48
10	40	43	90	45	75	42	33	102	40	73	33	44
11	39	43	59	42	57	41	33	54	232	70	34	41
12	40	42	48	42	45	42	34	41	256	46	58	41
13	41	42	46	41	43	47	32	41	289	42	88	42
14	40	43	46	64	44	46	36	123	88	42	78	339
15	41	44	55	51	43	37	32	53	51	40	53	547
16	42	49	57	45	45	36	31	39	139	38	36	100
17	45	68	45	39	44	36	33	38	121	37	72	56
18	112	51	41	41	44	40	32	37	51	37	162	44
19	124	46	40	198	42	36	34	36	40	37	450	44
20	51	47	39	340	41	40	34	37	37	36	242	45
21	49	51	39	82	44	44	33	38	33	41	58	47
22	45	96	42	54	52	39	33	36	33	41	40	46
23	42	92	42	47	44	37	97	34	35	35	37	48
24	44	61	41	44	41	41	72	35	571	35	37	46
25	42	57	42	42	102	40	69	57	506	35	36	45
26	45	158	42	42	80	37	87	38	180	550	37	42
27	43	68	42	61	48	37	44	33	215	320	39	41
28	42	55	44	59	44	35	35	33	96	177	34	43
29	45	52	44	42	---	40	35	34	60	64	38	40
30	48	51	42	42	---	37	32	32	103	45	44	36
31	46	---	42	42	---	35	---	34	---	39	5740	---
TOTAL	1647	1647	1589	1924	1763	1730	1205	7668	8008	3614	7792	4781
MEAN	53.1	54.9	51.3	62.1	63.0	55.8	40.2	247	267	117	251	159
MAX	134	158	184	340	205	433	97	3010	3550	820	5740	2190
MIN	39	41	39	39	41	35	30	31	33	35	33	36
AC-FT	3270	3270	3150	3820	3500	3430	2390	15210	15880	7170	15460	9480
(††)	1.02	1.79	1.09	2.24	2.16	1.60	1.42	6.26	10.14	5.90	10.59	2.36

CAL YR 1980 TOTAL 35657 MEAN 97.4 MAX 4790 MIN 34 AC-FT 70730 †† 34.82
WTR YR 1981 TOTAL 43368 MEAN 119 MAX 5740 MIN 30 AC-FT 86020 †† 46.57

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

SAN JACINTO RIVER BASIN

08075500 SIMS BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
MAR 11...	1150	41	1030	7.7	17.0	10	29	5.4	55	7.9	500000	36000
MAY 04...	1530	1340	220	7.7	23.5	140	88	4.5	--	5.8	560000	46000
JUN 05...	1130	6980	145	8.3	23.5	80	200	6.3	74	4.4	460000	125000
JUN 06...	1150	272	350	7.7	27.0	100	120	5.2	64	6.1	620000	55000
JUL 08...	1310	193	410	7.8	27.0	100	85	6.1	75	5.4	600000	30000
AUG 17...	1625	31	880	8.2	33.5	10	19	7.0	97	5.0	--	--

DATE	TIME	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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)
MAR 11...	1000	--	--	--	--	--	--	--	--	--	--	--	--
MAY 04...	20000	69	5	21	3.9	19	1.0	3.8	64	6.6	20	.1	.1
JUN 05...	120000	36	0	11	2.0	12	.9	2.2	41	1.4	13	.1	.1
JUN 06...	25000	--	--	--	--	--	--	--	--	--	--	--	--
JUL 08...	11000	98	0	29	6.3	45	2.0	3.9	110	30	42	.2	.2
AUG 17...	--	140	0	40	9.5	120	4.7	4.6	210	49	110	.5	.5

DATE	TIME	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR 11...	--	--	--	43	0	1.8	.270	2.1	2.800	2.0	4.8	3.100	8.2
MAY 04...	9.2	122	208	7	.38	.070	.45	.320	1.2	1.5	.580	17	17
JUN 05...	4.6	71	182	26	.21	.030	.24	.290	.71	1.0	.350	15	15
JUN 06...	--	--	74	36	.53	.060	.59	.240	1.2	1.4	.690	17	17
JUL 08...	15	237	186	50	.50	.110	.61	.440	1.2	1.6	.850	13	13
AUG 17...	19	479	34	5	3.7	.260	4.0	.360	1.0	1.4	3.400	6.8	6.8

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JUN 05...	1130	4	200	<1	0	<10	60
JUL 08...	1310	10	80	<1	10	<10	90
AUG 17...	1625	7	110	<1	0	<10	<10

SAN JACINTO RIVER BASIN

133

08075500 SIMS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN 05...	<10	2	.1	0	0	5
JUL 08...	<10	10	.2	0	0	10
AUG 17...	<10	55	.0	0	0	10

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUN 05...	1130	.00	.0	.00	.1	.00	.00	.00	.17
JUL 08...	1310	.00	.0	.00	.1	.00	.00	.00	.23
AUG 17...	1625	.00	.0	.00	.1	.00	.00	.00	.19

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUN 05...	.01	.00	.00	.00	.00	.00	.00	.00	.00
JUL 08...	.00	.00	.00	.00	.00	.00	.00	.05	.00
AUG 17...	.01	.00	.00	.00	.00	.01	.01	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 05...	.00	.00	.00	.00	0	.00	.05	.01	.00
JUL 08...	.00	.00	.00	.00	0	.00	.08	.07	.00
AUG 17...	.00	.00	.00	.00	0	.00	.06	.02	.00

SAN JACINTO RIVER BASIN

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'35", long 95°14'37", Harris County, Hydrologic Unit 12040104, at gaging station at Forest Oaks Street Bridge in southeast Houston, 0.8 mi (1.3 km) upstream from auxiliary gage at mouth of Berry Creek, and 1.7 mi (2.7 km) upstream from Sims Bayou.

DRAINAGE AREA.--10.7 mi² (27.7 km²). Prior to Oct. 1, 1973, 11.1 mi² (28.7 km²). Oct. 1, 1976, to Dec. 31, 1977, 10.1 mi² (26.2 km²). Drainage ditch relocations resulted in drainage area changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year. April 1964 to September 1966 operated as a daily discharge station.

REVISED RECORDS.--WRD TX-80-2: 1979(P).

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 2.72 ft (0.829 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment. Auxiliary water-stage recorder 0.8 mi (1.3 km) downstream at same datum. June 25, 1964, to Jan. 11, 1965, auxiliary nonrecording gage 0.8 mi (1.3 km) downstream at same datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s (144 m³/s), corrected, June 9, 1975; maximum gage height, 23.85 ft (7.269 m) Sept. 20, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft³/s (25.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 3	1945	*4,950 140	a22.73 6.928	June 5	0700	4,660 132	a20.29 6.184
June 3	0215	1,380 39.1	a13.15 4.008	Aug. 31	b1400	b3,000 85.0	a20.16 6.145

a Not at same time as peak discharge.

b About.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to September 1981 (discontinued).
Water temperatures: April 1964 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. PER (COLS./ 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
MAY 04...	1120	325	166	7.3	21.5	50	33	3.9	44	9.3	540000	100000	
JUN 05...	1015	2810	93	8.0	23.5	60	52	6.1	72	4.0	400000	100000	
05...	1450	1210	125	7.8	25.5	60	41	5.0	61	4.7	420000	120000	
06...	1055	35	291	7.4	27.0	80	18	4.9	60	5.9	520000	160000	
DATE	TIME	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY DIS- SOLVED (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)
MAY 04...	48000	60	6	19	3.0	10	.6	3.6	54	3.5	9.2	.1	
JUN 05...	100000	34	0	11	1.5	4.9	.4	1.9	38	1.5	4.3	.1	
05...	64000	--	--	--	--	--	--	--	--	--	--	--	
06...	9700	--	--	--	--	--	--	--	--	--	--	--	
DATE	TIME	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	
MAY 04...	5.7	86	86	4	.47	.080	.55	.260	2.0	2.3	.630	16	
JUN 05...	4.2	53	145	25	.18	.010	.19	.110	1.1	1.2	.310	16	
05...	--	--	29	22	.17	.020	.19	.140	.96	1.1	.340	14	
06...	--	--	93	28	.34	.080	.42	.500	1.2	1.7	.600	10	

SAN JACINTO RIVER BASIN

135

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)			
DATE	TIME									
JUN 05...	1015	4	200	<1	10	<10	110			
		LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)			
DATE	TIME									
JUN 05...		<10	2	.1	0	0	10			
		PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	
DATE	TIME									
JUN 05...	1015	.00	.0	.00	.1	.00	.00	.00	.24	
		DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
DATE	TIME									
JUN 05...	.02	.00	.00	.00	.01	.02	.00	.04	.00	
		METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DATE	TIME									
JUN 05...	.00	.00	.00	.00	0	.00	.07	.01	.00	

SAN JACINTO RIVER BASIN

08075730 VINCE BAYOU AT PASADENA, TX

LOCATION.--Lat 29°41'40", long 95°12'58", Harris County, Hydrologic Unit 12040104, on right bank of concrete lined channel at end of West Ellaine Avenue in Pasadena and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--7.32 mi² (18.96 km²). Prior to Jan. 1, 1978, 8.21 mi² (21.26 km²). Jan. 1 to Sept. 30, 1978, 7.61 mi² (19.71 km²). Drainage area revisions due to drainage ditch changes.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.54 ft (0.774 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence (levels by Corps of Engineers).

REMARKS.--Records fair. Low flow is sustained by sewage effluent.

AVERAGE DISCHARGE.--10 years, 17.4 ft³/s (0.493 m³/s), 12,610 acre-ft/yr (15.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,720 ft³/s (134 m³/s) May 3, 1981, gage height, 18.30 ft (5.578 m); no flow Aug. 5, 6, 18, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft³/s (39.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)
May 3	1900	*4,720 134	18.30 5.578	June 5	0715	3,590 102	16.84 5.133
June 3	0200	1,580 44.7	13.57 4.136	Aug. 31	1245	3,340 94.6	16.49 5.026

Minimum daily discharge, 0.08 ft³/s (0.002 m³/s) July 21, 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	.48	.50	1.1	30	.80	.56	.44	50	1.3	.10	70
2	.38	.48	.42	.88	3.0	.70	.56	.35	5.2	.28	.10	33
3	.26	.29	.46	1.2	1.0	1.0	.35	1230	228	.63	.10	29
4	.19	.31	.48	.91	10	15	1.5	233	64	.21	6.0	4.4
5	.19	.41	.74	1.0	40	3.0	.83	16	1010	28	3.0	1.8
6	.90	.30	.46	6.0	5.0	1.5	.44	4.4	41	7.4	1.0	3.2
7	.90	.48	.65	2.3	.90	3.0	.56	1.5	6.6	154	.50	3.1
8	.46	.56	16	1.1	.70	1.3	.44	.83	2.0	18	.40	1.0
9	.11	.40	53	1.3	5.6	.60	.56	18	.44	2.8	.35	1.0
10	.19	.38	3.6	.86	10	.50	.56	4.0	1.1	61	.32	1.0
11	.15	.45	1.3	.71	1.7	.40	.35	.83	161	6.8	.56	.89
12	.11	.30	.86	.70	.79	.40	.35	.35	196	.66	.38	1.0
13	.22	.30	.84	.65	.76	.40	.30	.30	101	.31	.46	.77
14	.19	.55	.77	9.2	.84	.35	.35	13	13	.23	5.8	86
15	.15	.30	3.3	1.7	.81	.35	1.0	1.7	4.0	.22	.45	14
16	.56	6.5	1.5	1.1	1.0	.35	.44	.44	2.8	.28	.54	2.3
17	.38	.60	.98	1.2	1.1	.35	.30	.30	1.6	.25	71	2.0
18	42	.40	.93	1.2	1.3	.56	.30	.30	.27	.59	14	.23
19	9.3	.40	1.1	88	1.2	.44	.35	.30	.13	.09	83	.17
20	.60	.30	1.2	33	1.2	.44	.35	.30	.09	.09	7.6	.14
21	.25	.30	1.1	2.0	3.0	5.2	.68	.25	.09	.08	.37	.21
22	.20	20	1.2	1.3	1.5	2.2	.56	.25	.10	.09	.11	.13
23	.40	2.0	.72	.68	1.3	.83	67	.25	.11	.08	.09	.14
24	.20	.50	1.0	.63	1.2	.56	8.8	.25	9.0	.08	.09	.25
25	.35	9.0	.93	.54	20	1.0	6.1	14	2.2	.10	.13	.14
26	.30	3.0	1.2	.49	3.0	.25	6.6	1.7	19	64	.24	.11
27	.25	1.0	1.4	42	1.5	.30	1.7	.35	46	74	.17	.10
28	3.5	.40	1.4	6.0	1.0	.35	.68	.21	26	2.9	.09	.19
29	1.5	.50	1.1	1.0	---	1.7	.44	.17	1.7	.21	4.1	.14
30	.38	.40	1.0	.70	---	1.2	.44	.30	42	.10	12	.16
31	.26	---	.87	1.7	---	.68	---	.68	---	.10	797	---
TOTAL	66.93	51.29	101.01	211.15	149.40	45.71	103.45	1544.75	2034.43	424.88	1010.05	256.57
MEAN	2.16	1.71	3.26	6.81	5.34	1.47	3.45	49.8	67.8	13.7	32.6	8.55
MAX	42	20	53	88	40	15	67	1230	1010	154	797	86
MIN	.11	.29	.42	.49	.70	.25	.30	.17	.09	.08	.09	.10
AC-FT	133	102	200	419	296	91	205	3060	4040	843	2000	509
(††)	1.38	1.80	1.01	2.95	2.28	.89	1.62	9.73	13.84	5.12	8.78	2.10

CAL YR 1980 TOTAL 3585.04 MEAN 9.80 MAX 642 MIN .08 AC-FT 7110 †† 32.10
WTR YR 1981 TOTAL 5999.62 MEAN 16.4 MAX 1230 MIN .08 AC-FT 11900 †† 51.50

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

SAN JACINTO RIVER BASIN

137

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°48'22", long 95°19'50", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Falls Street in northeast Houston.

DRAINAGE AREA.--2.57 mi² (6.66 km²). Oct. 1, 1973, to Sept. 30, 1978, 2.75 mi² (7.12 km²). Prior to Oct. 1, 1973, 3.50 mi² (9.07 km²). Drainage area changes due to changes in storm sewers.

WATER-DISCHARGE RECORDS

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

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 778 ft³/s (22.0 m³/s) June 13, 1973, elevation, 46.70 ft (14.234 m); maximum elevation, 47.35 ft (14.432 m) Sept. 1, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.08 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)
May 3	2300	367 10.4	43.15 13.152	July 5	1445	452 12.8	44.26 13.490
June 5	0845	534 15.1	44.97 13.707	Aug. 31	1215	*664 18.8	45.97 14.012

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
FEB													
24...	0950	.56	1140	7.0	15.0	20	4.3	2.1	20	11	1400000	440000	
JUN													
02...	0940	.79	539	7.2	27.0	40	24	.8	10	>85	1100000	300000	
JUL													
06...	1100	11	468	7.3	25.0	40	28	2.2	26	11	>800000	>600000	
07...	1110	54	280	7.7	25.0	50	71	4.3	51	13	3600000	660000	
08...	1345	4.2	790	7.6	28.5	40	11	.4	5	24	>800000	>600000	
08...	1630	22	460	7.7	28.5	30	56	3.7	47	20	--	--	
09...	1030	2.2	981	7.7	27.5	40	16	.9	11	16	>800000	>600000	
AUG													
18...	1000	.45	840	7.5	28.0	20	3.1	2.1	27	6.5	84000	10000	
		STREP- TOCOCCL FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FEB													
24...	5800	--	--	--	--	--	--	--	--	--	--	--	
JUN													
02...	7300	120	0	37	5.9	59	2.4	4.6	140	29	60	.3	
JUL													
06...	>1000000	--	--	--	--	--	--	--	--	--	--	--	
07...	>1000000	90	0	30	3.6	17	.8	4.5	97	6.0	17	.2	
08...	120000	220	0	67	13	72	2.1	4.9	260	43	52	.6	
08...	--	140	0	43	6.8	36	1.3	3.9	140	29	33	.3	
09...	78000	250	0	77	15	97	2.6	5.2	270	42	110	.5	
AUG													
18...	25000	170	0	49	12	110	3.9	4.5	270	29	83	.6	

SAN JACINTO RIVER BASIN

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB 24...	--	--	10	5	2.8	.250	3.0	2.90	1.3	4.20	3.30	26
JUN 02...	9.5	289	153	32	.00	.000	.00	5.00	4.9	9.90	2.30	21
JUL 06...	--	--	39	14	.34	.120	.46	1.70	1.6	3.30	1.40	11
07...	8.7	146	144	24	.47	.100	.57	.920	3.2	4.10	.850	19
08...	18	428	12	13	.00	.050	.05	6.40	.60	7.00	1.90	20
08...	11	247	108	26	.14	.080	.22	2.40	3.7	6.10	.740	18
09...	19	529	6	10	.00	.030	.03	2.30	4.3	6.60	2.40	17
AUG 18...	17	468	14	9	--	.030	<.09	2.00	.90	2.90	4.20	9.4

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JUN 02...	0940	280	300	<1	0	<10	850
JUL 07...	1110	5	60	<1	10	<10	80
08...	1345	7	200	<1	0	<10	790
08...	1630	4	100	<1	10	<10	40
09...	1030	20	100	<1	0	<10	70
AUG 18...	1000	9	60	<1	0	<10	24

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN 02...	18	270	.0	0	0	30
JUL 07...	<10	40	.1	0	0	80
08...	<10	270	.1	0	1	20
08...	<10	130	.1	0	0	20
09...	<10	370	.1	0	0	40
AUG 18...	<10	170	.1	0	0	12

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUN 02...	0940	.00	.00	.00	.00	.00	.00	.00	.00
JUL 07...	1110	.00	.00	.00	.00	.00	.00	.00	.16
08...	1345	.00	.00	.00	.10	.00	.00	.00	.29
08...	1630	.00	.00	.00	.00	.00	.00	.00	.16
09...	1030	.00	.00	.00	.00	.00	.00	.00	--
AUG 18...	1000	.00	.00	.00	.00	.01	.00	.00	.06

SAN JACINTO RIVER BASIN

139

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUN 02...	.00	.00	.00	.00	.00	.00	.00	12	.00
JUL 07...	.00	.00	.00	.00	.00	.00	.00	.71	.00
08...	.00	.00	.00	.00	.00	.01	.00	.06	.00
08...	.00	.02	.00	.00	.00	.00	.00	.34	.00
09...	.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG 18...	.00	.00	.00	.00	.00	.00	.00	.03	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 02...	.00	.00	.00	.00	0	.00	.65	.17	.00
JUL 07...	.00	.00	.00	.00	0	.00	.10	.02	.00
08...	.00	.00	.00	.00	0	.00	.20	.05	.00
08...	.00	.00	.00	.00	0	.00	.04	.00	.00
09...	.00	.00	.00	.00	0	.00	.19	.06	.00
AUG 18...	.00	.00	.00	.00	0	.00	.03	.00	.00

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX

LOCATION.--Lat 29°47'35", long 95°16'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of downstream service road bridge of Interstate Highway 610 in northeast Houston and 8.8 mi (14.2 km) upstream from mouth.

DRAINAGE AREA.--15.8 mi² (40.9 km²). Prior to Oct. 1, 1973, 16.8 mi² (43.5 km²). Oct. 1, 1973, to Sept. 30, 1978, 14.7 mi² (38.1 km²). Changes due to storm sewer relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year. Prior to October 1973, published as "U.S. Highway 90-A, Houston".

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence. Prior to Oct. 1, 1972, water-stage recorder at site 1,800 ft (549 m) upstream at same datum.

REMARKS.--Water-discharge records good. Low flow is largely maintained by sewage and industrial effluent. Recording rain gage at station.

AVERAGE DISCHARGE.--17 years, 23.2 ft³/s (0.657 m³/s), 16,810 acre-ft/yr (20.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,380 ft³/s (95.7 m³/s) June 13, 1973, elevation, 38.11 ft (11.616 m); maximum gage height, 39.28 ft (11.973 m) June 15, 1976; minimum daily, 0.88 ft³/s (0.025 m³/s) Aug. 24, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)
May 3	2130	2,100 59.5	35.77 10.903	July 5	1830	1,080 30.6	32.30 9.845
June 5	1030	*2,600 73.6	37.35 11.384	Aug. 31	1500	1,960 55.5	36.06 10.991

Minimum daily discharge, 2.8 ft³/s (0.079 m³/s) Jan. 2, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	4.2	6.0	3.0	19	7.7	4.8	5.3	13	8.9	4.8	247
2	5.6	4.0	6.6	2.8	8.3	8.0	4.9	9.2	12	11	4.6	25
3	5.0	4.0	5.9	2.9	6.0	5.6	4.6	682	139	14	4.4	14
4	4.7	3.9	5.5	2.9	16	152	5.7	772	78	11	4.2	9.7
5	4.6	3.6	5.8	3.0	60	19	4.8	153	1260	362	16	7.1
6	4.1	3.6	5.7	7.2	50	10	4.0	28	193	240	6.9	5.9
7	4.3	3.5	5.1	5.5	12	8.1	4.4	17	40	247	4.6	5.2
8	4.6	3.6	16	4.2	8.6	7.4	6.1	12	32	125	4.1	5.0
9	4.7	3.7	106	4.3	7.8	6.8	6.0	20	9.1	47	3.7	4.9
10	4.9	3.9	12	4.2	19	6.3	4.5	33	10	44	3.7	4.7
11	4.6	3.6	4.9	3.6	8.2	6.7	4.4	12	72	58	3.5	4.6
12	4.4	3.5	5.0	3.6	7.1	6.6	4.3	9.5	105	20	3.6	4.3
13	4.6	3.5	3.9	3.6	6.5	6.9	4.2	9.1	139	38	7.0	3.8
14	4.7	4.0	3.7	4.2	6.0	5.6	4.5	23	29	49	16	70
15	4.6	3.9	4.5	3.6	5.9	5.3	4.3	11	15	20	6.9	28
16	4.8	5.7	4.5	3.5	5.9	5.2	4.2	11	20	12	4.1	16
17	4.7	11	3.5	3.1	5.2	5.3	4.0	9.7	14	8.8	3.8	6.0
18	44	4.4	3.5	2.8	5.1	5.2	4.0	9.6	9.4	7.6	3.7	4.8
19	26	3.9	4.1	64	5.1	4.9	3.9	10	8.0	6.9	5.8	4.4
20	8.0	4.1	3.2	54	5.0	4.8	3.7	9.6	6.9	6.2	4.0	4.4
21	6.0	3.9	3.2	11	5.5	7.8	3.7	9.5	6.6	5.9	3.5	4.3
22	5.5	30	3.5	6.5	11	8.9	3.9	9.8	6.3	5.6	3.5	5.0
23	5.0	12	3.1	5.4	5.4	5.1	129	10	5.7	5.6	3.5	4.4
24	4.7	6.2	3.5	5.1	5.0	5.2	36	9.8	59	6.6	3.6	4.1
25	4.3	12	3.3	4.9	32	4.8	11	15	23	5.6	3.5	4.5
26	4.0	55	3.5	4.9	14	5.1	6.4	9.5	13	17	3.6	3.8
27	25	9.5	4.0	16	8.0	5.1	5.2	7.4	13	21	5.2	3.4
28	12	7.2	3.8	7.9	7.3	5.0	8.3	7.6	34	6.5	3.8	3.7
29	4.6	5.9	3.7	5.5	---	6.8	7.1	7.5	13	5.6	4.2	3.3
30	3.9	5.7	3.6	5.1	---	5.2	5.2	9.1	11	5.1	6.5	3.1
31	3.9	---	3.5	5.2	---	4.8	---	9.3	---	5.0	1130	---
TOTAL	240.9	233.0	254.1	263.5	354.9	351.2	307.1	1950.5	2389.0	1425.9	1286.3	514.4
MEAN	7.77	7.77	8.20	8.50	12.7	11.3	10.2	62.9	79.6	46.0	41.5	17.1
MAX	44	55	106	64	60	152	129	772	1260	362	1130	247
MIN	3.9	3.5	3.1	2.8	5.0	4.8	3.7	5.3	5.7	5.0	3.5	3.1
AC-FT	478	462	504	523	704	697	609	3870	4740	2830	2550	1020
(††)	2.40	2.11	1.47	2.05	2.71	1.93	1.90	7.40	11.13	6.54	8.38	1.24
CAL YR 1980	TOTAL	7700.5	MEAN	21.0	MAX	959	MIN	2.8	AC-FT	15270	††	66.05
WTR YR 1981	TOTAL	9570.8	MEAN	26.2	MAX	1260	MIN	2.8	AC-FT	18980	††	49.26

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

SAN JACINTO RIVER BASIN

141

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
DATE	TIME												
FEB 24...	1130	4.7	793	7.3	16.5	15	2.1	5.4	54	5.6	14000	2000	
JUN 02...	1100	9.8	750	7.8	27.5	40	19	.9	11	70	1400000	290000	
JUL 06...	1150	207	237	7.5	25.0	60	32	4.2	50	4.0	1500000	400000	
07...	1155	284	300	7.6	25.0	60	45	4.8	57	6.9	1100000	140000	
08...	1410	73	410	7.8	28.0	50	48	5.5	69	6.9	1200000	540000	
08...	1710	124	390	7.6	28.5	60	65	4.5	57	10	--	--	
09...	1055	46	454	7.4	28.0	60	22	4.2	52	5.1	54000	8000	
AUG 18...	1110	3.6	722	7.6	29.0	20	10	7.4	95	6.6	9700	2200	
		STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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)
DATE	TIME												
FEB 24...	130	--	--	--	--	--	--	--	--	--	--	--	--
JUN 02...	17000	160	0	50	8.9	86	2.9	5.4	220	31	73	.5	
JUL 06...	30000	--	--	--	--	--	--	--	--	--	--	--	--
07...	>1000000	100	8	33	4.4	17	.7	3.4	93	27	14	.3	
08...	16000	150	8	48	6.9	27	1.0	3.8	140	41	20	.3	
08...	--	140	3	46	6.7	27	1.0	3.6	140	35	20	.3	
09...	2800	160	0	50	8.2	32	1.1	3.7	170	36	22	.3	
AUG 18...	750	170	0	52	10	80	2.8	5.5	200	61	66	.4	
		SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DATE	TIME												
FEB 24...	--	--	7	3	.24	.040	.28	8.400	1.4	9.8	3.000	21	
JUN 02...	13	401	115	31	.02	.000	.02	3.000	5.3	8.3	3.100	12	
JUL 06...	--	--	49	15	.52	.080	.60	.550	1.2	1.7	.500	8.2	
07...	10	165	78	25	.74	.090	.83	1.200	.80	2.0	.960	15	
08...	15	246	87	15	.51	.100	.61	1.000	1.4	2.4	.780	12	
08...	14	237	135	31	.49	.090	.58	1.100	1.0	2.1	.770	12	
09...	17	271	24	13	.56	.080	.64	1.700	1.1	2.8	1.400	12	
AUG 18...	13	408	23	14	.65	.450	1.1	5.400	2.8	8.2	1.700	11	

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC, DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM, DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JUN							
02...	1100	18	300	<1	10	<10	250
JUL							
07...	1155	10	70	<1	10	<10	100
08...	1410	10	100	<1	20	<10	90
08...	1710	10	100	<1	10	<10	90
09...	1055	22	100	<1	0	<10	90
AUG							
18...	1110	14	90	<1	0	<10	31

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY, DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN						
02...	<10	320	.1	0	0	8
JUL						
07...	<10	10	.2	0	1	40
08...	<10	4	.2	0	0	30
08...	<10	60	.2	0	0	40
09...	<10	10	.1	0	0	30
AUG						
18...	<10	180	.0	0	0	18

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUN									
02...	1100	.00	.0	.00	.0	.00	.00	.00	.23
JUL									
07...	1155	.00	.0	.00	.0	.00	.00	.00	.09
08...	1410	.00	.0	.00	.1	.00	.00	.00	.12
08...	1710	.00	.0	.00	.0	.00	.00	.00	.21
09...	1055	.00	.0	.00	.0	.00	.00	.00	.12
AUG									
18...	1110	.00	.0	.00	.0	.01	.00	.00	.40

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUN									
02...	.00	.00	.00	.00	.00	.00	.00	.84	.00
JUL									
07...	.00	.00	.00	.00	.00	.00	.00	.44	.00
08...	.00	.00	.00	.00	.00	.00	.00	.60	.00
08...	.00	.00	.00	.00	.00	.00	.00	1.2	.00
09...	.00	.00	.00	.00	.00	.00	.00	.23	.00
AUG									
18...	.00	.00	.00	.00	.00	.00	.01	.04	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN									
02...	.00	.00	.00	.00	0	.00	>.47	>.10	.00
JUL									
07...	.00	.00	.00	.00	0	.00	.08	.01	.00
08...	.00	.00	.00	.00	0	.00	.04	.01	.00
08...	.00	.00	.00	.00	0	.00	.04	.01	.00
09...	.00	.00	.00	.00	0	.00	.04	.01	.00
AUG									
18...	.00	.00	.00	.00	0	.00	.96	.06	.00

08075900 GREENS BAYOU AT U.S. HIGHWAY 75 NEAR HOUSTON, TX

LOCATION.--Lat 29°57'24", long 95°25'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of U.S. Highway 75 bridge, 9.0 mi (14.5 km) upstream from station 08076000 21 mi (34 km) upstream from Halls Bayou.

DRAINAGE AREA.--36.1 mi² (93.5 km²). Prior to October 1973, 34.8 mi² (90.1 km²).

PERIOD OF RECORD.--August 1965 to current year (discharge measurements and supplemental peak discharges only, Oct. 1, 1980, to Mar. 26, 1981).

REVISED RECORDS.--WDR TX-76-1: Drainage area.

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

REMARKS.--Records fair. Channel was rectified (widened and bed lowered about 2 ft) in 1980-81. Records furnished by Houston Lighting and Power Co. show that about 2,090 acre-ft (2.58 hm³) of ground water used for cooling purposes was released to bayou about 8 mi (13 km) upstream from gage during the current year. No know diversion above station. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years (water years 1966-80), 30.8 ft³/s (0.872 m³/s), 22,310 acre-ft/yr (27.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,570 ft³/s (101 m³/s) Aug. 31, 1981, elevation, 83.37 ft (25.411 m); maximum elevation, 91.09 ft (27.764 m) Feb. 21, 1969, occurred prior to 1980-81 channel rectification; minimum daily discharge, 0.16 ft³/s (0.004 m³/s) Oct. 21, 22, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (340 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)
Oct. 18	unknown	1,500 42.5	82.86 25.256	June 11	0300	3,100 87.8	82.50 25.146
May 3	2200	2,290 64.9	80.90 24.658	Aug. 31	1500	*3,570 101	83.37 25.911
May. 9	2130	1,630 46.2	79.46 24.219				

Minimum discharge not determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	8.2	9.2	65	27	8.2	1280
2	---	---	---	---	---	---	7.8	9.8	117	16	7.8	325
3	---	---	---	---	---	---	8.3	808	289	14	8.2	148
4	---	---	---	---	---	---	9.8	1070	58	25	7.6	60
5	---	---	---	---	---	---	9.5	412	692	73	9.0	27
6	---	---	---	---	---	---	8.2	134	205	58	9.9	18
7	---	---	---	9.1	---	---	8.2	60	120	301	9.2	12
8	---	---	---	---	---	---	11	34	58	158	8.0	11
9	---	---	---	---	---	---	11	399	30	83	6.8	12
10	---	9.4	---	---	---	---	9.1	681	105	48	6.6	11
11	---	---	---	---	---	---	9.5	182	1590	153	7.2	9.8
12	---	---	---	---	---	---	8.2	76	580	38	12	9.2
13	---	---	---	---	---	---	7.0	28	540	47	22	9.2
14	---	---	---	---	---	---	8.3	56	155	90	18	24
15	---	---	---	---	---	---	8.5	26	65	68	11	42
16	---	---	---	---	---	---	7.0	18	60	20	8.7	16
17	---	---	---	---	---	---	7.6	13	33	13	9.2	12
18	---	---	---	---	---	---	8.1	11	22	26	8.7	9.8
19	416	---	---	---	---	---	9.4	11	20	44	9.8	8.7
20	---	---	---	---	---	---	8.7	12	17	28	8.7	8.7
21	---	---	---	---	---	---	7.8	11	15	13	6.5	8.7
22	---	---	---	---	---	---	9.2	13	13	12	6.5	8.2
23	---	---	---	---	---	---	325	12	10	11	6.5	9.2
24	---	---	---	---	---	---	123	11	9.8	9.2	7.3	9.2
25	---	---	---	---	---	---	33	17	11	8.7	7.8	7.0
26	---	---	---	---	---	---	15	15	12	11	7.3	6.9
27	---	---	---	---	---	8.2	13	9.8	12	2.0	7.3	7.8
28	---	---	---	---	---	8.2	16	9.2	11	36	7.3	9.2
29	---	---	---	---	---	13	25	23	11	34	7.8	9.2
30	---	---	---	---	---	12	13	18	39	9.8	12	8.2
31	---	---	---	---	---	9.9	---	23	---	7.3	2230	---
TOTAL	---	---	---	---	---	---	753.4	4212.0	4964.8	1484.0	2502.9	2137.0
MEAN	---	---	---	---	---	---	25.1	136	165	47.9	80.7	71.2
MAX	---	---	---	---	---	---	325	1070	1590	301	2230	1280
MIN	---	---	---	---	---	---	7.0	9.2	9.8	2.0	6.5	6.9
AC-FT	---	---	---	---	---	---	1490	8350	9850	2940	4960	4240
(††)	5.13	2.09	1.33	2.68	2.81	1.79	2.97	8.81	10.76	6.79	9.63	1.21

CAL YR 1980 TOTAL †† 37.47

WTR YR 1980 TOTAL †† 56.00

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

NOTE.--No elevation record Oct. 1 to Mar. 26.

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX

LOCATION.--Lat 29°55'05", long 95°18'24", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on U.S. Highway 59, 10.5 mi (16.9 km) northeast of Houston, 12.0 mi (19.3 km) upstream from Halls Bayou, and 23.4 mi (37.7 km) upstream from mouth.

DRAINAGE AREA.--69.6 mi² (180.3 km²). Prior to Oct. 1, 1973, 72.7 mi² (188.3 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft (0.201 m) below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Channel rectified during the water years 1974-75. No known diversion above station. Low flow is sustained by Houston Light and Power Co. effluent, which is obtained from ground-water sources. Recording rain gage at station.

AVERAGE DISCHARGE.--29 years, 58.2 ft³/s (1.648 m³/s), 42,170 acre-ft/yr (52.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,730 ft³/s (219 m³/s) Apr. 18, 1976, gage height, 61.92 ft (18.873 m); maximum gage height, 65.75 ft (20.041 m) Sept. 12, 1961 (prior to channel rectification); no flow at times.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 18	2200	2,910 82.4	59.07 18.005	June 5	1030	2,910 82.4	59.92 18.264
May 3	2330	4,740 134	62.55 19.065	June 11	0700	3,760 106	61.40 18.715
May 10	0100	2,030 57.5	57.51 17.529	Aug. 31	1800	*5,840 165	63.90 19.477

Minimum daily discharge, 11 ft³/s (0.31 m³/s) Oct. 6, Aug. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	14	15	17	105	16	18	13	26	60	15	2500
2	30	15	15	16	69	18	19	13	162	35	15	633
3	20	19	14	16	29	16	19	1370	379	30	15	419
4	19	18	14	17	31	393	23	2820	94	60	14	192
5	18	15	14	17	95	134	24	939	1780	140	14	67
6	11	14	13	26	204	44	21	244	530	130	16	42
7	15	13	13	23	43	24	19	87	251	450	15	32
8	18	12	35	17	27	20	19	43	152	350	14	28
9	17	14	333	17	22	19	22	337	50	190	12	28
10	18	14	49	18	41	16	18	1260	102	92	12	29
11	16	16	23	16	28	17	17	356	2350	278	14	25
12	16	15	18	16	23	19	16	121	1170	84	20	23
13	16	14	17	15	19	47	15	50	1190	91	26	23
14	16	14	18	15	17	24	15	104	367	177	18	49
15	37	14	19	16	15	19	16	49	131	138	16	93
16	525	17	20	16	17	17	15	33	188	38	12	42
17	68	37	17	16	18	16	15	24	107	24	13	28
18	834	18	17	16	18	17	15	19	54	33	13	22
19	1270	14	16	250	18	15	16	17	41	43	13	22
20	157	14	16	477	18	15	16	20	26	124	16	22
21	45	13	16	66	18	18	16	19	23	29	12	22
22	29	50	16	30	49	22	16	18	22	21	11	23
23	25	50	17	20	22	18	717	19	19	20	11	23
24	21	21	18	17	17	17	404	15	31	18	12	23
25	20	25	17	17	46	17	67	22	40	16	14	21
26	19	256	16	16	46	18	25	21	30	21	13	22
27	53	41	17	42	23	19	18	15	25	45	12	23
28	36	21	17	27	17	19	17	14	23	48	13	25
29	19	16	17	19	---	33	27	26	22	74	14	26
30	16	15	18	18	---	25	21	46	80	20	16	26
31	14	---	18	18	---	19	---	36	---	15	3750	---
TOTAL	3516	829	883	1327	1095	1131	1686	8170	9465	2894	4181	4553
MEAN	113	27.6	28.5	42.8	39.1	36.5	56.2	264	316	93.4	135	152
MAX	1270	256	333	477	204	393	717	2820	2350	450	3750	2500
MIN	11	12	13	15	15	15	15	13	19	15	11	21
AC-FT	6970	1640	1750	2630	2170	2240	3340	16210	18770	5740	8290	9030
(††)	4.48	2.05	1.28	2.49	2.44	1.48	2.76	8.46	10.25	6.26	8.89	1.41
CAL YR 1980	TOTAL	29071	MEAN	79.4	MAX	1840	MIN	11	AC-FT	57660	††	36.67
WTR YR 1981	TOTAL	39730	MEAN	109	MAX	3750	MIN	11	AC-FT	78800	††	52.25

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

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
FEB 23...	1230	21	670	7.4	17.0	15	340	8.2	83	11
JUN 11...	1045	3070	101	8.3	23.0	100	180	6.1	70	4.6
JUL 06...	1310	120	313	7.7	26.0	55	170	5.1	62	9.9
AUG 25...	0840	15	1020	7.7	28.0	5	11	2.7	34	11
31...	0750	3070	123	8.3	24.5	70	250	6.1	73	5.9
31...	1420	5520	123	8.1	24.0	100	260	5.9	69	4.4
SEP 01...	1100	2250	107	7.6	25.0	120	120	4.9	59	3.6
02...	1025	496	172	7.4	27.0	120	68	4.9	61	4.1

DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
FEB 23...	50000	2200	76	--	--	--	--	--	--
JUN 11...	140000	54000	72000	42	8	14	1.8	6.1	.4
JUL 06...	200000	34000	29000	87	5	29	3.4	26	1.2
AUG 25...	500000	150000	9300	200	0	65	8.5	120	3.9
31...	400000	130000	110000	34	0	11	1.5	8.1	.6
31...	400000	50000	220000	47	0	16	1.7	6.8	.4
SEP 01...	150000	29000	46000	44	0	15	1.7	5.7	.4
02...	64000	26000	4400	63	2	21	2.5	12	.7

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (MG/L)
FEB 23...	--	--	--	--	--	--	--	65	7
JUN 11...	1.8	34	2.5	11	.1	5.6	63	630	74
JUL 06...	3.8	89	10	28	.2	10	163	310	44
AUG 25...	6.8	200	120	110	.3	31	582	23	21
31...	2.9	39	5.0	6.5	.1	4.0	62	40	17
31...	3.1	48	5.0	7.0	.1	4.5	73	752	10
SEP 01...	2.9	45	5.0	5.4	.1	5.6	68	102	13
02...	3.4	61	11	11	.1	9.0	107	308	7

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NITRATE (MG/L AS N)	NITRO- GEN, NITRITE (MG/L AS N)	NITRO- GEN, NO2+NO3 (MG/L AS N)	NITRO- GEN, AMMONIA (MG/L AS N)	NITRO- GEN, ORGANIC (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC SUS- PENDEED (MG/L AS C)
FEB									
23...	.18	.060	.24	3.600	1.1	4.7	3.000	12	--
JUN									
11...	.04	.060	.10	.180	1.2	1.4	.240	17	--
JUL									
06...	.37	.180	.55	.610	1.3	1.9	1.900	10	1.4
AUG									
25...	--	--	--	--	--	--	4.300	7.2	--
31...	.22	.040	.26	.270	1.9	2.2	.630	16	--
31...	.16	.030	.19	.220	1.4	1.6	.470	16	--
SEP									
01...	.06	.020	.08	.180	1.3	1.5	.280	12	--
02...	.06	.040	.10	.300	1.4	1.7	.390	11	--

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JUN							
11...	1045	2	100	0	10	0	80
JUL							
06...	1310	6	100	<1	10	<10	50
AUG							
25...	0840	9	270	<1	0	<10	<10
31...	0750	6	49	<1	0	3	30

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN						
11...	0	20	.2	0	0	10
JUL						
06...	<10	5	.2	0	1	9
AUG						
25...	12	91	.1	1	0	20
31...	2	<1	.1	0	0	<3

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUN									
11...	1045	.00	.0	.00	.1	.00	.00	.00	.29
JUL									
06...	1310	.00	.0	.00	.0	.00	.00	.00	1.1
AUG									
25...	0840	.00	.0	.00	.0	.00	.00	.00	.50
31...	0750	.00	.0	.00	.1	.00	.00	.00	.39

SAN JACINTO RIVER BASIN

147

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUN									
11...	.00	.00	.00	.00	.00	.01	.01	.02	.00
JUL									
06...	.00	.00	.00	.00	.00	.00	.00	.19	.00
AUG									
25...	.00	.00	.00	.00	.00	.00	.02	.03	.00
31...	.00	.00	.00	.00	.01	.01	.01	.09	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN									
11...	.00	.00	.00	.00	0	.00	.02	.00	.00
JUL									
06...	.00	.00	.00	.00	0	.00	.07	.12	.00
AUG									
25...	.00	.00	.00	.00	0	.00	.06	.00	.00
31...	.00	.00	.00	.00	0	.00	<.45	<.06	.00

SAN JACINTO RIVER BASIN

08076500 HALLS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°51'42", long 95°20'05", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Jensen Drive in northeast section of Houston and 11.0 mi (17.7 km) upstream from mouth.

DRAINAGE AREA.--27.6 mi² (71.5 km²). Oct. 1, 1973, to Sept. 30, 1977, 28.3 mi² (73.3 km²). Prior to Oct. 1, 1973, 24.7 mi² (64.0 km²). Changes were result of drainage ditch extensions or relocations.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft (0.201 m) below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair except those for period October through December and July, which are poor. No known diversion above station. Low flow is sustained by sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--29 years, 27.7 ft³/s (0.784 m³/s), 20,070 acre-ft/yr (24.7 hm³).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,780 ft³/s (107 m³/s) Mar. 21, 1972, gage height, 60.70 ft (18.501 m); maximum gage height, 60.75 ft (18.517 m) June 13, 1973; no flow at times prior to 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 4	0030	1,960	55.5	58.12	17.715
June 5	1230	1,320	37.4	57.28	17.459
Aug. 31	1500	*2,040	57.8	59.82	18.233

Minimum daily discharge, 6.1 ft³/s (0.17 m³/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	7.5	7.8	7.2	18	8.0	7.8	8.5	15	45	9.6	615
2	12	9.9	8.1	6.7	11	8.5	7.5	10	40	30	9.7	150
3	10	8.4	7.0	8.5	8.8	7.6	8.1	634	90	20	9.2	88
4	9.0	8.1	7.0	6.9	12	80	7.6	1000	29	15	9.2	65
5	8.0	7.5	6.9	7.1	43	25	8.1	286	723	60	20	22
6	7.5	7.3	6.8	8.6	69	10	7.8	51	145	40	12	17
7	7.0	7.1	6.8	8.7	15	8.4	7.7	23	56	200	9.0	13
8	6.8	7.0	8.5	7.5	12	8.6	7.4	16	32	100	8.0	11
9	6.7	7.6	94	8.2	11	9.2	7.7	198	18	50	7.5	11
10	6.6	7.0	17	7.6	19	8.6	7.4	399	17	150	7.0	11
11	6.6	6.8	12	7.9	12	8.5	6.8	66	512	60	6.8	10
12	6.6	6.7	10	8.5	11	8.6	7.5	28	292	32	14	9.8
13	9.0	6.6	9.0	8.4	9.8	11	7.4	18	269	37	18	10
14	7.0	7.0	8.0	9.8	9.3	10	6.9	23	85	50	13	13
15	12	7.3	7.5	11	9.6	9.6	6.5	17	31	25	10	23
16	205	8.1	7.0	10	10	9.5	6.4	16	23	20	9.2	13
17	38	20	7.0	9.1	9.6	8.6	6.9	13	22	28	9.0	9.4
18	128	15	6.5	9.2	10	8.4	6.5	12	18	42	8.8	8.7
19	253	8.1	9.0	79	9.5	7.6	6.8	11	15	18	22	8.7
20	38	7.8	6.9	118	9.1	7.4	6.4	10	12	24	11	9.1
21	11	7.0	7.1	17	9.0	10	6.6	10	11	15	9.2	9.8
22	10	31	7.3	10	19	9.0	6.4	9.9	10	12	8.7	9.6
23	8.4	25	7.4	11	11	8.6	296	9.5	9.5	11	9.0	9.3
24	7.9	13	7.4	9.4	9.4	7.9	88	9.4	10	12	9.6	9.0
25	9.2	14	7.2	11	26	7.6	14	11	12	12	12	9.0
26	8.7	25	9.2	11	22	7.5	10	10	12	13	9.3	8.9
27	31	28	7.1	15	9.7	7.8	9.8	9.3	11	24	9.0	9.2
28	38	14	7.6	12	8.5	7.3	8.9	9.5	10	21	9.0	9.6
29	6.5	11	7.7	10	---	9.6	8.7	9.5	10	14	8.7	8.9
30	8.4	9.0	7.6	9.2	---	8.7	8.7	16	80	12	9.3	8.3
31	6.1	---	6.8	8.5	---	7.7	---	13	---	10	1380	---
TOTAL	948.0	347.8	335.2	472.0	433.3	354.8	602.3	2956.6	2619.5	1202	1696.8	1209.3
MEAN	30.6	11.6	10.8	15.2	15.5	11.4	20.1	95.4	87.3	38.8	54.7	40.3
MAX	253	31	94	118	69	80	296	1000	723	200	1380	615
MIN	6.1	6.6	6.5	6.7	8.5	7.3	6.4	8.5	9.5	10	6.8	8.3
AC-FT	1880	690	665	936	859	704	1190	5860	5200	2380	3370	2400
(††)	3.70	1.95	1.31	2.34	2.25	1.21	2.61	8.03	8.71	5.54	8.83	1.49

CAL YR 1980 TOTAL 11042.7 MEAN 30.2 MAX 994 MIN 6.1 AC-FT 21900 †† 34.85
WTR YR 1981 TOTAL 13177.6 MEAN 36.1 MAX 1380 MIN 6.1 AC-FT 26140 †† 47.97

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

08076500 HALLS BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
FEB 23...	1135	10	590	8.4	17.0	30	21	16.2	164	14	1400000	130000
JUN 02...	1230	47	298	7.7	29.5	80	81	4.2	55	12	2000000	960000
11...	1125	742	130	7.8	23.0	80	150	5.3	61	6.6	290000	100000
AUG 25...	0950	10	740	7.7	28.0	20	5.5	7.6	96	13	1600000	840000
31...	0925	1440	106	7.9	24.5	50	25	5.4	64	5.8	420000	120000
31...	1500	2040	105	7.8	24.0	60	72	4.5	53	6.0	440000	100000
SEP 01...	1150	515	142	7.3	25.5	80	69	3.9	48	4.5	860000	210000
02...	1125	102	220	7.1	28.0	100	58	4.4	56	5.7	840000	260000

DATE	STREP- TOC&CCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FEB 23...	1700	--	--	--	--	--	--	--	--	--	--	--
JUN 02...	78000	73	0	23	3.7	27	1.4	4.2	90	1.8	27	.2
11...	72000	46	0	15	2.0	6.8	.4	2.1	49	2.9	5.9	.1
AUG 25...	14000	150	0	48	8.1	79	2.9	8.0	220	14	65	.2
31...	120000	33	0	11	1.4	5.3	.4	2.8	38	5.0	5.0	.1
31...	120000	42	1	14	1.6	5.3	.4	3.1	41	5.0	6.6	.1
SEP 01...	36000	57	0	19	2.4	7.6	.5	3.6	57	5.0	7.8	.1
02...	10000	78	1	25	3.7	18	.9	4.1	77	12	29	.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB 23...	--	--	32	8	.66	.120	.78	4.00	2.9	6.90	4.30	21
JUN 02...	9.8	151	43	27	.30	.130	.43	2.90	1.3	4.20	2.60	11
11...	6.0	71	458	50	.11	.040	.15	.320	1.4	1.70	.550	14
AUG 25...	25	380	128	13	.10	.090	.19	<.090	--	15.0	7.80	8.2
31...	3.5	57	256	19	.34	.040	.38	.450	1.8	2.20	.670	15
31...	4.3	65	156	4	.20	.030	.23	.270	1.1	1.40	.590	13
SEP 01...	6.8	86	362	9	.12	.030	.15	.390	1.4	1.80	.640	14
02...	11	149	95	5	.13	.060	.19	.990	1.6	2.60	.920	19

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JUN 02...	1230	13	300	<1	0	<10	40
11...	1125	5	200	<1	10	<10	110
AUG 25...	0950	45	180	<1	0	<10	39
31...	0925	14	49	<1	0	2	55

SAN JACINTO RIVER BASIN

08076500 HALLS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN 02...	<10	6	.2	0	0	4
11...	13	30	.1	0	0	7
AUG 25...	<10	300	.1	1	0	29
31...	2	1	.1	0	0	<3

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUN 02...	1230	.00	.00	.00	.10	.00	.00	.00	.65
11...	1125	.00	.00	.00	.10	.00	.00	.00	.47
AUG 31...	0925	.00	.00	.00	.10	.00	.00	.00	.35

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR- EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JUN 02...	.01	.00	.00	.00	.00	.01	.02	.21	.00
11...	.00	.00	.00	.00	.00	.01	.00	.04	.00
AUG 31...	.01	.00	.00	.00	.00	.01	.01	.13	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 02...	.00	.00	.00	.00	0	.00	.08	.11	.00
11...	.00	.00	.00	.00	0	.00	.00	.00	.00
AUG 31...	.00	.00	.00	.00	0	.00	.14	.03	.00

LOCATION.--Lat 29°50'13", long 95°13'59", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of Ley Road Bridge in northeast Houston and 300 ft (91 m) downstream from mouth of Halls Bayou.

WATER-DISCHARGE RECORDS

REMARKS.--Water-discharge records fair except those below 1,000 ft³/s (28.3 m³/s), which are poor. Discharge is computed for all storms which produce peak discharges over 1,000 ft³/s (28.3 m³/s). Tidal influences on the stage-discharge relationship affect discharge below about 500 ft³/s (14.2 m³/s). Discharge below 1,000 ft³/s (28.3 m³/s) is estimated following designated storm periods only.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,200 ft³/s (119 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
May 4	a0800	*11,700	331	30.53	9.306	June 13	0500	4,700	134	20.95	6.386
June 5	1700	9,580	271	28.20	8.595	Aug. 31	a2400	8,530	242	26.83	8.178

Minimum discharge not determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---		---	---	---		---	---	---	---	---	5800
2	---		---	---	---		---		340	---	---	1200
3	---		---	---	---		---	1960	720	---	---	880
4	---		---	---	---		---	10000	440	---	---	300
5	---		---	---	170		---	3930	6430	300	---	150
6	---		---	---	700		---	780	3890	400	---	---
7	---		---	---	160		---	250	780	1200	---	---
8	---		80	---	---		---	100	580	1000	---	---
9	---		850	---	---		---	400	150	500	---	---
10	---		190	---	---		---	2740	100	300	---	---
11	---		50	---	---		---	840	2790	800	---	---
12	---		---	---	---		---	300	2800	300	---	---
13	---		---	---	---		---	120	3920	---	---	---
14	---		---	---	---		---	---	1350	---	---	---
15	---		---	---	---		---	---	500	---	---	---
16	710		---	---	---		---	---	200	---	---	---
17	230		---	---	---		---	---	---	---	---	---
18	400		---	---	---		---	---	---	---	---	---
19	2300		---	210	---		---	---	---	---	---	---
20	440		---	1250	---		---	---	---	---	---	---
21	100		---	400	---		---	---	---	---	---	---
22	---		---	150	---		---	---	---	---	---	---
23	---		---	---	---		1120	---	---	---	---	---
24	---		---	---	---		1360	---	---	---	---	---
25	---		---	---	---		300	---	---	---	---	---
26	---		---	---	---		120	---	---	---	---	---
27	---		---	---	---		---	---	---	---	---	---
28	---		---	---	---		---	---	---	---	---	---
29	---		---	---	---		---	---	---	---	---	---
30	---		---	---	---		---	---	---	---	---	---
31	---		---	---	---		---	---	---	---	4300	---
TOTAL	---		---	---	---		---	---	---	---	---	---
MEAN	---		---	---	---		---	---	---	---	---	---
MAX	---		---	---	---		---	---	---	---	---	---
MIN	---		---	---	---		---	---	---	---	---	---
AC-FT	---		---	---	---		---	---	---	---	---	---

SAN JACINTO RIVER BASIN

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY UNINHIB (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
DATE	TIME											
MAY												
04...	1400	10900	90	7.2	22.0	90	93	7.8	89	4.7	160000	38000
05...	1315	3520	156	7.3	22.0	150	70	4.8	54	4.6	110000	6700
	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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)
DATE												
MAY												
04...	29000	33	2	11	1.4	5.2	.4	1.9	31	8.0	5.4	.1
05...	4000	57	5	19	2.3	8.5	.5	2.6	52	7.7	9.0	.1
	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLTA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DATE												
MAY												
04...	4.2	56	232	8	.16	.040	.20	.250	.95	1.2	.370	16
05...	7.3	88	404	4	.18	.050	.23	.300	1.1	1.4	.440	17

08077000 CLEAR CREEK NEAR PEARLAND, TX

LOCATION.--Lat 29°35'50", long 95°17'11", Harris-Brazoria County line, Hydrologic Unit 12040204, at downstream side of pier of bridge on State Highway 35, 0.7 mi (1.1 km) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi (1.9 km) upstream from Hickory Slough, 2.3 mi (3.7 km) north of Pearland, and about 30 mi (48 km) upstream from head of Clear Lake.

DRAINAGE AREA.--38.8 mi² (100.5 km²).

PERIOD OF RECORD.--July to October 1944, March to October 1946, April 1947 to December 1959, March 1963 to current year. Discharge for some high-water periods in 1944 and 1946 published in WSP 1392.

REVISED RECORDS.--WSP 1392: 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 26.58 ft (8.102 m) National Geodetic Vertical Datum of 1929, 1973 adjustment; prior records unadjusted for land-surface subsidence. Prior to June 9, 1948, nonrecording gage, and June 9, 1948, to Apr. 22, 1952, water-stage recorder at same site and datum 5.80 ft (1.768 m) higher.

REMARKS.--Records fair except those below 0.50 ft³/s (0.014 m³/s), which are poor. Large area of riceland above station is irrigated with water from the Brazos River. Low flow from April to October is largely drainage from irrigated lands. Many diversions for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years (water years 1948-59, 1964-81), 36.7 ft³/s (1.039 m³/s), 26,590 acre-ft/yr (32.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft³/s (61.5 m³/s) Mar. 18, 1957; maximum gage height, 18.57 ft (5.660 m) July 26, 1979; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1960 (stage and discharge unknown), may have exceeded that of Mar. 18, 1957. Channel was rectified in 1933, 1952, 1968, and 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft³/s (17.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)				
May 4	0400	*1,650	46.7	17.11	5.215	Aug. 31	2400	1,380	39.1	16.57	5.051
June 5	1500	1,410	39.9	16.83	5.130	Sept. 14	2300	733	20.8	11.92	3.633

Minimum daily discharge, no flow Jan. 3, Apr. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	1.0	.17	.01	3.5	.56	.92	.43	9.2	16	9.9	1280
2	25	1.1	.15	.01	2.1	.55	.65	.17	11	11	7.4	758
3	11	1.1	.12	.00	1.2	.42	1.0	573	52	8.7	5.7	336
4	5.9	.92	.10	.13	1.2	10	1.1	1560	35	7.3	4.4	158
5	3.1	.92	.17	.09	7.2	17	.83	820	1050	11	3.0	55
6	2.1	.85	.18	.48	39	6.6	3.4	235	792	36	2.9	36
7	1.6	.75	.15	.33	30	3.2	5.2	51	137	241	2.7	24
8	1.4	.65	.27	.17	17	1.9	3.2	15	44	150	6.6	13
9	1.2	.65	4.2	.14	9.8	1.4	1.4	7.1	24	50	2.6	7.0
10	1.2	.63	4.5	.10	7.3	1.4	.42	51	13	56	2.3	4.4
11	1.1	.49	1.7	.10	3.8	1.2	.13	36	85	92	2.1	3.3
12	1.0	.35	1.1	.10	1.9	1.3	.04	10	158	27	2.9	2.6
13	.92	.21	.66	.10	.83	1.8	.00	4.5	270	21	2.9	2.5
14	.92	.11	.43	.60	.52	2.0	.81	22	105	18	2.8	218
15	.83	.12	.32	.25	.41	1.5	1.7	14	42	22	2.6	456
16	1.8	.08	.30	.14	.36	1.4	.59	5.5	144	17	2.5	159
17	.83	.36	.24	.10	.24	1.1	1.1	4.3	236	13	4.8	56
18	5.4	.12	.21	.10	.21	.79	3.9	5.6	42	12	5.3	25
19	9.7	.10	.17	11	.21	.54	6.2	4.1	19	12	6.7	13
20	2.9	.08	.12	49	.21	.41	5.8	3.2	13	11	24	7.8
21	2.1	.07	.08	22	.17	.72	7.0	2.6	10	9.9	23	4.9
22	1.7	1.6	.07	10	.20	.69	13	2.1	12	12	13	3.9
23	1.3	1.0	.12	5.5	.13	.44	18	1.8	9.2	15	7.2	3.5
24	1.2	.66	.14	3.2	.15	.30	16	1.5	69	10	5.1	2.9
25	1.1	.42	.08	1.8	3.2	.31	16	3.8	127	7.1	5.3	2.5
26	1.1	3.5	.07	1.1	2.4	.29	26	4.5	44	50	4.1	2.3
27	.92	2.6	.06	4.3	1.5	.25	16	6.9	88	108	2.7	4.7
28	.74	.86	.05	1.9	.71	.25	4.0	7.9	47	94	2.3	2.8
29	.65	.54	.04	1.4	---	.26	1.2	9.8	26	65	2.5	2.2
30	.56	.31	.03	.70	---	.34	.81	8.1	20	28	4.7	1.9
31	.72	---	.02	.35	---	.92	---	8.2	---	14	807	---
TOTAL	146.99	22.15	16.02	115.20	135.45	59.84	156.40	3479.10	3733.4	1245.0	981.0	3646.2
MEAN	4.74	.74	.52	3.72	4.84	1.93	5.21	112	124	40.2	31.6	122
MAX	57	3.5	4.5	49	39	17	26	1560	1050	241	807	1280
MIN	.56	.07	.02	.00	.13	.25	.00	.17	9.2	7.1	2.1	1.9
AC-FT	292	44	32	228	269	119	310	6900	7410	2470	1950	7230
CAL YR 1980	TOTAL	9691.88	MEAN	26.5	MAX	1500	MIN	.02	AC-FT	19220		
WTR YR 1981	TOTAL	13736.75	MEAN	37.6	MAX	1560	MIN	.00	AC-FT	27250		

COASTAL BASIN

08077650 MOSES LAKE-GALVESTON BAY NEAR TEXAS CITY, TX

LOCATION.--Lat 29°26'50", long 94°55'12", Galveston County, Hydrologic Unit 12040204, on right side of gate abutment of Texas City Flood Control Dike, one orifice located upstream and one downstream, at mouth of Moses Lake, and 4.5 mi (7.2 km) north of Texas City.

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

GAGE.--Duplex water-stage recorder and crest-stage gages. Datum of gage is 0.49 ft (0.149 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers), 1973 adjustment. Prior records unadjusted for land-surface subsidence.

REMARKS.--The purpose of this station is to record gage heights of high tides in Galveston Bay and the corresponding gage heights of the water surface in Moses Lake. Moses Lake is connected to Galveston Bay by gated opening through levee. No gage heights are shown for Moses Lake until they reach 3.0 ft (0.91 m) on either side.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (Moses Lake), 4.4 ft (1.34 m) Sept. 20, 1979; minimum, -2.6 ft (-0.79 m) Mar. 12, 13, 1968. Maximum gage height (Galveston Bay), 4.8 ft (1.46 m) Aug. 9, 1980; minimum not recorded but probably occurred Mar. 12 or 13, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum gage height (Moses Lake), 3.8 ft (1.16 m) June 8; minimum not determined. Maximum gage height (Galveston Bay), 3.7 ft (1.13 m) June 8; minimum, -1.6 ft (-0.49 m) Mar. 19.

MAXIMUM DAILY ELEVATION, IN FEET, GALVESTON BAY AND MOSES LAKE
WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.	Galv. Bay Max.	Moses Lake Max.
1	-	1.7	-	1.3	-	1.4	-	.9	-	2.4	-	1.4	-	1.8	-	-	-	1.8	-	-	-	-	3.1	2.3
2	-	1.8	-	1.4	-	1.5	-	1.1	-	1.1	-	1.4	-	1.6	-	-	-	2.0	-	-	-	-	-	1.9
3	-	1.5	-	1.3	-	1.7	-	1.3	-	1.5	-	2.3	-	1.8	-	-	-	2.2	-	-	-	-	-	2.0
4	-	1.5	-	1.2	-	1.9	-	1.3	-	1.6	-	2.4	-	2.4	2.6	3.4	-	2.8	-	-	-	-	-	2.0
5	-	1.2	-	1.1	-	2.0	-	1.7	-	2.1	-	1.7	-	1.4	-	-	3.8	3.7	-	-	-	-	-	2.0
6	-	1.9	-	1.3	-	2.0	-	2.0	-	1.9	-	1.4	-	1.3	-	2.0	-	2.1	-	-	-	1.2	-	2.3
7	-	1.6	-	1.4	-	2.1	-	1.5	-	1.6	-	2.0	-	1.9	-	2.3	-	1.6	-	-	-	1.2	-	2.2
8	-	1.6	-	1.7	-	2.6	-	1.3	-	1.6	-	1.5	-	2.0	-	2.4	-	1.5	-	-	-	1.2	-	2.0
9	-	1.5	-	1.8	-	2.5	-	1.6	-	2.2	-	1.4	-	1.9	-	2.8	-	1.5	-	-	-	1.3	-	2.0
10	-	1.6	-	1.8	-	1.4	-	1.6	-	2.6	-	1.2	-	2.1	-	2.4	-	1.9	-	-	-	1.7	-	2.3
11	-	1.6	-	1.9	-	1.3	-	1.4	-	1.0	-	1.2	-	2.1	-	1.2	3.0	2.6	-	-	-	1.5	-	2.5
12	-	1.5	-	2.8	-	1.6	-	1.2	-	1.6	-	1.8	-	2.0	-	1.7	-	2.5	-	-	-	1.8	-	2.1
13	-	1.8	.9	3.4	-	1.5	-	1.1	-	1.6	-	1.7	-	1.8	-	1.8	-	2.9	-	-	-	2.0	-	2.0
14	-	1.8	1.0	3.6	-	1.3	-	1.3	-	1.4	-	1.4	-	1.8	-	1.6	2.3	3.1	-	-	-	1.8	-	2.2
15	-	2.0	-	2.5	-	1.2	-	1.2	-	1.4	-	1.3	-	1.6	-	1.9	2.5	3.0	-	-	-	1.6	-	1.7
16	-	2.4	-	2.4	-	1.3	-	1.1	-	1.6	-	1.1	-	1.5	-	2.6	-	2.6	-	-	-	1.6	-	1.8
17	-	2.5	-	2.4	-	1.5	-	1.3	-	1.4	-	1.1	-	1.6	-	2.6	-	2.1	-	-	-	-	-	-
18	-	2.1	-	.8	-	1.6	-	1.2	-	1.4	-	1.6	-	1.9	-	2.3	-	1.9	-	-	-	-	-	1.9
19	-	2.0	-	1.3	-	1.7	-	1.4	-	1.4	-	.3	-	1.8	-	1.8	-	2.0	-	-	-	1.4	-	2.0
20	-	1.7	-	1.3	-	.9	-	2.0	-	1.0	-	.9	-	1.8	-	1.4	-	1.8	-	-	-	1.4	-	2.1
21	-	1.6	-	1.5	-	1.4	-	.5	-	1.2	-	1.7	-	1.7	-	2.1	-	1.7	-	-	-	1.5	-	2.3
22	-	1.6	-	2.3	-	1.6	-	.8	-	1.3	-	1.6	-	1.8	-	2.3	-	1.9	-	-	-	1.7	-	2.6
23	-	1.6	-	2.4	-	2.0	-	.8	-	.2	-	.2	-	2.8	-	2.2	-	1.7	-	-	-	1.9	-	2.1
24	-	1.6	-	1.6	-	1.8	-	.9	-	.9	-	1.0	-	2.1	-	2.0	-	1.7	-	-	-	2.2	-	1.7
25	-	1.1	-	2.5	-	.8	-	1.1	-	1.2	-	1.1	-	2.4	-	2.0	-	1.5	-	-	-	2.2	-	1.7
26	-	1.8	-	2.5	-	1.4	-	1.4	-	1.5	-	1.0	-	2.3	-	1.9	-	1.5	-	-	-	2.4	-	2.0
27	-	2.5	-	.5	-	1.4	-	1.5	-	1.5	-	1.6	-	2.3	-	1.5	-	1.6	-	-	-	2.6	-	-
28	-	2.1	-	.3	-	1.2	-	1.6	-	1.5	-	2.3	-	-	-	1.5	-	1.7	-	-	-	2.6	-	-
29	-	.8	-	1.0	-	1.3	-	1.7	-	-----	-	2.4	-	-	-	1.7	-	1.8	-	-	-	2.7	-	-
30	-	1.0	-	1.2	-	1.0	-	1.7	-	-----	-	2.3	-	-	-	2.0	-	2.4	-	-	-	2.8	-	-
31	-	1.2	-	-----	-	.9	-	2.4	-	-----	-	1.8	-	-----	-	2.2	-	-----	-	-	3.0	2.8	-	-----

155

LOCATION.--Lat 29°21'12", long 95°01'49", Galveston County, Hydrologic Unit 12040204, at downstream side of bridge on Farm Road 2004, 0.6 mi (1.0 km) west of Hitchcock, and 7 mi (11 km) from mouth and Jones Bay.

DRAINAGE AREA (revised).--Basin runoff was diverted to new channel in April 1981. Prior to April 1981, 15.6 mi² (40.4 km²).

PERIOD OF RECORD.--August 1963 to current year (elevations only prior to 1973, beginning 1973 gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 0.80 ft (0.244 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Only stages above 1.8 ft (0.55 m) are recorded.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 14.33 ft (4.368 m) Sept. 20, 1979; minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1930, 14.6 ft (4.45 m) July 25, 1959, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 9.96 ft (3.036 m) Aug. 31 at 2030 hours; minimum not determined.

[illegible]

CHOCOLATE BAYOU BASIN

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX
(National stream-quality accounting network)

LOCATION.--Lat 29°22'09", long 95°19'14", Brazoria County, Hydrologic Unit 12040204, on right bank 800 ft (240 m) downstream from bridge on Farm Road 1462, 5.9 mi (9.5 km) southwest of Alvin, and 6.9 mi (11.1 km) upstream from State Highway 35.

DRAINAGE AREA.--87.7 mi² (227.1 km²). During extreme flooding, overflow from about 11 mi² (28 km²) of the Mustang Bayou drainage basin enters the Chocolate Bayou basin upstream from gage.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1944 and March to December 1946 (low-water records during irrigation season), January 1947 to February 1958, March 1958 to February 1959 (discharge measurements only), March 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 10.31 ft (3.142 m) National Geodetic Vertical Datum of 1929. Prior to May 3, 1959, nonrecording gage or water-stage recorders located at various sites from 900 to 1,400 ft (270 to 427 m) upstream and at datum 3.00 ft (0.914 m) higher.

REMARKS.--Water-discharge records good. Large area of riceland above station is irrigated with water from Brazos River. Low flow from April to October is largely drainage from irrigated lands. Diversions for irrigation above station.

AVERAGE DISCHARGE.--32 years (water years 1948-57, 1960-81), 111 ft³/s (3.144 m³/s), 80,420 acre-ft/yr (99.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft³/s (609 m³/s) July 26, 1979, gage height, 23.88 ft (7.279 m); no flow at times.

Maximum stage is that of July 26, 1979. Flood of Oct. 8, 1949, reached a stage of 21.80 ft (6.645 m), present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 14, 1939, reached a stage of 22.9 ft (6.98 m), former site and present datum, adjusted from floodmark 1,700 ft (518 m) to right and 550 ft (168 m) upstream from present gage, on basis of slope of flood of Oct. 8, 1949, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 4	2400	*3,070 86.9	19.63 5.983
June 11	a1800	1,310 37.1	13.61 4.148
Sept. 1	2400	2,670 75.6	19.00 5.791

a About.

Minimum daily discharge, 0.61 ft³/s (0.017 m³/s) Nov. 3, Dec. 17-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	219	.66	1.3	.71	7.0	2.7	5.4	16	157	198	57	2390
2	85	.66	1.1	.71	11	3.0	12	20	116	176	43	2510
3	32	.61	.95	.71	8.6	3.0	21	825	127	170	40	1690
4	15	.65	.89	.71	6.0	3.7	39	2780	119	167	31	718
5	8.9	.75	.83	.71	14	4.0	34	2870	555	199	27	267
6	4.6	.77	.83	.71	90	2.5	21	1840	424	342	24	127
7	3.0	.77	.83	1.2	76	2.9	15	408	246	821	18	70
8	2.0	.84	.83	25	40	3.3	20	81	147	800	17	41
9	1.3	.86	2.1	59	23	2.8	33	52	94	447	17	25
10	1.0	.89	3.2	47	23	2.6	33	357	74	298	15	18
11	.90	.89	1.2	52	19	2.8	29	161	998	223	15	16
12	.83	.85	.88	57	9.4	3.5	31	60	1190	163	15	16
13	.71	.83	.74	54	6.7	4.3	38	32	1220	164	14	16
14	.66	.83	.62	60	5.4	3.7	43	52	673	154	15	26
15	.66	.83	.71	57	3.9	3.5	33	79	280	168	15	210
16	.66	.77	.70	53	3.6	2.7	35	64	147	143	15	160
17	.70	.98	.61	29	2.9	2.4	57	54	102	299	16	74
18	.76	1.1	.61	9.1	3.9	2.2	53	59	79	668	17	36
19	.83	1.3	.61	4.6	3.0	2.0	41	57	68	303	18	25
20	3.0	.96	.61	115	3.2	1.9	30	40	81	174	18	23
21	2.5	.95	.61	105	2.7	2.1	21	38	122	180	20	24
22	1.5	1.1	.61	36	2.9	3.3	22	29	105	135	22	25
23	.87	1.8	.66	16	2.6	2.8	47	49	82	123	22	25
24	.79	1.7	.66	12	2.2	1.9	158	68	94	104	24	25
25	1.1	1.3	.66	6.0	2.4	3.4	198	122	144	110	28	25
26	1.6	2.0	.66	4.2	3.5	5.7	158	181	179	91	28	25
27	.87	2.0	.66	6.0	3.6	6.7	62	107	246	162	31	25
28	.96	1.8	.66	13	2.6	5.5	26	69	263	265	35	26
29	.88	1.5	.66	12	---	5.0	16	53	254	157	43	25
30	.74	1.4	.66	8.2	---	3.9	13	57	222	103	42	21
31	.66	---	.68	6.0	---	4.9	---	122	---	80	826	---
TOTAL	393.98	32.35	27.33	851.56	382.1	104.7	1344.4	10802	8608	7587	1568	8704
MEAN	12.7	1.08	.88	27.5	13.6	3.38	44.8	348	287	245	50.6	290
MAX	219	2.0	3.2	115	90	6.7	198	2870	1220	821	826	2510
MIN	.66	.61	.61	.71	2.2	1.9	5.4	16	68	80	14	16
AC-FT	781	64	54	1690	758	208	2670	21430	17070	15050	3110	17260
CAL YR 1980	TOTAL	29982.05	MEAN	81.9	MAX	2490	MIN	.61	AC-FT	59470		
WTR YR 1981	TOTAL	40405.42	MEAN	111	MAX	2870	MIN	.61	AC-FT	80140		

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: May 1971 to current year. Pesticide analyses: May 1971 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1978 to current year.

WATER TEMPERATURES: February 1978 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression 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, 1,620 micromhos Apr. 18, 1981; minimum daily, 100 micromhos July 26, 1979.

WATER TEMPERATURES: Maximum daily, 32.0°C July 8, 1978; minimum, 4.0°C Jan. 2, Feb. 11, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,620 micromhos Apr. 18; minimum daily, 212 micromhos May 5.

WATER TEMPERATURES: Maximum daily, 30.0°C July 1, 22, 25, Aug. 3, 7, 16, 18; minimum daily, 7.0 °C Feb. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	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 26...	1400	2.0	780	7.8	10.0	30	17	8.1	70	1.9	32	34
JAN 13...	1120	52	1480	8.3	10.0	--	.90	11.4	99	.8	250	250
MAR 24...	1035	1.6	1100	8.1	16.5	--	14	9.0	90	1.0	24	68
MAY 06...	1040	1940	220	7.0	23.5	--	32	4.4	52	3.1	290	1000
JUL 09...	0935	457	515	7.7	27.5	--	31	6.1	76	1.8	220	8200
SEP 10...	1615	17	540	8.0	27.0	--	19	7.3	90	3.3	120	3300

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
NOV 26...	240	30	68	17	66	1.9	3.9	210	28	110	.3	13
JAN 13...	320	140	93	21	170	4.1	4.8	180	150	270	.4	6.6
MAR 24...	310	78	82	25	110	2.7	2.3	230	50	200	.4	9.4
MAY 06...	60	14	17	4.2	18	1.0	3.3	57	16	21	.2	12
JUL 09...	150	28	43	9.8	47	1.7	2.3	120	35	71	.2	17
SEP 10...	180	22	53	12	45	1.5	6.1	170	35	65	.4	32

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, 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)
NOV 26...	430	433	15	22	--	--	.00	.00	.010	.010	1.2
JAN 13...	844	826	--	--	--	--	.48	.48	.020	.040	.64
MAR 24...	615	617	--	--	--	--	.01	.01	.050	.000	.65
MAY 06...	156	127	--	--	.85	.060	.91	.95	.190	.130	1.3
JUL 09...	305	297	--	--	--	--	.07	.07	.190	.100	.91
SEP 10...	341	345	--	--	--	--	.15	.15	.130	.130	1.3

CHOCOLATE RIVER BASIN

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 26...	.39	1.20	.40	.060	.050	--	6.5	.3	20	.11	93
JAN 13...	.50	.66	.54	.050	.050	--	12	.6	48	6.7	91
MAR 24...	.80	.70	.80	.050	.030	5.8	--	--	52	.22	85
MAY 06...	1.2	1.50	1.3	.250	.190	--	13	.9	33	173	95
JUL 09...	.66	1.10	.76	.080	.040	--	6.1	.9	85	105	94
SEP 10...	1.2	1.40	1.3	.140	.090	15	--	--	--	--	--

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
NOV 26...	1400	3	1	2	200	0	200	1	0	2	0
JAN 13...	1120	3	1	2	200	0	200	0	0	1	0
MAY 06...	1040	--	--	2	100	40	60	1	--	<1	30
JUL 09...	0935	3	1	2	100	0	100	0	--	<1	10

DATE	CHRO- MIUM, SUS- PENDED RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
NOV 26...	0	0	1	<3	2	1	1	380	350	30	15
JAN 13...	0	0	0	<3	4	2	2	750	--	<10	6
MAY 06...	30	0	0	<3	8	0	8	1200	1100	120	10
JUL 09...	10	0	1	<3	8	5	3	1700	1600	140	1

DATE	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDED RECOV- ERABLE (UG/L AS NI)
NOV 26...	15	0	240	100	140	.2	.2	.0	5	5
JAN 13...	6	0	50	30	20	.1	.0	.1	1	0
MAY 06...	10	0	30	10	20	.2	.1	.1	3	1
JUL 09...	1	0	80	70	9	.3	.2	.1	8	6

DATE	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDED TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDED RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 26...	0	0	0	0	0	0	0	20	10	6
JAN 13...	2	0	0	0	1	1	0	10	4	6
MAY 06...	2	0	0	0	0	0	0	20	10	8
JUL 09...	2	0	0	0	0	0	1	20	10	8

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 26,80 1400	MAR 24,81 1035	MAY 6,81 1040	JUL 9,81 0935	SEP 10,81 1615
TOTAL CELLS/ML	400	270	3400	1600	250
DIVERSITY: DIVISION	1.6	2.0	1.3	1.0	0.8
..CLASS	1.6	2.0	1.3	1.0	0.8
...ORDER	1.7	2.5	2.1	1.9	1.5
...FAMILY	1.8	3.0	2.3	2.1	1.9
....GENUS	1.8	3.1	2.6	2.6	1.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...OOCYSTACEAE										
....ANKISTRODESMUS	13	3	52#	19	84	2	--	-	55#	22
....CHODATELLA	--	-	--	-	84	2	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	41	3	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	26	6	39	14	280	8	55	3	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	--	-	--	-	14	1	--	-
....CHLAMYDOMONAS	13	3	39	14	310	9	14	1	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	13	5	1000#	30	69	4	110#	44
....MELOSIRA	--	-	--	-	140	4	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....COCCONEIS	--	-	--	-	--	-	--	-	41#	17
...CYMBELLACEAE										
....RHOPALODIA	--	-	--	-	28	1	--	-	--	-
...GOMPHONEMACEAE										
....GOMPHONEMA	--	-	--	-	--	-	14	1	--	-
...NAVICULACEAE										
....NAVICULA	13	3	--	-	--	-	96	6	41#	17
...NITZSCHACEAE										
....NITZSCHIA	13	3	13	5	1100#	33	82	5	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	13	5	--	-	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	260#	65	13	5	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	440#	27	--	-
....ANACYSTIS	--	-	52#	19	--	-	--	-	--	-
...OSCILLATORIALES										
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	410#	25	--	-
....OSCILLATORIA	--	-	--	-	280	8	400#	24	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	13	3	26	10	56	2	--	-	--	-
....TRACHELONAS	--	-	13	5	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...DINOKONTAE										
...GLENODINIACEAE										
....GLENODINIUM	52	13	--	-	--	-	--	-	--	-

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

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

CHOCOLATE BAYOU BASIN

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	393.98	508	279	297	62	66	37	39	150
NOV.	1980	32.35	749	412	36	100	8.8	51	4.5	210
DEC.	1980	27.33	861	474	35	120	8.9	57	4.2	230
JAN.	1981	851.56	1140	630	1450	190	438	66	152	280
FEB.	1981	382.1	738	406	419	99	103	51	52	200
MAR.	1981	104.7	1110	611	173	170	48	69	19	290
APR.	1981	1344.4	1150	638	2310	180	670	70	253	290
MAY	1981	10802	393	216	6290	47	1370	29	841	110
JUNE	1981	8608	480	263	6120	58	1350	35	813	140
JULY	1981	7587	510	280	5730	62	1270	37	759	150
AUG.	1981	1568	825	454	1920	120	490	55	233	220
SEPT	1981	8704	276	152	3560	30	714	21	498	82
TOTAL		40405.42	**	**	28400	**	6540	**	3670	**
WTD. AVG.		111	473	260	**	60	**	34	**	130

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	469	784	766	942	788	1040	1180	1010	718	636	609	250
2	518	788	763	944	839	1050	1170	1100	750	646	640	220
3	538	789	761	918	858	1050	1160	600	741	662	670	241
4	556	765	772	913	876	1080	1170	425	755	672	702	290
5	568	750	783	821	775	1070	1210	212	469	677	732	333
6	572	740	801	862	700	1080	1150	245	566	500	775	375
7	585	720	813	877	645	1090	1200	369	618	370	802	427
8	595	691	825	1470	651	1090	1180	416	662	459	811	464
9	605	685	826	1560	698	1060	1320	508	703	522	835	506
10	614	683	876	1520	722	1050	1290	347	720	561	830	547
11	616	684	886	1560	756	1050	1300	358	475	587	843	662
12	619	685	880	1520	749	1140	1340	478	342	582	874	760
13	626	698	867	1500	758	1110	1290	566	320	557	877	761
14	628	711	862	1470	795	1120	1360	638	368	559	880	667
15	635	725	855	1530	811	1100	1420	578	461	561	905	350
16	637	726	847	1550	839	1080	1500	658	516	572	957	401
17	646	721	844	1570	863	1070	1480	678	529	561	953	440
18	650	744	848	1560	896	1080	1620	740	546	369	1020	549
19	651	749	893	1530	922	1110	1570	838	556	488	1000	596
20	648	765	912	550	970	1110	1530	896	534	543	1000	620
21	701	769	934	492	1020	1100	1520	913	496	498	980	647
22	746	774	956	513	1030	1100	1330	855	521	533	993	674
23	768	777	966	573	1050	1090	1200	840	535	550	1000	651
24	794	781	949	612	1060	1040	942	861	493	567	1030	657
25	808	785	944	648	1090	1080	916	799	512	570	1040	691
26	810	770	932	683	1110	1120	889	791	561	569	1070	651
27	804	768	918	720	1120	1130	941	872	547	507	1120	643
28	806	767	923	760	1110	1160	974	899	588	460	1170	640
29	799	766	928	782	---	1110	986	903	637	510	1190	650
30	791	769	932	831	---	1210	1020	936	648	549	1140	677
31	788	---	910	811	---	1260	---	756	---	577	750	---
MEAN	664	744	870	1050	875	1100	1240	680	563	548	910	535

CHOCOLATE RIVER BASIN

161

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	17.0	12.0	15.0	15.5	19.5	20.5	27.0	26.0	30.0	29.0	---
2	25.0	18.0	16.0	13.0	13.0	17.0	22.0	25.0	27.5	29.0	29.0	---
3	25.0	18.0	14.0	15.0	12.0	17.5	20.0	---	27.0	28.0	30.0	27.0
4	23.0	20.0	13.0	14.0	11.0	20.0	23.0	---	---	28.0	29.0	29.0
5	23.0	14.0	---	12.0	---	20.5	21.0	---	27.0	27.0	27.5	29.0
6	23.0	14.0	20.0	---	9.0	---	21.0	24.5	27.0	---	28.0	29.0
7	22.0	15.0	---	11.5	11.5	---	19.0	25.0	28.0	25.0	30.0	28.0
8	23.5	22.5	18.0	12.0	12.0	18.0	20.0	24.0	28.0	27.5	27.0	28.0
9	18.0	21.0	15.0	12.0	14.0	19.5	23.5	25.0	29.0	27.0	28.5	28.5
10	19.0	17.0	14.0	11.5	15.5	---	23.0	19.0	28.0	28.0	29.0	27.0
11	19.0	---	13.5	11.5	13.0	---	25.0	19.0	---	28.0	28.5	26.5
12	18.0	15.0	13.0	11.0	10.0	16.0	24.0	21.0	25.0	29.0	28.5	26.0
13	18.0	15.0	12.0	11.0	7.0	17.0	25.0	23.0	---	29.0	---	26.5
14	18.0	19.0	12.0	12.5	10.0	18.0	24.0	24.0	27.0	---	28.0	27.0
15	20.5	15.0	---	12.0	8.0	18.0	24.0	22.0	29.0	28.5	29.0	---
16	22.0	16.0	16.0	11.0	12.0	14.0	24.0	24.0	28.0	28.0	30.0	26.0
17	23.0	14.0	11.0	10.5	10.5	14.0	23.0	25.0	27.0	27.0	28.5	24.0
18	24.0	16.0	16.0	10.0	12.0	16.0	24.5	26.0	28.0	28.0	30.0	22.0
19	24.0	15.0	15.0	---	14.0	19.0	24.0	27.5	29.0	29.0	27.5	22.0
20	20.5	13.0	10.5	18.0	---	13.0	23.0	24.0	29.0	29.0	28.0	---
21	20.0	---	---	9.0	17.0	---	23.5	23.0	27.0	29.0	29.0	23.0
22	20.0	---	11.0	9.0	16.0	16.0	24.0	23.0	29.0	30.0	28.5	23.0
23	17.0	13.0	14.5	10.0	17.0	14.0	---	24.0	---	29.0	---	24.0
24	18.5	14.0	15.0	11.5	17.5	13.5	20.0	24.0	27.5	29.0	28.5	26.0
25	19.0	12.0	12.0	14.0	16.0	15.0	20.0	25.0	27.0	30.0	27.0	27.0
26	16.0	10.0	13.0	15.0	18.0	17.0	20.0	27.0	27.0	27.5	27.5	27.0
27	22.0	11.0	12.0	---	18.0	20.0	23.0	28.0	27.0	27.0	---	27.0
28	16.0	10.0	11.0	15.0	20.0	20.0	24.0	27.0	27.0	28.5	27.5	27.0
29	14.0	12.0	---	16.0	---	21.0	24.0	27.0	29.0	28.0	26.0	27.0
30	16.0	13.0	13.0	16.0	---	25.0	24.0	27.5	29.0	29.0	26.5	27.0
31	15.0	---	12.5	14.0	---	20.0	---	25.0	---	29.0	27.0	---
MEAN	20.0	15.0	13.5	12.5	13.5	17.5	22.5	24.5	27.5	28.5	28.5	26.5

COASTAL BASIN

08079100 EAST LEVEE DITCH NEAR FREEPORT, TX

LOCATION.--Lat 28°57'38", long 95°18'34", Brazoria County, Hydrologic Unit 12040205, on County Road 690, in room at left end of East Union Bayou drainage structure of East Levee, one orifice located upstream and one downstream from levee, 0.9 mi (1.4 km) upstream from Intracoastal Waterway, and 2.4 mi (3.9 km) east of Freeport.

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

GAGE.--Duplex water-stage recorder and crest-stage gages. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The purpose of this station is to record elevations of high tide at downstream side of levee and the corresponding elevations of the water surface at upstream side. No elevations are shown for the upstream side until they reach 3.0 ft (0.91 m) on either side. The levee is an earthen structure about 43 mi (69 km) long with a maximum elevation of 22 ft (6.7 m) NGVD. Gravity drainage structures with flapper gates and pumps to remove floodwaters from the downstream side are located at various points along the levee.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation (upstream side), 6.3 ft (1.92 m) Sept. 20, 1979; minimum not determined. Maximum elevation (downstream side), 5.6 ft (1.71 m) Aug. 9, 1980; minimum, -2.2 ft (-0.67 m) Feb. 3, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (upstream side), 3.3 ft (1.01 m) June 11; minimum, -1.0 ft (-0.30 m) Mar. 23. Maximum elevation (downstream side), 3.9 ft (1.19 m) Nov. 13; minimum, -0.7 ft (-0.21 m) Mar. 19.

MAXIMUM DAILY ELEVATION, IN FEET, UPSTREAM AND DOWNSTREAM SIDES OF LEVEE
WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down
1	-	-	-	1.5	-	1.3	-	.9	-	2.0	-	1.6	-	1.6	-	1.8	-	2.6	-	2.9	-	2.0	-	2.2
2	-	-	-	1.5	-	1.3	-	1.1	-	1.4	-	1.7	-	1.7	-	2.5	-	2.6	-	2.8	-	1.8	-	2.2
3	-	2.1	-	1.5	-	-	-	1.4	-	1.7	-	2.4	-	1.8	1.4	3.0	-	2.7	-	2.9	-	1.8	-	2.0
4	-	2.1	-	1.2	-	-	-	1.2	-	1.9	-	2.1	-	2.2	1.6	3.4	-	2.9	-	2.6	-	1.9	-	2.1
5	-	1.6	-	1.2	-	-	-	2.0	-	2.2	-	1.4	-	1.6	-	2.9	2.6	3.4	-	1.9	-	1.7	-	2.3
6	-	-	-	1.4	-	1.8	-	1.7	-	1.7	-	1.7	-	1.2	-	2.8	-	2.4	-	2.1	-	1.5	-	2.3
7	-	-	-	1.3	-	2.0	-	-	-	1.9	-	1.9	-	1.8	-	2.9	-	1.8	-	2.4	-	1.4	-	2.3
8	-	-	-	1.5	-	2.3	-	-	-	1.8	-	1.8	-	2.1	-	2.9	-	1.5	-	2.2	-	1.4	-	2.3
9	-	2.0	-	1.8	-	1.9	-	-	-	2.0	-	1.7	-	1.9	-	2.9	-	1.7	-	2.0	-	1.5	-	2.2
10	-	2.0	-	1.8	-	-	-	-	-	2.2	-	1.4	-	2.0	-	1.7	-	2.0	-	1.8	-	1.8	-	2.6
11	-	1.9	-	1.9	-	-	-	1.3	-	.4	-	1.4	-	2.1	-	1.8	3.3	2.9	-	2.2	-	1.8	-	2.7
12	-	2.0	.8	3.2	-	-	-	1.1	-	1.7	-	1.6	-	1.9	-	2.0	-	2.6	-	2.1	-	2.2	-	2.4
13	-	2.0	1.0	3.9	-	-	-	1.0	-	1.9	-	2.0	-	1.6	-	2.0	3.0	2.8	-	2.0	-	2.3	-	2.3
14	-	2.1	1.2	3.7	-	-	-	1.1	-	1.5	-	1.6	-	1.8	-	1.8	2.9	3.0	-	2.1	-	2.2	-	2.2
15	-	-	-	2.5	-	-	-	1.3	-	1.7	-	1.6	-	1.8	-	2.3	2.6	3.0	-	2.1	-	2.2	-	2.3
16	-	-	-	2.9	-	-	-	1.5	-	1.7	-	1.1	-	1.7	-	2.8	-	2.8	-	2.1	-	2.0	-	2.2
17	-	-	-	2.8	-	1.3	-	1.8	-	1.6	-	1.5	-	1.8	-	2.8	-	2.3	-	2.0	-	2.0	-	-
18	-	-	-	1.2	-	1.5	-	1.6	-	1.6	-	1.2	-	2.0	-	2.4	-	2.3	-	2.0	-	1.7	-	-
19	-	-	-	1.6	-	1.5	-	2.3	-	1.3	-	.1	-	2.0	-	2.3	-	2.4	-	1.8	-	1.7	-	-
20	-	-	-	1.5	-	1.6	-	2.2	-	1.2	-	.9	-	2.0	-	2.0	-	2.2	-	1.7	-	1.9	-	-
21	-	-	-	-	-	1.8	-	.9	-	1.3	-	1.6	-	1.9	-	2.5	-	2.1	-	1.6	-	2.0	-	-
22	-	-	-	-	-	2.0	-	1.1	-	1.2	-	1.2	-	2.0	-	2.6	-	2.1	-	1.5	-	2.0	-	-
23	-	-	-	-	-	1.8	-	1.2	-	.4	-	.4	-	2.2	-	2.5	-	1.9	-	1.4	-	2.1	-	-
24	-	-	-	-	-	1.6	-	.9	-	.7	-	.8	-	2.5	-	2.7	-	2.1	-	2.2	-	2.5	-	-
25	-	-	-	-	-	1.3	-	1.2	-	1.0	-	.9	-	2.6	-	2.8	-	2.0	-	2.3	-	2.5	-	-
26	-	-	-	-	-	1.5	-	1.2	-	1.3	-	.9	-	2.4	-	2.2	-	1.8	-	2.7	-	2.9	-	-
27	-	-	-	.9	-	1.4	-	1.4	-	1.5	-	1.3	-	2.4	-	2.1	-	2.0	-	2.7	-	2.9	-	-
28	-	-	-	.4	-	1.1	-	1.3	-	1.6	-	2.0	-	2.3	-	1.9	-	2.2	-	2.4	-	3.0	-	-
29	-	-	-	1.1	-	1.0	-	1.5	---	---	-	2.2	-	2.0	-	2.1	-	2.3	-	2.3	-	2.9	-	-
30	-	-	-	1.2	-	.9	-	1.4	---	---	-	1.6	-	1.9	-	2.5	-	2.7	-	2.3	-	3.0	-	-
31	-	1.4	---	---	-	.9	-	2.3	---	---	-	1.7	---	---	-	2.4	---	---	-	2.3	-	2.8	---	---

08079120 OLD BRAZOS RIVER NEAR FREEPORT, TX

LOCATION.--Lat 28°57'03", long 95°20'19", Brazoria County, Hydrologic Unit 12040205, in room at left gate abutment of Freeport levee guillotine gate structure, one orifice located upstream and one downstream side of gate, and 6,000 ft (1,829 m) downstream from river diversion channel near Freeport.

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

GAGE.--Duplex water-stage recorder and crest-stage gages. Datum of gage is 0.11 ft (0.034 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--The purpose of this station is to record gage heights of high tides at the downstream side of the levee and the corresponding elevation of the water surface at the upstream side. No gage heights are shown for the upstream side until they reach 3.0 ft (0.91 m) on either side. The levee is an earthen structure with a maximum elevation of 22 ft (6.7 m) NGVD. Gravity drainage structures, guillotine gate, and pumps to remove floodwaters from the downstream side are located along the levee.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (upstream side), 4.1 ft (1.25 m) May 19, 1980; minimum not determined. Maximum gage height (downstream side), 5.5 ft (1.68 m) Aug. 9, 1980; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum gage height (upstream side), 3.8 ft (1.16 m) Nov. 13; minimum not determined. Maximum gage height (downstream side), 3.8 ft (1.16 m) Nov. 13; minimum not determined.

MAXIMUM DAILY GAGE HEIGHT, IN FEET, UPSTREAM AND DOWNSTREAM SIDES OF LEVEE
WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		
	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	
1	-	1.8	-	1.4	-	1.1	-	.5	-	2.0	-	1.4	-	-	-	1.5	-	2.4	-	2.7	-	1.7	-	1.7	
2	-	1.8	-	1.3	-	1.1	-	1.0	-	1.2	-	1.6	-	-	-	2.0	-	2.3	-	2.6	-	1.4	-	1.6	
3	-	1.5	-	1.2	-	1.3	-	1.2	-	1.5	-	2.3	-	-	-	2.6	-	2.4	-	2.8	-	1.4	-	1.5	
4	-	1.3	-	1.1	-	1.5	-	1.1	-	1.7	-	1.9	-	-	-	3.3	3.3	-	2.8	-	2.2	-	1.4	-	1.5
5	-	1.6	-	1.0	-	1.8	-	1.8	-	2.0	-	1.2	-	-	-	2.5	3.3	3.3	-	1.5	-	1.2	-	1.7	
6	-	1.1	-	1.3	-	1.8	-	1.7	-	1.5	-	1.6	-	-	-	2.4	-	2.1	-	1.7	-	1.1	-	1.9	
7	-	1.7	-	1.3	-	2.2	-	1.4	-	1.7	-	1.9	-	-	-	2.6	-	1.6	-	2.3	-	.9	-	1.9	
8	-	1.4	-	1.5	-	2.4	-	1.6	-	1.7	-	1.4	-	-	-	2.7	-	1.4	-	1.7	-	1.0	-	1.9	
9	-	1.5	-	1.7	-	1.9	-	1.6	-	1.8	-	1.5	-	-	-	2.6	-	1.3	-	1.5	-	1.1	-	1.8	
10	-	1.7	-	1.8	-	1.2	-	1.4	-	2.2	-	1.2	-	-	-	1.5	-	1.6	-	1.3	-	1.4	-	2.2	
11	-	1.4	-	2.0	-	1.8	-	1.1	-	.1	-	1.3	-	-	-	1.3	-	2.5	-	1.8	-	1.5	-	2.3	
12	-	1.7	3.3	3.2	-	1.5	-	.9	-	1.4	-	1.8	-	-	-	1.5	-	2.1	-	1.6	-	1.8	-	1.9	
13	-	1.6	3.8	3.8	-	1.3	-	.8	-	1.6	-	2.0	-	-	-	1.5	-	2.5	-	1.6	-	1.9	-	1.9	
14	-	1.7	3.5	3.3	-	1.3	-	.9	-	1.2	-	1.5	-	-	-	1.3	-	2.6	-	1.7	-	1.8	-	1.8	
15	-	2.2	-	2.3	-	1.3	-	1.1	-	1.5	-	1.6	-	-	-	1.9	-	2.5	-	1.6	-	1.8	-	1.9	
16	-	2.2	-	2.7	-	1.2	-	1.4	-	1.5	-	.9	-	-	-	2.4	-	2.4	-	1.7	-	1.6	-	1.8	
17	-	2.2	-	2.6	-	1.2	-	1.7	-	1.3	-	1.4	-	-	-	2.3	-	2.0	-	1.6	-	1.6	-	1.6	
18	-	1.9	-	.9	-	1.4	-	1.4	-	1.4	-	-	-	-	-	2.0	-	2.0	-	1.6	-	1.3	-	2.0	
19	-	1.9	-	1.3	-	1.2	-	2.4	-	1.2	-	-	-	-	-	1.9	-	2.0	-	1.4	-	1.2	-	2.0	
20	-	1.5	-	1.4	-	1.6	-	1.8	-	1.1	-	-	-	-	-	1.6	-	1.8	-	1.3	-	1.4	-	2.1	
21	-	1.8	-	2.2	-	2.0	-	.7	-	1.1	-	-	-	-	-	2.3	-	1.8	-	1.2	-	1.6	-	2.3	
22	-	1.7	3.2	3.0	-	2.0	-	1.0	-	1.0	-	-	-	-	-	2.3	-	1.8	-	1.0	-	1.6	-	2.4	
23	-	2.0	-	2.4	-	1.8	-	1.0	-	.1	-	-	-	-	-	2.1	-	1.6	-	1.0	-	1.7	-	2.2	
24	-	1.3	-	1.8	-	1.3	-	.6	-	.4	-	-	-	-	-	2.7	-	1.8	-	1.8	-	2.1	-	1.7	
25	-	1.9	-	2.5	-	1.2	-	.9	-	.7	-	-	-	2.6	-	2.9	-	1.5	-	2.2	-	2.2	-	1.6	
26	-	2.3	-	2.5	-	1.3	-	1.1	-	1.0	-	-	-	-	-	1.8	-	1.4	-	2.2	-	2.4	-	1.6	
27	-	2.1	-	.7	-	1.2	-	1.2	-	1.1	-	-	-	-	-	1.7	-	1.6	-	2.3	-	2.5	-	1.7	
28	-	1.5	-	.7	-	1.0	-	1.2	-	1.3	-	-	-	1.8	-	1.4	-	1.8	-	2.2	-	2.7	-	2.0	
29	-	1.4	-	.9	-	.8	-	1.4	---	---	-	-	-	1.5	-	1.7	-	1.9	-	2.1	-	2.6	-	1.8	
30	-	1.2	-	1.0	-	.6	-	1.1	---	---	-	-	-	1.6	-	2.2	-	2.3	-	2.1	-	2.6	-	1.8	
31	-	1.3	---	---	-	.7	-	2.1	---	---	-	-	---	---	-	2.1	---	---	-	2.0	-	2.4	---	---	

COASTAL BASIN

08079150 SOUTH LEVEE DITCH NEAR FREEPORT, TX

LOCATION.--Lat 28°55'28", long 95°21'23", Brazoria County, Hydrologic Unit 12040205, on southern arm of levee, in room at right end of South Levee drainage structure, one orifice located upstream and one downstream from levee, 0.6 mi (1.0 km) upstream from Intracoastal Waterway, 0.7 mi (1.1 km) west of State Highway 1495, and 1.7 mi (2.7 km) southwest of Freeport.

PERIOD OF RECORD.--May 1970 to current year.

GAGE.--Duplex water-stage recorder and crest-stage gages. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The purpose of this station is to record elevations of high tides at downstream side of levee and the corresponding elevation of the water surface at upstream side. No elevations are shown for the upstream side until they reach 3.0 ft (0.91 m) on either side. The levee is an earthen structure with a maximum elevation of 22 ft (6.7 m) NGVD. Gravity drainage structures, with flapper gates and pumps to remove floodwaters from the downstream side, are located along the levee.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation (upstream side), 5.0 ft (1.52 m) Sept. 20, 1979; minimum not determined. Maximum elevation (downstream side), 6.0 ft (1.83 m) Aug. 9, 1980; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (upstream side), 2.5 ft (0.76 m) June 13, 14; minimum not determined. Maximum elevation (downstream side), 4.1 ft (1.25 m) Nov. 13; minimum not determined.

MAXIMUM DAILY ELEVATION, IN FEET, UPSTREAM AND DOWNSTREAM SIDES OF LEVEE
WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		
	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	
1	-	-	-	1.6	-	1.4	-	.9	-	2.4	-	1.8	-	1.7	-	1.7	-	-	-	-	2.0	-	2.0		
2	-	-	-	1.6	-	1.5	-	1.2	-	1.6	-	1.9	-	-	-	2.2	-	-	-	2.7	-	1.7	-	2.0	
3	-	1.9	-	1.6	-	1.6	-	1.5	-	2.0	-	2.5	-	-	-	2.7	-	-	-	2.6	-	1.8	-	1.9	
4	-	1.9	-	1.4	-	1.8	-	1.3	-	2.2	-	2.4	-	-	-	1.3	1	-	2.7	-	2.4	-	1.8	-	1.9
5	-	1.5	-	1.4	-	2.1	-	2.0	-	2.4	-	1.7	-	-	-	2.7	1.1	3.1	-	2.0	-	1.5	-	2.0	
6	-	2.0	-	1.6	-	2.1	-	-	-	1.8	-	2.0	-	-	-	2.6	-	2.2	-	2.0	-	1.4	-	2.2	
7	-	2.0	-	1.7	-	2.2	-	1.6	-	2.0	-	2.2	-	-	-	2.8	-	1.8	-	2.2	-	1.3	-	2.2	
8	-	1.8	-	1.8	-	2.4	-	1.8	-	2.0	-	1.9	-	-	-	2.8	-	1.9	-	2.1	-	1.4	-	2.2	
9	-	1.8	-	2.0	-	2.3	-	2.0	-	2.2	-	1.9	-	-	-	2.8	-	1.8	-	1.9	-	1.5	-	2.1	
10	-	1.9	-	2.1	-	1.7	-	1.8	-	2.2	-	1.7	-	-	-	1.7	-	2.0	-	1.8	-	1.8	-	2.4	
11	-	1.7	-	2.3	-	2.0	-	1.4	-	.8	-	1.7	-	-	-	1.7	-	2.8	-	2.1	-	1.8	-	2.6	
12	-	2.0	.5	3.5	-	1.9	-	1.4	-	2.0	-	1.9	-	-	-	1.9	-	2.3	-	1.9	-	2.0	-	2.3	
13	-	2.0	.5	4.1	-	1.7	-	1.2	-	2.0	-	2.2	-	-	-	-	-	2.7	-	2.0	-	2.2	-	2.2	
14	-	2.0	.5	4.0	-	1.6	-	1.4	-	1.7	-	1.9	-	-	-	-	2.5	3.0	-	2.1	-	2.1	-	2.1	
15	-	2.1	-	2.7	-	1.6	-	1.4	-	1.9	-	1.9	-	1.8	-	-	-	2.8	-	2.1	-	2.1	-	2.1	
16	-	2.4	-	2.9	-	1.5	-	1.8	-	1.9	-	1.4	-	1.7	-	-	-	2.7	-	2.1	-	1.9	-	2.0	
17	-	2.4	-	2.9	-	1.4	-	2.0	-	1.7	-	1.8	-	1.8	-	-	-	-	-	2.0	-	1.9	-	2.0	
18	-	2.2	-	1.1	-	1.7	-	1.8	-	1.9	-	1.5	-	2.0	-	-	-	-	-	2.1	-	1.7	-	2.3	
19	-	2.1	-	1.6	-	1.6	-	2.4	-	1.5	-	.4	-	2.0	-	-	-	-	-	1.8	-	1.6	-	2.3	
20	-	1.6	-	1.7	-	1.8	-	2.4	-	1.5	-	1.2	-	-	-	-	-	-	-	1.7	-	1.7	-	2.3	
21	-	1.9	-	2.1	-	2.0	-	1.0	-	1.5	-	1.8	-	-	-	-	-	-	-	1.5	-	1.9	-	2.5	
22	-	1.8	-	2.9	-	2.2	-	1.2	-	1.2	-	1.3	-	-	-	-	-	-	-	1.4	-	1.9	-	2.7	
23	-	2.0	-	2.6	-	2.0	-	1.4	-	.7	-	.6	-	-	-	-	-	-	-	1.3	-	2.1	-	2.4	
24	-	1.4	-	2.1	-	1.8	-	1.2	-	.9	-	1.1	-	-	-	-	-	-	-	2.0	-	2.3	-	2.0	
25	-	1.8	-	2.6	-	1.5	-	1.4	-	1.2	-	1.2	-	-	-	-	-	-	-	2.2	-	2.3	-	2.0	
26	-	2.3	-	2.6	-	1.6	-	1.6	-	1.5	-	1.0	-	-	-	-	-	-	-	2.4	-	2.5	-	2.0	
27	-	2.3	-	1.0	-	1.5	-	1.6	-	1.7	-	1.6	-	-	-	-	-	-	-	2.5	-	2.7	-	2.0	
28	-	2.0	-	.9	-	1.3	-	1.6	-	1.8	-	2.2	-	2.1	-	-	-	-	-	2.3	-	2.7	-	2.3	
29	-	1.5	-	1.3	-	1.2	-	1.8	---	---	-	2.3	-	1.9	-	-	-	-	-	2.2	-	2.7	-	2.2	
30	-	1.6	-	1.3	-	.9	-	1.6	---	---	-	1.9	-	1.8	-	-	-	-	-	2.2	-	2.7	-	2.2	
31	-	1.6	---	---	-	1.0	-	2.6	---	---	-	2.0	---	---	-	---	---	---	-	2.2	-	2.6	---	---	

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX

LOCATION.--Lat 33°02'18", long 101°11'50", Garza County, Hydrologic Unit 12050004, on right bank at downstream side of bridge on U.S. Highway 84 at Justiceburg, 250 ft (76 m) downstream from Panhandle and Santa Fe Railroad, and at mile 143.4 (230.7 km) measured from confluence with Salt Fork Brazos River at mile 923.2 (1,485.4 km) on the Brazos River.

DRAINAGE AREA.--1,466 mi² (3,797 km²), of which 1,222 mi² (3,165 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1961 to current year. Prior to October 1963, published as Sand Creek or South Fork Double Mountain Fork Brazos River at Justiceburg.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,222.47 ft (677.409 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor. No known diversion above station.

AVERAGE DISCHARGE.--19 years (water years 1963-81), 27.5 ft³/s (0.779 m³/s), 1.53 in/yr (39 mm/yr), 19,920 acre-ft/yr (24.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft³/s (1,400 m³/s) May 6, 1969, gage height, 19.8 ft (6.04 m), from floodmarks; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1895, 25.8 ft (7.89 m) in 1914 and 22.2 ft (6.77 m) in September 1955, from information by local resident. Flood in July 1961 reached a stage of 18.2 ft (5.55 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,460 ft³/s (69.7 m³/s) Sept. 7 at 2000 hours, gage height, 8.15 ft (2.484 m), no other peak above base of 2,100 ft³/s (59.5 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	.03	.10	.15	.11	36	.00	.86	21	.00	.00	.00
2	11	.03	.08	.15	.11	6.4	.00	.30	.86	.00	.00	.00
3	4.8	.02	.06	.14	.11	4.1	.00	.00	.18	.00	.00	.00
4	3.8	.02	.05	.14	.11	2.4	.00	.00	176	.00	.00	3.5
5	2.7	.02	.03	.14	.11	.74	.00	.00	15	.00	.00	40
6	2.2	.02	.02	.14	.10	.24	.00	6.8	12	.00	.00	1.1
7	1.3	.01	.02	.14	.10	77	.00	.74	1.3	.00	.20	289
8	.99	.01	346	.14	.10	6.0	.00	33	.63	.00	.41	112
9	.63	.01	68	.14	.10	.99	.00	2.3	.30	.00	.00	12
10	.53	.01	13	.13	.10	.99	.00	.24	.14	.00	.00	1.6
11	.30	.01	5.9	.13	.08	.99	.00	.00	.10	.00	.00	.53
12	.30	.01	4.8	.13	.05	.74	.00	.00	.05	.00	96	.53
13	.28	.01	3.5	.13	.02	.44	.00	.00	.00	.00	228	.14
14	.26	.01	2.9	.13	.01	.37	.00	.00	.00	.00	16	.07
15	.24	.01	2.7	.13	.00	4.3	2.3	.00	.00	.00	.30	.03
16	.22	.01	2.2	.13	.00	.86	8.5	.00	.00	.00	.86	.03
17	.20	.01	2.0	.13	.00	.30	2.8	.00	.00	.00	99	.02
18	.18	.18	1.6	.13	.00	.00	16	.00	.00	.00	38	.01
19	.16	2.2	1.3	.13	.00	.00	15	.00	.00	.00	3.2	.00
20	.14	1.3	1.1	.13	.00	.00	1.5	.00	.00	.00	.99	.00
21	.12	.37	.90	.12	.00	.00	110	.00	.00	.00	.03	.00
22	.10	.18	.80	.12	.00	.00	46	.00	.00	.00	.00	.00
23	.08	.10	.70	.12	.00	.00	30	.00	.00	.00	.00	.00
24	.07	.05	.60	.12	.00	.00	2.0	.00	.00	.00	.00	.00
25	.06	.03	.60	.12	.00	.00	.37	6.2	.00	.00	.00	.00
26	.05	.02	.40	.12	.00	.00	.37	.05	.00	.00	.00	.00
27	.05	6.1	.30	.12	.00	.00	.30	.01	.00	.00	.00	.00
28	.04	8.8	.25	.12	416	.00	71	.00	.00	.00	.00	.00
29	.04	2.0	.20	.11	---	.00	35	16	.00	.00	.00	.00
30	.03	.18	.18	.11	---	.00	2.0	120	.00	.00	.00	.00
31	.03	---	.16	.11	---	.00	---	6.5	---	.00	.00	---
TOTAL	46.90	21.76	460.45	4.00	417.21	142.86	343.14	193.00	227.56	.00	482.99	460.56
MEAN	1.51	.73	14.9	.13	14.9	4.61	11.4	6.23	7.59	.000	15.6	15.4
MAX	16	8.8	346	.15	416	77	110	120	176	.00	228	289
MIN	.03	.01	.02	.11	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.006	.003	.06	.001	.06	.02	.05	.03	.03	.000	.06	.06
IN.	.01	.00	.07	.00	.06	.02	.05	.03	.03	.00	.07	.07
AC-FT	93	43	913	7.9	828	283	681	383	451	.00	958	914
CAL YR 1980	TOTAL	11053.01	MEAN	30.2	MAX	2630	MIN	.00	CFSM	.12	IN	1.69
WTR YR 1981	TOTAL	2800.43	MEAN	7.67	MAX	416	MIN	.00	CFSM	.03	IN	.43
									AC-FT	21920	AC-FT	5550

BRAZOS RIVER BASIN

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1975 to current year. Sediment records: October 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to current year.

WATER TEMPERATURES: October 1975 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 20,600 micromhos Oct. 22, 1975; minimum daily, 375 micromhos Sept. 27, 1980.

WATER TEMPERATURES: Minimum daily, 4.0°C Jan. 7-9, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 15,700 micromhos Feb. 14; minimum daily, 657 micromhos May 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	
	NOV 18...	1336	.21	11800	10.0	810	560	200	76	2400	37	
	JAN 06...	1221	.14	14800	10.0	960	750	230	94	3100	44	
	FEB 10...	1151	.12	14700	4.0	990	790	240	94	3000	42	
	APR 22...	1352	21	--	24.0	--	--	--	--	--	--	
	SEP 09...	1220	13	2160	19.0	160	38	40	14	390	14	
			POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
	NOV 18...	7.9	250	530	3900	.9	8.6	7270	--	--	--	
	JAN 06...	9.1	210	640	4800	1.0	10	9010	--	--	--	
	FEB 10...	8.6	200	590	4800	1.1	11	8870	--	--	--	
	APR 22...	--	--	--	--	--	--	--	11100	617	99	
	SEP 09...	6.3	120	140	580	1.5	8.3	1250	--	--	--	
					SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM
APR 22...	1352	21	24.0	11100	617	72	88	96	98	99	99	100

BRAZOS RIVER BASIN

167

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	46.90	4440	2610	331	1300	162	220	28	310
NOV.	1980	21.76	2500	1470	86	710	42	130	7.6	170
DEC.	1980	460.45	1690	990	1230	470	579	93	115	120
JAN.	1981	4.00	14200	8500	92	4600	50	540	5.8	*
FEB.	1981	417.21	1050	612	689	280	318	60	67	73
MAR.	1981	142.86	1670	977	377	460	178	91	35	120
APR.	1981	343.14	1560	911	844	430	396	86	80	110
MAY	1981	193.00	1190	697	363	320	169	67	35	83
JUNE	1981	227.56	1060	616	379	290	177	59	36	73
JULY	1981	0.00	*	*	0.00	*	0.00	*	0.00	*
AUG.	1981	482.99	856	499	650	230	298	49	64	60
SEPT	1981	460.56	928	541	673	250	312	52	65	65
TOTAL		2800.43	**	**	5710	**	2680	**	539	**
WTD. AVG.		7.7	1290	756	**	350	**	71	**	90

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2400	14900	4550	13900	14700	1360	---	4590	3360	---	---	---
2	3340	15000	5890	14000	14600	3210	---	7300	6800	---	---	---
3	4000	15000	7500	14200	14500	4830	---	---	11500	---	---	---
4	4830	15000	8920	14100	14700	5250	---	---	666	---	---	7500
5	5640	15100	10000	14000	14800	7080	---	---	950	---	---	1360
6	6580	15100	11100	13800	15000	9880	---	4060	1020	---	---	6800
7	7380	15200	13500	13900	14900	850	---	11800	4520	---	---	700
8	8110	15200	1280	13800	15000	2190	---	1400	9250	---	10900	792
9	9220	15100	1180	13900	14700	5120	---	1970	10500	---	---	1860
10	9610	15200	2860	14000	14500	6660	---	8680	10600	---	---	6930
11	10800	15200	4170	14000	15000	6300	---	---	11000	---	---	10500
12	11300	15100	4990	14100	15400	6870	---	---	12100	---	1220	10900
13	11500	15200	5280	14200	15600	7640	---	---	---	---	709	11300
14	11900	15300	5760	14100	15700	9020	---	---	---	---	1210	12000
15	12300	15300	6250	14200	---	3090	9890	---	---	---	5610	12700
16	12700	15400	6720	14300	---	5350	1500	---	---	---	7500	13500
17	13000	15400	7200	14300	---	10100	6180	---	---	---	659	14400
18	13400	11800	7610	14200	---	---	2740	---	---	---	778	14900
19	13600	2850	8170	14400	---	---	2210	---	---	---	1150	---
20	13700	4220	8630	14300	---	---	6510	---	---	---	1730	---
21	13800	8550	9110	14400	---	---	1110	---	---	---	3250	---
22	14000	13500	9580	14500	---	---	1370	---	---	---	---	---
23	14200	13700	10100	14500	---	---	3110	---	---	---	---	---
24	14300	13900	10700	14400	---	---	7380	---	---	---	---	---
25	14500	14200	11000	14500	---	---	10200	1210	---	---	---	---
26	14600	14400	11600	14600	---	---	11800	7910	---	---	---	---
27	14600	1510	12000	14500	---	---	13000	12200	---	---	---	---
28	14700	1640	12500	14600	1010	---	750	---	---	---	---	---
29	14800	2050	13000	14600	---	---	844	1800	---	---	---	---
30	14800	3880	13600	14700	---	---	3720	657	---	---	---	---
31	14900	---	13900	14700	---	---	---	3000	---	---	---	---
MEAN	11100	12100	8340	14200	14000	5580	5140	5120	6860	---	3900	8410

BRAZOS RIVER BASIN

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

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

BRAZOS RIVER BASIN

169

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX
(National stream-quality accounting network)

LOCATION.--Lat 33°00'29", long 100°10'49", Stonewall County, Hydrologic Unit 12050004, on right bank at downstream side of bridge on U.S. Highway 83, 0.3 mi (0.5 km) downstream from Hitson Creek, 10 mi (16 km) south of Aspermont, and at mile 34.5 (55.5 km) measured from confluence with Salt Fork Brazos River which is at mile 923.2 (1,485.4 km) on the Brazos River.

DRAINAGE AREA.--8,796 mi² (22,782 km²), of which 6,932 mi² (17,954 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1923 to September 1934, June 1939 to current year.

REVISED RECORDS.--WSP 733: 1927(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,624.79 ft (495.236 m) National Geodetic Vertical Datum of 1929. Dec. 3, 1923, to Sept. 30, 1934, nonrecording gage at site 90 ft (27 m) downstream at datum 2.0 ft (0.61 m) higher, and June 8, 1939, to Aug. 12, 1972, water-stage recorder at present site and datum 2.0 ft (0.61 m) higher.

REMARKS.--Water-discharge records fair. Small diversions above station for oilfield operation.

AVERAGE DISCHARGE.--52 years (water years 1925-34, 1940-81), 161 ft³/s (4.560 m³/s), 1.17 in/yr (30 mm/yr), 116,600 acre-ft/yr (144 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 91,400 ft³/s (2,590 m³/s) Sept. 26, 1955, gage height, 29.5 ft (8.99 m), present datum; no flow at times most years.
Maximum stage since at least 1899, that of Sept. 26, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,710 ft³/s (162 m³/s) June 4 at 1630 hours, gage height, 8.67 ft (2.643 m), no peak above base of 8,800 ft³/s (249 m³/s); minimum, 0.17 ft³/s (0.005 m³/s) Aug. 6, 10, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	681	24	50	36	25	181	15	274	281	5.9	.33	13
2	380	23	59	34	23	312	14	161	154	5.9	.24	11
3	250	23	59	33	23	257	13	108	102	12	.24	10
4	171	21	54	33	22	192	11	82	2210	56	.28	16
5	127	20	49	32	22	128	11	92	2140	640	.20	40
6	105	20	47	31	22	99	9.9	150	669	319	.20	14
7	89	23	49	31	23	83	9.5	78	349	91	.20	10
8	74	20	209	30	23	70	8.3	845	211	52	.20	9.2
9	65	18	151	29	23	63	7.2	667	163	29	.20	8.4
10	59	17	214	29	24	66	6.8	220	115	20	.28	102
11	58	17	241	29	20	87	6.6	173	78	13	.50	86
12	52	17	178	28	23	74	6.4	124	56	9.9	.44	57
13	47	17	125	27	24	63	6.8	87	43	7.3	33	45
14	43	19	103	27	22	58	17	62	35	5.3	23	39
15	41	20	90	27	22	59	55	54	31	3.7	92	32
16	42	23	83	27	22	52	64	50	42	2.6	104	23
17	37	36	75	26	22	59	42	43	31	2.0	294	19
18	34	42	70	26	22	82	108	36	24	1.5	1720	17
19	35	40	61	28	23	68	128	29	20	1.4	754	16
20	31	46	56	30	23	55	121	27	17	1.1	283	12
21	31	42	53	30	21	47	607	24	15	.90	136	10
22	29	41	53	29	19	41	1670	23	13	.80	88	8.4
23	29	41	51	29	18	37	787	20	11	.64	84	7.6
24	27	42	47	28	18	35	323	17	11	.50	59	6.6
25	27	45	44	28	17	30	178	16	10	.44	44	5.9
26	27	46	45	28	17	28	114	15	9.0	.44	34	7.2
27	168	45	44	28	21	25	78	31	8.2	.50	28	4.1
28	115	44	42	28	148	23	61	58	7.3	.56	23	3.8
29	51	44	40	27	---	20	52	79	6.5	.50	19	3.0
30	30	43	37	25	---	18	248	83	6.1	.44	17	2.6
31	25	---	37	25	---	16	---	49	---	.38	15	---
TOTAL	2980	919	2516	898	732	2428	4778.5	3777	6868.1	1284.70	3853.31	638.8
MEAN	96.1	30.6	81.2	29.0	26.1	78.3	159	122	229	41.4	124	21.3
MAX	681	46	241	36	148	312	1670	845	2210	640	1720	102
MIN	25	17	37	25	17	16	6.4	15	6.1	.38	.20	2.6
CFSM	.05	.02	.04	.02	.01	.04	.09	.07	.12	.02	.07	.01
IN.	.06	.02	.05	.02	.01	.05	.10	.08	.14	.03	.08	.01
AC-FT	5910	1820	4990	1780	1450	4820	9480	7490	13620	2550	7640	1270
CAL YR 1980	TOTAL	67155.28	MEAN	183	MAX	13800	MIN	.00	CFSM	.10	IN	1.34
WTR YR 1981	TOTAL	31673.41	MEAN	86.8	MAX	2210	MIN	.20	CFSM	.05	IN	.63
									AC-FT	133200	AC-FT	62820

BRAZOS RIVER BASIN

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1948 to November 1951, October 1956 to September 1977. Chemical and biochemical analyses: October 1977 to September 1978. Sediment records: November 1949 to November 1951.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1948 to November 1951, October 1956 to current year.

WATER TEMPERATURES: November 1949 to November 1951, October 1956 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 13,100 micromhos July 29, 1980; minimum daily, 735 micromhos Oct. 24. WATER TEMPERATURES (1945-51, 1956-81): Maximum daily, 38.0°C July 18, 1966; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 9,740 micromhos Apr. 13; minimum daily, 1,060 micromhos Aug. 20. WATER TEMPERATURES: Maximum daily, 28.0°C May 31; minimum daily, 0.0°C Dec. 25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)
NOV 19...	1015	4.7	8070	7.9	5.0	8.7	13.8	116	1.1	92	140
JAN 21...	1000	4.7	7300	7.8	3.5	1.0	11.0	90	1.6	K11	K8
MAR 18...	1430	27	4550	8.0	14.0	390	11.0	112	6.0	K11	88
MAY 20...	1530	4.8	7140	8.0	24.5	54	9.4	119	.5	40	37
JUL 15...	1530	5.6	7240	7.9	36.0	17	8.4	131	1.6	120	620
SEP 16...	1330	7.6	3270	8.0	22.5	250	9.5	116	.8	K73	540

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV 19...	1900	1800	380	230	1200	12	9.7	130	1300	2100	.4
JAN 21...	1600	1500	460	120	1100	12	9.1	140	1400	1700	.9
MAR 18...	1000	910	260	92	650	8.8	12	120	910	990	1.5
MAY 20...	1700	1600	500	120	1200	13	11	120	1700	1700	.4
JUL 15...	1900	1800	580	120	980	9.7	13	100	1900	1500	.5
SEP 16...	680	560	180	57	450	7.5	14	110	590	730	2.0

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, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
NOV 19...	8.5	5380	5310	--	--	.23	.26	.120	.100	.47	.52
JAN 21...	8.9	5090	4880	--	--	.14	.10	.080	.110	.58	.54
MAR 18...	4.7	3120	2990	.00	.000	.00	.44	.000	.230	1.4	1.5
MAY 20...	11	5200	5320	.00	.000	.00	.01	.050	.070	.60	1.1
JUL 15...	12	5440	5170	--	--	.00	.00	.130	.090	1.1	.91
SEP 16...	10	2190	2100	--	--	<.10	.01	.090	.090	1.3	.91

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDED TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDED RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 19...	0	1	0	1	0	0	0	20	0	20
JAN 21...	0	1	0	1	0	0	0	40	10	30
MAY 20...	3	1	0	1	0	0	0	10	0	20
JUL 15...	1	0	0	0	0	0	0	20	0	20

BRAZOS RIVER BASIN

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 19, 80 1015	MAR 18, 81 1430	MAY 20, 81 1530	JUL 15, 81 1530	SEP 16, 81 1330					
TOTAL CELLS/ML	400	280000	120000	32000	180000					
DIVERSITY: DIVISION	0.7	1.3	1.2	1.4	0.6					
..CLASS	0.7	1.3	1.2	1.4	0.6					
...ORDER	1.7	1.9	1.9	2.4	1.3					
....FAMILY	1.7	2.4	2.1	2.7	1.4					
....GENUS	1.7	2.7	2.2	3.1	1.6					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)										
.BACILLARIOPHYCEAE										
...ACHNANTHALES										
...ACHNANTHACEAE										
....ACHNANTHES										
..BACILLARIALES										
...NITZSCHIAEEAE										
....NITZSCHIA										
...BIDDULPHIALES										
...CHAETOCERACEAE										
....CHAETOCEROS										
...EUPODISCALES										
...COSCINODISCACEAE										
....CYCLOTELLA										
..FRAGILARIALES										
...FRAGILARIAEEAE										
....SYNEDRA										
...NAVICULALES										
...ENTOMONEIDACEAE										
....ENTOMONEIS										
...GOMPHONEMACEAE										
....GOMPHONEMA										
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHLOROCOCCACEAE										
....TETRAEDRON										
...DICTYOSPHAERIALACEAE										
....DICTYOSPHAERIUM										
...MICRACTINIACEAE										
....MICRACTINIUM										
...OOCYSTACEAE										
...ANKISTRODESMUS										
...FRANCEIA										
...NEPHROCYTIUM										
...OOCYSTIS										
...PALMELLACEAE										
...Sphaerocystis										
...SCENEDESMACEAE										
....ACTINASTRUM										
...CRUCIGENIA										
...SCENEDESMUS										
...TETRASTRUM										
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA										
...CHLAMYDOMONAS										
...CHLOROGONIUM										
CHRYSTOPHYTA										
.CHRYSTOPHYCEAE										
...OCHROMONADALES										
...SYNURACEAE										
....SYNURA										
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
...CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS										
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
...CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM										
...ANACYSTIS										
...NOSTOCALES										
...NOSTOCACEAE										
....ANABAENA										
...OSCILLATORIALES										
...OSCILLATORIAEEAE										
....LYNCBYA										
...OSCILLATORIA										
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA										

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

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

BRAZOS RIVER BASIN

173

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	2980	3200	2080	16700	620	4950	690	5530	740
NOV.	1980	919	6860	4570	11300	1500	3770	1400	3470	1700
DEC.	1980	2516	4400	2880	19500	880	5950	930	6340	1000
JAN.	1981	898	7080	4720	11400	1600	3810	1400	3490	1800
FEB.	1981	732	7150	4780	9450	1600	3210	1400	2850	1800
MAR.	1981	2428	4090	2660	17400	800	5250	870	5720	950
APR.	1981	4778.5	2740	1770	22900	510	6610	590	7660	620
MAY	1981	3777	2560	1650	16900	480	4860	560	5670	580
JUNE	1981	6868.1	1710	1090	20300	300	5510	380	7040	380
JULY	1981	1284.70	2790	1810	6270	530	1830	600	2090	640
AUG.	1981	3853.31	1710	1090	11300	290	3030	380	3970	370
SEPT	1981	638.8	3530	2300	3960	680	1180	760	1310	820
TOTAL		31673.41	**	**	168000	**	50000	**	55100	**
WTD. AVG.		87	3010	1960	**	580	**	640	**	700

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	6400	6170	6760	7240	3620	8050	2190	3210	8360	8770	5480
2	1660	7440	5420	6850	7380	2620	8280	2130	2140	8340	8790	5500
3	2070	7820	4820	6910	7530	2800	8470	2350	2100	8100	8740	5940
4	2500	7900	5070	6980	7730	2880	8850	2820	1400	7460	8800	6300
5	2950	7940	5430	7060	7630	2930	8940	3570	1250	1630	8790	3680
6	3380	7990	5450	7160	7710	3290	9140	3320	1270	2820	8680	5770
7	3600	8240	5780	7200	7850	3810	9270	3790	1390	2860	8590	6130
8	3860	7580	2470	7230	7970	4290	9390	1250	1590	3810	8650	5130
9	4180	7910	4500	7200	8080	4770	9470	1490	1940	4070	8700	5650
10	4480	8190	3620	7180	7860	4890	9560	1540	2290	4610	8680	2500
11	5340	8310	3220	7220	8370	4860	9570	2360	2640	5310	8600	2280
12	4850	8430	2680	7270	8400	4330	9640	3170	3100	5990	8470	2010
13	5040	8490	2750	7280	8220	5080	9740	3460	3760	6540	4150	2090
14	5260	8630	3170	7290	8100	5020	8440	4020	4180	7000	4000	2340
15	5450	8310	3690	7250	8030	5280	6500	4590	4670	7280	3570	2690
16	5640	7710	4230	7200	7940	5740	3500	5090	4510	7560	2480	3220
17	5820	6550	4640	7190	8190	5920	7960	5820	5290	7700	2370	3830
18	6150	6000	4970	6970	8040	4500	4960	6320	5570	7900	1450	4290
19	6230	6750	5290	7040	7910	4030	3580	6770	5940	8070	1370	4740
20	6400	6200	5700	7150	7930	4190	4930	7100	6360	8140	1060	5200
21	6600	7380	6180	7370	7920	4780	3500	7290	6770	8300	1290	5690
22	6750	6710	6610	7350	7870	5510	1750	7480	7150	8430	1510	6120
23	6940	6440	5940	7200	8060	6090	1570	7870	7560	8480	1670	6460
24	7120	6130	6120	7020	8220	6300	2210	8220	7760	8590	2080	6670
25	7250	6000	6360	7010	8390	6630	2940	8300	7940	8640	2780	6880
26	7320	5850	6540	6800	8580	6610	3130	8400	8060	8680	3160	6430
27	3230	5990	6460	6730	8440	6990	3600	7000	8150	8710	3540	7000
28	4560	6100	6580	6740	3910	7280	4040	3980	8220	8740	3890	7280
29	5550	6200	6600	6870	---	7640	4530	2620	8250	8750	4270	7350
30	5480	6030	6690	6990	---	7970	2750	2250	8320	8730	4670	7560
31	5990	---	6770	7070	---	8000	---	5420	---	8850	5120	---
MEAN	4930	7190	5160	7080	7840	5120	6280	4580	4760	7050	5120	5070

BRAZOS RIVER BASIN

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	10.0	10.0	13.0	5.0	9.0	14.0	23.0	24.0	23.0	24.0	24.0
2	20.0	12.0	6.0	7.0	3.0	13.0	15.0	18.0	24.0	24.0	25.0	23.0
3	19.0	13.0	5.0	7.0	3.0	13.0	20.0	20.0	23.0	26.0	23.0	24.0
4	19.0	12.0	12.0	5.0	6.0	11.0	12.0	20.0	22.0	27.0	24.0	25.0
5	---	11.0	13.0	7.0	4.0	8.0	11.0	20.0	22.0	23.0	25.0	24.0
6	25.0	13.0	14.0	9.0	6.0	10.0	11.0	19.0	23.0	26.0	24.0	24.0
7	21.0	15.0	17.0	5.0	5.0	11.0	14.0	19.0	25.0	27.0	24.0	24.0
8	19.0	14.0	10.0	8.0	8.0	9.0	18.0	18.0	26.0	24.0	22.0	21.0
9	19.0	12.0	7.0	9.0	9.0	8.0	18.0	19.0	26.0	26.0	21.0	21.0
10	19.0	14.0	6.0	7.0	7.0	11.0	20.0	13.0	26.0	25.0	22.0	22.0
11	17.0	8.0	6.0	8.0	1.0	12.0	20.0	16.0	26.0	25.0	24.0	23.0
12	16.0	10.0	7.0	4.0	1.0	12.0	19.0	18.0	24.0	24.0	23.0	24.0
13	17.0	16.0	7.0	6.0	---	11.0	20.0	21.0	24.0	25.0	23.0	24.0
14	19.0	15.0	8.0	5.0	---	14.0	16.0	17.0	24.0	26.0	25.0	22.0
15	20.0	15.0	9.0	3.0	---	11.0	12.0	17.0	26.0	25.0	25.0	21.0
16	19.0	4.0	9.0	4.0	8.0	12.0	13.0	15.0	18.0	24.0	27.0	20.0
17	18.0	---	9.0	2.0	8.0	12.0	18.0	19.0	18.0	24.0	25.0	17.0
18	17.0	---	10.0	3.0	12.0	8.0	19.0	18.0	22.0	25.0	23.0	15.0
19	14.0	---	5.0	4.0	10.0	7.0	20.0	14.0	---	25.0	23.0	15.0
20	13.0	---	---	4.0	11.0	10.0	20.0	17.0	---	27.0	24.0	17.0
21	14.0	7.0	---	5.0	12.0	10.0	20.0	17.0	---	24.0	23.0	18.0
22	13.0	10.0	3.0	4.0	7.0	7.0	17.0	21.0	---	24.0	23.0	19.0
23	15.0	---	5.0	4.0	7.0	8.0	18.0	22.0	26.0	23.0	24.0	22.0
24	10.0	7.0	6.0	5.0	9.0	10.0	18.0	20.0	24.0	26.0	24.0	21.0
25	10.0	---	.0	8.0	11.0	13.0	17.0	18.0	25.0	24.0	24.0	22.0
26	14.0	---	3.0	8.0	14.0	12.0	19.0	22.0	25.0	24.0	24.0	21.0
27	14.0	---	5.0	5.0	15.0	16.0	20.0	22.0	25.0	24.0	24.0	21.0
28	8.0	---	6.0	5.0	13.0	17.0	21.0	25.0	26.0	25.0	24.0	22.0
29	6.0	6.0	8.0	8.0	---	10.0	23.0	22.0	25.0	24.0	25.0	24.0
30	8.0	9.0	5.0	4.0	---	12.0	23.0	---	24.0	23.0	25.0	20.0
31	10.0	---	7.0	6.0	---	13.0	---	28.0	---	25.0	24.0	---
MEAN	15.5	11.0	7.5	6.0	8.0	11.0	17.5	19.5	24.0	24.5	24.0	21.5

BRAZOS RIVER BASIN

175

08080950 DUCK CREEK NEAR GIRARD, TX

LOCATION.--Lat 33°21'22", long 100°42'17", Kent County, Hydrologic Unit 12050007, near right bank on downstream side of bridge on Farm Road 643, 2.5 mi (4.0 km) west of Girard, and 10.7 mi (17.2 km) upstream from mouth.

DRAINAGE AREA.--431 mi² (1,116 km²), of which 152 mi² (394 km²) probably is noncontributing.

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

REVISED RECORDS.--WRD TX-72-1: 1971. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,006.08 ft (611.453 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several small diversions upstream from gage. Flow is affected at times by discharge from flood-detention pools of 12 floodwater-retarding structures with combined detention capacity of 24,710 acre-ft (30.5 hm³). These structures control runoff from 108 mi² (280 km²). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--17 years, 5.60 ft³/s (0.159 m³/s), 4,060 acre-ft/yr (5.01 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft³/s (142 m³/s) June 4, 1974, gage height, 15.22 ft (4.639 m); no flow at times in 1966, 1969, 1971, 1974, 1980-81.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902 occurred in March or April 1918 (stage and discharge unknown); the second highest stage, 19.8 ft (6.04 m) in September 1955, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 719 ft³/s (20.4 m³/s) May 30 at 0245 hours, gage height, 12.10 ft (3.688 m); no flow Sept. 18, result of pumping.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	.07	.81	.86	.85	2.4	2.1	.99	8.8	.58	.06	.51
2	.06	.06	.70	.89	.80	1.8	2.2	1.0	3.3	.48	.06	.60
3	.04	.06	.67	.90	.80	1.8	2.3	1.2	6.5	.57	.06	.49
4	.04	.07	.70	.99	.77	1.7	2.2	1.1	39	3.2	.09	.43
5	.04	.06	.78	1.1	.89	1.5	2.1	1.3	5.7	13	.08	.55
6	.04	.08	.89	.90	.90	1.4	2.2	1.0	3.9	1.6	.08	.47
7	.04	.18	.90	1.1	.89	1.7	2.2	.91	2.9	1.0	.11	20
8	.04	.28	1.5	1.2	.84	1.6	2.2	.92	2.4	.79	.14	2.4
9	.04	.44	1.4	1.2	.94	1.6	2.1	.78	2.0	.77	.15	.27
10	.05	.53	1.1	1.0	1.1	1.7	2.1	.62	1.8	.61	.13	.17
11	.06	.49	1.1	.84	.91	1.7	2.1	.56	1.7	.58	.11	.17
12	.05	.52	1.1	.81	.89	1.7	1.9	.45	1.6	.50	.11	.15
13	.06	.61	1.0	.80	.91	1.8	3.4	.42	1.5	.49	.08	.13
14	.06	.60	.99	.80	.93	2.0	82	.36	1.3	.39	.07	.16
15	.04	.55	1.1	.80	1.0	2.4	9.8	.45	1.3	.36	.06	.15
16	.03	.63	1.1	.80	1.0	2.3	4.0	.57	35	.35	.06	.15
17	.03	.93	1.1	.74	1.0	2.1	2.7	.51	17	.32	1.9	.11
18	.02	.79	1.1	.85	1.1	1.8	4.1	.31	3.2	.29	.69	.00
19	.03	.73	1.0	.94	1.1	1.7	4.4	.21	1.6	.24	.37	.12
20	.03	.71	1.1	.88	1.1	1.8	2.3	.22	1.1	.21	.37	.11
21	.05	.74	1.1	.80	1.2	1.8	8.7	.26	.75	.16	.36	.08
22	.05	.71	1.1	.89	1.1	1.7	4.9	.22	.59	.13	.37	.06
23	.04	.69	1.2	.89	1.3	1.7	2.4	.17	.56	.09	.38	.08
24	.03	.63	1.1	.94	1.4	1.8	1.8	33	.49	.07	.36	.11
25	.05	.68	1.1	.99	1.4	1.8	1.6	31	.39	.04	.36	.12
26	.06	.86	.99	1.1	1.5	1.9	1.5	2.4	.37	.03	.39	.10
27	.07	.84	.97	1.1	1.6	2.0	1.4	1.3	.39	.04	.46	.08
28	.03	.80	1.0	1.0	2.8	2.0	1.3	2.1	.40	.09	.48	.07
29	.05	.80	1.0	1.1	---	2.1	1.2	7.3	.35	.08	.45	.08
30	.06	.80	1.1	1.0	---	2.1	1.2	177	.50	.07	.44	.08
31	.06	---	.97	.99	---	2.1	---	59	---	.07	.48	---
TOTAL	1.56	15.94	31.77	29.20	31.02	57.5	164.4	327.63	146.39	27.20	9.31	28.00
MEAN	.050	.53	1.02	.94	1.11	1.85	5.48	10.6	4.88	.88	.30	.93
MAX	.21	.93	1.5	1.2	2.8	2.4	82	177	39	13	1.9	20
MIN	.02	.06	.67	.74	.77	1.4	1.2	.17	.35	.03	.06	.00
AC-FT	3.1	32	63	58	62	114	326	650	290	54	18	56
CAL YR 1980	TOTAL	1338.54	MEAN	3.66	MAX	265	MIN	.00	AC-FT	2650		
WTR YR 1981	TOTAL	869.92	MEAN	2.38	MAX	177	MIN	.00	AC-FT	1730		

BRAZOS RIVER BASIN

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX

LOCATION.--Lat 33°12'43", long 100°25'53", Stonewall County, Hydrologic Unit 12050007, on right bank at downstream side of bridge on U.S. Highway 380, 2.9 mi (4.7 km) northwest of Peacock, 6.2 mi (10.0 km) upstream from Croton Creek, 13.0 mi (20.9 km) northwest of Aspermont, and at mile 54.3 (87.4 km) measured from confluence with Double Mountain Fork Brazos River which is at mile 923.2 (1,485.4 km) on the Brazos River.

DRAINAGE AREA.--4,619 mi² (11,963 km²), of which 2,634 mi² (6,822 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1949 to September 1951, September 1964 to current year.

REVISED RECORD.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,724.32 ft (525.573 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1964, nonrecording gage at site 2.9 mi (4.7 km) upstream at datum 19.39 ft (5.910 m) higher.

REMARKS.--Water-discharge records fair. Some regulation by White River Reservoir, capacity 44,900 acre-ft (55.4 hm³), 79 mi (127 km) upstream. Several small diversions above station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950.

AVERAGE DISCHARGE.--18 years (water years 1951, 1965-81), 34.4 ft³/s (0.974 m³/s), 24,920 acre-ft/yr (30.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s (538 m³/s) Aug. 13, 1972, gage height, 13.75 ft (4.191 m); no flow at times most years.

Maximum stage since at least 1939, that of Aug. 13, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,350 ft³/s (38.2 m³/s) July 5 at 0430 hours, gage height, 6.93 ft (2.112 m), no peak above base of 5,000 ft³/s (142 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	3.2	5.5	4.6	4.3	20	4.3	56	204	.07	6.4	.86
2	55	3.2	4.9	4.6	4.3	18	4.0	32	73	.02	.58	.74
3	34	3.1	4.5	4.6	4.3	24	3.7	17	35	.00	.13	.62
4	26	3.0	4.3	4.6	4.3	18	3.7	46	71	1.3	.02	3.2
5	22	3.0	4.3	4.9	4.3	14	4.0	17	278	170	.00	3.7
6	18	2.9	4.5	4.9	4.3	12	3.7	20	146	16	.00	1.2
7	16	2.7	5.8	4.9	4.3	14	3.5	88	83	5.6	.00	.98
8	14	2.5	30	5.2	4.3	13	3.2	35	31	2.2	.18	1.2
9	11	2.5	17	4.6	4.3	11	2.9	20	21	.89	.06	.79
10	8.7	2.3	12	4.6	4.3	10	2.7	15	13	.42	.22	.57
11	8.2	2.3	9.6	4.9	4.3	9.6	2.7	13	7.8	.18	3.5	.49
12	7.8	2.3	11	4.9	4.3	9.6	2.6	11	5.9	.06	3.2	.44
13	7.4	2.3	12	4.9	4.3	9.3	2.9	6.7	4.9	.02	.17	.37
14	6.2	2.6	9.6	4.8	4.3	9.7	11	5.7	3.2	.00	.00	1.4
15	5.9	3.2	8.7	4.5	4.3	10	45	5.4	2.1	.00	.00	.40
16	4.9	6.6	7.4	4.3	4.3	9.2	58	5.3	1.3	.00	.25	.31
17	4.6	16	7.4	4.3	4.3	9.6	33	4.1	.88	.00	175	.36
18	4.3	14	7.4	5.0	4.3	8.2	25	3.6	.98	.00	192	.36
19	4.3	9.6	7.0	5.5	4.3	7.8	22	3.4	.88	.00	65	.30
20	4.0	8.7	7.8	5.5	4.3	7.4	14	3.2	.80	.00	44	.23
21	4.0	7.4	8.2	5.2	4.3	7.0	74	3.1	.80	.00	27	.21
22	3.2	7.0	7.8	4.8	4.3	6.6	91	2.9	.72	.00	13	.21
23	3.0	6.6	6.6	4.6	4.3	6.2	37	2.5	.72	.00	8.2	.24
24	3.0	6.6	7.0	4.5	4.3	5.9	15	3.0	.69	.00	6.1	.23
25	3.0	7.0	6.2	4.6	4.3	5.5	10	4.1	.55	.00	5.2	.22
26	3.0	7.8	5.9	4.6	4.3	5.5	11	14	.47	.00	4.5	.20
27	4.0	7.4	5.5	4.6	4.3	5.2	10	10	.37	.00	4.7	.21
28	3.2	6.6	5.2	4.6	78	5.2	8.2	6.5	.26	.00	3.7	.19
29	3.2	6.6	5.2	4.5	---	4.9	9.1	6.5	.17	.00	2.7	.21
30	3.2	6.2	4.9	4.3	---	4.9	110	29	.12	7.2	1.8	.21
31	3.2	---	4.9	4.3	---	4.6	---	337	---	16	1.2	---
TOTAL	398.3	165.2	248.1	146.7	194.1	305.9	627.2	826.0	988.61	219.96	568.81	20.65
MEAN	12.8	5.51	8.00	4.73	6.93	9.87	20.9	26.6	33.0	7.10	18.3	.69
MAX	100	16	30	5.5	78	24	110	337	278	170	192	3.7
MIN	3.0	2.3	4.3	4.3	4.3	4.6	2.6	2.5	.12	.00	.00	.19
AC-FT	790	328	492	291	385	607	1240	1640	1960	436	1130	41
CAL YR 1980	TOTAL	9879.28	MEAN	27.0	MAX	2650	MIN	.00	AC-FT	19600		
WTR YR 1981	TOTAL	4709.53	MEAN	12.9	MAX	337	MIN	.00	AC-FT	9340		

BRAZOS RIVER BASIN

177

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1949 to September 1951, October 1964 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1949 to September 1951, October 1964 to current year.

WATER TEMPERATURES: December 1949 to September 1951, October 1964 to current year.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 61,100 micromhos July 31, 1966; minimum daily, 900 micromhos Aug. 31, 1966.

WATER TEMPERATURES (1964-81): Maximum daily, 39.0°C June 25, 1968, July 30, 1978; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 57,600 micromhos Dec. 19; minimum daily, 3,090 micromhos Aug. 17.

WATER TEMPERATURES: Maximum daily, 36.0°C Aug. 26; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
DEC 03...	1640	4.5	56500	12.5	3800	3600	920	360	14000
JAN 14...	1415	5.0	49800	12.0	3500	3400	880	320	11000
FEB 04...	1615	4.2	48600	4.0	3500	3300	870	310	11000
MAY 14...	1340	5.7	44300	25.5	3200	3000	810	280	9700
JUN 02...	1215	59	5380	26.5	430	300	120	32	970
SEP 02...	1225	.78	39200	28.0	3200	3100	840	270	8500

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
DEC 03...	99	31	160	3200	22000	.4	9.1	40600
JAN 14...	81	26	150	2700	19000	.3	7.4	34000
FEB 04...	82	25	160	2800	18000	.5	6.5	33100
MAY 14...	75	28	130	2600	15000	.5	8.5	28500
JUN 02...	20	7.6	130	380	1500	.5	1.5	3090
SEP 02...	65	24	140	2700	14000	.6	12	26400

BRAZOS RIVER BASIN

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	398.3	32700	21500	23100	11300	12200	2100	2230	*
NOV.	1980	165.2	52800	35000	15600	18900	8430	2900	1310	*
DEC.	1980	248.1	51500	34100	22800	18400	12300	2900	1950	*
JAN.	1981	146.7	49700	32800	13000	17600	6980	2900	1140	*
FEB.	1981	194.1	34900	23000	12000	12200	6370	2200	1130	*
MAR.	1981	305.9	48300	31900	26400	17100	14100	2800	2330	*
APR.	1981	627.2	18700	12100	20600	6200	10500	1400	2320	*
MAY	1981	826.0	13800	8990	20100	4600	10200	1000	2270	*
JUNE	1981	988.61	5850	3750	10000	1800	4880	500	1330	590
JULY	1981	219.96	14100	9110	5410	4500	2700	1100	666	*
AUG.	1981	568.81	7520	4850	7440	2400	3700	600	924	720
SEPT	1981	20.65	36300	23800	1330	12400	691	2400	135	*
TOTAL		4709.53	**	**	178000	**	93000	**	17700	**
WTD. AVG.		13	21300	14000	**	7300	**	1400	**	**

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12500	53000	57000	52100	50000	29500	54500	8130	4580	33400	6560	40900
2	18900	52300	57400	51400	50400	41200	54300	10100	5310	32900	7550	39200
3	26600	52200	56700	51700	50900	46900	54000	21600	6460	---	8150	40400
4	29500	52500	56000	51800	48800	47400	53900	10000	7090	31800	8840	39400
5	34000	52700	55300	51800	49400	49400	54300	19900	4430	13600	---	28000
6	43700	52100	55200	51600	48800	46400	54900	29100	4360	8320	---	33500
7	46500	52400	55100	50300	48100	46600	53800	6900	5900	11000	---	37900
8	48600	52200	46100	50900	47600	50700	54400	6560	7620	26900	18700	38800
9	51200	51100	45900	50500	47500	50600	53700	13200	7830	24300	15900	39400
10	52100	51700	50800	50100	47900	50400	54100	23100	10400	36100	11600	40500
11	53000	51300	53600	50400	48200	51900	54200	30000	14600	34200	9900	39800
12	52700	51400	45800	50300	48400	52500	54100	34700	19200	40300	16100	38900
13	52600	51400	44200	49900	48500	52000	54400	40000	23400	43200	21500	39500
14	55400	51900	45600	49700	48600	52200	35800	44100	29300	---	---	37700
15	56000	49700	49500	50400	48400	46400	15500	45300	29600	---	---	37800
16	55500	48300	53700	50500	47400	46700	12300	45200	32400	---	20000	38100
17	56000	44800	55100	49200	48300	49300	11200	50400	35200	---	3290	36400
18	55800	45500	55600	48000	48000	52900	21100	50900	34000	---	5310	35900
19	55400	56200	57600	47100	48200	53000	25300	51400	34100	---	4700	36100
20	54800	57200	57100	47400	49000	53300	25100	49900	33900	---	8500	36400
21	55000	57500	55300	47100	49100	52000	16100	50400	33800	---	10500	36200
22	54400	56800	54700	48900	51000	53700	10900	49800	34000	---	16700	36000
23	54900	57000	54500	49000	51100	52300	12000	50800	37100	---	25000	36100
24	55300	57100	54200	48800	51300	52700	23800	50500	38800	---	32900	36200
25	54300	55500	52800	48700	51700	52900	25500	50000	38400	---	39400	35500
26	54500	53100	53000	48800	51000	53100	27400	45700	38500	---	39700	35800
27	50300	55500	52800	48800	50000	52400	36100	41400	38100	---	39100	35400
28	54300	55400	52400	50200	13600	51900	40700	42400	37500	---	38900	35500
29	54400	56100	52900	48800	---	51800	38200	43700	35700	---	40300	35700
30	53200	56300	52800	47500	---	54000	10500	20900	35100	45600	42500	35900
31	53600	---	52700	48600	---	55000	---	5810	---	7550	40900	---
MEAN	48500	53000	52900	49700	47900	50000	36400	33600	23900	27800	20500	37100

BRAZOS RIVER BASIN

179

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	7.0	5.0	8.0	.0	10.0	8.0	21.0	22.0	22.0	24.0	23.0
2	17.0	7.0	2.0	12.0	.0	10.0	12.0	20.0	21.0	24.0	22.0	---
3	15.0	9.0	2.0	7.0	.0	9.0	19.0	20.0	22.0	---	22.0	34.5
4	17.0	7.0	11.0	9.0	5.0	9.0	10.0	19.0	22.0	24.0	22.0	29.5
5	17.0	7.0	12.0	8.0	.0	6.0	10.0	18.0	22.0	24.0	---	31.0
6	18.0	12.0	13.0	10.0	.0	8.0	8.0	17.0	23.0	23.0	---	24.0
7	19.0	12.0	13.0	9.0	3.0	8.0	12.0	18.0	32.0	24.0	---	23.0
8	18.0	9.0	2.0	---	5.0	7.0	12.0	18.0	30.0	24.0	23.0	20.0
9	15.0	10.0	4.0	8.0	5.0	7.0	30.0	15.0	24.0	23.0	21.0	19.0
10	16.0	10.0	3.0	7.0	---	---	18.0	17.0	24.0	24.0	21.0	21.0
11	13.0	11.0	3.0	8.0	---	11.0	18.0	15.0	24.0	23.0	23.0	23.0
12	13.0	12.0	4.0	4.0	.0	11.0	18.0	15.0	22.0	23.0	24.0	22.0
13	15.0	12.0	5.0	5.0	4.0	7.0	18.0	19.0	24.0	23.0	23.0	23.0
14	13.0	7.0	5.0	3.0	2.0	7.0	14.0	13.0	24.0	---	---	23.0
15	15.0	6.0	5.0	13.0	2.0	9.0	12.0	15.0	24.0	---	---	21.0
16	26.0	---	8.0	4.0	2.0	9.0	12.0	15.0	15.0	---	23.0	20.0
17	15.0	14.0	7.0	.0	6.0	9.0	16.0	14.0	15.0	---	23.0	17.0
18	15.0	---	7.0	.0	11.0	5.0	18.0	14.0	20.0	---	25.0	15.0
19	15.0	14.0	2.0	.0	6.0	4.0	16.0	12.0	21.0	---	21.0	15.0
20	11.0	4.0	.0	2.0	8.0	8.0	16.0	13.0	21.0	---	22.0	17.0
21	12.0	3.0	.0	3.0	8.0	8.0	19.0	15.0	23.0	---	22.0	18.0
22	12.0	9.0	1.0	---	3.0	---	17.0	20.0	23.0	---	21.0	23.0
23	13.0	7.0	3.0	1.0	---	5.0	17.0	19.0	23.0	---	22.0	23.0
24	7.0	6.0	4.0	3.0	5.0	8.0	22.0	20.0	23.0	---	22.0	23.0
25	7.0	.0	.0	4.0	8.0	11.0	26.0	17.0	23.0	---	22.0	22.0
26	12.0	3.0	2.0	6.0	12.0	11.0	26.0	19.0	23.0	---	36.0	21.0
27	13.0	3.0	4.0	2.0	13.0	14.0	18.0	22.0	21.0	---	23.0	21.0
28	12.0	3.0	4.0	.0	10.0	16.0	19.0	23.0	21.0	---	23.0	21.0
29	2.0	4.0	10.0	7.0	---	11.0	19.0	23.0	22.0	---	23.0	21.0
30	5.0	5.0	12.0	1.0	---	---	21.0	20.0	21.0	23.0	29.0	20.0
31	6.0	---	4.0	4.0	---	10.0	---	21.0	---	25.0	23.0	---
MEAN	13.5	7.5	5.0	5.0	4.5	9.0	16.5	17.5	22.5	23.5	23.5	22.0

BRAZOS RIVER BASIN

08081050 SHORT CROTON CREEK AT MOUTH NEAR JAYTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 33°18'27", long 100°31'57", Kent County, Hydrologic Unit 12050007, at mouth, 0.2 mi (0.3 km) upstream from county road crossing on Croton Creek, and 4.7 mi (7.6 km) northeast of Jayton.

PERIOD OF RECORD.--Chemical analyses: October 1960 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 18...	0810	.06	69700	4.0	5000	1400	360	3800	27000
FEB 10...	0745	.16	122000	6.0	7000	1700	660	5400	54000
MAR 17...	0731	.09	64200	10.5	4900	1400	350	4000	24000
APR 21...	1104	1.0	50000	18.0	3400	960	250	2800	21000
SEP 09...	0720	.31	52000	19.0	4600	1400	260	3700	21000

BRAZOS RIVER BASIN

181

08081100 CROTON CREEK BELOW SHORT CROTON CREEK NEAR JAYTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 33°18'23", long 100°31'55", Kent County, Hydrologic Unit 12050007, at county road crossing and 4.7 mi (7.6 km) northeast of Jayton.

PERIOD OF RECORD.--Periodic discharge measurements: August 1959 to current year. Periodic water-quality data: October 1960 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 18...	0850	.30	58200	4.0	4500	1300	300	--	--	--	3800	20000
JAN 06...	0800	.16	45900	9.0	4400	1200	330	--	--	--	4000	18000
FEB 10...	0820	1.1	69000	6.0	4900	1300	410	--	--	--	4200	28000
MAR 17...	0716	.69	47600	11.0	4400	1200	350	--	--	--	3800	18000
APR 21...	1135	5.1	14000	19.0	2100	670	110	2400	23	12	1600	4000
MAY 18...	1242	.15	32500	24.0	4100	1200	260	--	--	--	3600	12000
JUN 30...	0721	.16	34000	25.5	4600	1400	260	--	--	--	3900	13000
SEP 09...	0745	1.8	23200	19.0	3100	980	150	--	--	--	2800	8000

BRAZOS RIVER BASIN

08081200 CROTON CREEK NEAR JAYTON, TX

LOCATION.--Lat 33°17'18", long 100°25'52", Stonewall County, Hydrologic Unit 12050007, on left bank 220 ft (67 m) downstream from county road, 0.9 mi (1.4 km) upstream from mouth, and 8.5 mi (13.7 km) northeast of Jayton.

DRAINAGE AREA.--290 mi² (751 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.-- Water-stage recorder and crest-stage gage. Datum of gage is 1,694.45 ft (516.468 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 11, 1976, at site 680 ft (207 m) upstream at same datum.

REMARKS.--Water-discharge records fair. No diversion above station.

AVERAGE DISCHARGE.--22 years, 13.8 ft³/s (0.391 m³/s), 0.65 in/yr (17 mm/yr), 10,000 acre-ft/yr (12.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft³/s (300 m³/s) Oct. 18, 1960, gage height, 12.40 ft (3.780 m), from rating curve extended above 3,100 ft³/s (87.8 m³/s); maximum gage height, 12.52 ft (3.816 m) May 20, 1977, from floodmark; no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1935, 13.5 ft (4.11 m) in 1941 or 1942, present datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,640 ft³/s (46.4 m³/s) May 30 at 1445 hours, gage height, 7.86 ft (2.396 m), no other peak above base of 1,600 ft³/s (45.3 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	.00	.07	.06	.05	11	.01	.14	33	.71	.00	.00
2	1.4	.00	.06	.07	.02	4.9	.01	.10	98	.00	.00	.00
3	.78	.00	.06	.05	.02	3.2	.04	.10	135	.00	.00	.00
4	.59	.00	.05	.05	.02	5.8	.03	.10	149	.00	.00	.00
5	.36	.00	.03	.05	.01	1.5	.01	42	28	3.7	.00	.00
6	.30	.00	.05	.07	.04	1.0	.01	106	15	1.7	.00	.00
7	.24	.00	.17	.05	.06	2.1	.02	20	6.0	1.6	.00	16
8	.19	.00	8.2	.06	.07	1.8	.03	16	3.4	.59	.00	44
9	.14	.00	24	.12	.11	1.2	.03	19	1.8	.33	.00	3.4
10	.10	.00	6.0	.14	.25	1.0	.04	6.2	1.0	.00	.00	2.2
11	.07	.00	2.5	.14	.09	.78	.04	3.4	.63	.00	1.1	1.6
12	.07	.00	1.3	.08	.31	.74	.03	1.6	.35	.00	6.8	1.1
13	.07	.00	.87	.07	.15	.59	.14	.89	.17	.00	.54	.50
14	.07	.00	.66	.06	.10	.83	42	.50	.07	.00	.00	.36
15	.07	.00	.51	.03	.08	2.1	71	.92	.05	.00	.00	.30
16	.05	.04	.43	.03	.08	.97	28	1.6	81	.00	.00	.30
17	.03	5.0	.34	.03	.07	.65	11	.59	38	.00	102	.43
18	.03	4.0	.28	.12	.07	.31	11	.30	9.7	.00	7.1	.36
19	.01	.94	.16	.19	.05	.22	33	.09	4.4	.00	1.1	.30
20	.01	.33	.08	.23	.01	.17	19	.05	2.1	.00	.56	.30
21	.01	.07	.07	.20	.00	.13	21	.05	1.0	.00	.30	.24
22	.01	.07	.09	.18	.00	.12	25	.02	.45	.00	.11	.19
23	.01	.05	.12	.14	.00	.04	7.2	.00	.14	.00	.04	.07
24	.01	.05	.09	.10	.00	.06	3.8	.25	.03	.00	.01	.03
25	.01	.05	.08	.07	.00	.06	1.8	3.1	.00	.00	.00	.01
26	.01	2.0	.11	.07	.00	.07	.85	1.1	.00	.00	.00	29
27	.01	1.0	.11	.07	.14	.04	.56	.36	.00	.00	.00	1.1
28	.01	.30	.11	.05	16	.09	.46	.13	.00	.00	.00	.89
29	.01	.10	.10	.04	---	.04	.36	.24	.00	.00	.00	.68
30	.01	.08	.06	.00	---	.02	.24	425	1.1	.00	.00	.59
31	.00	---	.07	.03	---	.02	---	141	---	.00	.00	---
TOTAL	9.98	14.08	46.83	2.65	17.80	41.55	276.71	790.83	609.39	8.63	119.66	103.95
MEAN	.32	.47	1.51	.085	.64	1.34	9.22	25.5	20.3	.28	3.86	3.47
MAX	5.3	5.0	24	.23	16	11	71	425	149	3.7	102	44
MIN	.00	.00	.03	.00	.00	.02	.01	.00	.00	.00	.00	.00
CFSM	.001	.002	.005	.000	.002	.005	.03	.09	.07	.001	.01	.01
IN.	.00	.00	.01	.00	.00	.01	.04	.10	.08	.00	.02	.01
AC-FT	20	28	93	5.3	35	82	549	1570	1210	17	237	206

CAL YR 1980 TOTAL 4083.84 MEAN 11.2 MAX 1980 MIN .00 CFSM .04 IN .52 AC-FT 8100
WTR YR 1981 TOTAL 2042.06 MEAN 5.59 MAX 425 MIN .00 CFSM .02 IN .26 AC-FT 4050

08081200 CROTON CREEK NEAR JAYTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1959 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1961 to current year.

WATER TEMPERATURES: October 1961 to September 1973.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 60,700 micromhos Feb. 15, 1967; minimum daily, 1,570 micromhos Aug. 3, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 51,400 micromhos Mar. 16; minimum daily, 3,140 micromhos May 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JAN 14...	1530	.08	39600	12.0	4300	4100	1200	310	7900
FEB 04...	1400	.02	41000	5.0	4300	4200	1200	320	8400
MAY 14...	1030	.54	28300	23.5	4000	3900	1200	240	6100
JUN 02...	0915	18	6570	22.0	2000	1900	720	50	830

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
JAN 14...	53	20	160	3400	13000	.0	8.5	25900
FEB 04...	56	19	160	3300	15000	.1	9.1	28300
MAY 14...	42	20	100	3400	9800	.2	5.2	20800
JUN 02...	8.1	9.0	59	1800	1400	.2	8.6	4850

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	9.98	27100	18300	494	8600	233	2900	77	*
NOV.	1980	14.08	40400	27100	1030	13400	510	3600	136	*
DEC.	1980	46.83	23700	16100	2030	7400	940	2700	339	*
JAN.	1981	2.65	37000	24800	178	12200	87	3400	24	*
FEB.	1981	17.80	37300	25000	1200	12300	590	3400	164	*
MAR.	1981	41.55	43600	29300	3280	14600	1640	3800	421	*
APR.	1981	276.71	17900	12200	9140	5400	4020	2400	1760	*
MAY	1981	790.83	6760	4890	10400	1500	3220	1700	3580	1800
JUNE	1981	609.39	5190	3850	6330	970	1590	1600	2600	1700
JULY	1981	8.63	29600	20000	466	9500	222	3000	70	*
AUG.	1981	119.66	5610	4130	1330	1100	359	1600	521	1700
SEPT	1981	103.95	10200	7150	2010	2700	750	1900	539	*
TOTAL		2042.06	**	**	37900	**	14200	**	10200	**
WTD. AVG.		5.6	9780	6880	**	2600	**	1900	**	2100

BRAZOS RIVER BASIN

08081200 CROTON CREEK NEAR JAYTON, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24100	---	37800	37200	39300	42300	44200	41400	4710	32400	---	---
2	27100	---	39500	37000	39900	38600	44400	42200	4210	---	---	---
3	28800	---	41000	37400	41000	37700	45400	41200	3770	---	---	---
4	30100	---	41300	37800	41000	43700	45200	40600	3510	---	---	---
5	31800	---	42100	38100	35500	51300	45000	13400	4510	28900	---	---
6	32400	---	41700	37900	31700	48800	44900	6020	8950	27600	---	---
7	33100	---	40200	38400	31200	44200	43400	5850	13000	30200	---	11200
8	34100	---	35500	38300	30900	47600	41900	9980	14700	32000	---	8360
9	34900	---	18500	37500	30800	50100	42800	9750	15300	35600	---	15800
10	35200	---	21400	37000	29500	46500	42800	13600	17900	---	---	20200
11	35700	---	20700	37200	32500	45000	42700	17800	20700	---	26600	24400
12	35900	---	24800	38000	31400	44700	42600	20600	22100	---	21700	28100
13	36100	---	27900	38900	31600	44300	41100	24500	25200	---	24600	29200
14	36400	---	30500	39600	32000	44300	26300	28300	27700	---	---	30900
15	36500	---	33900	38700	32500	44200	13000	25500	28700	---	---	34200
16	36200	28700	34200	37700	32400	51400	19300	30800	9450	---	---	35100
17	36400	39000	34900	37200	33400	50800	21600	33200	3840	---	3830	36200
18	36300	42900	35500	35600	34300	50000	23000	34800	5660	---	8250	37200
19	35900	39800	35900	35300	34600	48600	15300	38400	9340	---	10400	38500
20	36300	38900	36300	35700	36200	48300	10300	41000	13200	---	18000	39100
21	36200	38200	36700	35400	---	48500	10000	42200	17100	---	21500	40200
22	35600	37900	36300	36200	---	48400	23000	42300	21400	---	24000	41100
23	35700	37600	35400	36400	---	47000	22700	---	25600	---	25400	42200
24	35500	36600	36400	37100	---	46200	24100	36900	29700	---	28000	43200
25	35400	32200	36600	37500	---	46500	26700	31300	---	---	---	44000
26	35200	40000	36000	37500	---	46300	32600	34800	---	---	---	6500
27	34600	41600	35800	37100	39400	46200	35300	34900	---	---	---	7820
28	35500	39500	35900	38400	37800	45400	37400	37300	---	---	---	8500
29	36900	38500	36500	39900	---	46500	39100	31600	---	---	---	11900
30	37000	38100	37100	---	---	45000	40400	6420	30000	---	---	16300
31	---	---	36800	39700	---	43900	---	3140	---	---	---	---
MEAN	34400	38000	34600	37500	34500	46200	32900	27300	15200	31100	19300	27100

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX
(National stream-quality accounting network)

LOCATION.--Lat 33°20'02", long 100°14'16", Stonewall County, Hydrologic Unit 12050007, on left bank at downstream side of bridge on U.S. Highway 83, 5.5 mi (8.8 km) downstream from Salt Croton Creek, 13.2 mi (21.2 km) north of Aspermont, and at mile 27.3 (43.9 km) measured from confluence with Double Mountain Fork Brazos River which is at mile 923.2 (1,485.4 km) on the Brazos River.

DRAINAGE AREA.--5,130 mi² (13,287 km²), of which 2,634 mi² (6,822 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1923 to August 1925, June 1939 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,588.70 ft (484.236 m) National Geodetic Vertical Datum of 1929. Dec. 5, 1923, to Aug. 29, 1925, nonrecording gage at site 6.7 mi (10.8 km) downstream at different datum. June 15, 1939, to July 13, 1972, water-stage recorder at present site. July 14, 1972, to July 14, 1975, at site 0.1 mi (0.2 km) upstream at same datum.

REMARKS.--Water-discharge records fair. No large diversion above station. Some regulation by White River Reservoir, capacity 44,900 acre-ft (55.4 hm³), 106 mi (171 km) upstream. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950.

AVERAGE DISCHARGE.--42 years (water years 1940-81), 109 ft³/s (3.087 m³/s), 78,970 acre-ft/yr (97.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,200 ft³/s (1,480 m³/s) Sept. 25, 1955, gage height, 14.92 ft (4.548 m), from rating curve extended above 29,000 ft³/s (821 m³/s); no flow at times most years. Maximum stage since at least 1900, that of Sept. 25, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1913 reached a stage of 14.4 ft (4.39 m), and flood in November 1934 reached a stage of 13.7 ft (4.18 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,680 ft³/s (47.6 m³/s) Sept. 26 at 0130 hours, gage height, 5.04 ft (1.536 m) from floodmark, no peak above base of 12,000 ft³/s (340 m³/s); minimum daily, 0.05 ft³/s (0.001 m³/s) Aug. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	5.4	15	11	5.5	103	4.0	75	275	.76	.06	.65
2	112	5.4	12	11	5.6	44	4.0	78	131	.74	.05	.64
3	78	5.4	8.8	11	5.4	36	3.6	54	476	.67	.20	.53
4	56	5.4	8.6	8.5	5.4	32	3.2	44	234	.76	.13	1.4
5	40	5.0	9.2	8.5	5.4	26	3.2	95	197	10	.10	.47
6	27	4.9	9.2	8.5	5.7	19	3.7	146	267	57	.09	5.3
7	24	4.8	11	8.5	6.9	21	4.0	78	137	17	.09	9.7
8	20	4.0	87	8.5	7.1	23	3.8	52	92	6.7	.08	25
9	16	4.0	76	8.5	9.2	19	3.6	38	68	1.8	.06	7.7
10	15	4.4	58	8.5	13	15	3.6	31	53	.99	.12	2.4
11	14	4.7	33	8.5	7.8	14	3.6	25	40	.33	39	1.1
12	9.2	4.5	25	8.5	8.3	13	3.6	20	27	.13	18	.64
13	8.5	4.5	22	8.5	7.1	13	4.2	14	20	.10	8.5	.33
14	9.2	4.7	22	8.5	6.5	15	73	8.5	15	.07	1.4	.42
15	8.5	6.0	21	7.1	6.5	22	90	71	14	.07	.29	.52
16	7.8	16	19	7.1	6.4	18	162	29	9.8	.07	.44	.34
17	5.4	45	17	7.1	6.0	15	112	11	64	.07	111	.18
18	4.9	48	15	8.7	5.6	11	85	6.2	37	.07	207	.17
19	5.9	32	13	11	5.2	9.2	89	3.8	16	.07	81	.17
20	5.9	23	12	13	4.8	9.0	69	3.1	11	.07	36	.19
21	6.5	17	12	12	4.8	7.6	70	2.9	11	.07	22	.19
22	5.9	15	12	9.8	3.0	7.0	177	2.8	5.9	.06	14	.18
23	5.4	16	13	8.9	2.9	6.5	127	2.0	3.3	.06	7.3	.19
24	5.4	14	12	8.5	3.2	6.3	83	2.3	2.2	.06	4.8	.22
25	5.9	17	12	7.1	3.0	5.9	58	30	1.6	.06	3.5	.20
26	4.9	24	12	7.0	4.2	6.2	36	13	1.4	.06	2.8	245
27	5.4	24	12	6.5	12	5.8	24	7.5	1.2	.06	2.1	53
28	5.4	21	12	6.5	130	5.8	18	8.2	.99	.21	1.6	14
29	5.4	18	11	6.3	---	6.6	18	51	.92	.06	1.3	5.6
30	5.4	14	11	5.1	---	5.3	15	612	.77	.06	.94	2.8
31	5.4	---	11	5.1	---	4.8	---	498	---	.06	.73	---
TOTAL	706.3	417.1	623.8	263.3	296.5	545.0	1354.1	2112.3	2213.08	98.29	564.68	379.23
MEAN	22.8	13.9	20.1	8.49	10.6	17.6	45.1	68.1	73.8	3.17	18.2	12.6
MAX	178	48	87	13	130	103	177	612	476	57	207	245
MIN	4.9	4.0	8.6	5.1	2.9	4.8	3.2	2.0	.77	.06	.05	.17
AC-FT	1400	827	1240	522	588	1080	2690	4190	4390	195	1120	752
CAL YR 1980	TOTAL	18566.95	MEAN	50.7	MAX	4080	MIN	.03	AC-FT	36830		
WTR YR 1981	TOTAL	9573.68	MEAN	26.2	MAX	612	MIN	.05	AC-FT	18990		

BRAZOS RIVER BASIN

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1948 to September 1951, October 1956 to September 1974. Chemical and biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1948 to September 1951, October 1956 to current year.
WATER TEMPERATURES: October 1948 to September 1951, October 1956 to current year.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 173,000 micromhos Apr. 12, 1974; minimum daily, 1,690 micromhos July 8, 1960.
WATER TEMPERATURES: Maximum daily, 38.0°C Aug. 2, 1973; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 124,000 micromhos Aug. 11; minimum daily, 5,820 micromhos June 2.
WATER TEMPERATURES: Maximum daily, 35.0°C May 27, Aug. 14, 15; minimum daily, 3.0°C Dec. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
15...	1530	22	45000	8.1	28.0	2.3	10.0	156	1.0	K7	23
NOV											
19...	1300	46	56300	7.7	9.5	1.5	11.4	131	1.0	K10	26
DEC											
16...	1700	31	48900	8.0	15.5	1.2	11.1	170	.2	K4	K11
JAN											
21...	1420	22	72000	7.8	5.5	2.5	9.5	110	2.2	21	K8
FEB											
18...	1000	13	65100	7.7	12.0	2.6	9.6	122	4.0	<1	25
MAR											
18...	1030	26	57400	7.8	11.5	2.0	9.2	114	1.4	17	K3
APR											
21...	1630	90	20000	7.8	18.0	110	8.7	104	1.4	350	240
MAY											
20...	1130	13	49500	7.8	24.0	1.7	9.3	139	.2	160	450
JUN											
16...	1300	50	28600	7.9	25.0	12	9.6	133	1.5	70	20
JUL											
15...	0930	13	68400	7.7	30.0	--	7.9	139	1.2	K12	780
AUG											
19...	1630	195	8000	7.7	28.0	1600	8.6	119	4.5	4300	7900
SEP											
16...	0915	20	68100	7.5	20.0	1.4	6.9	106	.0	K17	930

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT										
15...	3500	3400	950	270	9900	73	47	110	2500	16000
NOV										
19...	3700	3600	1000	290	13000	93	38	130	1900	21000
DEC										
16...	3500	3400	930	290	11000	81	31	140	2500	18000
JAN										
21...	4400	4200	1100	390	17000	112	49	140	2800	28000
FEB										
18...	4300	4200	1100	380	15000	99	40	120	2900	26000
MAR										
18...	4200	4100	1100	350	13000	87	33	120	3000	23000
APR										
21...	1900	1800	570	120	3900	39	15	82	1600	6300
MAY										
20...	3800	3700	1000	310	12000	85	31	92	2900	20000
JUN										
16...	3500	3400	960	260	5700	42	21	110	2200	10000
JUL										
15...	5400	5200	1500	390	16000	95	52	120	2600	26000
AUG										
19...	990	950	330	40	1500	21	8.6	37	890	2500
SEP										
16...	4100	4100	1100	340	17000	115	50	89	2900	29000

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	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, ORGANIC DIS- SOLVED (MG/L AS N)
OCT 15...	.4	9.6	29700	29700	.18	.18	.230	.230	.30	.25
NOV 19...	.3	7.8	39300	37300	.29	.28	.430	.420	.00	.51
DEC 16...	.3	5.7	33300	32800	.24	.30	.270	.380	.83	.72
JAN 21...	.3	12	54700	49400	.39	.34	.640	.640	.00	.00
FEB 18...	.3	1.4	46400	45500	.28	.28	.410	.410	.58	.79
MAR 18...	.3	4.0	41700	40600	.19	.22	.460	.300	.13	1.3
APR 21...	.4	7.0	13500	12600	.16	.15	.130	.130	.70	.41
MAY 20...	.3	4.5	36500	36300	.03	.04	.180	.160	.42	.00
JUN 16...	.4	8.3	19900	19200	2.9	.56	.090	.080	.79	.63
JUL 15...	.4	9.2	53100	46600	.00	.00	.440	.390	.51	.39
AUG 19...	.3	6.7	5040	5300	.21	.21	.150	.130	3.5	.64
SEP 16...	.5	6.6	50000	50400	.18	.06	.310	.360	.69	.63

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 15...	.53	.48	.010	.010	--	3.0	.6	28	1.6	95
NOV 19...	.05	.93	.870	.020	2.5	--	--	30	3.7	53
DEC 16...	1.10	1.1	.010	.030	6.7	--	--	19	1.6	89
JAN 21...	.00	.00	.300	.030	4.2	--	--	4	.23	87
FEB 18...	.99	1.2	.020	.040	--	4.4	.9	58	2.0	92
MAR 18...	.59	1.6	.030	.030	5.0	--	--	18	1.3	91
APR 21...	.83	.54	.140	.010	5.3	--	--	247	60	97
MAY 20...	.60	.12	.010	.000	4.0	4.0	--	22	.75	79
JUN 16...	.88	.71	.030	.020	--	9.7	.4	28	3.8	99
JUL 15...	.95	.78	.060	.000	2.9	--	--	24	.82	85
AUG 19...	3.60	.77	.850	.010	--	3.4	.1	2310	1220	100
SEP 16...	1.00	.99	<.010	<.010	3.0	--	--	4	.22	78

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
OCT 15...	1530	3	0	3	500	200	300	4	4	0	40
FEB 18...	1000	1	0	1	1000	600	400	0	0	0	30
JUN 16...	1300	3	0	3	100	0	200	1	1	0	20
AUG 19...	1630	6	4	2	600	500	100	0	0	1	50

BRAZOS RIVER BASIN

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CHRO- MIUM, SUS- PENDE RECov. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECov- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECov- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECov- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 15...	10	30	0	0	0	20	18	2	270	130	140
FEB 18...	0	30	0	0	0	3	1	2	520	220	300
JUN 16...	0	30	2	2	0	3	2	1	460	370	90
AUG 19...	40	10	18	13	5	50	49	1	27000	27000	60

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECov- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECov. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECov- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECov- ERABLE (UG/L AS NI)
OCT 15...	3	3	0	80	0	90	.0	.0	.2	3	3
FEB 18...	2	0	2	210	0	210	1.0	.2	.8	0	0
JUN 16...	13	10	3	120	20	100	.2	.2	.0	5	5
AUG 19...	26	25	1	1300	1300	10	.4	.4	.0	69	65

DATE	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECov- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECov- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 15...	0	4	0	4	0	0	0	70	10	60
FEB 18...	2	7	0	7	0	0	0	40	0	50
JUN 16...	0	3	0	4	1	1	0	30	0	40
AUG 19...	4	1	0	1	0	0	0	240	140	100

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 19,80 1300	MAR 18,81 1030	MAY 20,81 1130	JUN 16,81 1300	JUL 15,81 0930	SEP 16,81 0915
TOTAL CELLS/ML	280	450	1700	140000	3400	190
DIVERSITY: DIVISION	0.5	0.0	0.8	0.2	1.0	0.5
..CLASS	0.5	0.0	0.8	0.2	1.0	0.5
..ORDER	1.3	0.7	2.5	1.2	1.9	1.9
...FAMILY	1.3	0.7	2.6	1.2	1.9	2.2
....GENUS	1.3	0.7	2.9	1.2	1.9	2.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)												
..BACILLARIOPHYCEAE												
...ACHNANTHALES												
....ACHNANTHACEAE												
.....ACHNANTHES	--	-	--	-	260#	15	770	1	--	-	--	-
.....RHOICOSPHENIA	--	-	--	-	16	1	--	-	--	-	--	-
..BACILLARIALES												
...NITZSCHIALES												
....NITZSCHIA	64#	23	77#	17	470#	27	*	0	1900#	56	43#	22
..BIDDULPHIALES												
...CHAETOCERACEAE												
....CHAETOCEROS	--	-	--	-	93	5	--	-	400	12	65#	33
..EUPODISCALES												
...COSCINODISCACEAE												
....CYCLOTELLA	--	-	--	-	170	10	1300	1	100	3	--	-
....MELOSIRA	--	-	--	-	31	2	--	-	--	-	--	-
..FRAGILARIALES												
...FRAGILARIACEAE												
....DIATOMA	--	-	--	-	16	1	--	-	--	-	--	-
..NAVICULALES												
...CYMBELLACEAE												
....CYMBELLA	--	-	--	-	31	2	*	0	--	-	--	-
...ENTOMONEIDACEAE												
....ENTOMONEIS	--	-	--	-	31	2	--	-	25	1	22	11
...NAVICULACEAE												
....NAVICULA	190#	68	370#	83	200	12	--	-	130	4	43#	22
CHLOROPHYTA (GREEN ALGAE)												
..CHLOROPHYCEAE												
...CHLOROCOCCALES												
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	--	-	--	-	*	0	--	-	--	-
....CHODATELLA	--	-	--	-	--	-	940	1	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CARTERIA	--	-	--	-	93	5	--	-	--	-	--	-
....CHLAMYDOMONAS	13	5	--	-	330#	19	--	-	50	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
..CRYPTOPHYCEAE												
...CRYPTOMONADALES												
...CRYPTOMONADACEAE												
....CRYPTOMONAS	13	5	--	-	--	-	--	-	25	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	--	-	--	-	700#	21	--	-
..NOSTOCALES												
...NOSTOCACEAE												
....APHANIZOMENON	--	-	--	-	--	-	64000#	47	--	-	--	-
..OSCILLATORIALES												
...OSCILLATORIA	--	-	--	-	--	-	70000#	51	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
..EUGLENOPHYCEAE												
...EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	--	-	--	-	50	1	--	-
PYRRHOPHYTA (FIRE ALGAE)												
..DINOPHYCEAE												
...DINOKONTAE												
...GYMNODINIACEAE												
....GYMNODINIUM	--	-	--	-	--	-	--	-	--	-	22	11

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

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

BRAZOS RIVER BASIN

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	706.3	26400	17000	32500	8900	16900	1700	3240	*
NOV.	1980	417.1	69700	48500	54600	26900	30300	3100	3540	*
DEC.	1980	623.8	53200	35800	60300	19400	32600	2800	4790	*
JAN.	1981	263.3	69400	48100	34200	26700	19000	3200	2260	*
FEB.	1981	296.5	65000	44700	35800	24600	19700	3100	2500	*
MAR.	1981	545.0	47700	31900	46900	17100	25200	2600	3900	*
APR.	1981	1354.1	30800	20000	73100	10500	38300	1900	7050	*
MAY	1981	2112.3	16900	10700	60900	5400	31000	1200	6760	*
JUNE	1981	2213.08	9440	5820	34800	2900	17300	710	4240	880
JULY	1981	98.29	22300	14500	3860	7700	2030	1400	364	*
AUG.	1981	564.68	40500	28500	43400	16000	24300	1700	2590	*
SEPT	1981	379.23	30500	19700	20200	10300	10500	1900	1990	*
TOTAL		9573.68	**	**	501000	**	267000	**	43200	**
WTD. AVG.		26	29200	19400	**	10000	**	1700	**	**

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12600	61200	60500	60300	63900	30400	58700	15700	6690	66900	83400	53700
2	16600	62100	61700	72700	70000	32900	62500	11700	5820	69800	81400	54000
3	21100	64600	61300	73300	68900	37600	66300	14300	6600	73000	78200	55800
4	25000	67100	56700	70400	66800	45500	70100	24200	9830	72200	70600	51700
5	28800	70600	58000	73300	68500	51600	54700	20900	8160	65200	78500	60900
6	30900	68900	60200	76300	68900	49100	58200	14900	7980	12100	78900	36000
7	33400	69800	62900	61400	73100	50100	56200	12900	7520	16500	76700	27500
8	36900	71000	45600	66600	76000	65900	55100	16000	9600	21100	78100	22400
9	38300	73500	49000	74300	71800	56700	53600	18700	11300	27300	79900	36000
10	39100	70000	41900	73300	65500	53200	61700	21900	13500	39100	80800	48500
11	39900	73900	42500	72100	90000	54400	57800	25200	14700	45200	124000	51700
12	40500	74200	45700	75500	74500	55100	57300	28700	17800	52400	112000	54500
13	41000	74600	47900	70900	66900	54800	67000	31300	22600	68500	85300	59100
14	41700	74400	49900	75600	63500	54100	72900	34100	25900	75200	79400	53000
15	43200	80800	52100	68700	67400	65500	37500	16600	26300	76300	82300	58200
16	44500	70700	48700	66500	70600	62800	26800	35300	30500	75300	89500	67700
17	46400	85000	49500	64400	70000	58700	18700	45900	17200	78200	26400	76500
18	47700	78100	51300	62200	70700	54200	21100	49900	11100	79400	14600	78400
19	45600	54300	63300	68400	69900	52500	30200	51300	17000	80500	94000	81900
20	45900	57800	75800	79800	70500	50800	38300	52000	21700	79800	9100	75400
21	45800	55900	68600	74600	72400	50000	37500	52600	30600	83100	12400	76100
22	50000	57300	57000	68400	65600	50800	29500	51600	34300	82700	14100	75600
23	53600	60000	59500	63000	68500	57800	17000	53600	35500	80600	17800	74500
24	52200	62700	62100	63500	68800	51800	16700	55000	39400	83600	22300	73700
25	54100	58400	64900	65600	62500	52200	25000	64400	45300	83000	27300	75500
26	52700	85000	66900	65500	64700	55000	29100	42900	50100	83600	31000	36000
27	53600	80000	61900	65300	62500	57400	31400	48900	55000	80300	34700	8630
28	63000	72800	69600	64700	59200	58700	34000	51200	57900	79400	37000	13800
29	64000	65700	72800	67100	---	59400	37400	23800	60300	82600	40200	20500
30	62900	61100	66500	69300	---	82400	40700	16400	62700	83900	43600	25200
31	58800	---	74700	67000	---	68100	---	8200	---	83000	49300	---
WTR YR 1981	MEAN	53500		MAX	124000		MIN	5820				

BRAZOS RIVER BASIN

191

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	16.0	19.0	13.0	10.0	17.0	22.0	22.0	28.0	30.0	31.0	27.0
2	22.0	20.0	5.0	12.0	9.0	14.0	---	21.0	30.0	28.0	28.0	21.0
3	23.0	18.0	---	11.0	10.0	15.0	---	23.0	27.0	28.0	26.0	22.0
4	25.0	19.0	15.0	9.0	4.0	15.0	18.0	23.0	25.0	30.0	29.0	30.0
5	25.0	10.0	14.0	10.0	5.0	16.0	21.0	25.0	26.0	31.0	30.0	27.0
6	19.0	20.0	16.0	12.0	9.0	10.0	17.0	24.0	30.0	29.0	24.0	30.0
7	20.0	20.0	16.0	4.0	10.0	17.0	20.0	16.0	32.0	28.0	26.0	23.0
8	25.0	19.0	7.0	10.0	11.0	8.0	22.0	---	30.0	29.0	30.0	26.0
9	25.0	20.0	7.0	13.0	8.0	15.0	23.0	---	33.0	30.0	30.0	---
10	23.0	22.0	10.0	8.0	6.0	16.0	23.0	---	34.0	29.0	29.0	27.0
11	22.0	13.0	11.0	9.0	4.0	11.0	24.0	---	25.0	23.0	26.0	29.0
12	23.0	19.0	10.0	6.0	9.0	14.0	26.0	---	20.0	26.0	30.0	30.0
13	25.0	18.0	8.0	10.0	11.0	19.0	25.0	---	27.0	25.0	26.0	28.0
14	27.0	10.0	13.0	12.0	13.0	11.0	15.0	---	29.0	31.0	35.0	29.0
15	26.0	10.0	9.0	8.0	14.0	19.0	12.0	15.0	19.0	31.0	35.0	27.0
16	24.0	4.0	15.0	5.0	15.0	17.0	17.0	25.0	25.0	27.0	34.0	19.0
17	22.0	5.0	15.0	6.0	17.0	14.0	21.0	25.0	27.0	31.0	23.0	16.0
18	20.0	10.0	15.0	4.0	19.0	12.0	21.0	22.0	31.0	---	26.0	22.0
19	20.0	9.0	5.0	5.0	19.0	18.0	26.0	23.0	31.0	30.0	29.0	21.0
20	18.0	11.0	7.0	10.0	19.0	15.0	26.0	23.0	32.0	32.0	27.0	25.0
21	23.0	12.0	3.0	8.0	15.0	12.0	16.0	25.0	33.0	31.0	29.0	25.0
22	21.0	10.0	7.0	10.0	13.0	14.0	24.0	26.0	31.0	31.0	31.0	26.0
23	17.0	---	12.0	12.0	16.0	14.0	21.0	28.0	23.0	24.0	28.0	---
24	18.0	9.0	---	13.0	17.0	19.0	22.0	22.0	26.0	30.0	27.0	24.0
25	18.0	4.0	5.0	12.0	20.0	14.0	15.0	23.0	30.0	31.0	32.0	26.0
26	19.0	7.0	10.0	10.0	18.0	20.0	26.0	30.0	26.0	29.0	---	27.0
27	17.0	8.0	12.0	12.0	15.0	21.0	25.0	35.0	25.0	24.0	27.0	27.0
28	11.0	7.0	13.0	14.0	11.0	21.0	27.0	31.0	26.0	29.0	29.0	27.0
29	11.0	12.0	11.0	12.0	---	9.0	30.0	27.0	---	30.0	31.0	25.0
30	6.0	14.0	10.0	7.0	---	20.0	28.0	19.0	25.0	31.0	32.0	20.0
31	17.0	---	8.0	5.0	---	21.0	---	25.0	---	31.0	34.0	---
WTR YR 1981	MEAN	20.0		MAX	35.0		MIN	3.0				

BRAZOS RIVER BASIN

08082100 STINKING CREEK NEAR ASPERMONT, TX

LOCATION.--Lat 33°14'00", long 100°12'47", Stonewall County, Hydrologic Unit 12050007, at downstream side of bridge on Farm Road 1263, 4.9 mi (7.9 km) upstream from Salt Fork Brazos River, and 6.8 mi (10.9 km) north of Aspermont.

DRAINAGE AREA.--88.8 mi² (230.0 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,601.5 ft (488.14 m) National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation bridge plans).

REMARKS.--Water-discharge records good. No known diversion above station. Recording rain gage at station prior to May 1, 1978.

AVERAGE DISCHARGE.--16 years, 3.55 ft³/s (0.101 m³/s), 0.54 in/yr (14 mm/yr), 2,570 acre-ft/yr (3.17 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,440 ft³/s (69.1 m³/s) May 15, 1980, gage height, 11.20 ft (3.414 m); no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1925, 31 ft (9.4 m) in September 1955, from information by local residents.

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

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Apr. 28	1630	470	13.3	6.71	2.045
May 4	2400	*641	18.2	7.35	2.240

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	.05	.18	.33	.57	10	.29	1.1	3.6	.16	.11	.01
2	1.7	.05	.26	.33	.57	4.0	.27	.92	2.1	.14	.08	.01
3	.82	.05	.61	.33	.57	2.7	.28	1.6	1.7	.14	.10	.01
4	.47	.06	.57	.33	.57	2.8	.24	29	10	.18	.17	.00
5	.30	.06	.57	.33	.57	2.0	.24	67	22	.37	.13	.00
6	.22	.06	.57	.33	.57	1.3	.24	3.0	22	3.9	.07	.00
7	.17	.06	.81	.33	.57	1.2	.24	1.4	3.5	1.0	.20	.00
8	.10	.06	11	.33	.57	1.6	.23	.98	1.7	.51	.29	.00
9	.07	.04	7.7	.33	.55	1.0	.20	.86	.97	.42	.21	.00
10	.06	.04	2.7	.33	.47	.90	.21	.76	.71	.35	.14	.00
11	.04	.04	1.3	.33	.46	.90	.21	.68	.69	.34	.29	.00
12	.04	.04	.89	.33	.36	.90	.15	.53	.70	.29	.37	.00
13	.04	.06	.70	.33	.31	.84	.33	.54	.66	.33	.26	.00
14	.03	.07	.56	.33	.29	.77	4.3	.55	.84	.31	.15	.00
15	.04	.08	.49	.33	.29	.85	5.5	.70	.95	.29	.12	.00
16	.05	.26	.47	.33	.29	.78	5.4	.74	.80	.29	.21	.00
17	.03	.46	.44	.33	.31	.75	2.2	.74	.80	.26	8.6	.00
18	.02	.19	.40	.35	.33	.73	81	.67	.87	.27	8.9	.00
19	.02	.11	.38	.38	.34	.56	43	.54	.64	.23	2.5	.00
20	.02	.13	.34	.45	.36	.63	7.1	.55	.37	.22	.32	.00
21	.03	.11	.33	.47	.37	.55	43	.60	.38	.23	.08	.00
22	.03	.11	.33	.47	.39	.45	81	.61	.35	.19	.04	.00
23	.03	.12	.36	.47	.38	.47	19	.56	.27	.14	.04	.00
24	.02	.11	.42	.47	.41	.50	6.9	.53	.22	.12	.03	.00
25	.02	.14	.41	.47	.42	.47	3.9	.55	.21	.10	.03	.00
26	.04	.15	.38	.47	.46	.55	2.6	.53	.21	.14	.02	.00
27	.04	.12	.38	.47	15	.53	2.0	.46	.20	.12	.02	.00
28	.04	.14	.38	.47	25	.43	1.7	.42	.20	.16	.02	.00
29	.04	.17	.41	.51	---	.42	1.4	15	.18	.17	.03	.00
30	.04	.18	.35	.57	---	.38	1.3	50	.15	.16	.02	.00
31	.05	---	.33	.57	---	.33	---	23	---	.15	.01	---
TOTAL	8.02	3.32	35.02	12.20	51.35	40.29	314.43	205.12	77.97	66.13	23.56	.03
MEAN	.26	.11	1.13	.39	1.83	1.30	10.5	6.62	2.60	2.13	.76	.001
MAX	3.4	.46	11	.57	25	10	81	67	22	37	8.9	.01
MIN	.02	.04	.18	.33	.29	.33	.15	.42	.15	.10	.01	.00
CFSM	.003	.001	.01	.004	.02	.02	.12	.08	.03	.02	.009	.000
IN.	.00	.00	.01	.01	.02	.02	.13	.09	.03	.03	.01	.00
AC-FT	16	6.6	69	24	102	80	624	407	155	131	47	.06
CAL YR 1980	TOTAL	2678.30	MEAN 7.32	MAX 1170	MIN .00	CFSM .08	IN 1.12	AC-FT 5310				
WTR YR 1981	TOTAL	837.44	MEAN 2.29	MAX 81	MIN .00	CFSM .03	IN .35	AC-FT 1660				

BRAZOS RIVER BASIN

193

08082100 STINKING CREEK NEAR ASPERMONT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1965 to current year. Periodic sediment records: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
NOV 17...	1510	.44	7130	9.0	2500	2400	600	250	840	7.3
JAN 05...	1436	.34	8880	6.5	2900	2700	660	300	1200	9.7
FEB 09...	1441	.53	8280	12.0	2700	2600	600	300	1200	10
MAR 16...	1546	.78	9260	17.0	2800	2700	630	300	1200	9.9
APR 22...	0910	86	1750	17.0	550	480	160	37	180	3.3
27...	0845	2.0	--	17.0	--	--	--	--	--	--
MAY 13...	1245	.57	6960	--	2400	2200	560	240	850	7.6
JUN 29...	1521	.19	8580	31.0	3200	3100	750	310	990	7.7
JUL 27...	1541	.12	8780	29.0	3200	3100	740	320	1100	8.5
SEP 08...	1515	.01	5970	25.0	2400	2300	630	210	560	4.9

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (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- PENDEDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEDED (T/DAY)
NOV 17...	12	130	2200	1400	.3	.6	5380	--	--
JAN 05...	12	170	2400	2000	.3	.0	6670	--	--
FEB 09...	12	160	2300	1900	.3	.4	6410	--	--
MAR 16...	12	140	2200	2300	.3	.4	6730	--	--
APR 22...	6.9	71	390	310	.1	6.8	1130	--	--
27...	--	--	--	--	--	--	--	1250	6.7
MAY 13...	11	150	2000	1500	.3	4.4	5260	--	--
JUN 29...	13	85	2300	2000	.3	3.9	6420	--	--
JUL 27...	15	72	2500	2000	.5	5.6	6720	--	--
SEP 08...	13	92	1900	1300	.4	4.7	4670	--	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM
APR 27...	0845	2.0	17.0	1250	6.7	89	91	97	98	100

BRAZOS RIVER BASIN

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1965 to current year.

WATER TEMPERATURES: October 1965 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 48,600 micromhos May 26, 1981; minimum daily, 1,060 micromhos Aug. 30, 1966.

WATER TEMPERATURES: Maximum daily, 37.0°C June 16, 1978; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 48,600 micromhos May 26; minimum daily, 2,040 micromhos June 3.

WATER TEMPERATURES: Maximum daily, 35.0°C May 29; minimum daily, 0.0°C Dec. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 24...	1052	1.1	23300	8.0	3300	3200	870	280	4500
JAN 05...	1241	.94	22800	6.0	3500	3300	860	320	4300
FEB 09...	1246	.97	24200	11.5	3700	3500	940	330	4600
APR 28...	0836	1.4	17000	19.0	3200	3000	780	300	3300
MAY 13...	0945	2.9	14500	20.5	2700	2600	750	200	2600
SEP 08...	1320	.11	15000	29.0	3300	3200	840	290	2400

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 24...	34	27	140	2300	7800	.3	3.2	15900
JAN 05...	32	26	130	2500	7400	.2	2.6	15500
FEB 09...	33	27	140	2700	8700	.4	3.2	17400
APR 28...	25	29	140	2000	5800	.4	2.5	12300
MAY 13...	22	20	130	1900	4700	.0	4.8	10300
SEP 08...	18	21	93	2400	4400	.3	<1.9	10400

BRAZOS RIVER BASIN

195

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	150.21	9310	6520	2650	2500	1020	1700	678	2000
NOV.	1980	26.52	27600	18600	1330	9000	642	2800	201	*
DEC.	1980	79.88	20900	14300	3080	6400	1370	2700	590	*
JAN.	1981	28.09	23400	15900	1210	7300	551	2900	217	*
FEB.	1981	42.69	20900	14200	1640	6400	743	2600	302	*
MAR.	1981	84.29	15100	10500	2380	4400	996	2300	528	*
APR.	1981	105.25	19100	13100	3730	5800	1640	2600	741	*
MAY	1981	734.89	8860	6130	12200	2600	5070	1400	2710	1700
JUNE	1981	1961.96	3440	2430	12900	880	4680	690	3650	820
JULY	1981	17.54	17000	11700	554	4900	234	2500	120	*
AUG.	1981	60.25	15400	10600	1720	4600	741	2200	361	*
SEPT	1981	415.65	5840	4120	4620	1500	1720	1100	1260	1400
TOTAL		3707.22	**	**	48000	**	19400	**	11400	**
WTD. AVG.		10	6890	4790	**	1900	**	1100	**	1400

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5690	23200	26500	22100	24100	11100	24600	17800	7580	17200	13600	25800
2	8450	24000	25600	22400	24900	10600	24900	18000	5600	17400	13700	24100
3	10300	24500	25500	22900	25600	15800	24700	18200	2040	17600	12300	21500
4	9360	24800	25300	22100	25700	15600	25000	19200	2490	17500	12000	5660
5	8320	25500	25100	22800	25800	15300	25300	19300	3750	17600	11900	9000
6	8200	25200	25200	23100	24800	14900	25400	17500	4970	17800	12000	10600
7	8210	25600	24700	23000	23400	15200	25400	18000	5550	18000	12500	13500
8	8580	26000	22100	23100	24900	15800	25800	15000	6170	18200	12600	15000
9	10700	26500	23000	23100	24200	16500	25700	17800	6890	18100	9970	16300
10	8490	26100	24100	23200	26500	17300	25600	13000	7500	17600	9550	16200
11	8640	25800	17500	23100	28000	19200	26000	12700	8190	17400	7950	15100
12	11200	26500	14500	23500	29100	21400	25800	13700	8230	17900	8530	15300
13	11100	26400	14300	23600	27900	20800	25100	14500	9820	18000	9390	14500
14	11400	26400	15300	23500	27400	20500	27500	15400	10400	17500	7280	12000
15	12900	26500	16200	23100	27200	16000	29100	11000	7500	17200	8720	9710
16	11700	27100	16800	23300	27300	18500	28400	9500	6790	16500	7420	9310
17	13900	31400	17500	23400	27500	19600	27300	9470	8520	16700	10000	9470
18	14800	32600	18200	23300	27400	20300	17500	12500	9560	16800	12600	15500
19	15100	33500	19000	22400	27500	21800	19000	15700	11500	16300	16200	25000
20	15500	31700	19600	22100	27500	22400	20100	18100	13400	16500	19500	26000
21	15700	29500	20100	22400	27600	23000	15200	19300	14000	16700	21300	26300
22	16500	28400	20200	24600	27400	22700	16100	19600	14500	17400	23200	21700
23	17200	23600	19900	23700	27500	22800	16900	20200	15300	17200	25000	21800
24	17700	23300	20000	23800	27400	22700	17400	20700	16000	17600	26500	24000
25	18400	23500	22000	24000	27400	22700	18000	36700	16300	17400	27300	24200
26	18000	22000	20600	24200	27100	22600	18600	48600	16400	17200	28400	4810
27	16300	23900	20500	24400	26300	23200	18100	36900	16600	16800	28200	6250
28	18200	24200	20500	24500	14500	24400	17100	25600	16800	15200	27900	8260
29	20400	24500	21700	24300	---	23700	17300	15400	17000	15300	26500	14900
30	21500	26300	23000	24800	---	23800	17400	2500	17300	14500	26200	15000
31	22600	---	22300	25100	---	24300	---	3080	---	13900	25700	---
MEAN	13400	26300	20900	23400	26100	19500	22300	17900	10200	17000	16600	15900

BRAZOS RIVER BASIN

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	15.0	---	10.0	5.0	16.0	21.0	22.0	28.0	30.0	30.0	25.0
2	18.0	13.0	5.0	10.0	---	14.0	21.0	22.0	---	30.0	30.0	28.0
3	16.0	13.0	3.0	11.0	8.0	15.0	16.0	21.0	19.0	30.0	30.0	27.0
4	24.0	16.0	13.0	6.0	4.0	---	17.0	22.0	22.0	30.0	30.0	25.0
5	---	13.0	15.0	5.0	5.0	14.0	16.0	21.0	---	25.0	30.0	28.0
6	---	13.0	14.0	6.0	6.0	---	16.0	20.0	29.0	28.0	25.0	---
7	---	16.0	---	5.0	8.0	17.0	16.0	20.0	---	27.0	28.0	---
8	25.0	13.0	---	6.0	5.0	14.0	21.0	---	32.0	28.0	28.0	29.0
9	25.0	18.0	5.0	8.0	6.0	15.0	20.0	23.0	---	29.0	25.0	28.0
10	19.0	15.0	6.0	7.0	---	15.0	18.0	22.0	---	30.0	---	29.0
11	17.0	16.0	---	5.0	---	14.0	21.0	25.0	30.0	30.0	25.0	28.0
12	14.0	18.0	7.0	1.0	6.0	13.0	21.0	26.0	31.0	30.0	30.0	27.0
13	17.0	17.0	6.0	6.0	9.0	14.0	20.0	24.0	28.0	25.0	28.0	---
14	18.0	18.0	8.0	8.0	9.0	---	---	16.0	---	30.0	30.0	---
15	24.0	10.0	6.0	5.0	---	13.0	---	---	---	33.0	32.0	25.0
16	20.0	---	11.0	1.0	---	14.0	20.0	17.0	---	32.0	29.0	24.0
17	21.0	---	12.0	3.0	15.0	10.0	---	24.0	---	33.0	---	24.0
18	19.0	8.0	13.0	2.0	15.0	8.0	---	25.0	---	25.0	27.0	25.0
19	16.0	7.0	4.0	4.0	13.0	8.0	20.0	18.0	---	25.0	30.0	25.0
20	18.0	---	2.0	5.0	14.0	14.0	25.0	18.0	---	25.0	30.0	25.0
21	14.0	9.0	.0	5.0	15.0	8.0	20.0	25.0	---	25.0	23.0	28.0
22	14.0	8.0	4.0	7.0	13.0	8.0	18.0	25.0	---	28.0	29.0	28.0
23	18.0	9.0	9.0	6.0	15.0	12.0	20.0	28.0	---	28.0	28.0	30.0
24	15.0	8.0	9.0	7.0	13.0	12.0	20.0	22.0	---	26.0	25.0	32.0
25	16.0	7.0	2.0	8.0	10.0	13.0	22.0	24.0	---	25.0	28.0	30.0
26	---	5.0	8.0	9.0	14.0	16.0	22.0	30.0	---	---	25.0	25.0
27	15.0	5.0	9.0	9.0	14.0	23.0	---	25.0	---	30.0	29.0	---
28	11.0	4.0	6.0	10.0	---	13.0	21.0	---	---	30.0	25.0	---
29	8.0	10.0	9.0	12.0	---	13.0	21.0	35.0	30.0	30.0	30.0	30.0
30	15.0	8.0	9.0	8.0	---	12.0	23.0	22.0	29.0	30.0	29.0	26.0
31	16.0	---	10.0	5.0	---	21.0	---	25.0	---	30.0	30.0	---
MEAN	17.5	11.5	7.5	6.5	10.0	13.5	20.0	23.0	28.0	28.5	28.0	27.0

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX

LOCATION.--Lat 33°22'59", long 100°04'51", Stonewall County, Hydrologic Unit 12060101, on left bank 600 ft (180 m) downstream from Wedington Creek, 9.5 mi (15.3 km) upstream from mouth, and 15.4 mi (24.8 km) southwest of Knox City.

DRAINAGE AREA.--251 mi² (650 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-75-1: 1966-67, 1969-74.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,462.44 ft (445.752 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. No diversion or regulation above station. Recording rain gage at station prior to May 1, 1978.

AVERAGE DISCHARGE.--16 years, 13.9 ft³/s (0.394 m³/s), 0.75 in/yr (19 mm/yr), 10,070 acre-ft/yr (12.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,100 ft³/s (909 m³/s) Aug. 30, 1966, gage height, 32.36 ft (9.863 m); from rating curve extended above 240 ft³/s (6.80 m³/s) on basis of step-backwater analysis and slope-area measurements of 2,660, 6,530, and 32,100 ft³/s (75.3, 185, and 909 m³/s); no flow at times. Maximum stage since at least 1921, that of Aug. 30, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1932 reached a stage of about 32 ft (9.8 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 3	1330	*1,790 50.7	17.29 5.270
Sept. 26	1530	610 17.3	12.74 3.883

Minimum discharge, 0.08 ft³/s (0.002 m³/s) Sept. 8-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	.42	.79	.89	.79	23	.32	.79	22	.88	.64	.45
2	14	.42	.76	.87	.79	9.8	.36	.87	59	.80	.62	.40
3	10	.42	.70	.79	.75	7.4	.36	.78	1170	.77	.75	2.2
4	11	.42	.70	.89	.70	6.3	.36	.94	270	.84	.75	30
5	12	.42	.70	.89	.70	3.1	.31	1.6	54	.84	.68	.79
6	12	.42	.70	.89	.74	2.4	.32	12	58	.77	.65	.27
7	11	.42	.95	.89	.90	3.2	.33	4.5	43	.71	1.1	.17
8	9.9	.42	16	.89	.99	3.0	.31	140	35	.64	.86	.11
9	8.6	.42	15	.89	1.1	2.1	.31	71	31	.59	.90	.09
10	7.9	.42	8.0	.89	1.4	2.2	.31	18	27	.54	1.9	.10
11	6.5	.42	4.7	.99	1.3	2.3	.33	9.7	23	.48	4.5	.15
12	4.3	.42	3.5	.95	1.1	2.1	.31	4.8	20	.48	1.8	.23
13	3.1	.42	2.7	.89	.94	1.8	.59	2.6	18	.44	1.5	.29
14	2.5	.42	2.4	.89	.89	1.6	3.9	1.9	16	.43	1.7	.42
15	2.2	.42	2.3	.89	.89	2.4	5.9	27	26	.44	1.7	.51
16	1.9	.70	1.9	.89	.89	1.6	3.8	8.2	25	.41	1.8	.53
17	1.5	3.1	1.6	.86	.84	1.3	2.3	2.5	16	.39	5.0	.42
18	1.2	2.7	1.6	.79	.70	1.0	15	1.5	12	.36	8.9	.33
19	1.1	1.7	1.5	.85	.68	.75	11	1.0	9.2	.34	4.3	.33
20	.99	1.5	1.3	1.0	.62	.76	4.0	.89	6.7	.34	3.4	.31
21	.95	1.3	1.2	1.1	.63	.78	17	.87	4.7	.36	3.2	.28
22	.79	1.1	1.2	.95	.60	.63	16	.61	3.5	.42	2.8	.25
23	.79	1.1	1.2	.99	.55	.60	6.0	.53	2.7	.34	2.4	.25
24	.67	.98	1.2	.99	.53	.56	5.4	.51	2.2	.42	2.0	.27
25	.62	.89	1.2	.99	.52	.59	3.3	1.3	2.1	.50	1.6	.30
26	.62	1.1	1.1	.99	.55	.60	2.3	8.3	1.5	.53	1.2	293
27	1.1	1.3	1.1	.97	1.6	.55	1.5	2.8	1.3	.56	1.0	53
28	.63	.99	1.1	.89	20	.55	1.3	1.4	1.1	.70	.80	15
29	.48	.89	1.0	.86	---	.53	1.1	8.0	1.0	.81	.70	8.7
30	.45	.87	.89	.79	---	.44	.93	291	.96	.71	.60	6.5
31	.42	---	.89	.79	---	.35	---	109	---	.70	.50	---
TOTAL	150.21	26.52	79.88	28.09	42.69	84.29	105.25	734.89	1961.96	17.54	60.25	415.65
MEAN	4.85	.88	2.58	.91	1.52	2.72	3.51	23.7	65.4	.57	1.94	13.9
MAX	21	3.1	16	1.1	20	23	17	291	1170	.88	8.9	293
MIN	.42	.42	.70	.79	.52	.35	.31	.51	.96	.34	.50	.09
AC-FT	298	53	158	56	85	167	209	1460	3890	35	120	824
CAL YR 1980	TOTAL	4690.30	MEAN	12.8	MAX	1290	MIN	.00	AC-FT	9300		
WTR YR 1981	TOTAL	3707.22	MEAN	10.2	MAX	1170	MIN	.09	AC-FT	7350		

BRAZOS RIVER BASIN

08082500 BRAZOS RIVER AT SEYMOUR, TX
(National stream-quality accounting network)

LOCATION.--Lat 33°34'51", long 99°16'02", Baylor County, Hydrologic Unit 12060101, on left bank at downstream side of bridge on U.S. Highways 277 and 283, 0.8 mi (1.3 km) upstream from Wichita Valley Railway bridge, 1.0 mi (1.6 km) southwest of courthouse in Seymour, and at mile 847.4 (1,363.5 km).

DRAINAGE AREA.--15,538 mi² (40,243 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1923 to current year.

REVISED RECORDS.--WSP 808: 1924-29. WSP 1312: 1933. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,238.97 ft (377.638 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 6, 1972, at datum 2.00 ft (0.610 m) higher.

REMARKS.--Water-discharge records poor. Small diversions above station for irrigation and oilfield operation. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--57 years (water years 1925-81), 374 ft³/s (10.59 m³/s), 271,000 acre-ft/yr (334 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,400 ft³/s (2,700 m³/s) Oct. 16, 1926, gage height, 17.16 ft (5.230 m), from floodmarks, present datum, from rating curve extended above 48,000 ft³/s (1,360 m³/s) on basis of slope-area measurement of 95,400 ft³/s (2,700 m³/s); maximum gage height, 23.00 ft (7.010 m), present datum, Sept. 28, 1955, discharge 71,200 ft³/s (2,020 m³/s); no flow at times.
Since 1906, the maximum stage was that of Sept. 28, 1955, and maximum discharge was that of Oct. 16, 1926.

EXTREMES OUTSIDE PERIOD OF RECORD.- A flood in 1906 reached about the same stage as the flood in 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,940 ft³/s (168 m³/s) June 5 at 2300 hours, gage height, 6.90 ft (2.103 m), no peak above base of 11,000 ft³/s (312 m³/s); no flow Aug. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3610	70	50	73	52	437	44	133	702	22	.18	21
2	1870	64	47	70	50	316	45	117	728	20	.14	18
3	1240	54	46	72	50	311	41	185	606	20	.10	15
4	853	49	43	73	50	324	40	246	1200	26	.07	12
5	621	49	36	75	57	351	38	322	2340	25	.03	14
6	479	103	50	73	55	295	37	227	2990	13	.00	41
7	412	153	81	64	55	226	34	197	1330	12	.16	19
8	350	156	217	66	57	203	32	190	888	184	.16	11
9	307	136	252	72	59	183	31	222	635	164	.10	19
10	275	133	264	70	60	158	31	394	453	83	.03	23
11	252	129	279	70	62	139	31	526	314	49	.03	23
12	220	92	245	68	62	128	32	308	249	28	.06	13
13	200	72	307	68	62	120	32	254	234	22	.02	15
14	180	55	264	66	60	130	88	219	196	14	.02	89
15	164	70	183	68	59	136	55	199	153	9.2	.02	86
16	156	103	147	57	52	116	57	189	144	5.4	.13	65
17	141	135	130	55	52	108	108	209	183	3.7	.10	42
18	128	133	123	59	49	99	118	169	141	2.1	.60	35
19	118	99	103	62	49	97	225	121	108	1.6	141	28
20	106	90	81	61	47	83	220	107	88	1.2	961	22
21	108	81	83	59	46	85	265	100	90	1.4	560	17
22	110	75	83	57	44	100	288	98	79	.56	336	14
23	101	73	79	54	38	80	1260	125	59	.48	207	11
24	96	62	79	54	34	79	1230	118	54	.36	146	8.6
25	92	60	83	54	43	77	690	60	47	.30	112	5.9
26	92	57	73	54	37	72	403	50	40	.23	97	4.5
27	214	54	62	54	160	66	242	46	34	.23	86	3.0
28	106	52	68	54	910	62	206	44	31	.20	66	1.9
29	180	50	73	54	---	59	175	52	28	.23	51	97
30	183	50	73	54	---	54	156	160	25	.20	39	58
31	110	---	70	54	---	47	---	337	---	.20	28	---
TOTAL	13074	2559	3774	1944	2411	4741	6254	5724	14169	709.59	2891.35	831.9
MEAN	422	85.3	122	62.7	86.1	153	208	185	472	22.9	93.3	27.7
MAX	3610	156	307	75	910	437	1260	526	2990	184	961	97
MIN	92	49	36	54	34	47	31	44	25	.20	.00	1.9
AC-FT	25930	5080	7490	3860	4780	9400	12400	11350	28100	1410	5730	1650
CAL YR 1980	TOTAL	125257.42	MEAN	342	MAX	21300	MIN	.43	AC-FT	248400		
WTR YR 1981	TOTAL	59082.84	MEAN	162	MAX	3610	MIN	.00	AC-FT	117200		

BRAZOS RIVER BASIN

199

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1959 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1959 to current year.

WATER TEMPERATURES: August 1959 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 80,400 micromhos May 24, 1971; minimum daily, 559 micromhos May 22, 1979.

WATER TEMPERATURES: Maximum daily, 37.0°C Aug. 6, 1959, Sept. 3, 1963; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 24,100 micromhos Nov. 24; minimum daily, 1,680 micromhos Oct. 1.

WATER TEMPERATURES: Maximum daily, 33.5°C July 2; minimum daily, 0.0°C Dec. 20, 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L 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 27...	1020	237	9010	13.5	1400	1300	410	93	1500
NOV 30...	1025	51	14700	9.0	2100	1900	580	150	2800
JAN 31...	1055	54	17200	4.0	2200	2100	590	180	3400
FEB 28...	1145	1010	3510	12.5	500	400	140	36	550
JUN 06...	0905	2830	1810	22.0	510	380	162	26	220
JUL 06...	0840	14	12300	23.5	1900	1800	540	140	2100
AUG 31...	1215	26	6230	28.0	940	850	280	59	1000

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (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...	17	10	110	1100	2400	.4	8.2	5590
NOV 30...	27	12	140	1600	4500	.4	8.4	9740
JAN 31...	31	10	140	1900	5500	.5	4.1	11700
FEB 28...	11	5.6	94	320	910	.3	7.1	2030
JUN 06...	4.4	6.2	130	440	290	.4	12	1230
JUL 06...	21	19	100	1700	3600	.6	11	8170
AUG 31...	14	11	90	810	1600	1.0	10	3830

BRAZOS RIVER BASIN

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	13074	4340	2700	95300	1100	39400	580	20500	650
NOV.	1980	2559	11900	7540	52100	3400	23300	1400	9370	*
DEC.	1980	3774	11300	7110	72500	3200	32100	1300	13400	*
JAN.	1981	1944	15600	9940	52200	4600	24100	1600	8650	*
FEB.	1981	2411	11400	7250	47200	3300	21600	1200	8030	*
MAR.	1981	4741	12100	7650	97900	3400	44100	1400	17400	*
APR.	1981	6254	7050	4420	74700	1900	32100	880	14800	1000
MAY	1981	5724	8460	5310	82100	2300	35500	1000	16100	1200
JUNE	1981	14169	4880	3050	117000	1300	49500	620	23900	710
JULY	1981	709.59	6550	4100	7850	1700	3320	840	1620	950
AUG.	1981	2891.35	5230	3250	25400	1300	10400	710	5550	790
SEPT	1981	831.9	7760	4870	10900	2100	4720	960	2150	1100
TOTAL		59082.84	**	**	735000	**	320000	**	141000	**
WTD. AVG.		162	7320	4610	**	2000	**	890	**	1000

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1680	6550	14100	14500	16300	3590	15900	8300	15400	13100	12900	6770
2	2150	6960	14300	14700	16000	8080	16400	9110	16200	13300	12500	7260
3	2410	7870	14400	14600	15800	12500	16600	9790	7010	13100	12100	7650
4	3020	9280	14700	14700	15900	15900	16900	9410	4940	10900	12000	8000
5	3810	9840	14900	14800	15600	14000	17000	7090	2380	11200	11900	8450
6	4450	9950	13000	14900	15500	8670	17200	5180	1910	12300	---	8730
7	5170	10500	11500	15000	15600	8190	17400	6150	2590	13500	11600	7900
8	6150	11300	7020	15100	15300	8900	17200	7140	3350	5850	12500	7640
9	6500	11700	7390	14800	15000	9790	17400	8430	4040	3050	13600	6650
10	7170	11800	7470	14900	14800	11800	17600	10000	3710	4850	13000	6020
11	7620	11700	7680	15100	15500	13000	17500	4480	3570	5730	12200	9180
12	8020	11900	11600	15300	15600	13600	17400	4200	4130	6050	11100	6990
13	8410	12300	16800	15200	15700	14900	17200	3990	4440	6860	11500	6580
14	8800	12800	12600	15400	15300	16200	15400	4770	5000	7740	11400	7720
15	9070	11800	9440	15500	15800	15000	14800	5550	5560	8070	11600	6950
16	9160	9500	9610	15700	16700	14100	11900	6330	5340	8680	8260	6200
17	9510	8820	9850	16000	17600	14600	11600	7110	5500	9330	8460	4710
18	9890	9000	10300	15800	18100	15200	10600	7550	6350	10000	13200	5250
19	10100	8640	11100	15900	17600	15900	12600	8080	7170	10500	9750	5740
20	10300	10900	12000	16000	17900	16000	14000	14000	7930	10900	6120	6110
21	10200	12800	12600	15900	18300	17400	10200	16300	8530	11400	4420	6570
22	10100	14000	12800	15800	18100	17800	5560	14900	11200	12200	3480	6590
23	10400	17000	12700	15700	17900	17400	4830	16000	14400	12300	3080	6790
24	10800	24100	13000	15900	17500	14800	3400	15700	12000	12500	3500	7060
25	11000	21500	13500	16100	17300	14300	5880	14700	9260	12300	3920	7400
26	11200	18600	13800	16300	17200	14400	4510	14000	9690	12700	4360	7600
27	7230	17400	13300	16600	15000	14600	4630	13800	10100	13000	4860	8090
28	9300	16100	13700	17300	3490	14400	5350	14000	11000	12800	4940	8440
29	11400	15100	13900	18000	---	14800	6070	13600	11500	13000	5350	5100
30	9520	14700	14300	17500	---	15000	7410	10200	11900	13300	5780	22000
31	8000	---	14400	17200	---	15400	---	14600	---	13100	6250	---
MEAN	7820	12500	12200	15700	15900	13600	12300	9820	7540	10400	8850	7540

BRAZOS RIVER BASIN

201

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	16.5	14.0	---	9.5	11.0	18.0	26.5	---	28.0	31.5	---
2	21.0	12.0	8.0	6.0	9.0	13.0	17.0	24.0	23.0	33.5	---	25.0
3	17.5	20.0	5.5	---	---	---	---	23.0	23.0	31.0	27.0	30.0
4	17.5	20.0	5.5	8.0	4.5	13.5	11.5	21.5	22.5	30.0	---	---
5	18.0	12.5	13.0	6.5	3.5	13.5	13.0	20.0	24.0	32.0	26.0	31.0
6	---	---	15.0	9.5	6.0	14.5	---	20.5	22.5	25.0	---	30.0
7	19.0	---	---	10.0	4.5	13.0	15.0	---	27.0	24.5	25.0	27.0
8	24.5	12.0	7.0	7.0	8.5	---	25.0	18.0	---	29.0	27.5	21.0
9	18.0	19.5	5.0	7.5	---	13.5	25.0	19.0	---	24.0	28.5	18.0
10	21.0	---	9.0	6.5	5.0	15.0	22.0	17.0	---	27.0	---	26.0
11	16.5	15.0	10.0	---	1.0	14.5	18.0	17.0	26.0	26.5	23.5	22.0
12	18.0	14.5	10.0	3.0	---	15.0	23.0	18.0	23.0	26.0	24.0	25.0
13	---	19.0	8.0	3.0	1.5	15.5	24.0	22.0	23.5	---	---	26.0
14	25.0	---	---	4.0	6.0	15.5	17.5	---	---	33.0	28.0	21.0
15	25.0	7.0	8.0	---	---	13.0	12.5	---	21.5	25.0	29.0	---
16	18.0	---	12.0	4.0	12.0	17.0	15.5	23.0	23.0	30.0	28.0	23.0
17	---	3.0	13.0	---	9.5	19.0	18.5	28.0	22.0	26.0	25.0	16.0
18	20.5	---	10.0	---	17.5	---	22.0	---	31.0	27.0	30.0	---
19	18.0	3.0	---	3.5	13.5	8.5	22.0	15.5	---	---	27.0	20.0
20	20.0	11.5	.0	5.0	12.5	15.0	22.5	25.0	23.0	30.0	24.0	24.0
21	---	11.0	.0	4.0	11.5	15.5	20.5	25.0	25.0	25.0	27.0	30.0
22	14.5	8.0	2.0	9.5	---	---	18.5	26.5	---	32.0	23.0	29.0
23	---	7.5	4.5	10.0	17.0	10.5	19.0	30.5	25.0	27.0	24.0	25.0
24	---	8.0	---	12.5	17.5	14.0	18.5	23.0	---	31.5	---	30.0
25	9.0	7.5	---	9.5	14.0	14.0	20.5	21.5	25.0	24.5	26.5	30.0
26	12.5	3.0	1.0	7.5	19.0	12.5	20.0	26.0	27.0	---	26.0	22.0
27	17.5	---	9.0	10.0	18.0	15.5	26.0	---	26.0	26.5	23.0	31.0
28	11.5	4.5	9.5	12.0	12.5	16.0	---	32.0	28.5	29.5	27.5	30.0
29	12.0	11.0	9.0	15.0	---	15.0	28.0	28.0	26.5	27.5	---	22.0
30	15.0	9.0	11.0	7.5	---	14.0	23.0	25.0	33.0	30.0	27.5	27.0
31	---	---	5.5	4.0	---	12.0	---	28.0	---	26.0	28.0	---
MEAN	18.0	11.0	8.0	7.5	10.0	14.0	20.0	23.0	25.0	28.0	26.5	25.5

BRAZOS RIVER BASIN

08082700 MILLERS CREEK NEAR MUNDAY, TX

LOCATION.--Lat 33°19'45", long 99°27'53", Throckmorton County, Hydrologic Unit 12060101, near right bank on downstream side of bridge on Farm Road 1720, 12.7 mi (20.4 km) southeast of Munday, and 24.6 mi (39.6 km) upstream from mouth.

DRAINAGE AREA.--104 mi² (269 km²).

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

Water-quality records: Sediment records: October 1976 to September 1978.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,350 ft (411 m), from topographic map.

REMARKS.--Records poor. No diversions above station.

AVERAGE DISCHARGE.--18 years (water years 1964-81), 5.64 ft³/s (0.160 m³/s), 0.74 in/yr (19 mm/yr), 4,090 acre-ft/yr (5.04 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,600 ft³/s (980 m³/s) Aug. 4, 1978, gage height, 17.53 ft (5.343 m); no flow most of time.

Maximum stage since 1930, 18.0 ft (5.49 m) in October 1962, from information by local resident.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1883 occurred June 13, 1930, and exceeded 18.0 ft (5.49 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 66 ft³/s (1.87 m³/s) Feb. 28 at 0200 hours, gage height, 3.54 ft (1.079 m), no peak above base of 200 ft³/s (5.66 m³/s); no flow most of year.

CORRECTION.--The date has been corrected for the maximum for period of record to Aug. 4, 1978, superseding that published in reports for 1978-80.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	.00	.00	.01	.00	11	.00	.16	3.4	.00	.00	.00
2	3.4	.00	.00	.01	.00	5.8	.00	.06	2.0	.00	.00	.00
3	1.2	.00	.00	.01	.00	5.4	.00	.05	.72	.00	.00	.00
4	.52	.00	.00	.00	.00	7.2	.00	.05	.53	.00	.00	.00
5	.25	.00	.00	.00	.00	6.0	.00	5.8	.34	.00	.00	.00
6	.13	.00	.00	.00	.00	3.2	.00	7.4	.94	.00	.00	.00
7	.06	.00	.00	.00	.00	2.1	.00	5.4	.34	.00	.00	.00
8	.02	.00	18	.00	.00	2.9	.00	4.2	.22	.00	.00	.00
9	.02	.00	16	.00	.00	2.8	.00	2.3	.10	.00	.00	.00
10	.01	.00	8.4	.00	.00	3.1	.00	1.1	.05	.00	.00	.00
11	.00	.00	3.2	.00	.00	1.9	.00	.64	.02	.00	.00	.00
12	.00	.00	1.5	.00	.00	1.1	.00	.43	.00	.00	.00	.00
13	.00	.00	1.0	.00	.00	.69	.05	.22	.00	.00	.00	.00
14	.00	.00	.80	.00	.00	.48	.56	.04	.00	.00	.00	.00
15	.00	.00	.46	.00	.00	.41	.00	.16	.00	.00	.00	.00
16	.00	.00	.29	.00	.00	.40	.00	1.1	.11	.00	.00	.00
17	.00	.00	.20	.00	.00	.39	.00	.89	.06	.00	.00	.00
18	.00	.00	.18	.00	.00	.29	10	.64	.02	.00	7.5	.00
19	.00	.00	.13	.00	.00	.24	16	.14	.00	.00	20	.00
20	.00	.00	.06	.00	.00	.21	7.0	.01	.00	.00	3.1	.00
21	.00	.00	.02	.00	.00	.17	6.0	.00	.00	.00	.99	.00
22	.00	.00	.06	.00	.00	.13	8.6	.00	.00	.00	.34	.00
23	.00	.00	.09	.00	.00	.11	8.9	.00	.00	.00	.14	.00
24	.00	.00	.06	.00	.00	.11	8.9	.00	.00	.00	.05	.00
25	.00	.00	.02	.00	.00	.11	6.5	.00	.00	.00	.01	.00
26	.00	.00	.02	.00	.00	.13	4.4	.00	.00	.00	.00	.00
27	.00	.00	.03	.00	3.9	.11	2.6	.00	.00	.00	.00	.00
28	.00	.00	.02	.00	42	.09	1.4	.10	.00	.00	.00	.00
29	.00	.00	.02	.00	---	.05	.64	.53	.00	.00	.02	.00
30	.00	.00	.01	.00	---	.02	.31	5.5	.00	.00	.04	.00
31	.00	---	.00	.00	---	.00	---	6.5	---	.00	.00	---
TOTAL	19.61	.00	50.57	.03	45.90	56.64	81.86	43.42	8.85	.00	32.19	.00
MEAN	.63	.000	1.63	.001	1.64	1.83	2.73	1.40	.30	.000	1.04	.000
MAX	14	.00	18	.01	42	11	16	7.4	3.4	.00	20	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.006	.000	.02	.000	.02	.02	.03	.01	.003	.000	.01	.000
IN.	.01	.00	.02	.00	.02	.02	.03	.02	.00	.00	.01	.00
AC-FT	39	.00	100	.06	91	112	162	86	18	.00	64	.00
CAL YR 1980	TOTAL	1801.19	MEAN	4.92	MAX	996	MIN	.00	CFSM	.05	IN	.64
WTR YR 1981	TOTAL	339.07	MEAN	.93	MAX	42	MIN	.00	CFSM	.009	IN	.12
									AC-FT	3570		
									AC-FT	673		

08082800 MILLERS CREEK RESERVOIR NEAR BOMARTON, TX

LOCATION.--Lat 33°24'32", long 99°23'19", Baylor County, Hydrologic Unit 12060101, at intake tower on left bank of Millers Creek, 1.1 mi (1.8 km) upstream from dam, 7.1 mi (11.4 km) southeast of Bomarton, and 13.2 mi (21.2 km) upstream from mouth.

DRAINAGE AREA.--240 mi² (622 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--The reservoir is formed by an earthfill dam 9,250 ft (2,820 m) long. The dam was completed in 1974 and storage began in July 1974. Dead storage, 1,240 acre-ft (1.53 hm³) below elevation, 1,303.4 ft (397.28 m). The reservoir is used for municipal, mining, and industrial water supply. The uncontrolled emergency spillway is an open cut 3,000 ft (910 m) wide located on left bank about 800 ft (240 m) upstream from level. The service spillway is an uncontrolled morning-glory-type drop inlet, 16.5 ft (5.0 m) square, that discharges through a 5.0-foot-square (1.5 m) concrete conduit. Low-flow releases are made by valves in the outlet vault of the drop inlet. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,355.0	-
Crest of spillway.....	1,340.1	49,080
Crest of spillway.....	1,331.2	25,180
Lowest gated outlet (invert).....	1,305.0	1,660
Dead storage.....	1,303.4	1,240

COOPERATION.--The area-capacity tables, prepared from data of Sept. 17, 1965, were furnished by Freese and Nichols, Inc., Consulting Engineers. Record of diversions furnished by North Central Texas Municipal Water Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 34,380 acre-ft (42.5 hm³) Aug. 6, 1978, elevation, 1,335.30 ft (406.999 m); minimum contents were below dead storage elevation prior to Apr. 20, 1977, and July 17 to Aug. 3, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,530 acre-ft (30.2 hm³) Oct. 2 at 0600 hours, elevation, 1,330.86 ft (405.646 m); minimum, 18,200 acre-ft (22.4 hm³) Sept. 30, elevation, 1,327.05 ft (404.485 m).

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

1,327.0	18,130	1,330.0	22,950
1,328.0	19,630	1,331.0	24,800
1,329.0	21,230		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24400	23590	23510	23440	22930	23350	23040	23300	22720	21900	19970	19230
2	24380	23590	23390	23460	22930	23350	23100	23300	22710	21650	19910	19180
3	24310	23570	23480	23370	22950	23480	23080	23260	22670	21600	19860	19150
4	24340	23530	23530	23350	22880	23500	22950	23260	22650	21570	19820	19120
5	24380	23530	23530	23390	22880	23480	22900	23330	22620	21520	19790	19070
6	24380	23600	23590	23330	22920	23460	22860	23310	22670	21370	19750	19040
7	24380	23550	23590	23370	22920	23510	22880	23260	22710	21330	19720	19010
8	24250	23590	23620	23370	22900	23510	22880	23200	22860	21300	19690	18970
9	24230	23460	23710	23330	22900	23600	22850	23170	22830	21270	19660	18940
10	24270	23480	23770	23300	22760	23640	22850	23170	22780	21230	19630	18890
11	24230	23500	23770	23220	22830	23640	22860	23040	22640	21180	19580	18860
12	24150	23460	23770	23260	22850	23620	22860	23060	22640	21170	19550	18830
13	24120	23350	23730	23220	22860	23640	22880	23040	22250	21130	19520	18790
14	24120	23300	23770	23200	22880	23640	22810	23040	22500	21080	19480	18760
15	24120	23280	23790	23220	22860	23590	22810	22990	22430	21030	19440	18730
16	24170	23390	23770	23110	22900	23590	22860	22860	22320	20980	19410	18690
17	24170	23480	23790	23080	22880	23620	22860	22790	22250	20930	19520	18660
18	24150	23500	23640	23100	22860	23420	23370	22790	22250	20790	19440	18630
19	23880	23500	23550	23150	22860	23480	23350	22790	22440	20710	19490	18580
20	23910	23530	23510	23150	22920	23500	23310	22790	22340	20680	19490	18560
21	23930	23510	23510	23130	22790	23390	23440	22780	22250	20660	19480	18530
22	23910	23510	23590	23130	22760	23300	23440	22790	22270	20500	19460	18480
23	23910	23530	23590	23150	22780	23310	23420	22760	22230	20450	19460	18450
24	23730	23530	23440	23170	22740	23350	23440	22760	22200	20390	19410	18410
25	23750	23460	23460	23150	22790	23300	23480	22760	22150	20340	19400	18380
26	23750	23480	23500	23080	22780	23310	23480	22810	22110	20290	19340	18350
27	23620	23460	23570	23080	22930	23330	23440	22780	22080	20230	19370	18310
28	23530	23500	23550	23130	23200	23280	23400	22670	22040	20180	19350	18280
29	23550	23530	23480	23040	---	23240	23420	22720	21990	20130	19340	18250
30	23570	23590	23500	22950	---	23190	23310	22760	21950	20070	19300	18200
31	23550	---	23460	22990	---	23130	---	22760	---	20020	19290	---
MAX	24400	23600	23790	23460	23200	23640	23480	23330	22860	21900	19970	19230
MIN	23530	23280	23390	22950	22740	23130	22810	22670	21950	20020	19290	18200
(+)	1330.33	1330.35	1330.28	1330.02	1330.14	1330.10	1330.20	1329.89	1329.43	1328.25	1327.78	1327.05
(*)	-440	+40	-130	-470	+210	-70	+180	-550	-810	-1930	-730	-1090
(††)	82	78	85	84	83	87	99	111	123	197	145	125
CAL YR 1980	MAX	24400	MIN	14730	+	+2860	††	1300				
WTR YR 1981	MAX	24400	MIN	18200	+	-5790	††	1300				

† Elevation, in feet, at end of month.

† Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by North Central Texas Water Authority.

BRAZOS RIVER BASIN

08082800 MILLERS CREEK RESERVOIR NEAR BOMARTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
JUL 06...	1030	330	29.0	130	0	37	10	12	.5

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
JUL 06...	8.7	140	14	14	.2	1.5	267	182

BRAZOS RIVER BASIN

205

08082950 ELM CREEK NEAR PROFFITT, TX
(Reconnaissance partial-record station)

LOCATION.--Lat 33°11'00", long 98°53'40", Young County, Hydrologic Unit 12060101, at bridge on U.S. Highway 380 in Proffitt community, 1,000 ft (305 m) west of Farm Road 578 south, 5.5 mi (8.9 km) upstream from mouth, and about 9 mi (14 km) west of Newcastle.

DRAINAGE AREA.--275 mi² (712 km²).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 21...	0855	1.3	559	14.0	170	77	48	12	44
DEC 01...	0835	.30	1260	9.0	330	200	82	31	120
JAN 12...	0855	1.4	1960	8.0	540	350	120	58	200
FEB 24...	0750	.45	3280	8.0	840	640	170	100	350
APR 06...	0920	.80	2070	13.5	570	370	120	65	210
MAY 18...	0850	1.5	1160	21.0	300	170	68	31	120

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (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 21...	1.5	5.0	92	38	98	.2	7.1	308
DEC 01...	2.9	6.9	130	82	280	.2	2.5	683
JAN 12...	3.8	5.4	190	160	460	.3	2.5	1120
FEB 24...	5.3	5.9	200	210	900	.3	.6	1860
APR 06...	3.8	6.2	200	180	460	.4	1.6	1160
MAY 18...	3.0	5.8	130	76	260	.3	3.5	643

BRAZOS RIVER BASIN

08083100 CLEAR FORK BRAZOS RIVER NEAR ROBY, TX

LOCATION.--Lat 32°47'15", long 100°23'18", Fisher County, Hydrologic Unit 12060102, on right bank at downstream side of pile bent of bridge on State Highway 70, 3.0 mi (4.8 km) north of Roby, 3.2 mi (5.1 km) upstream from Cottonwood Creek, and 255.7 mi (411.4 km) upstream from mouth.

DRAINAGE AREA.--228 mi² (591 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,885.09 ft (574.575 m) National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--19 years (water years 1963-81), 9.59 ft³/s (0.272 m³/s), 0.57 in/yr (14 mm/yr), 6,950 acre-ft/yr (8.57 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,050 ft³/s (200 m³/s) Oct. 18, 1965, gage height, 21.48 ft (6.547 m); maximum gage height, 21.52 ft (6.559 m) Sept. 19, 1969; no flow at times in 1963-67.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since the 1890's, about 22 ft (6.7 m) in May and June 1935, from information by local residents.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 22	1000	1,770 50.1	15.08 4.596	June 4	1730	*3,380 95.7	18.16 5.535
Apr. 23	1800	412 11.7	9.95 3.033	July 5	0600	302 8.55	8.82 2.688
May 5	1630	1,340 37.9	14.01 4.270				

Minimum discharge, 1.1 ft³/s (0.031 m³/s) May 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	60	2.7	3.1	3.6	2.1	5.1	2.9	5.1	4.4	7.4	4.8	3.6		
2	37	2.7	3.0	3.7	2.0	4.2	2.8	4.2	1.9	7.1	4.7	3.3		
3	28	2.7	3.0	3.7	2.0	4.4	2.7	3.9	1.4	6.9	5.2	3.4		
4	23	2.5	3.1	3.7	1.9	3.9	2.4	4.3	1570	7.4	5.1	3.5		
5	19	2.5	3.2	3.8	2.0	4.0	2.3	490	480	145	4.5	3.4		
6	16	2.4	3.2	3.8	2.0	3.6	2.2	132	65	58	4.4	3.3		
7	14	2.2	3.8	3.8	2.1	3.2	2.2	26	48	18	4.5	3.4		
8	13	2.2	12	3.7	2.0	3.0	2.1	106	36	11	4.7	3.4		
9	11	2.3	29	3.8	2.1	2.9	1.9	60	30	9.3	4.5	3.4		
10	10	2.2	8.6	3.7	2.2	2.8	1.7	21	26	8.7	4.6	3.3		
11	8.9	2.2	4.4	3.6	2.0	2.9	1.6	15	23	8.3	4.7	3.3		
12	8.3	2.2	3.5	3.4	2.0	2.8	1.4	11	21	7.9	7.5	3.2		
13	7.6	2.2	2.9	3.4	1.9	2.8	1.3	8.3	20	7.6	5.8	3.1		
14	7.1	2.2	3.2	3.3	2.0	2.7	1.9	6.4	18	7.3	4.6	3.1		
15	6.6	2.2	3.2	3.3	2.0	2.9	2.1	5.8	17	7.0	4.2	3.0		
16	6.0	3.0	3.2	3.2	2.1	2.9	2.0	6.0	16	6.8	7.4	3.0		
17	5.9	4.0	3.2	3.0	2.2	2.9	2.9	5.1	16	6.6	69	2.9		
18	5.4	3.4	3.3	3.1	2.2	2.8	3.0	4.1	15	6.4	11	3.0		
19	4.9	3.2	3.1	3.0	2.2	2.9	50	3.3	14	6.0	5.0	3.0		
20	4.6	2.9	3.1	3.1	2.2	3.1	21	3.0	13	6.0	4.3	3.0		
21	4.4	2.8	3.0	3.0	1.9	3.2	84	2.9	12	5.7	4.0	3.0		
22	4.2	2.9	3.2	2.9	1.7	3.1	953	2.7	12	5.7	3.8	3.0		
23	4.0	2.8	3.4	2.7	1.7	3.1	244	2.3	11	5.5	3.7	3.0		
24	3.6	2.7	3.4	2.6	1.6	3.1	63	2.0	10	5.5	3.7	2.9		
25	3.5	3.0	3.4	2.5	1.6	3.1	27	1.8	9.6	5.4	3.7	2.9		
26	3.4	3.0	3.4	2.5	1.7	2.9	20	1.6	9.2	5.3	3.6	2.9		
27	4.9	2.9	3.5	2.4	1.7	3.0	16	1.4	8.7	5.2	3.6	2.9		
28	5.2	2.9	3.6	2.3	2.6	3.1	12	1.2	8.3	5.0	3.5	2.8		
29	2.5	2.9	3.7	2.3	---	3.1	9.7	1.4	7.8	5.0	3.6	2.8		
30	3.1	3.0	3.6	2.2	---	3.2	7.7	5.9	7.6	4.6	3.5	2.8		
31	3.1	---	3.6	2.2	---	3.1	---	29	---	4.8	3.6	---		
TOTAL	338.2	80.8	142.9	97.3	55.7	99.8	1546.8	972.7	2531.9	406.4	210.8	93.6		
MEAN	10.9	2.69	4.61	3.14	1.99	3.22	51.6	31.4	84.4	13.1	6.80	3.12		
MAX	60	4.0	29	3.8	2.6	5.1	953	490	1570	145	69	3.6		
MIN	2.5	2.2	2.9	2.2	1.6	2.7	1.3	1.2	1.4	4.6	3.5	2.8		
CFSM	.05	.01	.02	.01	.009	.01	.23	.14	.37	.06	.03	.01		
IN.	.06	.01	.02	.02	.01	.02	.25	.16	.41	.07	.03	.02		
AC-FT	671	160	283	193	110	198	3070	1930	5020	806	418	186		
CAL YR 1980	TOTAL	10108.03	MEAN	27.6	MAX	3090	MIN	.11	CFSM	.12	IN	1.65	AC-FT	20050
WTR YR 1981	TOTAL	6576.90	MEAN	18.0	MAX	1570	MIN	1.2	CFSM	.08	IN	1.07	AC-FT	13050

08083240 CLEAR FORK BRAZOS RIVER AT HAWLEY, TX

LOCATION.--Lat 32°35'53", long 99°48'53", Jones County, Hydrologic Unit 12060102, on right bank 90 ft (27 m) upstream from upstream bridge on U.S. Highways 83 and 277, 0.8 mi (1.3 km) south of Hawley, 7.4 mi (11.9 km) upstream from Mulberry Creek, and 188.6 mi (303.5 km) upstream from mouth.

DRAINAGE AREA.--1,416 mi² (3,667 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,612.45 ft (491.475 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 21, 1973, at datum 0.80 ft (0.244 m) higher.

REMARKS.--Records poor prior to May and good thereafter. Lake Sweetwater, capacity 11,900 acre-ft (14.7 hm³), is located on a tributary upstream from gage.

AVERAGE DISCHARGE.--14 years, 52.6 ft³/s (1.490 m³/s), 38,110 acre-ft/yr (47.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,540 ft³/s (242 m³/s) Sept. 30, 1980, gage height, 21.07 ft (6.422 m), present datum; no flow July 30, 31, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1915 occurred in 1932; second highest stage in 1957, 25.0 ft (7.62 m), present datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 1	0030	*8,140 231	a20.85 6.355	June 4	2300	2,560 72.5	15.17 4.624
Apr. 24	1430	3,680 104	b16.82 5.127	July 6	2400	930 26.3	11.98 3.652
May 8	0600	836 23.7	11.91 3.630				

a Occurred on recession following peak of Sept. 30, 1980.

b From floodmark.

Minimum daily discharge, 25 ft³/s (0.71 m³/s) Apr. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5760	48	40	44	20	32	34	99	96	43	31	31
2	1520	48	39	42	21	31	33	90	85	42	41	31
3	301	47	38	41	21	40	32	89	62	45	52	31
4	136	47	37	40	20	44	31	87	1170	54	52	32
5	117	47	38	18	20	47	29	118	2070	363	49	34
6	103	46	38	18	20	48	29	375	1320	806	37	41
7	92	46	40	18	20	46	29	572	1290	685	38	33
8	85	46	132	18	20	42	28	470	625	142	39	45
9	81	47	227	18	20	40	27	154	173	79	45	63
10	77	48	214	18	20	39	29	208	128	60	50	34
11	73	47	135	18	20	38	28	122	107	51	51	31
12	70	46	73	18	20	38	26	89	95	47	52	30
13	65	45	57	18	20	38	25	79	87	43	52	30
14	63	45	52	18	20	38	28	73	81	41	60	30
15	60	45	49	19	20	39	41	70	89	39	60	31
16	59	48	46	19	20	38	105	68	91	37	46	46
17	72	48	46	19	20	38	76	67	94	36	50	32
18	72	44	44	19	31	37	63	63	81	35	117	40
19	62	43	42	19	29	36	129	59	70	35	273	33
20	57	42	41	19	29	36	112	56	64	35	94	31
21	54	42	40	19	29	37	150	59	62	34	49	28
22	54	45	41	19	28	35	992	66	58	34	41	28
23	53	44	42	19	28	36	2420	62	56	33	38	28
24	52	42	42	19	28	35	3370	55	53	32	34	28
25	51	42	41	19	27	39	1840	54	51	32	34	29
26	50	43	41	19	27	40	576	50	49	30	34	30
27	51	43	41	19	28	37	217	49	48	31	32	30
28	50	43	41	19	30	38	173	48	47	31	33	29
29	51	42	40	19	---	41	131	50	46	31	33	29
30	50	41	39	19	---	39	114	104	45	32	31	29
31	49	---	43	20	---	37	---	184	---	31	31	---
TOTAL	9490	1350	1879	671	656	1199	10917	3789	8393	3069	1679	997
MEAN	306	45.0	60.6	21.6	23.4	38.7	364	122	280	99.0	54.2	33.2
MAX	5760	48	227	44	31	48	3370	572	2070	806	273	63
MIN	49	41	37	18	20	31	25	48	45	30	31	28
AC-FT	18820	2680	3730	2610	1800	2380	21650	7520	16650	6090	3330	1980
CAL YR 1980	TOTAL	39939.81	MEAN	109	MAX	6850	MIN	.67	AC-FT	79220		
WTR YR 1981	TOTAL	44986.00	MEAN	123	MAX	5760	MIN	25	AC-FT	89230		

BRAZOS RIVER BASIN

08083245 MULBERRY CREEK NEAR HAWLEY, TX

LOCATION.--Lat 32°34'04", long 99°47'32", Jones County, Hydrologic Unit 12060102, on right bank at downstream side of downstream bridge on U.S. Highways 83 and 277, 3.3 mi (5.3 km) south of Hawley, and 5.8 mi (9.3 km) upstream from mouth.

DRAINAGE AREA.--205 mi² (531 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD TX-74-1: 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 1,615.98 ft (492.551 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. No known diversion above station.

AVERAGE DISCHARGE.--13 years (water years 1969-81), 9.63 ft³/s (0.273 m³/s), 0.64 in/yr (16 mm/yr), 6,980 acre-ft/yr (8.61 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft³/s (77.9 m³/s) May 28, 1980, gage height, 16.00 ft (4.877 m); no flow at times most years.
Maximum stage since 1932, that of May 28, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1957 reached a stage of about 16.0 ft (4.88 m), from floodmarks.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 8	2130	502 14.2	8.90 2.713	June 5	0200	397 11.2	7.32 2.231
Mar. 3	1900	306 8.67	6.57 2.003	July 4	2400	*910 25.8	11.91 3.630
Apr. 23	1700	677 19.2	10.49 3.197				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	.00	.31	.41	.34	12	.11	3.7	2.4	.09	.04	.00
2	4.9	.00	.13	.38	.28	8.7	.05	3.4	1.1	.06	.03	.00
3	1.3	.00	.07	.36	.28	116	.11	3.1	1.6	.32	.04	.00
4	.36	.00	.04	.32	.28	151	.12	2.8	132	230	.05	.00
5	.13	.00	.03	.32	.30	23	.08	50	190	628	.04	.01
6	.13	.00	.02	.32	.42	8.9	.04	57	29	136	.02	.00
7	.08	.00	5.1	.20	.58	7.2	.03	6.7	11	13	.01	.00
8	.04	.00	430	.72	.65	6.3	.02	4.7	5.7	4.3	.01	.01
9	.03	.00	179	8.2	.65	4.5	.01	3.7	2.7	2.3	.01	.00
10	.02	.00	27	9.9	.63	3.6	.00	2.9	1.5	1.4	.00	.00
11	.00	.00	7.6	4.2	.51	3.3	.00	2.6	1.0	1.0	.00	.00
12	.00	.00	3.0	1.8	.52	3.3	.10	2.4	.79	.81	.00	.00
13	.00	.00	1.3	1.2	.37	3.5	.11	2.2	.65	.61	.00	.00
14	.00	.00	.72	.94	.30	3.6	.93	1.8	.52	.47	.00	.00
15	.00	.00	1.6	.85	.28	3.0	64	1.7	2.5	.42	.00	.00
16	.00	.00	1.3	.67	.28	2.3	19	1.7	78	.33	.00	12
17	.09	.00	1.1	.59	.32	1.7	7.8	1.8	29	.21	.00	1.5
18	.11	.01	.91	.53	.37	1.2	86	1.8	5.1	.21	.00	.52
19	.05	.01	.64	.69	.35	.96	42	1.2	3.0	.15	.00	.21
20	.03	.01	.50	1.1	.27	.71	9.7	.96	1.7	.13	.00	.11
21	.02	.01	.42	1.2	.23	.65	40	.79	1.0	.11	.00	.03
22	.00	.02	.41	1.0	.16	.79	473	.79	.88	.07	.00	.02
23	.00	.02	.42	.78	.12	.65	581	.79	.65	.07	.00	.02
24	.00	.02	.51	.68	.09	.58	276	.72	.52	.07	.00	.01
25	.00	.04	.52	.42	.07	.54	50	.72	.46	.06	.00	.00
26	.00	.05	.52	.65	.07	.11	20	.65	.36	.06	.00	.00
27	.00	.30	.50	.63	.08	1.1	11	.58	.32	.06	.00	.00
28	.00	.55	.46	.54	2.8	.64	6.7	.41	.24	.06	.00	.00
29	.00	1.3	.46	.44	---	.53	5.1	1.7	.18	.06	.00	.00
30	.00	.53	.45	.37	---	.46	4.4	3.6	.15	.06	.00	.00
31	.00	---	.40	.37	---	.37	---	4.3	---	.06	.00	---
TOTAL	31.29	2.87	665.44	40.78	11.60	371.19	1697.41	171.21	504.02	1052.23	.25	14.44
MEAN	1.01	.096	21.5	1.32	.41	12.0	56.6	5.52	16.8	33.9	.008	.48
MAX	24	1.3	430	9.9	2.8	151	581	57	190	628	.05	12
MIN	.00	.00	.02	.20	.07	.11	.00	.41	.15	.06	.00	.00
CFSM	.005	.000	.11	.006	.002	.06	.28	.03	.08	.17	.000	.002
IN.	.01	.00	.12	.01	.00	.07	.31	.03	.09	.19	.00	.00
AC-FT	62	5.7	1320	81	23	736	3370	340	1000	2090	.5	29
CAL YR 1980	TOTAL	3643.92	MEAN	9.96	MAX	1190	MIN	.00	CFSM	.05	IN	.66
WTR YR 1981	TOTAL	4562.73	MEAN	12.5	MAX	628	MIN	.00	CFSM	.06	IN	.83
									AC-FT	7230		
										9050		

BRAZOS RIVER BASIN

209

08083245 MULBERRY CREEK NEAR HAWLEY, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 01...	1040	24	487	19.5	160	61	43	13	30
NOV 18...	1440	.01	2080	13.0	610	440	130	69	210
JAN 06...	1410	.31	6050	10.5	1900	1700	310	270	820
FEB 18...	1120	.38	7850	12.0	2500	2200	390	360	870
MAR 24...	1100	.61	6610	14.0	2200	1900	350	310	750
APR 27...	1015	11	1620	20.0	500	330	100	61	170
JUN 02...	1530	1.1	4980	29.0	1900	1700	280	290	540
JUL 14...	0845	.43	1990	26.5	560	350	100	76	210

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 01...	1.0	6.9	170	48	61	.3	12	274
NOV 18...	3.7	7.3	170	360	370	.2	4.8	1250
JAN 06...	8.2	9.3	180	1400	1400	.3	.2	4320
FEB 18...	7.6	6.9	210	1900	1800	.4	.6	5450
MAR 24...	7.0	8.8	210	1600	1500	.4	.6	4650
APR 27...	3.3	8.8	170	270	290	.2	14	1020
JUN 02...	5.4	7.1	190	1500	1000	.3	.9	3730
JUL 14...	4.4	8.4	210	440	290	.0	10	1260

BRAZOS RIVER BASIN

08083430 ELM CREEK AT ABILENE, TX

LOCATION.--Lat 32°30'29", long 99°44'27", Taylor County, Hydrologic Unit 12060102, on left bank at downstream side of bridge on State Highway Loop 243 in the city of Abilene and about 17 mi (27 km) upstream from mouth.

DRAINAGE AREA.--422 mi² (1,093 km²).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1,647.16 ft (502.054 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Since 1921, flow largely regulated by Lake Abilene, capacity 7,900 acre-ft (9.74 hm³), about 30 mi (48 km) upstream. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,920 ft³/s (54.4 m³/s) July 5, 1981, gage height, 11.00 ft (3.353 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft³/s (54.4 m³/s) July 5 at 1330 hours, gage height, 11.00 ft (3.353 m), from floodmark; minimum daily, 0.01 ft³/s (0.0003 m³/s) Sept. 20-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	1.2	1.8	.42	.46	29	.17	2.2	.84	.14	.69	.15
2	4.9	1.2	2.6	.42	.46	2.3	.12	1.5	.27	.14	.72	7.4
3	2.0	1.2	3.5	.42	.46	261	.11	1.3	1.0	122	.76	9.4
4	1.3	1.2	2.1	.42	.48	211	.11	1.1	271	277	.76	.59
5	1.1	1.2	1.8	.53	.58	13	.12	1.8	42	1140	.76	.21
6	.93	1.3	1.6	1.2	.65	3.1	.12	2.4	5.7	442	.72	.16
7	.86	1.4	2.5	.57	.64	7.8	.13	1.3	8.1	73	.72	.86
8	.83	1.4	390	9.3	.56	1.2	.13	1.0	2.2	24	.69	.16
9	.80	1.4	97	67	.53	.53	.13	.92	1.1	1.3	.69	.13
10	.80	1.4	14	2.2	.55	.42	.15	.92	.48	.62	.69	.13
11	.80	1.5	5.3	1.1	.52	.93	.15	.84	.24	.62	.69	.11
12	.80	1.5	2.2	.86	.43	1.4	.15	.92	.17	.60	.69	.11
13	.90	1.7	1.3	.76	.42	.45	.18	.92	.12	.60	.69	.11
14	.94	1.8	1.0	.65	.42	.34	121	.92	.12	.55	.69	135
15	.96	1.8	.86	.55	.42	.31	34	.92	61	3.1	.69	138
16	.96	96	.72	.52	.42	.27	9.8	1.6	276	.60	.69	3.1
17	72	76	.62	.50	.42	.25	4.9	1.6	45	.50	17	.24
18	5.0	25	.59	.49	.42	.22	29	1.0	14	.50	19	.15
19	1.9	6.3	.51	.72	.42	.18	14	.84	6.1	.48	.42	.04
20	1.3	4.6	.46	.76	.42	.22	5.6	.80	3.2	.48	.26	.01
21	1.1	3.4	.42	.62	.42	.21	56	.76	1.7	.50	.22	.01
22	1.1	2.7	.42	.54	.44	.19	212	.76	.65	.50	.19	.01
23	1.0	3.1	.42	.50	.44	.16	225	.76	.36	.50	.17	.01
24	1.0	2.2	.42	.48	.44	.16	56	.80	.27	.52	.17	.01
25	1.0	7.1	.42	.48	.44	.17	20	.84	.20	.57	.17	.01
26	1.1	12	.42	.48	.46	.17	10	.84	.17	.60	.17	.01
27	1.2	3.4	.42	.48	1.0	.24	4.6	.80	.14	.60	.17	.01
28	1.1	2.4	.42	.46	45	.26	2.6	.80	.14	.62	.17	.01
29	1.2	2.1	.42	.48	---	.21	1.7	3.5	.14	.62	.17	.01
30	1.2	1.9	.42	.46	---	.20	1.5	67	.14	.62	.17	.01
31	1.2	---	.42	.46	---	.20	---	7.9	---	.62	.15	---
TOTAL	131.28	269.4	535.08	94.83	58.32	536.09	809.47	109.56	742.55	2094.50	49.94	296.16
MEAN	4.23	8.98	17.3	3.06	2.08	17.3	27.0	3.53	24.8	67.6	1.61	9.87
MAX	72	96	390	67	45	261	225	67	276	1140	19	138
MIN	.80	1.2	.42	.42	.42	.16	.11	.76	.12	.14	.15	.01
CFSM	.01	.02	.04	.007	.005	.04	.06	.008	.06	.16	.004	.02
IN.	.01	.02	.05	.01	.01	.05	.07	.01	.07	.18	.00	.03
AC-FT	260	534	1060	188	116	1060	1610	217	1470	4150	99	587
CAL YR 1980	TOTAL	3876.91	MEAN	10.6	MAX	405	MIN	.00	CFSM	.03	IN	.34
WTR YR 1981	TOTAL	5727.18	MEAN	15.7	MAX	1140	MIN	.01	CFSM	.04	IN	.50
									AC-FT	7690	AC-FT	11360

BRAZOS RIVER BASIN

211

08083470 CEDAR CREEK AT ABILENE, TX

LOCATION.--Lat 32°26'56", long 99°43'13", Taylor County, Hydrologic Unit 12060102, on right bank at upstream side of North Second Street Bridge and State Highway 355 at Abilene, 0.2 mi (0.3 km) downstream from Lytle Creek, 4.1 mi (6.6 km) downstream from Buttonwillow Creek, 5.9 mi (9.5 km) upstream from Rainy Creek, 7.2 mi (11.6 km) downstream from Kirby Lake, and 9.8 mi (15.8 km) upstream from mouth.

DRAINAGE AREA.--119 mi² (308 km²).

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,677.67 ft (511.354 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow is partly regulated by Lytle Lake, capacity 1,200 acre-ft (1.48 hm³), and by Lake Kirby, capacity 7,620 acre-ft (9.40 hm³). Records furnished by the city of Abilene show that 611 acre-ft (753,000 m³) was diverted from Lake Kirby during the current year. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 5.77 ft³/s (0.163 m³/s), 4,180 acre-ft/yr (5.15 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,670 ft³/s (132 m³/s) Sept. 18, 1974, gage height, 12.54 ft (3.822 m); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 653 ft³/s (18.5 m³/s) July 4 at 1700 hours, gage height, 6.05 ft (1.844 m), from floodmark; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	.00	.03	.14	.10	9.0	.04	10	.32	.08	.00	.00
2	.39	.00	.03	.14	.04	4.4	.03	.69	.10	.08	.00	14
3	.12	.00	.39	.12	.06	80	.06	.43	6.1	60	.00	.30
4	.10	.00	2.1	.14	.91	15	.06	.59	104	129	.00	1.6
5	.05	.00	.62	.21	.58	2.3	.01	.63	4.0	29	.00	.02
6	.00	.00	.06	.21	.12	1.1	.00	.31	.87	4.8	.00	.00
7	.00	.00	.95	.17	.08	5.6	.05	.22	.76	.98	.00	.03
8	.00	.00	95	16	.08	1.8	.03	.15	.21	.31	.00	.02
9	.00	.00	13	21	.10	1.1	.03	.10	.10	.26	.00	.00
10	.00	.00	2.3	2.3	.12	.76	.01	.03	.08	.14	1.4	.00
11	.00	.00	1.2	.89	.02	4.4	.01	.00	.08	.12	5.4	.00
12	.00	.00	.76	.42	.08	1.3	.00	.00	.08	.12	.06	.00
13	.00	.00	.58	.29	.04	.98	.00	.00	.08	.10	.04	.00
14	.00	.00	.43	.19	.10	.76	37	.00	.06	.10	.00	31
15	.00	.00	.37	.19	.10	.58	6.5	3.0	37	.08	.00	37
16	.00	31	.37	.14	.08	.37	1.2	1.1	11	.05	.46	1.9
17	26	19	.31	.10	.08	.58	1.7	.03	.76	.05	9.8	.12
18	1.7	10	.31	.57	.08	.31	9.1	.00	.12	.04	.95	.08
19	.31	1.7	.21	.31	.06	.26	1.1	.00	.12	1.5	.04	.04
20	.03	.71	.12	.14	.03	.21	.98	.00	.12	.17	.00	.01
21	.00	.29	.12	.10	.02	.17	50	.00	.12	.10	.00	.00
22	.00	.27	.17	.08	.00	.14	75	.00	.12	.08	.00	.00
23	.00	.13	.21	.14	.00	.14	72	.00	.10	.08	.00	.00
24	.00	.05	.17	.10	.01	.17	14	.00	.08	.06	.00	.00
25	.00	4.7	.12	.10	.02	.14	3.4	.10	.08	.04	.00	.00
26	.00	1.4	.17	.10	.03	.25	1.8	.00	.08	.04	1.7	.00
27	.00	.16	.37	.12	1.4	.36	.98	.00	.08	.03	.74	.00
28	.00	.07	.43	.10	16	2.0	.58	.00	.08	.04	.00	.00
29	.00	.04	.50	.10	---	.50	.43	17	.08	.03	.00	.00
30	.04	.03	.50	.08	---	.09	.43	40	.08	.01	.00	.00
31	.00	---	.26	.06	---	.06	---	1.5	---	.00	.00	---
TOTAL	31.44	69.55	122.16	44.75	20.34	134.83	276.53	75.88	166.86	227.49	20.59	86.12
MEAN	1.01	2.32	3.94	1.44	.73	4.35	9.22	2.45	5.56	7.34	.66	2.87
MAX	26	31	95	21	16	80	75	40	104	129	9.8	37
MIN	.00	.00	.03	.06	.00	.06	.00	.00	.06	.00	.00	.00
AC-FT	62	138	242	89	40	267	548	151	331	451	41	171
CAL YR 1980	TOTAL	1563.09	MEAN 4.27	MAX 273	MIN .00	AC-FT 3100						
WTR YR 1981	TOTAL	1276.54	MEAN 3.50	MAX 129	MIN .00	AC-FT 2530						

BRAZOS RIVER BASIN

08083500 FORT PHANTOM HILL RESERVOIR NEAR NUGENT, TX

LOCATION.--Lat 32°36'58", long 99°40'05", Jones County, Hydrologic Unit 12060102, at outlet gate tower near right bank, 120 ft (37 m) upstream from dam on Elm Creek, 4.3 mi (6.9 km) upstream from mouth, and 5.4 mi (8.7 km) south of Nugent.

DRAINAGE AREA.--470 mi² (1,217 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1940 to current year. Prior to October 1965, monthend contents only.

REVISED RECORDS.--WSP 1562: 1953-57 (figures of monthend contents). WDR TX-76-2: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is 1,580.78 ft (481.822 m) National Geodetic Vertical Datum of 1929.

REMARKS.--The reservoir is formed by a rock-faced earthfill dam 3,740 ft (1,140 m) long. The dam was completed and storage began in October 1938. The uncontrolled service spillway is a cut channel through natural ground with a concrete ogee weir located 0.7 mi (1.1 km) from right end of dam. The service outlet works consist of a concrete tower with a 4.0- by 7.0-foot (1.2 by 2.1 m) conduit. The service tower contains five gated openings at various elevations. The dam and reservoir are owned by the city of Abilene and were built to impound water for municipal use. Since July 1974, the West Texas Utility Co. has operated a steam generating powerplant on the reservoir. During the year, the city of Abilene diverted 27,980 acre-ft (34.5 hm³) from Clear Fork Brazos River into Fort Phantom Hill Reservoir and an undetermined amount of floodflow was diverted by gravity ditch from Deadman Creek into the reservoir. The capacity table was based on a survey of Oct. 2, 1953. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	69.2	-
Crest of spillway.....	55.1	74,310
Highest gated outlet (invert).....	28.0	10,330
Lowest gated outlet (invert).....	1.6	-

COOPERATION.--Records of gage heights and diversions were furnished by the city of Abilene. The capacity table is furnished by the Soil Conservation Service.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents observed, 89,910 acre-ft (111 hm³) May 25, 1957, gage height, 58.7 ft (17.89 m); minimum observed, 19,040 acre-ft (23.5 hm³) Apr. 23-25, 1953, gage height, 34.5 ft (10.52 m).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents observed, 61,000 acre-ft (75.2 hm³) July 8, 9, gage height, 51.6 ft (15.73 m); minimum observed, 36,120 acre-ft (44.5 hm³) Oct. 1, gage height, 43.2 ft (13.17 m).

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

43.0	35,630	49.0	52,230
46.0	43,330	52.0	62,420

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36120	41180	41180	43330	43330	42250	42250	50990	48830	54830	55820	50680
2	39870	41180	41180	43330	43330	42250	42250	50990	48830	54830	55480	50680
3	41720	40910	41180	43330	43330	42250	42250	50990	48530	54510	55480	50990
4	42520	40910	41180	43330	43060	43890	41980	50680	49130	55160	55160	50990
5	42250	40910	41180	43330	43060	43890	41980	50680	50680	55820	54830	50990
6	42250	40910	41180	43330	43060	43890	41720	50680	52880	58540	54830	50680
7	42250	40910	41180	43330	43060	44180	41720	50990	54180	60290	54510	50680
8	42250	40910	41180	43330	43060	44180	41450	50990	56160	61000	54510	50370
9	41980	40910	43060	43330	43060	43890	41450	51300	56840	61000	54180	50370
10	41980	40910	43890	43610	43060	43890	41180	51300	57180	60650	53860	50060
11	41980	40640	43890	43610	42790	43890	41180	51300	56840	60650	53860	50060
12	41720	40640	43890	43610	42790	43890	41180	50990	56840	60290	53530	50060
13	41720	40640	43890	43610	42790	43890	41180	50990	56840	60290	53530	49750
14	41720	40640	43890	43610	42790	43890	41180	50680	56500	59940	53210	49440
15	41720	40640	43890	43610	42520	43890	41180	50680	56160	59940	52880	49750
16	41450	40640	43890	43610	42520	43610	41450	50370	56160	59580	52880	49750
17	41450	40910	43890	43610	42520	43610	41450	50370	56840	59580	52880	49750
18	41450	41180	43890	43610	42520	43610	41450	50370	56840	59230	52880	49440
19	41720	41180	43890	43610	42520	43330	41450	50060	56840	59230	52880	49440
20	41720	41180	43610	43610	42520	43330	41180	50060	56500	58880	52880	49130
21	41720	41180	43610	43610	42250	43330	41180	49750	56500	58540	52560	49130
22	41720	41180	43610	43610	42250	43330	41980	49750	56160	58200	52560	48830
23	41720	41180	43610	43610	42250	43060	44460	49440	56160	57860	52230	48830
24	41450	41180	43610	43610	42250	43060	46750	49440	56160	57520	52230	48530
25	41450	41180	43610	43610	41980	42790	48530	49440	55820	57520	51920	48530
26	41450	41180	43610	43610	41980	42790	50060	49130	55820	57180	51920	48230
27	41450	41180	43610	43610	41720	42790	51300	49130	55480	57180	51610	48230
28	41450	41180	43610	43610	41720	42790	51300	48830	55480	56840	51300	47940
29	41180	41180	43610	43610	---	42790	51300	48830	55160	56840	51300	47940
30	41180	41180	43330	43610	---	42520	51300	48830	55160	56500	51300	47640
31	41180	---	43330	43330	---	42520	---	48830	---	56160	50990	---
MAX	42520	41180	43890	43610	43330	44180	51300	51300	57180	61000	55820	50990
MIN	36120	40640	41180	43330	41720	42250	41180	48830	48530	54510	50990	47640
(†)	45.2	45.2	46.0	46.0	45.4	45.7	48.7	47.9	49.9	50.2	48.6	47.5
(‡)	+5300	0	+2150	0	-1610	+800	+8780	-2470	+6330	+1000	-5170	-3350
(††)	445	132	67	60	1200	1360	1630	2040	2230	3130	3180	2310

CAL YR 1980 MAX 43890 MIN 20510 † +9330 ‡ 15810
WTR YR 1981 MAX 61000 MIN 36120 † +11760 ‡ 17780

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use.

BRAZOS RIVER BASIN

213

08083500 FORT PHANTOM HILL RESERVOIR NEAR NUGENT, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 01...	1155	698	23.0	210	99	54	18	52

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 01...	1.6	8.9	110	100	83	.4	3.8	386

BRAZOS RIVER BASIN

08084000 CLEAR FORK BRAZOS RIVER AT NUGENT, TX

LOCATION.--Lat 32°41'24", long 99°40'09", Jones County, Hydrologic Unit 12060102, on right bank 33 ft (10 m) downstream from bridge on Farm Road 600 at Nugent, 2 mi (3 km) downstream from Elm Creek, 4 mi (6 km) upstream from Deadman Creek, and 167.8 mi (270.0 km) upstream from mouth.

DRAINAGE AREA.--2,199 mi² (5,695 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1924 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,531.91 ft (466.926 m) National Geodetic Vertical Datum of 1929 (levels by Brazos River Authority). Prior to Dec. 12, 1933, nonrecording gage at site 575 ft (175 m) downstream at same datum.

REMARKS.--Water-discharge records good. Flow affected by four reservoirs with a capacity of 103,600 acre-ft (128 hm³). Numerous diversions above station for municipal supply and oilfield operation materially affect all flow. See table below for records of diversions from river above station into Fort Phantom Hill Reservoir.

AVERAGE DISCHARGE.--14 years (water years 1925-38) prior to completion of Fort Phantom Hill Reservoir, 186 ft³/s (5.268 m³/s), 134,800 acre-ft/yr (166 hm³/yr); 43 years (water years 1939-81) partially regulated, 81.9 ft³/s (2.319 m³/s), 59,340 acre-ft/yr (73.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 47,000 ft³/s (1,330 m³/s) Sept. 8, 1932, gage height, 27.05 ft (8.245 m), site then in use, from rating curve extended above 25,000 ft³/s (708 m³/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 30 ft (9.1 m) in 1876; floods in 1900 and May 1923 reached stages of 24 and 24.5 ft (7.3 and 7.47 m), respectively, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,460 ft³/s (183 m³/s) Oct. 1 at 1500 hours, gage height, 14.80 ft (4.511 m); minimum, 13.0 ft³/s (0.37 m³/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6080	62	49	49	39	58	64	111	139	46	25	20
2	3270	60	48	48	38	64	64	100	101	45	25	31
3	371	58	47	47	37	163	64	92	74	47	25	22
4	398	57	45	46	37	419	63	88	393	179	23	20
5	334	55	45	45	37	164	61	85	999	824	23	23
6	286	54	46	45	37	99	59	391	878	747	24	24
7	244	53	49	45	37	81	58	247	287	159	23	26
8	213	52	720	46	39	67	58	381	373	277	22	22
9	194	50	451	54	39	59	58	100	106	98	21	49
10	178	50	494	60	39	55	57	211	163	69	22	42
11	165	48	267	58	37	53	56	161	130	57	23	23
12	154	46	125	56	37	53	54	101	111	51	24	19
13	142	46	86	50	40	54	51	85	98	48	23	18
14	129	47	72	48	36	56	51	77	89	45	23	20
15	116	47	65	45	36	58	84	73	89	43	43	19
16	107	53	62	44	36	60	114	72	179	41	31	30
17	146	56	62	43	36	59	112	69	192	39	35	27
18	145	62	61	42	37	58	95	67	103	37	84	23
19	118	57	58	42	37	58	184	63	83	36	174	27
20	98	57	55	43	38	58	197	60	70	35	191	20
21	85	54	54	44	38	58	136	58	66	34	47	18
22	83	53	52	44	37	59	422	57	62	33	33	17
23	80	53	52	43	36	57	1260	56	58	32	28	17
24	76	51	52	42	37	58	2310	55	55	31	25	15
25	73	51	51	40	37	58	2270	53	53	30	21	15
26	71	51	51	41	38	62	580	53	52	30	22	15
27	70	52	50	41	40	62	116	51	51	30	22	15
28	67	51	50	41	48	63	191	50	49	30	22	14
29	66	50	49	40	---	63	151	50	48	27	22	14
30	65	49	48	39	---	64	128	68	46	27	21	13
31	64	---	48	39	---	64	---	201	---	26	20	---
TOTAL	13688	1585	3464	1410	1060	2464	9168	3386	5197	3253	1167	658
MEAN	442	52.8	112	45.5	37.9	79.5	306	109	173	105	37.6	21.9
MAX	6080	62	720	60	48	419	2310	391	999	824	191	49
MIN	64	46	45	39	36	53	51	50	46	26	20	13
AC-FT	27150	3140	6870	2800	2100	4890	18180	6720	10310	6450	2310	1310
(†)	5700	0	90.5	0	0	0	9020	1500	8360	2500	0	0

CAL YR 1980 TOTAL 35384.27 MEAN 96.7 MAX 6080 MIN .00 AC-FT 70180 † 27570
WTR YR 1981 TOTAL 46500.00 MEAN 127 MAX 6080 MIN 13 AC-FT 92230 † 27170

† Diversions, in acre-feet, into Fort Phantom Hill Reservoir from river above station.

BRAZOS RIVER BASIN

215

08084000 CLEAR FORK BRAZOS RIVER AT NUGENT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1948 to September 1953. Chemical and biochemical analyses: February 1968 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
OCT 16...	1310	110	4900	8.1	21.5	13.6	166	3.2	1600	1300
DEC 17...	1315	58	3590	8.1	11.0	11.5	111	1.0	1300	1100
FEB 18...	1530	37	5540	8.0	12.0	14.9	148	6.2	1800	1600
MAR 19...	1140	63	5360	7.9	13.0	10.2	102	3.7	1800	1600
MAY 21...	1215	61	4710	7.9	22.0	14.0	169	4.4	1700	1400
JUL 16...	1230	41	3600	7.8	28.0	8.9	122	4.3	1300	1100
SEP 17...	1220	25	4600	7.8	21.0	8.3	97	1.7	1500	1300

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- LITY (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 16...	390	150	550	6.0	10	260	1400	820	.5
DEC 17...	320	120	360	4.4	7.6	240	1100	500	.3
FEB 18...	420	190	670	6.8	5.8	240	1500	1000	.4
MAR 19...	400	190	640	6.6	6.6	210	1700	950	.4
MAY 21...	400	160	600	6.4	8.1	220	1600	760	.2
JUL 16...	320	120	400	4.8	8.0	170	1200	540	.4
SEP 17...	370	130	560	6.4	7.8	190	1400	760	.5

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 16...	14	3490	4.3	.020	4.3	.030	1.3	1.3	.070
DEC 17...	9.6	2560	1.6	.010	1.6	.080	1.4	1.5	.280
FEB 18...	4.6	3940	4.7	.020	4.7	.050	.57	.62	.040
MAR 19...	6.0	4020	2.7	.030	2.7	.120	1.3	1.4	.060
MAY 21...	10	3670	3.1	.020	3.1	.050	1.8	1.8	.100
JUL 16...	11	2700	1.7	.000	1.7	.060	1.6	1.7	.090
SEP 17...	12	3350	2.1	.060	2.2	.110	1.6	1.7	.110

BRAZOS RIVER BASIN

08084100 DEADMAN CREEK NEAR NUGENT, TX
(Reconnaissance partial-record station)

LOCATION.--Lat 32°40'36", long 99°37'00", Jones County, Hydrologic Unit 12060102, at low-water crossing on county road, 3.2 mi (5.1 km) east of Nugent, and 4.4 mi (7.1 km) upstream from Clear Fork Brazos River.

DRAINAGE AREA.--168 mi² (435 km²).

PERIOD OF RECORD.--Periodic discharge measurements and water-quality data: October 1967 to current year.

REMARKS.--During the current water year, the city of Abilene discharged 8,530 acre-ft (10.5 hm³) of sewage effluent into creek 12 mi (19 km) upstream from station.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
OCT 16...	1015	14	1530	7.6	20.5	8.5	99	10	250	120
DEC 17...	1100	24	1760	7.9	12.5	8.1	80	29	280	120
FEB 18...	1720	14	1850	7.6	15.5	14.5	154	20	280	83
MAR 19...	0930	12	1890	7.5	12.5	10.1	98	19	340	140
MAY 21...	1045	18	1610	8.0	25.0	13.5	171	18	300	140
JUL 16...	1030	17	1410	7.6	28.0	9.6	130	15	270	110
SEP 17...	1010	24	1520	7.4	21.5	7.5	88	6.3	260	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 (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 16...	57	26	210	5.8	16	130	150	330	.6
DEC 17...	62	31	250	6.5	16	160	170	340	.5
FEB 18...	59	33	260	6.7	16	200	210	310	.6
MAR 19...	76	37	250	5.9	13	200	200	370	.6
MAY 21...	60	36	220	5.5	15	160	200	290	.3
JUL 16...	55	33	190	5.0	17	160	200	240	.7
SEP 17...	53	31	200	6.0	18	150	180	260	.7

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 16...	8.7	876	4.4	.910	5.3	2.100	1.7	3.8	6.500
DEC 17...	8.8	975	2.6	.220	2.8	5.200	1.9	7.1	14.000
FEB 18...	9.9	1020	1.7	.210	1.9	--	--	--	6.700
MAR 19...	11	1080	4.1	.350	4.4	5.200	2.6	7.8	7.500
MAY 21...	13	931	3.5	.540	4.0	.590	3.3	3.9	9.400
JUL 16...	12	844	3.3	.980	4.3	1.500	1.8	3.3	6.000
SEP 17...	14	847	2.1	.820	2.9	1.500	2.3	3.8	6.600

08084500 LAKE STAMFORD NEAR HASKELL, TX

LOCATION.--Lat 33°04'44", long 99°34'52", Haskell County, Hydrologic Unit 12060103, on left bank at intake structure of West Texas Utilities Co. steam powerplant at Lake Stamford on Paint Creek, 1.0 mi (1.6 km) upstream from dam, 1.7 mi (2.7 km) upstream from California Creek, 10 mi (16 km) southeast of Haskell, and 21.8 mi (35.1 km) upstream from mouth.

DRAINAGE AREA.--368 mi² (953 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1953 to current year.

REVISED RECORDS.--WDR TX-77-2: Drainage area.

GAGE.--Nonrecording gage read once daily. Datum of gage is 2.77 ft (0.84 m) National Geodetic Vertical Datum of 1929 (levels by Freese and Nichols, Inc., Consulting Engineers).

REMARKS.--The lake is formed by a rolled earthfill dam 3,600 ft (1,097 m) long. The dam was completed in March 1953, and deliberate impoundment began in June 1953. The emergency spillway is an uncontrolled natural channel located near right end of dam. The service spillway is an uncontrolled channel excavated through natural ground, 169 ft (52 m) wide, located 900 ft (270 m) to left of left end of dam. The service outlet is a controlled 24-inch-diameter (610 mm) concrete pipe that is used for low-flow releases. The capacity table is based on sedimentation survey of 1966. Gage-height record was furnished by the West Texas Utilities Co. from their powerplant 1.0 mi (1.6 km) upstream from dam. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	1,434.0	-
Crest of spillway.....	1,423.0	110,400
Crest of spillway.....	1,414.0	53,070
Lowest gated outlet (invert).....	1,380.0	358

COOPERATION.--The capacity table was furnished by the Soil Conservation Service. The diversions were furnished by the city of Stamford.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 103,700 acre-ft (128 hm³) Aug. 5, 1978, gage height, 1,422.2 ft (433.49 m); minimum since first appreciable storage in June 1954, 14,060 acre-ft (17.3 hm³) Jan. 29-31, 1957, gage height, 1,400.2 ft (426.78 m).

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 76,230 acre-ft (94.0 hm³) Oct. 1, gage height, 1,418.3 ft (432.30 m); minimum, 43,470 acre-ft (53.6 hm³) Sept. 30, gage height, 1,411.8 ft (430.32 m).

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

1,411.0	40,330	1,417.0	68,560
1,413.0	48,530	1,419.0	80,640
1,415.0	57,920		

CONTENTS, IN ACRE-Feet, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76230	55460	54970	55460	54970	54490	53540	57920	54970	52600	48970	46370
2	73200	55940	54970	55460	54490	54490	53540	57920	54970	52600	49410	46370
3	70270	55460	54970	55460	54490	54020	53540	57920	54970	52600	48970	45950
4	67430	55460	55460	54970	54490	54970	53540	57420	54970	52600	48530	45950
5	65780	55460	54970	54970	54490	54490	53540	57420	54970	52600	48090	45950
6	64150	55460	55460	54970	54020	54490	53540	56920	54970	52600	48530	45950
7	62020	55460	54970	54970	54020	54970	53540	56920	54970	52600	48090	45950
8	61500	55460	54970	54970	54020	54490	53070	56920	54970	52600	47650	45530
9	60980	54970	57420	54970	54020	54490	53070	56920	55940	52130	47650	45530
10	60460	54970	56920	54970	54020	54490	53070	56920	55460	52130	47650	45530
11	59440	54970	56430	54970	54020	54490	53070	56430	54970	52130	47650	45530
12	58930	54970	56430	54970	54020	54490	53070	56920	54970	52130	47650	45530
13	58930	54970	56430	54970	54020	54490	53070	56920	54970	52130	47650	45530
14	58420	54490	56430	54970	54020	54490	52600	55940	54970	51210	47650	45530
15	57920	54490	55940	54970	54020	54490	52600	55940	54970	51210	47220	45530
16	57920	54490	55940	54490	54020	54490	52600	55940	54020	51210	47220	45110
17	57420	54970	56920	54490	54020	54490	52600	55940	54020	51210	47220	45110
18	56920	54970	56920	54970	54020	54490	52600	55940	54020	51210	47220	45110
19	56430	55460	56920	54490	54020	54490	54020	55940	54020	51210	47650	45110
20	56430	55460	55940	54970	54020	54490	54490	55460	54020	50760	47220	45110
21	56430	54970	55940	54970	54020	54490	54490	55460	54020	50760	47220	44700
22	56430	55460	55940	54970	54020	54020	55940	55460	54020	50760	47220	44700
23	55940	54970	55940	54970	54020	54020	57420	55940	53540	50760	47220	44280
24	55940	54970	55940	54490	54020	54020	59440	54970	53540	49860	47220	44280
25	55940	54970	55940	54970	53540	54020	60460	54970	53540	49860	47220	44280
26	55940	54970	55460	54490	54020	54020	60980	54490	53070	49860	46790	44280
27	55940	54970	55460	54490	54020	54020	60460	54970	53070	49410	46790	44280
28	55460	54490	55460	54490	54020	54020	59950	54970	53070	49860	46790	44280
29	55460	54970	55460	54490	---	54020	58930	54490	53070	50310	46790	44280
30	55940	54970	55460	54490	---	54020	58420	54970	53070	49860	46790	43470
31	55940	---	55460	54490	---	53540	---	54970	---	49410	46790	---
MAX	76230	55940	57420	55460	54970	54970	60980	57920	55940	52600	49410	46370
MIN	55460	54490	54970	54490	53540	53540	52600	54490	53070	49410	46790	43470
(†)	1414.6	1414.4	1414.5	1414.3	1414.2	1414.1	1415.1	1414.4	1414.0	1413.2	1412.6	1411.8
(‡)	-23420	-970	+490	-470	-470	-480	+4880	-3450	-1900	-3660	-2620	-3320
(††)	159	152	154	137	119	143	133	148	193	289	241	206

CAL YR 1980 MAX 79360 MIN 30410 † +11180 †† 2460
WTR YR 1981 MAX 76230 MIN 43470 † -35890 †† 2070

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by the cities of Stamford and Hamlin.

BRAZOS RIVER BASIN

08084500 LAKE STAMFORD NEAR HASKELL, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JUL 06...	1400	677	29.0	220	60	52	22	51

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
JUL 06...	1.6	9.1	160	83	68	.2	3.2	385

08084800 CALIFORNIA CREEK NEAR STAMFORD, TX

LOCATION.--Lat 32°55'51", long 99°38'32", Jones County, Hydrologic Unit 12060103, near right bank at downstream side of bridge on Farm Road 142, 9 mi (14 km) east of Stamford, and 19.4 mi (31.2 km) upstream from Paint Creek.

DRAINAGE AREA.--478 mi² (1,238 km²).

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

Water-quality records: Specific conductance: October 1962 to September 1979. Water temperature: October 1962 to September 1979.

REVISED RECORDS.--WSP 2122: 1965. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,470 ft (448 m), from topographic map.

REMARKS.--Water-discharge records fair. Three small diversions above station.

AVERAGE DISCHARGE.--19 years, 31.3 ft³/s (0.886 m³/s), 0.89 in/yr (23 mm/yr), 22,680 acre-ft/yr (28.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s (1,130 m³/s) Aug. 4, 1978, gage height, 31.00 ft (9.449 m), from floodmark, from rating curve extended above 21.0 ft (6.40 m) on basis of field discharge estimates of peak flows; no flow at times.

Maximum stage since at least 1897, that of Aug. 4, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1962, reached a stage of 29.6 ft (9.02 m), from floodmark; flood of July 1961 (stage unknown) was third highest. Other large floods are reported to have occurred in June 1909, June 24, 1915, and May 1957; flood of September 1962 reached a stage of 28.1 ft (8.56 m); from information by local residents.

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

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 8	1500	947	26.8	15.97	4.868	May 9	unknown	473	13.4	26.69	8.086
Apr. 24	unknown	1,750	49.6	20.00	6.096	June 5	0400	*4,950	140	26.53	8.086

a From floodmark.

Minimum discharge, 0.86 ft³/s (0.024 m³/s) Sept. 4, 24, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2150	14	11	17	11	11	3.6	31	22	11	2.7	1.1
2	379	12	10	16	11	12	3.6	26	16	11	2.7	1.2
3	161	10	9.3	16	11	68	3.6	23	17	19	2.7	1.1
4	96	9.6	9.2	16	11	39	3.6	20	1800	46	2.6	1.0
5	61	8.5	9.3	16	11	27	3.8	19	4130	17	2.5	2.7
6	44	8.1	9.7	15	12	20	4.1	20	2760	9.6	2.4	1.7
7	37	7.8	13	15	12	13	3.8	40	1320	7.8	2.4	2.0
8	34	8.5	753	14	12	10	3.8	172	401	38	2.3	2.1
9	31	7.8	664	14	12	8.1	4.1	301	145	24	2.1	1.7
10	28	6.7	290	14	11	7.0	4.4	396	77	16	2.1	2.0
11	25	7.4	201	14	11	6.3	4.4	247	51	12	3.0	3.3
12	21	7.8	95	14	11	6.0	4.4	71	35	10	2.6	2.6
13	18	7.4	59	14	12	5.6	4.2	44	31	8.4	2.1	2.2
14	18	6.7	38	14	13	5.6	6.0	30	26	7.2	1.9	1.7
15	17	7.0	33	14	13	5.6	7.4	25	26	6.2	1.8	1.5
16	17	8.9	31	13	13	7.0	6.0	23	25	5.6	1.7	1.4
17	27	12	28	12	13	5.6	6.5	20	22	5.2	13	1.2
18	19	12	26	12	13	4.7	17	18	19	4.7	32	1.2
19	16	20	26	12	13	5.6	32	16	18	4.4	15	1.2
20	14	22	23	12	12	3.8	50	14	16	4.4	6.8	1.0
21	13	20	21	12	11	3.8	69	14	16	4.1	4.6	1.0
22	12	17	20	12	10	4.7	448	12	15	3.7	3.6	1.0
23	12	14	20	13	11	5.0	1470	13	15	3.4	3.0	1.1
24	11	13	20	13	9.6	4.1	1480	12	14	3.1	2.6	1.1
25	12	12	19	13	9.2	3.8	601	11	13	3.0	2.2	1.2
26	11	14	19	12	9.2	3.6	274	9.6	12	2.8	2.0	1.3
27	111	14	18	12	10	3.6	121	8.1	12	3.1	1.8	1.2
28	20	14	18	12	18	3.8	68	8.1	11	3.1	1.8	1.2
29	24	13	18	11	---	4.7	47	8.5	11	3.0	1.4	1.2
30	17	12	18	11	---	4.7	37	10	11	2.8	1.3	.97
31	14	---	17	11	---	3.8	---	13	---	2.8	1.2	---
TOTAL	3470	347.2	2546.5	416	326.0	316.5	4791.3	1675.3	11087	302.4	129.9	45.17
MEAN	112	11.6	82.1	13.4	11.6	10.2	160	54.0	370	9.75	4.19	1.51
MAX	2150	22	753	17	18	68	1480	396	4130	46	32	3.3
MIN	11	6.7	9.2	11	9.2	3.6	3.6	8.1	11	2.8	1.2	.97
CFSM	.23	.02	.17	.03	.02	.02	.34	.11	.77	.02	.009	.003
IN.	.27	.03	.20	.03	.03	.02	.37	.13	.86	.02	.01	.00
AC-FT	6880	689	5050	825	647	628	9500	3320	21990	600	258	90

CAL YR 1980	TOTAL	25299.57	MEAN 69.1	MAX 6730	MIN .00	CFSM .15	IN 1.97	AC-FT 50180
WTR YR 1981	TOTAL	25453.27	MEAN 69.7	MAX 4130	MIN .97	CFSM .15	IN 1.98	AC-FT 50490

BRAZOS RIVER BASIN

08084800 CALIFORNIA CREEK NEAR STAMFORD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1962 to September 1979 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1962 to September 1979 (discontinued).

WATER TEMPERATURES: October 1962 to September 1979 (discontinued).

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 46,400 micromhos Sept. 16, 1970; minimum measured daily, 218 micromhos Sept. 20, 1974; minimum estimated daily, 180 micromhos Aug. 4, 1978.

WATER TEMPERATURES: Maximum daily, 37.0°C July 4, 6, 16, 1965, July 5, 1968; minimum daily, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 20,000 micromhos July 23; minimum daily, 386 micromhos May 2.

WATER TEMPERATURES: Maximum daily, 30.0°C July 12; minimum daily, 2.0°C Dec. 10, Jan 31, Feb 17.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JAN 15...	1500	.03	5720	7.5	1100	990	340	58	750
FEB 05...	1610	.05	12400	7.0	2300	2200	720	130	1800
MAR 02...	1600	.03	14900	18.5	2900	2800	870	170	2200
APR 23...	1125	94	471	14.0	160	36	54	5.1	38

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
JAN 15...	9.9	6.5	94	230	1800	.1	.8	3240
FEB 05...	16	8.4	110	480	4200	.7	.1	7410
MAR 02...	18	6.7	120	570	5300	.1	3.0	9190
APR 23...	1.3	4.9	120	29	74	.2	5.9	283

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1980	615.78	320	167	278	89	149	12	21	52
NOV.	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
DEC.	1980	647.17	418	219	382	120	204	16	28	68
JAN.	1981	7.77	5030	2790	59	1500	32	200	4.1	860
FEB.	1981	1.40	15000	9330	35	5200	20	600	2.3	*
MAR.	1981	1274.55	406	213	732	110	392	16	54	66
APR.	1981	191.76	1230	668	346	360	187	48	25	210
MAY	1981	0.35	7510	4340	4.1	2400	2.3	300	0.3	1300
JUNE	1981	2049.19	419	225	1250	120	672	16	90	70
JULY	1981	0.00	*	*	0.00	*	0.00	*	0.00	*
AUG.	1981	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT	1981	304.25	218	114	93	61	50	8.5	6.9	35
TOTAL		5092.22	**	**	3180	**	1710	**	232	**
WTD. AVG.		14	434	231	**	120	**	17	**	72

BRAZOS RIVER BASIN

221

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215		---	---	11100	16400	13600	2520	---			---
2	243		---	---	11400	14900	14300	---	---			213
3	278		---	---	11800	556	14200	3320	11300			243
4	346		---	---	12100	315	15000	4680	421			338
5	---		---	---	12400	350	15500	5210	415			285
6	---		---	---	13200	385	---	5750	298			395
7	---		---	---	13800	420	17100	---	234			388
8	---		493	---	14000	490	16900	8590	304			---
9	---		314	4610	13900	450	16700	8820	311			---
10	---		256	5270	18700	514	17100	---	443			---
11	---		249	5360	17800	777	17400	---	519			---
12	---		262	---	18000	768	18000	---	644			---
13	---		284	---	16700	1000	18700	---	843			---
14	---		312	5800	15900	1170	18300	---	852			---
15	---		339	5720	16400	1750	18600	10800	1440			---
16	---		431	5940	16800	2530	18700	11000	528			---
17	346		430	6350	16300	2700	18800	---	1190			---
18	225		506	6690	16800	2810	19000	---	1880			---
19	248		522	7030	16500	4070	19600	---	1980			---
20	245		668	7410	17200	5300	19800	---	2030			---
21	255		670	7380	16800	5920	19200	---	2210			---
22	---		---	7550	18000	6540	17800	---	2180			---
23	---		---	7990	17700	7160	1520	---	2830			---
24	---		---	8380	17400	8120	463	---	3110			---
25	---		---	8900	17800	10200	480	---	---			---
26	---		---	9220	17600	11100	711	---	---			---
27	---		---	9550	---	11700	1030	---	---			---
28	---		---	9860	16600	12000	1480	---	---			---
29	---		---	10200	---	12600	1800	---	---			---
30	---		---	10500	---	13000	1870	13600	---			---
31	---		---	10700	---	13600	---	---	---			---
MEAN WTR YR 1981	267	MEAN	410 7380	7640 MAX	15700 19800	5470	12900 MIN	7430 213	1630			310

BRAZOS RIVER BASIN

08085500 CLEAR FORK BRAZOS RIVER AT FORT GRIFFIN, TX

LOCATION.--Lat 32°56'04", long 99°13'27", Shackelford County, Hydrologic Unit 12060104, on right bank just downstream from pier of bridge on old Fort Griffin-Throckmorton Road, 0.4 mi (0.6 km) northeast of Fort Griffin, 1.0 mi (1.6 km) upstream from bridge on U.S. Highway 283, 1.7 mi (2.7 km) upstream from Mill Creek, and 74.6 mi (120.0 km) upstream from mouth.

DRAINAGE AREA.--3,988 mi² (10,329 km²).

PERIOD OF RECORD.--December 1923 to current year.

REVISED RECORDS.--WSP 1392: 1949. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,174.09 ft (357.863 m) National Geodetic Vertical Datum of 1929. Prior to June 23, 1932, nonrecording gage at same site and datum.

REMARKS.--Records good. Diversions above station for irrigation, municipal supply, and oilfield operations materially affect low flow. Gage-height telemeter at station.

AVERAGE DISCHARGE.--57 years (water years 1925-81), 225 ft³/s (6.372 m³/s), 163,000 acre-ft/yr (201 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 149,000 ft³/s (4,220 m³/s) Aug. 4, 1978, gage height, 38.88 ft (11.851 m), from floodmark, from rating curve extended above 33,600 ft³/s (952 m³/s) on basis of contracted-opening and flow-over-road measurement of peak flow; no flow at times.
Maximum stage since 1876, that of Aug. 4, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1900 reached a stage of 38.0 ft (11.58 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,900 ft³/s (110 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 1	0600	*24,900 705	33.10 10.089
Apr. 25	0845	4,020 114	13.85 4.221
June 6	2200	4,960 140	15.93 4.855

Minimum discharge, 22 ft³/s (0.62 m³/s) Sept. 20, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22300	137	111	119	70	92	59	362	87	73	34	33
2	12600	131	117	115	69	118	53	305	181	73	32	30
3	7760	126	108	114	69	181	52	276	183	70	32	30
4	2470	121	98	108	68	258	49	248	152	81	32	131
5	1510	108	113	106	68	771	47	230	2840	77	31	139
6	1320	99	117	106	69	448	52	208	4670	400	38	107
7	1070	86	112	110	70	279	58	251	3660	825	41	74
8	959	86	525	108	66	224	75	455	1410	292	28	143
9	739	83	2040	110	67	190	71	686	719	222	27	60
10	631	77	1540	109	70	163	70	524	473	224	30	45
11	531	73	980	119	67	138	68	506	261	160	30	48
12	458	69	771	117	66	117	62	482	263	113	30	64
13	408	70	498	116	66	110	54	299	222	91	28	65
14	388	69	344	114	70	107	54	210	193	81	32	68
15	336	67	267	109	65	103	58	179	185	79	34	48
16	313	88	244	100	65	100	58	165	176	77	32	37
17	402	139	220	97	64	99	55	150	160	70	414	32
18	315	163	207	87	64	98	121	150	245	66	367	31
19	312	157	194	91	62	91	156	133	236	54	294	29
20	269	151	168	90	65	85	199	122	165	54	175	30
21	239	148	155	87	63	76	238	115	145	48	213	34
22	216	144	155	84	60	75	443	111	133	46	203	33
23	199	134	151	85	58	75	1580	107	122	45	110	35
24	183	126	143	88	64	73	3030	103	120	42	70	30
25	168	121	137	82	60	75	3910	98	145	41	55	25
26	162	120	132	81	58	74	3270	94	133	35	47	23
27	268	117	130	79	70	72	1290	94	118	34	47	25
28	345	113	132	76	80	65	613	89	96	34	44	26
29	227	111	127	73	---	66	443	85	78	35	42	26
30	164	109	120	68	---	65	414	85	77	34	36	24
31	149	---	117	72	---	61	---	79	---	35	33	---
TOTAL	57411	3343	10273	3020	1853	4549	16702	7001	17648	3611	2661	1525
MEAN	1852	111	331	97.4	66.2	147	557	226	588	116	85.8	50.8
MAX	22300	163	2040	119	80	771	3910	686	4670	825	414	143
MIN	149	67	98	68	58	61	47	79	77	34	27	23
AC-FT	113900	6630	20380	5990	3680	9020	33130	13890	35000	7160	5280	3020
CAL YR 1980	TOTAL	128480.32	MEAN	351	MAX	22300	MIN	.00	AC-FT	254800		
WTR YR 1981	TOTAL	129597.00	MEAN	355	MAX	22300	MIN	23	AC-FT	257100		

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX

LOCATION.--Lat 32°42'27", long 99°16'29", Shackelford County, Hydrologic Unit 12060105, on downstream side of bridge on U.S. Highway 6, 1.7 mi (2.7 km) southeast of Albany, and 2.0 mi (3.2 km) upstream from Salt Prong Hubbard Creek.

DRAINAGE AREA.--39.3 mi² (101.8 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,340.54 ft (408.597 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. No diversion above station.

AVERAGE DISCHARGE.--18 years (water years 1964-81), 7.06 ft³/s (0.200 m³/s), 2.44 in/yr (62 mm/yr), 5,110 acre-ft/yr (6.30 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft³/s (2,920 m³/s) Aug. 4, 1978, gage height, 23.3 ft (7.10 m), from floodmarks, from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of slope-area measurement of 4,570 ft³/s (129 m³/s), contracted-opening measurement of 9,520 ft³/s (270 m³/s), and computation of flow-through-culvert, contracted-opening, and flow-over-road determinations of 103,000 ft³/s (2,920 m³/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood information begins in 1940. Floods of June 10, 1940, and July 18, 1953, reached stages of about 21 ft (6.4 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.83 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 8	2400	354 10.0	4.20 1.280	June 5	2330	*513 14.5	4.69 1.430
Mar. 3	1830	173 4.90	3.76 1.146	Sept. 2	0400	498 14.1	4.65 1.417
Apr. 22	2230	456 12.9	4.56 1.390				

Minimum discharge, 0.15 ft³/s (0.004 m³/s) Aug. 1, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	2.6	2.3	2.3	1.4	2.2	1.9	3.4	1.1	.57	.18	.34
2	14	2.6	1.9	2.2	1.2	1.3	1.8	2.9	.92	.56	.18	150
3	9.2	2.7	1.9	2.0	1.4	62	1.8	2.9	1.1	.70	.19	1.5
4	7.4	2.5	1.7	1.9	1.4	35	1.5	2.9	42	.86	.18	.61
5	5.7	2.3	1.8	1.9	1.4	11	1.5	2.5	30	.70	.19	.89
6	4.6	2.5	1.9	2.0	1.5	8.3	1.6	2.7	83	.52	.21	.61
7	3.9	2.5	2.1	1.9	1.5	10	1.6	2.4	11	.48	.21	.97
8	3.6	2.6	180	2.3	1.5	13	1.6	6.4	5.1	.42	.25	.97
9	3.2	2.8	182	4.6	1.4	7.6	1.6	3.6	3.2	.39	.24	.81
10	3.0	2.9	16	2.9	1.5	7.1	1.5	2.3	2.3	.38	.23	.61
11	2.5	3.0	14	2.2	1.4	6.7	1.5	2.4	1.7	.37	.27	.38
12	2.5	2.9	13	2.0	1.4	6.6	1.4	2.6	1.5	.36	.44	.30
13	2.4	2.9	12	2.0	1.4	6.3	1.2	2.3	1.2	.37	.38	.27
14	2.3	2.4	10	2.0	1.4	5.5	5.1	2.0	1.1	.35	.33	.30
15	2.1	2.4	9.8	1.9	1.3	4.9	1.7	2.4	2.6	.32	.29	.30
16	1.9	4.1	8.3	1.7	1.3	4.4	1.3	2.7	5.4	.30	.31	.30
17	26	7.0	7.4	1.6	1.3	3.8	1.6	2.1	2.9	.30	.46	.30
18	9.2	6.2	7.4	1.6	1.3	3.6	2.1	1.6	2.5	.31	.58	.30
19	5.4	4.6	5.9	1.6	1.3	3.1	1.6	1.4	1.6	.30	.47	.30
20	4.2	4.3	5.2	1.7	1.3	2.8	1.1	1.4	1.2	.27	.44	.30
21	3.7	4.1	4.6	1.6	1.2	2.6	43	1.6	1.0	.27	.40	.30
22	3.5	4.1	4.3	1.6	1.1	2.5	128	1.6	.97	.27	.44	.30
23	2.9	3.7	4.3	1.6	1.1	2.5	89	1.5	.91	.27	.46	.30
24	2.7	3.3	3.8	1.4	1.1	2.7	18	1.5	.91	.23	.42	.30
25	2.5	3.1	3.3	1.5	1.1	2.4	10	1.4	.88	.22	.42	.30
26	2.7	3.1	3.3	1.6	1.1	2.4	7.1	1.4	.87	.19	.42	.30
27	2.7	2.9	3.6	1.6	1.1	2.4	5.7	1.2	.83	.23	.38	.30
28	2.2	2.5	3.3	1.5	3.8	3.3	4.9	1.0	.76	.23	.38	.30
29	2.5	2.7	3.1	1.5	---	2.9	4.4	.94	.70	.25	.38	.30
30	2.7	2.5	2.7	1.4	---	2.1	3.7	1.6	.63	.22	.34	.30
31	2.7	---	2.7	1.4	---	1.9	---	1.3	---	.21	.34	---
TOTAL	164.9	97.8	523.6	59.0	39.2	232.9	348.8	67.94	209.88	11.42	10.41	163.36
MEAN	5.32	3.26	16.9	1.90	1.40	7.51	11.6	2.19	7.00	.37	.34	5.45
MAX	26	7.0	182	4.6	3.8	62	128	6.4	83	.86	.58	150
MIN	1.9	2.3	1.7	1.4	1.1	1.3	1.1	.94	.63	.19	.18	.27
CFSM	.14	.08	.43	.05	.04	.19	.30	.06	.18	.009	.009	.14
IN.	.16	.09	.50	.06	.04	.22	.33	.06	.20	.01	.01	.15
AC-FT	327	194	1040	117	78	462	692	135	416	23	21	324
CAL YR 1980	TOTAL	1155.99	MEAN	3.16	MAX	182	MIN	.09	CFSM	.08	IN	1.09
WTR YR 1981	TOTAL	1929.21	MEAN	5.29	MAX	182	MIN	.18	CFSM	.14	IN	1.83
									AC-FT	2290		
									AC-FT	3830		

BRAZOS RIVER BASIN

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: November 1962 to current year. Sediment records: October 1967 to September 1975.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1962 to current year.

WATER TEMPERATURES: November 1962 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 9,750 micromhos Sept. 28-30, 1968; minimum measured daily, 408 micromhos Sept. 16, 1974; minimum estimated daily, 149 micromhos Aug. 4, 1978.

WATER TEMPERATURES (1962-69, 1974-76): Maximum daily, 33.0°C July 11, 1964; minimum daily, 0.0°C Jan. 12, 1963, Jan. 29, 1966.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 5,640 micromhos Feb. 26; minimum daily, 840 micromhos June 6.

WATER TEMPERATURES: Minimum daily, 6.0°C Dec. 21, Feb. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 01...	1200	23	1940	--	20.0	390	260	110	27
FEB 05...	1200	1.4	5660	--	7.0	1200	1000	310	95
MAR 02...	1100	1.2	4680	--	15.0	1000	870	270	84
MAY 12...	1255	2.4	4360	--	24.0	920	750	250	72
JUN 01...	1215	1.1	5070	--	27.5	1100	940	290	93
AUG 06...	0930	.21	5180	7.5	28.0	1300	1100	320	110
SEP 01...	0950	.34	5290	--	26.0	1200	1000	310	100

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 01...	230	5.1	6.4	130	36	520	.3	13	1020
FEB 05...	690	8.8	3.3	130	160	1700	.3	6.7	3040
MAR 02...	560	7.6	3.8	150	140	1400	.3	6.7	2560
MAY 12...	560	8.0	3.6	170	130	1300	.3	7.0	2430
JUN 01...	610	8.0	3.6	170	150	1600	.3	9.5	2860
AUG 06...	640	7.9	4.0	180	150	1700	.4	14	3050
SEP 01...	630	8.0	3.8	170	160	1700	.4	14	3020

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	164.9	3590	1980	880	1100	472	110	47	810
NOV.	1980	97.8	4460	2440	644	1300	349	130	35	1000
DEC.	1980	523.6	3140	1730	2450	920	1300	92	131	710
JAN.	1981	59.0	5240	2850	454	1600	250	160	25	1200
FEB.	1981	39.2	5430	2950	312	1600	172	160	17	1300
MAR.	1981	232.9	3930	2150	1350	1200	732	120	73	890
APR.	1981	348.8	2370	1310	1230	690	652	69	65	530
MAY	1981	67.94	4580	2510	460	1400	250	140	25	1000
JUNE	1981	209.88	2130	1180	671	620	354	63	36	480
JULY	1981	11.42	4860	2650	82	1400	45	140	4.4	1100
AUG.	1981	10.41	5230	2840	80	1600	44	150	4.4	1200
SEPT	1981	163.36	3570	1970	869	1100	464	110	46	810
TOTAL		1929.21	**	**	9490	**	5090	**	508	**
WTD. AVG.		5.3	3310	1820	**	980	**	98	**	750

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2160	4760	5010	4740	5540	3660	5200	4070	5070	4720	5140	5400
2	2600	4740	5030	5000	5530	4680	5130	4160	5170	4730	5190	3500
3	3070	4780	4960	5320	5580	2420	5170	4250	5120	4700	5200	2900
4	3520	4820	5090	5330	5300	3280	5310	4340	3090	4690	5230	3190
5	3510	4850	5140	5350	5590	3650	5290	4430	2350	4770	5200	4920
6	3690	4800	5120	5320	5610	3820	5380	4520	840	4750	5180	4910
7	3910	4860	5080	5350	5570	4720	5450	4640	2270	4800	5220	4800
8	4020	4850	2520	5370	5540	4550	5420	4270	2550	4810	5190	4650
9	4150	4550	2570	4920	5170	4520	5430	4330	2750	4830	5240	4630
10	4290	4740	3420	4960	5550	4730	5420	4700	2900	4840	5260	4600
11	4400	4760	3620	4840	5580	4900	5430	4720	3030	4860	5230	4500
12	4480	4660	3790	4860	5570	4750	5450	4690	3220	4870	5170	4540
13	4560	4880	4140	5020	5580	4920	5470	4650	3360	4850	5150	4530
14	4610	4890	4290	5180	5420	5110	4500	4600	3430	4870	5190	4540
15	4670	4960	4470	5330	5510	5090	4760	4580	3650	4880	5240	4550
16	4700	4650	4390	5340	5540	5100	4630	4520	3220	4900	5210	4540
17	3230	4010	4680	5360	5560	5120	4510	4740	3160	4930	5160	4520
18	3560	3750	4750	5370	5550	5340	4490	4830	3130	4910	5140	4510
19	3900	3660	4830	5340	5570	5300	4690	4750	3300	4930	5280	4530
20	4240	3630	4950	5500	5580	5340	4870	4800	3410	4980	5300	4550
21	4400	3730	5000	5450	5530	5370	3250	4860	4070	4990	5330	4500
22	4540	4050	5040	5490	5540	5400	1500	4930	4110	4980	5280	4170
23	4580	4270	5070	5280	5550	5410	1750	4950	4290	5000	5250	4690
24	4710	4580	5090	5490	5570	5400	1880	4960	4470	5020	5210	4700
25	4780	4650	5170	5470	5590	5410	3000	4990	4600	5060	5230	4740
26	4790	4730	5230	5480	5640	5400	3440	4980	4620	5100	5250	4660
27	4790	4810	5170	5490	5620	5370	3880	5000	4580	5080	5240	4700
28	4840	4860	5270	5470	4500	5450	3910	5010	4610	5070	5260	4740
29	4860	4780	5250	5520	---	5310	3950	5050	4660	5050	5250	4700
30	4920	4980	5300	5530	---	5250	3960	5000	4700	5080	5260	4680
31	4910	---	5330	5550	---	5270	---	5020	---	5100	5270	---
MEAN	4170	4570	4670	5290	5500	4840	4420	4690	3660	4910	5220	4500
WTR YR 1981	MEAN	4700	MAX	5640	MIN	840						

BRAZOS RIVER BASIN

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	17.0	---	14.0	---	15.0	---	26.0	---	30.0	---	---
2	---	15.0	10.0	---	10.0	---	20.0	24.0	29.0	32.0	---	28.0
3	---	17.0	11.0	13.0	11.0	13.0	21.0	---	---	---	---	---
4	22.0	18.0	13.0	14.0	10.0	14.0	18.0	26.0	25.0	---	---	25.0
5	23.0	18.0	---	---	9.0	15.0	20.0	---	29.0	29.0	---	29.0
6	24.0	19.0	---	---	10.0	15.0	---	25.0	22.0	30.0	---	30.0
7	24.0	19.0	---	13.0	9.0	15.0	---	24.0	27.0	30.0	---	27.0
8	25.0	20.0	12.0	11.0	12.0	---	21.0	24.0	30.0	31.0	---	26.0
9	24.0	19.0	11.0	13.0	11.0	13.0	20.0	22.0	31.0	31.0	---	27.0
10	25.0	18.0	12.0	11.0	10.0	---	22.0	27.0	---	30.0	---	---
11	22.0	19.0	15.0	12.0	6.0	13.0	23.0	---	30.0	---	---	---
12	23.0	20.0	14.0	11.0	9.0	14.0	---	24.0	28.0	30.0	---	27.0
13	23.0	19.0	13.0	---	11.0	16.0	---	---	29.0	---	---	30.0
14	26.0	16.0	13.0	13.0	11.0	18.0	18.0	21.0	27.0	31.0	---	---
15	24.0	14.0	14.0	12.0	12.0	---	19.0	24.0	28.0	29.0	---	27.0
16	24.0	---	14.0	11.0	13.0	17.0	20.0	---	25.0	30.0	---	24.0
17	---	14.0	15.0	---	14.0	18.0	20.0	23.0	---	29.0	---	22.0
18	22.0	11.0	---	11.0	---	17.0	22.0	27.0	26.0	---	24.0	27.0
19	---	11.0	10.0	10.0	---	15.0	25.0	20.0	28.0	31.0	24.0	28.0
20	19.0	12.0	7.0	12.0	13.0	---	24.0	24.0	30.0	31.0	---	27.0
21	---	11.0	6.0	11.0	14.0	---	20.0	26.0	30.0	31.0	---	26.0
22	20.0	12.0	---	11.0	15.0	---	---	27.0	31.0	30.0	---	24.0
23	20.0	11.0	---	12.0	17.0	17.0	21.0	---	31.0	---	---	29.0
24	18.0	10.0	10.0	14.0	---	18.0	22.0	---	30.0	29.0	---	---
25	19.0	---	8.0	---	17.0	16.0	24.0	---	32.0	---	---	28.0
26	17.0	---	10.0	---	16.0	18.0	25.0	26.0	---	---	---	27.0
27	17.0	11.0	11.0	12.0	15.0	18.0	26.0	27.0	30.0	---	---	25.0
28	13.0	12.0	12.0	14.0	15.0	17.0	---	25.0	---	---	---	27.0
29	15.0	14.0	11.0	13.0	---	---	---	---	---	---	---	---
30	---	16.0	15.0	11.0	---	18.0	26.0	26.0	32.0	---	---	26.0
31	15.0	---	12.0	11.0	---	18.0	---	28.0	---	32.0	30.0	---
MEAN	21.0	15.5	11.5	12.0	12.0	16.0	21.5	25.0	28.5	30.5	26.0	27.0
WTR YR 1981		MEAN	20.0	MAX	32.0	MIN	6.0					

08086212 HUBBARD CREEK BELOW ALBANY, TX

LOCATION.--Lat 32°43'58", long 99°08'25", Shackelford County, Hydrologic Unit 12060105, on left bank 0.5 mi (0.8 km) downstream from Salt Prong Hubbard Creek, 2.8 mi (4.5 km) upstream from Newcomb Creek, 4.5 mi (7.2 km) upstream from U.S. Highway 180, 9.1 mi (14.6 km) east of Albany, 22.6 mi (36.4 km) upstream from Hubbard Creek Reservoir, and 35.2 mi (56.6 km) upstream from mouth. Water-quality sampling site on left bank 0.5 mi (0.8 km) downstream.

DRAINAGE AREA.--613 mi² (1,588 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,184.99 ft (361.185 m) National Geodetic Vertical Datum of 1929. Prior to June 12, 1968, water-stage recorder at site 2.1 mi (3.4 km) downstream at datum 7.63 ft (2.326 m) lower.

REMARKS.--Water-discharge records fair through Dec. 4 and good thereafter.

AVERAGE DISCHARGE.--15 years, 66.9 ft³/s (1.895 m³/s), 1.48 in/yr (38 mm/yr), 48,470 acre-ft/yr (59.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 330,000 ft³/s (9,350 m³/s) Aug. 4, 1978, gage height, 41.41 ft (12.622 m), from floodmark, from rating curve extended above 110 ft³/s (3.12 m³/s) on basis of step-backwater method and computation of flow-through culverts, contracted-openings, and flow-over-road determination of 330,000 ft³/s (9,350 m³/s) at site 4.5 mi (7.2 km) downstream; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,610 ft³/s (45.6 m³/s) Mar. 4 at 0700 hours, gage height, 9.02 ft (2.749 m), no peak above base of 2,000 ft³/s (56.6 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	3.3	2.7	4.1	2.9	4.5	5.7	6.1	1.4	1.5	.00	.00
2	38	3.3	2.6	4.0	2.8	6.0	8.6	5.7	1.4	1.5	.00	96
3	21	3.3	2.5	3.8	2.7	85	5.7	5.0	79	1.5	.00	7.3
4	18	3.5	2.2	3.7	2.6	651	3.1	4.2	222	1.6	.00	2.4
5	12	3.3	2.2	3.5	2.7	108	3.2	4.1	137	1.8	.00	4.1
6	7.8	3.3	2.5	3.4	2.9	52	3.2	3.9	332	1.9	.00	3.8
7	6.9	3.3	3.2	3.3	2.9	36	2.9	3.4	249	1.8	.00	1.6
8	6.1	3.3	118	3.3	2.8	33	2.6	7.9	56	1.6	.00	.31
9	5.2	3.5	199	4.6	2.8	32	2.4	8.1	30	1.7	.00	.17
10	4.3	3.7	60	6.2	3.1	26	2.8	6.4	17	1.5	.00	.20
11	4.1	4.1	33	7.0	3.2	21	3.0	5.1	11	1.4	.00	.01
12	3.7	3.7	22	5.8	3.0	18	2.9	3.8	7.8	1.3	.08	.00
13	3.1	3.7	16	4.7	2.7	16	2.9	3.4	5.9	1.1	.19	.00
14	2.9	3.5	14	4.3	2.6	14	3.1	3.2	4.7	.91	.14	.00
15	2.8	3.3	11	4.1	2.6	12	3.0	3.1	7.5	5.4	.14	.00
16	2.3	4.9	10	4.0	2.6	12	3.0	2.9	103	2.6	.17	.00
17	285	9.3	9.2	3.8	2.5	11	3.0	2.9	31	.88	6.4	.00
18	109	11	8.0	3.7	2.5	9.5	3.0	5.8	15	.70	14	.00
19	32	5.9	7.2	3.7	2.5	8.7	2.9	9.0	9.9	.68	1.9	.00
20	16	4.9	6.3	3.7	2.5	7.0	2.9	7.0	6.8	.57	.85	.00
21	12	4.5	5.6	3.7	2.3	6.3	2.9	5.1	5.0	.48	.50	.00
22	8.7	4.3	5.3	3.6	2.1	6.7	195	3.8	4.1	.33	.26	.00
23	6.6	4.9	5.2	3.4	1.9	6.4	166	2.9	3.1	.22	.14	.00
24	5.6	4.7	5.2	3.3	1.9	6.6	50	2.3	2.5	.16	.08	.00
25	5.2	4.5	5.1	3.3	1.9	6.4	26	2.0	2.3	.03	.00	.00
26	4.9	4.9	4.9	3.4	1.9	6.2	17	1.7	2.1	.01	.00	.00
27	4.3	4.3	4.7	3.3	1.9	5.6	12	1.5	1.9	.00	.00	.00
28	4.1	3.9	4.7	3.2	2.2	5.7	9.9	1.3	1.6	.00	.00	.00
29	9.2	3.3	4.6	3.0	---	5.7	8.6	1.6	1.5	.00	.00	.00
30	5.6	3.3	4.3	2.9	---	6.1	7.4	1.7	1.5	.00	.00	.00
31	3.3	---	4.1	2.9	---	6.1	---	1.7	---	.00	.00	---
TOTAL	743.7	130.7	585.3	120.7	71.0	1230.5	564.7	126.6	1353.0	33.17	24.85	115.89
MEAN	24.0	4.36	18.9	3.89	2.54	39.7	18.8	4.08	45.1	1.07	.80	3.86
MAX	285	11	199	7.0	3.2	651	195	9.0	332	5.4	14	96
MIN	2.3	3.3	2.2	2.9	1.9	4.5	2.4	1.3	1.4	.00	.00	.00
CFSM	.04	.007	.03	.006	.004	.07	.03	.007	.07	.002	.001	.006
IN.	.05	.01	.04	.01	.00	.07	.03	.01	.08	.00	.00	.01
AC-FT	1480	259	1160	239	141	2440	1120	251	2680	66	49	230
CAL YR 1980	TOTAL	4108.03	MEAN	11.2	MAX	1060	MIN	.00	CFSM	.02	IN	.25
WTR YR 1981	TOTAL	5100.11	MEAN	14.0	MAX	651	MIN	.00	CFSM	.02	IN	.31
									AC-FT		AC-FT	10120

BRAZOS RIVER BASIN

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to current year.

WATER TEMPERATURES: October 1966 to current year.

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

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 21,200 micromhos Feb. 15, 21, 1978; minimum measured daily, 253 micromhos Sept. 8, 1967; minimum estimated daily, 129 micromhos Aug. 4, 1978.

WATER TEMPERATURES (1966-80): Maximum daily, 37.0°C July 11, 1969; minimum daily, 0.0°C Dec. 11, 1972, Jan. 8, 10, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 5,390 micromhos Aug. 15; minimum daily, 507 micromhos Oct. 17.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
DEC 04...	1030	2.3	3770	11.0	890	720	230	76	440
JAN 15...	1050	4.0	4000	7.0	880	710	230	74	450
FEB 05...	1330	2.9	4510	6.0	970	830	250	85	520
APR 23...	0840	184	1560	18.0	320	220	93	22	180
JUN 25...	1210	2.3	2120	31.0	460	350	120	39	240

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
DEC 04...	6.4	4.3	170	190	1100	.2	5.5	2150
JAN 15...	6.6	4.4	170	180	1100	.2	3.9	2140
FEB 05...	7.3	4.2	140	220	1300	.3	3.5	2470
APR 23...	4.4	3.9	100	29	430	.2	7.8	826
JUN 25...	4.9	6.4	110	89	590	.2	9.5	1160

BRAZOS RIVER BASIN

229

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	743.7	797	421	846	210	428	37	74	170
NOV.	1980	130.7	3300	1790	633	930	329	140	50	680
DEC.	1980	585.3	1830	983	1550	500	797	82	130	380
JAN.	1981	120.7	3970	2180	709	1100	370	170	55	810
FEB.	1981	71.0	4250	2340	448	1200	235	180	34	870
MAR.	1981	1230.5	1920	1030	3410	530	1750	86	285	400
APR.	1981	564.7	2010	1080	1640	550	843	90	137	420
MAY	1981	126.6	2750	1480	508	770	262	120	41	570
JUNE	1981	1353.0	1050	557	2030	280	1030	49	177	220
JULY	1981	33.17	2770	1490	134	770	69	120	11	570
AUG.	1981	24.85	2900	1570	106	810	55	130	8.5	600
SEPT	1981	115.89	1890	1010	316	520	161	86	27	390
TOTAL		5100.11	**	**	12300	**	6320	**	1030	**
WTD. AVG.		14	1670	896	**	460	**	75	**	350

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	556	2000	3670	3860	4210	4250	3900	2290	3820	2380	---	---
2	703	2070	3710	3870	4230	4340	3810	2380	3860	2450	---	1810
3	849	2240	3740	3860	4260	3220	3830	2410	1340	2580	---	2050
4	1210	2590	3770	3990	4280	1800	3960	2490	800	2560	---	2300
5	1220	2810	3850	4000	4260	889	3950	2560	1450	2550	---	2220
6	1390	2880	3900	3980	4240	1000	3980	2630	653	2540	---	2350
7	1560	3000	3880	3970	4230	1110	4150	2690	740	2630	---	2970
8	2110	3080	1680	3990	4240	1230	4170	2480	1000	2690	---	3240
9	2060	3160	1010	3940	4210	1340	4190	2400	1140	2800	---	3530
10	2400	3220	1370	3870	4190	1540	4160	2700	1490	2880	---	3500
11	2800	3180	1690	3820	4180	1760	4090	2750	1820	2940	---	3670
12	2880	3290	2000	4000	4220	1990	4150	2900	2130	3020	3820	---
13	3010	3340	2370	4060	4240	2200	4130	2930	2510	3080	3580	---
14	3190	3540	2720	4030	4250	2410	4190	2950	2850	3130	4970	---
15	3370	3690	3050	4000	4230	2630	4300	2960	2680	2740	5390	---
16	3520	3530	3070	3960	4210	2840	4310	2980	1610	2880	5070	---
17	507	3380	3080	3920	4220	3020	4240	2990	1700	3190	3620	---
18	638	3260	3100	3900	4230	3250	4160	2780	1790	3000	2500	---
19	754	3460	3110	3860	4220	3220	4150	2660	1850	3040	2590	---
20	783	3570	3120	3890	4260	3180	4110	2800	1880	2990	2920	---
21	847	3520	3140	3900	4350	3120	4130	2880	1940	2930	3210	---
22	991	3530	3150	3930	4360	3310	1760	2970	2000	3200	3510	---
23	1140	3540	3240	3970	4340	3470	1640	3030	2050	3140	3630	---
24	1240	3630	3360	4000	4330	3400	1460	3120	2090	3180	3590	---
25	1360	3650	3430	4020	4210	3240	1700	3170	2120	3380	---	---
26	1460	3680	3570	4050	4240	3330	1790	3250	2160	3390	---	---
27	1590	3740	3680	4080	4280	3400	1950	3340	2110	---	---	---
28	1710	3760	3760	4100	4370	3520	1970	3420	2100	---	---	---
29	1810	3690	3850	4140	---	3680	2060	3490	2170	---	---	---
30	1940	3640	3910	4150	---	3700	2150	3600	2290	---	---	---
31	1990	---	3870	4180	---	3720	---	3720	---	---	---	---
MEAN	1660	3260	3120	3980	4250	2750	3420	2890	1940	2900	3720	2760

BRAZOS RIVER BASIN

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX

LOCATION.--Lat 32°38'54", long 99°00'15", Stephens County, Hydrologic Unit 12060105, on left bank 600 ft (180 m) downstream from Battle Creek, 1.6 mi (2.6 km) upstream from bridge on Farm Road 576, 9.8 mi (15.8 km) southwest of Breckenridge, and about 14.6 mi (23.5 km) upstream from Hubbard Creek Dam.

DRAINAGE AREA.--280 mi² (725 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1962 to current year. Prior to October 1975, published as "near Breckenridge."

REVISED RECORDS.--WDR TX-76-2: Drainage area at former site.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,185.83 ft (361.441 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1975, at site 1.6 mi (2.6 km) downstream at datum 7.41 ft (2.259 m) lower.

REMARKS.--Water-discharge records good. Flow is affected by Lake Cisco, capacity 25,600 acre-ft (31.6 hm³).

AVERAGE DISCHARGE.--19 years (water years 1963-81), 25.3 ft³/s (0.716 m³/s), 1.23 in/yr (31 mm/yr), 18,330 acre-ft/yr (22.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,170 ft³/s (231 m³/s) May 13, 1965, gage height, 23.30 ft (7.102 m); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--According to information from State Department of Highways and Public Transportation, the floods of May 16, 1949, July 20, 1953, and Apr. 29, 1957, each reached a stage of 24.6 ft (7.50 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,810 ft³/s (79.6 m³/s) June 6 at 1500 hours, gage height, 15.14 ft (4.615 m), no other peak above base of 2,000 ft³/s (56.6 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	.00	.00	.00	.09	.06	.04	.03	.00	.00	.00	.00
2	5.0	.00	.00	.00	.08	.04	.04	.00	.00	.00	.00	283
3	.60	.00	.00	.00	.07	394	.05	.04	17	.00	.00	4.7
4	.07	.00	.00	.00	.07	771	.04	.04	323	.00	.00	2.2
5	.00	.00	.00	.00	.06	54	.03	.02	39	.00	.00	14
6	.00	.00	.00	.00	.07	16	.00	.01	1350	.00	.00	.32
7	.00	.00	.00	.00	.07	7.9	.02	.00	206	.00	.00	.03
8	.00	.00	399	.00	.07	12	.02	.12	33	.00	.00	.00
9	.00	.00	170	6.9	.07	9.1	.03	.01	13	.00	.00	.00
10	.00	.00	45	.02	.08	4.3	.03	.00	4.6	.00	.00	.00
11	.00	.00	17	.01	.06	2.2	.04	.00	2.1	.00	.00	.00
12	.00	.00	10	.00	.06	1.4	.04	.00	1.2	.00	.00	.00
13	.00	.00	2.8	.00	.06	.81	.04	.00	.53	.00	.00	.00
14	.00	.00	1.6	.01	.06	.45	.04	.00	.51	.00	.00	.00
15	.00	.00	.89	.03	.04	.23	.04	.03	.32	.00	.00	.00
16	.00	.00	.40	.03	.04	.13	.05	.02	43	.00	.00	.00
17	483	.00	.25	.03	.04	.08	.10	.00	13	.00	.00	.00
18	89	.00	.13	.03	.04	.04	.13	.00	2.1	.00	.00	.00
19	10	.00	.06	.03	.04	.04	.10	.00	.50	.00	.00	.00
20	1.0	.00	.03	.03	.04	.04	.09	.00	.18	.00	.00	.00
21	.11	.00	.01	.06	.02	.05	.15	.00	.08	.00	.00	.00
22	.00	.00	.00	.06	.02	.06	.41	.00	.04	.00	.00	.00
23	.00	.00	.00	.06	.02	.06	112	.00	.02	.00	.00	.00
24	.00	.00	.00	.06	.02	.06	56	.00	.01	.00	.00	.00
25	.00	.00	.00	.06	.02	.06	16	.00	.00	.00	.00	.00
26	.00	.00	.00	.06	.02	.07	4.5	.00	.00	.00	.00	.00
27	.00	.00	.00	.06	.00	.08	1.2	.00	.00	.00	.00	.00
28	.00	.00	.00	.06	.07	.09	.35	.00	.00	.00	.00	.00
29	.00	.00	.00	.06	---	.08	.12	.00	.00	.00	.00	.00
30	.00	.00	.00	.05	---	.07	.06	.03	.00	.00	.00	.00
31	.00	---	.00	.06	---	.05	---	.00	---	.00	.00	---
TOTAL	615.78	.00	647.17	7.77	1.40	1274.55	191.76	.35	2049.19	.00	.00	304.25
MEAN	19.9	.000	20.9	.25	.050	41.1	6.39	.011	68.3	.000	.000	10.1
MAX	483	.00	399	6.9	.09	771	112	.12	1350	.00	.00	283
MIN	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00
CFSM	.07	.000	.08	.001	.000	.15	.02	.000	.24	.000	.000	.04
IN.	.08	.00	.09	.00	.00	.17	.03	.00	.27	.00	.00	.04
AC-FT	1220	.00	1280	15	2.8	2530	380	.7	4060	.00	.00	603
CAL YR 1980	TOTAL	2476.42	MEAN	6.77	MAX	483	MIN	.00	CFSM	.02	IN	.33
WTR YR 1981	TOTAL	5092.22	MEAN	14.0	MAX	1350	MIN	.00	CFSM	.05	IN	.68
									AC-FT	4910		
									AC-FT	10100		

BRAZOS RIVER BASIN

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1962 to current year. Sediment records: October 1967 to September 1975.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1962 to current year.

WATER TEMPERATURES: February 1962 to current year.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 28,700 micromhos Apr. 5, 10, 1976; minimum daily, 59 micromhos Nov. 21, 1963.

WATER TEMPERATURES (1976-77): Maximum daily, 31.0°C June 26, 1977; minimum daily, 0.0°C Jan. 9, 10, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 19,800 micromhos Apr. 20; minimum daily, 213 micromhos Sept. 2.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JAN 15...	1500	.03	5720	7.5	1100	990	340	58	750
FEB 05...	1610	.05	12400	7.0	2300	2200	720	130	1800
MAR 02...	1600	.03	14900	18.5	2900	2800	870	170	2200
APR 23...	1125	94	471	14.0	160	36	54	5.1	38

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
JAN 15...	9.9	6.5	94	230	1800	.1	.8	3240
FEB 05...	16	8.4	110	480	4200	.7	.1	7410
MAR 02...	18	6.7	120	570	5300	.1	3.0	9190
APR 23...	1.3	4.9	120	29	74	.2	5.9	283

BRAZOS RIVER BASIN

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	615.78	320	167	278	89	149	12	21	52
NOV.	1980	0.00	*	*	0.00	*	0.00	*	0.00	*
DEC.	1980	647.17	418	219	382	120	204	16	28	68
JAN.	1981	7.77	5030	2790	59	1500	32	200	4.1	860
FEB.	1981	1.40	15000	9330	35	5200	20	600	2.3	*
MAR.	1981	1274.55	406	213	732	110	392	16	54	66
APR.	1981	191.76	1230	668	346	360	187	48	25	210
MAY	1981	0.35	7510	4340	4.1	2400	2.3	300	0.3	1300
JUNE	1981	2049.19	419	225	1250	120	672	16	90	70
JULY	1981	0.00	*	*	0.00	*	0.00	*	0.00	*
AUG.	1981	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT	1981	304.25	218	114	93	61	50	8.5	6.9	35
TOTAL		5092.22	**	**	3180	**	1710	**	232	**
WTD. AVG.		14	434	231	**	120	**	17	**	72

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215		---	---	11100	16400	13600	2520	---			---
2	243		---	---	11400	14900	14300	---	---			213
3	278		---	---	11800	556	14200	3320	11300			243
4	346		---	---	12100	315	15000	4680	421			338
5	---		---	---	12400	350	15500	5210	415			285
6	---		---	---	13200	385	---	5750	298			395
7	---		---	---	13800	420	17100	---	234			388
8	---		493	---	14000	490	16900	8590	304			---
9	---		314	4610	13900	450	16700	8820	311			---
10	---		256	5270	18700	514	17100	---	443			---
11	---		249	5360	17800	777	17400	---	519			---
12	---		262	---	18000	768	18000	---	644			---
13	---		284	---	16700	1000	18700	---	843			---
14	---		312	5800	15900	1170	18300	---	852			---
15	---		339	5720	16400	1750	18600	10800	1440			---
16	---		431	5940	16800	2530	18700	11000	528			---
17	346		430	6350	16300	2700	18800	---	1190			---
18	225		506	6690	16800	2810	19000	---	1880			---
19	248		522	7030	16500	4070	19600	---	1980			---
20	245		668	7410	17200	5300	19800	---	2030			---
21	255		670	7380	16800	5920	19200	---	2210			---
22	---		---	7550	18000	6540	17800	---	2180			---
23	---		---	7990	17700	7160	1520	---	2830			---
24	---		---	8380	17400	8120	463	---	3110			---
25	---		---	8900	17800	10200	480	---	---			---
26	---		---	9220	17600	11100	711	---	---			---
27	---		---	9550	---	11700	1030	---	---			---
28	---		---	9860	16600	12000	1480	---	---			---
29	---		---	10200	---	12600	1800	---	---			---
30	---		---	10500	---	13000	1870	13600	---			---
31	---		---	10700	---	13600	---	---	---			---
MEAN	267		410	7640	15700	5470	12900	7430	1630			310

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX

LOCATION.--Lat 32°49'53", long 98°58'03", Stephens County, Hydrologic Unit 12060105, on left bank just upstream from dam on Hubbard Creek, 1.4 mi (2.3 km) upstream from U.S. Highway 183, 6.5 mi (10.5 km) northwest of Breckenridge, and 12.6 mi (20.3 km) upstream from mouth.

DRAINAGE AREA.--1,085 mi² (2,810 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--The reservoir is formed by a rolled earthfill dam 5,630 ft (1,720 m) long. There are two additional levees, the north and south, making an overall length of 3.5 mi (5.6 km). Storage began September 1962 and the dam was completed in December 1962. The emergency spillway is a 2,000-foot-wide (610 m) cut through natural ground near the left end of dam. The service spillway is a partially controlled morning-glory type, with 12 lift gates designed to discharge 30,000 ft³/s (850 m³/s), with a 17.5-foot (5.3 m) head through a 22.0-foot-diameter (6.7 m) concrete conduit. The dam is the property of the West Central Texas Municipal Water District. The District has a permit to divert 56,000 acre-ft (69.0 hm³) annually for municipal, mining, and industrial uses. Diversions during the current year are as follows: 6,760 acre-ft (8.34 hm³) for municipal use, 3,750 acre-ft (4.62 hm³) for oilfield operation, and 1,770 acre-ft (2.18 hm³) for irrigation and domestic uses. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,208.0	-
Crest of spillway.....	1,194.0	515,800
Top of gates.....	1,185.1	350,900
Top of conservation pool.....	1,183.0	317,800
Crest of spillway.....	1,176.6	230,100
Sill of gate.....	1,138.0	5,580
Lowest gated outlet (invert).....	1,136.0	3,470

COOPERATION.--The diversions and capacity table were furnished by the West Central Texas Municipal Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 401,500 acre-ft (495 hm³) Aug. 5, 1978, elevation, 1,188.06 ft (362.121 m); minimum since normal operating level was reached in May 1969, 171,200 acre-ft (211 hm³) Oct. 18-20, 1972, elevation, 1,171.3 ft (357.01 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 254,700 acre-ft (314 hm³) June 17, 18, for several hours, elevation, 1,178.54 ft (359.219 m); minimum, 233,000 acre-ft (287 hm³) Sept. 30, elevation, 1,176.84 ft (358.701 m).

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

1,176.0	222,800	1,178.0	247,600
1,177.0	235,000	1,179.0	260,700

CONTENT, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242300	239400	235700	237600	234400	234300	239000	239900	236100	250600	242400	234100
2	242400	239300	235700	237800	234500	234400	238800	240000	235600	250400	242100	239000
3	242600	238800	235600	237100	234500	237000	238800	239900	245700	251900	241700	239200
4	242100	238800	235700	237400	234000	240200	238400	239500	247600	252700	241300	238900
5	241900	238900	235700	237100	234400	240800	238100	239700	249600	252400	241000	238900
6	241400	238500	235600	237100	234400	241000	237900	239500	252800	252200	240500	238600
7	241700	238300	236400	237100	234400	241300	237400	239300	254200	251900	239900	238100
8	241400	238500	239300	237100	234300	241000	237600	239700	254300	251500	239800	237800
9	241300	238100	240200	237300	234500	241200	237600	238900	254300	251100	239400	237600
10	240800	238000	240500	237100	233900	241000	237500	238600	253900	251000	239200	237400
11	240400	237800	240700	236600	234000	241300	237500	238400	253600	250600	238800	237400
12	240300	237600	240700	236500	233800	241300	237500	238100	253200	250200	238600	236900
13	240000	237300	240400	236800	233800	241300	237400	237600	253100	250000	238400	236000
14	239700	236800	240400	236800	233800	241200	237000	237400	252600	249700	238100	237600
15	239400	236600	240400	236500	233900	241000	237000	237800	254000	249200	238000	237100
16	239200	237500	240300	235900	234000	241000	237000	237600	254300	248800	238100	236500
17	242900	237600	240200	236100	234000	240700	237000	237600	254700	248300	237900	236100
18	242800	237600	239700	236000	234000	240400	237300	236900	254300	248000	237600	235900
19	242900	237500	239200	236000	234000	240200	237100	236900	254400	247600	237400	235600
20	242700	237300	239000	235900	233600	239500	236900	236600	254000	247200	237000	235100
21	242700	237000	239000	235700	233500	238900	239200	236500	253600	246900	236800	235100
22	242400	237300	238900	235700	233500	239300	240200	236100	253200	246500	236500	234900
23	241700	236900	238400	235700	233500	239400	240700	236800	253100	246000	236300	234500
24	241600	236900	238300	235600	233400	239400	240900	236800	252700	245600	236000	234500
25	241300	236500	238400	235500	233300	239400	241000	236400	252300	245000	235700	234100
26	241200	236500	238400	235500	233500	239400	241000	236500	252100	244700	235500	234000
27	240700	236400	238500	235400	233500	239000	240500	236300	251700	244300	235200	233900
28	240300	236400	238300	235200	233900	239500	240300	236000	251400	243800	235200	233500
29	239900	236400	238000	234900	---	239300	240400	235900	251100	243700	235000	233300
30	239900	236300	238000	234900	---	239200	240300	235900	250900	243200	234600	233000
31	239700	---	238000	234700	---	239000	---	236000	---	242800	234100	---
MAX	242900	239400	240700	237800	234500	241300	241000	240000	254700	252700	242400	239200
MIN	239200	236300	235600	234700	233000	234300	236900	235900	235600	242800	234100	233000
(†)	1177.37	1177.10	1177.24	1176.98	1176.91	1177.32	1177.42	1177.08	1178.25	1177.62	1176.93	1176.84
(‡)	-2900	-3400	+1700	-3300	-800	+5100	+1300	-4300	+14900	-8100	-8700	-1100

CAL YR 1980 MAX 269400 MIN 223500 † -31200
WTR YR 1981 MAX 254700 MIN 233000 ‡ -9600

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

BRAZOS RIVER BASIN

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1963 to current year.

324932098575101 HUBBARD CREEK RESERVOIR SITE P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)
JAN										
21...	1030	1.0	1070	8.2	7.5	1.13	7.5	65	240	
21...	1034	10	1070	8.2	7.5	--	7.7	66	--	
21...	1038	20	1070	8.2	7.5	--	7.8	67	--	
21...	1042	30	1070	8.1	7.5	--	7.6	66	--	
21...	1046	40	1070	8.1	7.5	--	7.6	66	--	
21...	1050	50	1070	8.1	7.5	--	7.4	64	--	
21...	1055	63	1070	8.1	7.5	--	7.6	66	240	
AUG										
04...	1420	1.0	1080	7.9	30.5	2.00	7.4	103	250	
04...	1421	3.3	--	--	--	--	--	--	--	
04...	1422	10	1080	7.9	29.5	--	7.1	96	--	
04...	1424	20	1080	7.8	29.0	--	6.6	88	--	
04...	1426	30	1080	7.6	28.5	--	5.6	74	--	
04...	1428	40	1090	7.4	28.5	--	4.7	62	--	
04...	1430	50	1090	7.0	26.5	--	.2	3	--	
04...	1433	64	1110	6.8	24.5	--	.0	0	260	

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
21...	140	67	18	100	2.8	7.7	99	46	240
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	140	66	18	110	3.1	7.4	99	45	250
AUG									
04...	150	68	19	120	3.5	8.6	97	44	270
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	130	74	19	110	3.1	8.4	130	36	260

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
21...	.3	3.0	542	.04	.94	.98	.030	<10	1
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	.03	.79	.82	.030	10	10
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	3.0	559	.03	.64	.67	.030	20	6
AUG									
04...	.3	2.9	591	.00	.73	.73	.010	<10	16
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	.00	1.30	1.3	.020	30	140
04...	--	--	--	.00	1.10	1.1	.030	340	1100
04...	--	6.6	595	.00	1.60	1.6	.050	1300	1400

BRAZOS RIVER BASIN

235

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324712098575701 HUBBARD CREEK RESERVOIR SITE P4

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
21...	1004	1.0	1070	8.2	6.5	8.5	71
21...	1006	11	1070	8.2	6.5	8.7	72
AUG							
04...	1745	1.0	1090	7.9	28.5	7.6	100
04...	1749	10	1090	7.9	28.0	6.9	91
04...	1751	19	1100	7.6	28.0	5.5	72

324843098582901 HUBBARD CREEK RESERVOIR SITE P6

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
21...	0933	1.0	1050	8.2	7.0	8.3	70
21...	0935	10	1050	8.2	7.0	8.3	70
21...	0937	20	1050	8.2	7.0	8.2	69
21...	0939	30	1050	8.2	7.0	8.4	71
21...	0941	40	1050	8.2	7.0	8.3	70
21...	0943	50	1050	8.2	7.0	8.1	69
21...	0945	60	1050	8.2	7.0	8.3	70
AUG							
04...	1805	1.0	1080	7.9	29.5	7.4	100
04...	1807	10	1080	7.9	29.0	7.4	99
04...	1809	20	1080	7.8	28.5	6.7	88
04...	1811	30	1080	7.7	28.5	6.2	82
04...	1813	40	1080	7.3	28.0	3.8	50
04...	1815	50	1090	6.9	26.0	.2	3
04...	1819	63	1110	6.8	24.5	.2	2

324649099000501 HUBBARD CREEK RESERVOIR SITE P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)
JAN									
21...	0900	1.0	1050	8.2	6.5	.97	8.6	72	250
21...	0905	10	1050	8.2	6.5	--	8.7	72	--
21...	0910	20	1050	8.2	6.5	--	8.6	72	--
21...	0915	30	1050	8.2	6.5	--	8.6	72	--
21...	0918	38	1050	8.2	6.5	--	8.7	72	250
AUG									
04...	1830	1.0	1090	7.9	28.5	.80	7.3	96	250
04...	1832	10	1090	7.8	28.5	--	7.2	95	--
04...	1834	20	1090	7.7	28.0	--	6.3	83	--
04...	1836	30	1090	7.7	27.5	--	6.1	80	--
04...	1838	40	1090	7.5	27.5	--	4.8	63	--
04...	1840	47	1090	7.3	27.5	--	2.7	36	260

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324649099000501 HUBBARD CREEK RESERVOIR SITE P9--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
21...	150	69	18	100	2.8	7.4	98	45	240
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	150	69	18	110	3.1	7.6	97	45	240
AUG									
04...	150	70	19	110	3.2	7.6	100	47	260
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	160	71	19	110	3.2	8.1	100	45	260

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN								
21...	3.2	542	.03	.66	.69	.030	10	2
21...	--	--	--	--	--	--	--	--
21...	--	--	.04	.62	.66	.030	20	0
21...	--	--	--	--	--	--	--	--
21...	3.2	551	.02	.70	.72	.030	10	3
AUG								
04...	3.4	577	.00	1.30	1.3	.010	<10	10
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	--	--	.00	1.00	1.0	.020	10	90
04...	--	--	.00	1.40	1.4	.020	30	280
04...	4.1	578	.00	1.20	1.2	.030	14	840

324606099000201 HUBBARD CREEK RESERVOIR SITE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
21...	0840	1.0	1040	8.2	6.5	8.6	72
21...	0842	10	1040	8.2	6.5	8.7	72
21...	0844	20	1040	8.2	6.5	8.7	72
21...	0846	30	1040	8.2	6.5	8.8	73
21...	0848	41	1040	8.2	6.5	8.8	73
AUG							
04...	1900	1.0	1090	7.9	28.5	7.7	101
04...	1902	10	1090	7.8	28.0	7.1	93
04...	1904	20	1090	7.7	27.5	6.3	83
04...	1906	30	1090	7.5	27.0	5.6	73
04...	1910	36	1090	7.5	27.0	5.5	71

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324514099010201 HUBBARD CREEK RESERVOIR SITE P11

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
21...	1405	1.0	1030	8.2	7.0	7.7	65
21...	1407	10	1030	8.2	7.0	7.7	65
21...	1410	20	1030	8.2	7.0	7.7	65
21...	1412	27	1030	8.2	7.0	7.6	64
AUG							
04...	1915	1.0	1090	7.9	28.0	7.4	97
04...	1917	10	1090	7.7	27.5	6.5	86
04...	1919	20	1090	7.6	27.5	5.9	78
04...	1921	28	1090	7.6	27.0	6.1	79

324301099001701 HUBBARD CREEK RESERVOIR SITE P12

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)
JAN									
21...	1418	1.0	847	8.2	6.5	.52	7.7	64	220
21...	1422	5.0	847	8.2	6.5	--	7.7	64	--
21...	1426	10	850	8.2	6.5	--	7.7	64	--
21...	1432	14	850	8.2	6.5	--	7.7	64	210
AUG									
04...	1930	1.0	1120	8.0	29.5	.30	8.5	115	260
04...	1932	5.0	1120	8.0	29.5	--	8.4	114	--
04...	1934	10	1110	7.5	27.5	--	5.6	74	--
04...	1935	14	1110	7.5	27.5	--	5.3	70	260

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
21...	120	63	14	77	2.3	5.9	98	38	180
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	110	61	14	80	2.4	5.9	98	38	190
AUG									
04...	150	74	19	120	3.4	8.6	110	46	260
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	150	72	19	110	3.2	8.4	110	46	260

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN								
21...	3.1	431	.07	.81	.88	.040	<10	<1
21...	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--
21...	3.3	451	.08	.73	.81	.040	20	5
AUG								
04...	4.5	598	.00	1.10	1.1	.030	16	4
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	4.2	586	.00	1.40	1.4	.060	16	52

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324949098594301 HUBBARD CREEK RESERVOIR SITE P13

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
21...	1100	1.0	1060	8.2	7.0	7.8	66
21...	1102	10	1060	8.2	7.0	7.8	66
21...	1104	20	1060	8.2	7.0	7.9	67
21...	1106	30	1060	8.2	7.5	7.7	66
21...	1108	40	1060	8.2	7.5	7.6	66
21...	1110	50	1060	8.2	7.5	7.4	64
21...	1112	60	1060	8.1	7.0	7.6	64
AUG							
04...	1500	1.0	1090	8.0	30.0	7.5	103
04...	1502	10	1090	8.0	29.5	7.5	101
04...	1504	20	1090	7.8	29.0	6.5	87
04...	1506	30	1090	7.8	29.0	6.4	85
04...	1508	40	1090	7.5	28.0	4.3	57
04...	1510	50	1100	6.9	26.5	.2	3
04...	1512	57	1110	6.9	26.0	.2	3

324802099021601 HUBBARD CREEK RESERVOIR SITE P15

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
21...	1135	1.0	1090	8.2	6.5	8.1	68
21...	1137	10	1090	8.2	6.5	7.9	66
21...	1140	20	1090	8.2	6.5	7.9	66
21...	1142	30	1090	8.2	6.5	7.8	65
21...	1145	35	1090	8.2	6.5	7.8	65
AUG							
04...	1530	1.0	1100	7.9	29.0	7.5	100
04...	1532	10	1100	7.8	28.0	6.9	91
04...	1534	20	1110	7.7	28.0	6.4	84
04...	1536	30	1110	7.7	28.0	6.4	84
04...	1538	35	1110	7.7	28.5	6.2	82

324653099032401 HUBBARD CREEK RESERVOIR SITE P16

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CaCO3)
JAN									
21...	1155	1.0	1150	8.2	6.5	.61	8.1	68	260
21...	1200	10	1140	8.2	6.5	--	7.9	66	--
21...	1205	24	1140	8.2	6.5	--	7.8	65	260
AUG									
04...	1550	1.0	1090	7.9	29.0	.30	7.2	96	250
04...	1552	10	1090	7.7	28.0	--	6.2	82	--
04...	1554	20	1100	7.7	27.5	--	6.2	82	--
04...	1555	25	1100	7.7	27.5	--	6.0	79	250

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324653099032401 HUBBARD CREEK RESERVOIR SITE P16--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS, NONCAR- BONATE (MG/L CA CO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LILITY FIELD (MG/L AS CA CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
21...	160	73	20	120	3.2	7.2	100	49	270
21...	--	--	--	--	--	--	--	--	--
21...	160	73	20	110	2.9	7.4	100	49	270
AUG									
04...	150	69	19	110	3.2	8.2	98	47	260
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	150	67	19	110	3.3	10	98	47	260

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN								
21...	3.2	603	.05	.68	.73	.030	50	8
21...	--	--	--	--	--	--	--	--
21...	3.1	593	.04	.84	.88	.030	30	6
AUG								
04...	3.3	575	.00	1.20	1.2	.030	12	5
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
04...	3.6	576	.00	.92	.92	.060	18	40

324608099042101 HUBBARD CREEK RESERVOIR SITE P17

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
21...	1220	1.0	1330	8.3	7.0	7.4	63
21...	1222	10	1330	8.3	7.5	7.4	64
21...	1224	21	2140	7.8	8.5	6.4	57
AUG							
04...	1425	1.0	1150	7.8	29.5	6.6	89
04...	1427	10	1130	7.4	27.0	5.0	65
04...	1430	20	1120	7.4	27.5	5.2	68

324541099053601 HUBBARD CREEK RESERVOIR SITE P18

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CA CO3)
JAN									
21...	1250	1.0	1610	8.3	7.5	.76	7.7	66	370
21...	1251	1.2	--	--	--	--	--	--	--
21...	1255	10	1620	8.3	7.5	--	7.6	65	--
21...	1300	15	2900	7.9	8.0	--	6.7	59	670
AUG									
04...	1644	.6	--	--	--	--	--	--	--
04...	1645	1.0	1180	7.5	30.5	.40	6.8	94	270
04...	1647	10	1130	6.7	27.5	--	.2	3	--
04...	1650	14	1130	6.8	28.0	--	.4	5	260

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324541099053601 HUBBARD CREEK RESERVOIR SITE P18--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN									
21...	250	100	28	170	3.9	5.9	120	67	400
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	530	180	53	330	5.6	4.7	140	130	800
AUG									
04...	--	--	--	--	--	--	--	--	--
04...	150	76	20	120	3.4	7.9	120	45	280
04...	--	--	--	--	--	--	--	--	--
04...	140	73	20	110	3.1	7.4	120	40	270

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN								
21...	3.3	846	.16	.62	.78	.040	<10	5
21...	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--
21...	3.9	1590	.56	.74	1.3	.050	20	40
AUG								
04...	--	--	--	--	--	--	--	--
04...	5.6	627	.00	1.20	1.2	.030	12	200
04...	--	--	--	--	--	--	--	--
04...	5.2	599	.00	1.50	1.5	.060	750	770

324932098575101 HUBBARD CREEK RESERVOIR SITE P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
JAN							
21...	1030	1.0	0	200	<1	0	<10
21...	1042	30	--	--	--	--	--
21...	1055	63	0	200	<1	0	<10
AUG							
04...	1420	1.0	1	250	<1	0	21
04...	1428	40	--	--	--	--	--
04...	1430	50	--	--	--	--	--
04...	1433	64	7	250	<1	0	27

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN							
04...	340	--	1100	--	--	--	--
04...	1300	<10	1400	.0	0	0	<3

BRAZOS RIVER BASIN

241

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324932098575101 HUBBARD CREEK RESERVOIR SITE P1

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE	JAN 21,81	AUG 4,81
TIME	1031	1421
TOTAL CELLS/ML	540	82000
DIVERSITY: DIVISION	1.9	0.3
..CLASS	1.9	0.3
..ORDER	2.2	0.5
...FAMILY	2.6	2.0
....GENUS	2.6	2.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)				
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS	26	5	1100	1
....TETRAEDRON	--	-	*	0
...SCENEDESMACEAE				
....CRUCIGENIA	51	10	650	1
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS	130#	24	--	-
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE				
..CENTRALES				
...COSCINODISCACEAE				
....CYCLOTELLA	64	12	*	0
..PENNALES				
...FRAGILARIACEAE				
...FRAGILARIA	--	-	810	1
CRYPTOPHYTA (CRYPTOMONADS)				
..CRYPTOPHYCEAE				
...CRYPTOMONADALES				
...CRYPTOCHRYSIDACEAE				
....CHROOMONAS	64	12	--	-
...CRYPTOMONADACEAE				
...CRYPTOMONAS	39	7	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)				
..CYANOPHYCEAE				
...CHROOCOCCALES				
...CHROOCOCCACEAE				
....ANACYSTIS	170#	31	3200	4
..HORMOGONALES				
...NOSTOCACEAE				
....APHANIZOMENON	--	-	24000#	29
...OSCILLATORIACEAE				
....LYNGBYA	--	-	32000#	39
...OSCILLATORIA	--	-	2100	3
...RIVULARIACEAE				
...RAPHIDIOPSIS	--	-	18000#	22

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

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

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324541099053601 HUBBARD CREEK RESERVOIR SITE P18

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE	JAN 21, 81	AUG 4, 81
TIME	1251	1644
TOTAL CELLS/ML	1900	130000
DIVERSITY: DIVISION	1.9	0.4
..CLASS	1.9	0.4
...ORDER	2.1	1.2
...FAMILY	2.3	1.8
....GENUS	2.3	2.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)				
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS	180	9	650	1
....SELENASTRUM	13	1	--	-
....TETRAEDRON	--	-	*	0
...SCENEDESMACEAE				
....CRUCIGENIA	--	-	2200	2
....SCENEDESMUS	90	5	870	1
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS	39	2	*	0
..ZYGNEMATALES				
...DESMIDIACEAE				
....COSMARIUM	--	-	650	1
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE				
...CENTRALES				
...COSCINODISCACEAE				
....CYCLOTELLA	39	2	--	-
...PENNALES				
...FRAGILARIACEAE				
....SYNEDRA	430#	22	--	-
...NITZSCHIA				
....NITZSCHIA	--	-	650	1
CRYPTOPHYTA (CRYPTOMONADS)				
..CRYPTOPHYCEAE				
...CRYPTOMONADALES				
...CRYPTOCHRYSIDACEAE				
....CHROOMONAS	13	1	--	-
...CRYPTOMONADACEAE				
....CRYPTOMONAS	120	6	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)				
..CYANOPHYCEAE				
...CHROOCOCCALES				
...CHROOCOCCACEAE				
....AGMENELLUM	--	-	11000	9
....ANACYSTIS	930#	48	18000	14
...HORMOGONALES				
...OSCILLATORIA				
....LYNGBYA	--	-	65000#	52
...RIVULARIACEAE				
....RAPHIDIOPSIS	--	-	24000#	19
EUGLENOPHYTA (EUGLENOIDS)				
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA	39	2	--	-
....TRACHELOMONAS	26	1	1300	1
PYRRHOPHYTA (FIRE ALGAE)				
..DINOPHYCEAE				
...PERIDINIALES				
...GLENODINIACEAE				
....GLENODINIUM	13	1	*	0

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

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

08086500 HUBBARD CREEK NEAR BRECKENRIDGE, TX

LOCATION.--Lat 32°50'13", long 98°56'52", Stephens County, Hydrologic Unit 12060105, on downstream side of pier of bridge on U.S. Highway 183, 1.4 mi (2.3 km) downstream from Hubbard Creek Reservoir, 6.8 mi (10.9 km) northwest of Breckenridge, 8.2 mi (13.2 km) upstream from Gonzales Creek, and 11.2 mi (18.0 km) upstream from Clear Fork Brazos River.

DRAINAGE AREA.--1,089 mi² (2,821 km²), of which 1,085 mi² (2,810 km²) is above Hubbard Creek Dam.

PERIOD OF RECORD.--April 1955 to current year.

Water-quality records: Chemical analyses: April 1955 to September 1975. Water temperatures: April 1955 to September 1975.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,092.12 ft (332.878 m) National Geodetic Vertical Datum of 1929. Prior to July 16, 1959, at site 300 ft (91 m) upstream at same datum.

REMARKS.--Records good. Flow is regulated by Hubbard Creek Reservoir (station 08086400). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years (water years 1956-62) prior to completion of Hubbard Creek Dam, 170 ft³/s (4,814 m³/s), 123,200 acre-ft/yr (152 hm³/yr); 19 years (water years 1963-81) regulated, 31.7 ft³/s (0.898 m³/s), 22,970 acre-ft/yr (28.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,500 ft³/s (977 m³/s) May 26, 1957, gage height, 34.00 ft (10.363 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1925, 34.2 ft (10.42 m) July 20, 1953, from information by local resident and State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,180 ft³/s (33.4 m³/s) June 4 at 0030 hours, gage height, 12.60 ft (3.840 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	.09	.10	.12	.05	.13	.08	.08	.05	.02	.00	.00
2	.88	.08	.11	.11	.05	.08	.07	.06	.02	.00	.00	109
3	.62	.06	.09	.11	.05	1.1	.07	.06	165	4.0	.00	8.9
4	.58	.05	.09	.10	.06	1.7	.08	.07	230	7.2	.00	3.0
5	.46	.04	.11	.10	.07	.86	.07	.08	21	3.7	.00	2.5
6	.30	.04	.12	.10	.07	.51	.05	.10	17	.62	.00	2.0
7	.16	.04	.12	.10	.06	.39	.05	.09	3.5	.31	.00	1.9
8	.08	.05	18	.11	.07	.30	.05	.13	2.0	.21	.00	1.6
9	.05	.06	3.9	.18	.08	.22	.07	.13	1.4	.15	.00	1.2
10	.03	.05	1.6	.13	.11	.19	.06	.10	.97	.11	.00	.70
11	.02	.04	1.0	.09	.09	.14	.06	.08	.58	.08	.00	.49
12	.02	.03	.67	.07	.06	.12	.06	.07	.35	.06	.00	.41
13	.01	.03	.41	.07	.06	.10	.06	.09	.23	.04	.00	.35
14	.02	.03	.26	.06	.07	.09	.07	.10	.16	.02	.00	.39
15	.05	.05	.20	.07	.07	.07	.07	.16	.24	.00	.00	.46
16	.09	.27	.16	.07	.07	.05	.06	.18	1.4	.00	.00	.44
17	13	.35	.13	.06	.07	.05	.05	.17	.41	.00	.00	.34
18	2.2	.19	.10	.06	.06	.03	.07	.12	.28	.00	.00	.30
19	.88	.11	.10	.06	.07	.03	.06	.08	.21	.00	.00	.25
20	.52	.09	.08	.06	.05	.04	.06	.05	.16	.00	.00	.21
21	.27	.09	.08	.06	.04	.03	1.6	.05	.13	.00	.00	.19
22	.16	.11	.09	.06	.04	.04	4.6	.05	.12	.00	.00	.18
23	.10	.14	.11	.06	.04	.07	3.7	.12	.12	.00	.00	.16
24	.07	.12	.13	.06	.04	.07	1.2	.50	.10	.00	.00	.15
25	.06	.12	.11	.06	.04	.07	.57	.19	.09	.00	.00	.13
26	.07	.11	.12	.06	.02	.07	.30	.11	.08	.00	.00	.10
27	.08	.10	.13	.06	.03	.10	.19	.08	.06	.00	.00	.09
28	.08	.10	.12	.06	.10	.11	.14	.04	.05	.00	.00	.09
29	.09	.10	.13	.05	---	.14	.12	.02	.04	.00	.00	.07
30	.09	.09	.12	.05	---	.13	.11	.09	.03	.00	.00	.05
31	.09	---	.12	.05	---	.10	---	.09	---	.00	.00	---
TOTAL	23.03	2.83	28.61	2.46	1.69	7.13	13.80	3.34	445.78	16.52	.00	135.65
MEAN	.74	.094	.92	.079	.060	.23	.46	.11	14.9	.53	.000	4.52
MAX	13	.35	.18	.18	.11	1.7	4.6	.50	230	7.2	.00	109
MIN	.01	.03	.08	.05	.02	.03	.05	.02	.02	.00	.00	.00
AC-FT	46	5.6	57	4.9	3.4	14	27	6.6	884	33	.00	269

CAL YR 1980 TOTAL 421.99 MEAN 1.15 MAX 88 MIN .00 AC-FT 837
WTR YR 1981 TOTAL 680.84 MEAN 1.87 MAX 230 MIN .00 AC-FT 1350

BRAZOS RIVER BASIN

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX

LOCATION.--Lat 32°57'36", long 98°45'59", Young County, Hydrologic Unit 12060104, on right bank 5 ft (2 m) upstream from old mill dam 180 ft (55 m) upstream from bridge on Farm Road 1974, 400 ft (122 m) northwest of U.S. Post Office at Eliasville, and 13.2 mi (21.2 km) upstream from mouth.

DRAINAGE AREA.--5,697 mi² (14,755 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1915 to April 1920, December 1923 to August 1925, July 1928 to September 1951, October 1961 to current year. Monthly discharge only for some periods published in WSP 1312 as "near Crystal Falls".

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,027.77 ft (313.264 m) National Geodetic Vertical Datum of 1929. See WSP 1922 for history of changes prior to Dec. 18, 1961.

REMARKS.--Water-discharge records good. Many small diversions above station for municipal supply and oilfield operations.

AVERAGE DISCHARGE.--27 years (water years 1917-19, 1929-51, 1962) prior to completion of Hubbard Creek Dam, 430 ft³/s (12.18 m³/s), 311,500 acre-ft/yr (384 hm³/yr); 19 years (water years 1963-81) regulated, 259 ft³/s (7.335 m³/s), 187,600 acre-ft/yr (231 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,000 ft³/s (1,930 m³/s) Aug. 5, 1978, gage height, 37.04 ft (11.290 m), present site and datum, from rating curve extended above 40,000 ft³/s (1,130 m³/s); no flow at times.

Maximum stage since 1877, that of Aug. 5, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1, 1957, reached a stage of 35 ft (10.7 m), present site and datum; flood in September 1900 reached about same stage, from information by State Department of Highways and Public Transportation and local residents. Other floods are reported to have occurred in 1876, Apr. 27, 1890, 1932, 1941, and 1955.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 3	0930	*18,200 515	25.80 7.864
June 4	0900	10,100 286	20.15 6.142

Minimum discharge, 13 ft³/s (0.37 m³/s) Sept 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14400	180	124	133	95	91	70	424	98	70	22	32
2	16900	166	115	133	97	88	68	381	93	71	22	1470
3	17900	161	113	132	96	201	66	334	1330	71	22	309
4	14300	153	106	129	97	601	58	305	7610	130	22	45
5	4830	149	98	126	98	397	58	268	1430	130	22	50
6	2200	142	105	124	97	749	54	243	6060	89	22	122
7	1830	119	114	121	96	451	51	226	5670	571	22	84
8	1480	117	563	120	94	294	51	294	4400	916	22	66
9	1220	114	1430	126	98	249	51	452	1800	307	22	89
10	896	111	3020	124	96	229	55	802	875	243	23	66
11	742	107	1800	125	96	195	61	543	536	233	23	38
12	638	103	1180	126	94	167	55	519	316	159	26	30
13	555	98	841	132	94	148	50	504	288	119	24	32
14	496	89	550	130	96	135	49	317	229	95	23	57
15	429	89	411	128	98	124	49	240	214	77	21	60
16	391	102	324	126	98	113	55	197	1320	57	23	57
17	747	122	286	117	95	104	53	185	322	58	28	35
18	690	146	266	113	79	106	55	170	183	57	1500	27
19	404	170	233	110	75	101	117	159	225	45	487	24
20	366	168	218	108	72	97	142	152	226	39	301	20
21	321	156	194	110	76	94	601	135	162	41	167	22
22	282	168	181	109	72	81	1490	126	135	36	188	26
23	249	158	185	110	70	82	964	122	120	32	191	30
24	225	138	179	111	68	79	2330	158	114	30	109	27
25	213	135	164	110	66	81	3820	114	101	26	81	28
26	200	135	159	111	68	78	4480	108	96	26	63	24
27	197	128	156	108	64	81	3930	100	94	24	56	18
28	281	127	151	105	70	80	1550	98	91	24	49	15
29	350	126	150	101	---	78	636	90	84	24	41	14
30	281	126	145	96	---	77	474	107	78	22	32	15
31	198	---	141	96	---	75	---	104	---	22	30	---
TOTAL	84211	4003	13702	3650	2415	5526	21543	7977	34300	3844	3684	2932
MEAN	2716	133	442	118	86.3	178	718	257	1143	124	119	97.7
MAX	17900	180	3020	133	98	749	4480	802	7610	916	1500	1470
MIN	197	89	98	96	64	75	49	90	78	22	21	14
AC-FT	167000	7940	27180	7240	4790	10960	42730	15820	68030	7620	7310	5820
CAL YR 1980	TOTAL	143325.92	MEAN	392	MAX	17900	MIN	.03	AC-FT	284300		
WTR YR 1981	TOTAL	187787.00	MEAN	514	MAX	17900	MIN	14	AC-FT	372500		

BRAZOS RIVER BASIN

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1961 to current year. Pesticide analyses: January 1968 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1961 to current year.

WATER TEMPERATURES: October 1961 to current year.

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

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 7,400 micromhos Jan. 9, 1971; minimum daily, 227 micromhos Aug. 5, 1978.

WATER TEMPERATURES: Maximum daily, 38.0°C Aug. 6, 1964; minimum daily, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,750 micromhos Feb. 23; minimum daily, 264 micromhos Oct. 1.

WATER TEMPERATURES: Maximum daily, 31.0°C July 22, 23; minimum daily, 3.5°C Feb. 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 15...	1145	410	1570	20.0	440	290	110	41	150
DEC 01...	1530	123	3820	10.0	1200	980	290	110	430
JAN 12...	1210	124	2760	8.5	840	650	200	83	290
FEB 09...	1245	96	--	9.0	--	--	--	--	--
23...	1555	69	4730	15.0	1600	1300	350	170	530
APR 30...	0657	543	769	24.0	250	150	68	19	56
JUN 04...	1205	9590	396	20.0	130	49	40	7.0	30
JUL 01...	0655	81	1420	30.0	420	290	110	36	130
AUG 03...	1615	24	--	30.5	--	--	--	--	--
10...	1200	23	2600	29.0	790	640	190	77	280
SEP 21...	1210	22	2480	23.5	690	570	150	77	260

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 15...	3.1	7.7	150	300	240	.2	7.9	947
DEC 01...	5.5	7.1	200	960	700	.3	3.6	2620
JAN 12...	4.4	6.9	190	550	530	.3	6.2	1780
FEB 09...	--	--	--	--	--	--	--	--
23...	5.8	8.1	260	1100	1000	.4	8.2	3320
APR 30...	1.5	7.6	98	150	94	.2	9.6	463
JUN 04...	1.2	5.2	80	43	54	.1	5.4	233
JUL 01...	3.0	9.3	130	260	230	.3	9.9	864
AUG 03...	--	--	--	--	--	--	--	--
10...	4.3	9.3	150	580	440	.1	10	1680
SEP 21...	4.3	7.7	120	530	430	.3	6.1	1530

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL (UG/L)
FEB 09...	1245	.00	0	.00	.00	.0	.00	.0	.00	.0	.00
AUG 03...	1615	.00	0	.00	.00	.0	.00	.0	.00	.0	.00

DATE	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL (UG/L)
FEB 09...	.2	.00	.0	.02	.00	.0	.00	.00	.0	.00
AUG 03...	.3	.00	.0	.01	.00	.0	.00	.00	.0	.00

DATE	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)
FEB 09...	.00	.0	.00	.0	.00	.0	.00	.00	.0	.00
AUG 03...	.00	.0	.00	.0	.00	.0	.00	.00	.0	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
FEB 09...	.00	.00	.0	.00	.00	.0	.00	.00	.01	.00
AUG 03...	.00	.00	.0	.00	.00	.0	.00	.02	.03	.00

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1980	84211	503	272	61900	95	21700	47	10700	130
NOV.	1980	4003	3560	2260	24400	710	7630	690	7430	950
DEC.	1980	13702	2770	1710	63200	550	20200	480	17700	730
JAN.	1981	3650	3180	1990	19600	630	6190	580	5670	850
FEB.	1981	2415	4490	3010	19600	910	5910	1000	6710	1200
MAR.	1981	5526	4170	2750	41000	840	12500	910	13500	1100
APR.	1981	21543	1640	953	55400	320	18400	220	13000	430
MAY	1981	7977	1760	1020	22000	340	7320	240	5210	460
JUNE	1981	34300	704	376	34800	130	12300	61	5630	180
JULY	1981	3844	2920	1820	18900	580	5990	530	5460	780
AUG.	1981	3684	1280	715	7110	240	2430	150	1450	330
SEPT	1981	2932	1540	890	7050	300	2360	200	1610	400
TOTAL		187787	**	**	375000	**	123000	**	94100	**
WTD. AVG.		514	1250	740	**	240	**	190	**	330

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	3460	3780	2400	4210	4590	3700	813	2040	1400	1870	2970
2	302	3490	3900	2480	4260	4580	3590	863	1990	1420	1890	1250
3	328	3170	3970	2560	4270	4520	3530	917	1750	1440	1900	693
4	335	3270	4010	2670	4280	4450	3470	943	405	1480	1960	513
5	437	3080	4070	2740	4310	3910	3390	924	782	1450	2030	480
6	599	3200	4200	2840	4370	3680	3290	950	654	1570	2120	549
7	698	3320	4380	2980	4420	3880	3130	979	599	2030	2210	877
8	724	3410	4050	3140	4450	4100	3050	1030	872	3320	2340	1160
9	779	3430	3390	3050	4470	4380	2970	1050	847	3080	2460	1560
10	839	3350	3340	2950	4440	4600	2940	1180	786	3350	2560	3250
11	955	3340	3320	2840	4470	4570	2970	1490	742	3690	2700	3640
12	998	3430	2520	2800	4460	4320	3020	2180	760	4170	2820	3490
13	1130	3520	2010	2770	4480	4360	3060	2740	768	4450	2970	3320
14	1270	3570	1580	2820	4460	4330	3090	3650	761	4520	3040	3000
15	1540	3560	1380	2920	4490	4420	3120	3540	782	4560	3110	2820
16	1680	3510	1200	3020	4530	4330	3130	2550	600	4570	3130	2650
17	1650	3760	1260	3140	4610	4270	3140	2490	568	4550	3110	2500
18	1840	4200	1220	3220	4620	4350	3150	2430	556	3800	1250	2550
19	1720	4290	1250	3290	4640	4370	3220	2380	558	3280	1190	2470
20	2300	4050	1360	3370	4650	4380	3470	2130	544	2740	1090	2450
21	2120	3490	1500	3460	4690	4440	3670	2250	729	2400	934	2480
22	1960	3110	1630	3550	4740	4460	2500	2290	930	2210	687	2560
23	2290	3320	1760	3660	4750	4380	2960	2300	1180	2130	443	2820
24	2390	3610	1840	3760	4690	4300	2710	2290	1270	1990	393	2850
25	2500	3760	2270	3810	4710	4070	1500	2200	1340	1980	513	3180
26	2630	3850	2650	3840	4610	4010	1120	2180	1440	1920	1040	3270
27	2620	3810	2700	3910	4640	3930	834	2230	1460	1890	1480	3260
28	2840	3740	2620	3960	4590	3880	769	2460	1400	1920	1860	3250
29	2940	3690	2450	3980	---	3770	766	2630	1350	1870	2260	3220
30	3330	3790	2380	4020	---	3700	769	2410	1330	1910	2570	3240
31	3460	---	2390	4120	---	3720	---	2190	---	1870	2710	---
MEAN	1600	3550	2590	3230	4510	4230	2730	1960	993	2680	1960	2410

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

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

BRAZOS RIVER BASIN

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX

LOCATION.--Lat 33°01'27", long 98°38'37", Young County, Hydrologic Unit 12060201, on left bank 225 ft (69 m) downstream from bridge on State Highway 67, 1.8 mi (2.9 km) downstream from Clear Fork Brazos River, 2.0 mi (3.2 km) northeast of South Bend, and at mile 758.2 (1,219.9 km).

DRAINAGE AREA.--22,673 mi² (58,723 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1938 to current year.

REVISED RECORDS.--WRD TX-74-1: 1973. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,002.98 ft (305.708 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 23, 1939, nonrecording gage at site 255 ft (69 m) upstream. Feb. 23, 1939, to Mar. 9, 1961, water-stage recorder at site 225 ft (69 m) upstream.

REMARKS.--Water-discharge records good. For statement regarding regulation by Soil Conservation Service flood-water-retarding structures, see station 08080950. Gage-height telemeter at station.

AVERAGE DISCHARGE.--43 years, 819 ft³/s (23.19 m³/s), 593,400 acre-ft/yr (732 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,400 ft³/s (2,480 m³/s) May 4, 1941, gage height, 27.35 ft (8.336 m); maximum gage height, 41.50 ft (12.649 m) Aug. 6, 1978, from floodmark; no flow at times. Maximum stage since 1938, that of Aug. 6, 1978.

EXTREME OUTSIDE PERIOD OF RECORD.--Flood in 1876 reached a stage of 36.2 ft (11.03 m), from information by State Department of Highways and Public Transportation and Corps of Engineers. Flood of Sept. 24, 1900, reached a stage of 29.5 ft (8.99 m), and flood of June 16, 1930, reached a stage of 35.5 ft (10.82 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 11,000 ft³/s (312 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 2	0315	*28,200 799	25.79 7.861
June 4	1530	11,000 312	17.35 5.288

Minimum discharge, 28 ft³/s (0.79 m³/s) Aug. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27600	405	266	297	176	269	154	751	170	158	43	105
2	25500	397	255	290	179	854	152	672	293	149	41	665
3	21500	365	250	282	178	623	141	611	1240	146	40	943
4	18700	339	250	278	174	1050	128	553	9510	173	38	152
5	9230	319	237	274	174	1240	122	512	3710	234	36	102
6	3150	303	229	264	177	1020	121	595	6780	163	35	159
7	2530	288	239	259	174	829	120	617	8990	273	34	140
8	2110	276	635	256	174	662	114	595	6350	988	35	138
9	1780	262	1760	264	178	608	110	750	3150	471	33	132
10	1460	252	2580	255	169	637	114	901	1970	272	33	151
11	1210	245	1920	251	164	503	118	780	1480	453	33	95
12	1100	235	1260	251	179	422	116	916	1090	378	35	72
13	953	225	1080	260	165	373	109	999	987	276	36	63
14	823	209	825	251	165	340	97	682	856	218	33	81
15	726	209	708	246	169	311	103	528	860	176	31	230
16	613	209	629	240	174	294	110	471	2140	144	29	360
17	980	262	564	233	171	298	134	404	1130	124	34	218
18	975	315	517	228	166	258	138	355	745	111	887	133
19	630	373	471	224	163	248	271	324	597	100	868	105
20	560	385	448	220	158	240	1720	305	549	94	415	86
21	516	361	420	218	147	220	939	283	436	86	258	73
22	479	346	394	216	136	194	1750	251	361	79	962	65
23	443	335	382	213	131	191	1340	229	325	71	856	61
24	409	319	368	211	129	196	1930	269	294	65	569	61
25	397	303	360	209	124	201	3890	199	256	61	385	57
26	381	291	350	209	122	198	4430	176	232	56	281	52
27	435	284	342	203	117	193	3870	162	215	54	214	45
28	535	276	335	198	128	195	1980	151	201	51	179	40
29	656	273	323	193	---	182	1160	142	185	50	162	37
30	545	276	319	183	---	168	837	149	172	48	147	35
31	409	---	313	191	---	158	---	147	---	45	122	---
TOTAL	127335	8937	19029	7367	4461	13175	26318	14479	55274	5767	6904	4656
MEAN	4108	298	614	238	159	425	877	467	1842	186	223	155
MAX	27600	405	2580	297	179	1240	4430	999	9510	988	962	943
MIN	381	209	229	183	117	158	97	142	170	45	29	35
AC-FT	252600	17730	37740	14610	8850	26130	52200	28720	109600	11440	13690	9240
CAL YR 1980	TOTAL	292850.9	MEAN	800	MAX	27600	MIN	1.8	AC-FT	580900		
WTR YR 1981	TOTAL	293702.0	MEAN	805	MAX	27600	MIN	29	AC-FT	582600		

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1942 to March 1948, October 1968 to September 1969. Chemical and biochemical analyses: November 1977 to current year. Pesticide analyses: March 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to current year.

WATER TEMPERATURES: November 1977 to current year.

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, 14,000 micromhos Dec. 4, 1979; minimum daily, 350 micromhos Aug. 6, 1978.
WATER TEMPERATURES: Maximum daily, 36.0°C July 18, 20-23, Aug. 17, 1981; minimum daily, 0.0°C Jan. 10, 11, 18, 21, Feb. 18, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 10,000 micromhos Mar. 8, 29; minimum daily, 579 micromhos Oct. 3.
WATER TEMPERATURES: Maximum daily, 36.0°C July 18, 20-23, Aug. 17; minimum daily, 4.0°C Dec. 20, 21, Feb. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
07...	0950	2590	1880	8.1	20.0	4.3	7.9	87	4.8	5900	2000
NOV											
03...	1255	365	6740	8.3	17.0	60	11.5	124	3.9	210	140
DEC											
01...	1455	273	9720	8.2	12.5	16	10.5	127	1.3	K10	K3
JAN											
13...	1200	273	6870	8.6	6.0	40	11.9	101	1.6	K9	K4
FEB											
09...	1400	177	8830	8.5	8.0	4.0	9.9	90	.6	K7	K10
MAR											
02...	1345	854	5880	8.2	14.0	720	9.4	95	11	K17000	K16000
APR											
06...	1445	124	8600	8.4	16.5	34	9.3	100	2.6	K16	25
MAY											
04...	1245	570	3350	8.3	24.0	63	7.9	96	1.9	130	26
JUN											
01...	1420	177	7890	8.2	29.0	44	8.0	107	1.9	67	K16
JUL											
13...	1245	269	4900	8.3	31.0	42	7.3	101	2.1	220	K16
AUG											
03...	1400	40	4670	8.2	30.0	3.9	8.9	124	3.3	110	K18
SEP											
14...	1415	74	4710	8.4	28.0	23	8.4	112	2.4	500	800

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT										
07...	370	260	110	23	250	5.7	8.0	110	260	400
NOV										
03...	1300	1100	350	110	1000	12	14	190	1000	1700
DEC										
01...	1400	1300	370	120	1600	19	16	130	1100	2800
JAN										
13...	1200	1000	330	100	1000	12	8.8	190	970	1500
FEB										
09...	1500	1300	370	140	1400	16	9.3	200	1200	2200
MAR										
02...	840	720	220	70	860	13	9.1	120	740	1300
APR										
06...	1400	1200	350	130	1400	16	9.4	170	1100	2300
MAY										
04...	630	510	180	45	460	7.9	9.0	120	440	720
JUN										
01...	1200	1100	320	95	1300	16	11	120	970	2200
JUL										
13...	1200	1100	320	100	700	8.8	12	100	1200	1000
AUG										
03...	870	740	210	83	670	9.9	9.7	130	730	1200
SEP										
14...	800	710	220	61	700	11	14	93	620	1200

BRAZOS RIVER BASIN

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	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, ORGANIC DIS- SOLVED (MG/L AS N)	
DATE											
OCT 07...	.4	7.9	1110	1130	.39	.37	.120	.070	.98	.42	
NOV 03...	.5	6.7	4370	4300	.49	.50	.120	.080	.53	.50	
DEC 01...	.4	5.2	6120	6090	.91	.91	.100	.120	.90	.57	
JAN 13...	.5	4.8	4480	4030	.76	.79	.110	.080	.89	.92	
FEB 09...	.4	2.1	5520	5450	1.1	1.1	.060	.060	1.0	.94	
MAR 02...	.3	3.1	3450	3280	.54	.54	.040	.060	1.7	1.1	
APR 06...	.5	2.0	5540	5390	.01	.02	.080	.090	1.0	.57	
MAY 04...	.4	7.8	2090	1930	.25	.36	.050	.080	1.3	.61	
JUN 01...	.4	7.0	5190	4980	.03	.01	.100	.160	.65	.59	
JUL 13...	.5	5.3	3510	3400	.00	.01	.140	.130	1.1	.62	
AUG 03...	.4	11	3030	3000	.12	.12	.140	.150	1.4	.58	
SEP 14...	.5	6.4	2960	2880	<.10	.00	.110	.110	1.1	.99	
	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
DATE											
OCT 07...	1.1	.49	.170	.090	--	4.0	6.1	968	6770	99	
NOV 03...	.65	.58	.060	.010	6.9	--	--	117	115	99	
DEC 01...	1.0	.69	.100	.060	20	--	--	47	35	99	
JAN 13...	1.0	1.0	.160	.110	--	6.8	1.5	49	36	80	
FEB 09...	1.1	1.0	.390	.320	7.4	--	--	31	15	68	
MAR 02...	1.7	1.2	.600	.090	9.4	--	--	1030	2380	100	
APR 06...	1.1	.66	.140	.020	--	6.2	1.1	70	23	99	
MAY 04...	1.3	.69	.270	.210	6.7	--	--	108	166	98	
JUN 01...	.75	.75	.110	.010	10	--	--	65	31	98	
JUL 13...	1.2	.75	.110	.010	6.4	--	--	83	60	99	
AUG 03...	1.5	.73	.110	.030	--	6.7	1.3	45	4.9	82	
SEP 14...	1.2	1.1	.060	<.010	3.9	--	--	42	8.4	99	
	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL (UG/L AS CR)	
DATE	TIME										
OCT 07...	0950	5	2	3	300	200	100	0	--	<1	20
JAN 13...	1200	2	0	2	100	0	100	0	--	<1	10
APR 06...	1445	2	1	1	100	0	100	0	0	0	20
AUG 03...	1400	7	1	6	100	0	200	1	0	4	20

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

BRAZOS RIVER BASIN

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 3,80 1255	MAR 2,81 1345	MAY 4,81 1245	JUN 1,81 1420
TOTAL CELLS/ML	82000	31000	71000	75000
DIVERSITY: DIVISION	1.6	1.2	0.8	1.4
..CLASS	1.6	1.2	0.8	1.4
...ORDER	1.9	1.3	1.6	2.0
...FAMILY	2.4	2.5	1.7	2.3
...GENUS	2.8	2.7	1.9	3.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	2000	2	--	-	--	-	1900	2
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	2000	2	200	1	620	1	5100	7
...DICTYOSPHAERIUM	3900	5	--	-	--	-	5100	7
....FRANCEIA	--	-	--	-	* 0		930	1
...KIRCHNERIELLA	--	-	200	1	* 0		* 0	
....OOCYSTIS	2900	4	--	-	830	1	930	1
...QUADRIGULA	--	-	--	-	--	-	--	-
...SELENASTRUM	--	-	--	-	* 0		--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
...SCENEDESMUS	6900	8	--	-	1800	2	470	1
...TETRASTRUM	--	-	800	3	1200	2	2800	4
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	--	-
...CHLAMYDOMONAS	--	-	400	1	730	1	1900	2
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...CHAETOCERACEAE								
....CHAETOCEROS	4400	5	--	-	--	-	--	-
...COSCINODISCACEAE								
....CYCLOTELLA	27000#	33	200	1	4200	6	7500	10
...MELOSIRA	2500	3	--	-	420	1	2300	3
...STEPHANODISCUS	980	1	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	1400	5	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	400	1	--	-	--	-
...EUNOTIACEAE								
....EUNOTIA	--	-	200	1	--	-	--	-
...FRAGILARIACEAE								
....SYNEDRA	--	-	1000	3	--	-	--	-
...NAVICULACEAE								
....ENTOMONEIS	--	-	1600	5	--	-	--	-
...GYROSGMA	--	-	400	1	--	-	--	-
...NAVICULA	--	-	6000#	19	* 0		* 0	
...NITZSCHACEAE								
....NITZSCHIA	6900	8	7600#	25	1000	1	1200	2
...SURIRELLACEAE								
....SURIRELLA	--	-	400	1	--	-	--	-
..CHRYSOPHYCEAE								
...CHRYSONOMADALES								
...OCHROMONADACEAE								
....OCHROMONAS	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	980	1	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	1900	3	27000#	36
...ANACYSTIS	22000#	26	--	-	15000#	21	8900	12
...GOMPHOSPHAERIA	--	-	10000#	32	--	-	--	-
..HORMOGONALES								
...NOSTOCACEAE								
....CYLINDROSPERMUM	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	--	-	--	-
...OSCILLATORIA	--	-	--	-	43000#	60	8200	11

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

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

BRAZOS RIVER BASIN

253

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 3,80 1255	MAR 2,81 1345	MAY 4,81 1245	JUN 1,81 1420
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)				
.EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA	--	-	--	-
....PHACUS	--	-	--	-
....TRACHELOMONAS	--	-	--	-
				* 0
PYRRHOPHYTA (FIRE ALGAE)				
.DINOPHYCEAE				
..PERIDINIALES				
...PERIDINIACEAE				
....PERIDINIUM	--	-	--	-

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

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

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	JUL 13,81 1245	AUG 3,81 1400	SEP 14,81 1415			
TOTAL CELLS/ML	370000	89000	46000			
DIVERSITY: DIVISION	0.4	0.5	0.4			
..CLASS	0.4	0.5	0.4			
...ORDER	1.1	0.5	0.5			
...FAMILY	1.2	0.5	1.5			
....GENUS	1.9	0.5	1.9			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	3700	1	--	-	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	*	0	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	2100	1	--	-	*	0
....DICTYOSPHAERIUM	--	-	*	0	--	-
....FRANCEIA	*	0	--	-	--	-
....KIRCHNERIELLA	*	0	--	-	--	-
....OOCYSTIS	4000	1	--	-	240	1
....QUADRIGULA	*	0	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	*	0	--	-	--	-
....SCENEDESMUS	5500	1	*	0	600	1
....TETRASTRUM	*	0	--	-	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	*	0	--	-	--	-
....CHLAMYDOMONAS	*	0	*	0	*	0

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

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

BRAZOS RIVER BASIN

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	JUL 13, 81 1245		AUG 3, 81 1400		SEP 14, 81 1415	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHRYSTOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...CHAETOCERACEAE						
....CHAETOCEROS	--	-	--	-	--	-
...COSCINODISCACEAE						
....CYCLOTELLA	*	0	--	-	600	1
....MELOSIRA	--	-	--	-	--	-
...STEPHANODISCUS	--	-	--	-	--	-
.PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	--	-	--	-
...EUNOTIACEAE						
....EUNOTIA	--	-	--	-	--	-
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	--	-
...NAVICULACEAE						
....ENTOMONEIS	--	-	--	-	--	-
....GYROSIGMA	--	-	--	-	--	-
...NAVICULA	*	0	--	-	--	-
...NITZSCHACEAE						
....NITZSCHIA	*	0	--	-	--	-
...SURIPELLACEAE						
....SURIPELLA	*	0	--	-	--	-
.CHRYSTOPHYCEAE						
..CHRYTOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	*	0	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	84000#	23	--	-	--	-
....ANACYSTIS	190000#	52	--	-	540	1
....GOMPHOSPHAERIA	--	-	--	-	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....CYLINDROSPERMUM	--	-	--	-	20000#	44
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	7500#	16
....OSCILLATORIA	72000#	19	82000#	93	15000#	33
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	650	1	*	0
....PHACUS	*	0	--	-	--	-
...TRACHELOMONAS	*	0	3200	4	660	1
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...PERIDINIACEAE						
....PERIDINIUM	--	-	1800	2	--	-

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

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

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	127335	1280	761	262000	280	97000	190	63900	260
NOV.	1980	8937	5860	3580	86400	1500	35600	740	18000	1000
DEC.	1980	19029	5240	3200	164000	1300	67200	670	34500	920
JAN.	1981	7367	7190	4430	88000	1900	37400	870	17300	1200
FEB.	1981	4461	8470	5260	63300	2300	27800	970	11700	1300
MAR.	1981	13175	6240	3850	137000	1600	58400	750	26800	1000
APR.	1981	26318	3490	2120	150000	850	60100	460	33000	640
MAY	1981	14479	4090	2480	96800	980	38300	550	21500	760
JUNE	1981	55274	2040	1220	182000	460	68100	290	43800	410
JULY	1981	5767	4760	2890	45000	1200	18100	630	9740	860
AUG.	1981	6904	3570	2160	40300	850	15900	480	9020	670
SEPT	1981	4656	3410	2060	25800	800	10100	470	5870	650
TOTAL		293702	**	**	1341000	**	534000	**	295000	**
WTD. AVG.		805	2790	1690	**	670	**	370	**	510

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	4080	9870	6710	8350	9370	8790	2780	7910	5770	4900	4090
2	775	5220	9750	6530	8210	5880	8500	2890	6900	5530	4780	2310
3	579	6820	8840	6660	8330	2740	8630	3060	4060	5000	4720	3100
4	652	6640	8510	6670	8430	2990	8500	3400	1230	4080	4700	3860
5	1190	5420	8440	6800	8440	2750	8670	3810	1940	3270	4650	4310
6	1590	5080	8350	6980	8610	3970	8530	5610	2650	4300	4610	2100
7	1960	5150	8020	7010	8810	5920	8640	6400	1440	2740	4940	2530
8	2220	5240	5930	7070	8650	10000	8610	5100	1380	3260	4520	3530
9	2490	5330	4520	6980	8510	7240	8700	2350	1780	4330	4480	2670
10	2790	5450	3180	7070	8300	4800	8290	1980	2020	4250	4440	1880
11	3060	5580	4430	7140	7940	4930	8110	2530	2250	6540	4460	3150
12	3290	5770	4250	7030	8410	5430	7980	4680	3160	7150	4430	3780
13	3560	5920	4030	6840	8230	5610	8080	4050	2980	4900	4300	4060
14	3730	6130	4300	6880	8170	6510	8400	4060	2790	4530	4290	4600
15	3970	6240	4410	6870	7980	7430	8210	4280	2930	4680	4360	6620
16	4150	6350	6050	6910	8360	8070	7910	4020	1240	4990	4440	2140
17	3110	5910	7820	6960	8450	8550	9420	3910	1960	5570	4300	2360
18	3440	5730	5990	7080	8470	9160	9360	4560	2390	5920	3050	2940
19	3790	6140	4990	7180	8440	9530	8400	4670	2700	6000	1430	3360
20	4140	5890	5130	7400	8390	9690	1750	4850	3010	5970	1350	5080
21	4670	5470	5240	7340	8590	9400	2700	5050	3610	5740	1330	8360
22	4730	5590	5380	7410	8650	9230	3500	5180	3870	5890	6510	6390
23	4940	5320	5470	7510	8710	9300	6330	5150	3930	5690	4540	4900
24	5120	5350	5690	7640	8670	9490	3620	4410	4100	5560	3580	5200
25	5200	5750	5890	7630	8810	9650	5040	5170	4600	5400	3140	5190
26	5270	6180	6190	7830	8840	9920	1730	6110	4820	5320	3170	4930
27	4590	6600	6430	8010	8880	9770	1700	6610	4910	5190	3060	4870
28	5680	7130	6640	7990	9180	9870	2400	6830	4810	5080	3180	4850
29	3710	7390	6730	8160	---	10000	2460	6400	4990	4970	3460	4840
30	5270	8200	6690	8110	---	9640	2650	6550	5450	4910	3730	4760
31	5200	---	6740	8140	---	9020	---	6960	---	4960	3860	---
MEAN	3420	5900	6250	7240	8490	7610	6520	4630	3390	5080	3960	4090

BRAZOS RIVER BASIN

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	20.0	18.0	13.0	10.0	16.0	26.0	29.0	31.0	34.0	35.0	29.0
2	25.0	22.0	9.0	13.0	9.0	17.0	23.5	---	---	33.0	34.0	28.0
3	25.0	20.0	12.0	13.0	11.0	16.0	25.0	25.0	---	29.0	33.0	30.5
4	26.0	20.0	16.0	10.0	8.0	18.0	21.5	27.0	---	30.0	34.0	30.0
5	26.0	20.0	18.0	9.0	8.0	15.0	22.0	24.5	---	33.0	35.0	32.0
6	26.0	20.0	20.0	11.0	9.0	15.0	20.0	26.0	30.5	32.0	35.5	31.0
7	27.0	21.0	19.0	11.0	11.0	16.0	24.5	27.0	29.0	29.5	31.5	28.0
8	26.0	---	10.0	11.0	14.0	13.0	27.5	23.5	31.0	31.0	32.0	28.0
9	26.0	22.0	11.0	12.0	11.0	14.0	28.0	24.0	32.0	32.5	---	29.0
10	26.0	---	11.0	10.0	---	17.0	25.0	24.0	32.0	34.5	33.0	30.0
11	25.0	21.0	14.0	11.0	4.0	15.0	27.5	25.5	28.5	34.0	29.0	31.5
12	25.0	21.0	14.0	10.0	8.0	16.0	30.0	29.0	29.0	34.0	31.0	30.0
13	25.0	21.0	14.0	13.0	11.0	20.0	29.0	28.5	30.0	33.0	32.5	32.0
14	25.0	15.0	15.0	12.0	14.0	21.0	21.5	25.5	28.0	34.0	33.5	29.0
15	25.0	15.0	15.0	12.0	15.0	20.0	19.0	20.0	26.0	35.0	---	29.0
16	---	---	16.0	---	17.0	19.0	24.5	24.5	25.0	34.5	33.0	25.0
17	25.0	9.0	18.0	8.0	17.0	---	25.5	30.0	27.0	35.0	36.0	23.0
18	23.0	11.0	18.0	7.0	19.0	14.0	24.0	29.0	30.5	36.0	28.0	24.5
19	23.0	13.0	7.0	8.0	21.0	17.0	30.0	25.0	31.0	35.5	29.0	27.0
20	21.0	14.0	4.0	12.0	21.0	18.0	26.0	26.0	33.0	36.0	29.5	30.0
21	23.0	12.0	4.0	10.0	19.0	---	22.5	26.0	31.0	36.0	30.0	30.0
22	23.0	11.0	9.0	13.0	---	13.0	---	28.0	31.0	36.0	31.5	30.0
23	22.0	12.0	13.0	15.0	20.0	19.0	24.0	32.0	32.0	36.0	31.0	27.0
24	18.0	12.0	8.0	17.0	21.0	20.0	24.5	27.0	32.5	34.0	32.0	29.0
25	---	---	7.0	13.0	22.0	16.0	26.0	31.0	33.0	34.5	32.0	29.0
26	18.0	9.0	12.0	13.0	22.0	22.0	26.0	31.5	33.0	35.0	29.0	32.0
27	18.0	11.0	15.0	13.0	---	20.0	26.0	32.5	34.0	31.0	31.0	32.0
28	12.0	13.0	15.0	17.0	16.0	23.0	29.0	34.0	32.0	31.5	32.0	---
29	14.0	16.0	11.0	18.0	---	22.0	29.5	30.0	32.5	35.0	33.5	30.5
30	16.0	18.0	13.0	10.0	---	27.0	31.5	29.5	33.0	34.0	32.0	30.0
31	---	---	13.0	10.0	---	24.0	---	31.0	---	35.0	32.0	---
MEAN	23.0	16.0	13.0	12.0	14.5	18.0	25.5	27.5	30.5	33.5	32.0	29.0

BRAZOS RIVER BASIN

257

08088300 BRIAR CREEK NEAR GRAHAM, TX

LOCATION.--Lat 33°12'43", long 98°37'06", Young County, Hydrologic Unit 12060201, near right bank on downstream side of bridge on Farm Road 1769, 3.7 mi (6.0 km) upstream from mouth, and 7.0 mi (11.3 km) northwest of Graham.

DRAINAGE AREA.--24.2 mi² (62.7 km²).

PERIOD OF RECORD.--April 1958 to current year. Prior to October 1965, published as Oak Creek near Graham.

REVISED RECORDS.--WSP 2122: 1962. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,090 ft (332 m), from topographic map.

REMARKS.--Records fair. No diversion above station.

AVERAGE DISCHARGE.--23 years (water years 1959-81), 3.48 ft³/s (0.099 m³/s), 1.95 in/yr (50 mm/yr), 2,520 acre-ft/yr (3.11 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,730 ft³/s (77.3 m³/s) Sept. 19, 1976, gage height, 12.31 ft (3.752 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 15.2 ft (4.63 m) in September 1955. Flood in May 1957 reached a stage of 15.0 ft (4.57 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 174 ft³/s (4.93 m³/s) June 16 at 1145 hours, gage height, 3.76 ft (1.146 m), no peak above base of 200 ft³/s (5.66 m³/s); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	1.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.36	.00	.00	.00	.00	13	.00	.00	9.6	.00	.00	.00
4	.09	.00	.00	.00	.00	17	.00	.00	52	.00	.00	.00
5	.02	.00	.00	.00	.00	3.6	.00	.00	16	.00	.00	.00
6	.00	.00	.00	.00	.00	.93	.00	.00	37	.00	.00	.00
7	.00	.00	.00	.00	.00	.45	.00	.00	21	.00	.00	.00
8	.00	.00	23	.00	.00	.22	.00	22	5.6	.00	.00	.00
9	.00	.00	20	.00	.00	.07	.00	14	2.1	.00	.00	.00
10	.00	.00	4.7	.00	.00	.04	.00	2.4	.70	.00	.00	.00
11	.00	.00	1.5	.00	.00	.01	.00	.83	.23	.00	.00	.00
12	.00	.00	.65	.00	.00	.00	.00	.23	.08	.00	.00	.00
13	.00	.00	.28	.00	.00	.00	.00	.07	.03	.00	.00	.00
14	.00	.00	.09	.00	.00	.00	.00	.02	.00	.00	.00	10
15	.00	.00	.05	.00	.00	.00	.00	2.3	21	.00	.00	1.4
16	.00	.00	.02	.00	.00	.00	.00	1.1	129	.00	.00	.06
17	16	.00	.01	.00	.00	.00	.00	.13	18	.00	3.4	.01
18	4.6	.00	.01	.00	.00	.00	.00	.03	4.6	.00	1.6	.00
19	.88	.00	.00	.00	.00	.00	.02	.00	1.9	.00	.13	.00
20	.15	.00	.00	.00	.00	.00	.00	.00	.79	.00	.01	.00
21	.02	.00	.00	.00	.00	.00	.00	.00	.29	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.03	.00	.10	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.02	19	.04	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	50	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	14	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	3.6	.00	.00	.00	.00
27	12	.00	.00	.00	.00	.00	.00	1.2	.00	.00	.00	.00
28	3.8	.00	.00	.00	.00	.00	.00	.29	.00	.00	.00	.00
29	.82	.00	.00	.00	---	.00	.00	.12	.00	.00	.00	.00
30	.22	.00	.00	.00	---	.00	.00	.05	.00	.00	.00	.00
31	.06	---	.00	.00	---	.00	---	.02	---	.00	.00	---
TOTAL	44.42	.02	50.31	.00	.00	35.32	.07	131.39	320.06	.00	5.14	11.47
MEAN	1.43	.001	1.62	.000	.000	1.14	.002	4.24	10.7	.000	.17	.38
MAX	16	.02	23	.00	.00	17	.03	50	129	.00	3.4	10
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.06	.000	.07	.000	.000	.05	.000	.18	.44	.000	.007	.02
IN.	.07	.00	.08	.00	.00	.05	.00	.20	.49	.00	.01	.02
AC-FT	88	.04	100	.00	.00	70	.1	261	635	.00	10	23
CAL YR 1980	TOTAL	1352.41	MEAN 3.70	MAX 362	MIN .00	CFSM .15	IN 2.08	AC-FT 2680				
WTR YR 1981	TOTAL	598.20	MEAN 1.64	MAX 129	MIN .00	CFSM .07	IN .92	AC-FT 1190				

08088400 LAKE GRAHAM NEAR GRAHAM, TX

LOCATION.--Lat 33°08'04", long 98°36'48", Young County, Hydrologic Unit 12060201, near left end of earthen dam on Salt Creek, 2.2 mi (3.5 km) northwest of Graham, 5 mi (8 km) downstream from Briar Creek, and 9.5 mi (15.3 km) upstream from mouth.

DRAINAGE AREA.--221 mi² (572 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1958 to September 1963 (unpublished record), October 1963 to current year. Prior to October 1965, monthend contents only.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.30 ft (0.396 m) Salt Creek datum. Prior to October 1963, non-recording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,000 ft (1,500 m) long. Lake Graham was connected with Lake Eddleman in 1959 by a cut channel at a gage height of 1,050.0 ft (320.04 m). Deliberate impoundment began Apr. 28, 1958, and the dam was completed in July 1958. The uncontrolled emergency spillway is a 1,050-foot-wide (320 m) cut at the right end of dam. The spillway is designed to discharge 136,500 ft³/s (3,870 m³/s) at a gage height of 1,087.5 ft (331.47 m). The dam is the property of the city of Graham and was built to impound water for municipal and industrial uses. In addition, water is used by the Texas Electric Service Co. for operation of their steam generating powerplant. The capacity table is based on an original survey of Lake Eddleman in 1928 and a Salt Creek survey of 1953. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	1,092.0	-
Crest of spillway.....	1,075.0	53,680
Bottom of interconnecting channel.....	1,050.0	8,670
Lowest gated outlet (invert).....	1,050.0	8,670

COOPERATION.--Capacity table was furnished by Freese, Nichols, and Endress, Consulting Engineers. Record of diversions furnished by the city of Graham and the Texas Electric Service Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 61,120 acre-ft (75.4 hm³) Apr. 30, 1970, gage height, 1,077.77 ft (328.504 m); minimum, 28,760 acre-ft (35.5 hm³) Sept. 30, 1979, gage height, 1,064.09 ft (324.335 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 56,370 acre-ft (69.5 hm³) June 4 at 2200 hours, gage height, 1,076.03 ft (327.974 m); minimum, 46,150 acre-ft (56.9 hm³) Sept. 30, gage height, 1,071.97 ft (326.736 m).

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

1,070.0	41,480	1,076.0	56,290
1,072.0	46,220	1,078.0	61,780
1,074.0	51,140		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55040	53600	53070	53500	52840	52510	52590	53810	53810	53450	49730	47320
2	54700	53580	52940	53480	52770	52510	52560	53710	53710	53380	49600	47320
3	54490	53550	52970	53430	52790	52970	52540	53680	54720	53320	49430	47270
4	54360	53500	52970	53400	52740	53300	52460	53650	56370	53320	49300	47240
5	54200	53480	52990	53350	52740	53300	52380	53600	55920	53300	49180	47200
6	54120	53450	52990	53380	52710	53300	52360	53550	56030	53200	49080	47150
7	54070	53450	53100	53380	52710	53350	52310	53500	55790	53120	48960	47070
8	54020	53430	53730	53350	52660	53320	52310	54100	55250	53070	48830	47000
9	53940	53380	54330	53350	52740	53380	52280	54880	54880	53020	48710	46930
10	53890	53380	54250	53300	52640	53400	52230	54700	54670	52940	48560	46830
11	53810	53350	54200	53250	52540	53400	52210	54520	54460	52870	48440	46780
12	53730	53300	54180	53200	52540	53380	52180	54380	54280	52790	48340	46780
13	53710	53300	54120	53200	52540	53380	52130	54250	54180	52690	48250	46730
14	53650	53150	54070	53200	52560	53320	52050	54120	54070	52610	48120	47120
15	53630	53100	54050	53170	52560	53320	52050	54150	54720	52440	48000	47170
16	53600	53220	53970	53120	52560	53270	52050	54150	55350	52260	47880	47050
17	54020	53300	53970	53100	52560	53300	52050	54120	55220	52030	48660	46950
18	53990	53250	53910	53070	52560	53100	52080	53990	54960	51830	48640	46830
19	53910	53270	53780	53070	52510	53050	52590	53840	54720	51650	48540	46780
20	53860	53270	53680	53070	52540	52990	53730	53780	54570	51520	48420	46710
21	53840	53270	53630	53020	52610	53050	53890	53710	54410	51340	48320	46680
22	53780	53270	53650	53020	52410	52870	54100	53680	54330	51140	48220	46630
23	53710	53300	53710	53050	52360	52820	54250	53970	54250	51020	48120	46560
24	53580	53250	53580	53050	52360	52820	54230	54280	54180	50840	48030	46540
25	53550	53200	53550	53050	52330	52790	54180	54250	54070	50690	47900	46440
26	53500	53150	53580	52990	52330	52790	54100	54180	53990	50520	47810	46390
27	53780	53120	53580	52990	52330	52710	54050	54100	53910	50420	47760	46370
28	53710	53120	53580	52990	52490	52790	53970	54050	53840	50300	47680	46290
29	53630	53100	53530	52940	---	52710	53940	53970	53730	50170	47560	46240
30	53630	53120	53500	52870	---	52710	53910	53910	53530	50000	47440	46150
31	53600	---	53500	52920	---	52610	---	53890	---	49880	47370	---
MAX	55040	53600	54330	53500	52840	53400	54250	54880	56370	53450	49730	47320
MIN	53500	53100	52940	52870	52330	52510	52050	53500	53530	49880	47370	46150
(†)	1074.97	1074.78	1074.93	1074.70	1074.53	1074.58	1074.09	1075.08	1074.94	1073.49	1072.47	1071.97
(‡)	-1850	-480	+380	-580	-430	+120	+1300	-20	-360	-3650	-2510	-1220
(††)	290	257	274	321	361	453	426	418	523	686	570	316

CAL YR 1980 MAX 56000 MIN 23470 ‡ +27230 †† 4933
WTR YR 1981 MAX 56370 MIN 46150 ‡ -9300 †† 4900

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by the city of Graham and for use by Texas Electric Service Co. powerplant.

BRAZOS RIVER BASIN

259

08088400 LAKE GRAHAM NEAR GRAHAM, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JAN 12...	1615	512	8.5	140	52	44	8.0	46
JUN 29...	1700	533	30.5	140	45	42	8.0	46
DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
JAN 12...	1.7	6.6	91	19	98	.3	3.6	280
JUN 29...	1.8	7.3	93	3.0	100	.2	5.2	268

BRAZOS RIVER BASIN

08088450 BIG CEDAR CREEK NEAR IVAN, TX

LOCATION.--Lat 32°49'39", long 98°43'25", Stephens County, Hydrologic Unit 12060201, on left bank at downstream side of bridge on Farm Road 717, 3.2 mi (5.1 km) south of Ivan, 8.2 mi (13.2 km) northwest of Caddo, and 11.6 mi (18.7 km) northeast of Breckenridge.

DRAINAGE AREA.--97.0 mi² (251.2 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,090 ft (33 m), from topographic map.

REMARKS.--Records good. No regulation or diversion above station.

AVERAGE DISCHARGE.--16 years (water years 1966-81), 9.61 ft³/s (0.272 m³/s), 1.35 in/yr (34 mm/yr), 6,960 acre-ft/yr (8.58 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,590 ft³/s (272 m³/s) July 8, 1968, gage height, 22.39 ft (6.824 m), from rating curve extended above 1,000 ft³/s (28.3 m³/s) on basis of slope-area measurement of 7,980 ft³/s (226 m³/s); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 590 ft³/s (16.7 m³/s) Mar. 3 at 2000 hours, gage height, 7.78 ft (2.371 m), no peak above base of 1,000 ft³/s (28.3 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	.00	.00	.01	.01	.02	.01	.01	.00	.00	.09	.17
2	1.6	.00	.00	.01	.01	.02	.01	.01	.00	.00	.09	.19
3	.55	.00	.00	.01	.01	152	.01	.01	9.7	.00	.05	6.1
4	.36	.00	.00	.01	.01	65	.01	.02	22	.00	.04	.72
5	.05	.00	.01	.01	.01	7.7	.01	.02	15	.00	.04	1.4
6	.01	.00	.01	.01	.01	2.8	.01	.02	31	.00	.04	.11
7	.01	.00	.01	.01	.01	1.8	.01	.02	3.3	.00	.04	.02
8	.01	.00	76	.01	.01	1.8	.01	.02	.39	.00	.04	.01
9	.01	.00	18	.02	.01	1.5	.01	.02	.04	.00	.04	.01
10	.01	.00	5.3	.01	.01	.55	.01	.01	.01	.00	.05	.02
11	.01	.00	2.1	.01	.01	.21	.01	.01	.00	.00	.07	.02
12	.00	.00	.73	.01	.00	.09	.01	.01	.00	.00	.07	.02
13	.00	.00	.34	.01	.00	.04	.02	.01	.00	.00	.05	.03
14	.00	.00	.22	.01	.00	.02	.02	.01	.00	.00	.08	.03
15	.00	.00	.08	.01	.01	.01	.02	.01	.01	.00	.09	.03
16	.00	.00	.05	.01	.01	.01	.02	.03	.01	.00	.13	.03
17	18	.02	.03	.01	.01	.01	.02	.02	.01	.00	.16	.03
18	5.7	.01	.02	.01	.01	.01	.02	.01	.01	.00	.19	.03
19	.97	.01	.01	.01	.01	.01	.02	.01	.00	.00	.13	.04
20	.19	.00	.01	.01	.01	.01	.02	.01	.00	.00	.10	.04
21	.04	.00	.01	.01	.01	.01	.04	.00	.00	.00	.07	.05
22	.01	.01	.01	.01	.00	.01	6.5	.00	.00	.00	.09	.04
23	.00	.01	.01	.01	.00	.01	11	.00	.00	.01	.04	.04
24	.00	.01	.01	.01	.00	.01	2.0	.00	.00	.02	.04	.04
25	.00	.01	.01	.01	.00	.02	.40	.00	.00	.03	.04	.04
26	.00	.01	.01	.01	.00	.02	.08	.00	.00	.05	.04	.04
27	.01	.01	.01	.01	.00	.02	.04	.00	.00	.06	.04	.05
28	.01	.00	.01	.01	.03	.02	.02	.00	.00	.09	.09	.06
29	.01	.00	.01	.01	---	.02	.01	.00	.00	.08	.14	.08
30	.00	.00	.01	.01	---	.02	.01	.00	.00	.13	.14	.09
31	.00	---	.01	.01	---	.01	---	.00	---	.10	.15	---
TOTAL	33.16	.10	103.03	.32	.21	233.78	20.38	.29	81.48	.57	2.47	28.39
MEAN	1.07	.003	3.32	.010	.008	7.54	.68	.009	2.72	.018	.080	.95
MAX	18	.02	76	.02	.03	152	11	.03	31	.13	.19	.19
MIN	.00	.00	.00	.01	.00	.01	.01	.00	.00	.00	.04	.01
CFSM	.01	.000	.03	.000	.000	.08	.007	.000	.03	.000	.001	.01
IN.	.01	.00	.04	.00	.00	.09	.01	.00	.03	.00	.00	.01
AC-FT	66	.2	204	.6	.4	464	40	.6	162	1.1	4.9	56
CAL YR 1980	TOTAL	1036.20	MEAN 2.83	MAX 342	MIN .00	CFSM .03	IN .40	AC-FT 2060				
WTR YR 1981	TOTAL	504.18	MEAN 1.38	MAX 152	MIN .00	CFSM .01	IN .19	AC-FT 1000				

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX

LOCATION.--Lat 32°52'20", long 98°25'32", Palo Pinto County, Hydrologic Unit 12060201, at Morris Sheppard Dam on Brazos River, 2.6 mi (4.2 km) upstream from Loving Creek, 11.3 mi (18.2 km) southwest of Grafard, and at mile 687.5 (1,106.2 km).

DRAINAGE AREA.--23,596 mi² (61,114 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1941 to current year. Prior to October 1977, published as Possum Kingdom Reservoir.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.10 ft (0.030 m) National Geodetic Vertical Datum of 1929 (levels by Brazos River Authority). Prior to Mar. 19, 1968, mercury U-tube in powerhouse at present site and datum.

REMARKS.--The lake is formed by reinforced concrete dam, Ambursen-type, massive buttress with flat-slab deck, a controlled spillway, two bulkhead sections, and an earthen-dike section. Total length of dam is 2,740 ft (835 m) long. The dam was completed and storage began Mar. 21, 1941. The spillway has nine roof-weir gates (modified bear-trap type) that are 73.66 by 13 ft (22.45 by 4 m) each and are designed to discharge about 100,000 ft³/s (2,830 m³/s) at a gage height of 1,000.0 ft (304.80 m). The outlet works consist of one controlled 54-inch-diameter (1,372 mm) conduit. Water is used for power development, irrigation, municipal, industrial, and recreational purposes. Two generators located in the powerhouse at dam can produce 22,500 kilowatts at a 1,000-foot (305 m) gage height. Eleven major reservoirs, with a combined capacity of 607,800 acre-ft (749 hm³), largely regulate the inflow. The capacity curve is based on recomputation of survey made in 1974. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950. Gage-height telemeter was installed at station on Jan. 13, 1981. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	1,024.0	-
Design flood (top of gates).....	1,000.0	570,200
Crest of spillway.....	987.0	383,300
Invert of penstock.....	911.5	4,560
Lowest gated outlet (invert of 54-inch conduit).....	874.8	0

COOPERATION.--Capacity table 3-C furnished by the Brazos River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 743,700 acre-ft (917 hm³) Oct. 5, 1941, gage height, 1,001.0 ft (305.10 m); minimum observed, 273,000 acre-ft (337 hm³) Feb. 19 to Mar. 17, 1953, gage height, 967.0 ft (294.74 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 569,700 acre-ft (702 hm³) Oct. 5 at 1000 hours, gage height, 999.97 ft (304.791 m); minimum, 495,300 acre-ft (611 hm³) Feb. 13, gage height, 995.43 ft (303.407 m).

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

995.0	488,800	998.0	536,000
996.0	504,000	999.0	552,800
997.0	519,800	1,000.0	570,200

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	526200	539000	542900	534200	503100	497900	505400	554700	541000	548300	514800	506700
2	543500	539900	539500	533600	503100	498400	504800	554600	540000	546400	514800	509200
3	552000	540700	539900	533200	503400	504000	504500	554200	541700	548400	514700	510900
4	566400	540900	540000	530800	503400	505900	504800	553200	546200	548900	514400	511800
5	563000	540500	541000	529800	503300	505600	504800	551800	558000	549600	513900	511800
6	556500	540900	541000	529500	503400	504000	504200	550100	557200	549600	513200	511800
7	557200	541400	542000	527700	503700	504000	504600	550100	561500	549300	512800	511800
8	557800	541400	544000	526400	504000	502500	505000	551100	558000	550600	512300	511400
9	558200	541200	544700	524900	504800	500000	505000	551500	564600	549800	512100	510600
10	558200	540700	547600	523900	504000	498000	505000	548400	563900	547400	509900	510400
11	556600	541000	552200	522700	499300	499300	505300	549100	561100	546600	507500	509500
12	555800	541400	553500	519800	496400	500000	505600	549600	557800	544700	507100	509000
13	554600	541500	552000	517500	495300	501400	505600	552000	555600	542700	506800	509200
14	553400	541000	551100	516700	495600	501900	505600	551800	557700	541400	505300	509500
15	551300	540900	549300	515800	496100	502500	505600	554000	553500	539400	504000	508400
16	550100	541900	547200	514200	495800	502900	505600	552800	552700	538400	503700	507800
17	549400	540700	546100	513200	496200	504000	505700	552800	555600	536900	503300	507500
18	549400	539000	545700	513400	495900	503300	506200	551100	556600	535900	503100	507500
19	550300	539200	543200	511800	496400	503400	507000	549400	556300	535500	504300	507100
20	548100	539200	540200	511500	496700	503700	506400	547800	556300	534900	505100	507100
21	546100	538900	539200	510300	496700	504500	512800	546200	556800	533400	505600	507500
22	543500	538700	536400	507900	496500	504200	520100	544500	556500	532600	505900	507100
23	542500	539900	536200	506500	496700	504500	525600	544400	556100	531400	507100	506800
24	540500	539900	535700	505300	496500	504600	529100	543500	556500	529600	508200	506400
25	539400	540200	535200	505600	496800	504600	534200	544200	556100	527700	508900	505300
26	539500	540400	535000	505000	497000	504800	542700	543900	556300	525900	508500	504800
27	540900	540900	535200	504500	497300	505000	551300	544000	551800	523500	507900	502800
28	538500	541400	535400	504000	497700	505600	556300	544000	550600	521000	506700	501300
29	537700	541900	535200	504200	---	506000	557000	541200	550600	519800	506500	499700
30	537700	542500	534500	503100	---	505700	556300	541200	551100	517200	506400	499100
31	538200	---	534200	503700	---	505600	---	541400	---	515000	506400	---
MAX	566400	542500	553500	534200	504800	506000	557000	554700	564600	550600	514800	511800
MIN	526200	538700	534200	503100	495300	497900	504200	541200	540000	515000	503100	499100
(†)	998.13	998.39	997.89	995.98	995.59	996.10	999.20	998.32	998.90	996.70	996.15	995.68
(‡)	+40500	+4300	-8300	-30500	-6000	+7900	+50700	-14900	+9700	-36100	-8600	-7300

CAL YR 1980 MAX 566400 MIN 438700 † +35,200 ‡ +35200
WTR YR 1981 MAX 566400 MIN 495300 † +1,400 ‡ +1400

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

BRAZOS RIVER BASIN

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1962 to current year.

325208098254201 POSSUM KINGDOM LAKE SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
22...	1105	1.0	2370	8.1	10.0	9.8	89
22...	1107	10	2370	8.1	10.0	9.7	88
22...	1110	20	2370	8.1	10.0	9.6	87
22...	1115	30	2370	8.1	10.0	9.6	87
22...	1117	40	2370	8.1	10.0	9.6	87
22...	1120	50	2370	8.1	10.0	9.8	89
22...	1125	59	2370	8.0	9.5	10.0	90
MAY							
07...	1315	1.0	2400	8.3	23.5	8.1	99
07...	1317	10	2400	8.3	22.5	8.3	100
07...	1319	20	2400	8.3	22.0	8.0	95
07...	1321	30	2400	8.1	20.0	7.3	84
07...	1323	40	2400	8.0	17.0	6.9	74
07...	1325	50	2410	8.0	15.5	6.5	68
07...	1327	64	2520	7.8	15.0	5.5	57
AUG							
05...	1650	1.0	2650	7.9	30.0	6.5	88
05...	1652	10	2650	7.9	29.5	6.5	88
05...	1654	20	2650	7.8	28.5	5.6	74
05...	1656	30	2640	7.2	27.5	2.2	28
05...	1658	40	2610	7.1	26.0	.1	1
05...	1700	50	2640	7.0	23.0	.1	1
05...	1702	60	2740	7.0	21.0	.1	1
05...	1704	70	2890	7.0	20.0	.1	1
05...	1706	80	3050	7.0	18.5	.1	1
05...	1710	95	3130	7.0	17.5	.1	1

325218098254101 POSSUM KINGDOM LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)
JAN										
22...	1130	1.0	2370	8.1	10.0	3.3	9.6	87	440	350
22...	1133	10	2370	8.1	10.0	--	9.7	88	--	--
22...	1136	20	2370	8.1	10.0	--	9.5	86	--	--
22...	1139	30	2370	8.1	10.0	--	9.5	86	--	--
22...	1142	40	2370	8.1	10.0	--	9.6	87	--	--
22...	1145	50	2370	8.1	10.0	--	9.5	86	--	--
22...	1148	60	2370	8.1	9.5	--	9.5	86	--	--
22...	1151	70	3140	7.4	10.0	--	6.2	56	--	--
22...	1154	80	3160	7.5	9.5	--	6.6	59	--	--
22...	1157	90	3300	7.4	10.0	--	6.0	55	--	--
22...	1200	99	3560	7.3	10.0	--	5.4	49	680	550
MAY										
07...	1230	1.0	2400	8.3	23.5	4.9	7.9	98	430	330
07...	1231	8.0	--	--	--	--	--	--	--	--
07...	1232	10	2400	8.3	23.0	--	8.1	99	--	--
07...	1234	20	2400	8.3	22.5	--	8.2	99	--	--
07...	1236	30	2400	8.1	19.0	--	7.2	81	--	--
07...	1238	40	2400	7.9	17.5	--	6.6	72	--	--
07...	1240	50	2430	7.9	15.5	--	6.6	69	--	--
07...	1242	60	2500	7.9	14.0	--	6.2	63	--	--
07...	1244	70	2640	7.8	13.0	--	5.2	51	--	--
07...	1246	80	3080	7.7	12.0	--	2.3	22	--	--
07...	1248	90	3230	7.7	11.0	--	.9	8	--	--
07...	1250	104	3250	7.7	11.0	--	.8	8	590	470
AUG										
05...	1615	1.0	2670	7.9	30.0	2.10	6.5	88	480	380
05...	1616	3.5	--	--	--	--	--	--	--	--
05...	1617	10	2670	7.9	29.5	--	6.4	86	--	--
05...	1619	20	2660	7.7	28.5	--	5.1	67	--	--
05...	1621	30	2660	7.3	27.5	--	2.2	28	--	--
05...	1623	40	2620	7.0	25.5	--	.1	1	--	--
05...	1625	50	2680	7.0	23.0	--	.1	1	--	--
05...	1627	60	2770	7.0	21.0	--	.1	1	--	--
05...	1629	70	2910	7.0	20.0	--	.1	1	--	--
05...	1631	80	3100	7.0	18.5	--	.1	1	--	--
05...	1633	90	3160	6.9	17.5	--	.1	1	--	--
05...	1635	102	3170	6.9	16.5	--	.1	1	590	440

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325218098254101 POSSUM KINGDOM LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN										
22...	120	34	330	6.9	6.4	90	330	530	.3	5.9
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	180	56	550	9.2	7.1	130	510	830	--	6.3
MAY										
07...	120	31	320	6.7	6.3	98	310	540	.3	4.6
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	160	45	460	8.3	6.8	120	410	810	--	5.4
AUG										
05...	130	37	370	7.4	7.4	95	370	600	.3	3.7
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	160	45	450	8.1	7.7	150	400	740	--	11

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
22...	1410	.14	--	--	.68	.82	.020	20	0
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	.14	--	--	.55	.69	.020	40	10
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	2220	.53	--	--	.77	1.3	.100	30	320
MAY									
07...	1390	.07	.060	.46	.52	.59	.130	30	10
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	1970	.23	.210	.99	1.20	1.4	.180	30	230
AUG									
05...	1580	<.10	--	--	.87	--	.020	20	10
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	.00	--	--	.76	.76	.020	20	20
05...	--	.00	--	--	.72	.72	.020	20	30
05...	--	.00	--	--	.61	.61	.020	40	120
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	1910	.00	--	--	2.10	2.1	.300	120	770

BRAZOS RIVER BASIN

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325250098275301 POSSUM KINGDOM LAKE SITE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
22...	1300	1.0	2330	8.2	10.5	9.5	87
22...	1302	10	2330	8.2	10.0	9.5	87
22...	1304	20	2330	8.2	10.0	9.4	85
22...	1308	30	2330	8.1	10.0	9.4	85
22...	1310	40	2330	8.1	10.0	9.4	85
22...	1312	53	2330	8.2	10.0	9.3	85
MAY							
07...	1140	1.0	2420	8.3	23.0	7.9	95
07...	1142	10	2420	8.3	23.0	8.0	96
07...	1144	20	2420	8.3	22.5	7.9	95
07...	1146	30	2430	8.0	21.0	6.8	79
07...	1148	44	2440	7.8	17.5	5.6	61
AUG							
05...	1550	1.0	2680	8.0	31.0	7.1	97
05...	1552	10	2680	8.0	30.0	6.6	89
05...	1554	20	2680	7.7	29.0	4.9	65
05...	1556	30	2680	7.2	28.0	1.4	18
05...	1559	44	2710	7.1	26.0	.2	3

325256098275301 POSSUM KINGDOM LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
22...	1225	1.0	2350	8.1	10.5	9.6	88
22...	1227	10	2350	8.2	10.0	9.5	86
22...	1229	20	2350	8.1	10.0	9.4	85
22...	1230	30	2350	8.1	10.0	9.4	85
22...	1232	40	2350	8.1	10.0	9.4	85
22...	1235	50	2360	8.1	10.0	9.3	85
22...	1237	60	2360	8.1	9.5	9.4	85
22...	1239	70	2890	7.6	9.5	6.2	56
22...	1241	80	3140	7.7	9.0	5.9	53
22...	1243	94	3220	7.7	9.5	6.0	54
MAY							
07...	1155	1.0	2420	8.3	23.0	8.0	96
07...	1157	10	2420	8.3	23.0	8.0	96
07...	1201	20	2420	8.3	22.5	7.9	95
07...	1203	30	2420	8.1	21.0	7.1	83
07...	1205	40	2440	7.8	17.5	5.9	64
07...	1207	50	2460	7.8	15.5	5.9	61
07...	1209	60	2590	7.8	14.0	5.4	55
07...	1211	70	2880	7.7	13.5	4.0	40
07...	1213	80	3310	7.7	12.5	1.4	14
07...	1215	90	3350	7.7	12.0	.8	8
07...	1217	97	3350	7.6	12.0	.8	8
AUG							
05...	1520	1.0	2690	8.0	30.5	6.7	91
05...	1522	10	2690	8.0	29.0	6.5	87
05...	1524	20	2690	7.9	29.0	6.2	83
05...	1526	30	2690	7.3	28.0	2.7	35
05...	1528	40	2730	7.0	25.5	.1	1
05...	1530	50	2780	7.0	24.0	.1	1
05...	1532	60	2830	7.0	22.0	.1	1
05...	1534	70	3030	7.0	21.0	.1	1
05...	1536	80	3200	7.0	19.0	.2	2
05...	1539	94	3210	7.0	17.5	.2	2

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325129098311801 POSSUM KINGDOM LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
22...	1415	1.0	2160	8.2	9.5	9.7	87
22...	1417	10	2160	8.2	9.5	9.8	88
22...	1420	20	2160	8.2	9.5	9.7	87
22...	1422	30	2160	8.2	9.5	9.6	86
22...	1423	40	2180	8.2	9.5	9.6	86
22...	1425	50	2240	8.1	9.5	9.1	82
22...	1427	60	2890	8.0	9.0	8.1	72
22...	1430	70	3700	7.9	9.0	7.0	62
22...	1432	77	3730	7.8	9.0	6.8	61
MAY							
07...	1030	1.0	2470	8.3	23.5	7.9	98
07...	1032	10	2470	8.3	23.5	7.8	96
07...	1034	20	2470	8.3	23.0	7.7	94
07...	1036	30	2580	7.8	20.5	5.0	57
07...	1038	40	2600	7.7	18.0	4.7	52
07...	1040	50	2660	7.7	16.0	4.2	44
07...	1042	60	2870	7.6	15.0	3.0	31
07...	1044	70	3140	7.6	14.5	1.5	15
07...	1046	80	3380	7.6	14.5	1.0	10
AUG							
05...	1400	1.0	2660	8.0	30.0	6.4	86
05...	1402	10	2660	8.0	29.0	6.4	85
05...	1404	20	2670	8.0	29.0	6.4	85
05...	1406	30	2670	7.5	28.5	4.0	52
05...	1408	40	2720	7.0	26.5	.1	1
05...	1410	50	2880	7.0	24.0	.2	2
05...	1412	60	3050	7.0	22.5	.2	2
05...	1414	70	3180	7.0	21.0	.2	2
05...	1416	75	3180	7.0	21.5	.3	4

325327098314001 POSSUM KINGDOM LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
JAN										
22...	0932	1.0	2090	8.1	9.0	2.59	11.8	105	390	290
22...	0936	10	2090	8.1	9.0	--	11.6	104	--	--
22...	0940	20	2100	8.1	8.5	--	11.0	97	--	--
22...	0944	30	1940	8.1	8.5	--	11.0	97	--	--
22...	0948	40	2100	8.2	8.5	--	10.5	93	--	--
22...	0952	50	2290	8.2	8.5	--	10.7	95	--	--
22...	0956	60	2830	8.2	8.0	--	10.4	90	--	--
22...	1000	70	3810	7.8	8.5	--	9.9	88	700	580
MAY										
07...	0900	1.0	2620	8.2	23.0	1.40	7.4	90	470	370
07...	0902	10	2620	8.2	22.5	--	7.3	88	--	--
07...	0904	20	2620	8.2	22.5	--	7.1	86	--	--
07...	0906	30	2620	7.9	21.5	--	5.6	66	--	--
07...	0908	40	2900	7.5	18.0	--	3.1	34	--	--
07...	0910	50	2940	7.4	16.0	--	3.0	32	--	--
07...	0912	60	3110	7.4	15.5	--	2.0	21	--	--
07...	0914	73	3510	7.3	14.5	--	1.5	15	600	480
AUG										
05...	1230	1.0	2670	8.0	30.0	1.50	6.6	89	510	420
05...	1232	10	2670	8.0	30.0	--	6.4	86	--	--
05...	1234	20	2630	7.5	29.0	--	3.3	44	--	--
05...	1236	30	2640	7.3	28.5	--	2.6	34	--	--
05...	1238	40	2740	7.0	26.5	--	.1	1	--	--
05...	1240	50	2950	7.0	24.5	--	.1	1	--	--
05...	1242	60	3160	7.0	23.0	--	.3	4	--	--
05...	1245	70	3280	6.9	23.0	--	.3	4	610	460

BRAZOS RIVER BASIN

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325327098314001 POSSUM KINGDOM LAKE SITE DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN									
22...	110	27	280	6.2	6.1	91	280	450	4.2
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	190	54	560	9.2	6.6	120	540	910	4.2
MAY									
07...	130	35	360	7.2	6.7	100	330	580	3.4
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	160	49	520	9.2	6.9	120	410	880	4.1
AUG									
05...	140	38	360	7.0	7.2	90	360	590	5.5
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	170	46	450	7.9	7.2	150	400	740	10
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
22...	1210	.13	--	--	1.10	1.2	.030	20	10
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	.12	--	--	.54	.66	.030	20	10
22...	--	--	--	--	--	--	--	--	--
22...	2340	.01	--	--	1.10	1.1	.090	30	90
MAY									
07...	1510	.04	.070	.82	.89	.93	.150	40	10
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	2100	.22	.330	1.8	2.10	2.3	.250	70	820
AUG									
05...	1550	.00	--	--	.79	.79	.020	10	10
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	.00	--	--	.85	.85	.030	30	50
05...	--	.01	--	--	.93	.94	.040	100	470
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	1910	.00	--	--	2.30	2.3	.280	100	530

BRAZOS RIVER BASIN

267

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325347098265701 POSSUM KINGDOM LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
22...	1600	1.0	2080	8.4	9.0	10.2	91
22...	1603	10	2080	8.4	9.0	10.2	91
22...	1605	20	2080	8.4	9.0	10.1	90
22...	1608	30	2080	8.4	8.5	10.2	90
22...	1610	40	2150	8.4	8.0	9.8	86
22...	1615	52	4470	8.1	8.5	9.1	81
MAY							
07...	1425	1.0	2740	8.4	24.5	8.2	101
07...	1427	10	2740	8.3	23.5	8.1	99
07...	1429	20	2790	8.0	23.0	6.0	72
07...	1431	30	3630	7.4	21.5	1.1	13
07...	1433	40	4140	7.4	20.5	.4	5
07...	1435	50	3950	7.4	19.0	.4	4
07...	1437	57	4070	7.4	19.5	.7	8
AUG							
05...	1800	1.0	2620	8.1	30.0	7.1	96
05...	1802	10	2600	8.0	29.0	6.0	80
05...	1804	20	2610	7.8	28.5	5.0	66
05...	1806	30	2640	7.4	28.5	2.3	30
05...	1808	40	2680	7.2	28.0	1.2	16
05...	1810	53	3050	7.0	25.0	.2	2

325557098264401 POSSUM KINGDOM LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
23...	1010	1.0	2120	8.4	7.5	11.1	97
23...	1015	10	2130	8.4	7.5	11.0	96
23...	1020	20	2150	8.4	7.5	10.8	94
23...	1025	30	2200	8.4	7.5	10.5	91
23...	1027	43	3360	8.2	7.5	9.6	83
MAY							
07...	1454	1.0	2680	8.4	24.5	8.7	107
07...	1456	10	2680	8.4	23.5	8.1	99
07...	1458	20	2780	8.2	23.0	6.9	83
07...	1500	30	3930	7.3	22.5	.9	11
07...	1502	42	4580	7.3	22.5	.4	5
AUG							
06...	0945	1.0	2580	8.1	29.5	6.8	92
06...	0947	10	2590	8.1	29.5	6.4	86
06...	0949	20	2600	7.8	29.0	4.5	60
06...	0951	30	2600	7.7	28.5	4.0	53
06...	0954	42	2630	7.3	28.5	2.2	29

BRAZOS RIVER BASIN
POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325715098250501 POSSUM KINGDOM LAKE SITE GC
WATER QUALITY DATA ATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
JAN										
23...	1030	1.0	2180	8.5	8.0	1.13	11.2	98	420	330
23...	1033	10	2210	8.5	7.5	--	11.2	97	--	--
23...	1036	20	2320	8.5	7.0	--	11.0	94	--	--
23...	1039	31	4730	8.3	7.0	--	11.4	98	840	710
MAY										
07...	1513	1.0	2670	8.5	24.5	.50	9.2	115	490	380
07...	1515	10	2680	8.3	23.5	--	7.7	94	--	--
07...	1517	20	2950	7.7	23.5	--	3.7	45	--	--
07...	1519	30	3970	7.3	22.5	--	.8	10	--	--
07...	1521	34	4080	7.2	23.0	--	.4	5	750	630
AUG										
06...	1005	1.0	2590	8.1	30.0	.80	6.9	93	510	420
06...	1007	10	2570	7.9	29.5	--	5.3	72	--	--
06...	1009	20	2640	7.6	29.0	--	3.4	45	--	--
06...	1012	32	2960	7.3	29.0	--	1.3	17	600	510

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)
JAN									
23...	120	30	300	6.3	5.9	97	300	460	4.6
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	220	70	700	11	6.9	130	600	1200	3.0
MAY									
07...	130	41	350	6.9	6.8	110	370	580	4.2
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	190	67	590	9.4	7.5	120	570	1000	5.9
AUG									
06...	140	39	350	6.7	8.3	90	400	580	7.9
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	160	48	390	6.9	8.6	89	480	610	9.4

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
23...	1280	.04	--	--	.95	.99	.030	20	10
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	2880	.00	--	--	.90	.90	.060	30	80
MAY									
07...	1550	.05	.080	.74	.82	.87	.170	30	10
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	2500	.21	.570	1.4	2.00	2.2	.260	40	490
AUG									
06...	1580	.00	--	--	.95	.95	.040	30	10
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	1760	.00	--	--	1.10	1.1	.090	20	170

BRAZOS RIVER BASIN

269

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325047098291201 POSSUM KINGDOM LAKE SITE P3

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
22...	1330	1.0	2310	8.2	10.5	10.0	93
22...	1332	10	2310	8.2	10.5	9.8	91
22...	1335	20	2320	8.2	10.0	9.7	89
22...	1337	30	2320	8.2	10.0	9.8	90
22...	1340	40	2320	8.2	10.0	9.6	88
22...	1342	50	2320	8.2	10.0	9.2	84
22...	1345	60	2330	8.2	9.5	9.7	87
22...	1347	65	2880	7.5	10.0	5.2	48
22...	1350	72	3080	7.5	10.0	4.4	40
MAY							
07...	1110	1.0	2420	8.3	23.5	7.9	98
07...	1112	10	2420	8.3	23.5	7.9	98
07...	1114	20	2420	8.2	23.0	7.4	89
07...	1116	30	2530	7.8	20.0	5.2	60
07...	1118	40	2530	7.7	18.0	4.2	46
07...	1120	50	2530	7.7	16.5	4.5	48
07...	1122	57	2550	7.6	16.0	3.7	39
AUG							
05...	1445	1.0	2680	7.9	29.5	6.4	86
05...	1447	10	2680	7.9	28.5	6.0	79
05...	1449	20	2680	7.8	28.5	5.5	72
05...	1451	30	2680	7.6	28.5	4.5	59
05...	1453	40	2730	7.0	26.0	.1	1
05...	1455	50	2780	7.0	24.0	.2	2
05...	1457	60	2830	7.0	23.0	.2	2

325125098323701 POSSUM KINGDOM LAKE SITE P5

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
22...	1445	1.0	2050	8.2	9.0	9.7	87
22...	1447	10	2050	8.2	9.0	9.8	88
22...	1450	20	2050	8.2	8.5	9.9	88
22...	1455	29	2050	8.1	9.0	9.4	84
MAY							
07...	1015	1.0	2460	8.2	23.5	7.7	94
07...	1017	10	2460	8.2	23.5	7.6	93
07...	1019	20	2460	8.2	23.0	7.0	84
07...	1021	30	2470	7.5	21.0	3.0	35
AUG							
05...	1345	1.0	2680	8.0	29.5	6.4	86
05...	1347	10	2680	8.0	29.0	6.6	88
05...	1349	20	2680	7.9	29.0	6.0	80
05...	1351	27	2680	7.9	29.0	5.5	73

BRAZOS RIVER BASIN

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325301098342901 POSSUM KINGDOM LAKE SITE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
22...	1510	1.0	2020	8.1	9.5	9.3	84
22...	1512	10	2030	8.1	9.0	9.5	85
22...	1515	20	2040	8.1	9.0	9.3	83
22...	1517	30	2050	8.0	9.0	9.3	83
22...	1520	40	2250	7.8	9.5	8.2	74
22...	1522	50	2480	7.5	10.0	7.4	68
22...	1525	61	3360	7.3	11.0	1.0	9
MAY							
07...	0940	1.0	2450	8.2	23.5	7.0	85
07...	0942	10	2450	8.2	23.0	7.0	84
07...	0944	20	2460	8.2	23.0	7.0	84
07...	0946	30	2480	8.0	22.0	5.6	67
07...	0948	40	2560	7.5	18.0	2.7	30
07...	0950	50	2590	7.5	15.5	2.1	22
07...	0952	60	2750	7.4	14.5	1.0	10
07...	0954	65	2900	7.4	14.0	1.2	12
AUG							
05...	1310	1.0	2680	8.0	30.5	6.5	87
05...	1312	10	2670	7.9	29.5	5.9	80
05...	1314	20	2680	7.8	29.0	4.8	64
05...	1316	30	2690	7.6	29.0	3.6	48
05...	1318	40	2700	7.0	26.0	.1	1
05...	1320	50	2720	7.0	24.5	.1	1
05...	1322	56	2760	7.0	23.0	.3	4

325915098243001 POSSUM KINGDOM LAKE SITE P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
23...	1050	1.0	2410	8.6	7.5	11.3	98
23...	1055	10	2410	8.6	7.5	11.0	96
23...	1101	20	2450	8.6	7.0	10.5	90
23...	1105	29	5240	7.5	9.0	3.0	27
MAY							
07...	1530	1.0	2750	8.4	24.0	8.3	101
07...	1532	10	2750	8.3	23.5	7.6	93
07...	1534	20	2800	8.0	23.0	5.6	67
07...	1536	32	3830	7.3	22.5	.6	7
AUG							
06...	1030	1.0	2440	8.2	30.5	7.4	100
06...	1032	10	2490	8.0	30.0	6.3	85
06...	1034	20	2490	7.9	29.5	4.5	61
06...	1035	26	2510	7.5	29.5	2.5	34

325725098280301 POSSUM KINGDOM LAKE SITE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
JAN										
23...	1115	1.0	2410	8.6	7.5	1.04	11.9	103	460	360
23...	1116	1.7	--	--	--	--	--	--	--	--
23...	1120	12	5930	8.4	7.5	--	15.5	137	1000	890
MAY										
07...	1600	1.0	2450	8.8	25.5	.40	13.6	170	520	410
07...	1601	.7	--	--	--	--	--	--	--	--
07...	1605	11	2650	8.2	23.5	--	7.8	95	550	430
AUG										
06...	1050	1.0	2820	8.1	29.5	.40	7.7	104	560	490
06...	1051	.6	--	--	--	--	--	--	--	--
06...	1055	6.0	2900	7.8	29.5	--	6.0	81	570	500

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325725098280301 POSSUM KINGDOM LAKE SITE P10--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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)	AIKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
JAN										
23...	130	33	340	6.9	6.0	100	340	530	--	4.2
23...	--	--	--	--	--	--	--	--	--	--
23...	270	86	900	12	7.7	140	760	1500	--	1.9
MAY										
07...	150	35	310	5.9	8.1	110	390	520	--	8.1
07...	--	--	--	--	--	--	--	--	--	--
07...	160	36	340	6.3	8.0	120	420	560	--	8.2
AUG										
06...	150	46	380	7.0	9.1	75	480	600	--	8.5
06...	--	--	--	--	--	--	--	--	--	--
06...	150	48	380	6.9	9.1	77	470	620	.3	8.6

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
23...	1440	.00	--	--	.88	.88	.040	20	10
23...	--	--	--	--	--	--	--	--	--
23...	3610	.00	--	--	.82	.82	.060	30	80
MAY									
07...	1490	.14	.090	1.2	1.30	1.4	.310	50	10
07...	--	--	--	--	--	--	--	--	--
07...	1600	.24	.120	1.2	1.30	1.5	.300	30	80
AUG									
06...	1720	.00	--	--	1.50	1.5	.060	20	10
06...	--	--	--	--	--	--	--	--	--
06...	1730	.00	--	--	1.30	1.3	.090	30	20

325218098254101 POSSUM KINGDOM LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
JAN							
22...	1130	1.0	2	100	10	0	30
22...	1148	60	--	--	--	--	--
22...	1200	99	2	100	0	0	30
MAY							
07...	1230	1.0	2	200	6	10	25
07...	1250	104	2	200	0	10	25
AUG							
05...	1615	1.0	1	100	0	0	50
05...	1619	20	--	--	--	--	--
05...	1621	30	--	--	--	--	--
05...	1623	40	--	--	--	--	--
05...	1635	102	4	200	0	0	50

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN							
22...	20	100	0	.0	0	0	10
22...	40	--	10	--	--	--	--
22...	30	100	320	.1	1	0	20
MAY							
07...	30	0	10	.0	0	0	10
07...	30	0	230	.0	0	0	10
AUG							
05...	20	0	10	.0	1	0	10
05...	20	--	20	--	--	--	--
05...	20	--	30	--	--	--	--
05...	40	--	120	--	--	--	--
05...	120	0	770	.1	0	0	10

BRAZOS RIVER BASIN

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325218098254101 POSSUM KINGDOM LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 22, 81 1131	MAY 7, 81 1231	AUG 5, 81 1616
TOTAL CELLS/ML	2300	300	120000
DIVERSITY: DIVISION	2.0	1.1	0.3
..CLASS	2.0	1.1	0.3
..ORDER	2.3	1.5	0.6
...FAMILY	2.5	1.8	1.5
....GENUS	2.6	1.8	1.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	--	--	--	--	*	0
....OOCYSTIS	67	3	140#	48	*	0
....TETRAEDRON	--	--	--	--	610	1
...SCENEDESMACEAE						
...SCENEDESMUS	230	10	26	9	*	0
...VOLVOCEAE						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	220	9	26	9	*	0
..ZYGNEATALES						
..DESMIDIACEAE						
...COSMARIUM	--	--	--	--	*	0
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...CHAETOCERACEAE						
...CHAETOCEROS	--	--	--	--	1200	1
...COSCINODISCACEAE						
...CYCLOTELLA	670#	29	--	--	--	--
...STEPHANODISCUS	17	1	--	--	--	--
...RHIZOSOLENIACEAE						
...RHIZOSOLENIA	--	--	--	--	*	0
..PENNALES						
...ACHNANTHACEAE						
...ACHNANTHES	--	--	--	--	*	0
...COCGONEIS	50	2	--	--	--	--
...NITZSCHACEAE						
...NITZSCHIA	--	--	13	4	--	--
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
...CHROOMONAS	220	9	--	--	--	--
...CRYPTOMONADACEAE						
...CRYPTOMONAS	100	4	--	--	--	--
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
...ANACYSTIS	750#	32	90#	30	6300	5
...HORMOGONALES						
...NOSTOCACEAE						
...CYLINDROSPERMUM	--	--	--	--	65000#	54
...OSCILLATORIA						
...LYNGBYA	--	--	--	--	740	1
...OSCILLATORIA	--	--	--	--	45000#	37
EUGLENOPHYTA (EUGLENIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
...EUGLENA	17	1	--	--	--	--
...TRACHELOMONAS	--	--	--	--	*	0
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...PERIDINIALES						
...GLENODINIACEAE						
...GLENODINIUM	--	--	--	--	*	0

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

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

POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325725098280301 POSSUM KINGDOM LAKE SITE P10

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 23,81 1116	MAY 7,81 1601	AUG 6,81 1051
TOTAL CELLS/ML	3900	39000	3300000
DIVERSITY: DIVISION	1.4	1.7	0.0
..CLASS	1.4	1.8	0.0
..ORDER	2.2	2.4	0.0
...FAMILY	2.4	2.7	0.2
....GENUS	2.9	2.9	0.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	* 0		--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	90	2	790	2	*	0
....DICTYOSPHAERIUM	270	7	400	1	--	-
....OOCYSTIS	64	2	260	1	--	-
....SELENASTRUM	130	3	--	-	--	-
....TETRAEDRON	--	-	* 0		--	-
....TREUBARIA	*	0	--	-	--	-
...SCENEDESMACEAE						
....SCENEDESMUS	170	4	1600	4	--	-
....TETRASTRUM	51	1	2100	5	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	*	0	--	-	--	-
....CHLAMYDOMONAS	260	7	7900#	20	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	120	3	2400	6	--	-
....MELOSIRA	51	1	--	-	--	-
....STEPHANODISCUS	64	2	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
...COCCONEIS	--	-	260	1	--	-
...FRAGILARIACEAE						
....SYNEDRA	--	-	400	1	--	-
...NITZSCHACEAE						
....NITZSCHIA	--	-	260	1	--	-
..CHRYSTOPHYCEAE						
...CHRYSSOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	260	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	51	1	920	2	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	1600#	41	1500	4	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	1600	4	--	-
....CYLINDROSPERMUM	--	-	--	-	100000	3
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	3200000#	95
....OSCILLATORIA	820#	21	16000#	40	47000	1
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	64	2	2100	5	--	-
....PHACUS	--	-	*	0	--	-
....TRACHELOMONAS	--	-	260	1	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	39	1	--	-	--	-

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

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

BRAZOS RIVER BASIN

08088600 BRAZOS RIVER AT MORRIS SHEPPARD DAM NEAR GRAFORD, TX
(FORMERLY BRAZOS RIVER AT POSSUM KINGDOM DAM NEAR GRAFORD)

LOCATION.--Lat 32°52'00", long 98°26'00", Palo Pinto County, Hydrologic Unit 12060201, immediately below Morris Sheppard Dam (formerly Possum Kingdom Dam), 2.6 mi (4.2 km) upstream from Loving Creek, 11.3 mi (18.2 km) southwest of Graford, and 20 mi (32 km) upstream from gaging station near Palo Pinto.

DRAINAGE AREA (revised).--27,190 mi² (70,420 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: January 1942 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1942 to current year.

WATER TEMPERATURES: October 1949 to September 1955, October 1965 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,110 micromhos Feb. 20, 1961; minimum daily, 494 micromhos May 4, 1957. WATER TEMPERATURES (1949-55, 1965-81): Maximum daily, 27.5°C Aug. 12, 17, 21, 28, 1981; minimum daily, 6.5°C Jan. 20, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,050 micromhos Oct. 5-9; minimum daily, 2,290 micromhos on several days during December and January.

WATER TEMPERATURES: Maximum daily, 27.5°C Aug. 12, 17, 21, 28; minimum daily, 10.0°C on several days during February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
DEC 02...	0850	1500	2350	15.0	420	330	120	28	320
MAY 31...	0806	105	2420	21.5	430	330	120	31	340
JUN 28...	0806	550	2560	25.0	460	370	130	34	350
AUG 31...	0814	20	2660	26.5	500	410	140	37	360
SEP 30...	1320	20	2700	25.5	480	390	130	38	360

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
DEC 02...	6.8	7.5	84	360	470	.4	5.9	1360
MAY 31...	7.2	6.5	96	310	580	.3	4.1	1450
JUN 28...	7.1	6.7	95	330	580	.3	2.9	1490
AUG 31...	7.0	7.4	93	340	610	.5	2.6	1550
SEP 30...	7.1	7.3	89	350	620	.4	3.9	1560

08088600 BRAZOS RIVER AT MORRIS SHEPPARD DAM NEAR GRAFORD, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1980	134110	2800	1630	589000	660	237800	320	114600	470
NOV.	1980	5662	2360	1360	20700	540	8310	260	3960	400
DEC.	1980	25561	2300	1320	91300	530	36500	250	17400	390
JAN.	1981	22219	2310	1330	79700	530	31900	250	15200	390
FEB.	1981	7995	2380	1370	29600	550	11900	260	5650	400
MAR.	1981	13216	2380	1370	48900	550	19600	260	9330	400
APR.	1981	7009	2400	1380	26100	550	10500	260	4990	400
MAY	1981	23136	2390	1380	86100	550	34500	260	16400	400
JUNE	1981	52566	2550	1470	209000	590	84000	280	40200	430
JULY	1981	18900	2590	1490	76300	600	30700	290	14700	430
AUG.	1981	6435	2650	1530	26700	620	10700	300	5150	440
SEPT	1981	5697	2690	1560	23900	630	9640	300	4630	450
TOTAL		322506	**	**	1307000	**	526000	**	252000	**
WTD. AVG.		884	2600	1500	**	600	**	290	**	440

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2940	2440	2350	2310	2320	2400	2390	2380	2440	2590	2620	2670
2	2450	2410	2340	2310	2340	2400	2390	2380	2440	2590	2620	2670
3	2460	2420	2340	2310	2340	2390	2390	2380	2460	2720	2620	2670
4	2940	2400	2340	2310	2340	2400	2400	2380	2460	2560	2630	2660
5	3050	2390	2340	2310	2350	2370	2390	2380	2460	2570	2620	2670
6	3050	2400	2320	2310	2340	2370	2390	2380	2460	2570	2620	2660
7	3050	2400	2330	2310	2350	2400	2400	2380	2460	2530	2630	2660
8	3050	2390	2310	2310	2350	2380	2400	2380	2460	2550	2640	2670
9	3050	2400	2310	2310	2350	2370	2400	2380	2720	2560	2640	2670
10	3000	2400	2310	2310	2350	2380	2400	2380	2850	2570	2640	2690
11	2970	2390	2310	2310	2380	2390	2400	2380	2980	2570	2650	2680
12	2930	2380	2310	2310	2410	2370	2400	2390	2850	2570	2660	2670
13	2930	2390	2310	2310	2390	2370	2400	2390	2470	2580	2630	2680
14	2940	2360	2300	2310	2410	2370	2400	2400	2470	2580	2640	2680
15	2950	2340	2300	2310	2390	2370	2400	2400	2470	2580	2650	2680
16	2910	2340	2290	2310	2390	2360	2400	2400	2500	2580	2650	2680
17	2890	2330	2290	2320	2400	2350	2400	2400	2510	2580	2660	2680
18	2760	2350	2290	2320	2400	2360	2400	2400	2550	2590	2650	2670
19	2760	2350	2290	2320	2390	2370	2400	2400	2530	2590	2670	2720
20	2740	2350	2290	2320	2390	2370	2400	2410	2520	2590	2660	2680
21	2740	2350	2290	2320	2390	2370	2400	2410	2510	2590	2670	2690
22	2750	2350	2290	2320	2390	2380	2400	2410	2510	2600	2690	2690
23	2730	2350	2290	2320	2380	2390	2400	2420	2510	2600	2650	2680
24	2690	2350	2300	2320	2390	2390	2400	2410	2520	2610	2660	2690
25	2510	2350	2310	2320	2390	2400	2400	2410	2520	2600	2670	2690
26	2560	2350	2310	2320	2390	2400	2400	2410	2560	2600	2670	2690
27	2530	2360	2310	2290	2400	2400	2410	2420	2540	2600	2670	2700
28	2490	2370	2310	2320	2380	2400	2410	2420	2560	2600	2680	2700
29	2470	2360	2300	2320	---	2400	2400	2420	2600	2600	2670	2700
30	2450	2370	2300	2320	---	2390	2400	2420	2530	2600	2670	2700
31	2460	---	2310	2320	---	2400	---	2420	---	2610	2660	---
MEAN	2780	2370	2310	2310	2370	2380	2400	2400	2550	2590	2650	2680

BRAZOS RIVER BASIN

08088600 BRAZOS RIVER AT MORRIS SHEPPARD DAM NEAR GRAFORD, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	20.0	15.0	13.5	11.0	14.0	16.0	21.0	22.0	25.5	26.0	26.5
2	---	20.0	15.5	---	11.0	11.5	16.5	18.5	22.0	24.0	---	26.0
3	---	20.5	15.0	12.0	10.0	12.0	---	18.5	21.5	26.0	27.0	26.5
4	---	20.5	18.5	13.0	11.0	11.5	16.0	18.0	22.0	25.5	26.5	26.5
5	22.0	20.0	18.0	12.5	11.0	14.0	16.0	17.5	21.0	25.0	27.0	26.0
6	23.0	19.5	15.5	13.0	11.0	13.0	16.0	19.0	22.0	25.0	---	26.0
7	22.0	21.0	16.5	12.5	11.5	12.0	16.0	---	---	23.5	---	26.0
8	22.0	20.0	15.0	---	10.5	13.0	16.5	18.0	---	23.0	27.0	26.0
9	---	20.0	15.0	13.0	10.0	13.0	---	18.0	---	---	27.0	25.5
10	---	19.5	15.0	12.0	10.5	13.0	---	20.0	---	---	27.0	26.0
11	---	19.0	17.0	12.5	10.0	14.0	18.0	20.0	22.5	23.0	27.0	---
12	22.0	19.5	17.0	12.0	10.0	12.0	16.5	20.0	---	24.5	27.5	---
13	22.0	19.5	15.5	12.5	---	---	17.0	21.5	25.0	24.5	27.0	---
14	---	---	16.0	14.0	10.0	13.5	17.0	20.5	25.0	23.5	---	26.5
15	24.0	18.5	17.0	---	10.0	13.5	17.0	22.0	25.0	25.5	27.0	26.0
16	24.0	18.0	16.0	13.5	11.0	14.0	17.0	20.5	24.0	---	27.0	25.5
17	23.0	17.0	17.0	12.0	10.0	14.0	---	21.0	24.0	---	27.5	---
18	23.0	17.5	17.0	12.0	10.0	14.0	17.0	21.0	24.0	25.0	27.0	25.5
19	22.0	16.5	---	12.0	10.5	14.0	17.0	21.0	---	25.5	27.0	25.0
20	22.0	18.0	15.0	10.5	12.0	15.0	17.0	21.5	---	25.0	27.0	25.0
21	22.0	18.0	14.0	12.0	12.0	15.0	17.0	21.0	25.0	25.0	27.5	25.0
22	22.0	17.0	14.0	13.0	12.0	13.0	17.0	20.5	25.0	25.5	26.0	25.0
23	23.0	17.0	16.0	14.0	12.0	14.0	18.5	21.0	25.5	25.0	26.0	25.0
24	23.0	16.5	13.0	13.0	11.0	13.0	---	21.0	25.0	27.0	26.0	---
25	21.0	16.0	13.5	13.0	11.0	13.5	19.0	21.5	25.0	25.5	26.0	25.0
26	21.0	---	14.5	13.0	15.0	---	17.5	20.5	25.0	25.5	26.5	25.5
27	21.0	16.0	12.0	12.5	16.0	---	17.0	21.0	25.0	26.0	26.5	25.5
28	21.0	16.0	12.0	13.0	16.0	14.0	17.0	20.5	25.0	26.0	27.5	25.5
29	20.0	15.0	12.0	14.0	---	14.0	17.0	---	25.0	---	27.0	25.5
30	19.0	15.5	12.0	14.0	---	15.0	18.5	21.5	25.5	---	27.0	25.5
31	20.0	---	12.0	14.0	---	15.0	---	21.5	---	---	26.5	---
MEAN	22.0	18.5	15.0	13.0	11.5	13.5	17.0	20.5	24.0	25.0	27.0	25.5

BRAZOS RIVER BASIN

277

08089000 BRAZOS RIVER NEAR PALO PINTO, TX

LOCATION.--Lat 32°51'45", long 98°18'08", Palo Pinto County, Hydrologic Unit 12060201, on right bank 100 ft (30 m) upstream from bridge on Farm Road 4, 300 ft (91 m) downstream from Dark Valley Creek, 6.5 mi (10.5 km) north of Palo Pinto, and at mile 667.3 (1,073.7 km).

DRAINAGE AREA.--23,811 mi² (61,670 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--January 1924 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "near Mineral Wells" 1924-33.

REVISED RECORDS.--WSP 1512: 1924-25, 1929, 1932-34. WSP 1712: 1935-36, 1937-38(M), 1939, 1940(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 831.23 ft (253.359 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 15, 1933, nonrecording gage at site 19 mi (31 km) downstream at datum 38.19 ft (11.640 m) lower.

REMARKS.--Records good. Since 1941, flow largely regulated by Possum Kingdom Lake (station 08088500) 20 mi (32 km) upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years (water years 1925-40) prior to completion of Possum Kingdom Lake, 1,262 ft³/s (35.74 m³/s), 914,300 acre-ft/yr (1,130 hm³/yr); 41 years (water years 1941-81) regulated, 908 ft³/s (25.71 m³/s), 657,800 acre-ft/yr (811 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,600 ft³/s (2,710 m³/s) June 16, 1930, at site 19 mi (31 km) downstream from Mineral Wells, gage height, 30 ft (9.1 m), present site and datum; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage occurred in 1876, from data by Corps of Engineers, and was several feet higher than the flood of June 16, 1930, which reached a stage of about 30 ft (9.1 m) and was the highest since at least 1876.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,000 ft³/s (765 m³/s) Oct. 5 at 2100 hours, gage height, 13.12 ft (3.999 m), stage rising, peak occurred Oct. 3; minimum daily, 22 ft³/s (0.62 m³/s) Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11100	244	35	239	66	344	149	1220	93	469	859	38
2	16800	96	662	493	47	146	184	474	86	702	93	60
3	23300	54	1130	346	191	1160	401	566	571	646	49	67
4	15400	43	235	663	199	1380	109	958	574	119	40	49
5	20500	223	203	1410	142	1270	54	900	3370	83	35	39
6	16600	283	85	437	171	1710	36	1010	7490	60	181	34
7	7910	72	50	885	56	2150	177	1180	6660	50	71	32
8	2560	45	181	1220	39	1950	96	1010	13900	46	41	28
9	2130	143	1330	1230	34	2110	44	1700	3660	44	33	49
10	2060	149	1110	767	33	2050	32	2330	3340	829	31	182
11	1880	473	650	1140	1740	1330	26	809	3320	1110	849	47
12	2090	93	703	1150	2330	144	24	577	3310	899	953	481
13	1830	48	2040	1790	1620	102	24	454	1850	958	85	158
14	1820	38	1960	880	261	94	22	362	1640	1070	48	60
15	1800	36	2160	870	78	83	26	548	1910	856	517	47
16	1820	39	2040	872	122	74	30	260	1500	902	627	516
17	2150	180	1730	755	181	70	30	1550	1080	375	88	74
18	1460	1370	1590	274	63	56	30	1050	113	686	50	43
19	1120	617	690	663	251	48	30	960	603	353	41	32
20	995	142	1540	830	89	43	28	929	439	284	36	30
21	1930	378	1690	416	49	37	805	937	365	338	32	30
22	2000	444	1550	1290	38	32	260	946	86	425	31	30
23	1240	275	1770	1320	34	33	328	983	278	335	30	29
24	1180	86	333	1070	121	32	110	877	351	427	30	29
25	1030	46	370	743	207	69	63	108	84	664	30	84
26	995	40	554	96	66	282	47	67	295	767	33	290
27	230	37	349	181	102	148	37	201	1280	741	765	459
28	495	37	224	697	74	118	32	131	1080	1190	133	620
29	1370	36	275	280	---	120	1710	937	492	1320	680	676
30	806	36	504	338	---	66	2190	802	96	962	76	649
31	599	---	556	227	---	215	---	167	---	786	42	---
TOTAL	147200	5803	28299	23572	8404	17466	7134	25003	59916	18496	6609	4962
MEAN	4748	193	913	760	300	563	238	807	1997	597	213	165
MAX	23300	1370	2160	1790	2330	2150	2190	2330	13900	1320	953	676
MIN	230	36	35	96	33	32	22	67	84	44	30	28
AC-FT	292000	11510	56130	46760	16670	34640	14150	49590	118800	36690	13110	9840
CAL YR 1980	TOTAL	285684	MEAN	781	MAX	23300	MIN	10	AC-FT	566700		
WTR YR 1981	TOTAL	352864	MEAN	967	MAX	23300	MIN	22	AC-FT	699900		

BRAZOS RIVER BASIN

08090300 LAKE PALO PINTO NEAR SANTO, TX

LOCATION.--Lat 32°38'53", long 98°15'56", Palo Pinto County, Hydrologic Unit 12060201, on left bank near left end of dam on Palo Pinto Creek, 4.0 mi (6.4 km) upstream from bridge on Farm Road 4, 4.4 mi (7.1 km) northwest of Santo, 7.5 mi (12.1 km) upstream from Big Sunday Creek, and 18.7 mi (30.1 km) upstream from mouth.

DRAINAGE AREA.--461 mi² (1,194 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--The lake is formed by a rock-faced earthfill dam 1,300 ft (400 m) long with a 550-foot (170 m) uncontrolled ogee-crested emergency spillway at right end of dam. The dam was completed and storage began in April 1964. During the summer of 1965, the dam was raised 2 ft (0.6 m) and the spillway crest was raised 4 ft (1.2 m) and lengthened from 500 to 550 ft (150 to 170 m). The lake is the property of Palo Pinto County Municipal Water District No. 1 and was built to impound water for municipal use, principally for the city of Mineral Wells. Water is released to the downstream channel through a 30-inch (762 mm) gated concrete pipe. It then flows 15 mi (24 km) downstream to a diversion lake where it is then pumped to the city of Mineral Wells. In addition, water is circulated through a steam generating powerplant owned by the Brazos Electric Power Co-Operative, Inc. The capacity table is based on a survey completed in 1959. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	898.0	-
Design flood.....	893.0	163,200
Crest of spillway.....	867.0	44,090
Lowest gated outlet (invert).....	835.0	1,900

COOPERATION.--Capacity table furnished by Freese and Nichols, Inc., Consulting Engineers, for Palo Pinto Municipal Water District No. 1. Records of diversions furnished by the city of Mineral Wells.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 56,060 acre-ft (69.1 hm³) Oct. 31, 1974, elevation, 871.15 ft (265.57 m); minimum since initial filling to present spillway elevation, 18,750 acre-ft (23.1 hm³) Jan. 18, 1979, elevation, 854.96 ft (260.592 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 34,020 acre-ft (41.9 hm³) June 8 at 1800 hours, elevation, 862.90 ft (263.012 m); minimum observed, 23,380 acre-ft (28.8 hm³) Feb. 25, 26, elevation, 857.69 ft (261.424 m).

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

857.0	22,150	861.0	29,870
859.0	25,830	863.0	34,250

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25390	25310	24430	24930	23960	23700	27750	26650	25710	32170	29140	27440
2	25310	25270	24390	24910	23960	23670	27640	26650	25670	32060	29030	27750
3	25260	25240	24370	24910	23960	23670	27640	26650	25810	32020	28930	27680
4	25220	25220	24350	24860	23960	23880	27540	26650	27710	32060	28820	27620
5	25160	25200	24350	24860	23960	27140	27380	26650	28820	32020	28720	27540
6	25120	25180	24320	24840	23960	27400	27360	26650	33120	31950	28600	27460
7	25100	25160	24320	24750	23960	28050	27360	26610	33770	31800	28540	27360
8	25100	25140	25270	24750	23960	28350	27360	26610	33890	31740	28390	27280
9	25050	25100	25520	24750	23960	28390	27360	26630	33890	31630	28370	27160
10	24990	25080	25560	24750	23960	28390	27360	26450	33820	31520	28210	27100
11	24910	25070	25600	24730	23960	28390	27320	26370	33750	31430	28090	27000
12	24840	25030	25580	24710	23960	28410	27300	26370	33660	31320	28030	26900
13	24760	25010	25560	24690	23960	28410	27240	26310	33620	31220	27930	26920
14	24690	24930	25560	24670	23850	28410	27080	26230	33590	31110	27830	26920
15	24600	24880	25500	24650	23800	28410	27080	26350	33500	30980	27770	26820
16	24560	25010	25480	24580	23760	28250	27080	26410	33500	30890	27660	26730
17	26180	24970	25460	24580	23670	28270	27080	26390	33480	30740	28370	26590
18	26250	24950	25370	24560	23670	28270	27040	26370	33410	30680	28760	26490
19	26180	24970	25260	24520	23670	28110	27080	26220	33350	30550	28720	26410
20	26060	24930	25260	24520	23670	28110	27020	26200	33260	30440	28620	26330
21	26020	24900	25240	24480	23610	28110	26920	26160	33170	30320	28540	26310
22	25960	24910	25220	24480	23540	28110	26920	26160	33060	30170	28350	26180
23	25850	24900	25220	24450	23540	27970	26920	26180	32990	30060	28350	26060
24	25730	24780	25070	24450	23470	27970	26920	26080	32880	29950	28210	25980
25	25730	24710	25070	24450	23380	27950	26920	26020	32770	29830	28090	25890
26	25640	24670	25070	24430	23380	27910	26920	25960	32700	29720	28050	25790
27	25620	24630	25070	24350	23390	27790	26920	25900	32550	29640	27890	25730
28	25410	24580	25050	24320	23670	27600	26920	25900	32460	29580	27810	25650
29	25390	24560	24970	24280	---	27600	27020	25850	32370	29490	27750	25560
30	25370	24520	24990	23960	---	27830	26980	25830	32260	29370	27580	25500
31	25310	---	24990	23960	---	27830	---	25750	---	29220	27480	---
MAX	26250	25310	25600	24930	23960	28410	27750	26650	33890	32170	29140	27750
MIN	24560	24520	24320	23960	23380	23670	26920	25750	25670	29220	27480	25500
(†)	858.73	858.31	858.56	858.01	857.85	860.01	859.59	858.96	862.11	860.69	859.84	858.83
(‡)	-20	-790	+470	-1030	-290	+4160	-850	-1230	+6510	-3040	-1740	-1980
(††)	340	323	300	281	249	265	262	281	295	523	458	316

CAL YR 1980 MAX 33390 MIN 21300 † -8400 †† 4430

WTR YR 1981 MAX 33890 MIN 23380 ‡ + 170 †† 3890

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-ft, for municipal use by city of Mineral Wells, Tex.

BRAZOS RIVER BASIN

08090300 LAKE PALO PINTO NEAR SANTO, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
MAY 06...	1405	418	24.0	140	34	44	8.4	24

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAY 06...	.9	6.2	110	40	33	.3	4.6	227

BRAZOS RIVER BASIN

08090800 BRAZOS RIVER NEAR DENNIS, TX

LOCATION.--Lat 32°36'56", long 97°55'32", Parker County, Hydrologic Unit 12060201, at downstream side of bridge on Farm Road 1543, 0.2 mi (0.3 km) south of Dennis, 1.0 mi (1.6 km) upstream from Patrick Creek, and at mile 589.8 (949.0 km).

DRAINAGE AREA.--25,237 mi² (65,364 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1968 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 697.67 ft (212.650 m) National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation bench marks).

REMARKS.--Water-discharge records good. Flow is largely regulated by releases from storage in Possum Kingdom Lake (station 08088500) and Lake Palo Pinto (station 08090300). Flow is affected at times by discharge from the flood-detention pools of ten floodwater-retarding structures with a combined detention capacity of 11,890 acre-ft (14.7 hm³). These structures control runoff from 46.5 mi² (120.4 km²) in the East Keechi and Pollard Creeks drainage basins. There are many diversions above station for irrigation, municipal supply, and oil-field operations. Gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years (water years 1969-81), 802 ft³/s (22.71 m³/s), 581,000 acre-ft/yr (716 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,300 ft³/s (1,680 m³/s) Aug. 10, 1978, gage height, 25.86 ft (7.882 m), from floodmarks; minimum, 0.87 ft³/s (0.025 m³/s) Aug. 2, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1930, 31.8 ft (9.69 m) in May 1957, from floodmark, from information by State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,100 ft³/s (626 m³/s) Oct. 6 at 1830 hours, gage height, 18.09 ft (5.514 m); minimum, 32 ft³/s (0.91 m³/s) July 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1750	835	118	452	243	120	126	1650	739	588	929	291
2	6870	649	102	519	314	103	109	1730	387	305	817	208
3	13500	436	95	360	185	180	153	817	259	478	657	304
4	19700	311	543	389	140	1600	158	729	371	770	292	154
5	12800	235	605	374	115	2700	307	956	922	656	164	108
6	18100	190	341	962	161	1290	222	877	2610	309	112	116
7	14600	166	292	691	172	1650	141	934	6530	186	81	105
8	7620	330	389	490	159	2310	105	1280	7360	136	70	81
9	2630	256	657	878	168	2010	83	1550	9380	114	117	66
10	2250	187	726	1040	127	1750	86	3690	4800	89	108	55
11	2000	153	1040	991	101	1780	124	2180	2900	71	75	46
12	1860	157	898	650	92	1680	96	1530	2800	784	59	46
13	1870	418	650	878	1280	681	76	899	2740	954	845	101
14	1760	282	991	1280	1500	368	64	771	2280	1000	665	421
15	1690	194	1600	1000	878	256	55	683	1760	1000	290	797
16	1650	165	1520	765	385	203	51	728	1810	1030	172	341
17	2190	157	1690	753	217	168	46	733	1830	961	890	166
18	2170	135	1460	759	152	141	49	1050	1690	694	1320	337
19	1760	295	1260	684	158	121	49	1070	818	598	448	284
20	1420	862	1000	389	165	113	47	1090	473	637	218	172
21	756	611	837	605	124	98	42	1030	655	384	137	110
22	1310	369	1400	598	177	86	54	1010	606	350	95	82
23	1650	406	1100	519	122	79	1130	1020	515	364	81	74
24	1640	496	1520	1140	98	71	2390	1010	327	468	66	60
25	1150	370	948	940	83	72	1030	1190	284	394	63	50
26	1060	279	446	969	74	69	636	725	425	364	59	50
27	1060	199	399	519	76	66	452	470	290	409	56	47
28	658	159	537	267	152	77	326	288	258	441	60	61
29	433	134	404	178	---	219	245	210	1320	853	455	531
30	904	123	341	479	---	175	291	253	808	1230	373	678
31	899	---	263	355	---	142	---	903	---	1090	593	---
TOTAL	129710	9559	24172	20873	7618	20378	8743	33056	57947	17707	10367	5942
MEAN	4184	319	780	673	272	657	291	1066	1932	571	334	198
MAX	19700	862	1690	1280	1500	2700	2390	3690	9380	1230	1320	797
MIN	433	123	95	178	74	66	42	210	258	71	56	46
AC-FT	257300	18960	47950	41400	15110	40420	17340	65570	114900	35120	20560	11790
CAL YR 1980	TOTAL	281901	MEAN	770	MAX	19700	MIN	26	AC-FT	559200		
WTR YR 1981	TOTAL	346072	MEAN	948	MAX	19700	MIN	42	AC-FT	686400		

BRAZOS RIVER BASIN

281

08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1970 to current year.

WATER TEMPERATURES: October 1970 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,880 micromhos Aug. 29, 1976; minimum daily, 300 micromhos Mar. 27, 1977.

WATER TEMPERATURES: Maximum daily, 38.5°C July 26, 1976; minimum daily, 0.0°C on several days during winter months 1977-79.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,070 micromhos Oct. 7, Aug. 13; minimum daily, 481 micromhos Mar. 6.

WATER TEMPERATURES: Maximum daily, 35.0°C July 11, 20; minimum daily, 5.0°C Dec. 25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 03...	1645	13700	2930	22.0	490	390	140	34	420
NOV 20...	1820	857	2520	10.5	450	350	130	30	360
MAY 30...	1940	140	966	30.0	220	120	68	13	110
31...	1412	1400	1780	--	330	210	95	23	230
AUG 14...	1124	650	3060	30.0	550	450	150	43	430
SEP 15...	1843	663	1550	28.0	280	200	79	21	210

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 03...	8.3	10	100	330	710	.4	6.1	1710
NOV 20...	7.4	9.0	98	290	590	.4	4.4	1470
MAY 30...	3.2	2.6	100	110	180	.2	5.9	550
31...	5.5	5.9	120	220	380	.3	4.2	1030
AUG 14...	8.0	7.9	99	390	740	.4	3.1	1820
SEP 15...	5.8	6.1	84	200	330	.3	4.7	902

BRAZOS RIVER BASIN
08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	129710	2920	1680	589000	680	236600	340	117600	500
NOV.	1980	9559	2560	1460	37600	580	14900	290	7470	450
DEC.	1980	241.72	2310	1300	85000	510	33600	260	16900	410
JAN.	1981	20873	2820	1620	91300	650	36600	320	18200	490
FEB.	1981	7618	2820	1620	33300	650	13400	320	6650	490
MAR.	1981	20378	1880	1050	58000	410	22800	210	11500	330
APR.	1981	8743	1400	778	18400	300	7200	150	3640	250
MAY	1981	33056	2270	1280	115000	510	45400	250	22800	400
JUNE	1981	57947	2440	1380	216000	550	85900	270	43000	430
JULY	1981	17707	2870	1650	79000	660	31700	330	15700	490
AUG.	1981	10367	2580	1480	41500	590	16600	300	8260	450
SEPT	1981	5942	2350	1330	21300	530	8440	260	4230	410
TOTAL		346072	**	**	1386000	**	553000	**	276000	**
WTD. AVG.		948	2590	1480	**	590	**	300	**	450

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1800	2640	2530	2740	2770	2850	2340	2250	2620	2830	2880	2920
2	2730	2590	2560	2800	2770	2830	2360	2740	2710	2820	2920	2770
3	2910	2590	2580	2820	2790	2640	2310	2680	2700	2770	2910	2340
4	2960	2600	2500	2800	2780	1310	2250	2670	2600	2830	2940	1580
5	3010	2620	2510	2810	2170	902	2150	2680	1500	2700	2930	1960
6	3030	2660	2490	2880	2790	481	2240	2720	853	2740	2940	2410
7	3070	2670	2520	2820	2730	915	2470	2770	2450	2740	2910	2220
8	3030	2670	2240	2860	2730	2240	2660	2760	2210	2750	2930	2440
9	3030	2660	1300	2850	2740	2110	2700	1800	2520	2780	2940	2510
10	3030	2650	1530	2820	2660	2300	2750	986	2450	2760	2920	2520
11	3020	2660	1700	2850	2830	2580	2780	1780	2540	2760	2990	2540
12	3000	2690	1660	2840	2840	2660	2790	2050	2630	2800	3000	2560
13	2990	2670	1880	2850	2900	2600	2790	2380	2670	2820	3070	2470
14	2980	2630	2100	2870	2800	2580	2790	2440	2680	2840	3060	2410
15	2940	2660	2200	2880	2850	2580	2800	2130	2630	2850	3050	1550
16	2920	2610	2320	2870	2900	2530	2790	2400	2630	2870	3020	2110
17	2360	2590	2310	2860	2890	2520	2790	2350	2640	2880	2640	2000
18	2140	2620	2310	2820	2880	2540	2790	2570	2690	2900	968	1540
19	2780	2610	2320	2800	2860	2540	2770	2520	2670	2920	1870	2290
20	2720	2510	2320	2770	2860	2550	2740	2620	2670	2920	2150	2540
21	2730	2450	2280	2770	2860	2540	2830	2670	2680	2940	2460	2570
22	2820	2430	2390	2800	2860	2560	2770	2710	2650	2960	2570	2640
23	2790	2430	2620	2800	2880	2560	2750	2700	2630	2970	2620	2650
24	2770	2430	2700	2810	2890	2560	484	2670	2710	2990	2690	2670
25	2740	2440	2810	2800	2890	2540	545	2700	2700	3000	2660	2630
26	2780	2440	2820	2770	2890	2530	846	2540	2790	2990	2670	2610
27	2790	2460	2780	2740	2880	2550	915	2600	2800	2910	2540	2560
28	2730	2470	2770	2720	2740	2170	962	2660	2800	2920	2540	2570
29	2770	2490	2790	2740	---	2470	953	2650	2790	2920	2780	2880
30	2850	2520	2810	2770	---	2390	966	2670	2840	2900	2900	2970
31	2680	---	2770	2780	---	2300	---	1780	---	2900	2950	---
MEAN	2800	2570	2370	2810	2800	2300	2200	2440	2550	2860	2720	2410

BRAZOS RIVER BASIN

283

08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	15.0	17.5	12.0	10.0	18.0	24.0	28.0	---	30.5	30.0	28.0
2	21.0	17.0	12.0	12.0	9.0	18.0	23.0	24.5	---	32.0	32.0	26.0
3	22.0	17.5	12.5	12.0	11.5	15.0	23.5	22.0	---	31.0	29.0	30.0
4	23.5	19.0	13.5	10.0	8.0	16.0	---	23.5	---	29.5	31.5	32.0
5	23.0	18.0	14.5	9.0	9.0	24.0	22.0	24.0	---	32.0	32.5	32.0
6	22.0	20.0	16.5	8.0	8.0	14.0	20.0	26.0	---	32.5	34.0	32.0
7	23.0	20.0	17.5	9.5	12.0	14.0	23.0	26.0	23.0	29.0	31.0	27.0
8	23.5	21.5	12.0	10.0	11.0	12.0	24.0	24.5	25.5	32.0	30.0	30.0
9	23.5	20.5	11.5	11.0	10.0	13.5	22.0	21.0	24.5	31.0	29.5	29.0
10	24.0	21.5	10.5	10.0	8.0	12.0	23.0	18.5	26.0	34.0	32.0	---
11	23.5	22.0	10.5	11.0	6.5	14.0	25.0	20.0	27.0	35.0	30.0	32.0
12	22.0	21.0	11.5	10.0	8.0	14.0	28.5	---	25.0	32.0	---	31.5
13	---	18.5	11.5	10.0	7.0	17.0	28.0	27.0	25.0	29.0	29.5	31.0
14	24.0	15.5	12.5	10.0	15.0	19.0	23.0	24.5	24.5	28.0	30.0	27.0
15	20.0	12.5	---	10.0	12.0	20.0	21.0	20.0	27.0	29.5	33.0	28.0
16	24.0	10.0	13.5	9.5	14.0	18.0	18.0	27.5	25.0	31.0	32.0	27.5
17	23.0	7.5	14.5	9.0	15.0	20.0	22.0	27.0	28.0	32.0	28.5	25.0
18	22.0	10.0	14.5	7.0	17.0	16.0	21.5	27.0	27.0	32.5	26.0	24.0
19	21.0	9.5	9.0	7.0	19.0	17.0	28.5	24.0	27.0	33.0	28.5	21.0
20	20.0	11.5	5.5	9.0	19.0	18.0	22.0	23.0	28.0	35.0	26.0	25.5
21	18.5	10.5	---	7.0	19.0	18.0	27.5	24.0	27.0	34.0	31.0	29.0
22	21.0	9.5	6.0	10.0	16.0	15.0	27.0	24.0	32.0	34.5	30.5	30.0
23	21.5	11.0	18.5	11.0	17.0	19.0	24.5	25.0	28.0	28.0	32.0	28.0
24	18.0	11.5	---	12.0	17.0	21.0	22.0	25.0	32.0	29.0	31.0	29.0
25	17.0	9.0	5.0	11.0	20.0	15.0	19.5	28.0	30.0	33.0	27.0	30.0
26	18.0	8.5	6.5	12.0	20.0	20.0	26.0	30.0	31.0	32.0	34.0	30.5
27	18.0	8.5	9.0	12.0	20.0	18.0	27.5	---	32.5	30.0	31.0	31.0
28	13.0	5.5	6.0	---	18.0	19.0	28.5	---	31.5	30.0	32.5	30.0
29	14.0	11.5	10.5	16.0	---	21.0	30.0	---	27.0	31.5	31.5	28.0
30	---	14.5	11.0	10.5	---	23.0	30.0	---	33.0	30.0	31.5	28.0
31	16.0	---	12.0	10.0	---	24.0	---	---	---	30.5	29.5	---
MEAN	20.5	14.5	11.5	10.5	13.5	17.5	24.5	24.5	28.0	31.5	30.5	28.5

BRAZOS RIVER BASIN

08090900 LAKE GRANBURY NEAR GRANBURY, TX

LOCATION.--Lat 32°22'27", long 97°41'20", Hood County, Hydrologic Unit 12060201, at right end of spillway of DeCordova Bend Dam on Brazos River, 2.6 mi (4.2 km) upstream from Fall Creek, 7.5 mi (12.1 km) southeast of Granbury, and at mile 542.5 (872.9 km).

DRAINAGE AREA.--25,679 mi² (66,509 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The lake is formed by an Ambursen-type concrete and earthfill dam 2,256 ft (688 m) long, including a 932-foot (284 m) concrete spillway. The dam was completed on Aug. 30, 1969, and deliberate impoundment began Sept. 15, 1969. The spillway consists of sixteen 36- by 35-foot (11.0 by 10.7 m) tainter gates and two 7- by 8-foot (2.1 by 2.4 m) sluice gates. The outflow from the sluice gates discharges into a bay where it is then controlled by two 4- by 4.5-foot (1.2 by 1.4 m) sluice gates with invert at 625.8 ft (190.74 m). Flow is affected at times by discharge from the flood-detention pools of 11 floodwater-retarding structures with a combined detention capacity of 13,360 acre-ft (16.5 hm³). These structures control runoff from 52.7 mi² (136 km²) in the East Keechi, Kickapoo, and Ruckers Creeks drainage basins. The lake was built by the Brazos River Authority for the conservation of water for irrigation, municipal, and industrial uses. Total monthly diversions given in the table below were furnished by the Brazos River Authority. The largest diversion was 9,320 acre-ft (11.5 hm³) for industrial uses. Records furnished by the city of Granbury show that 369 acre-ft (455,000 m³) of sewage effluent was returned above station during the current year. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	706.5	-
Top of tainter gates (design flood).....	693.0	153,500
Crest of spillway.....	658.0	15,440
Lowest gated outlet (invert).....	640.0	2,200

COOPERATION.--The capacity curve, based on data prepared by the Ambursen Engineering Corporation, was furnished by the Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 158,800 acre-ft (196 hm³) Mar. 27, 1977, elevation, 693.60 ft (211.409 m); minimum since first filling in October 1969, 97,600 acre-ft (120 hm³) Aug. 9, 1978, elevation 685.28 ft (208.873 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 152,800 acre-ft (188 hm³) Aug. 16 at 2300, elevation, 692.92 ft (211.202 m); minimum, 133,100 acre-ft (164 hm³) Oct. 6, elevation, 690.51 ft (210.467 m).

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

690.0	129,200	692.0	145,000
691.0	136,900	693.0	153,500

 CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
 INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140300	149700	149500	150900	150300	150700	150300	141100	145500	151100	148300	149000
2	137200	149500	149300	151500	150100	150600	149400	143600	144800	150200	148200	148900
3	137000	149700	149100	151400	149900	151000	149300	144100	144700	149800	148900	149200
4	142300	149500	149600	150000	150000	151200	148600	145000	143600	152100	149200	149700
5	136300	149400	150700	149000	150100	151100	148100	146300	140800	150000	149200	149700
6	135000	149400	150600	149900	150200	149300	147800	147600	140500	149000	149000	149800
7	139200	149300	150000	150500	150800	148900	146300	148400	142000	148800	148800	150600
8	145300	149300	150600	150500	150700	150000	146200	149400	144300	148800	148400	150000
9	149000	149500	150000	150100	150800	149100	145600	150600	141900	148800	148300	149900
10	150300	149800	150000	150700	151700	148800	145100	150500	141900	148700	148100	149900
11	149600	149800	150300	151100	149800	149700	144300	149500	144200	148700	147900	149500
12	148600	149600	149400	150000	148800	150100	143900	148700	146500	149400	147500	149100
13	149200	150100	149400	149100	148600	150000	143000	148800	147000	149400	148000	149800
14	149900	150600	150300	148400	148800	149900	142600	147600	146900	148400	149300	150100
15	150200	150400	151200	149100	149500	150100	141600	147300	146800	148300	149400	150000
16	150300	150800	151100	149100	150100	150100	140700	148200	146500	148500	150800	149500
17	150700	150500	151300	148800	150100	150400	139800	148400	145800	148700	151500	149200
18	151200	149800	151800	148700	150300	150000	139200	148800	147700	148700	150000	149400
19	149700	149400	151200	149100	150300	149900	138400	148300	148700	148100	149800	149600
20	149400	150600	150500	149600	150500	149500	137600	148200	148100	148500	149900	149600
21	148300	151200	149300	149400	151000	150000	136400	148000	147600	148900	149800	149600
22	149400	150900	150200	149800	150000	149600	135000	148400	147800	149000	149600	149500
23	150600	150700	150500	149800	150400	149400	136000	148200	148400	149300	149400	149400
24	149800	150400	150000	150700	150300	149100	140100	149000	148700	149700	149300	149400
25	148300	150000	148900	151200	150300	149300	141100	149700	148800	149700	149100	149300
26	148100	149200	148800	151100	150300	148700	141000	149700	149000	150300	148900	149100
27	150500	149100	149400	150100	150300	148300	140600	148800	149200	150200	149000	149000
28	148900	149000	150200	149900	150600	149600	140200	147700	148900	149300	148800	148900
29	147800	149000	150500	150200	---	149800	139700	146400	150400	147900	149000	149700
30	149000	148800	150300	149200	---	149900	139100	145200	151500	147800	149100	149700
31	149800	---	150600	150600	---	150300	---	144800	---	148100	149900	---
MAX	151200	151200	151800	151500	151700	151200	150300	150600	151500	152100	151500	150600
MIN	135000	148800	148800	148400	148600	148300	135000	141100	140500	147800	147500	148900
(+)	367.08	367.11	367.84	367.98	368.14	368.57	368.17	371.68	376.88	375.30	374.79	374.55
(+)	-290	+220	+5410	+1040	+1230	+3350	-3110	+29390	+55000	-18400	-5600	-2600

CAL YR 1980 MAX 151800 MIN 128600 † + 8060
 WTR YR 1981 MAX 152100 MIN 135000 † +65640

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

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1970 to current year.

322227097412101 LAKE GRANBURY SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
JAN											
28...	1040	1.0	2690	8.2	11.0	2.19	10.3	96	460	360	
28...	1041	3.6	--	--	--	--	--	--	--	--	
28...	1042	10	2690	8.2	11.0	--	10.3	96	--	--	
28...	1044	20	2690	8.2	10.5	--	10.1	93	--	--	
28...	1046	30	2690	8.2	10.5	--	9.8	90	--	--	
28...	1048	40	2730	8.0	9.5	--	8.8	79	--	--	
28...	1050	50	2760	7.9	9.5	--	8.3	75	--	--	
28...	1051	60	2760	7.8	9.5	--	8.2	74	--	--	
28...	1052	67	2760	7.8	9.5	--	7.9	71	490	380	
MAY											
06...	1224	1.0	2570	8.1	24.0	1.80	7.5	91	490	370	
06...	1225	3.0	--	--	--	--	--	--	--	--	
06...	1226	10	2570	8.1	23.5	--	7.5	90	--	--	
06...	1228	20	2570	8.1	23.0	--	7.3	87	--	--	
06...	1230	30	2570	8.1	22.5	--	7.1	84	--	--	
06...	1232	40	2600	7.4	19.5	--	2.1	23	--	--	
06...	1234	50	2680	7.4	17.5	--	.5	5	--	--	
06...	1236	60	2680	7.4	17.0	--	.5	5	--	--	
06...	1238	68	2680	7.3	17.0	--	.6	6	470	350	
AUG											
06...	1730	1.0	2430	7.9	30.5	1.10	7.0	95	440	340	
06...	1731	1.7	--	--	--	--	--	--	--	--	
06...	1732	10	2420	7.8	29.5	--	6.2	82	--	--	
06...	1734	20	2420	7.7	29.0	--	5.1	67	--	--	
06...	1736	30	2410	7.6	29.0	--	4.8	63	--	--	
06...	1738	40	2430	7.0	27.5	--	.1	1	--	--	
06...	1740	50	2410	6.9	25.0	--	.1	1	--	--	
06...	1742	60	2380	6.9	22.5	--	.1	1	--	--	
06...	1745	68	2420	6.9	21.5	--	.1	1	460	260	

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN										
28...	130	34	380	7.7	7.1	100	330	620	.4	4.7
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	140	35	390	7.6	7.3	110	330	660	--	12
MAY										
06...	140	34	360	7.1	6.7	120	340	580	.2	2.7
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	130	35	370	7.4	6.6	120	350	600	--	5.3
AUG										
06...	120	34	340	7.1	7.3	99	300	540	.3	5.0
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	130	33	330	6.7	7.4	200	250	540	--	14

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 LAKE GRANBURY SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
28...	1570	.05	--	--	.80	.85	.040	10	0
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	.05	--	--	.87	.92	.040	30	10
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	1640	.05	--	--	.89	.94	.050	40	100
MAY									
06...	1540	.05	.070	.67	.74	.79	.150	30	20
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	1570	.26	.180	.62	.80	1.1	.170	90	1000
AUG									
06...	1410	.01	--	--	.67	.68	.030	10	20
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	.01	--	--	.79	.80	.030	20	50
06...	--	.01	--	--	.64	.65	.040	120	870
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	1430	.01	--	--	3.20	3.2	.500	80	2800

322231097412001 LAKE GRANBURY SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	1105	1.0	2690	8.2	11.0	10.5	96
28...	1108	10	2690	8.2	11.0	10.3	96
28...	1110	20	2690	8.2	11.0	10.2	95
28...	1115	34	2690	8.2	10.5	9.9	92
MAY							
06...	1300	1.0	2570	8.1	24.0	7.7	94
06...	1302	10	2570	8.1	23.5	7.5	90
06...	1304	20	2570	8.1	23.5	7.4	89
06...	1306	30	2570	8.1	23.0	7.3	87
06...	1308	40	2600	7.4	20.0	2.0	22
06...	1310	47	2620	7.3	20.0	1.4	16
AUG							
06...	1800	1.0	2430	7.9	31.0	7.0	95
06...	1802	10	2420	7.8	29.5	6.4	84
06...	1805	24	2420	7.7	29.5	5.5	72

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322345097421901 LAKE GRANBURY SITE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	1010	1.0	2660	8.1	10.5	9.9	92
28...	1012	11	2670	8.1	10.5	9.7	90
MAY							
06...	1200	1.0	2550	8.0	23.5	7.1	86
06...	1203	10	2550	8.0	23.5	6.8	82
06...	1207	23	2550	7.9	23.5	6.7	81
AUG							
06...	1645	1.0	2450	8.0	31.5	7.5	101
06...	1647	10	2460	8.1	30.5	7.0	93
06...	1649	22	2480	7.3	30.5	2.7	36

322341097420601 LAKE GRANBURY SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	1015	1.0	2660	8.1	10.5	9.8	91
28...	1017	10	2670	8.1	10.5	9.5	88
28...	1019	20	2680	8.0	10.0	8.9	81
28...	1021	30	2700	7.9	10.0	8.6	78
28...	1023	40	2730	7.8	9.5	8.4	76
28...	1025	50	2750	7.8	9.5	8.3	75
28...	1029	63	2750	7.8	9.5	8.2	74
MAY							
06...	1140	1.0	2550	8.0	23.5	7.1	86
06...	1142	10	2550	8.0	23.5	6.9	83
06...	1144	20	2550	8.0	23.0	6.8	81
06...	1146	30	2550	7.7	22.0	5.0	56
06...	1148	40	2560	7.4	20.0	2.3	26
06...	1150	50	2590	7.3	18.5	.8	9
06...	1152	65	2660	7.3	17.5	.6	6
AUG							
06...	1655	1.0	2440	8.0	31.0	7.5	101
06...	1657	10	2450	8.0	30.0	6.8	91
06...	1659	20	2470	7.3	29.5	2.6	34
06...	1701	30	2430	7.1	29.0	1.0	13
06...	1703	40	2470	7.0	28.0	.1	1
06...	1705	50	2440	6.9	26.0	.1	1
06...	1707	60	2440	6.9	24.0	.2	2
06...	1708	65	2440	6.9	23.0	.2	2

322337097415401 LAKE GRANBURY SITE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	1000	1.0	2660	8.1	10.5	10.0	93
28...	1003	10	2670	8.1	10.0	9.9	90
28...	1005	20	2670	8.1	10.0	9.7	88
MAY							
06...	1210	1.0	2550	8.0	24.0	7.2	88
06...	1212	10	2550	8.0	24.0	7.2	88
06...	1214	22	2550	8.0	23.5	7.1	86
AUG							
06...	1710	1.0	2440	8.1	31.5	7.9	107
06...	1712	10	2440	8.0	30.0	6.6	88
06...	1714	20	2470	7.1	29.5	2.7	36
06...	1716	29	2410	7.3	29.5	1.1	14

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322537097414501 LAKE GRANBURY SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	0945	1.0	2620	8.1	10.5	9.7	90
28...	0948	9.0	2670	7.8	10.0	8.6	78
MAY							
06...	1120	1.0	2480	7.9	23.5	6.9	83
06...	1122	7.0	2480	7.9	23.5	6.6	80
AUG							
06...	1630	1.0	2480	8.1	33.0	7.9	111
06...	1632	6.0	2470	8.1	32.0	8.3	115

322422097423901 LAKE GRANBURY SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	0915	1.0	2640	8.0	11.5	9.6	90
28...	0917	10	2640	8.0	11.0	9.5	89
28...	0919	20	2680	7.8	9.5	8.4	76
28...	0921	30	2640	7.8	9.0	8.1	72
28...	0923	40	2640	8.0	8.0	8.6	75
28...	0925	50	2700	8.0	8.0	8.5	74
28...	0928	58	2700	8.0	8.0	8.4	73
MAY							
06...	1040	1.0	2470	8.0	23.5	7.1	86
06...	1042	10	2470	8.0	23.5	7.0	84
06...	1044	20	2500	7.9	23.0	6.9	82
06...	1046	30	2440	7.4	21.5	2.6	30
06...	1048	40	2440	7.4	20.0	1.3	14
06...	1050	50	2570	7.3	18.0	.7	8
06...	1052	59	2590	7.4	17.5	.8	9
AUG							
06...	1555	1.0	2500	7.9	32.5	7.0	97
06...	1557	10	2470	8.1	30.5	7.3	99
06...	1559	20	2480	7.7	30.0	4.6	62
06...	1601	30	2660	7.0	29.5	.1	1
06...	1603	40	2560	7.0	28.0	.1	1
06...	1605	50	2490	6.9	26.0	.1	1
06...	1607	58	2480	6.9	25.5	.1	1

322437097423901 LAKE GRANBURY SITE DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	0903	1.0	2640	8.0	11.0	9.7	91
28...	0905	10	2640	8.1	10.0	9.7	88
28...	0908	20	2680	7.8	9.5	8.5	77
28...	0910	34	2660	7.7	9.0	7.8	70
MAY							
06...	1100	1.0	2470	8.0	23.5	7.2	87
06...	1102	10	2470	7.9	23.5	6.8	82
06...	1104	24	2470	7.9	23.5	6.6	80
AUG							
06...	1615	1.0	2500	7.8	32.5	6.5	90
06...	1617	10	2470	8.1	30.5	7.2	97
06...	1620	20	2480	7.5	30.5	4.0	54

BRAZOS RIVER BASIN

289

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322458097443101 LAKE GRANBURY SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	0840	1.0	2630	8.1	11.0	10.2	95
28...	0842	10	2630	8.1	10.5	10.2	94
28...	0844	20	2540	8.2	9.0	10.2	91
28...	0846	30	2610	8.1	8.0	9.5	83
28...	0848	40	2760	8.1	8.0	9.2	80
28...	0850	53	2760	8.1	8.0	9.3	81
MAY							
06...	1015	1.0	2350	8.0	23.5	6.7	81
06...	1017	10	2350	7.9	23.0	6.6	79
06...	1019	20	2350	7.9	23.0	6.2	74
06...	1021	30	2320	7.3	20.5	.8	9
06...	1023	40	2500	7.3	18.5	.8	9
06...	1025	54	2570	7.3	18.0	.8	9
AUG							
06...	1525	1.0	2480	8.4	33.0	11.2	158
06...	1527	10	2490	8.0	31.0	7.0	95
06...	1529	20	2540	7.6	29.5	4.0	53
06...	1531	30	2670	7.2	29.5	1.4	19
06...	1533	40	2720	7.1	29.0	.2	3
06...	1535	53	2490	6.9	25.5	.2	2

322619097463301 LAKE GRANBURY SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
JAN										
28...	1140	1.0	2640	8.6	10.0	1.68	11.8	107	490	380
28...	1142	10	2640	8.6	10.0	--	11.5	105	--	--
28...	1144	20	2750	8.4	9.0	--	10.2	91	--	--
28...	1146	30	2830	8.3	8.5	--	9.5	84	--	--
28...	1148	43	2830	8.1	8.5	--	8.8	78	540	430
MAY										
06...	1350	1.0	2240	8.1	24.5	.60	7.8	95	430	310
06...	1352	10	2250	7.9	23.5	--	6.5	77	--	--
06...	1354	20	2260	7.8	23.5	--	5.9	70	--	--
06...	1356	30	2290	7.3	22.0	--	1.2	14	--	--
06...	1358	41	2430	7.3	19.5	--	.5	6	450	330
AUG										
06...	1850	1.0	2490	8.2	31.5	1.00	9.4	127	440	350
06...	1852	10	2500	8.1	30.5	--	8.3	112	--	--
06...	1854	20	2570	7.7	29.5	--	5.1	68	--	--
06...	1856	30	2830	7.3	29.0	--	2.7	36	--	--
06...	1859	43	2860	7.3	29.5	--	2.1	28	510	410

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322619097463301 LAKE GRANBURY SITE FC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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- LITY 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)
JAN									
28...	140	35	350	6.9	6.7	110	370	560	4.8
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	150	41	400	7.5	6.8	110	420	650	4.1
MAY									
06...	120	31	290	6.1	6.2	120	280	500	4.0
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	130	31	330	6.8	6.1	120	300	550	5.9
AUG									
06...	120	34	340	7.1	7.0	85	300	560	6.2
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	140	39	390	7.5	7.4	100	360	640	7.0

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
28...	1530	.00	--	--	.85	.85	.040	50	0
28...	--	--	--	--	--	--	--	--	--
28...	--	.00	--	--	.74	.74	.040	50	10
28...	--	--	--	--	--	--	--	--	--
28...	1740	.09	--	--	.41	.50	.050	40	20
MAY									
06...	1300	.06	.070	.72	.79	.85	.170	40	20
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	1430	.15	.310	.69	1.00	1.2	.190	90	1500
AUG									
06...	1420	.01	--	--	.74	.75	.040	30	10
06...	--	--	--	--	--	--	--	--	--
06...	--	.01	--	--	.72	.73	.050	20	10
06...	--	.01	--	--	.95	.96	.060	20	40
06...	1640	.01	--	--	1.10	1.1	.060	20	80

322703097451401 LAKE GRANBURY SITE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	1210	1.0	2570	8.4	9.5	10.8	97
28...	1214	10	2570	8.4	9.5	10.1	91
28...	1218	15	2610	8.1	9.0	8.6	77
28...	1222	24	2770	7.8	9.0	7.6	68
MAY							
06...	1720	1.0	2240	8.2	25.5	8.4	104
06...	1722	10	2240	7.9	24.0	6.3	77
06...	1724	23	2240	7.6	24.0	4.3	52
AUG							
07...	0905	1.0	2510	8.0	29.5	7.5	99
07...	0907	10	2520	7.9	29.0	6.1	79
07...	0910	22	2810	7.1	28.5	1.3	17

BRAZOS RIVER BASIN

291

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322834097470801 LAKE GRANBURY SITE HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
28...	1230	1.0	2860	8.5	10.5	.94	11.6	106
28...	1232	10	2860	8.5	10.0	--	11.3	103
28...	1234	20	2870	8.4	9.0	--	10.0	89
28...	1236	32	2870	7.9	8.5	--	7.8	69
MAY								
06...	1650	1.0	1640	8.3	25.0	.40	9.1	111
06...	1652	10	1640	8.0	24.0	--	7.8	94
06...	1654	20	1920	7.8	23.5	--	5.4	64
06...	1656	33	2280	7.4	22.5	--	.7	8
AUG								
07...	0925	1.0	2650	8.0	29.5	.50	7.1	93
07...	0927	10	2660	7.9	29.5	--	6.9	91
07...	0929	20	2730	7.8	29.0	--	5.9	77
07...	0932	31	2890	7.5	28.5	--	3.5	45

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, 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								
28...	.06	--	--	.77	.83	.030	40	10
28...	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--
28...	.15	--	--	.41	.56	.050	20	20
MAY								
06...	.08	.080	.89	.97	1.1	.190	10	20
06...	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--
06...	.13	.320	.78	1.10	1.2	.200	30	1000
AUG								
07...	.01	--	--	6.30	6.3	.050	20	10
07...	--	--	--	--	--	--	--	--
07...	.01	--	--	.93	.94	.060	20	20
07...	.01	--	--	.95	.96	.080	20	110

322819097483201 LAKE GRANBURY SITE IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	1250	1.0	2840	8.5	10.0	11.1	101
28...	1255	10	2850	8.3	9.5	9.9	88
28...	1259	20	2850	8.0	9.0	8.8	79
MAY							
06...	1520	1.0	1490	8.3	26.0	8.9	111
06...	1522	10	1530	8.2	25.0	7.8	95
06...	1524	20	1750	7.9	25.0	5.5	67
AUG							
07...	0945	1.0	2780	7.9	28.5	7.1	91
07...	0947	10	2770	7.9	28.5	6.7	86
07...	0950	19	2780	7.9	28.5	6.5	83

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

323318097480101 LAKE GRANBURY SITE JC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
28...	1310	1.0	2820	8.5	10.5	11.3	105
28...	1312	10	2820	8.5	10.0	10.9	99
28...	1315	21	2840	8.1	9.0	9.2	82
MAY							
06...	1550	1.0	2650	8.3	25.0	8.6	106
06...	1552	10	2670	8.0	23.5	6.7	81
06...	1554	23	2670	7.9	24.0	6.4	78
AUG							
07...	1005	1.0	2960	7.9	30.5	6.8	91
07...	1007	10	2960	7.7	30.0	5.7	76
07...	1010	21	2980	7.1	28.5	.5	6

323435097492001 LAKE GRANBURY SITE KC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)
JAN										
28...	1330	1.0	2780	8.4	11.0	.67	10.8	101	540	430
28...	1331	1.1	--	--	--	--	--	--	--	--
28...	1332	13	2780	8.3	10.0	--	10.3	94	510	400
MAY										
06...	1608	1.0	2660	8.2	26.0	.40	8.0	101	490	380
06...	1609	.6	--	--	--	--	--	--	--	--
06...	1610	14	2660	8.1	24.0	--	6.4	78	490	380
AUG										
07...	1020	1.0	2970	7.9	31.0	.60	7.3	97	540	440
07...	1021	1.1	--	--	--	--	--	--	--	--
07...	1025	14	2980	7.3	29.5	--	2.5	33	540	430

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN									
28...	150	40	390	7.3	6.7	110	410	650	--
28...	--	--	--	--	--	--	--	--	--
28...	140	40	400	7.7	6.7	110	410	640	3.1
MAY									
06...	140	35	360	7.1	6.4	110	330	600	4.4
06...	--	--	--	--	--	--	--	--	--
06...	140	35	360	7.1	6.6	110	330	590	4.6
AUG									
07...	150	41	410	7.7	6.7	100	380	680	4.9
07...	--	--	--	--	--	--	--	--	--
07...	150	41	420	7.8	6.8	110	380	700	6.1

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
28...	--	.09	--	--	.38	.47	.040	20	10
28...	--	--	--	--	--	--	--	--	--
28...	1710	.10	--	--	.43	.53	.040	50	10
MAY									
06...	1540	.06	.080	.83	.91	.97	.170	30	10
06...	--	--	--	--	--	--	--	--	--
06...	1530	.06	.120	.71	.83	.89	.180	90	20
AUG									
07...	1730	.01	--	--	.69	.70	.040	30	20
07...	--	--	--	--	--	--	--	--	--
07...	1770	.01	--	--	.84	.85	.070	30	400

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 LAKE GRANBURY SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 28,81 1041	MAY 6,81 1225	AUG 6,81 1731
TOTAL CELLS/ML	9500	7400	520000
DIVERSITY: DIVISION	0.9	1.1	0.0
..CLASS	0.9	1.1	0.0
..ORDER	0.9	1.1	0.4
...FAMILY	1.1	1.8	0.7
....GENUS	1.3	2.5	0.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	300	4	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	330	4	200	3	--	-
....CHODATELLA	*	0	--	-	--	-
....DICTYOSPHAERIUM	170	2	--	-	--	-
....GLOEOACTINIUM	--	-	--	-	*	0
...OOCYSTIS	230	2	750	10	--	-
...SELENASTRUM	*	0	*	0	--	-
...TETRAEDRON	*	0	180	2	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	67	1	530	7	--	-
....SCENEDESMUS	570	6	1700#	22	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	100	1	50	1	--	-
..ZYGNEMATALES						
...DESMIDIACEAE						
...COSMARIUM	--	-	--	-	*	0
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCAEAE						
....CYCLOTELLA	*	0	50	1	--	-
..PENNALES						
...ACHNANTHACEAE						
...COCCONEIS	50	1	*	0	--	-
...NITZSCHACEAE						
....NITZSCHIA	*	0	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	170	2	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	400	5	5800	1
....ANACYSTIS	7700#	81	3200#	44	28000	5
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	5000	1
....CYLINDROSPERMUM	--	-	--	-	31000	6
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	450000#	86
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	--	-	--	-

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

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

BRAZOS RIVER BASIN
LAKE GRANBURY NEAR GRANBURY, TX--Continued

323435097492001 LAKE GRANBURY SITE KC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 28,81 1331	MAY 6,81 1609	AUG 7,81 1021
TOTAL CELLS/ML	710	9200	70000
DIVERSITY: DIVISION	1.8	1.4	0.8
..CLASS	1.8	1.4	0.8
...ORDER	2.0	2.2	1.5
...FAMILY	2.3	2.5	1.9
....GENUS	2.3	2.9	2.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....CHARACIACEAE						
....SCHROEDERIA	--	-	--	-	*	0
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	1200	2
...OOCYSTACEAE						
....ANKISTRODESMUS	13	2	540	6	1100	2
...CHODATELLA	--	-	*	0	--	-
....DICTYOSPHAERIUM	--	-	470	5	1200	2
...FRANCEIA	--	-	--	-	*	0
....OOCYSTIS	--	-	340	4	*	0
...SELENASTRUM	39	5	--	-	--	-
...TETRAEDRON	--	-	67	1	940	1
...TREUBARIA	--	-	*	0	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	--	-	620	1
...SCENEDESMUS	77	11	1000	11	620	1
...TETRASTRUM	--	-	270	3	--	-
...TETRASPORALES						
...PALMELLACEAE						
...SPHAEROCYSTIS	--	-	270	3	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	64	9	1100	12	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...CHAETOCERACEAE						
....CHAETOCEROS	--	-	--	-	2300	3
...COSCINODISCACEAE						
....CYCLOTETRA	77	11	100	1	1100	2
...RHIZOSOLENACEAE						
....RHIZOSOLENIA	--	-	--	-	*	0
...PENNALES						
...FRAGILARIACEAE						
....FRAGILARIA	--	-	300	3	*	0
...NITZSCHACEAE						
....NITZSCHIA	--	-	*	0	1700	2
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
...CHROOMONAS	26	4	*	0	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	13	2	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	2500	4
...ANACYSTIS	370#	53	3900#	42	7000	10
...COCCOCHLORIS	--	-	--	-	2200	3
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	1100	2
...CYLINDROSPERMUM	--	-	--	-	940	1
...OSCILLATORIA						
....LYNGBYA	--	-	--	-	14000#	20
....OSCILLATORIA	--	-	600	7	30000#	43
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	13	2	130	1	--	-
...TRACHELOMONAS	--	-	*	0	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	13	2	--	-	--	-

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

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

08091000 BRAZOS RIVER NEAR GLEN ROSE, TX

LOCATION.--Lat 32°16'18", long 97°39'48", Somervell County, Hydrologic Unit 12060201, at downstream side of bridge on U.S. Highway 67, 600 ft (180 m) downstream from Georges Creek, 4.1 mi (6.6 km) upstream from Paluxy River, 6 mi (10 km) northeast of Glen Rose, and at mile 511.2 (822.5 km).

DRAINAGE AREA.--25,818 mi² (66,869 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year.

REVISED RECORDS.--WSP 1058: 1932. WSP 1512: 1946-47, 1949. WSP 1712: 1928(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 567.82 ft (173.072 m) National Geodetic Vertical Datum of 1929. Prior to May 7, 1931, nonrecording gage at site 2.5 mi (4.0 km) downstream at same datum. May 7, 1931, to Sept. 30, 1957, water-stage recorder at site 2.4 mi (3.9 km) downstream at same datum, used as supplementary gage Oct. 1, 1957, to Apr. 1, 1959. Apr. 27, 1950, to Sept. 30, 1957, water-stage recorder, present gage, used as supplementary gage.

REMARKS.--Water-discharge records good. Flow is largely regulated since September 1969 by Lake Granbury (station 08090900) 31 mi (50 km) upstream. Many diversions above station for irrigation, municipal supply, and oilfield operation. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years (water years 1924-69) prior to regulation by Lake Granbury, 1,567 ft³/s (44.38 m³/s), 1,135,000 acre-ft/yr (1.40 km³/yr); 12 years (water years 1970-81) regulated, 792 ft³/s (22.43 m³/s), 573,800 acre-ft/yr (707 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97,600 ft³/s (2,760 m³/s) May 18, 1935, gage height, 23.68 ft (7.218 m), site then in use, from floodmarks; maximum gage height, 33.89 ft (10.330 m), present site, May 27, 1957; no flow at times prior to construction of Morris Sheppard Dam (1941) on the Brazos River forming Possum Kingdom Lake.

Maximum stage since at least 1876, that of May 27, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 reached a stage of 27 ft (8.2 m), and flood in May 1922 reached a stage of 29.5 ft (8.99 m), which could have equaled or exceeded flood in 1957 at present site, each at site 2.4 mi (3.9 km) downstream, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,100 ft³/s (513 m³/s) Oct. 5 at 0300 hours, gage height, 16.56 ft (5.047 m); minimum, 8.6 ft³/s (0.244 m³/s) Aug. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3430	549	63	110	196	144	62	294	871	439	562	19
2	6250	833	48	178	357	230	60	310	916	607	518	656
3	10200	510	43	233	343	196	334	549	901	620	520	285
4	16300	338	47	703	337	841	598	573	934	648	233	61
5	17600	334	55	833	213	2210	197	329	1950	1170	48	38
6	17000	208	52	836	71	3040	285	93	2470	1380	29	35
7	16600	78	373	436	63	1790	534	78	4650	266	22	25
8	9270	191	628	481	68	2310	246	309	6730	89	19	22
9	2970	197	1310	817	74	2120	500	1100	9870	76	15	20
10	865	152	581	839	159	2690	245	2130	10900	73	12	18
11	2180	63	523	839	361	1520	499	3710	3210	67	16	17
12	2190	47	1320	1120	198	1660	248	2750	1590	37	25	17
13	1890	76	1340	1140	541	1590	480	1710	2340	23	15	18
14	1370	149	446	1700	1600	427	247	1130	2640	933	10	19
15	1360	68	416	1300	1630	313	471	748	2560	1170	17	38
16	1380	178	1760	837	406	311	276	610	2280	594	15	535
17	1890	222	1720	830	199	179	476	568	2540	555	27	557
18	2010	222	1730	833	259	74	284	566	1500	555	1760	244
19	2700	207	1700	841	81	164	569	1030	281	555	1650	58
20	2010	205	1340	430	187	79	322	1090	418	543	300	28
21	1390	203	1320	347	64	114	738	1070	594	203	56	54
22	1320	424	1280	522	153	81	449	846	580	49	33	53
23	439	525	881	523	256	105	801	836	216	30	26	30
24	1700	518	1670	522	80	129	472	850	62	23	23	21
25	1740	518	1710	812	60	84	539	844	70	22	20	18
26	1690	504	1330	948	63	115	574	843	82	18	19	15
27	610	425	432	1240	135	91	593	839	79	23	17	13
28	376	234	102	825	134	87	594	838	73	285	19	15
29	1510	164	143	355	---	78	414	842	73	1470	18	32
30	328	72	334	341	---	118	623	840	73	969	14	34
31	79	---	377	234	---	83	---	834	---	887	16	---
TOTAL	130647	8414	25074	22005	8288	22973	12730	29159	61453	14379	6074	2995
MEAN	4214	280	809	710	296	741	424	941	2048	464	196	99.8
MAX	17600	833	1760	1700	1630	3040	801	3710	10900	1470	1760	656
MIN	79	47	43	110	60	74	60	78	62	18	10	13
AC-FT	259100	16690	49730	43650	16440	45570	25250	57840	121900	28520	12050	5940
CAL YR 1980	TOTAL	252970.1	MEAN	691	MAX	17600	MIN	7.3	AC-FT	501800		
WTR YR 1981	TOTAL	344191.0	MEAN	943	MAX	17600	MIN	10	AC-FT	682700		

BRAZOS RIVER BASIN

08091000 BRAZOS RIVER NEAR GLEN ROSE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 22...	1450	1350	3000	8.3	21.5	10	1.3	8.5	99	1.4	500
JAN 12...	0905	1300	2850	7.9	7.5	5	.40	12.1	102	.4	520
APR 06...	0835	1090	2700	8.0	15.5	3	2.2	8.0	81	.6	500
MAY 18...	0845	620	2450	8.1	24.0	5	1.4	6.9	85	.7	460
JUN 29...	0850	92	2300	7.8	28.5	10	1.5	6.7	87	.7	410
AUG 10...	0835	17	2400	8.2	26.0	5	23	7.2	89	.4	450

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY AS (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 22...	380	140	36	440	8.6	9.6	115	340	710	.4	5.4
JAN 12...	420	150	35	410	7.8	7.3	100	370	680	.4	4.5
APR 06...	390	140	37	370	7.2	7.0	110	360	610	.4	2.4
MAY 18...	350	130	34	340	6.9	6.9	110	310	540	.1	6.5
JUN 29...	320	110	32	310	6.7	7.0	89	300	510	.3	3.1
AUG 10...	370	120	36	350	7.2	6.7	76	330	600	.3	4.9

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 22...	1750	8	8	.00	.010	.01	.290	1.3	1.6	.030	5.9
JAN 12...	1720	6	0	.04	.010	.05	.090	1.7	1.8	.030	5.7
APR 06...	1590	10	1	.03	.000	.03	.020	.75	.77	.050	--
MAY 18...	1430	2	0	.00	.000	.00	.090	.52	.61	.050	26
JUN 29...	1330	0	0	.01	.000	.01	.060	.89	.95	.060	3.5
AUG 10...	1490	24	17	.09	.020	.11	.130	.62	.75	.020	4.1

BRAZOS RIVER BASIN

297

08091000 BRAZOS RIVER NEAR GLEN ROSE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 22...	1450	1	300	20	0	0	30
JAN 12...	0905	0	200	0	0	0	10
JUN 29...	0850	1	200	0	10	0	10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	0	10	.0	0	0	0
JAN 12...	100	10	.0	0	1	10
JUN 29...	0	20	.0	0	0	10

BRAZOS RIVER BASIN

08091500 PALUXY RIVER AT GLEN ROSE, TX

LOCATION.--Lat 32°13'53", long 97°46'37", Somervell County, Hydrologic Unit 12060202, on left bank at downstream side of remaining pier of dismantled highway bridge, 500 ft (152 m) upstream from bridge on U.S. Highway 67, 1.0 mi (1.6 km) upstream from Cross Branch, 1.2 mi (1.9 km) southwest of Glen Rose, and 5.1 mi (8.2 km) upstream from mouth.

DRAINAGE AREA.--410 mi² (1,062 km²).

PERIOD OF RECORD.--October 1923 to September 1925, May 1947 to current year. Prior to October 1965, published as Paluxy Creek at Glen Rose.

REVISED RECORDS.--WSP 1392: 1949, 1952. WSP 2122: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 609.66 ft (185.824 m) National Geodetic Vertical Datum of 1929. Oct. 27, 1923, to Sept. 30, 1925, nonrecording gage at bridge 1.8 mi (2.9 km) downstream at datum 13.62 ft (4.151 m) lower.

REMARKS.--Records good. Flow is affected at times by discharge from flood-dentention pools of six floodwater-retarding structures with combined detention capacity of 7,760 acre-ft (9.57 hm³). These structures control runoff from 35.0 mi² (90.7 km²). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--35 years (water years 1925, 1948-81), 65.2 ft³/s (1.846 m³/s), 2.16 in/yr (55 mm/yr), 47,240 acre-ft/yr (58.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s (1,420 m³/s) Oct. 4, 1959, gage height, 25.4 ft (7.74 m), from rating curve extended above 32,000 ft³/s (906 m³/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1877, 27.2 ft (8.29 m) Apr. 17, 1908, present site and datum, discharge 59,000 ft³/s (1,670 m³/s), from rating curve extended as explained above. Flood of May 21, 1922, reached a stage of 26.0 ft (7.92 m), present site and datum, discharge 53,000 ft³/s (1,500 m³/s), from rating curve extended as explained above. Flood in November 1918 reached about the same stage as flood of May 21, 1922, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 728 ft³/s (20.6 m³/s) June 7 at 0230 hours, gage height, 4.11 ft (1.253 m), no peak above base of 4,000 ft³/s (113 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	.14	2.9	4.9	6.7	12	10	5.1	.44	3.3	.00	1.6
2	16	.15	2.7	4.8	6.2	11	8.5	4.8	2.1	3.0	.00	1.5
3	8.6	.14	2.6	4.8	6.0	19	8.8	4.5	85	3.8	.00	1.6
4	5.4	.14	2.8	4.8	6.3	24	9.4	4.6	157	37	.00	1.4
5	3.6	.19	3.0	4.8	7.1	40	7.3	5.0	229	59	.00	2.1
6	2.5	.26	3.3	4.9	6.8	20	6.7	4.7	132	38	.00	3.3
7	1.7	.27	3.4	5.2	6.9	25	6.5	4.5	222	20	.00	9.6
8	1.2	.28	26	5.2	6.8	22	6.6	4.2	48	14	.00	13
9	.95	.30	20	6.3	6.8	20	6.8	3.8	27	9.5	.00	9.3
10	.69	.37	15	6.2	6.9	16	6.8	3.0	20	7.3	.00	3.9
11	.46	.40	10	6.0	8.8	13	6.8	2.5	17	6.0	.00	1.6
12	.27	.35	8.3	5.7	6.0	12	6.7	2.1	14	4.8	.00	1.0
13	.26	.28	7.0	5.6	6.0	12	6.8	2.1	12	3.8	.00	.69
14	.27	.29	6.3	5.6	6.0	10	6.3	1.6	11	2.8	.00	1.3
15	.23	.22	5.8	5.4	6.0	9.5	6.4	3.3	9.5	3.0	.00	1.1
16	.22	1.2	5.5	5.2	6.0	9.0	6.4	29	92	1.4	.00	.73
17	.22	3.5	5.2	5.7	6.0	9.0	6.4	7.3	55	1.2	59	1.3
18	.23	3.8	5.1	5.6	6.0	7.8	7.0	4.5	31	1.0	72	2.5
19	.22	3.3	4.7	6.3	6.4	7.3	7.7	3.6	24	.64	31	2.1
20	.20	3.4	4.4	6.5	6.4	6.8	6.8	3.0	17	.50	14	1.4
21	.20	2.8	4.3	6.4	6.4	6.8	6.4	2.5	13	.33	6.7	1.1
22	.20	3.3	4.4	6.1	6.0	6.4	6.2	2.3	10	.28	4.1	.58
23	.21	3.6	4.6	5.8	5.6	6.4	9.7	2.1	8.4	.24	2.5	.45
24	.19	3.1	4.5	5.7	5.2	6.8	9.7	1.9	7.3	.17	1.7	.33
25	.15	3.1	4.5	6.4	5.2	7.2	7.9	1.9	6.4	.14	1.2	.23
26	.16	3.3	4.5	6.1	6.0	7.3	6.9	1.4	6.0	.12	.71	.21
27	.20	2.8	4.6	6.0	6.0	7.3	6.2	1.0	5.2	.11	.63	.19
28	.12	2.7	4.7	6.0	7.3	8.1	5.8	.82	4.5	.12	.41	.16
29	.13	2.6	4.9	6.0	---	11	5.1	.64	4.2	.10	.30	.14
30	.16	3.1	4.8	5.8	---	10	4.3	.57	3.6	.06	.25	.12
31	.17	---	4.9	5.8	---	14	---	.44	---	.03	1.7	---
TOTAL	83.11	49.38	194.7	175.6	177.8	396.7	212.9	118.77	1273.64	221.74	196.20	64.53
MEAN	2.68	1.65	6.28	5.66	6.35	12.8	7.10	3.83	42.5	7.15	6.33	2.15
MAX	38	3.8	26	6.5	8.8	40	10	29	229	59	72	13
MIN	.12	.14	2.6	4.8	5.2	6.4	4.3	.44	.44	.03	.00	.12
CFSM	.007	.004	.02	.01	.02	.03	.02	.009	.10	.02	.02	.005
IN.	.01	.00	.02	.02	.02	.04	.02	.01	.12	.02	.02	.01
AC-FT	165	98	386	348	353	787	422	236	2530	440	389	128
CAL YR 1980	TOTAL	5191.67	MEAN	14.2	MAX	626	MIN	.00	CFSM	.04	IN	.47
WTR YR 1981	TOTAL	3165.07	MEAN	8.67	MAX	229	MIN	.00	CFSM	.02	IN	.29
									AC-FT	10300		
									AC-FT	6280		

08091730 SQUAW CREEK RESERVOIR NEAR GLEN ROSE, TX

LOCATION.--Lat 32°18'00", long 97°47'12", Somervell County, Hydrologic Unit 12060202, on upstream side of intake structure near power house, 1.8 mi (2.9 km) upstream from dam, 3.9 mi (6.3 km) north of Glen Rose, and 6.1 mi (9.8 km) upstream from mouth.

DRAINAGE AREA.--64.0 mi² (166 km²).

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

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

REMARKS.--The reservoir is formed by a rolled earthfill dam 4,360 ft (1,330 m) long. Deliberate impoundment began in February 1977, and the dam was completed in June 1977. The flood-control outlet works consist of an ungated 100-foot-long (30 m) concrete ogee spillway located at right end of dam. The low-flow outlet works consist of a concrete outlet tower with three 4- by 6-foot (1 by 2 m) slide gates and a 6- by 6-foot (2 by 2 m) slide gate, which feed into a 6-foot (2 m) inside diameter concrete conduit that extends through the dam. Records furnished by the Texas Utilities Generating Co. show 9,320 acre-ft (11.5 hm³) was diverted by pipeline from Lake Granbury into the reservoir. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following tables:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	796.0	228,100
Crest of spillway.....	783.0	178,100
Crest of spillway (normal operating level).....	775.0	151,100
Invert of slide gate (No. 1).....	764.0	117,300
Invert of slide gate (No. 2).....	715.0	24,670
Invert of slide gate (No. 3).....	666.5	380
Lowest gated outlet (invert).....	653.0	0

COOPERATION.--The capacity table, furnished by Texas Utilities Services Inc., was prepared by Freese and Nichols Inc., Consulting Engineers. Record of water diverted from Lake Granbury was furnished by the Texas Utilities Generating Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 153,100 acre-ft (189 hm³) June 5, 1979, elevation, 775.64 ft (236.415 m); minimum since initial filling of reservoir on May 3, 1979, 143,700 acre-ft (177 hm³) June 1, 1981, elevation, 772.76 ft (235.537 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 149,600 acre-ft (184 hm³) Sept. 15 at 1330 hours, elevation, 774.57 ft (236.089 m); minimum, 143,700 acre-ft (177 hm³) June 1, elevation, 772.76 ft (235.537 m).

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

772.0	141,300	774.0	147,700
773.0	144,500	775.0	151,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149000	147100	146200	145900	145200	144900	144900	144900	143800	146800	148000	148900
2	148900	147000	146100	145900	145100	144900	144900	144800	144200	147200	147900	149000
3	148800	147000	146100	145900	145000	145300	145000	144800	144700	147300	147900	149100
4	148800	147000	146100	145900	145000	145200	144900	144800	144900	147900	147900	149100
5	148700	146900	146100	145800	145000	145200	144900	144700	145100	148100	147900	149200
6	148600	146900	146100	145800	145000	145200	144800	144700	145200	148200	147900	149300
7	148500	146900	146100	145800	145000	145400	144800	144600	145300	148200	147900	149400
8	148400	146800	146800	145800	145000	145400	144800	144600	145300	148200	147900	149400
9	148400	146800	146700	145800	145100	145400	144800	144400	145300	148200	147900	149400
10	148400	146800	146700	145800	144900	145400	144800	144300	145400	148300	147900	149400
11	148300	146800	146600	145700	144800	145400	144800	144200	145400	148300	147900	149400
12	148200	146800	146600	145700	144800	145400	144800	144200	145400	148200	147900	149400
13	148200	146700	146600	145700	144800	145400	144700	144200	145500	148200	147900	149400
14	148100	146600	146600	145600	144800	145300	144700	144100	145600	148200	148000	149500
15	148100	146500	146500	145600	144700	145300	144800	144100	145900	148200	148000	149500
16	148000	146700	146500	145600	144700	145300	144700	144200	146200	148200	148300	149300
17	148000	146600	146500	145500	144700	145300	144700	144200	146300	148200	148600	149200
18	148000	146600	146400	145500	144700	145100	144800	144200	146300	148200	148600	149100
19	147900	146500	146400	145500	144700	145100	144800	144000	146400	148200	148600	149000
20	147800	146500	146300	145500	144700	145000	144800	144000	146400	148200	148600	148900
21	147800	146500	146300	145500	144700	144900	144800	143900	146400	148200	148700	148800
22	147700	146500	146200	145400	144600	144900	144900	143900	146500	148200	148700	148800
23	147800	146500	146200	145400	144600	144900	145000	143900	146500	148200	148700	148700
24	147700	146500	146200	145400	144600	144900	145000	143900	146500	148100	148700	148600
25	147600	146400	146100	145400	144600	144800	145000	143900	146600	148100	148700	148600
26	147500	146300	146100	145400	144600	144800	144900	143900	146600	148100	148700	148500
27	147500	146200	146100	145400	144600	144800	144900	143900	146700	148100	148700	148500
28	147300	146200	146000	145400	144700	144900	144800	143800	146700	148100	148700	148400
29	147200	146200	146000	145300	---	144900	144900	143800	146700	148100	148700	148400
30	147100	146200	146000	145300	---	144900	144800	143800	146700	148100	148700	148300
31	147100	---	146000	145300	---	144900	---	143800	---	148100	148800	---
MAX	149000	147100	146800	145900	145200	145400	145000	144900	146700	148300	148800	149500
MIN	147100	146200	146000	145300	144600	144800	144700	143800	146800	147900	147900	148300
(+)	773.81	773.53	773.46	773.24	773.08	773.12	773.11	772.77	773.70	774.12	774.33	774.19
(+)	-1900	-900	-200	-700	-600	+200	-100	-1000	+2900	+1400	+700	-500
CAL YR 1980	MAX	149000	MIN	146000	†	-600						
WTR YR 1981	MAX	149500	MIN	143800	†	-700						

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

BRAZOS RIVER BASIN

08091750 SQUAW CREEK NEAR GLEN ROSE, TX

LOCATION.--Lat 32°16'12", long 97°43'56", Somervell County, Hydrologic Unit 12060202, on left bank at downstream side of bridge on State Highway 144, 2.1 mi (3.4 km) upstream from mouth, 2.5 mi (4.0 km) downstream from Squaw Creek Dam, and 2.8 mi (4.5 km) northeast of Glen Rose.

DRAINAGE AREA.--70.3 mi² (182.1 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 599.00 ft (182.575 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No known diversions between Squaw Creek Reservoir and this station. Flow regulated since Feb. 15, 1977, by Squaw Creek Reservoir. During the year, low flows sustained by releases from pipeline used to divert water from Lake Granbury (station 08090900) to Squaw Creek Reservoir (station 08091730). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years (water years 1974-80), 7.30 ft³/s (0.207 m³/s), 5,290 acre-ft/yr (6.52 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,030 ft³/s (256 m³/s) Apr. 8, 1975, gage height, 11.90 ft (3.627 m), from rating curve extended above 1,000 ft³/s (283 m³/s) on basis of velocity-area study; minimum, 0.02 ft³/s (0.001 m³/s) Aug. 28, 29, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1934, about 20.5 ft (6.25 m) in May 1957, from information by State Department of Highways and Public Transportation (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 220 ft³/s (6.23 m³/s) July 4 at 1900 hours, gage height, 4.44 ft (1.353 m); minimum, 2.7 ft³/s (0.076 m³/s) Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	3.3	2.9	5.1	28	6.9	4.3	4.2	4.5	3.4	4.6	4.5
2	3.7	2.9	2.9	5.3	27	5.8	4.3	4.3	6.7	4.3	5.0	4.3
3	4.0	2.7	2.9	5.3	21	9.6	4.7	4.0	9.0	46	4.6	4.0
4	3.9	2.7	2.7	5.3	3.9	4.4	4.6	4.1	6.3	26	5.0	4.0
5	3.7	2.7	2.7	5.0	4.6	4.3	4.0	4.2	5.6	5.0	5.0	4.0
6	3.7	2.9	3.0	4.9	4.6	4.3	4.0	4.0	5.9	3.4	5.0	4.0
7	3.7	3.1	3.0	4.9	4.6	7.2	4.0	4.0	5.2	3.4	5.3	4.3
8	3.7	2.9	11	5.0	4.6	4.6	4.0	4.0	4.6	3.4	5.7	4.1
9	3.7	2.9	3.8	5.3	4.6	4.6	3.7	4.0	4.6	3.2	5.7	4.0
10	3.7	3.0	3.6	5.3	4.6	4.5	3.7	4.2	4.6	3.2	5.7	3.6
11	3.7	3.3	3.4	5.3	4.6	4.3	3.8	4.3	4.3	3.2	5.0	3.4
12	3.7	3.5	3.4	5.3	4.6	4.3	4.0	4.3	4.3	3.2	5.7	3.4
13	3.4	3.4	3.4	5.3	4.6	4.5	4.0	4.0	4.2	3.2	5.7	3.4
14	3.4	3.4	3.4	5.3	4.5	4.6	4.0	3.9	4.5	3.4	5.7	3.7
15	3.4	3.4	3.4	5.0	4.3	4.6	4.3	4.6	4.5	3.4	5.7	4.0
16	3.4	4.1	3.4	4.6	4.3	4.6	4.3	4.6	17	3.2	6.5	4.0
17	3.4	3.9	2.9	4.0	4.3	4.6	4.3	3.1	4.3	3.2	9.0	4.0
18	3.2	3.7	2.8	4.3	4.3	5.0	4.6	2.9	4.3	3.2	5.7	3.5
19	3.2	3.4	2.9	4.5	4.4	4.9	4.3	3.0	4.3	3.2	5.7	3.7
20	3.2	3.4	2.9	4.6	4.6	4.9	3.7	4.2	4.0	3.2	5.7	3.7
21	3.2	3.4	3.0	4.6	4.6	4.6	3.4	4.3	4.0	2.9	5.7	3.7
22	3.2	3.5	3.2	4.6	4.6	4.7	3.5	4.3	4.0	2.9	5.7	3.7
23	3.1	3.4	3.2	4.6	4.6	4.6	5.7	4.5	4.0	3.7	5.7	3.7
24	3.5	3.7	3.2	4.6	4.6	4.6	4.3	4.5	4.0	5.0	5.3	3.5
25	3.3	3.7	3.2	4.8	4.6	4.2	4.3	4.3	4.0	5.3	5.3	3.1
26	3.2	3.7	3.2	4.9	4.7	4.4	4.0	4.3	4.0	5.3	6.1	2.9
27	3.5	3.3	3.2	6.7	4.9	4.0	4.0	4.3	4.0	5.3	6.1	2.9
28	3.5	3.2	3.2	15	5.5	4.4	4.0	4.0	4.0	5.3	6.1	2.8
29	3.4	3.1	3.2	15	---	4.6	4.3	4.1	3.7	4.6	4.3	3.0
30	3.4	2.9	3.7	20	---	4.0	4.0	4.3	3.4	4.6	4.0	3.2
31	3.4	---	4.6	27	---	4.0	---	4.3	---	4.6	4.0	---
TOTAL	108.6	98.5	107.3	211.4	190.1	150.6	124.1	127.1	151.8	183.2	170.3	110.1
MEAN	3.50	3.28	3.46	6.82	6.79	4.86	4.14	4.10	5.06	5.91	5.49	3.67
MAX	4.1	4.1	11	27	28	9.6	5.7	4.6	17	46	9.0	4.5
MIN	3.1	2.7	2.7	4.0	3.9	4.0	3.4	2.9	3.4	2.9	4.0	2.8
AC-FT	215	195	213	419	377	299	246	252	301	363	338	218

CAL YR 1980 TOTAL 1468.8 MEAN 4.01 MAX 13 MIN 2.2 AC-FT 2910
WTR YR 1981 TOTAL 1733.1 MEAN 4.75 MAX 46 MIN 2.7 AC-FT 3440

08091900 LAKE PAT CLEBURNE NEAR CLEBURNE, TX

LOCATION.--Lat 32°17'20", long 97°24'54", Johnson County, Hydrologic Unit 12030109, at side of walkway from dam to outlet structure, near left end of Cleburne Dam on Nolan River, 2.2 mi (3.5 km) upstream from Buffalo Creek, 4.3 mi (6.9 km) south of Cleburne, and 21.4 mi (34.4 km) upstream from mouth.

DRAINAGE AREA.--100 mi² (259 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Homer Hunter Associates, Consulting Engineers bench mark).

REMARKS.--The lake is formed by a rock-faced earthfill dam 5,050 ft (1,540 m) long, including a 150-foot-wide (46 m) uncontrolled concrete service spillway at left end of dam. An emergency spillway, 500 ft (150 m) wide, is cut in natural ground on the right bank about 400 ft (120 m) from right end of dam. Storage began Aug. 4, 1964. Lake is the property of city of Cleburne and was built to impound water for municipal use. Capacity table based on survey of 1958 from Geological Survey topographic maps. Records furnished by city of Cleburne indicate that 2,650 acre-ft (3.27 hm³) of sewage effluent was returned to a tributary of Nolan River which enters below this station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	753.0	-
Top of design flood pool.....	752.3	66,700
Crest of spillway.....	744.0	45,430
Crest of spillway (top of conservation pool).....	733.5	25,560
Lowest gated outlet (invert).....	690.0	115

COOPERATION.--Records of diversions furnished by the city of Cleburne. Capacity table furnished by Homer Hunter Associates, Consulting Engineers for the city of Cleburne.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,850 acre-ft (49.1 hm³) May 3, 1979, elevation, 741.41 ft (225.982 m); minimum, 13,870 acre-ft (17.1 hm³) Jan. 16-17, 1979, elevation, 724.23 ft (220.745 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 21,680 acre-ft (26.7 hm³) July 9 at 1200 hours, elevation, 730.85 ft (222.763 m); minimum, 18,100 acre-ft (22.3 hm³) June 1, elevation, 728.05 ft (221.910 m).

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

728.0	18,030	730.0	20,560
729.0	19,270	731.0	21,900

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20560	19680	19180	18910	18580	18380	18710	18420	18110	19090	20810	20010
2	20520	19650	19150	18880	18560	18380	18670	18390	18180	19070	20750	20000
3	20480	19640	19130	18880	18530	18470	18750	18380	18230	19100	20700	19970
4	20450	19610	19140	18860	18530	18460	18730	18360	18290	21090	20650	19950
5	20400	19600	19140	18830	18530	18450	18700	18340	18300	21290	20610	19920
6	20370	19580	19140	18830	18530	18440	18660	18300	18390	21630	20560	19900
7	20350	19550	19140	18820	18520	18490	18610	18280	18360	21670	20540	19880
8	20320	19520	19330	18830	18500	18500	18610	18240	18340	21680	20480	19820
9	20300	19520	19330	18830	18510	18490	18610	18220	18300	21680	20430	19780
10	20270	19500	19310	18820	18490	18470	18610	18160	18280	21680	20370	19740
11	20230	19470	19280	18810	18450	18460	18600	18110	18280	21670	20340	19720
12	20190	19450	19270	18790	18420	18450	18580	18060	18270	21630	20300	19680
13	20150	19420	19270	18770	18410	18450	18570	18030	18230	21600	20230	19650
14	20110	19410	19260	18770	18400	18410	18550	18000	18220	21560	20210	19630
15	20090	19370	19260	18760	18390	18410	18520	18030	18230	21530	20170	19610
16	20090	19450	19230	18720	18380	18390	18500	18220	19470	21490	20170	19590
17	20080	19430	19210	18710	18360	18360	18490	18200	19490	21440	20310	19520
18	20060	19400	19210	18710	18360	18310	18550	18200	19470	21410	20300	19470
19	20020	19370	19140	18720	18350	18290	18560	18140	19460	21360	20270	19420
20	19980	19340	19100	18720	18340	18240	18560	18100	19450	21330	20230	19360
21	19960	19330	19080	18710	18340	18230	18530	18060	19410	21290	20180	19310
22	19930	19340	19040	18700	18330	18220	18560	18030	19400	21220	20150	19280
23	19980	19330	19040	18680	18300	18190	18580	18200	19360	21170	20110	19240
24	19920	19320	19030	18670	18280	18170	18560	18220	19330	21140	20090	19210
25	19880	19290	18990	18660	18280	18160	18530	18190	19310	21090	20050	19180
26	19840	19270	18980	18660	18280	18140	18520	18180	19270	21060	20020	19150
27	19840	19240	18970	18650	18280	18110	18500	18160	19230	21030	20040	19140
28	19780	19220	18960	18630	18310	18030	18490	18140	19190	21010	20010	19120
29	19740	19190	18960	18620	---	18760	18470	18160	19150	21010	19970	19080
30	19720	19180	18930	18600	---	18730	18440	18160	19130	20900	19920	19060
31	19690	---	18920	18600	---	18720	---	18110	---	20860	19910	---
MAX	20560	19680	19330	18910	18580	18760	18750	18420	19490	21680	20810	20010
MIN	19690	19180	18920	18600	18280	18110	18440	18000	18110	19070	19910	19060
(+)	729.33	728.93	728.72	728.46	728.23	728.56	728.33	728.06	728.89	730.23	729.50	728.83
(+)	-890	-510	-260	-320	-290	+410	-280	-330	+1020	+1730	-950	-850
(++)	283	259	246	240	217	232	235	256	254	345	391	291

CAL YR 1980 MAX 25760 MIN 18920 + -2820 ++ 3610
WTR YR 1981 MAX 21680 MIN 18000 + -1520 ++ 3250

+ Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

++ Diversions, in acre-feet, for municipal use by city of Cleburne.

BRAZOS RIVER BASIN

08091900 LAKE PAT CLEBURNE NEAR CLEBURNE, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
MAY 04...	1100	295	22.0	130	7	44	4.2	11

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAY 04...	.4	5.5	120	15	9.2	.3	1.9	163

08092000 NOLAN RIVER AT BLUM, TX

LOCATION.--Lat 32°09'02", long 97°24'09". Hill County, Hydrologic Unit 12060202, on right bank 60 ft (18 m) upstream from bridge on Farm Road 933, 0.6 mi (1.0 km) northwest of Blum, 2.8 mi (4.5 km) downstream from Mustang Creek, 3.0 mi (4.8 km) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.2 mi (5.1 km) upstream from Rock Creek, and 8.5 mi (13.7 km) upstream from mouth.

DRAINAGE AREA.--282 mi² (730 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to September 1925, November 1947 to current year.

REVISED RECORDS.--WSP 1312: 1925(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 551.48 ft (168.091 m) National Geodetic Vertical Datum of 1929. July 29, 1924, to Sept. 30, 1925, and Nov. 14, 1947, to May 28, 1949, nonrecording gage at railway bridge (now abandoned) 0.5 mi (0.8 km) upstream at datum 5.00 ft (1.524 m) higher. May 29 to July 7, 1949, nonrecording gage at present site and datum then in use, 5.00 ft (1.524 m) higher than present datum.

REMARKS.--Water-discharge records good. Since August 1964, flow from 100 mi² (259 km²) affected by storage in Lake Pat Cleburne (station 08091900) located 13 mi (21 km) upstream. Records furnished by the city of Cleburne show that during the current year 3,250 acre-ft (4.01 hm³) was diverted from Lake Pat Cleburne and 2,650 acre-ft (3.27 hm³) of sewage effluent was returned to a tributary upstream from the gage.

AVERAGE DISCHARGE.--18 years (water years 1925, 1949-64) prior to regulation by Lake Pat Cleburne, 66.1 ft³/s (1.872 m³/s), 47,890 acre-ft/yr (59.0 hm³/yr); 17 years (water years 1965-81) regulated, 95.0 ft³/s (2.690 m³/s), 68,830 acre-ft/yr (84.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,200 ft³/s (1,760 m³/s) May 7, 1969, gage height, 31.23 ft (9.519 m), from rating curve extended above 22,200 ft³/s (629 m³/s) on basis of contracted-opening measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, 35.0 ft (10.67 m) May 8, 1922, present site and datum, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 29	0315	9,140	259	12.32	3.755
June 16	0130	*19,900	564	19.11	5.825

Minimum daily discharge, 0.85 ft³/s (0.024 m³/s) Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	3.7	5.2	3.9	5.0	16	14	5.0	5.0	16	4.8	12
2	4.7	4.9	4.5	3.9	4.3	16	11	7.2	466	15	3.7	17
3	3.7	5.7	4.1	4.2	4.6	8.6	10	7.1	494	18	3.9	7.2
4	3.1	5.1	4.5	4.2	4.4	27	22	5.9	231	694	3.5	5.4
5	2.6	4.9	5.2	3.9	4.9	10	13	5.6	74	121	3.6	4.3
6	2.8	4.8	5.7	4.1	4.7	6.3	9.1	5.4	100	281	3.2	5.8
7	2.6	4.8	6.2	4.0	5.7	8.2	8.5	5.3	116	116	2.9	4.5
8	3.0	4.4	38	4.4	5.4	19	8.4	4.5	29	32	2.8	3.4
9	3.9	5.4	29	4.6	5.2	8.2	8.5	4.5	19	23	2.2	5.6
10	2.8	6.1	11	7.0	5.2	5.5	8.4	5.7	14	20	1.6	4.5
11	1.7	5.2	7.7	6.2	3.7	4.3	7.9	4.9	13	17	1.3	2.7
12	1.9	5.6	6.6	4.5	4.6	4.0	6.7	4.6	14	15	1.1	2.8
13	2.3	4.5	4.6	4.2	5.6	4.3	7.8	3.9	13	13	1.1	2.1
14	3.0	2.7	5.4	4.0	5.2	4.0	7.5	4.0	14	11	2.1	3.7
15	3.5	4.5	5.3	4.3	4.8	3.4	7.3	5.0	1390	11	2.1	3.5
16	3.6	6.8	4.4	4.1	4.9	3.5	7.4	271	8840	9.2	2.2	3.4
17	4.3	15	4.6	4.6	5.0	3.3	6.9	35	310	9.2	13	2.9
18	4.5	13	4.8	4.3	5.0	2.9	27	12	111	8.5	12	3.1
19	4.3	8.4	4.2	5.3	5.1	2.0	57	7.0	66	7.5	7.2	2.8
20	4.0	6.0	3.4	5.4	4.2	3.3	15	4.9	48	7.0	4.4	2.5
21	3.6	5.6	4.0	7.0	4.3	2.7	8.6	4.1	37	6.8	3.5	3.0
22	3.8	6.1	4.8	7.0	3.8	2.5	7.3	3.9	31	6.2	3.4	2.8
23	4.2	6.9	4.5	5.8	3.9	2.9	20	4.2	28	5.8	3.3	2.5
24	4.3	10	4.6	5.0	4.3	3.2	18	351	25	5.3	3.8	1.2
25	4.3	6.9	4.3	5.1	4.1	2.8	9.4	38	22	4.1	3.8	.85
26	7.6	5.6	4.6	5.5	3.7	3.0	7.5	13	23	4.8	4.2	1.3
27	5.4	4.9	4.6	5.2	3.9	4.4	6.0	7.2	22	5.0	7.1	1.6
28	3.4	5.0	4.8	5.0	4.3	211	5.5	5.3	21	5.0	3.3	2.4
29	2.1	4.3	4.5	5.4	---	2880	5.2	4.7	20	4.9	3.6	2.7
30	3.7	3.4	4.3	4.0	---	60	5.3	9.7	17	4.7	2.6	2.5
31	3.7	---	4.1	4.1	---	20	---	6.3	---	5.1	3.1	---
TOTAL	118.0	180.2	213.5	150.2	129.8	3352.3	356.2	855.9	12613.0	1502.1	120.4	120.05
MEAN	3.81	6.01	6.89	4.85	4.64	108	11.9	27.6	420	48.5	3.88	4.00
MAX	9.6	15	38	7.0	5.7	2880	57	351	8840	694	13	17
MIN	1.7	2.7	3.4	3.9	3.7	2.0	5.2	3.9	5.0	4.1	1.1	.85
CFSM	.01	.02	.02	.02	.02	.38	.04	.10	1.49	.17	.01	.01
IN.	.02	.02	.03	.02	.02	.44	.05	.11	1.66	.20	.02	.02
AC-FT	234	357	423	298	257	6650	707	1700	25020	2980	239	238
CAL YR 1980	TOTAL	9071.77	MEAN	24.8	MAX	2990	MIN	.22	CFSM	.09	IN	1.20
WTR YR 1981	TOTAL	19711.65	MEAN	54.0	MAX	8840	MIN	.85	CFSM	.19	IN	2.60
									AC-FT	17990		
									AC-FT	39100		

BRAZOS RIVER BASIN

08092000 NOLAN RIVER AT BLUM, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1968 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
OCT 22...	1200	3.8	452	8.5	17.5	9.4	99	.9	130	0
JAN 12...	1125	3.6	676	8.4	4.0	14.6	111	.7	140	0
APR 06...	1045	14	514	8.4	16.5	19.0	194	1.4	170	14
MAY 18...	1105	11	275	8.4	24.0	9.4	113	2.2	95	0
JUN 29...	1120	20	560	8.6	29.5	15.3	201	2.0	220	8
AUG 10...	1050	3.1	630	8.3	24.0	7.2	86	1.6	200	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 (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 22...	44	4.6	39	1.5	6.2	140	46	29	.3
JAN 12...	49	5.2	91	3.3	6.7	180	74	57	.6
APR 06...	61	5.3	40	1.3	5.6	160	58	31	.4
MAY 18...	33	3.1	15	.7	6.1	100	20	11	.0
JUN 29...	76	6.8	37	1.1	4.3	210	54	30	.3
AUG 10...	70	7.1	61	1.9	4.1	210	53	47	.4

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 22...	1.9	274	.00	.000	.00	.020	.49	.51	1.100
JAN 12...	.1	392	1.6	.030	1.6	.070	1.1	1.2	3.100
APR 06...	4.3	302	1.1	.010	1.1	.030	.97	1.0	.710
MAY 18...	6.6	155	.48	.030	.51	.090	1.2	1.3	.600
JUN 29...	6.0	341	.35	.010	.36	.050	1.2	1.2	.310
AUG 10...	9.7	379	.10	.030	.13	.130	.80	.93	.510

08092500 LAKE WHITNEY NEAR WHITNEY, TX

LOCATION.--Lat 31°51'55", long 97°22'18", Bosque County, Hydrologic Unit 12060202, on State Highway 22, in intake structure of Whitney Dam on Brazos River, 2.4 mi (3.9 km) upstream from Coon Creek, 3.5 mi (5.6 km) upstream from Iron Creek, 7.4 mi (11.9 km) southwest of Whitney, and at mile 442.4 (712.0 km).

DRAINAGE AREA.--27,189 mi² (70,420 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1951 to current year. Prior to October 1970, published as Whitney Reservoir. Prior to October 1980, published as Whitney Lake.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The lake is formed by a concrete-gravity and rolled earthfill dam 17,695 ft (5,393 m) long, including spillway. The dam was completed in April 1951 and deliberate impoundment began Dec. 10, 1951. The concrete spillway is 680 ft (210 m) long and includes 17 tainter gates 38.0 by 40.0 ft (11.6 by 12.2 m) each. The outlet works are comprised of 16 gate-operated conduits that are 5.0 by 9.0 ft (1.5 by 2.7 m) each. The space between elevations 522.0 and 571.0 ft (159.11 and 174.04 m) is reserved for flood-control storage. At a maximum design elevation of 573.0 ft (174.65 m), the spillway is designed to discharge 684,000 ft³/s (19,400 m³/s). The capacity table is based on a survey made in April and May 1959. Flow is affected at times by discharge from flood-detention pools of four floodwater-retarding structures with combined detention capacity of 2,690 acre-ft (3.32 km³). These structures control runoff from 12.2 mi² (31.6 km²) in the Paluxy River drainage basin. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	584.0	-
Design flood.....	573.0	2,100,000
Top of gates.....	571.0	1,999,500
Crest of spillway (sill of gates).....	533.0	627,100
Top of conservation pool (top of designated power storage).....	522.0	411,100
Lowest controlled outlet (invert).....	448.83	4,270

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,980,000 acre-ft (2.44 km³) May 29, 1957, elevation, 570.25 ft (173.812 m); minimum daily since power pool elevation first reached in April 1954, 250,200 acre-ft (308 hm³) Nov. 1, 1956, elevation, 509.52 ft (155.302 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 738,800 acre-ft (911 hm³) June 17 at 0900 hours, elevation, 537.47 ft (163.821 m); minimum, 425,800 acre-ft (525 hm³) Oct. 1 at 0001 hours, elevation, 522.90 ft (159.380 m).

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

522.0	411,100	528.0	517,100	534.0	651,000
524.0	444,000	530.0	559,200	536.0	700,700
526.0	478,800	532.0	603,900	538.0	752,700

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	431200	616600	607100	610100	588000	556400	586000	585100	597500	620600	602300	562300
2	439700	617300	605500	607100	585800	555600	583700	584200	599100	621800	602100	562300
3	452300	618300	603600	607600	583700	556900	585800	584400	611300	622200	602300	563400
4	475600	618300	602700	606200	581500	558800	584900	585100	614600	625500	602100	563800
5	503700	616900	603000	603000	579700	559900	585100	585800	618500	634000	601400	563400
6	532400	616400	602300	601400	577900	563000	583300	585600	625500	636900	600000	563400
7	560500	615700	602100	600500	578600	567200	581300	584600	632600	635500	600000	561900
8	578800	614300	608300	600000	576800	570700	582800	583700	639800	632400	600000	561400
9	585600	614300	607800	599400	576200	572000	582400	589600	650000	628800	598700	559700
10	586900	613600	607800	600500	578800	575100	583300	586200	664000	626600	595300	559000
11	589200	613400	606900	600300	567800	578400	583300	590300	668700	624800	591900	556600
12	592100	612700	607800	598700	563400	580800	582600	592100	667700	623100	590100	554700
13	594600	612500	610800	598900	562100	583700	582800	596900	667200	620800	589400	553000
14	596000	612900	611500	599600	563200	584600	584200	595700	668700	620800	585100	552400
15	597300	611800	610800	600000	565800	586500	583100	596400	687100	621100	582400	550200
16	598700	613600	611500	600000	565800	586700	583300	600900	735600	621300	583300	549800
17	601400	611100	611500	598900	564900	586200	582400	600500	738200	620800	584600	549800
18	604600	609200	615300	600500	564900	586500	585600	601600	731400	620800	586500	549800
19	608500	608500	614300	602700	564700	584600	585800	599800	715300	619900	589200	549400
20	611500	608300	612000	603600	563200	583300	586500	599800	697200	618500	589200	549400
21	613200	608300	612500	601400	563600	586000	585600	599100	680300	617600	585300	547000
22	614300	608300	610100	597300	562500	584000	585300	598700	669900	616200	582200	545100
23	618300	609900	612000	594100	562100	582800	586900	598200	662300	613900	578800	543400
24	616400	609900	612900	592800	561400	581700	587100	602500	654900	612000	575300	541200
25	617800	610100	614300	594400	560800	579500	586500	602500	646900	609700	574600	539700
26	620600	610100	616400	593000	560300	578600	586200	602300	639500	608800	571100	538000
27	623600	610100	616900	593000	557900	576600	586200	601200	635200	606700	567800	536700
28	619200	608500	616400	592300	557500	581000	586000	600300	631400	604100	562700	535100
29	617300	608300	613600	593000	---	590800	585300	598200	627100	603200	561600	532800
30	617100	606700	610400	590300	---	588500	585100	598400	623100	603000	559900	532200
31	616900	---	609900	588700	---	587600	---	598000	---	602300	559900	---
MAX	623600	618300	616900	610100	588000	590800	587100	602500	738200	636900	602300	563800
MIN	431200	606700	602100	588700	557500	555600	581300	583700	597500	602300	559900	532200
(†)	532.56	532.12	532.26	531.33	529.92	531.28	531.17	531.74	532.83	531.93	530.03	528.73
(‡)	+191100	-10200	+3200	-21200	-31200	+30100	-2500	+12900	+25100	-20800	-42400	-27700

CAL YR 1980 MAX 623600 MIN 407100 † +173400
WTR YR 1981 MAX 738200 MIN 431200 ‡ +106400

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

BRAZOS RIVER BASIN

08092500 WHITNEY LAKE NEAR WHITNEY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1961 to current year.

315203097222601 WHITNEY LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
JAN											
29...	0820	1.00	2060	8.0	9.5	2.19	9.4	84	K1	K1	370
29...	0821	3.60	--	--	--	--	--	--	--	--	--
29...	0822	10.0	2070	8.0	9.5	--	9.1	81	--	--	--
29...	0824	20.0	2090	8.0	9.5	--	8.8	79	--	--	--
29...	0827	30.0	2120	7.9	9.5	--	8.6	77	--	--	--
29...	0828	40.0	2150	7.9	9.0	--	8.0	71	--	--	--
29...	0830	50.0	2180	7.8	9.5	--	7.2	64	--	--	--
29...	0832	60.0	2420	7.4	9.5	--	4.5	40	--	--	--
29...	0834	70.0	2490	7.6	9.5	--	6.3	56	--	--	--
29...	0836	80.0	2520	7.6	9.0	--	6.8	60	--	--	--
29...	0838	90.0	2540	7.7	9.0	--	7.0	62	--	--	--
29...	0840	100	2540	7.7	9.0	--	7.1	63	--	--	460
MAY											
05...	1300	1.00	2160	8.2	22.5	2.40	8.0	93	<1	<1	390
05...	1301	4.00	--	--	--	--	--	--	--	--	--
05...	1302	10.0	2160	8.2	22.5	--	8.0	93	--	--	--
05...	1304	20.0	2160	8.2	22.5	--	7.9	92	--	--	--
05...	1306	30.0	2160	8.2	22.5	--	7.9	92	--	--	--
05...	1308	40.0	2160	8.2	22.0	--	7.8	90	--	--	--
05...	1310	50.0	2160	7.7	19.0	--	5.0	54	--	--	--
05...	1312	60.0	2160	7.6	18.0	--	3.9	41	--	--	--
05...	1314	70.0	2150	7.6	17.0	--	3.9	41	--	--	--
05...	1316	80.0	2150	7.6	16.0	--	3.0	31	--	--	--
05...	1318	90.0	2150	7.5	15.5	--	2.7	27	--	--	--
05...	1320	101	2150	7.5	15.0	--	1.1	11	--	--	390
AUG											
12...	1740	1.00	1950	8.2	29.5	1.50	7.7	101	K2	K580	340
12...	1741	2.50	--	--	--	--	--	--	--	--	--
12...	1742	10.0	1950	8.1	29.0	--	7.3	96	--	--	--
12...	1744	20.0	1950	7.9	29.0	--	5.9	78	--	--	--
12...	1746	30.0	1950	7.6	28.5	--	4.0	52	--	--	--
12...	1748	40.0	1960	7.4	28.0	--	2.5	32	--	--	--
12...	1752	60.0	2030	7.2	25.0	--	.5	6	--	--	--
12...	1754	70.0	2070	7.2	24.0	--	.5	6	--	--	--
12...	1756	80.0	2150	7.3	23.0	--	.5	6	--	--	--
12...	1758	90.0	2190	7.4	22.0	--	.6	7	--	--	--
12...	1800	102	2200	7.5	20.5	--	.6	7	--	--	390

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315203097222601 WHITNEY LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JAN										
29...	260	100	28	290	6.6	6.8	110	240	480	.3
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	350	130	32	360	7.3	7.3	110	320	600	--
MAY										
05...	280	110	28	290	6.4	6.7	110	240	500	.2
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	270	110	28	290	6.4	6.7	120	230	480	--
AUG										
12...	240	96	25	270	6.8	5.9	100	230	450	.3
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	240	110	28	300	6.6	6.3	150	230	500	--

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
29...	5.0	1220	.05	--	--	.84	.89	.020	20	0
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	.04	--	--	.69	.73	.020	0	20
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	7.7	1520	.00	--	--	.96	.96	.030	40	120
MAY										
05...	4.3	1250	.06	.080	.74	.82	.88	.150	50	10
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	6.3	1220	.32	.240	1.5	1.70	2.0	.160	40	1200
AUG										
12...	4.6	1140	<.09	--	--	.69	--	.010	<10	27
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	<.09	--	--	.89	--	.020	10	10
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	<.09	--	--	1.60	--	.270	150	1400

BRAZOS RIVER BASIN
WHITNEY LAKE NEAR WHITNEY, TX--Continued

315432097234601 WHITNEY LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
29...	0950	1.00	2080	8.1	10.5	9.8	89
29...	0952	10.0	2080	8.1	10.0	9.8	88
29...	0955	20.0	2080	8.1	10.0	9.7	87
29...	1000	30.0	2090	8.1	10.0	9.5	86
29...	1005	40.0	2120	8.1	9.5	9.2	82
29...	1010	50.0	2230	8.0	9.5	8.6	77
29...	1015	60.0	2300	7.9	9.0	8.4	74
29...	1020	70.0	2240	7.9	9.0	8.5	75
29...	1025	80.0	2510	7.8	9.0	8.0	71
29...	1035	89.0	2510	7.9	9.0	7.9	70
MAY							
05...	1445	1.00	2200	8.2	23.5	7.9	94
05...	1447	10.0	2200	8.2	23.0	7.9	93
05...	1449	20.0	2200	8.2	23.0	7.9	93
05...	1451	30.0	2200	7.8	21.5	5.2	59
05...	1453	40.0	2180	7.8	19.5	5.0	55
05...	1455	50.0	2180	7.6	19.0	4.0	43
05...	1457	60.0	2180	7.6	18.0	3.3	35
05...	1459	70.0	2180	7.5	16.5	2.3	24
05...	1501	80.0	2180	7.5	16.0	1.7	17
05...	1503	90.0	2180	7.5	16.0	1.6	16
AUG							
12...	1340	1.00	1950	8.2	30.0	8.3	111
12...	1342	10.0	1950	8.2	29.5	7.8	103
12...	1344	20.0	1950	8.0	29.5	6.7	88
12...	1346	30.0	1950	7.8	29.0	5.3	70
12...	1348	40.0	1990	7.3	28.0	.8	10
12...	1350	50.0	2020	7.2	26.5	.4	5
12...	1352	60.0	2050	7.2	25.5	.5	6
12...	1354	70.0	2060	7.3	24.5	.6	7
12...	1356	80.0	2120	7.3	23.5	.8	10
12...	1358	87.0	2180	7.3	23.0	1.2	14

315722097240201 WHITNEY LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)
JAN											
29...	1035	1.00	2110	8.2	10.5	1.98	10.2	93	<1	K2	370
29...	1037	10.0	2100	8.2	10.5	--	10.2	93	--	--	--
29...	1039	20.0	2090	8.2	10.5	--	10.1	92	--	--	--
29...	1041	30.0	2120	8.2	10.0	--	10.0	90	--	--	--
29...	1043	40.0	2240	8.1	9.5	--	9.6	86	--	--	--
29...	1045	50.0	2310	8.1	9.5	--	9.4	84	--	--	--
29...	1047	60.0	2630	7.9	9.0	--	9.3	81	--	--	--
29...	1049	70.0	2660	7.9	9.0	--	9.2	81	--	--	--
29...	1051	80.0	2670	7.9	9.0	--	9.1	81	--	--	460
MAY											
05...	1540	1.00	2210	8.2	23.5	1.40	7.2	86	<1	<1	390
05...	1542	10.0	2210	8.2	23.0	--	7.2	85	--	--	--
05...	1544	20.0	2210	8.1	23.0	--	6.7	79	--	--	--
05...	1546	30.0	2210	7.7	22.0	--	4.4	51	--	--	--
05...	1548	40.0	2200	7.6	19.5	--	3.5	38	--	--	--
05...	1550	50.0	2200	7.5	18.5	--	2.9	31	--	--	--
05...	1552	60.0	2200	7.5	18.0	--	2.3	24	--	--	--
05...	1554	70.0	2190	7.5	17.0	--	1.7	18	--	--	--
05...	1556	80.0	2190	7.4	17.0	--	1.7	18	--	--	390
AUG											
12...	1420	1.00	1900	8.2	30.5	1.50	8.3	112	<1	K13	330
12...	1422	10.0	1900	8.2	30.0	--	7.9	105	--	--	--
12...	1424	20.0	1900	7.9	29.5	--	5.8	76	--	--	--
12...	1426	30.0	1900	7.7	29.0	--	4.8	63	--	--	--
12...	1428	40.0	1940	7.2	28.0	--	.3	4	--	--	--
12...	1430	50.0	1950	7.2	26.0	--	.3	4	--	--	--
12...	1432	60.0	1970	7.2	25.0	--	.4	5	--	--	--
12...	1434	75.0	2090	7.2	24.0	--	.7	8	--	--	390

BRAZOS RIVER BASIN
WHITNEY LAKE NEAR WHITNEY, TX--Continued

309

315722097240201 WHITNEY LAKE SITE DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JAN										
29...	260	100	28	300	6.8	6.8	110	240	490	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	350	130	33	380	7.7	7.4	110	340	620	.4
MAY										
05...	280	110	28	300	6.6	6.8	110	250	500	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	280	110	28	290	6.4	6.8	110	240	500	--
AUG										
12...	230	92	24	260	6.6	5.9	100	200	430	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	240	110	28	280	6.2	6.4	150	220	460	--

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
29...	4.8	1240	.03	--	--	.62	.65	.020	60	0
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	.01	--	--	.74	.75	.020	30	0
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	4.1	1580	.02	--	--	.77	.79	.040	70	30
MAY										
05...	4.1	1270	.06	.090	.80	.89	.95	.150	30	0
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	5.3	1250	.24	.210	.71	.92	1.2	.170	10	130
AUG										
12...	4.8	1080	<.09	--	--	.68	--	.020	<10	7
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	<.09	--	--	.81	--	.020	30	30
12...	--	--	<.09	--	--	.74	--	.030	20	150
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	8.6	1200	<.09	--	--	1.80	--	.230	150	1100

BRAZOS RIVER BASIN
WHITNEY LAKE NEAR WHITNEY, TX--Continued

320122097260901 WHITNEY LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
29...	1300	1.00	2810	8.3	11.5	1.52	10.2	95
29...	1302	10.0	2180	8.3	11.5	--	10.1	94
29...	1304	20.0	2180	8.3	11.5	--	10.0	93
29...	1306	30.0	2180	8.3	11.0	--	10.0	93
29...	1308	40.0	2690	8.0	9.5	--	9.2	82
29...	1310	55.0	2810	8.0	10.0	--	8.6	77
MAY								
05...	1650	1.00	2220	7.9	24.5	.90	6.4	77
05...	1652	10.0	2220	7.9	24.0	--	6.2	74
05...	1654	20.0	2220	8.0	24.0	--	6.7	80
05...	1656	30.0	2230	7.3	21.5	--	.9	10
05...	1658	40.0	2230	7.3	20.0	--	.4	4
05...	1700	50.0	2230	7.4	19.0	--	.5	5
05...	1702	56.0	2230	7.4	19.0	--	.6	7
AUG								
12...	1545	1.00	1830	8.2	30.5	1.10	8.5	115
12...	1547	10.0	1830	7.9	29.5	--	6.3	83
12...	1549	20.0	1830	7.6	29.0	--	4.2	55
12...	1551	30.0	1830	7.5	29.0	--	3.8	50
12...	1553	40.0	1840	7.5	29.0	--	3.2	42
12...	1555	50.0	1860	7.3	26.5	--	.5	6
12...	1557	57.0	1900	7.2	26.0	--	.8	10

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, 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								
29...	.00	--	--	.61	.61	.020	80	10
29...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
29...	.00	--	--	.56	.56	.020	20	0
29...	--	--	--	--	--	--	--	--
29...	.01	--	--	.86	.87	.040	20	40
MAY								
05...	.06	.090	.78	.87	.93	.160	10	30
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	.28	.300	1.0	1.30	1.6	.170	50	850
AUG								
12...	<.09	--	--	1.20	--	.030	20	40
12...	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--
12...	<.09	--	--	1.00	--	.030	20	90
12...	<.09	--	--	1.90	--	.200	160	2100
12...	<.09	--	--	2.20	--	.280	150	1700

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315907097222801 WHITNEY LAKE SITE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
29...	1110	1.00	2100	8.2	11.0	1.83	10.3	95
29...	1112	10.0	2100	8.2	11.0	--	10.2	94
29...	1114	20.0	2100	8.2	11.0	--	10.1	94
29...	1116	30.0	2100	8.2	10.5	--	9.9	90
29...	1118	40.0	2110	8.1	10.0	--	9.0	81
29...	1120	52.0	2470	7.6	9.5	--	7.1	63
MAY								
05...	1615	1.00	2220	8.1	23.5	1.40	7.1	85
05...	1617	10.0	2220	8.1	23.0	--	7.1	84
05...	1619	20.0	2230	7.6	22.0	--	3.9	45
05...	1621	30.0	2230	7.5	20.5	--	2.5	28
05...	1623	40.0	2230	7.4	19.5	--	1.4	15
05...	1625	48.0	2230	7.4	19.0	--	1.4	15
AUG								
12...	1510	1.00	1900	8.3	30.5	1.20	8.9	120
12...	1512	10.0	1900	8.0	29.5	--	6.4	84
12...	1514	20.0	1900	7.6	29.5	--	3.6	47
12...	1516	30.0	1900	7.5	29.0	--	3.3	43
12...	1518	40.0	1900	7.2	29.0	--	.4	5
12...	1520	47.0	1900	7.3	27.5	--	.7	9

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, 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								
29...	.01	--	--	.83	.84	.020	20	10
29...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
29...	.00	--	--	.97	.97	.030	10	210
MAY								
05...	.10	.070	.65	.72	.82	.150	20	20
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	.26	.270	.83	1.10	1.4	.170	40	650
AUG								
12...	<.09	--	--	.96	--	.030	10	40
12...	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--
12...	<.09	--	--	1.50	--	.020	170	1800

320401097291301 WHITNEY LAKE SITE P11

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)
JAN										
29...	1215	1.00	2720	8.3	11.5	1.46	10.4	97	<1	K3
29...	1216	2.40	--	--	--	--	--	--	--	--
29...	1217	10.0	2730	8.3	11.5	--	10.4	97	--	--
29...	1219	20.0	2760	8.3	11.0	--	10.2	94	--	--
29...	1221	27.0	2800	8.2	10.0	--	9.4	85	--	--
MAY										
05...	1730	1.00	2190	7.8	24.5	.50	5.8	70	<1	K1
05...	1731	.80	--	--	--	--	--	--	--	--
05...	1732	10.0	2190	7.7	24.5	--	5.6	67	--	--
05...	1734	20.0	2220	7.7	24.5	--	5.1	61	--	--
05...	1736	28.0	2330	7.2	23.5	--	.9	11	--	--
AUG										
12...	1630	1.00	1780	8.3	32.0	.70	10.3	141	K2	160
12...	1631	1.10	--	--	--	--	--	--	--	--
12...	1632	10.0	1780	7.5	30.0	--	3.5	47	--	--
12...	1634	20.0	1790	7.4	29.5	--	1.7	22	--	--
12...	1636	27.0	1790	7.2	29.5	--	.6	8	--	--

BRAZOS RIVER BASIN
WHITNEY LAKE NEAR WHITNEY, TX--Continued

320401097291301 WHITNEY LAKE SITE P11--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN										
29...	460	350	130	34	390	7.9	7.4	110	350	650
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	490	430	140	35	410	8.0	7.4	110	380	670
MAY										
05...	420	300	120	28	290	6.2	6.5	120	260	480
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	420	300	120	30	310	6.6	6.6	120	280	520
AUG										
12...	330	210	94	24	240	6.1	6.0	120	220	390
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	350	230	99	24	240	6.0	6.1	120	230	390
DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
29...	3.7	1630	.01	--	--	.57	.58	.030	30	10
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	.00	--	--	.67	.67	.020	10	0
29...	4.1	1690	.05	--	--	.66	.71	.020	20	10
MAY										
05...	2.6	1260	.06	.120	.50	.62	.68	.180	20	20
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	4.4	1340	.11	.380	.52	.90	1.0	.180	20	790
AUG										
12...	7.4	1050	<.09	--	--	.94	--	.040	<10	9
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	<.09	--	--	.99	--	.040	10	20
12...	--	--	--	--	--	--	--	--	--	--
12...	8.1	1070	<.09	--	--	.95	--	.070	41	240

BRAZOS RIVER BASIN

313

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315500097204001 WHITNEY LAKE SITE P15

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

			SPE- CIFIC CON- DUCT- ANCE	PH	TEMPER- ATURE	TRANS- PAR- ENCY (SECCHI DISK)	OXYGEN, DIS- SOLVED	OXYGEN, DIS- SOLVED
DATE	TIME	SAMP- LING DEPTH (FT)	(UMHOS)	(UNITS)	(DEG C)	(M)	(MG/L)	(PER- CENT SATUR- ATION)
JAN								
29...	0925	1.00	2030	8.1	11.5	.94	10.1	94
29...	0927	13.0	2030	8.1	11.5	--	10.1	94
MAY								
05...	1425	1.00	2200	8.0	21.5	1.50	6.8	77
05...	1427	10.0	2200	8.0	21.5	--	6.6	75
05...	1430	22.0	2200	7.8	21.0	--	5.3	60
AUG								
12...	1230	1.00	1950	8.3	30.0	--	7.7	103
12...	1232	10.0	1950	8.2	29.5	--	7.5	99
12...	1234	20.0	1950	8.0	29.0	--	7.5	99
12...	1236	27.0	1950	7.7	29.0	--	7.5	99
	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN								
29...	.00	--	--	.62	.62	.040	150	20
29...	.00	--	--	.72	.72	.040	90	10
MAY								
05...	.07	.100	1.0	1.10	1.2	.120	30	10
05...	--	--	--	--	--	--	--	--
05...	.81	.110	.67	.78	1.6	.160	10	20
AUG								
12...	<.09	--	--	.74	--	.010	20	10
12...	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--
12...	<.09	--	--	.97	--	.040	20	50

BRAZOS RIVER BASIN
WHITNEY LAKE NEAR WHITNEY, TX--Continued

315203097222601 WHITNEY LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 29,81 0821	MAY 5,81 1301	AUG 12,81 1741
TOTAL CELLS/ML	6600	6400	270000
DIVERSITY: DIVISION	0.9	1.8	0.2
..CLASS	0.9	1.8	0.2
..ORDER	1.0	1.9	1.2
...FAMILY	1.2	2.1	1.6
....GENUS	1.3	2.3	1.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...ACHNANTHALES						
...ACHNANTHACEAE						
...COCCONEIS	--	-	* 0		--	-
..BACILLARIALES						
...NITZSCHIAEAE						
...NITZSCHIA	*	0	--	-	--	-
..EUPODISCALES						
...COSCIDISCAEAE						
...CYCLOTELLA	64	1	100	2	1400	1
...MELOSIRA	--	-	* 0		--	-
..NAVICULES						
...ENTOMONEIDACEAE						
...ENTOMONEIS	*	0	--	-	--	-
...NAVICULACEAE						
...NAVICULA	--	-	2600#	41	--	-
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHLOROCOCCACEAE						
...TETRAEDRON	*	0	130	2	*	0
...DICTYOSPHAERIACEAE						
...DICTYOSPHAERIUM	90	1	*	0	--	-
...OOCYSTACEAE						
...ANKISTRODESMUS	220	3	50	1	*	0
...CHODATELLA	*	0	75	1	--	-
...KIRCHNERIELLA	--	-	--	-	*	0
...OOCYSTIS	64	1	--	-	--	-
...SELENASTRUM	*	0	*	0	--	-
...SCENEDESMACEAE						
...CRUCIGENIA	52	1	300	5	--	-
...SCENEDESMUS	260	4	850	13	*	0
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	77	1	--	-	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
...STAUSTRUM	--	-	--	-	*	0
CHRYSOPHYTA						
..CHRYSOPHYCEAE						
...OCHROMONADALES						
...OCHROMONADACEAE						
...OCHROMONAS	--	-	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
...CHROOMONAS	280	4	350	5	--	-
...CRYPTOMONADACEAE						
...CRYPTOMONAS	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
...AGMENELLUM					1900	1
...ANACYSTIS	5400#	81	1800#	29	2100	1
...NOSTOCALES						
...HAMMATOIDEACEAE						
...RAPHIDIOPSIS	--	-	--	-	42000#	16
...NOSTOCACEAE						
...ANABAENOPSIS	--	-	--	-	6100	2
...CYLINDROSPERMUM	--	-	--	-	45000#	17
...OSCILLATORIALES						
...OSCILLATORIAEAE						
...LYNGBYA	--	-	--	-	5800	2
...OSCILLATORIA	--	-	--	-	160000#	59
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
...TRACHELOMONAS	*	0	--	-	--	-

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

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

WHITNEY LAKE NEAR WHITNEY, TX--Continued

320401097291301 WHITNEY LAKE SITE P11

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 29,81 1216	MAY 5,81 1731	AUG 12,81 1631
TOTAL CELLS/ML	4300	6200	320000
DIVERSITY: DIVISION	1.3	1.7	0.3
..CLASS	1.3	1.7	0.3
..ORDER	1.5	2.3	1.4
...FAMILY	1.9	2.7	1.7
....GENUS	2.2	3.1	1.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
.BACILLARIOPHYCEAE						
..ACHNANTHALES						
...ACHNANTHACEAE						
....COCCONEIS	--	-	* 0		--	-
..BACILLARIALES						
...NITZSCHIAEAE						
....NITZSCHIA	--	-	180 3		--	-
..EUPODISCALES						
...COSCINODISCAEAE						
....CYCLOTELLA	120	3	900 15		2500 1	
....MELOSIRA	--	-	900 15		--	-
....STEPHANODISCUS	--	-	130 2		--	-
..FRAGILARIALES						
...FRAGILARIAEAE						
....SYNEDRA	*	0	--	-	*	0
..NAVICULALES						
...NAVICULACEAE						
....DIPLONEIS	--	-	--	-	*	0
....NAVICULA	26	1	* 0		--	-
..RHIZOSOLENIALES						
...RHIZOSOLENIAEAE						
....RHIZOSOLENIA	*	0	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHLOROCOCCACEAE						
....TETRAEDRON	100	2	50 1		* 0	
...DICTYOSPHAERIAEAE						
....DICTYOSPHAERIUM	39	1	400 6		1600 1	
...OOCYSTACEAE						
....ANKISTRODESMUS	300	7	50 1		1600 1	
....CHODATELLA	39	1	--	-	--	-
....KIRCHNERIELLA	--	-	100 2		--	-
....OOCYSTIS	620	14	50 1		--	-
....SELENASTRUM	39	1	50 1		--	-
...SCENEDESMACEAE						
....SCENEDESMUS	210	5	350 6		1600 1	
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	2900 1	
....CHLAMYDOMONAS	77	2	50 1		* 0	
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	90	2	150 2		--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	51	1	150 2		* 0	
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	11000 3	
....ANACYSTIS	2600# 60		650 11		2900 1	
..NOSTOCALES						
...HAMMATOIDEACEAE						
....RAPHIIDIOPSIS	--	-	--	-	54000# 17	
...NOSTOCACEAE						
....ANABAENOPSIS	--	-	--	-	7000 2	
....CYLINDROSPERMUM	--	-	--	-	21000 7	
..OSCILLATORIALES						
...OSCILLATORIAEAE						
....OSCILLATORIA	--	-	2000# 32		210000# 65	
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	--	-	--	-
....TRACHELONAS	--	-	--	-	* 0	

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

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

BRAZOS RIVER BASIN

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX

LOCATION.--Lat 31°52'00", long 97°22'00", Hill County, Hydrologic Unit 12060202, immediately below Whitney Dam, 3.4 mi (5.5 km) upstream from gaging station near Whitney, 4.0 mi (6.4 km) upstream from Iron Creek, and 7.4 mi (11.9 km) southwest of Whitney.

DRAINAGE AREA.--26,190 mi² (67,830 km²), of which 9,566 mi² (23,930 km²), revised, probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: October 1947 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1947 to current year.

WATER TEMPERATURES: October 1947 to current year.

REMARKS.--Records of discharge are given for gaging station 08093100. No appreciable inflow between dam and gaging station except during periods of heavy local rains. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,620 micromhos Aug. 24, 1978; minimum daily, 203 micromhos May 23, 1952.

WATER TEMPERATURES: Maximum daily, 33.5°C July 3, 1973; minimum daily, 0.0°C Jan. 28, 29, 1948.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,330 micromhos Oct. 17; minimum daily, 1,460 micromhos Oct. 7.

WATER TEMPERATURES: Maximum daily, 28.5°C Aug. 20; minimum daily, 9.0°C on many days during February and March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 13...	0855	130	2280	18.0	400	300	110	30	330
MAR 31...	0830	1030	2160	14.0	390	280	110	28	300
JUN 30...	0810	1830	2030	24.5	360	250	100	26	270
JUL 31...	0830	475	2040	24.0	360	240	100	26	300
AUG 31...	0830	532	2040	24.0	360	300	100	26	260
SEP 30...	0850	1320	1960	23.5	350	250	97	25	280

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
NOV 13...	7.2	6.8	100	250	520	.3	5.6	1310
MAR 31...	6.6	6.8	110	230	480	.4	4.3	1230
JUN 30...	6.2	6.4	110	220	450	.3	4.6	1140
JUL 31...	6.9	6.7	120	220	460	.3	5.3	1190
AUG 31...	6.0	6.8	61	220	480	.3	5.9	1140
SEP 30...	7.0	6.7	100	230	450	.3	5.6	1150

BRAZOS RIVER BASIN

317

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	15742	1930	1090	46500	420	17700	210	8760	350
NOV.	1980	13140	2000	1130	40200	430	15400	210	7610	360
DEC.	1980	23974	1990	1130	72800	430	27800	210	13800	360
JAN.	1981	29870	2100	1190	96200	460	37000	230	18300	370
FEB.	1981	24839	2130	1210	81400	470	31300	230	15600	380
MAR.	1981	19184	2160	1230	63800	480	24600	240	12200	380
APR.	1981	18987	2190	1250	64100	480	24800	240	12300	390
MAY	1981	21646	2200	1250	73300	480	28300	240	14100	390
JUNE	1981	110170	2120	1210	360000	460	138300	230	68700	380
JULY	1981	28055	2040	1150	87400	440	33400	220	16600	360
AUG.	1981	28081	2030	1150	87400	440	33400	220	16600	360
SEPT	1981	17526	1970	1110	52700	420	20000	210	9930	350
TOTAL		351214	**	**	1126000	**	432000	**	214000	**
WTD. AVG.		962	2090	1190	**	460	**	230	**	370

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1470	1870	1980	2000	2100	2160	2240	2190	2200	2020	2040	2010
2	1470	1870	1980	2030	2100	2180	2190	2190	2200	2020	2040	2010
3	1470	1870	1980	2000	2120	2150	2180	2190	2200	2030	2040	2000
4	1470	1880	1980	2030	2120	2190	2190	2190	2160	2020	2040	2010
5	1480	1950	1980	2060	2120	2150	2180	2190	2200	1950	2040	2030
6	1470	2020	1990	2110	2130	2170	2200	2190	2200	2030	2040	2010
7	1460	2000	2000	2080	2100	2140	2180	2190	2200	2030	2040	2010
8	1490	2120	1880	2110	2100	2160	2190	2190	2200	2060	2030	1970
9	1810	2230	1980	2130	2100	2170	2190	2190	2200	2030	2040	1980
10	1960	2180	1990	2150	2110	2160	2190	2200	2200	2030	2040	1980
11	2010	2290	1980	2150	2110	2160	2190	2200	2170	2030	2040	2010
12	1990	2270	1980	2060	2120	2160	2180	2200	2190	2030	2040	2000
13	2090	2280	1990	2130	2120	2150	2190	2200	2190	2030	2040	1990
14	2190	2130	1990	2060	2120	2160	2190	2200	2210	2040	2020	1960
15	2280	1920	1990	2100	2120	2160	2190	2210	2200	2050	2040	1990
16	2280	1910	1980	2080	2130	2150	2190	2170	2130	2040	2040	1950
17	2330	1940	1980	2050	2130	2160	2190	2200	2150	2040	2040	1950
18	2280	1950	1990	2030	2140	2160	2190	2200	2140	2050	2040	1950
19	1990	1950	1990	2030	2140	2160	2200	2200	2120	2040	2040	1950
20	2000	1960	1990	2080	2160	2160	2190	2200	2110	2040	2030	1950
21	2010	1960	1990	2090	2180	2160	2190	2200	2100	2050	2030	1950
22	2090	1970	1990	2080	2140	2160	2180	2200	2090	2040	2040	1960
23	2060	1970	2000	2110	2170	2160	2180	2200	2090	2040	2040	1950
24	1890	1960	2000	2140	2160	2160	2190	2200	2080	2040	2030	1960
25	1920	1960	2000	2070	2170	2160	2200	2200	2080	2040	2040	1960
26	1890	1960	2000	2150	2190	2170	2190	2200	2070	2040	2040	1950
27	1890	1960	2000	2140	2190	2170	2190	2200	2050	2040	2020	1950
28	1880	1970	2000	2180	2210	2170	2190	2200	2030	2040	2030	1950
29	1890	1990	2000	2230	---	2160	2190	2200	2040	2050	2030	1960
30	1890	1990	2000	2100	---	2160	2200	2200	2030	2040	2040	1960
31	1880	---	2010	2090	---	2160	---	2200	---	2040	2040	---
MEAN	1880	2010	1990	2090	2140	2160	2190	2200	2140	2030	2040	1980
WTR YR 1981		MEAN	2070	MAX	2330		MIN	1460				

BRAZOS RIVER BASIN

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	20.5	15.0	11.5	15.5	9.0	14.5	18.5	23.0	24.0	24.5	24.0
2	25.5	20.5	14.0	11.0	10.0	10.5	15.0	17.0	23.0	24.0	24.0	24.5
3	25.5	19.0	14.0	11.0	10.0	10.5	16.5	18.0	22.5	24.0	24.5	24.5
4	25.5	19.0	14.0	11.0	10.0	10.5	15.0	19.0	21.5	25.0	24.0	24.0
5	25.5	19.0	14.0	11.0	10.0	10.5	15.0	19.0	22.0	24.0	24.5	24.0
6	25.5	19.0	13.5	11.0	10.0	10.5	16.0	19.0	21.0	24.0	24.5	25.0
7	24.5	18.0	13.5	11.0	10.0	10.5	16.0	18.5	21.0	24.0	24.5	25.0
8	24.5	18.0	13.5	11.0	10.0	10.5	16.0	20.0	22.0	24.5	23.5	25.0
9	24.5	18.0	14.0	10.5	10.0	11.5	17.0	17.0	22.5	24.5	23.0	25.0
10	24.5	18.0	14.0	10.5	10.0	11.5	17.5	20.0	22.0	25.0	23.0	24.5
11	24.5	18.0	13.5	10.5	9.0	11.5	17.0	19.5	22.5	25.0	24.0	24.5
12	24.5	18.0	14.0	10.5	9.0	11.5	17.0	20.0	22.5	25.0	24.0	24.5
13	24.5	18.0	14.0	10.5	9.0	11.5	17.0	20.0	22.0	24.0	24.0	24.5
14	23.5	18.0	14.0	10.5	9.0	11.5	16.5	20.0	22.0	24.5	24.5	25.0
15	23.5	20.5	14.0	10.5	9.0	11.5	18.0	20.5	22.0	24.0	24.0	24.5
16	23.5	18.0	13.0	10.5	9.0	11.5	17.5	19.0	23.0	24.0	24.0	24.5
17	24.0	17.0	13.5	10.5	9.0	11.5	18.0	20.0	23.0	24.0	24.5	25.0
18	24.0	16.5	13.5	10.5	9.0	13.5	17.5	21.0	23.0	25.0	24.5	23.0
19	24.0	16.0	13.5	10.5	9.0	13.5	17.0	21.0	23.0	24.0	23.5	22.0
20	23.5	16.0	13.5	10.5	9.0	13.5	18.0	20.5	23.0	24.0	28.5	22.0
21	23.5	16.0	13.5	10.5	9.0	13.5	17.5	20.5	24.0	24.0	24.5	24.5
22	23.5	16.0	14.0	10.5	9.0	13.5	18.0	21.0	24.0	24.0	23.0	24.5
23	23.5	16.0	13.0	10.5	9.0	13.5	18.0	21.0	24.0	24.0	23.0	24.5
24	23.5	16.0	11.5	10.5	9.0	13.5	18.0	20.0	24.0	24.0	24.0	24.5
25	23.5	16.0	11.5	10.5	9.0	13.5	17.0	21.0	24.0	24.0	24.0	24.5
26	23.5	16.0	11.5	10.5	9.0	13.5	17.0	22.0	25.0	24.0	24.5	24.0
27	21.5	16.0	11.5	10.0	9.0	13.5	18.0	21.5	24.0	24.0	24.0	24.0
28	21.5	15.0	11.5	10.0	9.0	13.5	---	22.0	25.0	24.0	24.5	24.0
29	20.5	15.0	11.5	10.0	---	13.5	---	22.0	24.5	24.0	24.0	24.0
30	20.5	15.0	11.0	10.0	---	13.5	19.0	21.0	24.5	24.0	24.0	23.5
31	20.5	---	11.0	15.5	---	14.0	---	21.0	---	24.0	24.0	---
MEAN	24.0	17.5	13.0	10.5	9.5	12.0	17.0	20.0	23.0	24.0	24.0	24.0
WTR YR 1981		MEAN	18.5	MAX	28.5		MIN	9.0				

08093100 BRAZOS RIVER NEAR AQUILLA, TX

LOCATION.--Lat 31°48'44", long 97°17'51", Bosque County, Hydrologic Unit 12060202, on right bank at downstream side of bridge on Farm Road 2114, 2.0 mi (3.2 km) downstream from Tener Creek, 4.9 mi (7.9 km) downstream from Iron Creek, 5.4 mi (8.7 km) southwest of Aguilla, 9.0 mi (14.5 km) downstream from Whitney Dam, and at mile 434.0 (698.3 km).

DRAINAGE AREA.--27,244 mi² (70,560 km²), of which 9,566 mi² (24,776 km²), revised, probably is noncontributing.

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1974, published as Brazos River near Whitney.

REVISED RECORDS.--WRD TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 404.29 ft (123.228 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 1 1948, nonrecording gage at site 13.9 mi (22.4 km) upstream at datum 27.77 ft (8.464 m) higher. Oct. 1, 1948, to Feb. 12, 1975, at site 5.6 mi (9.0 km) upstream at datum 13.10 ft (3.993 m) higher.

REMARKS.--Records good. Most of flow is released from storage in Lake Whitney (station 08092500). Brazos River at Whitney Dam (station 08092600) uses the discharge record at this station for publication of water-quality records. Several observations of water temperature were made at this site during the year.

AVERAGE DISCHARGE.--13 years (water years 1939-51) prior to regulation by Lake Whitney, 1,802 ft³/s (51.03 m³/s), 1,306,000 acre-ft/yr (1.61 km³/yr); 30 years (water-years 1952-81) regulated, unadjusted, 1,384 ft³/s (39.19 m³/s), 1,003,00 acre-ft/yr (1.24 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft³/s (2,030 m³/s) May 18, 1949, gage height, 31.03 ft (9.458 m), site and datum in use from Oct. 1, 1948, to Feb. 12, 1975; minimum daily, 0.4 ft³/s (0.011 m³/s) May 9, 1953. Maximum discharge since construction of Whitney Dam in 1951, 58,200 ft³/s (1,650 m³/s) May 28, 1957, gage height, 27.34 ft (8.333 m), site and datum in use from Oct. 1, 1948, to Feb. 12, 1975.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1853, 45 ft (13.7 m) May 9, 1922, at site and datum in use Oct. 1, 1948, to Feb. 12, 1975, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,730 ft³/s (672 m³/s) June 16 at 0400 hours, gage height, 22.09 ft (6.733 m); minimum, 17 ft³/s (0.48 m³/s) Aug. 10, gage height, 6.62 ft (2.018 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	93	467	193	688	1170	1010	567	973	1520	566	56
2	170	268	373	1260	690	823	1040	379	967	779	346	47
3	180	530	859	343	1270	165	449	588	4410	387	278	36
4	182	87	649	769	1860	296	450	300	1500	1050	162	30
5	172	1030	464	1940	1460	578	601	210	1000	374	282	29
6	172	244	110	2030	805	1420	610	56	523	456	475	30
7	198	486	186	1220	153	921	1010	194	167	1660	235	366
8	732	388	488	941	205	996	617	137	1800	1910	25	682
9	732	599	811	922	716	1610	447	64	1930	2060	21	774
10	629	628	727	232	512	1350	417	483	2800	1270	1110	120
11	430	421	797	1030	575	392	457	839	2430	1030	1980	807
12	350	212	758	1200	2460	357	447	1270	2560	947	884	1410
13	412	96	335	1040	2030	287	437	878	2430	954	313	960
14	441	192	207	973	1260	261	469	592	2640	391	1800	532
15	399	221	435	973	662	142	416	512	2460	378	1170	727
16	592	279	1120	878	1430	160	497	795	9100	702	667	1210
17	790	735	1110	790	1020	285	615	768	2280	412	45	58
18	515	1650	940	55	747	146	462	610	6110	584	27	41
19	343	450	1300	33	732	758	797	709	10100	395	89	40
20	250	321	1380	115	834	448	818	713	10100	941	643	37
21	466	120	1020	1220	454	137	612	769	10000	866	1860	499
22	473	388	1810	2040	594	152	916	762	7270	495	1900	1150
23	558	129	1150	2290	375	310	706	803	4500	667	1900	1130
24	475	192	677	1090	330	256	725	975	4470	801	1690	1260
25	442	348	395	54	357	1530	640	711	4470	807	874	748
26	377	625	421	1210	210	521	752	939	4430	588	1450	722
27	265	485	352	1320	1090	479	750	1220	2630	947	2600	1450
28	1810	828	483	855	1320	970	759	945	1510	1280	2790	712
29	1570	475	1250	655	---	468	411	2070	2350	1350	855	1100
30	1260	620	1590	1220	---	656	650	854	2260	1120	662	763
31	190	---	1310	979	---	1140	---	934	---	934	382	---
TOTAL	15742	13140	23974	29870	24839	19184	18987	21646	110170	28055	28081	17526
MEAN	508	438	773	964	887	619	633	698	3672	905	906	584
MAX	1810	1650	1810	2290	2460	1610	1040	2070	10100	2060	2790	1450
MIN	167	87	110	33	153	137	411	56	167	374	21	29
AC-FT	31220	26060	47550	59250	49270	38050	37660	42930	218500	55650	55700	34760
CAL YR 1980	TOTAL	170147	MEAN	465	MAX	2420	MIN	18	AC-FT	337500		
WTR YR 1981	TOTAL	351214	MEAN	962	MAX	10100	MIN	21	AC-FT	696600		

BRAZOS RIVER BASIN

08093250 HACKBERRY CREEK AT HILLBORO, TX

LOCATION.--Lat 32°00'20", long 97°08'59", Hill County, Hydrologic Unit 12060202, at downstream side of highway embankment near right end of bridge on State Highway 22, 0.1 mi (0.2 km) upstream from Little Hackberry Creek and 1.2 mi (1.9 km) west of county courthouse in Hillsboro.

DRAINAGE AREA.--57.9 mi² (150 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 546.00 ft (166.421 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No known diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,050 ft³/s (341 m³/s) June 16, 1981, gage height, 18.95 ft (5.776 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1936, 18.3 ft (5.58 m) September 1936, from information by State Department of Highways and Public Transportation.

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

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
June 3	1845	2,110	59.8	14.51	4.423
June 16	0445	*12,050	341	18.95	5.776

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	15	.18	.06	.15	3.2	.00	15
2	.00	.00	.00	.00	.00	7.0	.10	.06	12	41	.00	5.6
3	.00	.00	.00	.00	.00	16	.30	.05	787	66	.00	1.5
4	.00	.00	.00	.00	.00	18	3.6	.65	557	11	.00	.29
5	.00	.00	.00	.00	.07	8.0	1.5	.44	128	211	.00	.10
6	.00	.00	.00	.00	.00	4.6	.18	.29	183	89	.00	.02
7	.00	.00	.00	.00	.00	20	.10	.10	98	36	.00	.00
8	.00	.00	20	.00	.00	15	.03	.10	23	29	.00	.00
9	.00	.00	5.5	.00	.00	8.3	.02	2.6	14	21	.00	.00
10	.00	.00	.03	.00	.25	3.6	.01	5.6	9.0	17	.00	.00
11	.00	.00	.00	.00	.00	2.0	.01	.93	8.0	14	.00	.00
12	.00	.00	.00	.00	.00	1.3	.00	.29	7.0	12	.00	.00
13	.00	.00	.00	.00	.00	.93	.00	.18	8.0	10	.00	.00
14	.00	.00	.00	.00	.00	.65	.00	35	76	8.9	.00	.00
15	.00	.00	.00	.00	.00	.29	.00	41	96	7.5	.00	.00
16	.00	.00	.00	.00	.00	.18	.00	127	5620	6.2	.00	.00
17	.00	.00	.00	.00	.00	.10	.00	27	398	5.0	.00	.00
18	.00	.00	.00	.00	.00	.05	8.7	6.0	166	3.9	.00	.00
19	.00	.00	.00	.00	.00	.03	84	.65	107	2.0	.00	.00
20	.00	.00	.00	.01	.00	.02	7.2	.29	49	.65	.00	.00
21	.00	.00	.00	.00	2.7	.02	3.0	.20	32	.29	.00	.00
22	.00	.01	.00	.00	5.8	.02	1.3	.14	23	.05	.00	.00
23	.00	.01	.00	.00	1.9	.01	4.6	.10	17	.02	.00	.00
24	.00	.01	.00	.00	.07	.01	1.5	54	13	.01	.00	.00
25	.00	.01	.00	.00	.00	1.3	.44	24	10	.00	.00	.00
26	.00	.00	.00	.00	.00	.93	.29	6.0	8.9	.00	.00	.00
27	.00	.00	.00	.00	.08	.29	.18	1.0	7.2	.00	.00	.00
28	.00	.00	.00	.00	1.0	.65	.10	.40	5.9	.00	.00	.00
29	.00	.00	.00	.00	---	51	.08	.20	5.0	.00	.00	.00
30	.00	.00	.00	.00	---	6.2	.08	1.3	4.3	.00	.00	.00
31	.00	---	.00	.00	---	.27	---	.30	---	.00	.00	---
TOTAL	.00	.04	25.53	.01	11.87	181.75	117.50	335.93	8472.45	594.72	.00	22.51
MEAN	.000	.001	.82	.000	.42	5.86	3.92	10.8	282	19.2	.000	.75
MAX	.00	.01	20	.01	5.8	51	84	127	5620	211	.00	15
MIN	.00	.00	.00	.00	.00	.01	.00	.05	.15	.00	.00	.00
AC-FT	.00	.08	51	.02	24	361	233	666	16810	1180	.00	45
CAL YR 1980	TOTAL	8307.71	MEAN	22.7	MAX	2370	MIN	.00	AC-FT	16480		
WTR YR 1981	TOTAL	9762.31	MEAN	26.7	MAX	5620	MIN	.00	AC-FT	19360		

08093250 HACKBERRY CREEK AT HILLSBORO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
FEB 24...	1320	.02	1240	8.8	20.0	20	12	11.4	125	3.9	120
APR 07...	1135	.10	1340	8.8	20.0	10	26	13.0	144	6.0	270
MAY 19...	1150	.90	470	8.2	21.5	30	150	9.2	105	2.5	160
JUN 30...	1125	4.3	610	8.3	31.0	15	15	9.0	122	2.8	190

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
FEB 24...	0	44	3.3	240	9.4	4.5	250	320	64	1.0	1.4
APR 07...	69	99	5.2	200	5.3	4.2	200	390	72	1.3	1.0
MAY 19...	49	60	2.2	35	1.2	4.0	110	100	12	.6	9.0
JUN 30...	51	71	3.2	49	1.5	4.3	140	130	24	.7	2.2

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLAT- ILE, 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)
FEB 24...	829	10	0	.02	.010	.03	.050	1.4	1.4	.110	15
APR 07...	893	33	13	.02	.010	.03	.040	2.0	2.0	.440	15
MAY 19...	289	148	36	1.8	.090	1.9	.100	1.3	1.4	.210	10
JUN 30...	369	9	15	.01	.000	.01	.040	1.1	1.1	.100	9.2

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
FEB 24...	1320	3	30	<1	10	<10	70
APR 07...	1135	18	100	<1	10	<10	40
MAY 19...	1150	17	50	<1	0	<10	30
JUN 30...	1125	5	90	<1	0	<10	<10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 24...	13	5	.0	0	0	<3
APR 07...	<10	7	.1	1	0	<3
MAY 19...	<10	10	.0	0	0	<3
JUN 30...	23	7	.0	0	0	<3

BRAZOS RIVER BASIN

08093260 HACKBERRY CREEK BELOW HILLSBORO, TX
(Low-flow partial-record station)

LOCATION.--Lat 31°59'43", long 97°08'38", Hill County, Hydrologic Unit 12060202, at abandoned steel truss bridge on county road, 0.7 mi (1.1 km) downstream from Little Hackberry Creek, 0.8 mi (1.3 km) downstream from State Highway 22, and 1.4 mi (2.3 km) southwest of county courthouse in Hillsboro.

DRAINAGE AREA.--86.8 mi² (224.7 km²).

PERIOD OF RECORD.--Periodic discharge measurements and chemical analyses: October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 20...	1550	1.2	1770	9.6	21.5	240	44	7.8	89	>94	81
DEC 01...	1302	2.5	1800	8.6	13.0	130	32	10.0	96	23	82
JAN 13...	1050	1.1	1900	8.5	6.5	140	25	11.2	92	16	110
FEB 24...	1525	1.3	1760	8.1	14.5	100	27	5.1	51	19	130
APR 07...	1415	.99	1540	9.3	19.5	180	68	14.8	164	48	150
MAY 19...	1410	3.4	920	8.7	23.0	30	62	9.7	114	19	210
JUN 30...	1400	5.0	606	8.7	30.0	30	25	8.0	107	5.4	190
AUG 11...	1150	.70	2000	9.4	24.0	150	90	7.4	89	33	100
SEP 21...	1158	1.6	1860	9.4	21.0	75	99	7.4	83	32	96

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 20...	0	24	5.0	380	18	9.9	460	260	110	1.7	3.3
DEC 01...	0	24	5.3	390	19	12	450	300	100	1.9	9.6
JAN 13...	0	32	7.1	390	16	10	510	290	94	1.7	16
FEB 24...	0	41	6.0	350	14	9.2	410	380	97	1.1	14
APR 07...	0	51	5.8	310	11	8.5	380	290	81	1.3	17
MAY 19...	51	77	4.5	110	3.3	12	160	240	33	.3	6.6
JUN 30...	16	68	3.8	67	2.1	4.8	170	130	28	.5	6.1
AUG 11...	0	30	7.1	470	21	9.6	510	410	120	1.4	14
SEP 21...	0	28	6.3	390	18	11	510	330	100	<.1	18

DATE	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 20...	1070	200	0	.20	1.100	1.3	.440	20	20	4.900	73
DEC 01...	1110	59	58	6.8	.000	6.8	.330	1.5	1.8	5.900	59
JAN 13...	1150	86	50	.11	.070	.18	17.000	--	--	.820	44
FEB 24...	1140	60	12	.07	.080	.15	.570	14	15	3.800	37
APR 07...	993	160	112	.29	.260	.55	1.900	11	13	4.800	72
MAY 19...	580	98	30	.94	.260	1.2	.170	2.1	2.3	.830	14
JUN 30...	411	33	20	.04	.010	.05	.070	1.5	1.6	.220	2.9
AUG 11...	1370	134	64	.06	.040	.10	.140	15	15	.320	42
SEP 21...	1190	184	18	.06	.220	.28	.700	18	19	4.800	38

BRAZOS RIVER BASIN

323

08093260 HACKBERRY CREEK BELOW HILLSBORO, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 20...	1550	5	0	10	0	0	40
JAN 13...	1050	5	100	0	0	0	100
APR 07...	1415	6	0	0	50	0	40
JUN 30...	1400	5	100	<1	0	<10	20

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 20...	0	10	.1	0	0	10
JAN 13...	0	10	.0	0	1	10
APR 07...	0	30	.2	0	0	10
JUN 30...	<10	20	.1	0	0	<3

BRAZOS RIVER BASIN

08093360 AQUILLA CREEK ABOVE AQUILLA, TX

LOCATION.--Lat 31°53'42", long 97°12'21", Hill County, Hydrologic Unit 12060202, on downstream side of highway embankment near left end of bridge on Farm Road 310, 0.2 mi (0.3 km) downstream from Aquilla Dam on Aquilla Creek, 0.5 mi (0.8 km) downstream from Hackberry Creek, 3.2 mi (5.1 km) northeast of Aquilla, and 3.5 mi (5.6 km) upstream from Cobb Creek.

DRAINAGE AREA.--255 mi² (660 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 478.71 ft (145.911 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water-discharge records fair. Records furnished by the city of Hillsboro show that 866 acre-ft (1.07 hm³) of sewage effluent was discharged into a tributary above gage during year. Flow is affected at times by storage in, or pumpage from the earthfill borrow areas within the Aquilla Lake to be formed when Aquilla Dam (now under construction) is completed 0.2 mi (0.3 km) upstream.

EXTREMES FOR PERIOD OR RECORD.--Maximum discharge, 7,100 ft³/s (201 m³/s) June 16, 1981, gage height, 26.98 ft (8.224 m); no flow for many days in 1980-81.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,100 ft³/s (201 m³/s) June 16 at 1100 hours, gage height, 26.98 ft (8.224 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	.76	.76	3.1	1.9	26	9.5	1.2	1.7	7.1	1.4	6.8
2	1.7	.76	.92	2.4	1.9	28	7.8	.83	1.7	5.0	.97	100
3	1.2	.69	.91	2.0	1.9	25	5.0	.81	1860	144	1.2	33
4	1.0	.69	.90	2.0	2.0	181	5.8	.83	2670	109	1.0	42
5	1.0	.69	.90	2.1	2.0	26	5.3	.87	517	296	.69	61
6	1.0	.69	.83	2.3	5.9	9.4	4.1	.90	327	271	.21	17
7	.97	.69	.83	2.2	5.5	21	3.7	.83	277	79	.21	.28
8	.97	.62	43	2.0	3.4	37	2.5	.55	57	51	.21	.21
9	.97	.62	86	2.0	2.3	16	1.9	1.3	47	41	.21	.21
10	.97	.62	61	1.9	2.3	1.9	1.8	1.1	29	30	.28	.14
11	.90	.62	26	1.9	2.3	1.9	2.2	1.4	23	21	.28	.14
12	.90	.62	11	1.9	2.0	2.0	2.4	1.2	21	17	.14	.14
13	.90	.55	6.4	1.8	1.9	5.5	1.8	1.2	26	12	.27	.14
14	.90	.55	4.7	1.7	1.7	6.3	1.7	1.2	56	8.5	.28	.14
15	.83	.55	3.5	1.8	1.7	3.0	1.3	2.5	192	8.0	.28	.14
16	.83	.55	2.7	1.8	1.7	2.3	1.2	326	6000	3.4	.07	.14
17	.83	1.7	2.3	1.8	1.7	2.3	1.2	209	4410	4.3	.00	.14
18	.83	3.0	2.2	1.8	1.7	2.3	1.3	32	491	3.0	.00	.07
19	.76	1.4	2.3	1.8	1.7	2.3	114	11	218	1.7	.00	.07
20	.76	1.1	2.0	1.8	2.0	2.3	59	8.5	141	1.8	.00	.07
21	.69	.76	2.0	1.8	1.9	2.3	8.0	7.0	83	2.0	.00	.07
22	.69	.76	2.0	1.8	10	2.0	3.4	6.5	57	1.7	.00	.07
23	1.8	.84	1.9	1.9	4.6	2.0	3.2	6.2	41	1.7	.07	.07
24	37	.76	1.9	25	2.6	2.0	6.1	9.0	42	1.5	.07	.07
25	10	.76	1.9	2.9	2.6	2.0	4.0	38	31	1.5	.00	.00
26	1.6	1.9	1.9	1.8	3.1	3.0	2.6	17	29	1.7	.00	.00
27	1.0	1.7	2.0	26	2.6	4.3	1.9	13	7.1	2.0	.00	.00
28	.83	1.3	2.0	15	2.6	4.3	1.7	15	10	1.6	.07	.00
29	.83	1.1	3.1	1.9	---	196	1.5	16	9.0	1.9	.07	.00
30	.76	.83	4.3	1.9	---	132	1.5	3.0	8.5	1.7	.14	.00
31	.76	---	3.7	1.9	---	20	---	1.9	---	1.7	.28	---
TOTAL	80.38	28.18	285.85	122.0	77.5	771.4	267.4	735.82	17683.0	1132.8	8.40	262.11
MEAN	2.59	.94	9.22	3.94	2.77	24.9	8.91	23.7	589	36.5	.27	8.74
MAX	37	3.0	86	26	10	196	114	326	6000	296	1.4	100
MIN	.69	.55	.76	1.7	1.7	1.9	1.2	.55	1.7	1.5	.00	.00
AC-FT	159	56	567	242	154	1530	530	1460	35070	2250	17	520
CAL YR 1980	TOTAL	20166.59	MEAN	55.1	MAX	3520	MIN	.00	AC-FT	40000		
WTR YR 1981	TOTAL	21454.84	MEAN	58.8	MAX	6000	MIN	.00	AC-FT	42560		

BRAZOS RIVER BASIN

325

08093360 AQUILLA CREEK ABOVE AQUILLA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to current year.

WATER TEMPERATURES: October 1979 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,840 micromhos Mar. 16, 1980; minimum daily, 159 micromhos Jan. 22, 1980.

WATER TEMPERATURES: Maximum daily, 30.0°C Oct. 16, 1979, July 13, 1981; minimum daily, 3.0°C Dec. 30, 1979, and Jan. 30, Feb. 11, 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,630 micromhos Aug. 31; minimum daily, 200 micromhos June 16.

WATER TEMPERATURES: Maximum daily, 30.0°C July 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 21...	1700	.68	1020	8.4	21.5	50	5.5	11.4	130	3.6	130
DEC 02...	0922	.99	1100	8.0	10.0	70	6.5	8.4	74	7.0	120
JAN 13...	1420	1.8	1200	8.5	10.0	50	2.3	15.9	142	4.0	200
FEB 25...	1410	2.6	1400	7.9	14.0	60	110	6.1	60	12	230
APR 08...	1410	3.2	804	7.9	19.0	20	110	8.1	88	4.6	240
MAY 20...	1410	8.5	540	7.9	21.5	30	120	7.6	86	4.0	150
JUN 17...	1000	4840	263	--	22.0	--	--	--	--	--	120
JUL 01...	1600	6.4	845	7.9	28.5	10	30	7.6	100	2.9	330
AUG 12...	1125	.10	1340	7.6	26.5	5	29	4.8	60	1.5	480
SEP 22...	0835	.04	1250	7.8	20.0	10	21	5.0	56	1.4	450

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 21...	0	46	2.8	170	6.6	6.4	310	110	56	.9	8.4
DEC 02...	0	45	3.0	190	7.4	8.5	340	140	56	1.0	6.3
JAN 13...	0	71	4.3	210	6.5	5.7	330	230	58	1.2	8.5
FEB 25...	0	82	6.3	240	6.9	6.8	390	280	76	.9	9.5
APR 08...	26	86	5.1	86	2.4	4.7	210	150	34	.7	8.1
MAY 20...	30	56	2.5	52	1.8	4.5	120	120	18	.2	7.6
JUN 17...	19	43	2.0	--	--	--	97	20	11	--	--
JUL 01...	93	120	8.0	52	1.2	4.6	240	160	36	.5	11
AUG 12...	180	167	15	130	2.7	4.5	300	330	82	.5	13
SEP 22...	180	160	12	110	2.3	4.6	270	310	66	.6	13

BRAZOS RIVER BASIN

08093360 AQUILLA CREEK ABOVE AQUILLA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 21...	586	30	15	.16	.060	.22	.060	1.2	1.30	.600	13
DEC 02...	654	11	10	.13	.020	.15	.090	2.3	2.40	1.90	40
JAN 13...	787	16	9	1.4	.150	1.5	.370	1.7	2.10	1.30	25
FEB 25...	936	108	13	1.5	.350	1.8	3.90	2.9	6.80	2.30	14
APR 08...	501	160	36	1.3	.140	1.4	.230	1.8	2.00	.220	12
MAY 20...	333	138	46	1.7	.110	1.8	.230	1.3	1.50	.280	9.1
JUN 17...	--	--	--	--	--	--	--	--	--	--	--
JUL 01...	537	34	9	.38	.020	.40	.100	1.3	1.40	.090	8.0
AUG 12...	922	69	10	.14	.040	.18	.230	.65	.88	.060	5.6
SEP 22...	838	42	6	.12	.030	.15	.160	.64	.80	.030	6.7

DATE	TIME	ARSENIC, DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM, DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 21...	1700	20	50	<1	0	<10	20
JAN 13...	1420	11	60	<1	0	<10	30
APR 08...	1410	3	100	1	10	<10	20
JUL 01...	1600	3	200	<1	10	<10	<10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGANESE, DIS- SOLVED (UG/L AS MN)	MERCURY, DIS- SOLVED (UG/L AS HG)	SELENIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	<10	110	.0	0	0	<3
JAN 13...	44	240	.0	0	0	<3
APR 08...	23	440	.1	0	0	<3
JUL 01...	17	350	.0	0	0	7

08093360 AQUILLA CREEK ABOVE AQUILLA, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	80.38	980	615	134	46	9.9	190	40	250
NOV.	1980	28.18	807	497	38	34	2.6	140	11	210
DEC.	1980	285.85	661	399	308	24	19	100	80	180
JAN.	1981	122.0	1160	745	245	62	20	240	80	280
FEB.	1981	77.5	1390	915	191	83	17	320	67	320
MAR.	1981	771.4	649	395	823	25	53	110	221	170
APR.	1981	267.4	606	365	263	22	16	94	68	160
MAY	1981	735.82	519	309	613	17	35	76	150	140
JUNE	1981	17683.0	302	174	8320	8.0	384	37	1770	87
JULY	1981	1132.8	438	258	788	14	42	60	184	120
AUG.	1981	8.40	1240	801	18	68	1.5	270	6.1	290
SEPT	1981	262.11	401	236	167	13	8.9	55	39	110
TOTAL		21454.84	**	**	11900	**	608	**	2720	**
WTD. AVG.		59	351	206	**	10	**	47	**	99

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	886	861	1050	738	1250	1380	544	828	651	884	1130	1500
2	930	852	1100	777	1300	1110	684	870	706	903	1150	400
3	970	854	1110	815	1350	791	731	889	450	500	1160	327
4	1010	883	1120	854	1400	451	757	924	330	433	1170	389
5	1050	884	1130	892	1450	542	834	956	358	325	1180	333
6	1020	883	1140	931	1380	617	869	988	388	355	1200	327
7	1030	882	1130	969	1250	666	833	1020	460	472	1240	377
8	1030	880	775	1010	1300	815	804	1060	498	422	1210	439
9	1040	878	614	1040	1340	689	920	1060	558	538	1300	518
10	1030	876	619	1080	1380	770	969	1080	637	581	1230	592
11	1020	870	611	1120	1450	748	1010	1100	689	618	1330	660
12	1030	875	606	1160	1500	771	935	1160	725	636	1350	718
13	1030	880	620	1200	1510	781	972	1130	747	735	1360	792
14	1020	885	640	1240	1520	882	1010	1110	754	724	1370	855
15	1010	890	655	1280	1530	912	1070	1090	408	694	1380	938
16	1010	885	675	1320	1540	894	1110	625	200	813	1400	989
17	1020	704	676	1350	1550	924	1120	324	263	856	---	1050
18	1010	684	680	1390	1520	955	1130	402	399	848	---	1090
19	1000	730	690	1430	1500	984	600	512	418	819	---	1140
20	1010	746	697	1470	1460	1010	423	540	481	807	---	1180
21	1020	762	700	1500	1450	1040	476	605	552	822	---	1210
22	1040	778	698	1530	1300	1060	532	608	616	837	---	1240
23	1070	795	705	1580	1360	1080	568	618	746	922	1530	1270
24	1000	792	706	1380	1440	1090	598	632	696	969	1540	1300
25	946	798	705	1110	1420	1120	622	523	720	998	---	---
26	899	704	707	1200	1350	1110	647	500	739	1040	---	---
27	867	773	706	1080	1390	1140	689	490	860	1030	---	---
28	870	842	705	990	1430	1140	735	476	958	1070	1600	---
29	876	925	700	1100	---	722	779	471	861	1080	1610	---
30	879	1040	695	1150	---	402	835	535	868	1090	1620	---
31	856	---	700	1200	---	517	---	606	---	1110	1630	---
MEAN	983	836	776	1160	1420	875	794	766	591	772	1350	818

BRAZOS RIVER BASIN

08093360 AQUILLA CREEK ABOVE AQUILLA, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

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

08093500 AQUILLA CREEK NEAR AQUILLA, TX

LOCATION.--Lat 31°50'40", long 97°12'04", Hill County, Hydrologic Unit 12060202, on downstream side of highway embankment near left end of bridge on Farm Road 1304, 1.0 mi (1.6 km) southeast of Aquilla, 1.2 mi (1.9 km) downstream from Cobb Creek, and 18.2 mi (29.3 km) upstream from mouth.

DRAINAGE AREA.--308 mi² (798 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1938 to current year. Records of daily discharge for December 1924 to August 1925, published in WSP 608, are unreliable.

REVISED RECORDS.--WSP 1712: 1944(M), 1957-58. WDR TX-76-2: Drainage area. See PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 451.48 ft (137.611 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water-discharge records good. Flow is affected at times by discharge from flood-detention pools of ten floodwater-retarding structures with combined detention capacity of 5,750 acre-ft (7.09 hm³). These structures control runoff from 18.6 mi² (48.2 km²) in the Aquilla and Hackberry Creeks drainage basins. Flow also affected at times by construction activities at the Aquilla Dam located 4.7 mi (7.6 km) upstream on Aquilla Creek.

AVERAGE DISCHARGE.--42 years (water years 1940-81), 120 ft³/s (3.398 m³/s), 5.29 in/yr (134 mm/yr), 86,940 acre-ft/yr (107 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,300 ft³/s (1,510 m³/s) June 16, 1981, gage height, 31.35 ft (9.555 m), from rating curve extended above 25,900 ft³/s (733 m³/s) on basis of slope-area measurement of 74,200 ft³/s (2,100 m³/s), adjusted to gage site; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 31, 1887, reached a stage of 34 ft (10.4 m), from information by local resident. Flood of Sept. 27, 1936, was the highest since 1887 and reached a stage of 33 ft (10.1 m), from floodmark; discharge 84,500 ft³/s (2,390 m³/s), by slope-area measurement at site 9 mi (14 km) downstream, and 74,200 ft³/s (2,100 m³/s), adjusted to gage site.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft³/s (127 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 3	2200	9,400 266	28.23 8.605
June 16	1000	*53,300 1,510	31.35 9.555

Minimum discharge, no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	.85	4.5	2.0	2.5	18	6.4	5.5	5.2	6.6	.39	5.7
2	.78	.78	4.3	1.7	2.6	29	7.6	4.4	62	5.5	.28	42
3	.31	.60	5.0	1.3	2.5	86	4.9	4.2	2870	153	.14	5.5
4	.21	.72	5.3	1.3	3.2	374	4.9	4.1	4440	122	.05	83
5	.24	.85	5.5	1.6	3.1	24	5.5	4.1	991	164	.00	10
6	.31	.92	5.4	1.8	3.9	9.5	4.2	4.6	549	194	.00	1.5
7	.54	.72	5.1	1.9	5.0	14	4.3	5.1	473	35	.00	.18
8	.54	.72	198	1.8	4.1	50	3.6	5.5	128	21	.09	.16
9	.49	.72	114	1.5	4.0	15	3.5	19	67	16	.35	.14
10	.44	.78	70	1.6	4.2	4.4	3.0	14	40	12	.28	.14
11	.31	.85	21	1.0	3.5	2.9	3.1	7.1	31	8.5	.24	.14
12	.31	.85	9.2	1.0	3.1	2.6	4.0	6.5	31	6.8	.18	.07
13	.28	.85	6.6	1.0	2.7	4.8	3.1	5.5	35	5.1	.16	.07
14	.28	1.0	5.0	1.1	2.5	5.1	2.8	6.0	239	3.6	.12	.07
15	.28	1.0	4.2	1.2	2.6	4.2	2.5	21	317	3.7	.09	.07
16	.18	1.0	3.7	1.2	2.4	3.4	1.9	825	27000	2.5	.09	.07
17	.16	1.4	3.4	1.2	2.1	3.6	1.9	344	5030	1.7	.09	.07
18	.12	2.7	3.4	1.2	2.0	3.3	2.0	46	716	1.2	.07	.07
19	.12	2.9	3.7	1.4	2.0	3.2	129	17	359	1.3	.07	.07
20	.12	2.7	3.9	1.7	2.7	3.3	89	13	119	1.0	.04	.07
21	.14	2.7	3.6	1.5	3.0	3.0	11	11	71	.92	.02	.07
22	.18	2.7	3.3	1.3	5.5	3.0	5.2	9.7	46	.92	.02	.04
23	11	3.0	3.0	1.4	5.0	2.9	4.9	9.5	25	.60	.02	.04
24	29	3.2	2.7	27	3.4	2.9	6.0	31	26	.24	.03	.04
25	5.4	3.2	2.6	4.4	3.4	2.9	4.7	46	21	.31	.03	.02
26	1.5	3.2	2.6	2.4	3.1	3.3	4.6	23	19	.24	.03	.00
27	.77	5.2	2.9	24	2.5	3.7	4.2	20	11	.66	.03	.00
28	.42	4.7	3.7	15	2.0	3.9	3.5	15	9.5	.60	.03	.00
29	.60	4.4	4.1	4.9	---	270	3.8	23	10	.35	.03	.00
30	.66	4.6	4.8	3.1	---	234	3.8	8.4	8.7	.49	.02	.00
31	.72	---	2.9	2.7	---	22	---	5.4	---	.54	.02	---
TOTAL	58.01	59.81	517.4	116.2	88.6	1211.9	338.9	1563.6	43749.4	770.37	3.01	149.30
MEAN	1.87	1.99	16.7	3.75	3.16	39.1	11.3	50.4	1458	24.9	.097	4.98
MAX	29	5.2	198	27	5.5	374	129	825	27000	194	.39	83
MIN	.12	.60	2.6	1.0	2.0	2.6	1.9	4.1	5.2	.24	.00	.00
AC-FT	115	119	1030	230	176	2400	672	3100	86780	1530	6.0	296

CAL YR 1980	TOTAL	29727.66	MEAN	81.2	MAX	6180	MIN	.00	AC-FT	58960
WTR YR 1981	TOTAL	48626.50	MEAN	133	MAX	27000	MIN	.00	AC-FT	96450

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1965 to June 1966, October 1967 to current year. Chemical and biochemical analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1965 to June 1966, October 1967 to current year.

WATER TEMPERATURES: October 1965 to June 1966, October 1967 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,080 micromhos Dec. 31, 1975; minimum daily, 182 micromhos Oct. 31, 1974.

WATER TEMPERATURES: Maximum daily, 31.0°C July 3, 1980; minimum daily, 0.0°C Jan. 8, 1976, Jan. 10, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,490 micromhos Feb. 21, 22; minimum daily, 194 micromhos June 16.

WATER TEMPERATURES: Maximum daily, 29.5°C July 13; minimum daily, 5.0°C on several days during December, January, and February.

WATER QUALITY DATA,--WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
OCT 21...	1320	.14	906	5.1	19.0	8.1	88	1.7	170	0
JAN 14...	1050	1.0	892	8.1	6.5	13.2	108	3.5	220	0
APR 08...	1050	3.4	869	7.9	18.5	6.0	65	2.7	250	40
MAY 20...	1100	12	510	8.0	18.0	7.6	80	2.5	150	31
JUN 16...	1630	38200	194	--	22.0	--	--	--	82	7
JUL 01...	1110	5.4	865	7.9	27.0	6.4	81	1.2	360	110
AUG 12...	0835	.18	920	7.6	25.5	4.7	57	1.3	350	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 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 21...	57	5.6	150	5.1	5.1	260	130	49	.8
JAN 14...	79	6.1	110	3.2	4.7	250	170	39	.7
APR 08...	91	5.5	94	2.6	4.5	210	170	37	.7
MAY 20...	56	2.7	46	1.6	4.3	120	100	16	.3
JUN 16...	31	1.2	--	--	--	75	13	9.0	--
JUL 01...	130	8.5	50	1.1	4.2	250	170	39	.5
AUG 12...	119	12	69	1.7	3.7	220	200	46	.5

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 21...	5.5	559	.00	.000	.00	.050	1.4	1.40	.110
JAN 14...	4.6	564	.98	.020	1.0	.030	1.3	1.30	.120
APR 08...	9.5	538	2.5	.130	2.6	.110	1.8	1.90	.190
MAY 20...	8.1	306	1.8	.070	1.9	.160	2.3	2.50	.170
JUN 16...	--	--	--	--	--	--	--	--	--
JUL 01...	12	565	--	--	--	--	--	--	--
AUG 12...	9.2	592	.42	.030	.45	.150	.76	.91	.020

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1980	58.01	643	392	61	29	4.6	130	20	230
NOV.	1980	59.81	875	541	87	41	6.6	170	28	290
DEC.	1980	517.4	495	297	415	22	30	96	134	190
JAN.	1981	116.2	755	464	146	35	11	150	47	260
FEB.	1981	88.6	1370	883	211	69	17	280	67	330
MAR.	1981	1211.9	535	323	1060	24	78	100	341	200
APR.	1981	338.9	571	344	315	25	23	110	102	220
MAY	1981	1563.6	343	203	858	15	62	66	278	140
JUNE	1981	43749.4	245	144	17000	10	1210	47	5520	110
JULY	1981	770.37	489	293	609	21	44	95	197	190
AUG.	1981	3.01	913	565	4.6	43	0.3	180	1.5	290
SEPT	1981	149.30	391	233	94	17	6.8	75	30	160
TOTAL		48626.50	**	**	20800	**	1490	**	6770	**
WTD. AVG.		133	270	159	**	11	**	52	**	120

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	571	986	804	839	1150	1110	529	693	521	860	885	875
2	854	984	809	820	1180	1010	508	707	480	861	894	347
3	882	980	821	810	1200	920	609	718	356	650	898	980
4	874	981	836	807	1260	426	716	704	300	428	901	340
5	871	982	847	795	1220	507	750	700	356	472	---	398
6	872	984	872	792	1300	575	793	710	447	354	---	335
7	875	984	902	791	1370	590	821	726	440	404	---	349
8	882	983	289	811	1360	777	867	740	478	464	903	368
9	884	990	500	820	1370	754	877	500	507	516	908	391
10	887	988	602	832	1360	660	900	389	602	568	912	409
11	890	993	620	853	1350	692	892	415	644	610	916	426
12	893	999	619	873	1360	721	884	432	658	639	920	451
13	895	1010	638	885	1380	710	900	547	650	664	923	477
14	894	1000	666	895	1410	766	957	633	450	703	926	497
15	893	1010	664	922	1420	832	992	500	373	779	925	513
16	892	976	686	942	1430	811	1000	262	194	737	931	548
17	890	971	704	948	1420	820	1020	333	243	767	929	575
18	891	965	719	962	1430	841	1030	371	412	753	931	600
19	889	1040	727	974	1440	885	550	412	438	806	932	623
20	895	1050	730	986	1470	909	453	510	476	884	934	643
21	898	957	735	1010	1490	934	447	570	561	900	941	664
22	906	895	741	1020	1490	949	487	571	619	892	946	669
23	750	811	742	1060	1460	941	501	594	683	875	948	676
24	435	776	750	450	1430	943	529	478	739	873	950	679
25	968	765	759	1000	1410	945	574	629	720	874	948	682
26	1020	747	768	1220	1380	981	617	529	735	875	945	---
27	999	754	780	625	1360	1000	635	615	714	859	947	---
28	997	772	790	850	1370	1040	641	504	745	858	945	---
29	996	786	799	1060	---	489	652	479	947	873	940	---
30	997	797	816	1080	---	367	671	473	869	880	942	---
31	995	---	831	1150	---	461	---	499	---	884	936	---
MEAN	882	931	728	899	1370	786	727	547	545	728	927	541

BRAZOS RIVER BASIN

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

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

BRAZOS RIVER BASIN

333

08094800 NORTH BOSQUE RIVER AT HICO, TX

LOCATION.--Lat 31°58'41", long 98°02'04", Hamilton County, Hydrologic Unit 1206020204, on left bank at downstream side of bridge on U.S. Highway 281 near south boundary of Hico, 2.6 mi (4.2 km) downstream from Gilmore Creek, 5.0 mi (8.0 km) upstream from Honey Creek, and 92.4 mi (148.7 km) upstream from mouth.

DRAINAGE AREA.--359 mi² (930 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 982.46 ft (299.454 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow is affected at times by discharge from flood-detention pools of 40 floodwater-retarding structures with combined detention capacity of 65,720 acre-ft (81.0 hm³). These structures control runoff from 202 mi² (523 km²) in North Bosque River and Green Creek drainage basins. Records furnished by the city of Stephenville show that during the year 1,460 acre-ft (1.80 hm³) of sewage effluent was discharged into river above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years (water years 1963-81), 41.5 ft³/s (1.175 m³/s), 30,070 acre-ft/yr (37.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,900 ft³/s (564 m³/s) Apr. 30, 1977, gage height, 22.27 ft (6.788 m), from rating curve extended above 9,000 ft³/s (255 m³/s); no flow at times in 1962-65, 1967-68, 1971, 1974, 1976, and 1978-81.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 27.6 ft (8.41 m) May 23, 1952, from flood-marks, discharge 87,800 ft³/s (2,490 m³/s) by contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft³/s (39.6 m³/s) June 4 at 0915 hours, gage height, 6.45 ft (1.966 m), no peak above base of 2,500 ft³/s (70.8 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	.00	.10	1.5	2.0	3.3	1.5	.34	.00	2.0	.00	.00
2	2.1	.00	.15	1.5	2.2	4.7	1.4	.32	.40	1.7	.00	.00
3	1.0	.00	.15	1.5	2.4	4.4	1.2	.25	27	1.5	.00	.00
4	.61	.00	.15	1.5	2.6	5.9	1.5	.25	457	2.0	.00	.00
5	.31	.00	.18	1.5	2.8	5.5	1.6	.25	55	61	.00	.00
6	.16	.00	.22	1.5	2.6	2.1	1.8	.21	33	69	.00	.00
7	.12	.00	.31	1.5	2.6	2.0	1.9	.15	34	18	.00	.00
8	.07	.00	4.3	1.7	2.7	7.3	1.8	.12	15	6.0	.00	.00
9	.04	.00	22	1.8	2.8	3.4	1.8	.11	7.4	4.8	.00	.00
10	.01	.00	4.0	1.9	2.5	1.7	1.5	.08	4.9	4.1	.00	.00
11	.00	.00	1.9	1.9	2.1	1.1	1.4	.07	3.8	4.1	.00	.00
12	.00	.00	1.3	2.0	1.8	.93	1.1	.05	3.4	4.0	.00	.00
13	.00	.00	1.1	2.1	1.6	.76	.75	.03	3.0	3.6	.00	.00
14	.00	.00	.99	2.1	1.6	.59	.56	.00	3.0	3.2	.00	.00
15	.00	.00	.96	2.1	1.6	.54	.39	.03	3.5	3.0	.00	.00
16	.00	.00	.90	2.1	1.6	.55	.44	34	15	2.6	.00	.00
17	.00	.00	.83	1.9	1.4	.43	.42	1.4	25	2.3	.00	.00
18	.00	.00	.77	1.9	1.6	.32	.39	.47	9.5	1.9	.00	.00
19	.00	.00	.58	2.2	1.6	.22	.38	.28	6.4	1.5	.00	.00
20	.00	.00	.59	2.3	1.5	.39	.54	.11	5.1	1.2	.00	.00
21	.00	.00	.61	2.2	1.6	.44	.53	.06	4.7	.91	.00	.00
22	.00	.00	.70	2.1	1.5	.41	.32	.02	4.3	.62	.00	.00
23	.00	.00	.91	1.9	1.3	.39	.87	.00	4.0	.39	.00	.00
24	.00	.00	.99	1.9	.99	.33	.83	.00	3.6	.18	.00	.00
25	.00	.00	.99	2.0	1.3	.48	2.9	.00	3.7	.06	.00	.00
26	.00	.00	.99	2.0	1.4	.83	1.4	.00	3.5	.00	.00	.00
27	.00	.00	1.1	2.2	1.4	.84	1.0	.00	3.0	.00	.00	.00
28	.00	.00	1.4	2.1	1.4	1.4	.72	.00	2.4	.00	.00	.00
29	.00	.00	1.4	1.8	---	1.6	.60	.00	2.2	.00	.00	.00
30	.00	.00	1.4	1.8	---	1.2	.37	.00	2.0	.00	.00	.00
31	.00	---	1.4	1.9	---	1.4	---	.00	---	.00	.00	---
TOTAL	12.52	.00	53.37	58.4	52.49	55.45	31.91	38.60	744.80	199.66	.00	.00
MEAN	.40	.000	1.72	1.88	1.87	1.79	1.06	1.25	24.8	6.44	.000	.000
MAX	8.1	.00	22	2.3	2.8	7.3	2.9	34	457	69	.00	.00
MIN	.00	.00	.10	1.5	.99	.22	.32	.00	.00	.00	.00	.00
AC-FT	25	.00	106	116	104	110	63	77	1480	396	.00	.00

CAL YR 1980 TOTAL 2851.91 MEAN 7.79 MAX 660 MIN .00 AC-FT 5660
WTR YR 1981 TOTAL 1247.20 MEAN 3.42 MAX 457 MIN .00 AC-FT 2470

BRAZOS RIVER BASIN

08095000 NORTH BOSQUE RIVER NEAR CLIFTON, TX

LOCATION.--Lat 31°47'09", long 97°34'04", Bosque County, Hydrologic Unit 12060204, near right bank on downstream side of bridge on Farm Road 219, 0.5 mi (0.8 km) northeast of Clifton, 2.5 mi (4.0 km) downstream from Meridian Creek, and 42.0 mi (67.6 km) upstream from mouth.

DRAINAGE AREA.--968 mi² (2,507 km²).

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 788: 1924-26, 1928, 1930. WSP 1058: 1945(M). WSP 1512: 1924(M), 1927, 1928(M), 1929, 1930(M), 1931-33, 1934(M), 1935-37, 1939. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 605.43 ft (184.535 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1955, and from Apr. 23, 1957, to Mar. 26, 1958, nonrecording gage at site 1.1 mi (1.8 km) upstream at datum 17.02 ft (5.188 m) higher; Oct. 1, 1955, to Apr. 22, 1957, and Mar. 27, 1958, to Sept. 30, 1959, water-stage recorder (destroyed by floods of Apr. 27, 1957, and Oct. 4, 1959); and Oct. 1, 1959, to Jan. 1, 1961, nonrecording gage at present site and datum.

REMARKS.--Records good. The city of Clifton diverted 86 acre-ft (106,000 m³) from the river above the station for municipal use and returned about 304 acre-ft (375,000 m³) of sewage effluent below station and pumpage from wells. The city of Meridian discharged sewage effluent into the river at about mile 56 (90 km, amount unknown). For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08094800. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--44 years (water years 1924-67) unregulated, 195 ft³/s (5.522 m³/s), 141,300 acre-ft/yr (174 hm³/yr); 14 years (water years 1968-81) regulated, 181 ft³/s (5.126 m³/s), 131,100 acre-ft/yr (162 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,800 ft³/s (2,630 m³/s) Oct. 4, 1959, gage height, 34.88 ft (10.631 m), from rating curve extended above 34,000 ft³/s (963 m³/s) on basis of contracted-opening measurement of 92,800 ft³/s (2,630 m³/s); no flow at times.
Maximum stage since at least 1854, that of Oct. 4, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 9, 1922, reached a stage of about 32 ft (9.8 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,400 ft³/s (606 m³/s) June 16 at 0430 hours, gage height, 22.43 ft (6.837 m), no other peak above base of 8,300 ft³/s (235 m³/s); minimum daily, 2.0 ft³/s (0.057 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	2.6	5.9	10	10	11	44	19	12	36	9.3	55
2	20	2.5	5.7	11	10	10	34	19	14	33	8.4	30
3	12	2.7	5.4	11	9.8	9.6	31	19	595	33	8.1	12
4	9.9	2.8	5.5	11	9.9	67	28	21	328	59	7.3	8.2
5	8.2	2.8	6.0	10	13	42	26	21	691	456	7.5	7.0
6	8.7	3.0	5.9	10	13	36	23	21	231	711	7.8	6.3
7	7.9	2.9	6.5	10	13	37	21	20	129	936	8.5	6.0
8	6.6	3.0	81	10	11	46	21	18	65	295	8.1	5.4
9	7.2	3.3	44	11	10	37	21	18	53	162	7.4	5.3
10	7.2	4.0	20	11	11	30	21	17	39	112	6.9	4.9
11	6.2	3.7	17	11	10	27	21	15	30	84	6.8	4.8
12	5.3	3.5	16	11	9.4	28	21	14	26	66	5.0	4.8
13	4.5	3.4	17	11	9.1	29	21	14	24	57	5.0	5.0
14	3.9	3.2	15	11	9.3	28	20	14	27	49	4.5	5.4
15	3.4	2.8	13	11	8.9	25	20	19	213	42	4.4	5.8
16	3.1	4.1	12	11	8.8	22	19	165	9140	35	4.5	5.7
17	2.8	6.0	11	11	8.3	21	19	190	802	31	5.4	7.0
18	2.8	6.8	11	11	8.3	20	27	70	442	27	6.2	9.0
19	2.9	6.1	12	11	9.0	19	35	40	282	24	5.7	7.7
20	2.7	5.2	10	13	9.1	18	29	28	198	22	5.4	6.8
21	2.4	4.6	9.7	12	9.5	19	23	20	144	20	4.9	6.1
22	2.1	4.7	9.6	12	12	20	25	18	110	18	4.8	5.7
23	2.0	4.9	9.8	11	11	20	35	16	90	16	4.7	5.7
24	2.5	4.9	10	11	10	21	44	16	76	14	5.0	5.8
25	2.2	5.7	10	11	10	23	38	20	66	13	6.1	5.9
26	2.4	6.8	10	10	10	26	31	16	59	11	6.3	6.0
27	2.3	6.9	10	10	10	27	26	14	53	12	6.1	7.1
28	2.3	6.8	11	9.2	10	29	24	13	49	12	6.5	8.4
29	2.6	6.6	11	9.6	---	1390	22	13	43	12	6.5	9.2
30	2.5	6.0	11	11	---	199	20	14	40	11	6.0	9.1
31	2.7	---	10	10	---	69	---	13	---	9.9	5.6	---
TOTAL	195.3	132.3	432.0	333.8	283.4	2405.6	790	935	14071	3418.9	194.7	271.1
MEAN	6.30	4.41	13.9	10.8	10.1	77.6	26.3	30.2	469	110	6.28	9.04
MAX	44	6.9	81	13	13	1390	44	190	9140	936	9.3	55
MIN	2.0	2.5	5.4	9.2	8.3	9.6	19	13	12	9.9	4.4	4.8
AC-FT	387	262	857	662	562	4770	1570	1850	27910	6780	386	538
CAL YR 1980	TOTAL	11158.74	MEAN	30.5	MAX	1020	MIN	.48	AC-FT	22130		
WTR YR 1981	TOTAL	23463.10	MEAN	64.3	MAX	9140	MIN	2.0	AC-FT	46540		

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX

LOCATION.--Lat 31°40'10", long 97°28'09", Bosque County, Hydrologic Unit 12060204, on right bank at downstream side of bridge on Farm Road 56, about 0.8 mi (1.3 km) downstream from Thompson Hollow, 0.8 mi (1.3 km) north of intersection of State Highway 6 and Farm Road 56 in Valley Mills, and 28.0 mi (45.1 km) upstream from mouth.

DRAINAGE AREA.--1,146 mi² (2,968 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 524.55 ft (159.883 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 29, 1959, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good. Flow is affected at times by discharge from the flood-detention pools of 42 floodwater-retarding structures with a combined detention capacity of 66,800 acre-ft (82.4 hm³). These structures control runoff from 207 mi² (536 km²). Several small diversions above station.

AVERAGE DISCHARGE.--8 years (water years 1960-67) unregulated, 263 ft³/s (7.448 m³/s), 190,500 acre-ft/yr (235 hm³/yr); 14 years (water years 1968-81) regulated, 224 ft³/s (6.344 m³/s), 162,300 acre-ft/yr (200 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft³/s (3,030 m³/s) Oct. 4, 1959, gage height, 40.22 ft (12.259 m), from floodmark, from rating curve extended above 28,200 ft³/s (799 m³/s) on basis of slope-area measurement of 107,000 ft³/s (3,030 m³/s); no flow Oct. 5-12, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1868, 43 ft (13.1 m) in May 1908. Floods in September 1936 and April 1945 reached a stage of about 38 ft (11.6 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft³/s (241 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 3	2015	12,600 357	23.23 7.081
June 16	0915	*47,100 1,334	38.26 11.662

Minimum discharge, 1.6 ft³/s (0.045 m³/s) Oct. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	4.3	12	17	17	18	78	22	8.7	84	22	41
2	50	5.2	11	17	16	28	61	20	32	79	21	128
3	28	5.8	9.6	17	14	45	54	20	3410	82	19	53
4	21	5.7	10	17	16	90	53	22	1410	93	19	35
5	14	5.9	10	16	24	75	46	22	1060	337	18	28
6	12	5.7	11	17	33	53	42	21	514	860	17	25
7	13	5.7	11	17	32	58	39	19	347	1120	16	23
8	11	6.9	77	16	26	72	37	17	199	347	16	22
9	9.8	7.2	148	18	24	63	37	15	149	185	15	20
10	10	6.7	54	17	23	52	36	14	116	139	14	19
11	11	7.4	36	18	20	46	35	12	96	110	14	18
12	8.5	9.2	34	17	19	46	34	10	90	95	14	18
13	7.7	6.3	36	18	18	50	32	10	85	87	15	18
14	7.2	5.6	34	18	18	49	30	9.7	120	79	17	22
15	7.1	6.0	31	17	18	44	29	11	114	70	18	21
16	6.6	8.8	28	16	17	39	28	265	20600	63	15	23
17	6.6	14	25	16	17	35	28	216	1670	57	15	22
18	6.6	12	23	15	16	33	32	113	810	53	16	25
19	6.2	13	23	17	16	29	54	61	542	48	18	28
20	6.2	11	21	22	15	27	45	41	400	45	18	25
21	5.7	9.6	18	24	16	27	34	31	291	42	17	24
22	4.6	8.9	18	22	17	25	29	25	217	38	16	22
23	4.2	10	18	20	19	24	51	22	179	35	15	20
24	3.7	10	19	20	18	23	60	22	155	33	15	21
25	3.3	11	18	20	17	23	54	27	135	30	14	20
26	3.3	15	18	19	16	25	43	21	123	29	16	20
27	2.9	15	18	19	17	26	36	16	112	27	14	20
28	2.5	14	18	18	16	27	31	13	103	29	16	20
29	2.2	13	18	17	---	1290	27	12	95	28	15	19
30	2.4	13	18	16	---	298	25	11	89	26	14	18
31	4.0	---	17	17	---	121	---	9.6	---	24	14	---
TOTAL	375.3	271.9	842.6	555	535	2861	1220	1150.3	33271.7	4374	503	818
MEAN	12.1	9.06	27.2	17.9	19.1	92.3	40.7	37.1	1109	141	16.2	27.3
MAX	94	15	148	24	33	1290	78	265	20600	1120	22	128
MIN	2.2	4.3	9.6	15	14	18	25	9.6	8.7	24	14	18
AC-FT	744	539	1670	1100	1060	5670	2420	2280	65990	8680	998	1620
CAL YR 1980	TOTAL	15290.7	MEAN	41.8	MAX	1240	MIN	1.6	AC-FT	30330		
WTR YR 1981	TOTAL	46777.8	MEAN	128	MAX	20600	MIN	2.2	AC-FT	92780		

BRAZOS RIVER BASIN

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 22...	1710	4.6	466	7.3	19.0	10	1.8	10.0	109	1.3	170
DEC 17...	1045	25	469	7.6	12.0	0	3.8	8.1	76	.7	200
FEB 18...	1730	16	493	7.7	15.0	5	2.5	14.0	140	.0	200
APR 14...	1550	30	434	7.6	22.0	10	5.5	8.0	92	2.9	190
JUN 10...	1540	102	414	8.1	30.0	20	22	7.6	104	2.6	190
AUG 19...	1500	18	470	7.4	26.0	5	5.0	8.1	10	1.0	200

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 22...	0	59	5.0	30	1.0	3.3	180	30	19	.3	5.6
DEC 17...	24	73	5.2	19	.6	2.5	180	40	16	.2	7.0
FEB 18...	18	70	5.6	27	.8	1.9	180	51	23	.2	1.8
APR 14...	25	66	5.0	19	.6	2.6	160	43	14	.3	4.2
JUN 10...	18	67	4.9	12	.4	5.2	170	42	10	.2	13
AUG 19...	21	71	5.8	21	.7	1.8	180	39	16	.2	13

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDEDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDEDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 22...	259	2	7	.24	.010	.25	.540	.32	.86	.020	4.2
DEC 17...	279	0	0	.38	.000	.38	.000	.62	.62	.110	21
FEB 18...	289	4	3	.02	.000	.02	.000	.46	.46	.030	6.5
APR 14...	250	12	1	.07	.010	.08	.060	.60	.66	.070	6.0
JUN 10...	257	57	36	.87	.060	.93	.050	1.2	1.2	.110	5.0
AUG 19...	276	20	17	.60	.010	.61	.050	.70	.75	.050	3.1

BRAZOS RIVER BASIN

337

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
DEC 17...	1045	1	50	<1	0	<3	<10
APR 14...	1550	2	50	<1	10	--	<10
AUG 19...	1500	2	50	2	0	--	<10

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 17...	20	20	20	.1	0	0	30
APR 14...	<10	<10	6	.0	0	0	<3
AUG 19...	<10	<10	8	.0	1	0	<3

BRAZOS RIVER BASIN

08095300 MIDDLE BOSQUE RIVER NEAR MCGREGOR, TX

LOCATION.--Lat 31°30'33" (revised), long 97°21'56", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on county road, 1,100 ft (335 m) downstream from Pecan Creek, 5.2 mi (8.4 km) northeast of McGregor, and 7.4 mi (11.9 km) upstream from mouth.

DRAINAGE AREA.--182 mi² (471 km²).

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 530.51 ft (161.699 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gage at same site and datum.

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

AVERAGE DISCHARGE.--22 years, 86.4 ft³/s (2.447 m³/s), 62,600 acre-ft/yr (77.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,300 ft³/s (943 m³/s) Oct. 31, 1974, gage height, 24.62 ft (7.504 m); no flow at times in 1960-64, 1967, 1971, and 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Historical flood information begins with a flood in 1889, which reached a stage of 28.5 ft (8.69 m). A flood in 1957 reached a stage of 28.2 ft (8.60 m); and floods in 1913 and 1942 or 1943 reached a stage of about 28 ft (8.5 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,000 ft³/s (793 m³/s) June 16 at 1000 hours, gage height, 22.02 ft (6.712 m), no other peak above base of 8,000 ft³/s (227 m³/s); no flow Oct 17, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.08	.06	1.8	3.6	6.0	38	16	5.8	88	5.6	5.8
2	.14	.08	.06	1.8	3.6	6.2	34	16	5.7	80	4.9	85
3	.11	.08	.06	1.8	3.6	8.9	33	15	773	110	4.6	25
4	.11	.08	.06	1.8	4.2	148	34	17	1550	94	4.0	14
5	.11	.08	.06	1.8	6.2	44	30	17	853	88	3.5	11
6	.10	.08	.06	1.8	6.9	29	26	16	336	97	3.2	8.7
7	.08	.08	.06	1.8	7.0	32	25	13	242	105	2.8	7.7
8	.08	.05	2.5	1.8	6.2	49	25	13	163	82	2.6	6.8
9	.08	.06	.79	1.9	5.9	37	25	12	108	72	2.4	5.8
10	.08	.07	.30	2.8	5.8	34	25	9.9	94	65	2.5	5.2
11	.08	.08	.17	3.0	5.2	32	23	8.0	87	58	2.2	4.8
12	.08	.03	.16	3.1	4.8	35	22	7.2	98	53	2.2	4.4
13	.06	.03	.21	2.9	4.5	53	20	6.3	92	77	2.0	4.1
14	.06	.03	.30	2.8	4.5	49	19	5.6	578	58	1.7	4.6
15	.06	.03	.37	2.5	4.5	43	17	6.5	414	46	1.8	8.3
16	.06	.15	.42	2.4	4.5	37	17	104	8460	38	2.9	8.7
17	.00	.11	.46	2.4	4.5	34	17	50	972	35	3.6	6.5
18	.01	.04	.63	2.1	4.5	33	16	20	651	30	6.1	5.3
19	.03	.03	.64	2.1	4.5	28	26	13	472	28	4.4	4.8
20	.04	.03	.56	2.6	4.5	26	20	9.8	376	21	3.7	4.5
21	.06	.03	.56	2.3	5.9	26	25	9.0	312	20	3.3	4.4
22	.06	.04	.56	2.6	5.6	26	23	8.6	266	16	2.8	4.1
23	.06	.06	.64	2.6	4.8	23	88	8.7	232	11	2.6	3.7
24	.11	.06	1.0	2.5	4.8	22	88	11	201	9.7	2.4	3.3
25	.11	.13	1.1	2.7	4.6	22	34	24	174	8.9	2.4	3.1
26	.11	.18	1.1	3.7	4.5	22	26	17	159	8.4	2.4	2.8
27	.10	.06	1.3	3.9	4.5	22	23	11	142	8.9	2.3	2.6
28	.08	.06	1.5	3.9	4.5	23	21	7.7	120	11	30	2.6
29	.08	.06	1.6	3.9	---	210	19	6.0	97	9.7	16	2.6
30	.08	.06	1.7	3.9	---	77	17	8.0	91	7.8	7.3	2.4
31	.08	---	1.8	3.6	---	47	---	6.6	---	6.5	5.5	---
TOTAL	2.50	2.04	20.79	80.6	138.2	1284.1	856	492.9	18124.5	1442.9	143.7	262.6
MEAN	.081	.068	.67	2.60	4.94	41.4	28.5	15.9	604	46.5	4.64	8.75
MAX	.20	.18	2.5	3.9	7.0	210	88	104	8460	110	30	85
MIN	.00	.03	.06	1.8	3.6	6.0	16	5.6	5.7	6.5	1.7	2.4
AC-FT	5.0	4.0	41	160	274	2550	1700	978	35950	2860	285	521
CAL YR 1980	TOTAL	15482.24	MEAN	42.3	MAX	2180	MIN	.00	AC-FT	30710		
WTR YR 1981	TOTAL	22850.83	MEAN	62.6	MAX	8460	MIN	.00	AC-FT	45320		

BRAZOS RIVER BASIN

339

08095400 HOG CREEK NEAR CRAWFORD, TX

LOCATION.--Lat 31°33'20", long 97°21'22", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on Farm Road 185, 5.6 mi (9.0 km) east of Crawford, and 9.8 mi (15.8 km) upstream from South Bosque River.

DRAINAGE AREA.--78.2 mi² (203 km²).

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

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 560.54 ft (170.853 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow is affected at times by discharge from flood-detention pool of two floodwater-retarding structure with detention capacity of 9,600 acre-ft (11.9 hm³). These structure controls runoff from 42.0 mi² (108.8 km²) in the Hog Creek drainage basin. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years, 36.4 ft³/s (1.031 m³/s), 26,400 acre-ft/yr (32.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft³/s (436 m³/s) Oct. 4, 1959, gage height, 14.31 ft (4.362 m); no flow at times in 1959, 1963-64, 1971, and 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 17.5 ft (5.33 m) Sept. 26, 1936. Flood in April or May 1957 reached a stage of 15.7 ft (4.79 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,010 ft³/s (227 m³/s) June 16 at 0745 hours, gage height, 10.05 ft (3.063 m); minimum, 0.02 ft³/s (0.001 m³/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.06	.24	.40	.35	.38	20	4.4	1.9	36	2.8	1.3
2	.08	.06	.21	.40	.26	.27	16	4.0	20	32	2.5	2.5
3	.08	.06	.18	.43	.26	.46	15	4.0	373	34	2.2	19
4	.08	.06	.23	.43	.39	27	14	4.2	1260	33	2.0	12
5	.06	.05	.39	.39	.56	24	12	4.1	718	32	1.7	10
6	.06	.04	.28	.33	.47	16	10	3.8	414	42	1.5	11
7	.06	.04	.26	.33	.43	15	9.4	3.3	251	56	1.4	6.2
8	.06	.04	1.1	.34	.59	17	8.8	3.0	176	55	1.3	4.0
9	.06	.05	.25	.38	.59	14	8.6	2.8	127	42	1.1	3.7
10	.06	.06	.23	.33	.56	12	8.1	2.2	94	34	1.1	3.3
11	.05	.04	.20	.33	.40	11	7.5	1.6	72	28	1.0	2.3
12	.05	.04	.18	.33	.39	12	7.2	1.6	58	25	1.0	1.5
13	.05	.04	.20	.33	.36	15	6.7	2.1	49	22	1.0	1.2
14	.03	.05	.26	.33	.39	15	6.2	1.3	108	20	1.1	1.1
15	.03	.06	.27	.31	.44	14	5.7	1.5	130	18	1.0	1.6
16	.03	.37	.36	.30	.40	12	5.4	13	2640	16	1.0	1.4
17	.04	.21	.40	.26	.41	11	5.2	34	960	14	1.5	1.4
18	.05	.08	.40	.28	.32	9.7	5.7	24	859	13	1.5	1.3
19	.09	.04	.33	.45	.36	9.0	8.3	14	782	11	1.6	1.1
20	.08	.04	.27	.45	.43	8.5	7.5	9.5	646	10	1.4	1.1
21	.06	.05	.33	.38	.38	8.1	6.9	6.0	547	8.9	1.3	.95
22	.06	.09	.39	.33	.26	7.9	6.1	5.4	468	7.8	1.2	.82
23	.06	.06	.40	.33	.25	7.2	11	4.6	374	6.9	1.1	.68
24	.06	.06	.37	.33	.28	6.8	14	5.4	185	6.0	1.1	.59
25	.06	.23	.33	.33	.26	7.0	13	6.9	138	5.4	.98	.54
26	.06	.23	.34	.33	.30	7.2	11	6.9	107	5.1	.91	.49
27	.08	.18	.38	.39	.22	7.5	8.3	5.4	83	4.9	.94	.46
28	.05	.26	.40	.38	.23	7.8	6.7	4.1	61	4.7	1.3	.49
29	.04	.26	.37	.35	---	32	5.8	3.4	47	4.0	1.3	.49
30	.05	.26	.33	.33	---	37	5.0	3.1	40	3.5	1.1	.48
31	.06	---	.37	.33	---	27	---	2.3	---	3.2	.99	---
TOTAL	1.83	3.17	10.25	10.94	10.54	398.81	275.1	191.9	11788.9	633.4	41.92	92.99
MEAN	.059	.11	.33	.35	.38	12.9	9.17	6.19	393	20.4	1.35	3.10
MAX	.09	.37	1.1	.45	.59	37	20	34	2640	56	2.8	19
MIN	.03	.04	.18	.26	.22	.27	5.0	1.3	1.9	3.2	.91	.46
AC-FT	3.6	6.3	20	22	21	791	546	381	23380	1260	83	184
CAL YR 1980	TOTAL	3285.95	MEAN	8.98	MAX	272	MIN	.02	AC-FT	6520		
WTR YR 1981	TOTAL	13459.75	MEAN	36.9	MAX	2640	MIN	.03	AC-FT	26700		

BRAZOS RIVER BASIN

08095550 WACO LAKE NEAR WACO, TX

LOCATION.--Lat 31°34'46", long 97°11'51", McLennan County, Hydrologic Unit 12060203, in intake structure at Waco Dam on Bosque River, at northwest edge of city limits of Waco, and 4.6 mi (7.4 km) upstream from mouth.

DRAINAGE AREA.--1,652 mi² (4,279 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1965 to current year. Prior to October 1970, published as Waco Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--The lake is formed by a rolled earthfill dam 24,618 ft (7,504 m) long, including spillway. The lake was built for flood control and water conservation. From Oct. 1, 1964, to Feb. 26, 1965, the lake was operated as a detention basin only. On Feb. 26, 1965, old Lake Waco was breached and deliberate impoundment began. The spillway is controlled by fourteen 40.0- by 35.0-foot (12.2 by 10.7 m) tainter gates. The outlet works consists of three gate-controlled outlets, 6.7 by 20.0 ft (2.0 by 6.1 m), opening into a 20.0-foot-diameter 6.1 m concrete conduit and two 54-inch (1,370 mm) concrete pipes. Low-flow releases are made through two 54-inch (1,370 mm) butterfly valves. Flow into two wet wells is controlled by four 5.0- by 6.0-foot (1.5 by 1.8 m) slide gates that are used to release water downstream for the city of Waco municipal water supply. Capacity table No. 2C is based on a sedimentation survey completed in December 1970. Flow is affected at times by discharge from the flood-detention pools of 44 floodwater-retarding structures with a combined detention capacity of 76,460 acre-ft (94.3 hm³). These structures control runoff from 248 mi² (642 km²) in the Bosque River and Hog Creek drainage basins. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	510.0	-
Design flood.....	505.0	824,400
Top of gates.....	500.0	722,500
Crest of spillway.....	465.0	229,900
Top of conservation pool.....	455.0	149,200
Lowest gated outlet (invert).....	400.0	560

COOPERATION.--Records were furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 292,100 acre-ft (360 hm³) May 15, 1968, elevation, 470.86 ft (143.518 m); minimum since initial filling, 92,880 acre-ft (115 hm³) Oct. 25, 1978, elevation, 446.28 ft (136.026 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 216,500 acre-ft (267 hm³) June 17 at 1630 hours, elevation, 463.50 ft (141.275 m); minimum, 115,300 acre-ft (142 hm³) Feb. 25 at 2400 hours, elevation, 450.07 ft (137.181 m).

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

450.0	114,900	458.0	171,500
452.0	128,100	460.0	187,100
454.0	142,000	462.0	203,600
456.0	156,500	464.0	220,900

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126500	121500	117300	117700	115800	115800	124700	127100	128300	164400	146200	141700
2	126400	121300	117200	117600	115600	115700	124900	127000	128600	164100	146100	142400
3	126300	121200	117100	117600	115600	116000	125200	127000	139000	164200	145900	142400
4	126100	121000	116900	117400	115700	116400	125300	127000	156000	164500	145700	142600
5	125900	120900	116900	117300	116000	116600	125300	127000	162800	165200	145400	142600
6	125800	120700	116900	117300	116000	116700	125300	126800	164800	166200	145100	142400
7	125700	120600	116800	117200	116000	117200	125400	126800	164200	166800	144700	142300
8	125500	120500	119100	117200	116000	117400	125500	126600	162800	165500	144400	142200
9	125300	120300	119500	117100	116000	117600	125500	126600	161100	163400	144200	142000
10	125100	120300	119600	117100	116000	117800	125600	126400	159100	160300	143900	141800
11	124930	120100	124900	117000	115900	117900	125600	126200	157200	157400	143700	141600
12	124700	119900	119500	116900	115800	118200	125700	125900	156000	154500	143400	141400
13	124500	119800	119500	116900	115700	118400	125700	125800	155200	153300	143200	141200
14	124400	119700	119500	116700	115600	118600	125700	125600	155500	153000	142900	141700
15	124300	119600	119500	116700	115600	118800	125700	126000	156700	152700	142700	141800
16	124200	120100	119500	116500	115500	118900	125700	127200	209900	152400	142700	141600
17	124100	119900	119400	116300	115400	118900	125700	127800	216200	151900	142900	141300
18	124000	119700	119300	116300	115400	119100	125600	128300	210500	151500	142700	141000
19	123900	119600	119100	116500	115400	118900	125700	128300	199100	151000	142500	140700
20	123800	118600	118800	116500	115400	118700	125700	128300	187400	150600	142400	140500
21	123600	117900	118700	116500	115500	118900	125800	128100	178200	150100	142200	140300
22	123400	117900	118600	116300	115600	118700	126100	128000	171700	149600	142100	140100
23	123200	117800	118500	116300	115500	118600	126700	128300	166000	149000	141900	140000
24	123000	117700	118500	116200	115400	118500	126900	128600	164200	148500	141700	139700
25	122800	118000	118500	116200	115300	118600	127000	128900	165100	148000	141500	139600
26	122600	118000	118200	116100	115300	118700	127100	128800	165400	147500	141200	139400
27	122400	117800	118100	116000	115300	118700	127100	128700	165500	147200	141000	139200
28	122200	117800	118000	116000	115500	119900	127100	128700	165400	146900	141700	139100
29	122000	117600	117900	115900	---	122700	127000	128600	165300	146700	141500	138900
30	121800	117400	117900	115500	---	124000	127100	128500	165000	146500	141400	138800
31	121600	---	117800	115800	---	124500	---	128400	---	146200	141200	---
MAX	126500	121500	119600	117700	116000	124500	127100	128900	216200	166800	146200	142600
MIN	121600	117400	116800	115500	115300	115700	124700	125600	128300	146200	141000	138800
(†)	451.04	450.40	450.46	450.15	450.10	451.46	451.85	452.04	457.15	454.59	453.89	453.54
(‡)	-4800	-4200	+400	-2000	-300	+9000	+2600	+1300	+36600	-18800	-5000	-2400
(††)	2660	2380	2510	2160	2080	2140	2340	2430	2380	3290	3450	2550
CAL YR 1980	MAX	174500	MIN	116800	‡	-29100	††	33540				
WTR YR 1981	MAX	216200	MIN	115300	‡	+12400	††	30360				

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by city of Waco.

BRAZOS RIVER BASIN

341

08095550 WACO LAKE NEAR WACO, TX--Continued

WATER-QUALITY RECORDS

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

313430097113801 WACO LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

			SPE- CIFIC CON- DUCT- ANCE	PH	TEMPER- ATURE	TRANS- PAR- ENCY (SECCHI DISK)	OXYGEN, DIS- SOLVED	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)	
DATE	TIME	SAMP- LING DEPTH (FT)	(UMHOS)	(UNITS)	(DEG C)	(M)	(MG/L)				
JAN											
27...	0920	1.0	340	8.3	9.5	.61	11.1	98	K2	<1	
27...	0921	1.0	--	--	--	--	--	--	--	--	
27...	0922	10	340	8.3	9.5	--	11.1	98	--	--	
27...	0924	20	340	8.3	9.0	--	11.2	98	--	--	
27...	0926	30	340	8.3	8.5	--	11.2	97	--	--	
27...	0928	40	340	8.3	8.5	--	10.8	93	--	--	
27...	0930	50	340	8.3	8.5	--	10.7	92	--	--	
27...	0932	60	340	8.3	8.5	--	10.7	92	--	--	
27...	0934	72	340	8.3	8.0	--	10.7	91	--	--	
MAY											
20...	1550	1.0	360	8.2	23.0	.40	8.0	93	--	--	
20...	1552	10	360	8.1	22.5	--	7.9	92	--	--	
20...	1554	20	360	8.1	22.5	--	7.8	91	--	--	
20...	1556	30	360	8.1	22.0	--	7.6	87	--	--	
20...	1558	40	360	8.1	22.0	--	7.6	87	--	--	
20...	1600	50	360	8.1	22.0	--	7.6	87	--	--	
20...	1602	60	362	8.1	22.0	--	7.3	84	--	--	
20...	1604	74	364	8.0	22.0	--	6.3	72	--	--	
AUG											
13...	1015	1.0	286	8.1	29.5	.90	7.4	97	28	K1000	
13...	1016	1.5	--	--	--	--	--	--	--	--	
13...	1017	10	286	7.9	29.0	--	7.0	91	--	--	
13...	1019	20	286	7.8	28.5	--	6.9	88	--	--	
13...	1021	30	286	7.8	28.5	--	6.9	88	--	--	
13...	1023	40	286	7.8	28.5	--	6.9	88	--	--	
13...	1025	50	287	7.8	28.5	--	6.0	77	--	--	
13...	1027	60	290	7.7	28.5	--	5.4	69	--	--	
13...	1029	70	293	7.7	28.5	--	5.0	64	--	--	
13...	1031	79	306	7.4	28.5	--	5.2	67	--	--	
		HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN											
27...	130	25	47	4.2	17	.6	3.0	110	38	14	
27...	--	--	--	--	--	--	--	--	--	--	
27...	--	--	--	--	--	--	--	--	--	--	
27...	--	--	--	--	--	--	--	--	--	--	
27...	--	--	--	--	--	--	--	--	--	--	
27...	--	--	--	--	--	--	--	--	--	--	
27...	--	--	--	--	--	--	--	--	--	--	
27...	140	16	47	4.4	18	.7	3.1	120	38	14	
MAY											
20...	140	22	50	4.2	18	.7	3.0	120	38	14	
20...	--	--	--	--	--	--	--	--	--	--	
20...	--	--	--	--	--	--	--	--	--	--	
20...	--	--	--	--	--	--	--	--	--	--	
20...	--	--	--	--	--	--	--	--	--	--	
20...	--	--	--	--	--	--	--	--	--	--	
20...	140	22	50	4.2	18	.7	3.0	120	38	14	
AUG											
13...	120	11	43	3.4	12	.5	3.6	110	18	13	
13...	--	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	
13...	130	9	45	4.1	15	.6	3.8	120	18	15	

BRAZOS RIVER BASIN
WACO LAKE NEAR WACO, TX--Continued

313430097113801 WACO LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
27...	.3	8.2	198	.08	.74	.82	.040	<10	<1
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	.09	.67	.76	.020	10	0
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	--	8.9	206	.10	.73	.83	.030	120	20
MAY									
20...	.3	6.9	207	.13	.78	.91	.030	10	2
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	7.0	210	.18	.73	.91	.040	10	10
AUG									
13...	.2	10	169	.02	.67	.69	.030	<10	12
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	.06	.65	.71	.040	10	60
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	11	185	.03	1.30	1.3	.080	39	570

313511097122801 WACO LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
27...	1000	1.0	340	8.3	9.5	11.4	101
27...	1003	10	340	8.3	9.0	11.5	101
27...	1005	20	340	8.3	9.0	11.5	101
27...	1007	28	340	8.3	9.0	11.3	99
MAY							
20...	1630	1.0	360	8.2	23.0	8.0	93
20...	1632	10	360	8.1	22.5	7.9	92
20...	1635	20	360	8.1	22.5	7.7	90
20...	1637	30	360	8.1	22.5	7.7	90
20...	1639	42	360	8.1	22.5	7.3	85
AUG							
13...	1103	1.0	287	8.3	30.0	7.8	104
13...	1105	10	289	8.1	29.0	7.6	99
13...	1107	20	289	8.0	29.0	7.1	92
13...	1109	32	289	7.8	29.0	4.8	62

BRAZOS RIVER BASIN
WACO LAKE NEAR WACO, TX--Continued

343

313338097130301 WACO LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
27...	0900	1.0	341	8.3	9.0	11.2	98
27...	0903	10	341	8.3	9.0	11.3	99
27...	0905	20	341	8.3	9.0	11.1	97
27...	0907	28	342	8.3	9.0	10.6	93
MAY							
20...	1530	1.0	360	8.2	23.0	8.0	93
20...	1532	10	360	8.1	22.5	7.8	91
20...	1535	20	360	8.1	22.5	7.7	90
20...	1537	32	360	8.1	22.5	7.7	90
AUG							
13...	1120	1.0	287	8.2	29.0	7.5	97
13...	1122	10	287	8.0	29.0	7.3	95
13...	1124	20	287	8.0	29.0	6.6	86
13...	1126	31	295	7.8	29.0	3.6	47

313148097140601 WACO LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JAN							
27...	0835	1.0	351	8.3	9.5	.46	11.0
27...	0837	10	350	8.3	9.5	--	11.0
27...	0839	21	346	8.3	9.0	--	11.2
MAY							
20...	1510	1.0	360	8.2	23.0	.20	8.0
20...	1512	10	360	8.1	23.0	--	7.8
20...	1514	22	360	8.0	23.0	--	7.2
AUG							
13...	1145	1.0	290	8.0	30.0	.60	6.3
13...	1147	10	295	7.7	29.0	--	6.0
13...	1149	20	300	7.5	29.0	--	2.5
13...	1151	24	300	7.5	29.0	--	1.6

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN							
27...	97	.14	1.20	1.3	.040	20	0
27...	97	--	--	--	--	--	--
27...	98	.12	.59	.71	.030	20	0
MAY							
20...	93	.17	.72	.89	.030	40	0
20...	91	--	--	--	--	--	--
20...	84	.15	.77	.92	.020	30	10
AUG							
13...	84	.02	.85	.87	.050	10	20
13...	78	--	--	--	--	--	--
13...	32	--	--	--	--	--	--
13...	21	.05	1.20	1.3	.110	20	230

BRAZOS RIVER BASIN

WACO LAKE NEAR WACO, TX--Continued

313534097142401 WACO LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
27...	1110	1.0	340	8.3	10.0	.43	10.4	93	K2	<1
27...	1112	10	340	8.3	9.5	--	10.3	91	--	--
27...	1114	20	340	8.3	9.0	--	10.1	89	--	--
27...	1116	30	341	8.3	9.0	--	10.0	88	--	--
MAY										
20...	1650	1.0	361	8.2	22.5	--	8.2	95	--	--
20...	1652	10	361	8.2	22.0	--	8.0	92	--	--
20...	1654	20	361	8.1	21.5	--	7.6	86	--	--
20...	1656	30	361	8.0	21.5	--	7.0	80	--	--
20...	1658	34	364	8.0	22.0	--	7.0	80	--	--
AUG										
13...	1215	1.0	288	8.2	30.5	.90	7.4	99	K1	K6
13...	1217	10	288	8.2	30.5	--	7.3	97	--	--
13...	1219	20	290	8.1	30.0	--	7.0	93	--	--
13...	1221	30	290	8.0	29.5	--	6.3	83	--	--
13...	1223	36	310	7.5	29.5	--	2.4	32	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
27...	130	24	47	4.1	18	.7	3.1	110	37
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	130	24	47	4.1	17	.6	3.0	110	37
MAY									
20...	140	13	50	4.3	18	.7	3.0	130	38
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	140	13	50	4.3	18	.7	2.9	130	38
AUG									
13...	120	11	43	3.4	12	.5	3.6	110	19
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	130	8	45	3.7	12	.5	3.6	120	18

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
27...	14	8.4	198	.09	1.10	1.2	.030	<10	<1
27...	--	--	--	.09	.30	.39	.040	30	0
27...	--	--	--	--	--	--	--	--	--
27...	14	8.3	197	.09	.37	.46	.040	10	<1
MAY									
20...	14	6.9	212	.14	.78	.92	.040	20	<1
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	14	7.1	213	.14	.98	1.1	.040	390	4
AUG									
13...	13	10	170	.01	.83	.84	.030	<10	5
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	.01	.77	.78	.060	20	20
13...	13	11	179	.01	.93	.94	.080	<10	110

BRAZOS RIVER BASIN

345

WACO LAKE NEAR WACO, TX--Continued

313608097164501 WACO LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
27...	1030	1.0	388	8.1	10.5	.34	9.8	89	K3	K1
27...	1031	.6	--	--	--	--	--	--	--	--
27...	1032	10	365	8.2	9.5	--	9.7	86	--	--
27...	1034	17	370	8.0	9.0	--	9.2	81	--	--
MAY										
20...	1725	1.0	359	8.2	24.0	.30	9.1	108	--	--
20...	1727	10	366	7.8	22.0	--	6.4	74	--	--
20...	1729	15	366	7.7	22.0	--	5.8	67	--	--
AUG										
13...	1245	1.0	293	8.1	31.0	.70	6.7	89	K4	K14
13...	1246	1.2	--	--	--	--	--	--	--	--
13...	1247	10	293	7.9	30.5	--	6.8	91	--	--
13...	1249	20	293	7.9	30.5	--	4.8	64	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
27...	160	16	54	5.1	20	.7	2.9	140	38
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	150	25	54	4.8	19	.7	2.9	130	38
MAY									
20...	140	13	50	4.3	17	.6	3.0	130	33
20...	--	--	--	--	--	--	--	--	--
20...	140	15	51	4.2	18	.7	3.1	130	35
AUG									
13...	120	2	43	3.5	13	.5	3.6	120	22
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	120	2	43	3.6	12	.5	3.7	120	19

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
27...	13	6.1	223	.03	.47	.50	.050	10	<1
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	.07	.79	.86	.040	40	0
27...	13	7.6	218	.08	1.10	1.2	.060	60	10
MAY									
20...	12	7.2	214	.10	.99	1.1	.040	20	2
20...	--	--	--	--	--	--	--	--	--
20...	13	7.0	209	.11	1.30	1.4	.070	10	6
AUG									
13...	14	11	182	.01	.77	.78	.050	<10	5
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	.02	.83	.85	.050	270	10
13...	13	11	178	.01	1.00	1.0	.120	12	39

BRAZOS RIVER BASIN
WACO LAKE NEAR WACO, TX--Continued

313430097113801 WACO LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 27,81 0921	MAY 20,81 1551	AUG 13,81 1016
TOTAL CELLS/ML	780	1100	72000
DIVERSITY: DIVISION	1.8	1.7	0.5
..CLASS	1.8	1.7	0.5
..ORDER	2.1	1.8	1.2
...FAMILY	2.4	1.9	2.1
....GENUS	2.4	2.3	2.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	*	0
...OOCYSTACEAE						
....ANKISTRODESMUS	13	2	77	7	*	0
....DICTYOSPHAERIUM	--	-	--	-	700	1
....KIRCHNERIELLA	--	-	--	-	420	1
....OOCYSTIS	39	5	26	2	*	0
....SELENASTRUM	--	-	13	1	--	-
....TETRAEDRON	--	-	--	-	*	0
....TREUBARIA	--	-	--	-	*	0
...SCENEDESMACEAE						
....TETRASTRUM	--	-	--	-	560	1
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	13	1	--	-
....CHLAMYDOMONAS	39	5	13	1	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTETRA	13	2	--	-	840	1
....MELOSIRA	--	-	400#	35	--	-
...PENNALES						
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	490	1
...NITZSCHACEAE						
....NITZSCHIA	220#	28	13	1	*	0
..CHRYSTOPHYCEAE						
...CHRYSOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	--	-	420	1
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	300#	38	13	1	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	64	8	64	6	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	410#	36	1700	2
....ANACYSTIS	90	11	90	8	9600	13
....EUCAPSIS	--	-	--	-	2200	3
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	1400	2
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	3100	4
....OSCILLATORIA	--	-	--	-	20000#	27
...RIVULARIACEAE						
....RAPIDIOPSIS	--	-	--	-	29000#	41
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	*	0
....TRACHELOMONAS	13	2	--	-	--	-

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

BRAZOS RIVER BASIN

347

WACO LAKE NEAR WACO, TX--Continued

313608097164501 WACO LAKE SITE EC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 27,81 1031	MAY 20,81 1726	AUG 13,81 1246
TOTAL CELLS/ML	2700	12000	44000
DIVERSITY: DIVISION	1.6	1.7	0.9
..CLASS	1.6	1.7	0.9
..ORDER	1.8	2.2	1.6
...FAMILY	2.0	2.7	2.6
....GENUS	2.2	3.5	3.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	100	1	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	150	1	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	--	-	*	0
...OOCYSTACEAE						
....ANKISTRODESMUS	64	2	450	4	890	2
....CHODATELLA	--	-	*	0	--	-
....DICTYOSPHAERIUM	100	4	430	4	590	1
....KIRCHNERIELLA	--	-	380	3	300	1
....OOCYSTIS	--	-	75	1	--	-
....SELENASTRUM	--	-	200	2	--	-
....TETRAEDRON	--	-	75	1	300	1
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	1600	14	2400	5
....SCENEDESMUS	39	1	1200	10	1300	3
....TETRASTRUM	--	-	100	1	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	*	0	--	-
....CHLAMYDOMONAS	--	-	500	4	*	0
....CHLOROGONIUM	--	-	*	0	--	-
...POLYBLEPHARIDACEAE						
....SPERMATOOZOPSIS	--	-	--	-	*	0
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	51	2	780	7	1000	2
....MELOSIRA	190	7	230	2	--	-
...PENNALES						
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	*	0
....SYNEDRA	39	1	--	-	220	1
...NAVICULACEAE						
....NAVICULA	--	-	*	0	*	0
...NITZSCHACEAE						
....NITZSCHIA	210	8	250	2	--	-
..CHRYSTOPHYCEAE						
...CHRYSOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	--	-	*	0
..XANTHOPHYCEAE						
...HETEROCOCCALES						
...CHLOROTHECIACEAE						
....OPHIOCYTIUM	--	-	*	0	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	130	5	150	1	*	0
...CRYPTOMONADACEAE						
....CRYPTOMONAS	140	5	230	2	--	-

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

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

BRAZOS RIVER BASIN
WACO LAKE NEAR WACO, TX--Continued

313608097164501 WACO LAKE SITE EC--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981--Continued

DATE TIME	JAN 27,81 1031		MAY 20,81 1726		AUG 13,81 1246	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	2400	5
....ANACYSTIS	1600#	62	4000#	34	5700	13
..HORMOGONALES						
...NOSTOCACEAE						
....CYLINDROSPERMUM	--	-	--	-	5100	12
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	1500	3
....OSCILLATORIA	--	-	630	5	3300	8
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	17000#	40
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	130	1	*	0
....PHACUS	--	-	--	-	*	0
....TRACHELOMONAS	*	0	100	1	220	1
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	26	1	--	-	--	-
...PERIDINIACEAE						
....PERIDINIUM	--	-	--	-	*	0

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

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

08095600 BOSQUE RIVER NEAR WACO, TX

LOCATION.--Lat 31°36'04", long 97°11'36", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on Farm Road 1637, 1.8 mi (2.9 km) downstream from Waco Lake Dam, 2.8 mi (4.5 km) upstream from mouth, and 4.7 mi (7.6 km) northwest of courthouse in Waco.

DRAINAGE AREA.--1,656 mi² (4,289 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 365.44 ft (111.386 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 21, 1960, nonrecording gage, and from Jan. 21 to Aug. 20, 1960, nonrecording gage below 11.38 ft (3.469 m) and water-stage recorder above. All gages at same site and datum. Dec. 30, 1959, to Aug. 29, 1967, auxiliary water-stage recorder 2.7 mi (4.3 km) downstream at datum 4.66 ft (1.420 m) lower. Since Aug. 30, 1967, auxiliary water-stage recorder 0.7 mi (1.1 km) downstream at datum 4.66 ft (1.420 m) lower.

REMARKS.--Water-discharge records good above 2,000 ft³/s (56.6 m³/s) and fair below. Backwater from the Brazos River. Discharges below 2,000 ft³/s (56.6 m³/s) for the year is record of releases furnished by Corps of Engineers from Waco Lake. Flow is regulated by Waco Lake (see station 08095550). Records furnished by the city of Waco show that 30,370 acre-ft (37.4 hm³) was diverted for municipal use above station.

COOPERATION.--Records of releases furnished by the Corps of Engineers and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--22 years, 416 ft³/s (11.78 m³/s), 301,400 acre-ft/yr (372 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,000 ft³/s (1,950 m³/s) Oct. 4, 1959, gage height, 39.8 ft (12.13 m), from floodmark, from rating curve extended above 51,000 ft³/s (1,440 m³/s) on basis of computation of peak flow through gates at old Lake Waco; no flow at times in 1963-64, 1966-67, 1970, and 1972-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 44.5 ft (13.56 m) Sept. 27, 1936, discharge 96,000 ft³/s (2,720 m³/s), from information by local resident. Maximum stage may be the result of backwater from the Brazos River because the discharges on Apr. 22, 1945, 140,000 ft³/s (3,960 m³/s), and Apr. 20, 1957, 103,000 ft³/s (2,920 m³/s), exceeded the discharge corresponding to the maximum stage. The discharges for the 1936, 1945, and 1957 floods were obtained from rating curve for tainter gates at old Lake Waco.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 8,930 ft³/s (253 m³/s) June 19; maximum gage height, 15.78 ft (4.810 m) June 16 (backwater from Brazos Lake); minimum daily discharge, 1.0 ft³/s (0.028 m³/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	462	1.0	1.0
2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	394	1.0	1.0
3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	732	344	1.0	1.0
7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1350	876	1.0	1.0
8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1350	1100	1.0	1.0
9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1350	1470	1.0	1.0
10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1350	1700	1.0	1.0
11	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1350	1700	1.0	1.0
12	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1170	1680	1.0	1.0
13	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	860	707	1.0	1.0
14	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	860	100	1.0	1.0
15	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	860	100	1.0	1.0
16	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	305	100	1.0	1.0
17	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1470	100	1.0	1.0
18	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7390	100	1.0	1.0
19	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8930	100	1.0	1.0
20	1.0	428	1.0	1.0	1.0	1.0	1.0	1.0	8750	100	1.0	1.0
21	1.0	292	1.0	1.0	1.0	1.0	1.0	1.0	6830	100	1.0	1.0
22	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5080	100	1.0	1.0
23	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	4260	100	1.0	1.0
24	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1540	100	1.0	1.0
25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	100	1.0	1.0
26	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	100	100	1.0	1.0
27	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	300	100	1.0	1.0
28	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	300	100	1.0	1.0
29	1.0	1.0	1.0	1.0	---	1.0	1.0	1.0	300	50	1.0	1.0
30	1.0	1.0	1.0	1.0	---	1.0	1.0	1.0	300	1.0	1.0	1.0
31	1.0	---	1.0	1.0	---	1.0	---	1.0	---	1.0	1.0	---
TOTAL	31.0	748.0	31.0	31.0	28.0	31.0	30.0	31.0	57093.0	11988.0	31.0	30.0
MEAN	1.00	24.9	1.00	1.00	1.00	1.00	1.00	1.00	1903	387	1.00	1.00
MAX	1.0	428	1.0	1.0	1.0	1.0	1.0	1.0	8930	1700	1.0	1.0
MIN	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
AC-FT	61	1480	61	61	56	61	60	61	113200	23780	61	60

CAL YR 1980 TOTAL 42041.00 MEAN 115 MAX 2940 MIN .00 AC-FT 83390
WTR YR 1981 TOTAL 70103.00 MEAN 192 MAX 8930 MIN 1.0 AC-FT 139000

BRAZOS RIVER BASIN

08095600 BOSQUE RIVER NEAR WACO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	
DATE	TIME											
JAN 26...	1600	1.0	340	7.7	8.5	5	7.9	11.2	98	.4	140	
MAY 20...	1340	1.0	418	7.9	22.0	0	41	7.4	85	1.8	150	
AUG 13...	1420	1.0	338	7.3	31.0	5	7.2	6.3	84	1.2	140	
		HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
DATE												
JAN 26...	28	48	4.4	18	.7	3.0	110	38	18	.3	8.6	
MAY 20...	31	53	4.4	22	.8	3.0	120	45	26	.3	6.8	
AUG 13...	17	49	3.5	12	.5	3.7	120	31	13	.2	10	
		SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DATE												
JAN 26...	205	9	6	.10	.010	.11	.050	.63	.68	.030	2.9	
MAY 20...	233	61	21	.20	.020	.22	.460	.30	.76	.110	8.0	
AUG 13...	195	16	14	.04	.010	.05	.060	.65	.71	.030	2.5	
						ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	
DATE		TIME										
JAN 26...		1600	2	50	<1	0	<10	10				
MAY 20...		1340	2	90	<1	0	<10	20				
AUG 13...		1420	4	50	<1	0	<10	<10				
		LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)					
DATE												
JAN 26...		<10	<1	.0	0	0	6					
MAY 20...		<10	60	.1	0	0	<3					
AUG 13...		<10	7	.0	0	0	<3					

08096500 BRAZOS RIVER AT WACO, TX

LOCATION.--Lat 31°32'06", long 97°04'22", McLennan County, Hydrologic Unit 12060202, on left bank 2.2 mi (3.5 km) downstream from bridge on La Salle Avenue and at mile 400.7 (644.7 km).

DRAINAGE AREA.--29,573 mi² (76,594 km²), approximately, of which 9,566 mi² (24,780 km²) probably is noncontributing.

PERIOD OF RECORD.--September 1898 to current year (January 1912 to September 1914 monthly records only, published in WSP 1312).

REVISED RECORDS.--WSP 850 and 878: 1899-1900, 1907-9 (monthly and yearly summaries only). WSP 1512: 1901-5, 1910, 1915, 1925-26(M), 1927-29. WSP 1922: 1957. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 349.34 ft (106.479 m) National Geodetic Vertical Datum of 1929. Sept. 14, 1898, to Mar. 28, 1918, May 6, 1922, to Feb. 12, 1925, nonrecording gage, and May 28, 1918, to May 5, 1922, Feb. 13, 1925, to Aug. 14, 1969, water-stage recorder. Prior to Aug. 14, 1969, at site 3.9 mi (6.3 km) upstream at datum 7.46 ft (2.274 m) higher.

REMARKS.--Records fair. Flow is largely regulated by Whitney and Waco Lakes (stations 08092500 and 08095550). Combined capacity of 18 reservoirs above station, 4,135,000 acre-ft (5.10 km³), of which 2,194,000 acre-ft (2.71 km³) is flood-control storage in Whitney and Waco Lakes. Records furnished by city of Waco show that during year they diverted 30,370 acre-ft (37.4 hm³) for municipal use above station; records furnished by the Brazos River Authority show that during year they returned 22,390 acre-ft (27.6 hm³) of treated sewage effluent above station. Many other small diversions above station for municipal supply, irrigation, and oilfield operation will not appreciably affect flow. Several observations of water temperature were made during the year. Gage-height telemeter at station. Flow is affected at times by discharge from flood-detention pools of ten floodwater-retarding structures with combined detention capacity of 5,750 acre-ft (7.09 hm³). These structures control runoff from 18.6 mi² (48.2 km²) in the Aquilla and Hackberry Creeks drainage basins.

AVERAGE DISCHARGE.--42 years (water years 1899-1940) unregulated, 2,560 ft³/s (72.50 m³/s), 1,855,000 acre-ft/yr (2.29 km³/yr); 41 years (water years 1940-81) regulated, 2,216 ft³/s (62.76 m³/s), 1,605,000 acre-ft/yr (1.98 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft³/s (6,970 m³/s) Sept. 27, 1936, gage height, 40.90 ft (12.466 m), at former site and datum, levee on left bank was overtopped and broken by flood; no flow Aug. 20, 21, 1918, and probably for several days in August 1923.
Maximum stage since at least 1847, that of Sept. 27, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage for 1847-98, 34.63 ft (10.555 m) May 28, 1885, from floodmark at site 3.9 mi (6.3 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,200 ft³/s (969 m³/s) June 16 at 1300 hours, gage height, 23.63 ft (7.202 m); minimum daily, 44 ft³/s (1.25 m³/s) Nov. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	65	719	657	1240	1160	734	427	663	2250	967	716
2	209	49	652	539	623	1160	802	503	881	1800	349	90
3	205	47	91	1050	1280	701	715	422	7780	1600	428	89
4	202	46	511	372	1360	869	348	486	22900	1400	284	135
5	186	44	556	877	1950	450	348	376	11400	1200	229	157
6	198	87	272	2320	1340	640	388	230	3810	1150	379	129
7	198	271	209	3290	804	1720	704	151	3170	1650	496	104
8	384	384	1160	959	289	779	663	195	2200	2150	196	424
9	607	374	982	118	610	1110	388	201	3390	3000	125	217
10	525	683	355	159	700	1310	409	198	3630	3300	104	444
11	443	225	2070	415	1440	1160	336	508	3610	2900	1150	162
12	292	244	731	1030	2070	460	348	475	3490	2500	1400	695
13	342	193	72	1350	2060	392	344	1240	3060	2200	623	712
14	355	159	72	1150	715	336	368	697	3090	1700	330	756
15	351	199	72	1140	554	238	356	714	3530	1350	1450	237
16	376	358	1660	1090	413	310	368	2080	24900	1100	1070	987
17	525	295	1200	1080	615	198	376	1360	24300	1000	259	261
18	567	1070	62	938	434	275	388	772	13500	1100	141	138
19	383	2300	322	390	297	198	548	678	17200	1200	111	107
20	238	89	1320	309	413	603	460	676	17500	1300	1480	86
21	332	67	3400	611	610	426	794	659	15600	1200	142	77
22	400	77	826	1530	384	187	501	709	12900	942	2490	493
23	426	75	629	2040	452	184	851	697	8020	671	70	721
24	479	148	648	1870	676	298	579	885	7000	1080	2080	646
25	450	356	820	811	427	369	559	867	5300	887	1430	668
26	371	530	329	329	422	1130	539	723	4300	898	70	517
27	293	352	564	1590	668	268	530	739	3800	815	1910	437
28	610	553	544	1040	869	616	650	1000	3100	937	1690	649
29	2970	586	662	845	---	973	544	1150	2300	1090	2370	585
30	1120	340	1630	996	---	491	636	1490	2300	1050	91	896
31	655	---	1380	1030	---	927	---	740	---	877	513	---
TOTAL	14894	10266	24520	31925	23715	19938	15574	22048	238624	46297	24427	12335
MEAN	480	342	791	1030	847	643	519	711	7954	1493	788	411
MAX	2970	2300	3400	3290	2070	1720	851	2080	24900	3300	2490	987
MIN	186	44	62	118	289	184	336	151	663	671	70	77
AC-FT	29540	20360	48640	63320	47040	39550	30890	43730	473300	91830	48450	24470
CAL YR 1980	TOTAL	284079	MEAN	776	MAX	9880	MIN	44	AC-FT	563500		
WTR YR 1981	TOTAL	484563	MEAN	1328	MAX	24900	MIN	44	AC-FT	961100		

BRAZOS RIVER BASIN

08098290 BRAZOS RIVER NEAR Highbank, TX
(National stream-quality accounting network)

LOCATION.--Lat 31°08'02", long 96°49'29", Falls County, Hydrologic Unit 12070101, near right bank 45 ft (14 m) downstream from bridge on Farm Road 413, 1.4 mi (2.3 km) downstream from Highbank Slough and Spring Branch, 2.6 mi (4.2 km) south of Highbank, and at mile 346.6 (557.7 km).

DRAINAGE AREA.--30,436 mi² (78,829 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 279.29 ft (85.128 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Many diversions for municipal supply, irrigation, and industrial use above gage (amount unknown). Flow is affected by 20 upstream reservoirs with a combined capacity of 4,181,000 acre-ft (5.16 km³). During the year, Texas Power and Light Co. diverted 3,980 acre-ft (4.91 km³) to Trading-house Reservoir and 9,610 acre-ft (11.8 km³) to Lake Creek Reservoir above this station. Flow is affected at times by discharge from flood-detention pools of 75 floodwater-retarding structures with combined detention capacity of 82,630 acre-ft (102 km³). These structures control runoff from 236 mi² (611 km²) in the Aquilla, Tehuacana, Castleman Creeks and Cow Bayou drainage basin. Gage-height telemeter at station.

AVERAGE DISCHARGE.--16 years, 2,508 ft³/s (71.03 m³/s), 1,817,000 acre-ft/yr (2.24 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,900 ft³/s (1,640 m³/s) May 11, 1968, gage height, 21.88 ft (6.669 m); minimum daily, 41 ft³/s (1.16 m³/s) July 12, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1909, 42 ft (12.8 m) in December 1913 and 40 ft (12.2 m) in September 1936, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,600 ft³/s (1,150 m³/s) June 5 at 1000 hours, gage height, 18.86 ft (5.749 m); minimum daily, 104 ft³/s (2.95 m³/s) Nov. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	271	1030	629	1330	1290	1000	972	636	912	2640	1000	822
2	225	387	601	948	1320	1240	960	620	867	2390	620	1170
3	195	195	955	546	894	1200	973	494	1820	2250	400	1100
4	185	149	480	1070	1220	966	1060	569	22700	1580	500	434
5	188	131	284	561	1650	1030	677	555	37100	1330	300	354
6	188	116	643	914	2050	755	480	516	16600	2190	400	360
7	185	104	583	2520	1530	815	499	476	8680	2230	520	364
8	188	123	357	2790	1080	1710	685	273	6900	2560	320	331
9	185	352	1100	1280	592	1010	849	218	4600	3110	200	402
10	535	422	1400	458	915	1280	618	255	4240	3610	150	637
11	633	656	869	231	942	1430	506	218	4360	3560	400	613
12	552	525	1610	279	1740	1280	473	308	3970	2930	800	531
13	435	345	1260	1010	2460	673	455	721	3780	2770	1200	724
14	310	286	345	1440	2180	567	453	1080	6310	2100	600	1110
15	352	217	200	1140	1080	462	458	823	5140	1650	580	1070
16	374	251	163	1070	871	433	535	1060	14800	1090	1300	781
17	354	365	1160	1100	547	315	541	2460	37800	1140	700	992
18	412	440	1410	1050	905	270	526	2080	32500	1280	350	822
19	565	948	357	1020	707	312	525	1300	18500	1170	150	446
20	495	2280	181	535	533	283	597	920	20600	1150	400	349
21	370	622	1420	369	490	595	747	828	19100	1020	800	310
22	223	236	3040	321	825	549	850	782	16800	1470	1400	280
23	345	174	1190	1470	597	419	990	809	14000	1340	600	399
24	393	154	509	2190	670	256	1190	840	9680	1120	250	993
25	458	145	968	1980	549	290	834	1050	5960	1350	150	980
26	461	229	806	1130	430	401	724	1090	4820	1320	1400	1010
27	445	540	395	457	424	1250	685	904	4760	1370	735	858
28	356	639	501	1380	536	633	693	896	3510	1220	1620	788
29	315	441	468	1230	---	553	741	1070	2390	1380	1810	1020
30	2500	716	559	1080	---	1160	685	1130	2570	1380	2340	906
31	1400	---	1410	1060	---	808	---	1470	---	1650	822	---
TOTAL	14093	13218	25853	33959	29027	23945	20981	26451	335769	57350	22817	20956
MEAN	455	441	834	1095	1037	772	699	853	11190	1850	736	699
MAX	2500	2280	3040	2790	2460	1710	1190	2460	37800	3610	2340	1170
MIN	185	104	163	231	424	256	453	218	867	1020	150	280
AC-FT	27950	26220	51280	67360	57580	47490	41620	52470	666000	113800	45260	41570
CAL YR 1980	TOTAL	418106	MEAN	1142	MAX	20000	MIN	104	AC-FT	829300		
WTR YR 1981	TOTAL	624419	MEAN	1711	MAX	37800	MIN	104	AC-FT	1239000		

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1967 to current year. Pesticide analyses: October 1976 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1967 to current year.

WATER TEMPERATURES: November 1967 to current year.

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

REMARKS.--Specific conductance and temperature from Oct. 1 through Oct. 7, 1980, are measured once daily. Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,000 micromhos Aug. 24, 1978; minimum daily, 260 micromhos June 17, 18, 1981.

WATER TEMPERATURES: Maximum daily, 35.5°C July 15, 16, 1978; minimum daily, 1.0°C Jan. 9, 1968.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,150 micromhos Feb. 2; minimum daily, 260 micromhos June 17, 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 23...	0900	414	1560	7.7	17.5	6.0	7.2	75	.5	K10	K10
NOV 20...	0900	2340	1960	7.4	11.0	73	9.1	82	1.5	700	170
DEC 17...	1315	133	1610	7.7	14.0	1.6	8.2	79	.2	45	K10
JAN 14...	1110	1400	2000	7.7	7.5	.50	11.2	93	.4	22	K4
FEB 19...	1000	811	1980	7.8	14.0	1.8	9.6	92	.3	35	3800
MAR 18...	1205	277	1850	7.5	15.0	10	11.3	113	.8	K310	K11
APR 15...	0900	495	1900	7.5	22.0	4.1	6.5	73	1.1	25	49
MAY 13...	1305	795	1720	8.1	23.0	3.0	9.6	113	.4	190	43
JUN 11...	0930	4710	790	7.9	27.0	100	6.8	86	2.6	700	1500
JUL 15...	1220	1580	979	7.5	29.0	10	9.5	123	2.2	74	680
AUG 20...	1100	350	1910	7.8	27.5	--	6.8	86	1.0	41	94
SEP 23...	1045	265	1730	7.6	25.0	3.5	7.1	85	1.6	36	480

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 23...	290	160	79	22	200	5.1	6.0	130	140	320
NOV 20...	320	210	90	23	260	6.3	8.6	110	190	430
DEC 17...	310	160	89	21	200	5.0	5.5	150	150	330
JAN 14...	340	220	95	25	300	7.1	5.4	120	220	440
FEB 19...	350	230	99	25	270	6.3	6.5	120	220	450
MAR 18...	340	190	99	23	240	5.6	5.8	150	190	370
APR 15...	350	230	97	25	260	6.1	6.2	120	210	430
MAY 13...	330	--	93	24	230	5.5	6.8	150	200	360
JUN 11...	200	66	65	8.2	80	2.5	4.7	110	79	130
JUL 15...	220	93	68	13	120	3.5	4.6	120	100	190
AUG 20...	350	--	98	25	250	5.8	6.4	130	210	410
SEP 23...	330	190	89	25	230	5.9	5.1	130	190	380

BRAZOS RIVER BASIN

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	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, ORGANIC DIS- SOLVED (MG/L AS N)
OCT 23...	.4	3.8	868	849	.14	.13	.020	.010	.89	.71
NOV 20...	.4	4.1	1130	1070	.40	.29	.300	--	.53	--
DEC 17...	.3	4.9	925	893	.41	.40	.100	.100	.57	.59
JAN 14...	.4	2.9	1140	1160	.40	.42	.140	.150	.86	.82
FEB 19...	.3	1.0	1140	1140	.61	.60	.000	.050	.92	.94
MAR 18...	.4	2.4	1060	1020	.70	.71	.110	.060	.86	.94
APR 15...	.5	.9	1130	1100	.52	.51	.060	.050	1.0	.95
MAY 13...	.5	2.9	1040	1010	1.2	1.3	.110	.130	1.2	.73
JUN 11...	.2	10	454	445	.38	.41	.070	.130	1.0	1.2
JUL 15...	.2	9.0	568	577	.00	.01	.050	.070	.78	.36
AUG 20...	.3	7.4	308	1090	.14	.13	.080	.100	.73	.73
SEP 23...	.4	6.2	1000	1000	<.10	<.10	.090	.100	.46	.49

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDEDED (MG/L AS C)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 23...	.91	.72	.240	.230	11	--	--	8	8.9	94
NOV 20...	.83	.64	.100	.070	--	5.0	2.2	264	1670	81
DEC 17...	.67	.69	.090	.100	27	--	--	5	1.8	88
JAN 14...	1.0	.97	.090	.040	5.0	--	--	33	125	91
FEB 19...	.92	.99	.110	.090	--	13	.5	15	33	97
MAR 18...	.97	1.0	.130	.110	5.5	--	--	16	12	78
APR 15...	1.1	1.0	.120	.110	4.7	--	--	26	35	59
MAY 13...	1.3	.86	--	--	--	7.8	.4	18	39	92
JUN 11...	1.1	1.3	.190	.080	4.1	--	--	219	2790	86
JUL 15...	.83	.43	.080	.050	4.3	--	--	54	230	87
AUG 20...	.81	.83	--	--	--	5.8	--	31	29	92
SEP 23...	.55	.59	.070	.050	4.4	--	--	70	50	89

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL (UG/L AS CO)
NOV 20...	0900	2	1	200	200	8	<1	10	0	3
FEB 19...	1000	1	1	300	200	1	2	10	0	0
MAY 13...	1305	2	3	100	100	1	<1	10	0	1
AUG 20...	1100	3	3	200	150	0	3	10	0	1

BRAZOS RIVER BASIN

355

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL (UG/L AS HG)
NOV 20...	<3	5	1	3200	10	14	0	290	7	.1
FEB 19...	3	3	2	220	10	3	3	20	10	.1
MAY 13...	<3	4	2	180	20	6	2	20	10	.1
AUG 20...	<3	6	6	820	<10	23	0	80	19	.1

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL (UG/L AS NI)	NICKEL, SUS- PENDE REC OV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 20...	.0	6	--	0	0	0	0	0	30	10
FEB 19...	.1	1	--	0	0	0	0	0	10	3
MAY 13...	.1	--	11	0	0	0	1	0	0	10
AUG 20...	.0	4	--	2	0	0	0	0	10	5

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
MAR 18...	1205	.00	.0	.00	.0	.00	.00	.00	.06
JUN 11...	0930	.00	.0	.00	.0	.00	.00	.00	.01

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
MAR 18...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUN 11...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR 18...	.00	.00	.00	.01	0	.00	.04	.00	.00
JUN 11...	.00	.00	.00	.01	0	.00	.00	.00	.00

BRAZOS RIVER BASIN

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 20,80 0900	MAR 18,81 1205	MAY 13,81 1305	JUN 11,81 0930
TOTAL CELLS/ML	4700	64	140	3800
DIVERSITY: DIVISION	0.1	1.0	0.7	1.3
..CLASS	0.1	1.0	0.7	1.3
...ORDER	0.2	1.0	0.7	2.1
...FAMILY	1.8	1.9	1.7	2.9
....GENUS	2.0	1.9	1.7	3.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
...SCHROEDERIA	--	-	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	430	11
...MICRACTINIACEAE								
...MICRACTINIUM	--	-	--	-	--	-	27	1
...OOCYSTACEAE								
....ANKISTRODESMUS	46	1	--	-	--	-	69	2
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	82	2
....TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	--	-
....SCENEDESMUS	--	-	--	-	--	-	190	5
....TETRASTRUM	--	-	--	-	--	-	*	0
..TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	46	1	--	-	--	-	55	1
...PHACOTACEAE								
....PHACOTUS	--	-	--	-	--	-	*	0
...VOLVOCACEAE								
....GONIUM	--	-	--	-	--	-	--	-
..ZYGNEMATALES								
...DESMIDIACEAE								
....COSMARIUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	--	-	--	-	--	-	110	3
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	92	2	--	-	--	-	*	0
...RHOICOSPHEA	--	-	--	-	--	-	27	1
...CYMBELLACEAE								
....AMPHORA	640	14	--	-	--	-	*	0
...CYMBELLA	46	1	--	-	--	-	*	0
...FRAGILARIACEAE								
....FRAGILARIA	--	-	--	-	13	9	--	-
....SYNEDRA	46	1	--	-	--	-	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	46	1	--	-	--	-	--	-
...NAVICULACEAE								
....ENTOMONEIS	46	1	--	-	--	-	--	-
....NAVICULA	1700#	37	26#	40	26#	18	82	2
...NITZSCHACEAE								
....NITZSCHIA	1900#	41	13#	20	77#	55	96	3
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	13#	20	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	13#	20	--	-	--	-

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

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

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 20, 80 0900		MAR 18, 81 1205		MAY 13, 81 1305		JUN 11, 81 0930	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	26#	18	1100#	30
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	340	9
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	--	-	1000#	28
...RIVULARIACEAE								
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	*	0
....TRACHELOMONAS	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..GYMNODINIALES								
...GYMNODINIACEAE								
....GYMNODINIUM	--	-	--	-	--	-	27	1
..PERIDINIALES								
...PERIDINIACEAE								
....PERIDINIUM	--	-	--	-	--	-	--	-

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

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

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	JUL 15, 81 1220	AUG 20, 81 1100	SEP 23, 81 1045
TOTAL CELLS/ML	29000	1600	72
DIVERSITY: DIVISION	1.3	1.6	0.0
..CLASS	1.3	1.6	0.0
...ORDER	1.9	1.8	0.7
...FAMILY	2.5	2.2	0.7
....GENUS	3.2	2.2	0.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHARACIACEAE	*	0	--	-	--	-
....SCHROEDERIA						
...COELASTRACEAE						
....COELASTRUM	2200	8	--	-	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	840	3	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	1300	5	170	11	--	-
....DICTYOSPHAERIUM	770	3	--	-	--	-
...KIRCHNERIELLA	280	1	--	-	--	-
...OOCYSTIS	--	-	--	-	--	-
...TREUBARIA	*	0	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	280	1	--	-	--	-
....CRUCIGENIA	280	1	--	-	--	-
...SCENEDESMUS	2800	10	370#	24	58#	80
...TETRASTRUM	--	-	--	-	--	-
...TETRASPORALES						
...PALMELLACEAE						
...SPHAEROCYSTIS	1700	6	--	-	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	72	5	--	-
...CHLAMYDOMONAS	350	1	--	-	14#	20
...PHACOTACEAE						
....PHACOTUS	--	-	--	-	--	-
...VOLVOCAEAE						
....GONIUM	*	0	--	-	--	-
...ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	*	0	--	-	--	-

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

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

BRAZOS RIVER BASIN

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	JUL 15, 81 1220		AUG 20, 81 1100		SEP 23, 81 1045	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHRYSTOPHYTA						
BACILLARIOPHYCEAE						
CENTRALES						
COSCINODISCACEAE						
CYCLOTELLA	1000	4	--	-	--	-
PENNALES						
CYANOPHYTA (BLUE-GREEN ALGAE)						
CYANOPHYCEAE						
CHROOCOCCALES						
CHROOCOCCACEAE						
AGMENELLUM	5600#	19	--	-	--	-
ANACYSTIS	9600#	33	730#	47	--	-
HORMOGONALES						
NOSTOCACEAE						
ANABAENA	--	-	--	-	--	-
OSCILLATORIACEAE						
OSCILLATORIA	--	-	--	-	--	-
RIVULARIACEAE						
RAPHIIDIOPSIS	560	2	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
EUGLENOPHYCEAE						
EUGLENALES						
EUGLENACEAE						
EUGLENA	--	-	--	-	--	-
TRACHELOMONAS	--	-	100	6	--	-
PYRRHOPHYTA (FIRE ALGAE)						
DINOPHYCEAE						
GYMNODINIALES						
GYMNODINIACEAE						
GYMNODINIUM	--	-	--	-	--	-
PERIDINIALES						
PERIDINIACEAE						
PERIDINIUM	--	-	43	3	--	-

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

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

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	14093	1490	840	31900	280	10500	160	5940	320
NOV.	1980	13218	1750	988	35300	340	12200	180	6570	350
DEC.	1980	25853	1690	956	66700	330	22900	180	12400	350
JAN.	1981	33959	1940	1100	101000	400	36500	200	18800	370
FEB.	1981	29027	1970	1120	87600	410	32000	210	16300	380
MAR.	1981	23945	1850	1050	67600	370	24000	190	12600	360
APR.	1981	20981	1810	1020	58000	360	20400	190	10800	360
MAY	1981	26451	1490	837	59800	280	19700	160	11100	320
JUNE	1981	335769	802	449	407000	130	116600	83	75500	190
JULY	1981	57350	1300	732	113000	230	35400	140	21000	290
AUG.	1981	22817	1780	1010	62000	350	21700	190	11500	360
SEPT	1981	20956	1650	931	52700	310	17800	170	9800	340
TOTAL		624419	**	**	1143000	**	370000	**	212000	**
WTD. AVG.		1711	1200	678	**	220	**	130	**	260

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	1120	1820	1770	1790	---	---	1790	---	---	1800
2	---	---	1120	1820	1770	1800	---	---	1760	---	---	1850
3	---	---	1130	1800	1760	1790	---	---	1700	---	---	1900
4	---	---	1130	1780	1740	1770	---	---	1720	---	---	1910
5	---	---	1140	1770	1740	1760	---	---	1730	---	---	1920
6	---	---	1150	1760	1710	1740	---	---	1710	---	---	1930
7	---	---	1150	1740	1710	1730	---	---	1670	---	---	1950
8	1160	1150	1160	1730	1720	1720	---	---	1690	---	---	1930
9	1180	1150	1170	1750	1640	1710	---	---	1550	---	---	1940
10	1170	1150	1160	1630	1540	1580	---	---	1500	---	---	1950
11	1220	1170	1200	1670	1310	1500	---	---	1550	---	---	1960
12	1270	1220	1250	1700	1670	1690	---	---	1490	---	---	1970
13	1260	1240	1260	1720	1680	1710	---	---	1460	---	---	1990
14	1260	1240	1250	1740	1720	1730	---	---	1480	---	---	2000
15	1260	1250	1260	1760	1710	1740	---	---	1490	---	---	2010
16	1260	1240	1250	1730	1590	1640	---	---	1500	---	---	2000
17	1280	1210	1260	1620	1580	1600	1590	1410	1510	---	---	1980
18	1320	1280	1290	1610	1540	1580	1760	1580	1710	---	---	1970
19	1350	1310	1330	1570	1530	1540	1740	1700	1720	---	---	1960
20	1380	1340	1360	1950	1660	1880	1700	1680	1690	---	---	1950
21	1430	1380	1410	1930	1870	1900	1770	1600	1690	---	---	1940
22	1460	1430	1450	1870	1800	1840	1900	1790	1870	---	---	1950
23	1530	1510	1520	1800	1790	1800	1890	1850	1870	---	---	1940
24	1530	1500	1510	1790	1770	1780	1850	1820	1840	---	---	1930
25	1580	1480	1520	1790	1780	1790	1810	---	1800	---	---	1940
26	1760	1590	1650	---	---	1800	---	---	1790	---	---	1930
27	1850	1780	1820	---	---	1810	---	---	1820	---	---	1920
28	1830	1810	1820	---	---	1820	---	---	1800	1960	1900	1920
29	1840	1780	1810	---	---	1830	---	---	1810	2000	---	1950
30	1880	1800	1840	---	---	1800	---	---	1800	---	---	1960
31	1850	1820	1840	---	---	---	---	---	1800	2000	---	1970
MONTH	1880	1150	1370	1950	1310	1740	1900	1410	1690	2000	1900	1940

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2010	---	1980	---	---	1950	1760	1700	1720	2000	1940	1970
2	2150	---	2130	---	---	1940	1830	1740	1780	1990	1960	1980
3	---	---	2080	---	---	1920	1840	1670	1790	1980	1930	1960
4	2020	---	2000	---	---	1910	1650	1370	1440	1980	1930	1960
5	2020	---	2000	---	---	1900	1640	1440	1530	1930	1880	1900
6	1970	1860	1940	---	---	1890	1740	1640	1690	1920	1850	1890
7	1940	---	1930	---	---	1870	1830	1740	1790	1920	1870	1900
8	---	---	2000	---	---	1880	1870	1810	1830	1910	1880	1890
9	---	---	2050	---	---	1870	1940	1870	1920	1870	1770	1840
10	---	---	1900	---	---	1860	1960	1930	1950	1770	1630	1700
11	---	---	1910	---	---	1850	1950	1910	1920	1740	1620	1680
12	---	---	1950	---	---	1860	1960	1920	1940	1730	1700	1720
13	2010	1890	1960	---	---	1840	1920	1890	1910	1800	1700	1740
14	2030	2010	2020	---	---	1850	1940	1910	1930	1990	1770	1900
15	2030	---	2020	---	---	1860	1950	1890	1930	2020	1960	1980
16	2020	---	2010	1880	---	1860	1910	1890	1900	1980	1510	1730
17	1950	---	1940	1870	1830	1860	1920	1890	1910	1740	1140	1530
18	2000	---	1950	1860	1820	1840	1910	1850	1870	1370	1120	1260
19	1970	1960	1960	1830	1800	1820	1920	1880	1900	1340	1140	1260
20	1970	1940	1960	1810	1770	1790	1970	1920	1940	1270	1130	1180
21	1940	1900	1920	1810	1760	1780	1990	1940	1960	1140	1010	1070
22	1930	---	1910	1810	1770	1790	1970	1910	1940	1160	1080	1140
23	---	---	1900	1810	1760	1780	1970	1250	1530	1380	1170	1280
24	---	---	1910	1830	1780	1810	1850	1610	1750	---	---	1300
25	---	---	1920	1800	1740	1770	1880	1800	1840	---	---	1320
26	---	---	1940	1770	1750	1760	1830	1610	1740	---	---	1280
27	---	---	1930	1760	1670	1710	1860	1600	1720	---	---	1300
28	---	---	1950	1790	1750	1780	1970	1870	1920	---	---	1310
29	---	---	---	1790	1740	1770	1990	1900	1940	---	---	1280
30	---	---	---	1830	1760	1780	1990	1940	1960	---	---	1260
31	---	---	---	1830	1770	1810	---	---	---	---	---	1250
MONTH	2150	1860	1970	1880	1670	1840	1990	1250	1830	2020	1010	1570

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	1300	1630	1510	1590	---	---	1520	1930	1270	1800
2	---	---	1320	1620	1560	1600	---	---	1600	1690	1100	1500
3	---	---	1200	1570	1490	1530	---	---	1670	1650	---	1520
4	---	---	500	1510	1190	1330	---	---	1680	---	---	1600
5	---	---	400	1300	1230	1270	---	---	1700	---	---	1650
6	---	---	300	1390	1240	1290	---	---	1810	---	---	1660
7	---	---	600	1400	1010	1170	---	---	1700	---	---	1660
8	---	---	700	1290	1020	1160	---	---	1750	---	---	1670
9	---	---	800	1290	730	938	---	---	1750	---	---	1650
10	---	---	850	1120	760	970	---	---	1770	---	---	1620
11	1200	860	900	1180	1060	1120	---	---	1720	---	---	1620
12	1330	1130	1220	1180	1080	1150	---	---	1680	---	---	1640
13	1360	1140	1260	1110	1000	1070	---	---	1600	---	---	1600
14	1250	780	945	1120	940	1030	---	---	1620	---	---	1570
15	1410	1140	1300	1120	840	1010	---	---	1630	---	---	1600
16	1440	600	1000	1080	828	895	---	---	1600	---	---	1620
17	940	260	400	1440	1100	1300	---	---	1650	---	---	1610
18	340	260	311	1490	1350	1400	---	---	1700	---	---	1650
19	810	350	630	1550	1490	1520	---	---	1850	---	---	1670
20	1230	850	1120	1520	1440	1470	---	---	1910	---	---	1680
21	1260	1170	1230	1570	1500	1530	---	---	1850	---	---	1690
22	1460	1250	1340	1560	1500	1520	---	---	1700	---	---	1700
23	1480	570	1410	1580	1500	1560	---	---	1750	---	---	1730
24	1360	860	1070	1530	1460	1490	---	---	1800	---	---	1720
25	1320	1130	1250	1630	1520	1580	---	---	1850	---	---	1720
26	1860	1280	1660	---	---	1600	---	---	1900	---	---	1700
27	1900	1850	1870	---	---	1610	2020	1980	2000	---	---	1710
28	1890	1830	1860	---	---	1600	2000	1930	1970	---	---	1730
29	1810	1710	1780	---	---	1580	1990	1940	1970	---	---	1690
30	1700	1620	1660	---	---	1560	1960	1840	1910	---	---	1720
31	---	---	---	---	---	1500	1930	1900	1920	---	---	---
MONTH	1900	260	1070	1630	730	1350	2020	1840	1760	1930	1100	1660

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	24.0	19.0	21.5	29.5	26.5	28.0
2	---	---	---	---	---	---	22.0	19.5	21.0	27.0	25.0	26.0
3	---	---	---	---	---	---	24.5	21.0	22.5	24.5	23.0	24.0
4	6.5	4.0	5.0	---	---	---	24.0	21.5	22.5	23.5	22.5	23.0
5	4.0	3.0	3.5	---	---	---	24.5	20.0	22.0	23.5	22.5	23.0
6	6.5	2.5	4.5	---	---	---	23.5	19.0	21.0	26.5	21.5	23.5
7	---	5.0	9.5	---	---	---	23.0	19.0	21.0	25.5	22.0	23.5
8	---	---	---	---	---	---	22.0	---	21.5	27.0	22.5	25.0
9	---	---	---	---	---	---	23.5	20.5	22.0	25.0	---	23.0
10	---	---	---	---	---	---	25.0	21.0	23.0	23.5	18.5	21.0
11	---	---	---	---	---	---	23.5	21.5	22.5	25.0	18.5	22.0
12	---	---	---	---	---	---	25.5	22.0	23.5	26.5	20.0	23.0
13	---	---	---	---	---	---	26.5	22.0	24.0	27.0	22.5	24.5
14	---	---	---	---	---	---	26.0	23.0	24.5	26.5	23.0	25.0
15	---	---	---	---	---	17.5	25.0	22.0	23.5	24.5	21.5	23.0
16	---	---	---	---	---	---	25.0	22.0	23.5	---	---	22.5
17	---	---	---	19.0	13.5	16.5	25.5	22.0	24.0	24.5	21.0	22.5
18	21.0	---	14.5	18.0	13.0	15.5	24.0	22.5	23.0	27.5	23.0	25.0
19	---	---	17.0	18.0	12.0	15.0	26.0	21.5	23.5	26.0	23.0	24.5
20	18.0	14.0	16.0	18.0	13.0	15.5	28.5	23.0	25.5	26.0	21.5	24.0
21	18.5	16.5	17.0	19.0	14.5	17.0	28.0	24.0	26.0	26.5	22.0	24.0
22	---	---	---	16.5	14.0	15.0	25.5	24.0	24.5	26.0	22.5	24.5
23	---	---	---	18.5	14.0	16.0	24.0	21.0	22.5	28.0	24.0	25.5
24	---	---	---	20.0	14.0	17.0	24.5	20.5	22.5	---	---	---
25	---	---	---	18.5	15.5	17.0	24.5	21.0	23.0	---	---	---
26	---	---	---	21.0	15.5	18.0	25.0	21.5	23.0	---	---	---
27	---	---	---	19.5	17.5	18.5	27.0	22.5	24.5	---	---	---
28	---	---	---	19.5	17.5	18.5	27.0	23.5	25.0	---	---	---
29	---	---	---	22.0	17.5	19.5	29.0	24.5	26.5	---	---	---
30	---	---	---	22.5	17.5	20.0	31.0	25.5	28.0	---	---	---
31	---	---	---	22.5	18.0	20.0	---	---	---	---	---	---
MONTH	21.0	2.5	11.0	22.5	12.0	17.5	31.0	19.0	23.5	29.5	18.5	24.0

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

BRAZOS RIVER BASIN

08098300 LITTLE POND CREEK AT BURLINGTON, TX

LOCATION.--Lat 31°01'35", long 96°59'17", Milam County, Hydrologic Unit 12070101, on left bank downstream from bridge on U.S. Highway 77, 1.0 mi (1.6 km) north of Burlington, 2.5 mi (4.0 km) downstream from Keys Creek, and 12.6 mi (20.3 km) upstream from mouth.

DRAINAGE AREA.--23.0 mi² (59.6 km²).

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

Water-quality records: Sediment records: January 1966 to September 1975.

REVISED RECORDS.--WSP 2122: 1965. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 388.51 ft (118.418 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for July 16 to Sept. 2, which are poor. No diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 13.5 ft³/s (0.382 m³/s), 7.97 in/yr (202 mm/yr), 9,780 acre-ft/yr (12.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,570 ft³/s (243 m³/s) May 24, 1975, gage height, 16.90 ft (5.151 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1938, 17.5 ft (5.33 m) in 1950, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 23	1600	967 27.4	11.63 3.545	June 14	0400	*3,240 91.8	14.70 4.481
June 11	1430	871 24.7	11.36 3.463	June 16	1430	2,080 58.9	13.51 4.118

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.03	.00	.00	.01	.00	.03	.03	.05	.00	6.2
2	.00	.00	.02	.00	.00	.01	.00	.02	1.0	.02	.00	5.8
3	.00	.00	.02	.00	.00	.05	.00	.01	.81	.01	.00	46
4	.00	.00	.01	.00	.00	19	52	.01	110	.01	.00	3.1
5	.00	.00	.00	.00	.02	4.1	3.0	.03	236	.05	.00	.46
6	.00	.00	.00	.00	.01	.81	.65	.08	13	.05	.00	.08
7	.00	.00	.00	.00	.01	6.9	.28	.06	5.4	.03	.00	.00
8	.00	.00	.50	.00	.01	8.0	.11	.03	1.6	.01	.00	.00
9	.00	.00	9.2	.00	.00	1.7	.06	2.2	.40	.01	.00	.00
10	.00	.00	1.4	.00	153	.57	.03	1.7	.50	.00	.00	.00
11	.00	.00	.38	.00	6.6	.28	.01	.24	456	.00	.00	.00
12	.00	.00	.17	.00	1.4	1.3	.01	.06	143	.00	.00	.00
13	.00	.00	.06	.00	.44	9.1	.00	.03	251	.00	.00	.00
14	.00	.00	.03	.00	.28	3.0	.00	.01	1240	.00	.00	.02
15	.00	.00	.02	.00	.14	.90	.00	.00	20	.00	.00	.02
16	.00	.00	.01	.00	.06	.38	.00	11	997	.00	.00	.00
17	.00	.00	.01	.00	.03	.24	.00	3.0	117	.00	.00	.00
18	.00	.00	.01	.00	.02	.11	.00	.44	5.4	.00	70	.00
19	.00	.00	.01	.00	.01	.06	.00	.24	1.7	.00	24	.00
20	.00	.00	.01	.01	.01	.06	.00	.08	.65	.00	7.0	.00
21	.00	.00	.00	.00	.05	.05	.00	.05	.28	.00	3.1	.00
22	.00	.00	.00	.00	.06	.02	.00	.03	.08	.00	1.5	.00
23	.33	.00	.00	.00	.01	.01	560	.01	.05	.00	.78	.00
24	2.2	.00	.00	.00	.01	.01	61	.01	1.2	.00	.40	.00
25	.02	.00	.00	.00	.01	.01	2.7	123	.57	.00	.19	.00
26	.00	2.0	.00	.00	.01	.01	.90	5.1	42	.00	.09	.00
27	.00	3.0	.00	.00	.01	.00	.33	1.7	1.7	.00	.05	.00
28	.00	.50	.00	.00	.01	.00	.20	.38	.50	.00	.02	.00
29	.00	.17	.00	.00	---	.00	.08	.17	.20	.00	15	.00
30	.00	.06	.00	.00	---	.00	.05	.06	.11	.00	11	.00
31	.00	---	.00	.00	---	.00	---	.03	---	.00	8.0	---
TOTAL	2.55	5.73	11.89	.01	162.21	56.69	681.41	149.81	3647.18	.24	141.13	61.68
MEAN	.082	.19	.38	.000	5.79	1.83	22.7	4.83	122	.008	4.55	2.06
MAX	2.2	3.0	9.2	.01	153	19	560	123	1240	.05	70	46
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00
CFSM	.004	.008	.02	.000	.25	.08	.99	.21	5.30	.000	.20	.09
IN.	.00	.01	.02	.00	.26	.09	1.10	.24	5.90	.00	.23	.10
AC-FT	5.1	11	24	.02	322	112	1350	297	7230	.5	280	122

CAL YR 1980	TOTAL	2098.40	MEAN	5.73	MAX	568	MIN	.00	CFSM	.25	IN	3.39	AC-FT	4160
WTR YR 1981	TOTAL	4920.53	MEAN	13.5	MAX	1240	MIN	.00	CFSM	.59	IN	7.96	AC-FT	9760

08099000 LEON RESERVOIR NEAR RANGER, TX

LOCATION.--Lat 32°21'46", long 98°40'32", Eastland County, Hydrologic Unit 12070201, at outlet works near left end of dam on Leon River, 7.4 mi (11.9 km) south of Ranger, 8.7 mi (14.0 km) southeast of Eastland, and 274.1 mi (441.1 km) upstream from mouth.

DRAINAGE AREA.--259 mi² (671 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1955 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The reservoir is formed by a rolled earthfill dam 3,700 ft (1,130 m) long. Storage began in April 1954 and dam was completed in June 1954. The emergency spillway is a 1,200-foot-wide (366 m) cut through natural ground near the left end of dam. The service spillway is an uncontrolled circular concrete drop inlet designed for a maximum discharge of 5,000 ft³/s (142 m³/s) through an 11-foot-diameter (3 m) concrete conduit. The dam is the property of Eastland County Water Supply District and was built to impound water for municipal use by the cities of Ranger, Olden, and Eastland. The capacity table is based on a survey made in 1952. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,398.0	-
Crest of spillway.....	1,382.0	40,210
Crest of spillway (top of conservation pool).....	1,375.0	27,290
Lowest gated outlet (invert for water supply).....	1,335.0	869

COOPERATION.--The capacity curve, reservoir elevations, and diversion records were furnished by the Eastland County Water Supply District.

EXTREMES (at 1000) FOR PERIOD OF RECORD.--Maximum contents observed, 40,640 acre-ft (50.1 hm³) June 13, 1967, elevation, 1,382.2 ft (421.29 m); minimum observed since first appreciable storage, 15,880 acre-ft (19.6 hm³) Jan. 11-21, Feb. 5-7, Apr. 29, 30, 1956, elevation, 1,366.2 ft (416.42 m).

EXTREMES (at 1000) FOR CURRENT YEAR.--Maximum contents observed, 21,260 acre-ft (26.2 hm³) June 8-18, elevation, 1,370.8 ft (417.82 m); minimum, 17,080 acre-ft (21.1 hm³) Nov. 24 to Dec. 8, elevation, 1,367.3 ft (416.75 m).

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

1,367.0	16,740
1,369.0	19,030
1,371.0	21,510

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 1000

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18090	17410	17080	17520	17300	17190	18680	18330	18090	20620	19270	18450
2	18090	17410	17080	17410	17300	17190	18680	18330	18090	20490	19270	18330
3	18090	17410	17080	17410	17300	17190	18680	18330	18090	20490	19150	18330
4	18090	17410	17080	17410	17300	17980	18680	18330	18450	20490	19150	18330
5	18090	17410	17080	17410	17190	18680	18680	18330	18680	20490	19150	18330
6	18090	17410	17080	17410	17190	18800	18680	18210	19270	20370	19150	18330
7	18090	17300	17080	17410	17190	18800	18680	18210	20490	20370	19030	18330
8	17980	17300	17080	17300	17190	18800	18560	18210	21260	20370	19030	18330
9	17980	17300	17520	17300	17190	18800	18560	18210	21260	20370	19030	18210
10	17980	17300	17750	17300	17190	18800	18560	18090	21260	20370	19030	18210
11	17980	17300	17750	17300	17190	18800	18560	18090	21260	20370	19030	18210
12	17980	17300	17750	17300	17190	18800	18560	18090	21260	20240	18910	18210
13	17860	17300	17750	17300	17190	18800	18560	17980	21260	20240	18910	18210
14	17860	17300	17750	17300	17190	18800	18560	17980	21260	20240	18910	18210
15	17860	17300	17640	17300	17190	18800	18560	17980	21260	20240	18910	18210
16	17860	17300	17640	17300	17190	18800	18560	18330	21260	20120	18910	18090
17	17860	17300	17640	17300	17190	18800	18560	18330	21260	20120	18910	18090
18	17860	17300	17640	17300	17190	18800	18560	18330	21260	20120	18910	18090
19	17750	17190	17640	17300	17190	18800	18560	18330	21130	20120	18910	17980
20	17750	17190	17640	17300	17190	18800	18560	18330	21130	20120	18800	17980
21	17750	17190	17640	17300	17190	18800	18560	18330	21130	20000	18800	17980
22	17750	17190	17520	17300	17190	18800	18560	18330	21130	20000	18800	17860
23	17640	17190	17520	17300	17190	18800	18560	18210	21130	19880	18680	17860
24	17640	17080	17520	17300	17190	18800	18560	18210	21000	19760	18680	17860
25	17640	17080	17520	17300	17190	18800	18450	18210	21000	19760	18680	17860
26	17640	17080	17520	17300	17190	18800	18450	18210	20880	19640	18560	17860
27	17520	17080	17520	17300	17190	18680	18450	18210	20880	19510	18560	17860
28	17520	17080	17520	17300	17190	18680	18450	18210	20750	19390	18560	17750
29	17520	17080	17520	17300	---	18680	18330	18210	20750	19390	18560	17750
30	17520	17080	17520	17300	---	18680	18330	18210	20620	19390	18450	17750
31	17520	---	17520	17190	---	18680	---	18090	---	19390	18450	---
MAX	18090	17410	17750	17520	17300	18800	18680	18330	21260	20620	19270	18450
MIN	17520	17080	17080	17190	17190	17190	18330	17980	18090	19390	18450	17750
(+)	1367.7	1367.3	1367.7	1367.4	1367.4	1368.7	1368.4	1368.2	1370.3	1369.3	1368.5	1367.9
(+)	-570	-440	+440	-330	0	+1490	-350	-240	+2530	-1230	-940	-700
(+†)	179	170	162	160	159	170	195	198	212	327	286	226

CAL YR 1980 MAX 22450 MIN 17080 † -4660 †† 2490
WTR YR 1981 MAX 21260 MIN 17080 † -340 †† 2440

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use.

BRAZOS RIVER BASIN

08099000 LEON RESERVOIR NEAR RANGER, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 28...	0850	689	15.0	180	70	49	14	76

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 28...	2.5	10	110	51	130	.4	3.2	400

BRAZOS RIVER BASIN

365

08099100 LEON RIVER NEAR DE LEON, TX

LOCATION.--Lat 32°10'25", long 98°31'58", Comanche County, Hydrologic Unit 12070201, on left bank at downstream end of bridge on State Highway 16, 1.5 mi (2.4 km) upstream from Flat Creek, 4.4 mi (7.1 km) northeast of De Leon, 6 mi (10 km) downstream from Hog Creek, and 250.1 mi (402.4 km) upstream from mouth.

DRAINAGE AREA.--479 mi² (1,241 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,209.93 ft (368.787 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1960, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good. Flow partly regulated by Leon Reservoir (station 08099000). Numerous diversions above station for municipal, steam powerplant operation, and other uses. Recording rain gage was discontinued May 31, 1978.

AVERAGE DISCHARGE.--21 years, 41.4 ft³/s (1.172 m³/s), 29,990 acre-ft/yr (37.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,540 ft³/s (214 m³/s) Jan. 21, 1968, gage height, 15.50 ft (4.724 m); no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 19.3 ft (5.88 m) occurred in May 1908 at a point 2,000 ft (610 m) downstream from present gage site and is the highest since that time, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 478 ft³/s (13.5 m³/s) June 4 at 1300 hours, gage height, 6.29 ft (1.917 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	7.9	.00	.00	.00
3	.00	.00	.00	.00	.00	12	.00	.00	.49	.00	.00	.00
4	.00	.00	.00	.00	.00	175	.00	.00	276	.00	.00	.00
5	.00	.00	.00	.00	.00	42	.00	.00	79	.00	.00	.00
6	.00	.00	.00	.00	.00	14	.00	.00	115	.00	.00	.00
7	.00	.00	.00	.00	.00	16	.00	.00	128	.00	.00	.00
8	.00	.00	.00	.00	.00	34	.00	.00	22	.00	.00	.00
9	.00	.00	17	.00	.00	14	.00	.00	8.3	.00	.00	.00
10	.00	.00	22	.00	.00	5.6	.00	.00	3.6	.00	.00	.00
11	.00	.00	3.5	.00	.00	3.4	.00	.00	1.8	.00	.00	.00
12	.00	.00	.32	.00	.00	2.5	.00	.00	1.1	.00	.00	.00
13	.00	.00	.01	.00	.00	2.0	.00	.00	.61	.00	.00	.00
14	.00	.00	.00	.00	.00	1.6	.00	.00	.38	.00	.00	.00
15	.00	.00	.00	.00	.00	1.0	.00	.00	.35	.00	.00	.00
16	.00	.00	.00	.00	.00	.64	.00	.00	.46	.00	.00	.00
17	.00	.00	.00	.00	.00	.46	.00	2.1	.28	.00	129	.00
18	.00	.00	.00	.00	.00	.19	.00	1.0	.21	.00	3.9	.00
19	.00	.00	.00	.00	.00	.05	.00	.03	.08	.00	.01	.00
20	.00	.00	.00	.00	.00	.05	.00	.00	.02	.00	.00	.00
21	.00	.00	.00	.00	.00	.04	.00	.00	.01	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	4.1	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	8.1	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	2.3	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.37	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.11	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.05	.04	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.01	.06	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	42.83	.00	.00	324.59	15.08	3.13	645.59	.00	132.91	.00
MEAN	.000	.000	1.38	.000	.000	10.5	.50	.10	21.5	.000	4.29	.000
MAX	.00	.00	22	.00	.00	175	8.1	2.1	276	.00	129	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	85	.00	.00	644	30	6.2	1280	.00	264	.00

CAL YR 1980 TOTAL 1076.42 MEAN 2.94 MAX 393 MIN .00 AC-FT 2140
WTR YR 1981 TOTAL 1164.13 MEAN 3.19 MAX 276 MIN .00 AC-FT 2310

BRAZOS RIVER BASIN

08099100 LEON RIVER NEAR DE LEON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
MAY 05...	0905	--	2360	7.8	21.0	15	.50	4.9	56	4.5	450
JUN 10...	1240	3.8	764	8.2	29.5	45	17	8.0	108	3.9	180
DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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)
MAY 05...	290	130	30	290	6.0	8.9	160	4.7	700	.2	4.4
JUN 10...	64	57	10	86	2.8	5.6	120	2.6	180	.2	11
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY 05...	1270	14	17	.03	.020	.05	.070	.93	1.0	.090	14
JUN 10...	425	35	30	.01	.010	.02	.040	1.1	1.1	.120	8.1
DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)				
MAY 05...	0905	1	300	17	10	25	40				
DATE	TIME	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)				
MAY 05...		0	160	.0	0	0	10				

BRAZOS RIVER BASIN

367

08099300 SABANA RIVER NEAR DE LEON, TX

LOCATION.--Lat 32°06'50", long 98°36'19", Comanche County, Hydrologic Unit 12070201, on left bank at downstream end of bridge on Farm Road 587, 0.6 mi (1.0 km) downstream from Spring Branch, 4.0 mi (6.4 km) west of De Leon, 4.2 mi (6.8 km) upstream from Turkey Creek, and 12.2 mi (19.6 km) upstream from mouth.

DRAINAGE AREA.--264 mi² (684 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,209.59 ft (368.683 m) National Geodetic Vertical Datum of 1929 (levels by State Department of Highways and Public Transportation). Prior to Nov. 22, 1960, nonrecording gage at present site and datum.

REMARKS.--Records good. Flow is affected by Nabors Lake (capacity unknown) on Spring Branch. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 28.8 ft³/s (0.816 m³/s), 1.48 in/yr (38 mm/yr), 20,870 acre-ft/yr (25.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s (306 m³/s) June 12, 1967, gage height, 22.05 ft (6.721 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 24 ft (7.3) in May 1908, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,140 ft³/s (32.3 m³/s) June 4 at 0930 hours, gage height, 12.55 ft (3.825 m), no peak above base of 1,500 ft³/s (42.5 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.00	.00	.15	.35	1.9	.08	.11	.00	.00	.00	.00
2	.04	.00	.00	.11	.19	.77	.08	.11	2.0	.00	.00	.00
3	.01	.00	.00	.08	.15	23	.11	.20	4.6	.00	.00	.00
4	.00	.00	.00	.08	.36	179	.11	.60	610	.00	.00	.00
5	.00	.00	.00	.11	.49	47	.08	.40	144	.00	.00	.00
6	.00	.00	.00	.15	.44	14	.08	.32	161	.00	.00	.00
7	.00	.00	.00	.15	.65	8.1	.08	.15	65	.00	.00	.00
8	.00	.00	2.7	.11	.76	13	.11	.15	18	.00	.00	.00
9	.00	.00	.48	.84	.60	12	.11	.20	5.5	.00	.00	.00
10	.00	.00	.06	.40	.58	3.2	.11	.16	1.7	.00	.00	.00
11	.00	.00	.03	.40	.40	2.1	.11	.12	.98	.00	.00	.00
12	.00	.00	.03	.40	.40	1.9	.11	.11	.98	.00	.00	.00
13	.00	.00	.04	.26	.40	1.9	.15	.07	.40	.00	.00	.00
14	.00	.00	.03	.20	.40	1.3	.11	.06	.40	.00	.00	.00
15	.00	.00	.03	.11	.40	1.3	.11	.72	.51	.00	.00	.00
16	.00	.00	.00	.13	.40	.98	.11	2.3	.30	.00	.00	.00
17	.00	.00	.00	.11	.40	.84	.11	.58	.25	.00	.00	.00
18	.00	.00	.00	.11	.40	.71	.20	.30	.19	.00	.00	.00
19	.00	.00	.00	.24	.40	.49	.20	.09	.13	.00	.00	.00
20	.00	.00	.00	.30	.40	.49	.20	.08	.08	.00	.00	.00
21	.00	.00	.00	.21	.40	.49	.06	.05	.08	.00	.00	.00
22	.00	.00	.00	.20	.38	.32	.08	.04	.06	.00	.00	.00
23	.00	.00	1.3	.20	.33	.32	.32	.06	.04	.00	.00	.00
24	.00	.00	.20	.20	.30	.26	.40	.20	.03	.00	.00	.00
25	.00	.00	.15	.23	.22	.20	.26	.13	.03	.00	.00	.00
26	.00	.00	.20	.26	.27	.20	.26	.03	.02	.00	.00	.00
27	.00	.00	.20	.26	.32	.15	.20	.00	.00	.00	.00	.00
28	.00	.00	.15	.25	.65	.15	.20	.00	.00	.00	.00	.00
29	.00	.00	.15	.20	---	.11	.11	.00	.00	.00	.00	.00
30	.00	.00	.15	.20	---	.11	.11	.00	.00	.00	.00	.00
31	.00	---	.15	.27	---	.08	---	.00	---	.00	.00	---
TOTAL	.65	.00	6.05	6.92	11.44	316.37	4.36	7.34	1016.28	.00	.00	.00
MEAN	.021	.000	.20	.22	.41	10.2	.15	.24	33.9	.000	.000	.000
MAX	.60	.00	2.7	.84	.76	179	.40	2.3	610	.00	.00	.00
MIN	.00	.00	.00	.08	.15	.08	.06	.00	.00	.00	.00	.00
CFSM	.000	.000	.001	.001	.002	.04	.001	.001	.13	.000	.000	.000
IN.	.00	.00	.00	.00	.00	.04	.00	.00	.14	.00	.00	.00
AC-FT	1.3	.00	12	14	23	628	8.6	15	2020	.00	.00	.00

CAL YR 1980 TOTAL 701.28 MEAN 1.92 MAX 183 MIN .00 CFSM .007 IN .10 AC-FT 1390
WTR YR 1981 TOTAL 1369.41 MEAN 3.75 MAX 610 MIN .00 CFSM .01 IN .19 AC-FT 2720

BRAZOS RIVER BASIN

08099400 PROCTOR LAKE NEAR PROCTOR, TX

LOCATION.--Lat 31°58'07", long 98°29'09", Comanche County, Hydrologic Unit 12070201, in intake structure at Proctor Lake on Leon River, 2.0 mi (3.2 km) upstream from U.S. Highways 67 and 377, 3.5 mi (5.6 km) west of Proctor, and 228.1 mi (367.0 km) upstream from mouth.

DRAINAGE AREA.--1,259 mi² (3,261 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1963 to current year. Prior to October 1970, published as Proctor Reservoir.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 28, 1963, nonrecording gage at same site and datum.

REMARKS.--The lake is formed by a reinforced concrete gated structure and rolled earthfill section, total length 13,460 ft (4,103 m). The lake was operated as a detention basin from Jan. 30 to July 5, 1963. The gates were closed July 6, 1963, but lake was operated to elevation 1,156.0 ft (352.35 m) until construction was completed. Deliberate impoundment began Sept. 30, 1963. The spillway is a gated concrete gravity structure located on the left bank, with an ogee weir section and stilling basin. The spillway is controlled by eleven 40.0- by 35.0-foot (12.2 by 10.7 m) tainter gates. The spillway was designed to discharge 431,800 ft³/s (12,200 m³/s) at an elevation of 1,201.0 ft (366.06 m). The lake is operated for flood control and water conservation. One major reservoir partly regulates the inflow (see station 08099000). Inflow is affected at times by discharge from the flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 43,690 acre-ft (53.9 hm³). These structures control runoff from 172 mi² (445 km²) in the Leon River and Rush Creek drainage basins. The capacity table is based on a survey made in 1946. Borrow is not included in capacity totals. 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.....	1,206.0	-
Design flood.....	1,201.0	433,000
Top of gates.....	1,197.0	374,200
Crest of spillway (top of conservation pool).....	1,162.0	59,400
Lowest gated outlet (invert).....	1,128.0	68

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,500 acre-ft (170 hm³) Jan. 26, 1968, elevation, 1,174.84 ft (358.091 m); minimum since first filling of lake, 23,050 acre-ft (28.4 hm³) Jan. 9, 1979, elevation, 1,151.35 ft (350.931 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 44,020 acre-ft (54.3 hm³) June 1 at 1500 hours, elevation, 1,158.33 ft (353.059 m); minimum, 31,110 acre-ft (38.4 hm³) Sept. 30 at 2400 hours, elevation, 1,154.46 ft (351.879 m)

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

1,154.0	29,790	1,158.0	42,790
1,156.0	35,840	1,159.0	45,590

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41150	39210	38520	38720	38110	38590	38450	37430	37260	42540	38310	33290
2	41080	39140	38520	38690	37970	37940	38350	37330	37230	42500	38070	33260
3	41050	39140	38350	38720	37970	38170	38380	37530	37770	42460	37830	33160
4	40970	39100	38310	38650	38040	38520	38450	37530	40260	42430	37530	33070
5	40830	39030	38350	38620	38070	38860	38310	37560	42130	42720	37330	33010
6	40830	38970	38310	38620	38070	39000	38110	37500	43090	42680	37230	32890
7	40830	38970	38310	38620	38110	39140	38070	37300	43760	42540	37060	33290
8	40800	38970	39240	38650	38110	39170	38040	37200	43950	42500	36930	33100
9	40760	38930	39170	38720	38040	39210	38070	37260	43910	42430	36730	32980
10	40720	38860	39100	38690	38040	39210	38070	37130	43910	42320	36530	32830
11	40650	38830	39100	38720	38000	39350	38040	36900	43870	42240	36330	32710
12	40550	38760	39070	38690	37900	39350	38000	36830	43760	42130	36100	32650
13	40470	38690	39070	38690	37900	39350	38000	36800	43690	41990	35750	32500
14	40370	38720	39000	38690	37940	39310	37970	36630	43610	41800	35550	32560
15	40190	38830	39000	38650	37940	39310	37940	37160	43910	41660	35390	32620
16	40330	39000	39030	38650	37970	39310	37830	37900	43990	41550	35450	32530
17	40370	38970	39000	38650	38000	39310	37730	37970	43910	41370	35520	32440
18	40300	38900	38930	38690	38110	39140	37670	38040	43840	41150	35520	32350
19	40260	38860	39070	38690	38110	39000	37670	37970	43760	41010	35450	32260
20	40120	38860	38970	38690	38040	38790	37670	37730	43650	40870	35360	32140
21	40080	38860	38790	38690	38000	39000	37600	37600	43500	40720	35260	32080
22	40010	38860	38790	38650	38140	38970	37730	37600	43460	40440	35100	32020
23	39980	38860	38790	38650	38070	38790	37970	37530	43390	40260	34970	31930
24	39870	38720	38790	38620	37970	38720	37870	37600	43280	40050	34820	31810
25	39730	38720	38790	38550	38040	38690	37770	37600	43240	39800	34690	31660
26	39770	38720	38760	38520	38070	38590	37700	37500	43130	39660	34470	31580
27	39770	38720	38760	38520	38070	38550	37630	37360	43020	39490	34280	31460
28	39700	38720	38650	38520	38350	38620	37600	37300	42900	39210	34090	31340
29	39520	38720	38790	38550	---	38620	37560	37300	42830	38900	33900	31220
30	39420	38520	38720	38520	---	38590	37500	37330	42720	38690	33660	31110
31	39350	---	38720	38350	---	38550	---	37300	---	38520	33500	---
MAX	41150	39210	39240	38720	38350	39350	38450	38040	43990	42720	38310	33290
MIN	39350	38520	38310	38350	37900	37940	37500	36630	37230	38520	33500	31110
(†)	1157.04	1156.80	1156.86	1156.75	1156.75	1156.81	1156.50	1156.44	1157.98	1156.80	1155.26	1154.46
(‡)	-1910	-830	+200	-370	0	+200	-1050	-200	+5420	-4200	-5020	-2390

CAL YR 1980 MAX 59760 MIN 38310 † - 7410
WTR YR 1981 MAX 43990 MIN 31110 ‡ -10150

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1964 to current year.

315814098291201 PROCTOR LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)	HARD- NESS AS CACO3
JAN											
20...	1030	1.0	808	8.1	7.5	.82	10.1	87	89	K12	200
20...	1031	1.4	--	--	--	--	--	--	--	--	--
20...	1035	10	808	8.1	7.5	--	10.2	88	--	--	--
20...	1040	20	808	8.1	7.5	--	10.1	87	--	--	--
20...	1045	25	808	8.1	7.5	--	10.1	87	--	--	200
MAY											
04...	1512	1.0	823	8.0	23.5	.50	6.1	74	58	41	210
04...	1513	.8	--	--	--	--	--	--	--	--	--
04...	1514	10	823	7.8	23.0	--	5.4	65	--	--	--
04...	1516	20	823	7.7	23.0	--	4.4	53	--	--	--
04...	1520	26	835	7.5	23.0	--	2.1	25	--	--	210
AUG											
03...	1840	1.0	778	7.8	28.5	.60	5.8	76	K13	290	190
03...	1841	1.0	--	--	--	--	--	--	--	--	--
03...	1842	10	780	7.4	28.0	--	3.7	49	--	--	--
03...	1844	20	780	7.2	28.0	--	2.7	36	--	--	--
03...	1845	25	782	7.1	28.0	--	1.7	22	--	--	190

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JAN										
20...	92	48	20	76	2.3	8.9	110	56	150	.3
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	95	49	20	75	2.3	8.4	110	56	150	--
MAY										
04...	96	48	21	78	2.4	9.5	110	60	160	.3
04...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
04...	91	50	21	79	2.4	9.4	120	59	160	--
AUG										
03...	90	43	20	77	2.7	9.8	100	53	160	.3
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
03...	90	43	20	76	2.6	10	100	52	150	--

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
20...	1.2	427	.02	--	--	1.50	1.5	.060	10	2
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	.03	--	--	1.30	1.3	.060	30	0
20...	--	--	--	--	--	--	--	--	--	--
20...	1.2	426	.03	--	--	1.50	1.5	.060	20	6
MAY										
04...	.8	444	.05	.170	.93	1.10	1.2	.190	10	8
04...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
04...	1.2	450	.06	.410	1.2	1.60	1.7	.260	10	210
AUG										
03...	1.9	425	.00	--	--	1.90	1.9	.060	11	5
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	.00	--	--	2.80	2.8	.070	50	30
03...	--	--	.00	--	--	2.10	2.1	.070	0	70
03...	2.1	413	.00	--	--	2.70	2.7	.100	12	180

BRAZOS RIVER BASIN
PROCTOR LAKE NEAR PROCTOR, TX--Continued

315823098282801 PROCTOR LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
20...	1110	1.0	807	8.1	8.0	11.8	103
20...	1120	10	807	8.0	8.0	11.8	103
20...	1125	19	807	8.0	7.5	11.7	101
MAY							
04...	1540	1.0	828	8.1	23.5	6.6	80
04...	1542	10	828	7.9	23.0	5.4	65
04...	1544	20	838	7.4	22.5	1.8	21
04...	1546	25	838	7.4	22.5	1.8	21
AUG							
03...	1825	1.0	775	8.0	28.0	6.7	88
03...	1827	10	776	7.9	28.5	6.1	80
03...	1829	20	778	7.5	28.0	3.8	50
03...	1830	25	780	7.1	28.0	1.6	21

315832098302301 PROCTOR LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
20...	0915	1.0	822	8.2	7.0	9.8	84
20...	0917	13	822	8.2	7.0	9.7	83
MAY							
04...	1715	1.0	818	8.4	25.0	8.4	105
04...	1717	13	828	7.6	23.0	4.4	53
AUG							
03...	1905	1.0	794	8.2	29.0	7.6	101
03...	1910	12	794	7.2	28.5	2.6	34

315837098314201 PROCTOR LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
20...	0935	1.0	824	8.2	6.5	.46	12.1	103
20...	0940	5.0	824	8.2	6.0	--	12.0	100
MAY								
04...	1730	1.0	818	8.5	24.5	.20	9.1	114
AUG								
03...	1915	1.0	829	8.1	28.0	.10	7.6	100
03...	1920	5.0	826	8.1	28.0	--	7.0	92

PROCTOR LAKE NEAR PROCTOR, TX--Continued

315837098314201 PROCTOR LAKE SITE CC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, 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								
20...	.03	--	--	1.40	1.4	.060	20	0
20...	.03	--	--	1.60	1.6	.060	30	10
MAY								
04...	.04	.080	1.5	1.60	1.6	.210	20	0
AUG								
03...	.00	--	--	2.70	2.7	.140	30	0
03...	.00	--	--	2.80	2.8	.150	40	10

315943098273101 PROCTOR LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
20...	1125	1.0	813	8.2	7.5	.79	12.4	107
20...	1130	6.0	813	8.2	7.0	--	11.8	101
MAY								
04...	1555	1.0	828	8.4	24.5	.60	8.6	108
04...	1600	9.0	832	8.1	22.5	--	6.6	79
AUG								
03...	1715	1.0	768	8.2	29.5	--	7.5	101
03...	1718	9.0	772	8.2	29.5	--	6.6	89

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, 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								
20...	.03	--	--	1.70	1.7	.060	20	10
20...	.03	--	--	1.60	1.6	.060	30	10
MAY								
04...	.05	.150	1.2	1.40	1.5	.210	10	20
04...	.04	.090	1.0	1.10	1.1	.180	20	10
AUG								
03...	.00	--	--	1.90	1.9	.060	110	20
03...	.00	--	--	1.90	1.9	.070	60	10

315924098285501 PROCTOR LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
20...	1140	1.0	814	8.1	7.5	.67	11.6	100	<1	K1
20...	1145	10	814	8.1	7.5	--	10.8	93	--	--
20...	1150	17	814	8.1	7.5	--	10.5	91	--	--
MAY										
04...	1615	1.0	828	8.3	24.5	.40	7.8	98	44	K16
04...	1617	10	832	7.9	23.0	--	5.6	67	--	--
04...	1619	16	832	7.7	23.0	--	4.5	54	--	--
AUG										
03...	1525	1.0	771	8.3	29.0	.50	8.0	107	K6	110
03...	1527	10	772	8.2	29.0	--	7.3	97	--	--
03...	1530	17	777	7.2	28.5	--	1.5	20	--	--

BRAZOS RIVER BASIN

PROCTOR LAKE NEAR PROCTOR, TX--Continued

315924098285501 PROCTOR LAKE SITE EC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN										
20...	200	95	49	20	76	2.3	8.8	110	58	150
20...	--	--	--	--	--	--	--	--	--	--
20...	210	97	50	20	76	2.3	8.8	110	58	150
MAY										
04...	210	99	49	21	79	2.4	9.6	110	61	160
04...	--	--	--	--	--	--	--	--	--	--
04...	200	94	47	21	79	2.4	9.5	110	60	160
AUG										
03...	180	84	40	20	80	2.8	9.8	98	53	160
03...	--	--	--	--	--	--	--	--	--	--
03...	180	87	41	20	76	2.7	10	98	53	160

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
20...	1.2	429	.02	--	--	1.60	1.6	.060	<10	1
20...	--	--	.02	--	--	1.70	1.7	.070	10	0
20...	1.2	430	.02	--	--	1.50	1.5	.060	<10	2
MAY										
04...	.8	447	.05	.080	1.5	1.60	1.6	.190	<10	1
04...	--	--	--	--	--	--	--	--	--	--
04...	.9	444	.06	.210	1.3	1.50	1.6	.220	40	20
AUG										
03...	1.7	423	.00	--	--	1.70	1.7	.060	13	2
03...	--	--	.00	--	--	2.20	2.2	.070	20	0
03...	2.1	421	.00	--	--	1.90	1.9	.080	24	14

320040098293501 PROCTOR LAKE SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
20...	1200	1.0	855	8.2	6.5	.49	12.1	103	<1	<1
20...	1201	.8	--	--	--	--	--	--	--	--
20...	1205	6.0	855	8.2	6.5	--	12.2	103	--	--
MAY										
04...	1640	1.0	862	8.0	24.5	.20	7.4	92	56	K15
04...	1641	.4	--	--	--	--	--	--	--	--
04...	1642	6.0	864	7.9	24.0	--	6.8	84	--	--
AUG										
03...	1755	1.0	777	8.1	29.0	.30	7.2	96	K68	1600
03...	1756	.5	--	--	--	--	--	--	--	--
03...	1757	7.0	777	8.1	29.0	--	6.9	92	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN										
20...	230	96	56	21	79	2.3	8.3	130	62	160
20...	--	--	--	--	--	--	--	--	--	--
20...	220	100	55	21	80	2.3	8.4	120	62	160
MAY										
04...	220	110	53	21	82	2.4	9.5	110	63	180
04...	--	--	--	--	--	--	--	--	--	--
04...	220	110	55	21	83	2.4	9.6	110	64	180
AUG										
03...	180	81	41	19	81	2.9	8.2	100	51	160
03...	--	--	--	--	--	--	--	--	--	--
03...	180	81	41	19	81	2.9	10	100	54	160

BRAZOS RIVER BASIN

373

PROCTOR LAKE NEAR PROCTOR, TX--Continued

320040098293501 PROCTOR LAKE SITE FC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
20...	1.5	466	.02	--	--	1.70	1.7	.070	<10	1
20...	--	--	--	--	--	--	--	--	--	--
20...	1.5	460	.02	--	--	1.50	1.5	.070	<10	4
MAY										
04...	1.2	476	.06	.210	1.2	1.40	1.5	.220	20	2
04...	--	--	--	--	--	--	--	--	--	--
04...	1.3	480	.06	.220	1.3	1.50	1.6	.210	20	7
AUG										
03...	2.0	422	.00	--	--	2.80	2.8	.110	17	2
03...	--	--	--	--	--	--	--	--	--	--
03...	2.0	427	.00	--	--	1.90	1.9	.110	19	14

BRAZOS RIVER BASIN

PROCTOR LAKE NEAR PROCTOR, TX--Continued

315814098291201 PROCTOR LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 20,81 1031	MAY 4,81 1513	AUG 3,81 1841
TOTAL CELLS/ML	38000	510000	1000000
DIVERSITY: DIVISION	0.5	0.2	0.1
..CLASS	0.5	0.2	0.1
...ORDER	0.5	0.5	0.7
....FAMILY	0.6	0.5	1.4
.....GENUS	0.7	0.5	1.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....MICRACTINIACEAE						
.....MICRACTINIUM	--	-	*	0	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	690	2	2700	1	*	0
.....DICTYOSPHAERIUM	--	-	*	0	--	-
....KIRCHNERIELLA	*	0	--	-	*	0
...OOCYSTIS	--	-	--	-	*	0
....SELENASTRUM	*	0	*	0	--	-
....TETRAEDRON	*	0	*	0	--	-
....TREUBARIA	*	0	--	-	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	*	0	*	0	--	-
....SCENEDESMUS	660	2	3000	1	*	0
....TETRASTRUM	--	-	*	0	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	*	0	*	0	--	-
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	*	0	--	-
....EUASTRUM	--	-	--	-	*	0
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	220	1	--	-	*	0
....MELOSIRA	190	1	--	-	--	-
...STEPHANODISCUS	--	-	*	0	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	*	0	--	-
....COCCONEIS	--	-	*	0	--	-
...NITZSCHACEAE						
....NITZSCHIA	250	1	*	0	5500	1
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
.....CHROOMONAS	410	1	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	250	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....ANACYSTIS	35000#	92	16000	3	130000	13
...HORMOGONALES						
....NOSTOCACEAE						
.....CYLINDROSPERMUM	--	-	--	-	74000	7
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	120000	12
....OSCILLATORIA	--	-	470000#	93	590000#	59
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	67000	7

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

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

PROCTOR LAKE NEAR PROCTOR, TX--Continued

320040098293501 PROCTOR LAKE SITE FC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 20,81 1201	MAY 4,81 1641	AUG 3,81 1756
TOTAL CELLS/ML	27000	260000	1300000
DIVERSITY: DIVISION	0.8	0.4	0.3
..CLASS	0.8	0.4	0.3
..ORDER	1.2	1.0	0.9
...FAMILY	1.3	1.0	1.6
....GENUS	1.6	1.1	2.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....OOCYSTACEAE						
.....ANKISTRODESMUS	930	3	*	0	23000	2
.....CHODATELLA	*	0	--	-	--	-
.....DICTYOSPHAERIUM	*	0	--	-	*	0
.....OOCYSTIS	--	-	--	-	*	0
.....SELENASTRUM	*	0	--	-	--	-
.....TETRAEDRON	*	0	*	0	--	-
.....TREUBARIA	--	-	--	-	*	0
...SCENEDESMACEAE						
.....CRUCIGENIA	300	1	3100	1	--	-
.....SCENEDESMUS	700	3	2900	1	*	0
.....TETRASTRUM	400	1	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	*	0	*	0	*	0
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	*	0	--	-
....STAURASTRUM	--	-	*	0	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
....COSCINODISCAEAE						
.....CYCLOTELLA	*	0	--	-	*	0
.....MELOSIRA	--	-	--	-	*	0
.....STEPHANODISCUS	--	-	*	0	--	-
..PENNALES						
...ACHNANTHACEAE						
....COCONEIS	--	-	*	0	--	-
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	*	0
...NAVICULACEAE						
....NAVICULA	--	-	*	0	--	-
...NITZSCHIAEAE						
....NITZSCHIA	230	1	4600	2	6900	1
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
.....CHROOMONAS	860	3	*	0	--	-
....CRYPTOMONADACEAE						
.....CRYPTOMONAS	330	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....AGMENELLUM	400	1	27000	10	--	-
.....ANACYSTIS	21000#	76	1900	1	180000	14
.....COCCOCHLORIS	--	-	--	-	27000	2
...HORMOGONALES						
...NOSTOCACEAE						
....CYLINDROSPERMUM	--	-	--	-	48000	4
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	210000#	15
....OSCILLATORIA	1800	6	220000#	83	680000#	51
...RIVULARIACEAE						
....RAPHIIDOPSIS	--	-	--	-	120000	9
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....EUGLENA	*	0	*	0	--	-
....TRACHELOMONAS	*	0	*	0	--	-

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

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

BRAZOS RIVER BASIN

08099500 LEON RIVER NEAR HASSE, TX

LOCATION.--Lat 31°57'28", long 98°27'32", Comanche County, Hydrologic Unit 12070201, on left bank at downstream side of bridge on U.S. Highways 67 and 377, 500 ft (150 m) upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 0.3 mi (0.5 km) upstream from Walnut Creek, 2.0 mi (3.2 km) downstream from Proctor Lake, 2.1 mi (3.4 km) northeast of Hasse, and 225.2 mi (362.4 km) upstream from mouth.

DRAINAGE AREA.--1,261 mi² (3,266 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1342: 1952. WSP 1392: 1952. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,115.01 ft (339.855 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow regulated by Proctor Lake (station 08099400) since October 1963. Numerous diversions above station for municipal, steam powerplant operation, and other uses. Rain gage and gage-height telemeters at station.

AVERAGE DISCHARGE.--24 years (water years 1940-63) prior to completion of Proctor Lake, 151 ft³/s (4.276 m³/s), 109,400 acre-ft/yr (135 hm³/yr); 18 years (water years 1964-81) regulated, 87.8 ft³/s (2.486 m³/s), 63,610 acre-ft/yr (78.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,500 ft³/s (1,090 m³/s) May 24, 1952, gage height, 21.49 ft (6.550 m); maximum gage height, 21.72 ft (6.620 m) Oct. 4, 1959; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1858, occurred in May 1908, from information by local resident. At site about 2.5 mi (4.0 km) upstream, flood of May 1908 was 9.1 ft (2.77 m) higher than that of May 24, 1952, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 266 ft³/s (7.53 m³/s) Nov. 24 at 1700 hours, gage height, 4.67 ft (1.423 m); minimum daily, 0.03 ft³/s (0.001 m³/s) May 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	1.9	1.6	2.1	2.8	4.6	.66	.62	.19	2.3	36	47
2	2.5	1.4	1.2	2.4	1.0	1.8	.64	1.2	.30	2.2	35	43
3	2.4	1.4	1.4	2.5	1.0	4.3	.75	1.8	1.4	5.4	60	26
4	2.9	1.4	1.4	2.0	1.6	3.8	2.0	3.2	6.4	17	130	22
5	3.2	1.4	1.4	1.9	1.6	1.5	1.7	1.6	6.2	19	53	19
6	3.1	1.4	1.4	2.1	1.0	1.3	1.3	2.0	6.4	13	52	26
7	3.1	1.4	1.4	2.8	1.4	2.8	1.7	1.5	2.8	4.3	50	27
8	3.5	1.4	6.7	2.4	1.4	1.9	1.4	1.4	1.4	3.8	46	25
9	3.7	1.4	2.1	3.0	1.4	1.4	1.3	1.3	.82	3.7	48	21
10	11	1.4	1.5	2.6	1.4	1.2	1.1	1.0	.45	3.7	47	21
11	9.2	1.4	1.7	2.5	.87	1.6	1.8	1.2	.20	3.3	48	21
12	9.0	1.4	1.1	2.1	.87	2.8	1.1	.82	.21	2.7	60	21
13	7.4	1.2	1.1	2.4	.71	1.8	.77	.70	.21	6.2	122	21
14	2.5	.42	.41	2.5	.87	1.5	.70	.64	.36	18	46	23
15	2.5	.87	1.3	2.2	1.0	1.4	1.6	1.1	.49	18	43	22
16	3.0	1.6	1.4	2.2	1.0	1.4	1.5	12	2.4	18	43	13
17	3.5	41	1.4	2.5	.87	1.6	.84	2.5	1.8	18	36	13
18	3.1	4.2	1.7	2.7	.87	1.8	.90	2.2	1.1	29	17	13
19	3.0	1.2	2.1	2.9	.87	1.6	1.5	1.5	.64	27	12	13
20	41	1.2	2.1	1.6	.87	1.7	1.2	1.5	.25	30	11	12
21	3.6	.87	2.0	1.5	.87	1.5	1.2	1.1	.22	32	15	12
22	1.8	1.6	1.9	1.5	.87	.49	.94	.98	2.8	32	29	12
23	1.5	1.9	1.9	1.3	.83	.45	3.3	.91	3.2	38	29	15
24	1.6	87	1.9	1.4	1.2	.56	2.2	.42	3.0	39	28	22
25	1.6	7.0	1.8	2.0	.78	.59	1.7	.87	2.9	39	32	22
26	1.4	2.3	2.3	2.3	1.2	.70	1.5	.56	2.9	38	40	28
27	1.2	1.9	2.1	2.1	1.6	.67	1.4	.10	2.8	40	40	36
28	.87	1.6	2.0	2.2	2.6	1.5	1.4	.03	2.9	54	42	32
29	1.2	1.4	2.2	2.6	---	1.4	.94	.03	3.0	101	48	25
30	1.9	1.4	2.2	2.6	---	.92	.67	.10	2.4	35	55	26
31	23	---	2.2	3.2	---	.63	---	.42	---	36	52	---
TOTAL	161.97	175.96	56.91	70.1	33.35	51.21	39.71	45.30	60.14	728.6	1405	679
MEAN	5.22	5.87	1.84	2.26	1.19	1.65	1.32	1.46	2.00	23.5	45.3	22.6
MAX	41	87	6.7	3.2	2.8	4.6	3.3	12	6.4	101	130	47
MIN	.87	.42	.41	1.3	.71	.45	.64	.03	.19	2.2	11	12
AC-FT	321	349	113	139	66	102	79	90	119	1450	2790	1350
CAL YR 1980	TOTAL	4785.91	MEAN	13.1	MAX	113	MIN	.41	AC-FT	9490		
WTR YR 1981	TOTAL	3507.25	MEAN	9.61	MAX	130	MIN	.03	AC-FT	6960		

BRAZOS RIVER BASIN

377

08099500 LEON RIVER NEAR HASSE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	
DATE	TIME											
JAN 19...	1545	3.1	1180	7.7	5.0	5	4.1	12.0	--	1.4	320	
MAY 05...	0730	1.2	1100	7.5	22.0	15	22	2.6	31	1.7	310	
AUG 04...	0810	147	779	7.3	27.0	10	18	5.2	68	2.8	190	
		HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
DATE												
JAN 19...	120	80	30	120	2.9	6.1	200	98	210		.3	7.0
MAY 05...	120	75	29	110	2.7	6.9	190	86	210		.3	8.2
AUG 04...	90	44	19	75	2.6	9.1	98	54	150		.3	2.2
		SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOL- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DATE												
JAN 19...	672	8	3	.01	.000	.01	.060	.69	.75	.040		16
MAY 05...	640	33	14	.03	.020	.05	.130	.87	1.0	.090		7.0
AUG 04...	413	43	21	.03	.020	.05	.230	1.4	1.6	.070		11
				ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)			
	DATE		TIME									
	JAN 19...		1545		0	100	<1	0	<10	<10		
	MAY 05...		0730		2	200	<1	0	<10	20		
	AUG 04...		0810		1	150	<1	0	21	<10		
				LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)			
	DATE											
	JAN 19...			<10	50	.0	0	0	<3			
	MAY 05...			<10	110	.1	0	0	5			
	AUG 04...			<10	11	.0	0	0	3			

BRAZOS RIVER BASIN

08100000 LEON RIVER NEAR HAMILTON, TX

LOCATION.--Lat 31°47'19", long 98°07'16", Hamilton County, Hydrologic Unit 12070201, on downstream side of bridge on U.S. Highway 281, 2.2 mi (3.5 km) upstream from Mesquite Creek, 3.6 mi (5.8 km) downstream from Bear Creek, 5.9 mi (9.5 km) north of Hamilton, and 172.9 mi (278.3 km) upstream from mouth.

DRAINAGE AREA.--1,891 mi² (4,898 km²).

PERIOD OF RECORD.--January 1925 to September 1931, September 1960 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 955.38 ft (291.200 m) National Geodetic Vertical Datum of 1929. Jan. 7, 1925, to Sept. 30, 1931, nonrecording gage 1.4 mi (2.3 km) downstream at datum 1.87 ft (0.570 m) higher. Sept. 1 to Nov. 22, 1960, nonrecording gage at same site and at 5.00-foot (1.524 m) higher datum. Nov. 22, 1960, to Sept. 30, 1972, recording gage at same site and at 5.00-foot (1.524 m) higher datum.

REMARKS.--Records fair. Since 1960, at least 10 percent of drainage area is regulated by Proctor Lake (station 08099400) and by other smaller reservoirs. Numerous diversions above station for irrigation, municipal supply, and industrial uses. Flow is affected at times by discharge from the flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 11,610 acre-ft (14.3 hm³). These structures control runoff from 43.9 mi² (113.7 km²) in the (northeast tributaries) drainage basin. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years (water years 1926-31) unregulated, 130 ft³/s (3.682 m³/s), 94,180 acre-ft/yr (116 hm³/yr); 21 years (water years 1961-81) regulated, 139 ft³/s (3.936 m³/s), 100,700 acre-ft/yr (124 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,600 ft³/s (527 m³/s) Sept. 9, 1962, gage height, 31.93 ft (9.732 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1858, 38.4 ft (11.70 m) in May 1908 and December 1913; flood in September 1911 reached a stage of 37.0 ft (11.28 m), all at present site and datum, from information by local residents. The flood in October 1959 reached a stage of 34.1 ft (10.39 m), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 597 ft³/s (16.9 m³/s) June 16 at 0100 hours, gage height, 10.29 ft (3.136 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	.00	.00	.79	.33	2.5	1.9	.00	.29	1.1	7.2	6.0
2	2.9	.00	.00	.66	.22	2.9	3.0	.00	6.8	1.3	4.4	1.0
3	.99	.00	.00	.96	.07	5.6	3.0	.00	5.4	1.4	2.1	.10
4	.59	.00	.03	1.0	.18	5.6	4.3	.00	1.9	1.7	.91	.08
5	.53	.00	.03	1.0	.96	17	5.7	.00	1.4	2.2	.17	.07
6	.48	.00	.02	.93	1.2	12	5.3	.00	2.5	1.5	9.6	.06
7	.64	.00	.08	1.1	1.4	4.9	4.0	.00	9.6	1.2	15	.05
8	1.1	.00	.62	1.2	1.6	2.1	5.0	.00	11	1.0	5.8	.04
9	1.1	.00	6.4	1.1	1.9	1.1	6.2	.00	12	.92	.18	.04
10	1.1	.30	22	1.4	1.5	.58	5.5	.00	6.0	.83	.66	.03
11	.71	2.7	3.8	1.4	1.6	.59	4.1	.00	2.0	.74	.07	.03
12	.34	2.3	.23	1.5	1.6	.90	2.7	.00	.66	.74	.00	.02
13	.16	1.8	.03	1.5	1.6	1.3	1.2	.00	.23	.95	.00	.02
14	.08	.91	.00	1.6	1.5	1.4	.79	.00	1.3	.90	.00	.02
15	.01	.43	.00	1.8	1.4	2.0	.70	.00	57	.77	6.2	124
16	.00	.61	.00	1.6	1.7	2.6	.43	3.4	176	.32	11	161
17	.00	.62	.00	1.5	1.6	2.4	.25	98	2.0	.15	3.9	28
18	.00	.34	.08	1.4	1.9	2.4	.51	70	.33	.04	17	16
19	.00	.19	.17	2.0	2.2	2.2	.68	17	.94	.00	16	11
20	.00	.08	.17	2.1	2.7	2.3	.24	8.4	.37	.00	8.5	8.7
21	.00	.03	.09	2.0	2.6	2.4	.13	4.8	.12	.00	3.5	8.4
22	.00	.00	.08	2.1	1.7	2.3	.07	2.6	.06	.00	.54	8.2
23	.00	.00	.11	1.9	.41	2.2	2.0	1.7	.23	.00	.00	8.2
24	5.5	.00	.06	1.8	.86	2.1	1.1	2.1	.26	.00	.00	6.8
25	2.2	.44	.11	1.5	1.2	2.3	.45	2.7	.82	.00	.00	5.9
26	.81	17	.22	2.1	1.7	2.3	.18	2.1	1.0	.00	1.5	4.2
27	.38	12	.26	1.8	2.3	2.1	.04	1.2	1.2	.00	.09	3.0
28	.11	.44	.40	1.6	2.1	2.6	.00	4.4	1.1	.00	.08	2.2
29	.08	.03	.56	2.2	---	4.7	.00	4.7	1.0	.00	.07	1.2
30	.02	.00	.59	1.9	---	1.0	.00	2.6	.87	.00	2.0	4.9
31	.00	---	.79	.67	---	1.1	---	1.2	---	.00	.20	---
TOTAL	34.83	40.22	36.93	46.11	40.03	97.47	59.47	226.90	304.38	17.76	116.67	409.26
MEAN	1.12	1.34	1.19	1.49	1.43	3.14	1.98	7.32	10.1	.57	3.76	13.6
MAX	15	17	22	2.2	2.7	17	6.2	98	176	2.2	17	161
MIN	.00	.00	.00	.66	.07	.58	.00	.00	.06	.00	.00	.02
AC-FT	69	80	73	91	79	193	118	450	604	35	231	812

CAL YR 1980 TOTAL 11011.20 MEAN 30.1 MAX 4110 MIN .00 AC-FT 21840
WTR YR 1981 TOTAL 1430.03 MEAN 3.92 MAX 176 MIN .00 AC-FT 2840

08100500 LEON RIVER AT GATESVILLE, TX

LOCATION.--Lat 31°25'58", long 97°45'42", Coryell County, Hydrologic Unit 12070201, on right bank at upstream side of county road bridge, 800 ft (240 m) downstream from U.S. Highway 84 bridge in Gatesville, 0.3 mi (0.5 km) downstream from Dodds Creek, 5.2 mi (8.4 km) upstream from Cottonwood Creek, and 99.0 mi (159.3 km) upstream from mouth.

DRAINAGE AREA.--2,342 mi² (6,066 km²).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 723.85 ft (220.629 m) National Geodetic Vertical Datum of 1929. Oct. 1 1950, to Feb. 8, 1951, nonrecording gage; Feb. 9, 1951, to Jan. 21, 1969, water-stage recorder; all at site 800 ft (240 m) upstream at same datum.

REMARKS.--Records good. Some upstream regulation by Proctor Lake (08099400) and other smaller reservoirs. Flow at times slightly affected by discharge from 18 floodwater-retarding structures, having a combined detention capacity of 12,600 acre-ft (15.5 hm³). These structures control runoff from 47.0 mi² (121.7 km²) in the northeast tributaries and Pecan Creek drainage basins. Numerous diversions above station for irrigation, municipal supply, and oilfield operation. The city of Hamilton reported that 448 acre-ft (552,000 m³) was diverted above station during the water year for municipal use and 373 acre-ft (460,000 m³) was returned to the Leon River as sewage effluent. The city of Gatesville reported that 233 acre-ft (287,000 m³) of sewage effluent was discharged into the Leon River below station during the water year. The city of Gatesville obtains all their municipal water from ground-water wells. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 242 ft³/s (6,853 m³/s), 175,300 acre-ft/yr (216 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,200 ft³/s (1,450 m³/s) Oct. 4, 1959, gage height, 34.14 ft (10.406 m), from rating curve extended above 41,000 ft³/s (1,160 m³/s); no flow at times in 1951-52, 1954-55, all 1971, all 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, about 35 ft (10.7 m) in May 1908, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,500 ft³/s (297 m³/s) June 16 at 1545 hours, gage height, 27.77 ft (8.464 m); minimum daily, 0.82 ft³/s (0.023 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.3	2.3	3.5	5.5	7.4	57	7.8	4.1	46	6.0	60
2	.82	1.3	2.3	3.5	5.6	8.2	48	7.0	3.9	40	5.7	125
3	2.1	1.3	2.2	3.5	5.2	11	34	6.7	62	35	5.6	31
4	2.4	1.3	2.2	3.5	6.0	96	21	6.8	5560	32	5.6	12
5	2.7	1.4	2.2	3.5	9.4	22	15	6.9	1490	31	5.5	8.0
6	2.8	1.4	2.2	3.6	8.6	7.9	12	6.6	355	99	5.5	6.8
7	2.3	1.6	2.2	3.7	6.3	11	10	6.2	282	262	5.5	6.0
8	1.9	1.7	18	3.8	5.6	27	10	5.7	177	102	5.6	5.7
9	1.6	1.8	5.1	4.1	5.5	35	9.7	5.3	92	99	5.5	5.4
10	1.2	1.8	3.9	4.1	5.6	24	9.7	4.9	60	77	5.6	5.1
11	1.0	1.8	3.5	4.0	5.7	16	9.7	4.6	50	59	5.3	5.5
12	.96	1.8	3.6	3.9	5.1	30	9.0	4.5	46	49	5.2	6.8
13	.96	1.8	3.6	4.0	5.1	51	8.2	4.3	44	46	5.3	6.5
14	.96	1.8	13	4.1	5.2	24	7.8	4.2	81	43	5.2	6.3
15	.96	1.8	11	4.3	5.3	14	7.4	4.3	49	28	5.2	7.0
16	.96	2.4	7.8	4.4	5.3	10	7.5	122	8190	22	5.6	38
17	1.0	2.2	6.1	4.4	5.3	8.9	7.2	113	5680	18	8.0	186
18	1.1	2.1	5.4	4.4	5.3	7.6	8.2	70	964	15	6.2	160
19	1.1	2.1	4.8	4.9	5.3	6.4	9.9	40	408	13	6.0	67
20	1.0	1.9	4.4	5.8	5.4	6.0	72	88	286	11	7.1	37
21	1.0	1.9	4.1	5.6	5.3	5.8	227	51	223	9.3	7.5	22
22	1.0	2.0	3.9	5.1	5.4	5.6	60	29	179	9.3	7.3	15
23	1.0	2.0	3.9	4.8	5.3	5.5	245	18	144	8.7	16	11
24	1.1	1.9	3.8	4.6	5.3	5.4	85	12	117	8.0	17	9.4
25	1.2	2.7	3.7	4.6	5.1	5.3	35	13	96	7.4	11	8.3
26	1.2	3.3	3.6	4.6	5.1	5.3	38	9.4	88	6.9	9.2	7.7
27	1.3	2.7	3.6	4.6	5.1	4.9	21	7.2	73	6.9	8.1	7.0
28	1.3	2.5	3.6	4.6	5.4	17	14	6.0	64	6.9	12	6.6
29	1.3	2.4	3.6	4.6	---	280	11	5.1	55	6.6	26	6.4
30	1.3	2.3	3.6	5.0	---	361	8.9	4.7	51	6.2	9.2	6.0
31	1.3	---	3.5	5.1	---	128	---	4.3	---	6.2	7.0	---
TOTAL	41.92	58.3	146.7	134.2	158.3	1247.2	1118.2	678.5	24974.0	1209.4	245.5	884.5
MEAN	1.35	1.94	4.73	4.33	5.65	40.2	37.3	21.9	832	39.0	7.92	29.5
MAX	2.8	3.3	18	5.8	9.4	361	245	122	8190	262	26	186
MIN	.82	1.3	2.2	3.5	5.1	4.9	7.2	4.2	3.9	6.2	5.2	5.1
AC-FT	83	116	291	266	314	2470	2220	1350	49540	2400	487	1750
CAL YR 1980	TOTAL	24438.26	MEAN	66.8	MAX	3750	MIN	.41	AC-FT	48470		
WTR YR 1981	TOTAL	30896.72	MEAN	84.6	MAX	8190	MIN	.82	AC-FT	61280		

BRAZOS RIVER BASIN

08101000 COWHOUSE CREEK AT PIDCOKE, TX

LOCATION.--Lat 31°17'05", long 97°53'05", Coryell County, Hydrologic Unit 12070202, on left bank 125 ft (38 m) downstream from bridge on Farm Road 116, 0.1 mi (0.2 km) downstream from Beehouse Creek, 0.6 mi (1.0 km) northeast of Pidcoke, 4.9 mi (7.9 km) upstream from Table Rock Creek, and 34.6 mi (55.7 km) upstream from mouth.

DRAINAGE AREA.--455 mi² (1,178 km²).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1712: 1955. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 736.71 ft (224.549 m) National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--31 years, 87.6 ft³/s (2.481 m³/s), 2.61 in/yr (66 mm/yr), 63,470 acre-ft/yr (78.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,200 ft³/s (1,870 m³/s) Oct. 4, 1959, gage height, 40.1 ft (12.22 m), from floodmark, from rating curve extended above 30,000 ft³/s (850 m³/s) on basis of slope-area measurement of 55,800 ft³/s (1,580 m³/s); no flow at times.
Maximum stage since at least 1882, that of Oct. 4, 1959, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 4	0045	8,370 237	17.02 5.188
June 16	0500	*33,000 935	34.03 10.372

Minimum daily discharge, 0.05 ft³/s (0.001 m³/s) Nov. 10-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	.08	.49	1.0	1.3	2.4	27	6.4	3.8	33	5.3	259
2	1.9	.07	.45	1.0	1.4	3.1	22	6.0	3.8	29	4.8	543
3	1.2	.07	.41	1.0	1.3	3.9	20	7.0	647	26	4.6	45
4	.89	.07	.39	.99	1.9	24	18	7.7	1200	25	4.5	16
5	.63	.07	.46	1.0	2.3	13	14	6.8	319	26	4.3	9.5
6	.55	.07	.63	1.0	2.0	6.8	13	6.0	147	46	4.1	6.9
7	.44	.07	.57	1.1	1.9	6.4	12	5.4	85	185	3.7	5.6
8	.38	.06	10	1.1	1.8	7.4	12	5.0	44	98	3.4	4.5
9	.30	.06	10	1.3	1.7	6.4	11	4.6	26	58	3.1	3.9
10	.25	.05	3.3	1.2	1.9	6.0	11	4.1	18	41	3.0	3.5
11	.23	.05	2.2	1.2	1.5	5.9	10	3.7	16	33	2.9	3.3
12	.19	.05	2.1	1.1	1.3	15	9.6	3.6	17	37	2.8	3.1
13	.16	.05	1.9	1.1	1.4	41	9.0	3.6	19	34	2.8	2.9
14	.13	.05	1.7	1.0	1.4	19	8.6	4.2	21	24	2.7	3.0
15	.11	.05	1.5	1.0	1.4	14	8.2	3.6	19	20	2.6	5.5
16	.10	.10	1.3	.99	1.4	12	7.6	317	11600	18	95	5.1
17	.09	.23	1.2	.98	1.5	11	7.6	48	1080	16	61	18
18	.11	.19	1.2	.97	1.5	9.9	8.8	15	574	15	12	16
19	.10	.21	1.1	1.5	1.6	8.3	11	8.3	349	13	161	9.3
20	.10	.19	.99	1.7	1.6	7.8	9.6	6.1	230	12	73	6.7
21	.09	.18	.89	1.5	1.8	8.1	7.4	5.0	169	11	29	5.1
22	.09	.21	.94	1.4	1.7	7.6	6.7	4.7	131	10	15	4.4
23	.08	.26	1.0	1.3	1.5	6.8	21	4.5	110	9.1	10	3.8
24	.08	.25	1.0	1.2	1.7	6.6	32	5.5	95	8.7	7.4	3.2
25	.08	.44	1.0	1.2	1.6	6.8	15	7.2	90	7.9	5.8	2.8
26	.08	.97	.97	1.2	1.5	7.0	10	6.0	81	7.5	4.9	2.4
27	.07	.68	1.0	1.1	1.7	6.9	9.6	5.1	65	7.2	4.2	2.1
28	.09	.51	1.0	1.1	1.4	7.5	8.5	4.9	54	7.1	4.3	1.8
29	.09	.49	1.0	1.1	---	338	7.9	4.3	46	6.6	7.4	1.8
30	.09	.48	1.0	1.1	---	84	7.0	4.2	40	6.1	5.2	1.8
31	.08	---	.98	1.1	---	45	---	3.9	---	5.6	4.6	---
TOTAL	12.68	6.31	52.67	35.53	45.0	747.6	375.1	527.4	17299.6	875.8	554.4	999.0
MEAN	.41	.21	1.70	1.15	1.61	24.1	12.5	17.0	577	28.3	17.9	33.3
MAX	3.9	.97	10	1.7	2.3	338	32	317	11600	185	161	543
MIN	.07	.05	.39	.97	1.3	2.4	6.7	3.6	3.8	5.6	2.6	1.8
CFSM	.001	.000	.004	.003	.004	.05	.03	.04	1.27	.06	.04	.07
IN.	.00	.00	.00	.00	.00	.06	.03	.04	1.41	.07	.05	.08
AC-FT	25	13	104	70	89	1480	744	1050	34310	1740	1100	1980
CAL YR 1980	TOTAL	6601.73	MEAN	18.0	MAX	1750	MIN	.00	CFSM	.04	IN	.54
WTR YR 1981	TOTAL	21531.09	MEAN	59.0	MAX	11600	MIN	.05	CFSM	.13	IN	1.76
										AC-FT	13090	
										AC-FT	42710	

08102000 BELTON LAKE NEAR BELTON, TX

LOCATION.--Lat 31°06'22", long 97°28'28", Bell County, Hydrologic Unit 12070201, in intake structure at Belton Dam on Leon River, 1.6 mi (2.6 km) upstream from bridge on State Highway 317, 3.5 mi (5.6 km) north of Belton, 8.9 mi (14.3 km) upstream from Nolan Creek, and 16.7 mi (26.9 km) upstream from mouth.

DRAINAGE AREA.--3,531 mi² (9,145 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1954 to current year. Prior to October 1970, published as Belton Reservoir.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Feb. 20, 1955, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,524 ft (1,684 m) long, including a 1,300-foot (396 m) uncontrolled broad-crested spillway in a saddle near left end of dam and a 418-foot-long (127 m) dike. Deliberate impoundment began Mar. 8, 1954, and the dam was completed in December 1954. The lake was built for flood control and conservation storage. The controlled outlet works consist of a 22.0-foot-diameter (6.7 m) conduit that is controlled by three 7.0- by 22.0-foot (2.1 by 6.7 m) broome-type gates. The service outlet consists of a 36- by 36-inch (914 by 914 mm) gated outlet that discharges into the flood-control conduit. Beginning January 1976, the capacity table is based on a sedimentation survey made in 1966. There are many small diversions upstream for irrigation, municipal supply, and oilfield operations. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08100500. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	662.0	-
Design flood.....	656.9	-
Crest of spillway.....	631.0	1,086,000
Top of conservation pool.....	594.0	442,000
Service outlet (invert).....	540.0	51,240
Lowest gated outlet (invert).....	483.0	0

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 870,300 acre-ft (1,070 hm³) June 6, 1957, elevation, 620.45 ft (189.113 m); minimum since initial filling, 113,400 acre-ft (140 hm³) Dec. 16, 1956, elevation, 553.06 ft (168.573 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 540,300 acre-ft (666 hm³) June 29 at 0800 hours, elevation, 601.44 ft (183.319 m); minimum, 381,900 acre-ft (471 hm³) Jan. 29 at 1000 hours, elevation, 588.92 ft (179.503 m).

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

588.0	371,600	596.0	467,300
590.0	394,200	598.0	493,600
592.0	417,600	600.0	520,500
594.0	442,000	602.0	548,100

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	397200	388500	385300	384500	383100	383900	393500	398700	402100	532300	455200	445700
2	397500	388100	385300	384300	382400	384000	393300	398700	402100	529500	454400	447900
3	396300	388000	385200	384400	382200	385000	394700	398800	403200	528700	453700	448400
4	396000	387800	385000	383900	383000	387000	395200	398800	425000	522300	452900	448200
5	395700	387700	384900	384000	383300	386300	395500	398900	434600	520900	452500	448000
6	395200	387200	384900	384000	383300	386400	394900	398900	440100	520200	452300	447700
7	395200	387000	385300	383900	383300	387400	395100	398600	441400	517100	451900	447600
8	394900	386800	387300	383900	383300	387400	395000	398500	442200	513800	451600	447200
9	394700	386500	387700	383800	384000	387300	395200	398600	442600	509600	451000	447000
10	394400	386500	387400	383800	384500	387300	395200	397700	442600	505200	450600	446100
11	394200	386400	387200	383800	383700	387700	395300	397500	444300	500200	450200	446000
12	393800	386100	387100	383500	383600	388200	395500	397100	445200	495400	449700	445500
13	393400	385700	387200	383600	383500	389000	395500	397700	446100	490400	449500	445300
14	393000	386000	387000	383300	383500	389100	395200	396800	451100	485100	449000	445600
15	392700	386100	387000	383200	383500	389000	395300	397300	455000	480200	448500	445300
16	392700	386600	386900	383000	383500	389300	395300	398800	493000	474900	450100	444300
17	392600	386200	386800	382800	383300	389400	395200	399300	510300	472100	451500	444000
18	392600	385800	386900	382800	383200	389100	395300	399600	526900	470600	451800	443800
19	392400	385700	386900	383200	383300	389000	395200	399500	532200	468200	451600	443700
20	392000	385800	386300	383300	383100	389100	395500	399300	534000	467700	451400	443500
21	391800	385400	386000	383200	383300	389600	395300	399000	535500	467300	450900	443400
22	391500	385500	385600	383200	383300	388900	395900	399300	536300	467100	449900	443400
23	392200	385400	385600	383100	383200	388800	398600	399400	537000	466700	449200	443200
24	391000	385200	385500	383000	383100	388700	398700	401500	537700	465700	448700	442900
25	390500	385500	385000	382900	383100	388800	398900	402700	538800	464200	448000	442700
26	390300	386200	385200	382900	383200	388600	398600	402700	539500	463100	447400	442500
27	390700	386400	384900	382900	383500	388900	398600	402500	539800	461900	446500	442600
28	389700	385800	384900	382800	383200	389600	398800	402500	540100	460400	445700	442100
29	389600	385700	384900	382800	---	391300	398800	402500	538400	458900	444700	442000
30	388915	385300	388900	382700	---	392200	398900	402300	535100	457500	444300	441700
31	388700	---	384700	382900	---	393000	---	402300	---	456100	443600	---
MAX	397500	388500	387700	384500	384500	393000	398900	402700	540100	532300	455200	448400
MIN	388700	385200	384700	382700	382200	383900	393300	396800	402100	456100	443600	441700
(†)	589.52	589.22	589.17	589.01	589.04	589.90	590.41	590.70	601.06	595.12	594.13	593.98
(‡)	-8400	-3400	-600	-1800	+300	+9800	+5900	+3400	+132800	-79000	-12500	-1900
(††)	2460	2430	2180	2120	1970	2200	2410	2590	2560	3500	3640	2550

CAL YR 1980 MAX 524600 MIN 384700 ‡ -40300 †† 32060
WTR YR 1981 MAX 540100 MIN 382200 ‡ +44600 †† 30610

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by Bell County Water Control and Improvement District.

BRAZOS RIVER BASIN

08102000 BELTON LAKE NEAR BELTON, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 16...	1215	346	23.5	130	14	41	7.7	17

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LILITY (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 16...	.6	3.5	120	21	21	.3	6.9	190

08102500 LEON RIVER NEAR BELTON, TX

LOCATION.--Lat 31°04'12", long 97°26'28", Bell County, Hydrologic Unit 12070201, on left bank 1,400 ft (427 m) upstream from bridge on Farm Road 817, 2,000 ft (610 m) upstream from concrete dam, 1.0 mi (1.6 km) upstream from bridge on Interstate Highway 35 and U.S. Highway 81, 1.6 mi (2.6 km) northeast of Belton, 3.2 mi (5.1 km) downstream from Belton Dam, 5.2 mi (8.4 km) upstream from Nolan Creek, and 13.1 mi (21.1 km) upstream from mouth.

DRAINAGE AREA.--3,542 mi² (9,174 km²).

PERIOD OF RECORD.--October 1923 to current year.

REVISED RECORDS.--WSP 1442: 1925(M), 1935(M), 1936, 1938(M), 1941-42(M), 1944-45(M). WSP 1712: 1937(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 476.68 ft (145.292 m) National Geodetic Vertical Datum of 1929. Prior to May 21, 1931, nonrecording gage.

REMARKS.--Records good. The city of Temple reported that during the year 8,170 acre-ft (10.1 hm³) was diverted from pool at gage for municipal use and 2,200 acre-ft (2.71 hm³) of treated sewage effluent was returned to Little Elm Creek. The Brazos River Authority reported that 4,690 acre-ft (5.78 hm³) of treated sewage effluent was returned to the Leon River below station from their Temple-Belton plant. Flow regulated by Belton Lake (station 08102000) since Mar. 8, 1954. Gage-height telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years (water years 1924-53) unregulated, 659 ft³/s (18.66 m³/s), 477,400 acre-ft/yr (589 hm³/yr); 28 years (water years 1954-81) regulated, 525 ft³/s (14.87 m³/s), 380,400 acre-ft/yr (469 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,500 ft³/s (1,600 m³/s) Apr. 22, 1945, gage height, 24.41 ft (7.440 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1913 reached a stage of 25 ft (7.6 m), and flood in September 1921 reached a stage of 21 ft (6.4 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,810 ft³/s (79.6 m³/s) July 9 at 1100 hours, gage height, 6.35 ft (1.935 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	21	16	5.8	3.2	2.5	2.6	1.2	.00	1200	220	204
2	9.1	16	12	7.2	3.0	2.5	2.3	1.0	.00	867	219	73
3	11	23	15	7.6	2.1	4.0	2.0	1.2	.00	2410	220	77
4	9.8	19	17	8.3	2.1	4.8	5.2	1.6	94	2410	170	76
5	10	22	20	8.4	4.3	3.7	3.3	1.9	20	1320	34	75
6	8.6	23	20	8.7	3.7	3.9	2.9	2.2	13	435	30	79
7	7.8	24	16	8.6	2.3	6.1	2.0	2.3	8.4	1680	32	87
8	5.6	28	29	8.8	2.7	4.9	2.3	1.7	6.1	2200	34	93
9	.77	20	30	9.0	1.8	3.6	2.8	1.8	5.2	2580	34	92
10	4.5	20	25	6.0	2.3	2.4	2.9	1.2	4.3	2790	32	96
11	6.9	16	30	4.4	2.7	4.0	2.6	.49	22	2780	31	91
12	10	23	31	4.0	1.9	4.2	2.3	.00	15	2780	34	93
13	12	18	30	3.5	1.2	3.1	1.9	.00	11	2770	34	99
14	8.1	23	29	3.0	1.1	3.7	1.2	.00	14	2770	31	104
15	11	23	29	2.3	1.5	3.7	.76	12	11	2760	31	68
16	14	20	29	1.4	1.5	3.0	1.5	65	21	2760	35	19
17	11	15	4.2	.99	1.3	2.6	1.8	41	16	1670	51	43
18	12	10	.42	1.7	1.4	3.3	1.4	39	12	852	37	60
19	14	11	.00	2.5	2.1	3.0	2.0	32	14	848	51	36
20	15	16	.00	3.1	1.8	3.2	2.2	5.8	11	393	87	34
21	13	17	1.1	1.6	1.6	3.2	36	1.9	15	33	202	28
22	11	13	4.2	.90	2.0	3.5	188	.43	14	26	288	22
23	7.2	12	5.0	1.1	1.8	2.9	199	.20	13	29	284	20
24	6.3	14	5.3	1.3	1.9	2.2	201	.01	12	315	275	28
25	8.6	17	5.2	1.4	2.7	1.9	202	.95	18	638	271	30
26	13	19	6.2	1.9	2.8	2.2	219	.12	20	643	267	15
27	11	14	6.5	2.5	2.3	2.4	131	.15	14	651	266	7.0
28	14	14	6.9	1.9	2.2	3.1	9.3	.00	13	650	274	3.3
29	23	18	7.5	1.1	---	4.1	3.5	.00	1130	650	273	1.7
30	22	19	7.2	1.1	---	3.1	2.5	.00	2150	647	272	1.6
31	24	---	7.0	1.5	---	2.3	---	.00	---	521	279	---
TOTAL	347.27	548	444.72	121.59	61.3	103.1	1237.26	215.15	3697.00	43078	4398	1755.6
MEAN	11.2	18.3	14.3	3.92	2.19	3.33	41.2	6.94	123	1390	142	58.5
MAX	24	28	31	9.0	4.3	6.1	219	65	2150	2790	288	204
MIN	.77	10	.00	.90	1.1	1.9	.76	.00	.00	26	30	1.6
AC-FT	689	1090	882	241	122	204	2450	427	7330	85450	8720	3480
CAL YR 1980	TOTAL	83717.28	MEAN	229	MAX	4680	MIN	.00	AC-FT	166100		
WTR YR 1981	TOTAL	56006.99	MEAN	153	MAX	2790	MIN	.00	AC-FT	111100		

BRAZOS RIVER BASIN

08102600 NOLAN CREEK AT BELTON, TX

LOCATION.--Lat 31°03'06", long 97°27'25", Bell County, Hydrologic Unit 12070201, on left bank 43 ft (13 m) downstream from northbound service road of Interstate Highway 35, 0.5 mi (0.8 km) southeast of the courthouse at Belton, and 3.1 mi (5.0 km) upstream from mouth.

DRAINAGE AREA.--112 mi² (290 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 480.84 ft (146.560 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Low flow is sustained by sewage effluent from Fort Hood military installation and by the cities of Killeen, Nolanville, and Harker Heights. Records indicate that 14,640 acre-ft (18.1 hm³) of treated sewage effluent was returned to the stream above station during the current year. Flow is affected at times by discharge from the flood-detention pools of 13 floodwater-retarding structures with a combined detention capacity of 15,430 acre-ft (19.0 hm³). These structures control runoff from 47.4 mi² (122.8 km²). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years, 77.4 ft³/s (2.192 m³/s), 56,080 acre-ft (69.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,100 ft³/s (1,020 m³/s) Oct. 31, 1974, gage height, 26.90 ft (8.199 m); minimum, 6.8 ft³/s (0.19 m³/s) July 22, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 26.90 ft (8.199 m) Oct. 31, 1974. Floods in December 1913, September 1921, May 1957, and May 1965 reached a stage of 24.5 ft (7.47 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,780 ft³/s (164 m³/s) June 4 at 1530 hours, gage height, 16.35 ft (4.983 m); minimum daily, 14 ft³/s (0.04 m³/s) Nov. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	16	23	20	27	76	29	26	30	80	28	279
2	22	16	23	18	32	40	28	25	33	76	27	46
3	19	16	21	19	25	92	32	30	50	72	27	30
4	18	16	23	19	84	124	129	41	1950	72	27	28
5	17	15	33	21	102	43	40	30	744	72	26	25
6	18	15	28	21	73	32	30	25	287	69	26	24
7	17	14	23	20	33	76	29	24	163	62	25	24
8	16	15	198	20	28	51	29	22	118	62	23	27
9	16	16	86	21	31	34	29	23	89	57	24	22
10	16	16	36	21	138	30	28	23	75	53	25	22
11	15	16	28	20	40	32	27	20	714	50	24	21
12	16	15	26	19	31	77	27	21	384	47	24	21
13	16	15	25	18	27	76	27	22	240	67	24	21
14	16	15	25	17	25	40	26	19	1370	47	25	26
15	17	16	26	17	24	36	24	19	577	44	23	66
16	21	98	24	16	23	35	25	252	1120	41	158	29
17	19	78	24	16	24	34	26	42	412	40	181	22
18	18	23	23	18	23	32	42	29	300	39	37	21
19	32	29	22	52	21	30	53	24	220	37	28	20
20	20	24	21	76	21	30	27	20	174	37	26	21
21	18	17	21	28	32	31	26	19	135	34	25	21
22	16	18	22	22	46	30	24	20	115	33	23	21
23	16	36	22	21	23	30	400	23	101	33	23	20
24	16	20	21	20	21	30	78	149	94	31	23	19
25	16	82	20	22	20	31	41	695	88	30	22	19
26	17	164	19	22	21	30	34	96	247	30	22	19
27	18	58	19	21	21	31	32	56	101	32	22	19
28	16	31	20	20	22	30	32	45	88	31	21	19
29	15	25	19	21	---	212	28	39	92	31	21	18
30	16	24	20	22	---	48	28	44	87	29	22	18
31	16	---	19	21	---	33	---	32	---	29	28	---
TOTAL	563	959	960	709	1038	1556	1430	1955	10198	1467	1060	988
MEAN	18.2	32.0	31.0	22.9	37.1	50.2	47.7	63.1	340	47.3	34.2	32.9
MAX	34	164	198	76	138	212	400	695	1950	80	181	279
MIN	15	14	19	16	20	30	24	19	30	29	21	18
AC-FT	1120	1900	1900	1410	2060	3090	2840	3880	20230	2910	2100	1960
CAL YR 1980	TOTAL	17863.7	MEAN 48.8	MAX 1200	MIN 8.6	AC-FT 35430						
WTR YR 1981	TOTAL	22883.0	MEAN 62.7	MAX 1950	MIN 14	AC-FT 45390						

08103800 LAMPASAS RIVER NEAR KEMPNER, TX

LOCATION.--Lat 31°04'54", long 98°00'59", Lampasas County, Hydrologic Unit 12070203, on left bank 800 ft (240 m) upstream from centerline of U.S. Highway 190, 0.6 mi (1.0 km) upstream from Mesquite Creek, 0.8 mi (1.3 km) west of Kempner, 0.9 mi (1.4 km) downstream from Sulphur Creek, and 72.3 mi (116.4 km) upstream from mouth.

DRAINAGE AREA.--818 mi² (2,119 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 828.38 ft (252.490 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 4, 1967, at site 800 ft (240 m) downstream.

REMARKS.--Water-discharge records good. At times, flow is affected by discharge from the flood-detention pools of 13 floodwaterretarding structures with a combined detention capacity of 38,570 acre-ft (47.6 hm³). These structures control runoff from 131 mi² (339 km²) in the Sulphur and Bennett Creeks drainage basins. There are many small diversions above the station for irrigation and municipal supply. Records furnished by the city of Lampasas show that 504 acre-ft (0.621 hm³) of sewage effluent was returned to Sulphur Creek above this station, and 1,180 acre-ft (1.45 hm³) was diverted for municipal purposes.

AVERAGE DISCHARGE.--19 years, 131 ft³/s (3.710 m³/s), 94,910 acre-ft/yr (117 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,000 ft³/s (2,010 m³/s) May 16, 1965, gage height, 32.98 ft (10.052 m); minimum daily, 1.4 ft³/s (0.040 m³/s) July 17, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1871 occurred in September 1873 (stage about 45 ft or 13.7 m). Flood of May 13, 1957, reached a stage of 37 ft (11.3 m), and flood of Oct. 4, 1959, reached a stage of 34 ft (10.4 m), from information by local residents.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 16	0815	7,300 207	10.77 3.283
June 16	0800	*28,600 810	20.11 6.130
Sept. 15	0245	6,680 189	10.39 3.167

Minimum daily discharge, 10 ft³/s (0.28 m³/s) Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	15	17	14	16	16	65	19	18	79	15	27
2	17	15	16	14	17	20	55	19	18	69	14	145
3	17	14	13	14	17	18	54	22	17	66	14	58
4	16	14	13	14	19	33	52	24	63	66	14	34
5	16	14	16	14	27	33	44	24	441	64	14	28
6	14	14	16	14	22	22	43	23	174	68	14	25
7	14	14	16	15	20	20	42	24	84	89	12	23
8	13	14	36	14	18	21	41	22	56	81	12	21
9	14	14	41	14	18	19	40	22	45	64	10	19
10	14	14	23	14	17	17	39	21	38	56	13	19
11	14	14	20	14	16	17	37	17	34	49	14	19
12	13	14	19	14	16	25	35	14	47	43	13	19
13	12	14	18	14	16	31	35	13	53	44	13	19
14	12	14	18	14	16	33	36	13	48	40	13	23
15	12	14	18	14	16	29	29	11	46	35	13	1410
16	12	23	17	14	16	26	27	1340	7180	31	13	94
17	12	23	17	14	16	25	27	121	1000	31	153	51
18	14	18	16	14	16	23	28	51	549	30	57	41
19	16	17	15	15	15	21	30	34	337	26	29	36
20	14	17	14	17	14	21	29	26	242	26	24	33
21	14	17	14	16	13	21	27	22	182	28	22	32
22	15	17	14	16	12	23	25	21	142	23	21	29
23	14	18	14	15	11	22	45	20	117	21	21	29
24	14	17	14	14	12	22	57	40	102	20	21	27
25	14	21	14	14	12	24	43	83	97	18	21	25
26	13	33	14	14	12	23	33	41	102	18	19	22
27	14	22	14	14	13	19	30	30	89	17	22	22
28	14	19	14	14	13	20	25	25	80	17	19	21
29	12	17	17	15	---	1130	21	21	82	17	19	22
30	12	17	17	16	---	175	21	19	88	17	19	22
31	14	---	16	16	---	86	---	18	---	14	22	---
TOTAL	435	508	541	449	446	2035	1115	2200	11571	1267	700	2395
MEAN	14.0	16.9	17.5	14.5	15.9	65.6	37.2	71.0	386	40.9	22.6	79.8
MAX	19	33	41	17	27	1130	65	1340	7180	89	153	1410
MIN	12	14	13	14	11	16	21	11	17	14	10	19
AC-FT	863	1010	1070	891	885	4040	2210	4360	22950	2510	1390	4750
CAL YR 1980	TOTAL	15661.0	MEAN	42.8	MAX	2110	MIN	9.0	AC-FT	31060		
WTR YR 1981	TOTAL	23662.0	MEAN	64.8	MAX	7180	MIN	10	AC-FT	46930		

BRAZOS RIVER BASIN

08103800 LAMPASAS RIVER NEAR KEMPNER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 21...	1600	14	1810	8.3	23.0	5	.70	16.0	190	.7	380
DEC 16...	0900	17	1920	8.3	11.0	0	1.0	9.3	86	.6	420
FEB 18...	0840	15	1890	7.8	13.0	5	.60	9.4	91	.3	400
APR 14...	0740	35	1620	7.8	22.0	5	10	7.2	84	1.6	370
JUN 10...	0850	39	786	8.2	29.0	5	5.6	7.2	97	1.9	240
AUG 19...	0900	32	791	7.7	25.0	10	8.0	7.0	85	1.1	220
DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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 21...	150	79	44	240	5.4	10	230	28	490	.3	6.2
DEC 16...	150	96	43	230	4.9	8.7	270	29	450	.2	2.8
FEB 18...	150	87	45	240	5.2	8.7	250	33	500	.2	.5
APR 14...	130	82	39	180	4.1	7.8	240	--	390	.3	2.8
JUN 10...	50	55	25	68	1.9	4.8	190	34	130	.3	9.1
AUG 19...	56	50	22	76	2.5	5.3	160	30	140	.2	9.8
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDEED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDEED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 21...	1040	0	0	.00	.000	.00	.010	.43	.44	.090	4.0
DEC 16...	1030	0	0	.20	.010	.21	.000	.68	.68	.190	6.2
FEB 18...	1060	2	1	.00	.000	.00	.000	.62	.62	.090	15
APR 14...	--	20	32	.04	.010	.05	.060	.64	.70	.190	4.0
JUN 10...	440	34	25	.02	.000	.02	.030	.72	.75	.060	3.4
AUG 19...	429	16	6	.40	.030	.43	.100	.60	.70	.140	4.9

BRAZOS RIVER BASIN

387

08103800 LAMPASAS RIVER NEAR KEMPNER, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
DEC 16...	0900	2	80	2	0	<3	<10
APR 14...	0740	2	80	<1	10	--	<10
AUG 19...	0900	2	60	<1	0	--	<10

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 16...	<10	<10	3	.0	0	0	3
APR 14...	40	<10	7	.0	0	0	9
AUG 19...	14	<10	3	.0	0	0	<3

BRAZOS RIVER BASIN

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX
(Hydrologic bench-mark station)

LOCATION.--Lat 30°54'41", long 98°02'12", Burnet County, Hydrologic Unit 12070203, on upstream side of bridge on Ranch Road 963, 6 mi (10 km) above confluence with North Fork Rocky Creek, 7 mi (11 km) west of Briggs, and 12.9 mi (20.8 km) above mouth.

DRAINAGE AREA.--33.3 mi² (86.2 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD TX-74-1: 1972-73(P). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is 955.8 ft (291.33 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Three recording rain gages located in watershed, one at station and two above station.

AVERAGE DISCHARGE.--18 years, 11.8 ft³/s (0.334 m³/s), 4.81 in/yr (122 mm/yr), 8,550 acre-ft/yr (10.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft³/s (884 m³/s) June 19, 1976, gage height, 22.70 ft (6.919 m), from rating curve extended above 1,000 ft³/s (28.3 m³/s) on basis of slope-area measurements of 3,580 and 8,510 ft³/s (101 and 241 m³/s) and conveyance-slope study; no flow for many days each year for 1963-74 and 1976-81.

Maximum stage since at least 1904, 22.70 ft (6.919 m) June 19, 1976.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 24	2130	1,510 42.8	6.23 1.899
June 4	1600	2,420 68.5	7.91 2.411
June 16	0430	*4,360 123	10.38 3.164

Minimum discharge, no flow Oct. 1 to Dec. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.00	.00	.26	.21	1.9	7.1	7.9	10	21	2.1	7.2		
2	.00	.00	.00	.24	.18	1.9	6.7	7.6	11	19	1.8	9.0		
3	.00	.00	.00	.23	.21	2.3	23	11	12	17	1.6	53		
4	.00	.00	.00	.23	.41	3.5	47	9.3	764	16	1.5	3.7		
5	.00	.00	.00	.23	.86	2.5	13	7.8	224	16	1.4	2.5		
6	.00	.00	.00	.23	.94	2.3	11	6.6	105	62	1.3	2.1		
7	.00	.00	.00	.23	.94	3.3	10	5.7	78	25	1.2	1.8		
8	.00	.00	.35	.25	.79	3.9	9.3	5.2	62	19	.94	1.6		
9	.00	.00	1.5	.31	.79	3.5	9.1	4.7	50	18	.79	1.5		
10	.00	.00	.66	.31	1.7	2.9	8.2	3.7	42	15	.71	1.4		
11	.00	.00	.37	.31	1.5	3.1	8.0	3.3	56	13	.65	1.2		
12	.00	.00	.35	.31	1.2	7.4	7.3	3.3	65	14	.58	1.0		
13	.00	.00	.35	.31	1.2	12	7.0	3.3	52	15	.58	1.0		
14	.00	.00	.35	.31	1.2	9.3	6.5	3.1	106	11	.52	12		
15	.00	.00	.35	.31	1.2	8.0	6.1	2.8	64	9.6	.52	17		
16	.00	.00	.33	.31	1.2	7.0	6.1	14	701	8.8	.46	4.4		
17	.00	.00	.38	.31	1.2	7.0	6.4	7.0	149	8.3	4.9	2.9		
18	.00	.00	.43	.31	1.0	6.2	7.6	4.2	109	7.5	6.7	2.5		
19	.00	.00	.40	.58	1.0	5.6	8.2	2.8	84	6.5	2.2	2.2		
20	.00	.00	.19	.79	1.0	5.6	6.2	2.5	69	5.8	1.4	2.2		
21	.00	.00	.13	.58	1.4	5.6	5.1	2.5	60	5.6	1.0	2.2		
22	.00	.00	.47	.52	1.7	4.8	4.6	2.3	50	5.1	.94	2.2		
23	.00	.00	.51	.46	1.2	4.4	49	2.4	44	4.3	.71	2.1		
24	.00	.00	.51	.41	1.2	4.4	19	141	44	3.7	.65	2.1		
25	.00	.00	.45	.36	1.2	4.4	13	118	36	3.1	.65	1.9		
26	.00	.00	.23	.36	1.2	4.8	11	23	38	3.0	.65	1.8		
27	.00	.00	.28	.31	1.2	4.8	11	16	31	2.9	.58	1.7		
28	.00	.00	.35	.26	1.3	4.8	9.9	14	29	2.9	.52	1.5		
29	.00	.00	.31	.23	---	32	9.6	12	28	2.8	.46	1.5		
30	.00	.00	.26	.21	---	9.8	8.8	12	22	2.5	.58	1.4		
31	.00	---	.26	.21	---	7.4	---	12	---	2.2	.65	---		
TOTAL	.00	.00	9.77	10.28	29.13	186.4	354.8	471.0	3195	365.6	39.24	148.6		
MEAN	.000	.000	.32	.33	1.04	6.01	11.8	15.2	107	11.8	1.27	4.95		
MAX	.00	.00	1.5	.79	1.7	32	49	141	764	62	6.7	53		
MIN	.00	.00	.00	.21	.18	1.9	4.6	2.3	10	2.2	.46	1.0		
CFSM	.000	.000	.01	.01	.03	.18	.35	.46	3.21	.35	.04	.15		
IN.	.00	.00	.01	.01	.03	.21	.40	.53	3.57	.41	.04	.17		
AC-FT	.00	.00	19	20	58	370	704	934	6340	725	78	295		
CAL YR 1980	TOTAL	2508.70	MEAN	6.85	MAX	749	MIN	.00	CFSM	.21	IN	2.80	AC-FT	4980
WTR YR 1981	TOTAL	4809.82	MEAN	13.2	MAX	764	MIN	.00	CFSM	.40	IN	5.37	AC-FT	9540

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1961 to January 1964. Chemical, biochemical, and pesticide analyses: January 1968 to current year. Sediment records: February 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
DEC 15...	1710	.31	479	7.6	15.0	9.3	94	.6	K340	28
FEB 17...	1500	.95	451	7.6	15.0	10.5	107	--	38	K16
MAR 17...	1630	7.7	469	7.2	18.0	11.0	121	--	54	23
APR 13...	1630	6.7	467	7.5	23.0	9.0	107	--	47	280
JUN 09...	1325	56	485	8.2	29.5	8.4	114	1.2	140	62
AUG 18...	1200	5.1	440	7.9	26.0	8.4	105	--	800	500

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
DEC 15...	220	34	51	23	9.6	.3	1.6	190	29
FEB 17...	240	25	53	25	9.7	.3	1.2	210	29
MAR 17...	230	24	54	24	8.3	.2	1.1	210	29
APR 13...	240	33	56	25	7.3	.2	1.3	220	25
JUN 09...	260	11	65	24	6.7	.2	1.6	250	20
AUG 18...	210	25	48	23	8.3	.3	1.5	190	22

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED TOTAL (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)
DEC 15...	20	.4	9.7	214	261	.07	.06	.040	.030
FEB 17...	12	.4	6.7	261	263	.00	.00	.000	.000
MAR 17...	15	.4	7.1	264	265	.00	.00	.060	.010
APR 13...	11	.5	7.9	271	266	.04	.04	.040	.040
JUN 09...	8.4	.4	11	264	276	.09	.11	.030	.050
AUG 18...	18	.4	12	246	248	.19	.34	.100	.100

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED (MG/L AS C)
DEC 15...	.27	.24	.31	.27	.020	.010	--	12	.2
FEB 17...	.66	.47	.66	.47	.030	.030	--	--	--
MAR 17...	.47	.55	.53	.56	.020	.040	6.4	--	--
APR 13...	1.4	.44	1.4	.48	.010	.010	5.8	--	--
JUN 09...	.57	.58	.60	.63	.010	.010	1.9	--	--
AUG 18...	.57	.50	.67	.60	.020	<.010	3.8	--	--

BRAZOS RIVER BASIN

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC		ARSENIC		BARIUM,		BARIUM,		CADMIUM		CHRO-		CHRO-	
		TOTAL (UG/L AS AS)	PENDE TOTAL (UG/L AS AS)	DIS- SOLVED (UG/L AS AS)	TOTAL (UG/L AS BA)	SUS- PENDE RECOV- ERABLE (UG/L AS BA)	DIS- SOLVED (UG/L AS BA)	TOTAL (UG/L AS CD)	SUS- PENDE RECOV- ERABLE (UG/L AS CD)	DIS- SOLVED (UG/L AS CD)	MIUM, TOTAL (UG/L AS CR)	MIUM, SUS- PENDE RECOV. (UG/L AS CR)			
DEC 15...	1710	0	0	0	200	200	40	0	0	3	0				
DATE	TIME	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL (UG/L AS HG)		
DEC 15...	0	<3	4	<10	80	<10	1	1	0	10	<1	.1			
DATE	TIME	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)			
DEC 15...	.1	.0	1	1	0	0	0	0	10	3	7				
DATE	TIME	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS YT-90)	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)			
MAR 17...	1630	2.1	.3	<3.1	<.4	<2.3	<.4	<2.2	<.4	.20	1.6				

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX

LOCATION.--Lat 31°01'20", long 97°31'57", Bell County, Hydrologic Unit 12070203, in intake structure at Stillhouse Hollow Dam on Lampasas River, 5 mi (8 km) southwest of Belton, and 16.0 mi (25.7 km) upstream from mouth.

DRAINAGE AREA.--1,313 mi² (3,401 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1966 to current year. Prior to October 1970, published as Stillhouse Hollow Reservoir.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--The lake is formed by a rolled earthfill dam 15,624 ft (4,762 m) long, including a 1,650-foot (503 m) spillway and 5,894-foot (1,796 m) dike. The lake was operated as a temporary detention basin from Sept. 2, 1966, to Feb. 19, 1968. Deliberate impoundment began Feb. 19, 1968. The lake was built for flood control and water conservation. The spillway is an uncontrolled broad-crested weir 1,650 ft (503 m) long located near right end of dam. The flood-control outlet consists of a 12.0-foot-diameter (3.7 m) conduit controlled by two 5.67- by 12.0-foot (1.7 by 3.7 m) slide gates at an invert elevation of 515.0 ft (156.97 m). The capacity curve is based on maps prepared by Brazos River Authority in 1937 and supplemented by contour maps prepared by the Corps of Engineers in 1958. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08103800. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	698.0	-
Design flood.....	693.2	1,013,300
Crest of spillway.....	666.0	630,400
Top of conservation pool.....	622.0	235,700
Lowest gated outlet (invert).....	515.0	775

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 347,100 acre-ft (428 hm³) May 2, 3, 1977, elevation, 637.26 ft (194.237 m); minimum since conservation storage was reached on Apr. 12, 1969, 183,300 acre-ft (226 hm³) Nov. 5, 1978, elevation, 613.13 ft (186.882 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 320,400 acre-ft (395 hm³) June 22 at 1000 hours, elevation, 633.91 ft (193.216 m); minimum, 202,400 acre-ft (250 hm³) Nov. 15 at 2400 hours, elevation, 616.56 ft (187.927 m).

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

616.0	199,200	626.0	262,300
618.0	210,900	628.0	276,400
620.0	223,100	630.0	290,800
622.0	235,700	632.0	305,800
624.0	248,800	634.0	321,100

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205600	202900	203600	204200	204300	205900	212100	218300	227900	288300	239900	240000
2	205600	202900	203500	204200	204300	206000	212300	218400	227900	283300	239500	240400
3	205400	202900	203500	204200	204400	206400	212800	218500	228600	281500	239100	243400
4	205400	202900	203500	204200	204700	206700	213200	218600	238900	279200	238800	243800
5	205300	202900	203600	204200	205000	206700	213200	218700	248500	277800	238700	244000
6	205200	202800	203700	204200	205100	206900	213400	218700	251100	277700	238700	244000
7	205100	202700	203900	204200	205100	207100	213600	218700	252700	276000	238500	244000
8	205000	202700	204500	204200	205100	207200	213800	218900	253900	273800	238300	243900
9	205000	202800	204500	204200	205200	207200	213900	219100	254700	271200	238200	243500
10	204900	202800	204500	204300	205300	207300	214100	218800	255400	268100	238200	242600
11	204700	202700	204600	204300	205300	207400	214200	218700	261500	265000	238100	241900
12	204600	202600	204600	204300	205300	207700	214400	218700	263700	261900	238000	241100
13	204600	202600	204600	204300	205200	207800	214500	218700	265700	258900	237900	240400
14	204500	202600	204600	204300	205200	208000	214500	218600	274000	256300	237800	240000
15	204500	202400	204700	204200	205100	208300	214600	218600	276900	254400	237700	241300
16	204400	203100	204700	203700	205100	208300	214700	220500	295700	252500	237600	241200
17	204400	203100	204700	203700	205000	208400	214800	221300	308700	250600	238500	240400
18	204400	203100	204600	203700	205000	208400	215000	221900	313200	248300	239600	239700
19	204300	202800	204500	204000	205000	208400	215100	221900	316100	246600	239700	239300
20	204200	202800	204400	204100	205000	208500	215200	221900	318000	245300	239700	238800
21	204200	202800	204300	204100	205600	208700	215300	221900	319800	244500	239600	238500
22	204200	202900	204300	204100	205400	208500	215300	221900	319300	243800	239600	238300
23	204000	202900	204300	204200	205400	208500	216400	222100	314900	243300	239600	238200
24	204000	202800	204200	204200	205400	208600	217200	224000	309100	242800	239500	238000
25	203700	203200	204200	204200	205500	208600	217500	225900	306600	242500	239500	237800
26	203600	203500	204200	204200	205600	208700	217700	226700	306500	242200	239500	237600
27	203500	203600	204200	204200	205600	208800	217900	227100	306400	242000	239500	237400
28	203400	203500	204200	204200	205800	209300	218000	227200	304000	241600	239400	237200
29	203300	203500	204200	204200	---	209600	218200	227400	301800	241300	239400	236900
30	203200	203500	204200	204200	---	211400	218400	227700	296200	240900	239300	236700
31	203000	---	204200	204200	---	211700	---	227700	---	240400	239400	---
MAX	205600	203600	204700	204300	205800	211700	218400	227700	319800	288300	239900	244000
MIN	203000	202400	203500	203700	204300	205900	212100	218300	227900	240400	237600	236700
(†)	616.67	616.75	616.87	616.87	617.14	618.14	619.25	620.74	630.73	622.73	622.57	622.15
(‡)	-2600	+500	+700	0	+1600	+5900	+6700	+9300	+68500	-55800	-1000	-2700
(††)	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1980	MAX	281700	MIN	202400	‡	-30500	††	248				
WTR YR 1981	MAX	319800	MIN	202400	‡	+31100	††	0				

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by Comanche Hills Utility District.

BRAZOS RIVER BASIN

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

WATER-QUALITY RECORDS

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

310129097315901 STILLHOUSE HOLLOW LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
09...	1100	1.0	492	8.2	11.5	2.07	8.9	82	<1	<1
09...	1101	3.4	--	--	11.5	--	--	--	--	--
09...	1102	10	492	8.2	11.5	--	8.8	81	--	--
09...	1104	20	492	8.2	11.5	--	8.8	81	--	--
09...	1106	30	492	8.2	11.5	--	8.8	81	--	--
09...	1108	40	492	8.2	11.5	--	8.8	81	--	--
09...	1110	50	492	8.2	11.5	--	8.6	79	--	--
09...	1112	60	492	8.2	11.5	--	8.8	81	--	--
09...	1114	70	496	8.2	11.5	--	8.6	79	--	--
09...	1116	80	496	8.1	11.0	--	8.4	77	--	--
09...	1118	90	517	8.0	11.0	--	7.6	69	--	--
09...	1120	103	563	7.8	11.0	--	6.5	59	--	--
MAY										
01...	1215	1.0	493	8.4	24.5	2.80	8.6	104	<1	<1
01...	1217	4.6	--	--	--	--	--	--	--	--
01...	1220	10	493	8.4	24.0	--	8.8	105	--	--
01...	1223	20	493	8.4	21.5	--	8.7	99	--	--
01...	1226	30	502	8.4	19.5	--	7.9	87	--	--
01...	1229	40	502	8.3	17.5	--	7.4	78	--	--
01...	1233	50	502	8.2	16.0	--	7.1	72	--	--
01...	1236	60	502	8.2	15.0	--	6.8	68	--	--
01...	1239	70	502	8.2	14.5	--	6.2	61	--	--
01...	1243	80	502	8.0	13.5	--	4.9	48	--	--
01...	1246	90	502	8.0	13.5	--	4.4	43	--	--
01...	1249	100	502	8.0	13.0	--	4.2	40	--	--
01...	1253	108	502	7.8	13.5	--	4.5	44	--	--
AUG										
11...	1530	1.0	445	8.2	30.5	2.70	7.2	97	<1	100
11...	1531	4.5	--	--	--	--	--	--	--	--
11...	1532	10	445	8.2	29.5	--	7.4	97	--	--
11...	1534	20	445	8.2	29.0	--	7.2	95	--	--
11...	1536	30	450	7.8	29.0	--	4.1	54	--	--
11...	1538	40	450	7.4	27.5	--	.3	4	--	--
11...	1540	50	423	7.4	26.0	--	.4	5	--	--
11...	1542	60	387	7.4	24.5	--	.4	5	--	--
11...	1544	70	387	7.4	24.0	--	.4	5	--	--
11...	1546	80	410	7.5	22.5	--	.4	5	--	--
11...	1548	90	420	7.6	21.5	--	.4	5	--	--
11...	1550	100	474	7.7	19.5	--	.5	5	--	--
11...	1552	109	520	8.0	17.0	--	.6	6	--	--

BRAZOS RIVER BASIN

393

STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310129097315901 STILLHOUSE HOLLOW LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN										
09...	180	29	42	18	29	.9	2.9	150	23	55
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	190	38	44	19	36	1.1	3.0	150	23	75
MAY										
01...	180	29	42	18	33	1.1	3.2	150	24	53
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	190	29	46	18	32	1.0	3.1	160	25	52
AUG										
11...	--	--	--	--	--	--	--	140	18	62
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	190	23	46	19	33	1.1	3.1	170	1.0	63

BRAZOS RIVER BASIN

STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310129097315901 STILLHOUSE HOLLOW LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
09...	.3	6.9	267	.09	.73	.82	.030	<10	1
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	.09	.68	.77	.050	20	<10
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	6.8	297	.10	.91	1.0	.030	<10	40
MAY									
01...	.3	5.7	269	--	.66	--	.020	<10	2
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	6.9	279	--	.83	--	.050	10	50
AUG									
11...	--	--	--	.10	.61	.71	.010	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	<.10	.55	--	.010	10	20
11...	--	--	--	<.10	.60	--	.010	10	50
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	10	278	.10	.95	1.1	.020	730	440

BRAZOS RIVER BASIN

395

STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310033097333001 STILLHOUSE HOLLOW LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
09...	1150	1.0	492	8.2	12.0	9.0	84
09...	1153	10	492	8.2	11.5	9.1	84
09...	1155	20	492	8.2	11.5	9.1	84
09...	1157	30	492	8.2	11.5	9.0	83
09...	1200	40	492	8.2	11.5	9.0	83
09...	1203	50	496	8.2	11.5	8.9	82
09...	1205	60	496	8.2	11.5	9.2	84
09...	1208	70	496	8.2	11.0	9.2	84
09...	1210	80	496	8.2	11.0	9.2	84
09...	1213	90	535	8.1	11.0	8.4	76
09...	1215	100	614	7.9	11.0	7.0	64
09...	1218	107	633	7.8	11.0	6.4	58
MAY							
01...	1150	1.0	498	8.4	24.5	8.2	99
01...	1153	10	498	8.4	24.5	8.3	100
01...	1156	20	498	8.4	24.0	8.5	101
01...	1159	30	498	8.5	21.5	8.6	98
01...	1202	40	498	8.3	18.0	7.0	74
01...	1205	50	498	8.2	16.0	6.4	65
01...	1207	60	498	8.2	15.5	5.8	59
01...	1209	70	498	8.1	14.5	4.9	49
01...	1210	80	498	8.0	14.0	4.6	45
01...	1211	90	498	8.0	13.5	4.3	42
01...	1213	100	498	8.0	13.5	4.1	40
01...	1214	110	498	7.8	13.5	4.4	43
AUG							
11...	1450	1.0	450	8.2	30.0	7.0	93
11...	1452	10	450	8.2	29.5	7.3	96
11...	1454	20	450	8.2	29.0	6.9	91
11...	1456	30	450	8.0	29.0	5.4	71
11...	1458	40	450	7.4	27.0	.3	4
11...	1500	50	418	7.4	25.5	.4	5
11...	1502	60	383	7.4	24.0	.4	5
11...	1504	70	363	7.5	23.5	.4	5
11...	1506	80	365	7.5	22.5	.4	5
11...	1508	90	382	7.6	21.5	.5	6
11...	1510	99	422	7.7	20.5	.5	6

BRAZOS RIVER BASIN

STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310128097353601 STILLHOUSE HOLLOW LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
09...	1230	1.0	493	8.2	12.0	2.07	9.4	88	<1	<1
09...	1232	10	493	8.3	11.5	--	9.4	87	--	--
09...	1234	20	493	8.3	11.5	--	9.3	85	--	--
09...	1236	30	493	8.3	11.5	--	9.3	85	--	--
09...	1240	50	493	8.2	11.0	--	9.4	85	--	--
09...	1242	60	526	8.2	11.0	--	9.4	85	--	--
09...	1244	70	630	8.0	11.0	--	7.9	72	--	--
09...	1246	80	678	7.8	11.0	--	6.8	62	--	--
09...	1248	85	692	7.8	11.0	--	6.9	63	--	--
MAY										
01...	1110	1.0	514	8.4	25.5	1.70	8.0	98	K1	K5
01...	1115	10	514	8.4	24.5	--	8.1	98	--	--
01...	1120	20	509	8.4	22.0	--	8.0	92	--	--
01...	1123	30	509	8.3	20.5	--	6.9	77	--	--
01...	1126	40	521	8.0	17.5	--	4.9	52	--	--
01...	1129	50	509	7.9	16.5	--	4.3	44	--	--
01...	1131	60	503	8.0	15.5	--	3.4	34	--	--
01...	1133	70	503	7.9	14.5	--	2.7	27	--	--
01...	1136	80	503	7.9	14.0	--	2.0	20	--	--
01...	1140	89	503	7.8	14.5	--	2.0	20	--	--
AUG										
11...	1400	1.0	450	8.1	31.0	2.00	6.9	93	<1	50
11...	1402	10	450	8.2	30.0	--	7.0	93	--	--
11...	1404	20	455	8.0	29.5	--	5.7	75	--	--
11...	1406	25	455	7.8	29.5	--	4.8	63	--	--
11...	1408	30	455	7.6	29.0	--	2.8	37	--	--
11...	1410	35	480	7.3	28.5	--	.4	5	--	--
11...	1414	40	474	7.3	27.5	--	.4	5	--	--
11...	1416	50	442	7.4	26.0	--	.4	5	--	--
11...	1418	60	420	7.4	24.5	--	.4	5	--	--
11...	1420	70	400	7.5	23.5	--	.5	6	--	--
11...	1422	80	403	7.6	22.5	--	.5	6	--	--
11...	1424	92	425	7.8	21.5	--	.5	6	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
09...	170	25	42	17	28	.9	2.9	150	23
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	220	62	51	23	57	1.7	3.4	160	24
MAY									
01...	180	32	43	18	35	1.1	3.2	150	24
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	190	19	46	18	32	1.0	3.2	170	25
AUG									
11...	170	30	40	17	28	1.0	3.2	140	12
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	190	0	54	13	14	.5	3.4	190	1.0

STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310128097353601 STILLHOUSE HOLLOW LAKE SITE CC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
09...	56	6.6	266	.09	.76	.85	.030	10	<1
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	.09	1.40	1.5	.030	30	10
09...	--	--	--	--	--	--	--	--	--
09...	120	6.7	381	.10	1.00	1.1	.030	<10	30
MAY									
01...	60	5.4	279	--	.69	--	.020	20	2
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	53	7.2	287	--	1.30	--	.040	20	40
AUG									
11...	49	6.7	240	<.10	.48	--	.010	<10	8
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	<.10	.64	--	.010	0	10
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	<.10	.69	--	.010	40	210
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	27	16	243	.11	1.70	1.8	.030	440	260

310130097371701 STILLHOUSE HOLLOW LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
09...	1310	1.0	495	8.3	12.0	9.2	86
09...	1312	10	495	8.3	11.5	9.3	85
09...	1315	20	496	8.3	11.5	9.2	84
09...	1317	30	519	8.3	11.0	9.2	84
09...	1320	40	523	8.2	11.0	9.1	83
09...	1325	50	585	8.2	11.0	8.8	80
09...	1330	60	688	7.9	11.0	7.9	72
09...	1335	66	700	7.9	11.0	7.6	69
MAY							
01...	1305	1.0	550	8.4	24.0	8.0	95
01...	1310	10	550	8.4	23.0	7.8	92
01...	1313	20	550	8.3	22.0	7.3	84
01...	1316	30	550	8.1	20.5	5.2	58
01...	1319	40	550	7.8	18.0	2.3	24
01...	1322	50	530	7.8	16.0	1.6	16
01...	1324	60	525	7.8	15.5	1.3	13
01...	1326	67	520	7.6	15.5	1.3	13
AUG							
11...	1635	1.0	460	8.2	31.0	7.1	96
11...	1637	10	460	8.1	30.0	7.1	95
11...	1639	20	478	7.9	29.5	5.7	75
11...	1641	30	498	7.4	29.0	.7	9
11...	1643	40	498	7.3	27.5	.4	5
11...	1645	50	480	7.3	26.0	.4	5
11...	1647	60	464	7.4	24.5	.5	6
11...	1649	70	460	7.3	24.0	.5	6

STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310037097383201 STILLHOUSE HOLLOW LAKE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
09...	1345	1.0	519	8.3	12.0	1.58	9.4	88	<1	<1
09...	1346	2.6	--	--	--	--	--	--	--	--
09...	1347	10	521	8.3	11.0	--	9.3	85	--	--
09...	1349	20	544	8.3	11.0	--	9.2	84	--	--
09...	1351	30	568	8.2	10.5	--	9.0	81	--	--
09...	1353	38	846	7.8	11.0	--	7.8	71	--	--
MAY										
01...	1330	1.0	575	8.3	25.5	1.00	8.0	98	K4	<1
01...	1333	1.7	--	--	--	--	--	--	--	--
01...	1335	10	575	8.3	25.0	--	7.7	94	--	--
01...	1340	20	640	7.8	22.5	--	3.4	40	--	--
01...	1342	30	645	7.5	20.5	--	.6	7	--	--
01...	1345	41	593	7.5	19.0	--	.8	9	--	--
AUG										
11...	1705	1.0	475	8.1	31.0	1.20	7.4	100	<1	K56
11...	1706	2.0	--	--	--	--	--	--	--	--
11...	1707	10	475	8.1	30.0	--	6.6	88	--	--
11...	1709	20	526	7.5	29.5	--	2.0	26	--	--
11...	1711	25	540	7.4	29.5	--	1.6	21	--	--
11...	1713	30	547	7.4	29.0	--	.6	8	--	--
11...	1715	43	554	7.1	27.0	--	.7	9	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
09...	180	29	42	18	32	1.0	3.0	150	23
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	240	58	54	25	76	2.1	3.8	180	26
MAY									
01...	200	36	47	19	40	1.2	3.4	160	25
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	200	22	48	20	40	1.2	3.3	180	23
AUG									
11...	190	22	47	18	26	.9	3.1	170	5.0
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	240	5	65	20	22	.7	3.0	240	1.0

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
09...	64	6.5	279	.08	.73	.81	.030	30	6
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	150	5.9	449	.07	.77	.84	.030	20	<10
09...	--	--	--	.07	.78	.85	.030	<10	10
MAY									
01...	73	5.1	309	--	1.50	--	.030	20	9
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	74	7.4	325	--	1.20	--	.070	150	470
AUG									
11...	47	9.1	257	<.10	.67	--	.010	<10	18
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	<.10	.56	--	.010	10	10
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	.10	1.00	1.1	.030	40	90
11...	33	16	306	.10	2.20	2.3	.040	820	450

STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310129097315901 STILLHOUSE HOLLOW LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 9,81 1101	MAY 1,81 1217	AUG 11,81 1531
TOTAL CELLS/ML	1200	1500	22000
DIVERSITY: DIVISION	1.7	1.0	0.9
..CLASS	1.7	1.0	0.9
...ORDER	1.8	1.0	1.3
...FAMILY	2.2	2.0	1.5
....GENUS	2.5	2.2	2.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	720#	48	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	51	4	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	13	1	13	1	4100#	19
....DICTYOSPHAERIUM	13	1	--	-	--	-
....OOCYSTIS	--	-	170	11	--	-
....SELENASTRUM	13	1	--	-	--	-
....TETRAEDRON	26	2	13	1	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	150	13	--	-	--	-
....SCENEDESMUS	77	6	150	10	--	-
....TETRASTRUM	--	-	51	3	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	13	1	*	0
..ZYGNEATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	--	-	*	0
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	230#	19	26	2	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	13	1	--	-	--	-
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	540	2
....SYNEDRA	13	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	26	2	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	26	2	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	580#	47	--	-	2100	9
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	220	1
...OSCILLATORIACEAE						
....LYNCBYA	--	-	--	-	11000#	50
...OSCILLATORIA	--	-	310#	21	3500#	16
...RIVULARIACEAE						
....RAPHIIDIOPSIS	--	-	--	-	380	2
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	26	2	--	-

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

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

BRAZOS RIVER BASIN

STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310037097383201 STILLHOUSE HOLLOW LAKE SITE EC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 9,81 1346	MAY 1,81 1333	AUG 11,81 1706
TOTAL CELLS/ML	860	2400	6800
DIVERSITY: DIVISION	1.5	1.0	0.9
..CLASS	1.5	1.0	0.9
..ORDER	1.7	1.5	1.6
...FAMILY	2.0	1.7	2.1
....GENUS	2.0	2.3	2.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	51	2	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	1100#	17
....DICTYOSPHAERIUM	26	3	--	-	--	-
....SELENASTRUM	13	1	--	-	--	-
....TETRAEDRON	13	1	26	1	42	1
...SCENEDESMACEAE						
....CRUCIGENIA	100	12	100	4	--	-
...SCENEDESMUS	--	-	210	9	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	39	4	13	1	--	-
..ZYGNEATALES						
...DESMIDIACEAE						
....EUASTRUM	--	-	13	1	--	-
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	26	3	--	-	42	1
..PENNALES						
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	42	1
...NITZSCHACEAE						
....NITZSCHIA	13	1	39	2	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	100	12	26	1	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	13	1	51	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	1200#	51	--	-
....ANACYSTIS	510#	60	370#	15	1500#	22
...COCCOCHLORIS	--	-	--	-	85	1
..HORMOGONALES						
...NOSTOCACEAE						
....APHANIZOMENON	--	-	280	12	--	-
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	1100#	17
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	2600#	39
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	130	2
....PHACUS	--	-	--	-	85	1

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

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

BRAZOS RIVER BASIN

401

08104100 LAMPASAS RIVER NEAR BELTON, TX

LOCATION.--Lat 31°00'06", long 97°29'32", Bell County, Hydrologic Unit 12070203, on left bank 22 ft (7 m) upstream from upstream bridge of three bridges on Interstate Highway 35 and U.S. Highway 81, 3.5 mi (5.6 km) downstream from Stillhouse Hollow Dam, 4.1 mi (6.6 km) southwest of Belton, and 12.7 mi (20.4 km) upstream from mouth.

DRAINAGE AREA.--1,321 mi² (3,421 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 476.58 ft (145.262 m), State Department of Highways and Public Transportation datum.

REMARKS.--Water-discharge records good. Many small diversions above station for irrigation and municipal supply. Since Sept. 2, 1966, flow largely regulated by Stillhouse Hollow Lake (station 08104050). Gage-height tele-meter located at station.

AVERAGE DISCHARGE.--3 years (water year 1964-66) unregulated, 368 ft³/s (10.42 m³/s), 266,600 acre-ft/yr (329 hm³/yr); 15 years (water years 1967-81) regulated, 236 ft³/s (6.684 m³/s), 171,000 acre-ft/yr (211 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,900 ft³/s (2,210 m³/s) May 17, 1965, gage height, 43.58 ft (13.283 m); no flow Aug. 9, 10, 12-15, Sept. 5, 6, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1877, 45 ft (13.7 m) September 1921, from information by local residents. Flood of May 1957 reached a stage of 44.4 ft (13.53 m), discharge, 83,500 ft³/s (2,360 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,600 ft³/s (130 m³/s) June 30 at 2030 hours, gage height, 15.76 ft (4.804 m); minimum daily, 3.5 ft³/s (0.099 m³/s) Jan. 15-18, Feb. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	4.9	3.9	4.9	7.6	7.5	6.4	7.1	4.9	4570	208	61
2	5.0	5.4	3.9	4.9	8.2	7.1	6.4	7.2	4.9	3150	208	21
3	4.9	5.4	3.9	4.9	7.6	7.5	6.5	8.5	4.9	1430	208	19
4	5.2	4.9	3.9	4.9	8.2	8.6	5.7	8.8	392	1430	119	19
5	4.9	4.9	4.9	4.9	8.8	7.6	5.7	8.6	55	857	32	19
6	5.0	4.9	4.4	4.9	7.6	7.6	5.8	7.6	36	383	31	19
7	5.3	5.2	4.4	4.9	7.6	10	5.9	7.6	38	1240	31	19
8	4.7	5.4	6.4	4.9	7.6	9.4	4.9	9.2	37	1400	30	19
9	4.4	4.9	4.9	4.8	7.6	8.3	3.9	10	28	1590	30	185
10	4.4	4.9	4.9	4.4	9.9	8.2	4.1	6.7	20	1730	30	406
11	4.4	4.4	4.9	4.3	7.3	8.6	4.1	5.9	279	1720	30	407
12	4.4	4.4	4.9	3.9	7.0	8.5	4.1	6.7	49	1720	30	407
13	4.4	3.9	4.9	3.9	7.0	13	4.1	7.0	38	1720	29	407
14	4.4	3.9	4.9	3.9	7.0	11	4.1	5.9	48	1500	29	412
15	4.4	3.9	4.9	3.9	7.0	11	4.1	5.4	39	1050	29	411
16	5.6	6.4	4.9	3.9	7.0	9.5	4.1	9.4	88	1040	29	409
17	5.4	5.9	4.9	3.9	7.0	9.5	4.1	6.4	45	1040	34	409
18	4.9	5.4	4.9	3.9	5.9	9.0	4.0	6.4	44	1040	30	357
19	4.9	4.9	4.9	4.0	5.1	8.2	4.0	5.9	44	1040	29	226
20	4.9	4.4	4.9	4.4	4.4	8.2	3.9	5.9	44	807	29	226
21	4.9	4.4	4.9	4.4	3.8	8.2	4.0	5.9	45	428	24	197
22	4.9	5.4	4.9	4.4	3.5	8.2	4.0	5.9	1060	428	16	111
23	5.4	3.9	4.9	4.4	3.5	8.2	11	6.2	3050	302	16	109
24	5.4	3.9	4.9	4.5	4.0	8.2	6.4	8.6	3850	217	16	109
25	5.4	3.9	4.9	4.9	5.0	8.2	5.4	9.5	2420	217	16	109
26	4.9	3.9	4.9	4.9	5.6	8.2	5.4	7.3	637	214	16	109
27	4.9	3.9	4.9	5.2	5.9	8.2	5.4	6.8	629	210	16	109
28	4.9	3.9	4.9	5.4	5.9	8.2	6.2	6.4	1330	210	16	109
29	4.9	3.9	4.9	5.4	---	10	6.9	6.4	1970	210	16	109
30	4.9	3.9	4.9	5.4	---	7.6	7.0	6.2	3240	210	16	109
31	4.9	---	4.9	5.4	---	6.5	---	4.9	---	209	16	---
TOTAL	152.3	139.3	148.4	142.7	182.6	268.0	157.6	220.3	19569.7	33312	1409	5638
MEAN	4.91	4.64	4.79	4.60	6.52	8.65	5.25	7.11	652	1075	45.5	188
MAX	5.6	6.4	6.4	5.4	9.9	13	11	10	3850	4570	208	412
MIN	4.4	3.9	3.9	3.9	3.5	6.5	3.9	4.9	4.9	209	16	19
AC-FT	302	276	294	283	362	532	313	437	38820	66070	2790	11180
CAL YR 1980	TOTAL	58439.9	MEAN 160	MAX 2120	MIN 3.9	AC-FT 115900						
WTR YR 1981	TOTAL	61339.9	MEAN 168	MAX 4570	MIN 3.5	AC-FT 121700						

BRAZOS RIVER BASIN

08104100 LAMPASAS RIVER NEAR BELTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	
DATE	TIME											
JAN 09...	0900	4.8	531	7.6	10.0	2	.60	9.3	83	.9	230	
MAY 01...	1000	71	519	7.8	23.0	5	1.2	4.2	49	2.0	240	
AUG 11...	1200	30	530	7.4	24.0	0	.80	7.4	87	.4	200	
		HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
DATE												
JAN 09...	11	63	18	17	.5	1.6	220	18	24	.3	5.8	
MAY 01...	17	67	17	16	.5	1.5	220	19	23	.3	8.5	
AUG 11...	22	51	18	26	.9	2.6	180	13	52	.3	8.4	
		SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE D (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE D (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)
DATE												
JAN 09...	280	2	4	1.3	.000	1.3	.050	.56	.61	.040	13	
MAY 01...	285	2	4	1.3	.010	1.3	.090	.78	.87	.040	2.0	
AUG 11...	280	8	3	.36	.010	.37	.060	.32	.38	.010	2.0	
				ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)			
DATE	TIME											
JAN 09...	0900			1	40	2	0	<10	30			
MAY 01...	1000			1	50	<1	10	<10	20			
AUG 11...	1200			3	50	<1	0	<10	14			
				LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)			
DATE												
JAN 09...				18	6	.0	0	0	4			
MAY 01...				<10	70	.0	0	0	8			
AUG 11...				23	13	.0	0	0	14			

08104500 LITTLE RIVER NEAR LITTLE RIVER, TX

LOCATION.--Lat 30°57'59", long 97°20'45", Bell County, Hydrologic Unit 12070204, on right bank 25 ft (8 m) downstream from State Highway 95, 2.4 mi (3.9 km) southeast of Little River, 5 mi (8 km) downstream from confluence of Leon and Lampasas Rivers, and 95.8 mi (154.2 km), upstream from mouth.

DRAINAGE AREA.--5,228 mi² (13,541 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to May 1929, August 1962 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 400.11 ft (121.954 m) National Geodetic Vertical Datum of 1929. Oct. 5, 1923, to May 27, 1929, nonrecording gage on railroad bridge 0.5 mi (0.8 km) upstream at same datum.

REMARKS.--Water-discharge records good. Many small diversions for irrigation and municipal supply affect very low flows. Flow regulated by Belton Lake (station 08102000) on Leon River beginning Mar. 8, 1954, and by Stillhouse Hollow Lake (station 08104050) on the Lampasas River beginning Sept. 2, 1966. Gage-height telemeter at station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08102600.

AVERAGE DISCHARGE.--5 years (water years 1924-28) unregulated, 709 ft³/s (20.08 m³/s), 513,700 acre-ft/yr (633 hm³/yr); 19 years (water years 1963-81) regulated, 899 ft³/s (25.46 m³/s), 651,300 acre-ft/yr (803 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,600 ft³/s (2,250 m³/s) May 17, 1965, gage height, 42.85 ft (13.061 m); minimum daily, 8.2 ft³/s (0.23 m³/s) Aug. 6, 19, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 46.8 ft (14.26 m) in September 1921, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,200 ft³/s (430 m³/s) June 15, gage height, 31.65 ft (9.647 m), from floodmark; minimum daily, 53 ft³/s (1.50 m³/s) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	66	82	68	65	107	95	82	320	6380	563	1020
2	77	65	80	67	68	140	90	77	640	4690	531	731
3	69	64	76	65	65	102	91	80	1200	4400	530	917
4	67	65	77	68	78	268	276	93	2900	4360	498	335
5	65	62	80	66	195	152	170	83	2500	3570	218	222
6	64	62	88	70	144	96	108	82	2000	592	163	195
7	63	61	80	70	93	114	96	74	1300	3060	156	182
8	62	61	127	71	77	172	95	66	920	4130	154	176
9	60	65	307	72	74	103	95	74	1250	4490	149	188
10	54	66	113	72	273	93	91	74	1650	4920	148	488
11	53	64	93	69	173	91	88	68	2650	4910	146	494
12	57	62	90	68	93	123	85	65	4000	4910	145	493
13	61	64	86	63	85	177	86	65	6200	4900	146	493
14	63	64	86	63	80	140	85	68	10000	4310	146	497
15	62	65	82	62	74	110	83	63	7800	4200	142	554
16	82	105	82	62	74	102	88	338	6000	4190	139	477
17	79	211	80	60	72	91	85	152	2850	3390	495	456
18	69	93	72	60	72	90	83	105	1030	2250	330	472
19	75	75	67	69	74	82	112	98	789	2230	173	334
20	74	78	62	134	71	78	85	77	644	1760	184	323
21	69	74	61	88	74	80	80	68	564	665	215	325
22	64	76	63	69	125	77	205	63	867	623	385	234
23	68	95	68	63	80	75	889	63	3270	550	379	216
24	66	77	70	62	71	75	566	136	4330	471	377	215
25	60	73	68	65	69	75	318	900	4080	991	375	215
26	62	222	68	65	69	74	281	580	1980	998	371	212
27	66	150	66	66	69	74	256	390	1080	1010	368	208
28	64	100	66	65	68	74	125	310	1420	1020	368	207
29	64	85	67	68	---	231	93	250	3220	990	367	206
30	71	83	68	65	---	166	86	210	5330	979	372	201
31	63	---	66	65	---	108	---	180	---	953	378	---
TOTAL	2069	2553	2641	2140	2625	3540	4986	5034	82784	86892	9111	11286
MEAN	66.7	85.1	85.2	69.0	93.8	114	166	162	2759	2803	294	376
MAX	96	222	307	134	273	268	889	900	10000	6380	563	1020
MIN	53	61	61	60	65	74	80	63	320	471	139	176
AC-FT	4100	5060	5240	4240	5210	7020	9890	9980	164200	172400	18070	22390
CAL YR 1980	TOTAL	195030	MEAN 533	MAX 8450	MIN 53	AC-FT 386800						
WTR YR 1981	TOTAL	215661	MEAN 591	MAX 10000	MIN 53	AC-FT 427800						

BRAZOS RIVER BASIN

08104500 LITTLE RIVER NEAR LITTLE RIVER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1964 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1964 to September 1973, October 1979 to current year.

WATER TEMPERATURE: October 1964 to September 1973, October 1979 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,140 micromhos Oct. 28, 1964; minimum daily, 245 micromhos May 16, 1965, and Sept 1, 1981.

WATER TEMPERATURES: Maximum, 38.0°C July 7, 1969, Sept. 15, 1972; minimum, 3.0°C Jan. 10, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 650 micromhos June 21; minimum daily, 245 micromhos Sept. 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 16...	1020	77	543	22.0	200	19	60	12	32
DEC 02...	0945	82	521	12.0	220	37	67	12	28
JAN 07...	1505	70	580	10.5	230	36	69	13	35
JUN 25...	1220	4360	507	21.0	190	37	47	17	30
JUL 31...	1730	1010	400	28.0	160	13	49	9.8	19
AUG 04...	1040	532	446	24.0	180	22	53	12	25
SEP 03...	1800	2070	262	28.0	120	11	42	3.9	6.0

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT .16...	1.0	3.5	180	34	40	.4	7.5	298
DEC 02...	.8	3.4	180	38	33	.3	8.7	299
JAN 07...	1.0	3.7	190	42	43	.3	3.9	324
JUN 25...	1.0	3.0	150	20	56	.2	7.4	271
JUL 31...	.7	3.3	150	18	35	.3	8.2	233
AUG 04...	.9	2.7	160	26	32	.2	8.9	256
SEP 03...	.2	3.2	110	--	9.2	--	--	--

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	2069	558	305	1700	38	212	31	172	220
NOV.	1980	2553	530	289	1990	36	247	29	198	210
DEC.	1980	2641	542	296	2110	37	261	30	211	220
JAN.	1981	2140	567	310	1790	39	223	32	182	230
FEB.	1981	2625	500	272	1930	33	237	26	187	200
MAR.	1981	3540	453	246	2360	30	286	23	218	180
APR.	1981	4986	471	256	3450	31	421	24	327	190
MAY	1981	5034	421	229	3110	28	378	21	287	170
JUNE	1981	82784	387	210	46900	25	5620	19	4150	160
JULY	1981	86892	429	233	54700	28	6590	21	4930	170
AUG.	1981	9111	416	226	5560	27	668	20	498	170
SEPT	1981	11286	402	218	6660	26	799	19	593	160
TOTAL		215661	**	**	132000	**	15900	**	12000	**
WTD. AVG.		591	418	227	**	27	**	21	**	170

08104500 LITTLE RIVER NEAR LITTLE RIVER, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	492	572	512	565	597	515	452	585	455	466	440	245
2	547	576	521	575	592	500	492	595	430	495	438	355
3	556	578	543	580	600	518	564	580	390	430	434	262
4	551	581	565	575	555	425	412	560	300	427	446	315
5	582	586	582	577	435	450	400	570	320	431	454	350
6	574	590	555	578	450	485	389	574	345	485	489	412
7	573	595	565	580	475	470	450	586	380	450	508	455
8	581	596	505	577	500	415	495	595	420	422	519	499
9	583	594	442	581	519	430	540	582	385	429	517	485
10	584	589	475	580	408	458	576	580	370	423	515	442
11	581	593	507	587	420	472	570	595	350	420	512	437
12	575	605	540	576	445	440	578	605	325	417	510	444
13	547	600	564	566	460	400	571	610	305	412	515	448
14	548	604	602	562	485	420	575	600	250	411	523	439
15	546	602	595	568	530	431	582	615	310	400	531	385
16	543	465	592	563	574	439	571	375	340	395	540	437
17	547	439	575	565	585	448	575	405	420	415	431	440
18	549	475	565	567	590	460	584	430	465	432	354	425
19	542	520	569	553	580	472	545	465	535	429	419	450
20	545	563	576	500	585	485	552	490	590	432	449	455
21	553	570	580	510	547	480	565	520	650	488	405	452
22	560	567	574	530	490	490	496	550	570	496	320	465
23	555	535	562	545	500	505	345	565	495	493	327	470
24	561	550	555	560	513	510	410	480	460	509	345	475
25	568	558	560	575	527	520	475	255	507	413	360	479
26	570	425	563	585	536	540	519	300	545	412	375	476
27	571	487	570	592	540	555	530	375	580	410	376	480
28	570	491	572	597	548	560	545	400	565	405	370	478
29	571	499	568	592	---	355	569	435	510	403	377	476
30	565	505	565	594	---	400	578	490	475	401	374	480
31	572	---	569	595	---	426	---	525	---	400	372	---
WTR YR 1981	MEAN	499		MAX	650	MIN	245					

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.0	30.0	14.0	---	---		27.0			---	29.0	---
2	31.0	21.0	13.0	---	---		26.0			23.0	---	---
3	31.0	23.0	14.0	---	---		26.0			24.0	29.0	28.0
4	30.0	25.0	15.0	10.0	---		26.0			21.0	30.0	---
5	30.0	23.0	16.0	12.0	---		27.0			18.0	29.0	---
6	29.0	23.0	---	11.0	---		28.0			20.0	29.0	---
7	30.0	24.0	17.0	10.0	---		25.0			19.0	30.0	---
8	29.0	24.0	---	10.0	---		24.0			22.0	31.0	---
9	31.0	25.0	18.0	12.0	12.0		22.0			23.0	---	27.0
10	31.0	25.0	17.0	12.0	13.0		22.0			19.0	---	---
11	31.0	23.0	19.0	12.0	---		24.0			21.0	---	27.0
12	30.0	25.0	17.0	11.0	---		25.0			18.0	28.0	25.0
13	31.0	25.0	16.0	12.0	10.0		23.0			22.0	30.0	---
14	31.0	25.0	15.0	13.0	11.0		22.0			24.0	29.0	26.0
15	30.0	24.0	15.0	12.0	15.0		---			25.0	29.0	---
16	30.0	24.0	10.0	14.0	17.0		---			24.0	---	26.0
17	29.0	24.0	8.0	13.0	18.0		---			---	25.0	25.0
18	30.0	26.0	11.0	13.0	20.0		---			22.0	26.0	26.0
19	---	17.0	---	13.0	21.0		---			22.0	25.0	---
20	---	19.0	---	---	21.0		---			26.0	26.0	---
21	---	---	---	13.0	22.0		---			26.0	27.0	---
22	---	---	---	---	---		21.0			25.0	26.0	---
23	---	---	---	---	---		20.0			26.0	---	26.0
24	---	---	---	---	---		20.0			26.0	27.0	27.0
25	---	---	---	---	---		20.0			27.0	28.0	28.0
26	29.0	9.0	---	---	---		19.0			---	28.0	27.0
27	30.0	10.0	---	---	---		19.0			26.0	28.0	---
28	29.0	11.0	---	12.0	---		18.0			27.0	28.0	---
29	29.0	14.0	---	13.0	---		17.0			---	---	26.0
30	30.0	13.0	---	14.0	---		20.0			28.0	---	---
31	29.0	---	---	13.0	---		---			28.0	29.0	---
WTR YR 1981	MEAN	22.0		MAX	31.0	MIN	8.0					

BRAZOS RIVER BASIN

08104645 NORTH FORK SAN GABRIEL RIVER NEAR LIBERTY HILL, TX

LOCATION.--Lat 30°42'11", long 95°52'37", Williamson County, Hydrologic Unit 12070205, at upstream side of U.S. Highway 183 bridge, 0.4 mi (0.6 km) upstream from Hamilton Branch, 3.8 mi (6.1 km) northeast of Liberty Hill.

DRAINAGE AREA.--202 mi² (523 km²).

PERIOD OF RECORD.--Chemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)
OCT 21...	1200	323	7.8	18.5	5	.70	9.6	104	.5	140	19
DEC 15...	1500	499	8.0	15.5	0	.30	10.4	106	.6	240	26
FEB 17...	1320	463	7.5	15.0	10	1.6	10.8	109	.0	230	17
APR 13...	1500	475	7.5	24.0	5	1.3	9.0	108	1.1	230	27
JUN 09...	1215	504	8.2	27.0	0	3.1	8.0	101	1.4	270	17
AUG 18...	0930	453	7.5	25.0	5	2.6	7.4	90	.9	210	12

DATE	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
OCT 21...	36	12	6.5	.2	2.2	120	24	8.9	.7	8.2	170
DEC 15...	61	20	11	.3	1.6	210	27	24	.3	9.3	293
FEB 17...	58	20	12	.3	1.2	210	29	21	.3	5.9	274
APR 13...	63	17	11	.3	1.3	200	25	13	.4	8.0	259
JUN 09...	82	15	8.9	.2	2.0	250	28	12	.2	14	312
AUG 18...	55	18	11	.4	1.7	200	15	14	.3	12	247

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 21...	8	8	.05	.010	.06	.060	.41	.47	.000	5.1
DEC 15...	0	0	.00	.000	.00	.000	.35	.35	.060	1.7
FEB 17...	1	1	.00	.000	.00	.010	.52	.53	.050	13
APR 13...	1	0	.20	.000	.20	.050	.59	.64	.020	8.7
JUN 09...	26	27	.47	.010	.48	.050	.82	.87	.010	4.2
AUG 18...	6	4	.35	.010	.36	.090	.48	.57	.010	2.5

BRAZOS RIVER BASIN

407

08104645 NORTH FORK SAN GABRIEL RIVER NEAR LIBERTY HILL, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
DEC 15...	1500	1	50	<1	0	<3	<10
APR 13...	1500	1	50	<1	10	--	<10
AUG 18...	0930	1	50	<1	0	--	<10

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 15...	<10	<10	2	.0	0	0	<3
APR 13...	<10	<10	5	.0	0	0	<3
AUG 18...	<10	<10	2	.0	0	0	<3

BRAZOS RIVER BASIN

08104650 LAKE GEORGETOWN NEAR GEORGETOWN, TX

LOCATION.--Lat 30°40'03", long 97°43'38", Williamson County, Hydrologic Unit 12070205, at North San Gabriel Dam, on North Fork San Gabriel River, 2.5 mi (4.0 km) upstream from Middle Fork San Gabriel River, 3.7 mi (6.0 km) northwest of Georgetown, and 4.4 mi (7.1 km) upstream from confluence with South Fork San Gabriel River.

DRAINAGE AREA.--247 mi² (640 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to May 13, 1980, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam, 6,700 ft (2,042 m) long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Mar. 3, 1980. The spillway is an ungated and broad-crested weir 1,000 ft (305 m) long, located near right end of dam. The spillway for normal flood releases is a gated, 11-foot-diameter (3.4 m) conduit, controlled by two 5- by 11 foot (2 by 3 m) slide gates, located near the center of dam. The invert for the floodgate is 720.0 ft (219.5 m). A low-flow outlet, consisting of four 3- by 4-foot (0.9 by 1.2 m) gates is located near the center of dam. These gates are inverts of 735.0, 749.0, 763.0, and 777.0 ft (224.0, 228.3, 232.6, and 236.8 m). Figures given herein represent total contents. Data regarding dam and lake are given in the following table.

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	861.0	246,700
Design flood.....	856.2	221,200
Crest of spillway.....	834.0	130,800
Top of conservation pool.....	791.0	37,080
Lowest gated outlet (invert of 11-foot conduit).....	720.0	0

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 89,730 acre-ft (111 hm³) June 22, 1981, elevation, 819.44 ft (249.765 m); minimum, 466 acre-ft (0.575 hm³) Mar. 4, 1980, elevation, 724.46 ft (220.815 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 89,730 acre-ft (111 hm³) June 22 at 1330 hours, elevation, 819.44 ft (249.765 m); minimum, 23,260 acre-ft (28.7 hm³) Nov. 16 at 1030 hours, elevation 778.39 ft (327.253 m).

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

778.0	22,900	794.0	41,150	810.0	68,690
782.0	26,720	798.0	47,100	814.0	77,120
786.0	31,000	802.0	53,700	816.0	81,600
790.0	35,790	806.0	60,910	820.0	91,100

 CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
 INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23920	23510	23420	23760	24040	24860	27170	30440	39120	72880	37910	37810
2	23910	23500	23420	23760	24040	24890	27250	30520	39290	69950	37860	37890
3	23890	23490	23420	23770	24030	25020	27350	30600	39560	67260	37780	60970
4	23870	23470	23420	23770	24080	25080	27640	30690	57240	64330	37710	59700
5	23850	23450	23430	23780	24110	25110	27810	30740	64920	63080	37660	58690
6	23830	23430	23440	23790	24130	25140	27890	30820	66390	61950	37610	57690
7	23810	23420	23460	23790	24150	25230	27960	30870	67660	59150	37580	56680
8	23790	23400	23520	23810	24180	25280	28040	30920	65700	56230	37500	55500
9	23780	23380	23540	23810	24200	25330	28110	30950	61100	53390	37450	54010
10	23760	23370	23580	23820	24380	25370	28180	30960	55980	50570	37400	52430
11	23730	23350	23600	23820	24420	25430	28250	30990	57510	47690	37420	50900
12	23700	23330	23610	23830	24440	25570	28310	31030	59700	44900	37410	49340
13	23680	23310	23630	23840	24460	25660	28370	31050	61590	41970	37400	47780
14	23660	23300	23660	23840	24490	25800	28430	31070	71080	40000	37380	46480
15	23650	23290	23680	23840	24510	25890	28460	31120	73220	38300	37380	45230
16	23790	23340	23690	23840	24540	25970	28550	31310	82130	37610	37370	43670
17	23790	23360	23700	23840	24550	26050	28630	31420	84610	37780	37400	42280
18	23780	23340	23690	23850	24580	26100	28700	31490	86260	37910	37610	40870
19	23760	23320	23710	23920	24610	26150	28760	31510	87500	38050	37650	39420
20	23740	23300	23720	23920	24630	26180	28830	31510	88460	38130	37660	37980
21	23730	23310	23690	23940	24670	26260	28890	31540	89340	38190	37660	37150
22	23720	23310	23690	23950	24690	26300	28920	31570	88660	38220	37660	37210
23	23690	23300	23700	23970	24710	26350	29550	31610	85930	38250	37660	37280
24	23670	23300	23700	23970	24710	26390	29810	32610	83220	38230	37660	37360
25	23650	23350	23700	23990	24730	26450	29920	37690	81690	38210	37650	37420
26	23640	23400	23710	23990	24740	26510	30040	38140	82250	38190	37650	37490
27	23620	23400	23720	24000	24770	26560	30130	38340	82800	38150	37620	37570
28	23600	23400	23730	24010	24830	26630	30220	38470	81510	38130	37710	37620
29	23570	23400	23740	24010	---	26900	30310	38680	78380	38090	37740	37690
30	23540	23420	23750	24010	---	27030	30390	38810	75700	38030	37770	37730
31	23520	---	23750	24040	---	27110	---	38970	---	37980	37750	---
MAX	23920	23510	23750	24040	24830	27110	30390	38970	89340	72880	37910	60970
MIN	23520	23290	23420	23760	24030	24860	27170	30440	39120	37610	37370	37150
(†)	778.67	778.56	778.52	779.23	780.07	782.38	785.45	792.42	813.35	791.68	791.51	791.49
(‡)	-410	-100	+330	+290	+790	+2280	+3280	+8580	+36730	-37720	-230	-20

WTR YR 1981 MAX 89340 MIN 23290 † +13800
 CAL YR 1980 MAX 24090 MIN 1100 ‡ +23750

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

08104650 LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

304016097433101 LAKE GEORGETOWN SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
DATE	TIME										
JAN											
08...	1210	1.0	366	7.9	11.5	1.22	8.4	79	<1	K3	
08...	1211	2.0	--	--	--	--	--	--	--	--	
08...	1212	10	366	7.9	11.5	--	8.3	78	--	--	
08...	1214	20	366	7.9	11.5	--	8.3	78	--	--	
08...	1216	30	370	7.8	11.5	--	8.2	77	--	--	
08...	1218	40	370	7.8	11.5	--	8.2	77	--	--	
08...	1220	50	373	7.8	11.5	--	7.7	72	--	--	
08...	1222	60	375	7.7	11.5	--	6.6	62	--	--	
08...	1224	65	375	7.7	11.5	--	6.2	58	--	--	
APR											
28...	1140	1.0	353	8.3	23.5	1.20	8.6	102	K1	K11	
28...	1141	2.0	--	--	--	--	--	--	--	--	
28...	1145	10	353	8.3	22.5	--	8.1	94	--	--	
28...	1150	20	375	7.9	21.5	--	6.2	71	--	--	
28...	1155	30	401	7.9	18.0	--	4.1	44	--	--	
28...	1200	40	401	7.9	16.5	--	3.8	40	--	--	
28...	1205	50	401	7.9	15.5	--	3.8	39	--	--	
28...	1210	60	401	7.8	14.5	--	.8	8	--	--	
28...	1215	70	401	7.8	13.5	--	.8	8	--	--	
28...	1220	81	401	7.8	13.5	--	.8	8	--	--	
AUG											
10...	1210	1.0	396	8.0	30.5	2.10	--	--	<1	<1	
10...	1211	3.5	--	--	--	--	--	--	--	--	
10...	1212	10	396	8.0	30.0	--	5.5	74	--	--	
10...	1214	20	396	8.0	29.5	--	5.0	67	--	--	
10...	1216	30	402	7.3	28.5	--	.3	4	--	--	
10...	1218	40	450	7.2	27.0	--	.3	4	--	--	
10...	1220	50	484	7.3	25.5	--	.3	4	--	--	
10...	1222	60	439	7.4	23.0	--	.3	4	--	--	
10...	1224	70	411	8.0	17.5	--	.4	4	--	--	
10...	1226	80	415	8.2	16.5	--	.4	4	--	--	
10...	1230	98	417	8.5	16.5	--	.4	4	--	--	
		HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN											
08...	180	11	56	10	6.7	.2	3.0	170	15	9.4	
08...	--	--	--	--	--	--	--	--	--	--	
08...	--	--	--	--	--	--	--	--	--	--	
08...	--	--	--	--	--	--	--	--	--	--	
08...	--	--	--	--	--	--	--	--	--	--	
08...	--	--	--	--	--	--	--	--	--	--	
08...	--	--	--	--	--	--	--	--	--	--	
08...	190	15	56	11	6.9	.2	2.9	170	15	9.5	
APR											
28...	170	8	49	11	7.4	.2	3.1	160	17	10	
28...	--	--	--	--	--	--	--	--	--	--	
28...	--	--	--	--	--	--	--	--	--	--	
28...	--	--	--	--	--	--	--	--	--	--	
28...	--	--	--	--	--	--	--	--	--	--	
28...	--	--	--	--	--	--	--	--	--	--	
28...	--	--	--	--	--	--	--	--	--	--	
28...	--	--	--	--	--	--	--	--	--	--	
28...	190	3	59	11	6.7	.2	3.2	190	14	9.5	
AUG											
10...	200	8	61	11	6.7	.2	3.3	190	<5.0	11	
10...	--	--	--	--	--	--	--	--	--	--	
10...	--	--	--	--	--	--	--	--	--	--	
10...	--	--	--	--	--	--	--	--	--	--	
10...	--	--	--	--	--	--	--	--	--	--	
10...	--	--	--	--	--	--	--	--	--	--	
10...	--	--	--	--	--	--	--	--	--	--	
10...	--	--	--	--	--	--	--	--	--	--	
10...	--	--	--	--	--	--	--	--	--	--	
10...	--	--	--	--	--	--	--	--	--	--	
10...	210	0	64	12	7.1	.2	3.1	210	6.0	10	

BRAZOS RIVER BASIN
LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

304016097433101 LAKE GEORGETOWN SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
08...	.3	9.3	212	.28	1.10	1.4	.020	10	2
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	.28	.83	1.1	.050	60	<10
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	9.1	213	.26	1.10	1.4	.030	20	30
APR									
28...	.2	.9	195	.00	.73	.73	.020	20	4
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	9.6	228	.13	.66	.79	.020	30	420
AUG									
10...	.2	8.8	221	<.09	.80	--	.020	<10	7
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	<.09	.65	--	.020	30	20
10...	--	--	--	<.09	.74	--	.030	90	310
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	<.09	1.40	--	.050	320	290
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	14	244	<.09	2.20	--	.090	560	670

304006097452501 LAKE GEORGETOWN SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
08...	1300	1.0	369	8.0	11.5	1.65	8.8	82	<1	<1
08...	1302	10	370	8.0	11.5	--	8.7	81	--	--
08...	1304	20	370	8.0	11.0	--	8.7	81	--	--
08...	1306	30	372	8.0	11.0	--	8.7	81	--	--
08...	1308	40	372	7.9	11.0	--	8.5	79	--	--
08...	1310	46	372	7.8	11.0	--	7.9	73	--	--
APR										
28...	1230	1.0	373	8.1	24.5	1.00	8.3	101	K6	K9
28...	1236	10	373	8.3	23.5	--	7.9	94	--	--
28...	1242	20	401	7.7	21.5	--	5.1	59	--	--
28...	1248	30	412	7.7	18.5	--	5.1	55	--	--
28...	1254	40	412	7.7	16.5	--	5.3	55	--	--
28...	1300	52	412	7.7	16.0	--	5.0	52	--	--
AUG										
10...	1325	1.0	410	8.0	31.0	1.50	5.7	77	<1	<1
10...	1327	10	410	7.9	30.0	--	4.8	65	--	--
10...	1329	20	410	7.7	29.5	--	3.5	47	--	--
10...	1331	25	418	7.4	29.5	--	.3	4	--	--
10...	1332	30	437	7.2	28.0	--	.2	3	--	--
10...	1335	40	456	7.3	27.0	--	.3	4	--	--
10...	1337	50	480	7.3	25.5	--	.3	4	--	--
10...	1340	61	494	7.3	23.5	--	.3	4	--	--

BRAZOS RIVER BASIN

411

LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

304006097452501 LAKE GEORGETOWN SITE BC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
08...	180	1	56	10	7.0	.2	3.0	180	14
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	190	5	56	11	7.1	.2	2.9	180	15
APR									
28...	180	0	52	12	7.7	.3	3.0	180	17
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	200	0	60	11	7.1	.2	3.1	200	12
AUG									
10...	200	4	62	12	7.7	.2	3.4	200	1.0
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	240	0	75	13	7.1	.2	3.1	250	<5.0

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
08...	9.5	9.1	217	.26	.90	1.2	.020	<10	2
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	.26	1.20	1.5	.050	20	10
08...	--	--	--	--	--	--	--	--	--
08...	9.6	8.8	219	.24	1.10	1.3	.030	20	30
APR									
28...	11	.7	212	.00	.80	.80	.010	10	9
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	9.5	9.5	233	.03	1.40	1.4	.010	70	460
AUG									
10...	12	9.5	228	<.09	.71	--	.030	26	13
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	<.09	.68	--	.030	30	30
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	<.09	1.30	--	.030	580	450
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	15	16	281	<.09	2.70	--	.120	610	590

BRAZOS RIVER BASIN
LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

304055097471301 LAKE GEORGETOWN SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
08...	1335	1.0	382	7.9	11.0	1.58	8.8	82	K6	K1
08...	1336	2.6	--	--	--	--	--	--	--	--
08...	1337	10	386	7.9	10.5	--	8.7	80	--	--
08...	1339	21	424	7.8	10.5	--	8.3	76	--	--
APR										
28...	1315	1.0	395	8.2	26.0	.90	7.0	88	38	220
28...	1316	1.5	--	--	--	--	--	--	--	--
28...	1325	10	425	8.0	24.5	--	6.0	73	--	--
28...	1335	20	425	7.8	22.0	--	4.2	49	--	--
28...	1345	28	399	7.6	19.0	--	.8	9	--	--
AUG										
10...	1415	1.0	427	8.0	32.0	.60	6.3	88	K2	K19
10...	1416	.9	--	--	--	--	--	--	--	--
10...	1417	10	427	7.7	30.0	--	3.4	46	--	--
10...	1419	20	441	7.5	29.5	--	2.2	29	--	--
10...	1421	25	463	7.5	29.5	--	1.7	23	--	--
10...	1425	32	494	7.3	29.0	--	.3	4	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
08...	190	8	57	11	7.5	.2	3.0	180	16
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	210	21	58	16	9.9	.3	2.1	190	23
APR									
28...	200	6	57	13	8.0	.2	3.0	190	17
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	190	0	56	12	7.4	.2	2.5	190	14
AUG									
10...	210	11	63	13	8.3	.3	3.2	200	<1.0
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	240	0	67	17	11	.3	2.4	240	1.0

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
08...	10	8.4	221	.22	.88	1.1	.040	<10	3
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	.21	.98	1.2	.050	30	10
08...	14	7.4	245	.14	.93	1.1	.030	<10	6
APR									
28...	11	1.6	225	.00	.62	.62	.030	10	4
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	10	9.3	226	.07	1.10	1.2	.030	20	40
AUG									
10...	14	10	232	<.09	1.10	--	.050	12	19
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	<.09	.85	--	.040	60	40
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	15	14	273	<.09	1.80	--	.070	400	670

BRAZOS RIVER BASIN

413

LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

304016097433101 LAKE GEORGETOWN SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 8,81 1211	APR 28,81 1141	AUG 10,81 1211
TOTAL CELLS/ML	600	24000	73000
DIVERSITY: DIVISION	0.9	0.4	0.8
..CLASS	0.9	0.4	0.8
...ORDER	1.1	0.4	1.1
...FAMILY	1.7	0.4	1.1
....GENUS	1.7	0.4	1.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....COELASTRACEAE						
.....COELASTRUM	390#	64	--	-	--	-
....OOCYSTACEAE						
.....ANKISTRODESMUS	--	-	--	-	2600	4
.....CLOSTERIOPSIS	77	13	--	-	--	-
.....GLOEOACTINIUM	--	-	--	-	*	0
.....OOCYSTIS	--	-	390	2	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	--	-	960	1
....SCENEDESMUS	--	-	--	-	480	1
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	13	2	--	-	1200	2
..ZYGNEATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	--	-	*	0
....STAUSTRUM	--	-	--	-	480	1
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	13	2	1200	5	--	-
..PENNALES						
...NAVICULACEAE						
....NAVICULA	--	-	--	-	3600	5
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
.....CHROOMONAS	64	11	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	39	6	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....AGMENELLUM	--	-	--	-	1900	3
.....ANACYSTIS	13	2	22000#	93	720	1
...HORMOGONALES						
...OSCILLATORIAACEAE						
....LYNGBYA	--	-	--	-	60000#	82
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....EUGLENA	--	-	--	-	*	0
....TRACHELOMONAS	--	-	--	-	*	0

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

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

BRAZOS RIVER BASIN

LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued

304055097471301 LAKE GEORGETOWN SITE CC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 8,81 1336	APR 28,81 1316	AUG 10,81 1416
TOTAL CELLS/ML	1200	20000	48000
DIVERSITY: DIVISION	1.3	0.9	1.4
..CLASS	1.3	0.9	1.4
...ORDER	1.5	0.9	2.2
...FAMILY	1.7	1.1	2.6
....GENUS	1.8	1.1	3.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	2900	15	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	13	1	--	-	8200#	17
....CLOSTERIOPSIS	52	4	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	1500	3
....TETRAEDRON	13	1	120	1	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	52	4	--	-	3100	6
....SCENEDESMUS	26	2	490	2	4600	10
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	64	5	--	-	*	0
...VOLVOCAEAE						
....PANDORINA	--	-	--	-	2400	5
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	13	1	490	2	1100	2
..PENNALES						
...FRAGILARIACEAE						
....SYNEDRA	39	3	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	120	1	2100	4
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	52	4	--	-	310	1
...CRYPTOMONADACEAE						
....CRYPTOMONAS	39	3	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	10000#	22
....ANACYSTIS	880#	70	15000#	78	5200	11
...HORMOGONALES						
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	1500	3
....OSCILLATORIA	--	-	--	-	6900	14
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	13	1	120	1	310	1
....LEPOCINCLIS	--	-	--	-	*	0

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

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

BRAZOS RIVER BASIN

415

08104700 NORTH FORK SAN GABRIEL RIVER NEAR GEORGETOWN, TX

LOCATION.--Lat 30°39'42", long 97°42'40", Williamson County, Hydrologic Unit 12070205, on left bank 1.5 mi (2.4 km) upstream from Middle Fork San Gabriel River, 2.7 mi (4.3 km) upstream from Interstate Highway 35, 2.7 mi (4.3 km) northwest of Georgetown, and 3.4 mi (5.5 km) upstream from mouth.

DRAINAGE AREA.--248 mi² (642 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1968 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 689.06 ft (210.025 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Beginning on Mar. 3, 1980, flow is largely regulated by Lake Georgetown (08104650) located about 1 mi (2 km) upstream from gage.

AVERAGE DISCHARGE.--11 years (water years 1969-79) unregulated, 88.1 ft³/s (2.495 m³/s), 63,830 acre-ft/yr (78.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft³/s (991 m³/s) Sept. 17, 1974, gage height, 26.20 ft (7.986 m); no flow July 23-25, 1971, and Sept. 27, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 39.5 ft (12.04 m) in September 1921. Flood in April 1957 reached a stage of 34.5 ft (10.52 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,400 ft³/s (153 m³/s) June 10 at 1000 hours, gage height, 11.37 ft (3.466 m); no flow Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	4.9	4.5	4.2	4.5	4.9	4.5	5.3	.17	1740	59	6.2
2	4.9	4.9	4.5	4.2	4.2	4.6	4.5	5.8	.17	1730	59	2.1
3	4.5	5.2	4.3	4.2	4.2	5.4	4.5	6.5	.23	1720	59	4.8
4	4.5	8.5	4.2	4.2	4.2	5.5	5.4	3.2	8.3	1700	49	634
5	4.5	8.7	4.2	4.2	4.0	4.6	4.5	.66	2.7	321	37	870
6	4.4	9.0	4.2	4.2	3.9	4.5	4.5	.53	1.1	195	36	608
7	4.2	8.5	4.2	4.2	3.9	5.2	4.5	.47	.92	1680	35	608
8	4.2	8.5	5.1	4.2	3.9	4.9	4.5	.59	1320	1660	35	676
9	4.2	8.5	4.5	4.2	3.9	4.9	4.5	.56	4500	1650	35	805
10	4.2	8.5	4.5	4.2	7.0	4.6	4.5	.39	3220	1630	23	858
11	4.2	8.5	4.3	4.2	4.2	4.5	4.5	.09	1370	1630	4.5	853
12	4.2	8.5	4.2	4.2	4.2	5.2	4.5	.30	5.7	1630	4.5	844
13	4.2	6.4	4.2	4.2	4.2	4.9	4.5	.24	5.7	1600	4.5	835
14	1.7	4.9	4.2	4.2	4.2	4.9	4.2	.10	5.7	1260	4.5	834
15	.03	4.6	4.2	4.2	4.2	4.5	4.4	.36	4.9	1040	4.5	830
16	1.5	5.5	4.2	4.2	4.2	4.5	4.5	1.9	20	487	4.5	824
17	3.9	4.6	4.2	4.2	4.2	4.5	4.5	.14	5.7	.32	4.5	817
18	15	3.5	4.2	4.2	4.3	4.5	4.7	.09	4.9	.23	5.1	809
19	13	3.8	4.2	4.7	4.5	4.5	3.4	.13	4.2	.23	4.9	805
20	6.1	4.2	4.2	4.6	4.5	4.5	.22	.97	4.2	20	4.5	803
21	4.9	4.2	4.2	4.5	4.5	4.4	1.9	.96	3.9	35	4.5	491
22	3.9	4.2	4.2	4.3	4.5	4.2	7.4	.61	262	35	4.5	4.2
23	4.5	4.2	4.2	4.2	4.5	4.2	7.2	.44	1800	35	4.5	2.3
24	4.9	4.2	4.2	4.2	4.5	4.2	6.1	1.5	1790	47	4.8	1.1
25	5.1	5.8	4.2	4.2	4.5	4.2	6.1	4.5	1140	57	4.9	.59
26	5.3	5.4	4.2	4.2	4.5	4.2	6.1	.57	.17	59	4.9	.01
27	5.3	4.6	4.2	4.2	4.5	4.2	3.3	.36	.10	59	4.9	.00
28	5.3	4.5	4.2	4.2	4.5	4.2	.32	.27	326	59	5.8	.05
29	5.1	4.5	4.2	4.2	---	5.4	1.3	.16	1770	59	5.4	.09
30	4.7	4.5	4.2	4.2	---	4.5	5.3	.17	1750	59	5.3	.05
31	4.9	---	4.2	4.2	---	4.5	---	.17	---	59	4.8	---
TOTAL	152.33	175.8	132.5	131.5	122.4	143.8	130.34	38.03	19326.76	22256.78	527.3	13825.49
MEAN	4.91	5.86	4.27	4.24	4.37	4.64	4.34	1.23	644	718	17.0	461
MAX	15	9.0	5.1	4.7	7.0	5.5	7.4	6.5	4500	1740	59	870
MIN	.03	3.5	4.2	4.2	3.9	4.2	.22	.09	.10	.23	4.5	.00
AC-FT	302	349	263	261	243	285	259	75	38330	44150	1050	27420
CAL YR 1980	TOTAL	1611.36	MEAN	4.40	MAX	387	MIN	.03	AC-FT	3200		
WTR YR 1981	TOTAL	56963.03	MEAN	156	MAX	4500	MIN	.00	AC-FT	113000		

BRAZOS RIVER BASIN

08104700 NORTH FORK SAN GABRIEL RIVER NEAR GEORGETOWN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
JAN 08...	0910	4.2	395	7.7	8.5	5	9.6	9.5	83	.8	190
APR 28...	0930	.32	428	7.6	25.0	5	6.0	5.0	61	2.1	210
AUG 11...	1000	4.5	417	7.4	28.0	5	2.2	6.9	88	.6	210

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN 08...	6	58	10	6.8	.2	2.8	180	16	10	.3	8.4
APR 28...	8	60	14	7.6	.2	2.7	200	20	9.9	.2	5.7
AUG 11...	9	64	12	6.7	.2	3.3	200	10	10	.2	9.6

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 08...	221	7	9	.57	.010	.58	.070	.66	.73	.040	6.1
APR 28...	240	9	6	.59	.020	.61	.070	.77	.84	.040	3.6
AUG 11...	236	7	5	.23	.010	.24	.100	.64	.74	.020	4.5

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JAN 08...	0910	1	40	<1	0	<10	50
APR 28...	0930	2	50	<1	10	<10	<10
AUG 11...	1000	2	40	<1	0	<10	12

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN 08...	35	5	.0	0	0	4
APR 28...	17	40	.0	0	0	<3
AUG 11...	<10	63	.0	0	0	<3

08104900 SOUTH FORK SAN GABRIEL RIVER AT GEORGETOWN, TX

LOCATION.--Lat 30°37'32", long 97°41'27", Williamson County, Hydrologic Unit 12070205, on right bank at downstream side of downstream bridge of two bridges on Interstate Highway 35, 1.1 mi (1.8 km) southwest of the courthouse at Georgetown, and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--133 mi² (345 km²).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1948, 1962-67, December 1967 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 687.72 ft (209.617 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years (water years 1969-81), 49.9 ft³/s (1.413 m³/s), 5.10 in/yr (130 mm/yr), 36,150 acre-ft/yr (44.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft³/s (946 m³/s) Sept. 3, 1981, gage height, 24.60 ft (7.498 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, about 41 ft (12.5 m) Apr. 24, 1957, from information by local residents.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 25	0300	11,800 334	13.40 4.084	June 14	1130	14,100 399	14.50 4.420
June 4	2045	14,200 402	14.54 4.432	June 16	0715	5,930 168	10.17 3.100
June 11	1145	15,300 433	15.07 4.593	Sept. 3	1200	*33,400 946	24.60 7.498

Minimum daily discharge, 0.01 ft³/s (0.0003 m³/s) Nov. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	2.6	.26	6.8	3.8	4.8	9.3	42	23	53	150	26	26		
2	1.7	.10	1.8	4.2	4.2	8.6	56	21	51	144	26	24		
3	1.1	.10	.88	3.1	1.8	16	83	26	65	136	22	7830		
4	.81	.10	1.1	4.5	3.2	24	163	25	5750	130	21	198		
5	.52	.05	1.4	4.6	5.8	24	86	20	983	134	20	82		
6	.26	.02	1.5	2.4	5.2	17	59	18	260	127	19	72		
7	.25	.01	1.6	2.8	4.8	20	52	17	166	112	18	72		
8	.25	.01	20	2.9	5.4	24	51	17	132	106	19	64		
9	.24	.02	9.9	3.5	4.7	17	49	17	114	102	18	56		
10	.22	.02	6.2	4.6	29	14	47	17	104	94	15	51		
11	.21	.02	3.5	5.2	29	15	49	14	4700	83	14	46		
12	.23	.02	4.2	4.3	12	36	47	10	1150	78	14	45		
13	.22	.02	4.2	2.9	6.6	45	42	12	805	68	13	50		
14	.24	.02	8.3	2.7	5.9	42	40	10	3720	62	13	51		
15	.25	.04	7.0	2.6	6.1	35	39	10	741	60	13	74		
16	56	4.2	3.8	2.2	5.4	30	38	138	2480	54	12	55		
17	12	12	3.3	2.3	4.3	28	38	61	746	52	11	44		
18	3.2	5.3	3.4	3.2	6.1	26	43	27	538	53	43	38		
19	.74	.68	3.6	5.9	5.6	23	41	15	406	46	29	37		
20	.62	.32	6.2	7.0	5.4	21	37	13	333	39	20	36		
21	.69	.31	8.8	5.6	6.5	22	36	12	281	37	15	30		
22	.53	.38	6.5	4.7	6.7	21	45	12	247	35	14	28		
23	.46	.44	5.0	5.0	5.6	18	217	13	224	33	13	26		
24	.40	.38	5.4	4.8	4.9	16	111	65	208	31	12	24		
25	.25	3.3	6.6	4.9	4.6	16	54	3300	227	30	11	23		
26	.42	18	6.6	3.9	5.6	15	41	117	327	31	11	26		
27	.65	6.9	6.6	2.4	5.3	16	33	83	192	30	11	26		
28	.83	7.4	6.6	2.0	6.2	16	31	68	181	30	10	18		
29	.62	6.9	5.4	2.0	---	26	29	61	166	29	12	17		
30	.45	6.4	3.4	1.7	---	36	24	61	172	27	18	17		
31	.37	---	3.2	2.0	---	37	---	61	---	26	14	---		
TOTAL	87.33	73.72	162.78	113.7	200.7	713.9	1723	4364	25522	2169	527	9186		
MEAN	2.82	2.46	5.25	3.67	7.17	23.0	57.4	141	851	70.0	17.0	306		
MAX	56	18	20	7.0	29	45	217	3300	5750	150	43	7830		
MIN	.21	.01	.88	1.7	1.8	8.6	24	10	51	26	10	17		
CFSM	.02	.02	.04	.03	.05	.17	.43	1.06	6.40	.53	.13	2.30		
IN.	.02	.02	.05	.03	.06	.20	.48	1.22	7.14	.61	.15	2.57		
AC-FT	173	146	323	226	398	1420	3420	8660	50620	4300	1050	18220		
CAL YR 1980	TOTAL	4692.75	MEAN	12.8	MAX	535	MIN	.00	CFSM	.10	IN	1.31	AC-FT	9310
WTR YR 1981	TOTAL	44843.13	MEAN	123	MAX	7830	MIN	.01	CFSM	.93	IN	12.54	AC-FT	88950

BRAZOS RIVER BASIN

08105100 BERRY CREEK NEAR GEORGETOWN, TX

LOCATION.--Lat 30°41'28", long 97°39'21", Williamson County, Hydrologic Unit 12070205, on right bank at upstream side of upstream service road on Interstate Highway 35, 2.9 mi (4.7 km) north of the county courthouse at Georgetown, and 63.2 mi (100.2 km) upstream from mouth.

DRAINAGE AREA.--83.1 mi² (215.2 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 659.97 ft (201.159 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. No regulation or diversion.

AVERAGE DISCHARGE.--14 years, 28.6 ft³/s (0.810 m³/s), 4.67 in/yr (119 mm/yr), 20,720 acre-ft/yr (25.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft³/s (439 m³/s) Oct. 31, 1974, gage height, 19.33 ft (5.892 m); no flow at times in 1967, 1971-72, and 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1921 occurred September 1921, 25 ft (7.6 m), from information by State Department of Highways and Public Transportation and local residents. Discharge not determined.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 25	0630	1,280 36.2	8.03 2.448	June 16	1215	5,060 143	13.12 3.999
June 4	1900	*9,780 277	17.05 5.197	Sept. 3	1100	9,310 264	16.75 5.105
June 14	1730	4,990 141	13.06 3.981				

Minimum daily discharge, 0.02 ft³/s (0.001 m³/s) Nov. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.78	.12	.24	.24	.17	.73	4.3	8.2	7.8	50	15	8.4		
2	.66	.12	.24	.24	.13	.75	4.6	8.2	7.2	47	14	7.1		
3	.53	.10	.21	.24	.12	1.0	4.8	7.8	50	45	13	1800		
4	.39	.08	.21	.20	.11	1.1	28	7.2	3090	44	13	55		
5	.36	.08	.21	.18	.15	.96	9.2	6.6	701	44	12	22		
6	.36	.06	.21	.18	.12	.96	6.3	6.3	131	44	12	15		
7	.34	.04	.21	.18	.12	1.3	6.0	6.3	79	45	12	14		
8	.27	.03	.49	.18	.10	1.1	6.0	6.0	62	43	11	14		
9	.20	.03	.52	.18	.12	1.1	5.8	6.0	51	39	11	18		
10	.18	.03	.43	.18	1.0	1.2	5.5	5.8	45	38	11	13		
11	.17	.03	.41	.15	.52	1.4	5.5	5.5	280	37	11	11		
12	.14	.03	.41	.14	.54	1.9	5.0	5.0	280	35	12	11		
13	.12	.02	.41	.12	.57	1.9	4.8	4.8	203	34	12	10		
14	.11	.04	.36	.12	.57	2.0	4.3	4.3	1620	33	11	10		
15	.10	.06	.36	.12	.53	2.3	4.1	4.3	257	31	9.6	11		
16	1.3	.39	.36	.12	.75	2.6	4.1	5.0	1570	29	9.6	10		
17	.47	.32	.36	.12	.77	2.8	3.9	4.6	229	28	9.6	8.3		
18	.36	.19	.36	.12	.66	3.3	3.9	4.3	144	28	9.7	6.6		
19	.36	.14	.32	.20	.61	3.9	3.7	4.1	107	27	9.8	7.0		
20	.36	.12	.32	.23	.69	4.1	3.7	4.1	91	26	9.4	8.4		
21	.29	.12	.32	.18	.72	4.1	3.7	4.1	80	25	9.1	9.0		
22	.26	.10	.32	.18	.75	4.3	3.7	4.1	74	24	8.8	8.5		
23	.24	.10	.32	.18	.76	4.3	34	4.2	75	23	8.6	8.5		
24	.24	.10	.28	.17	.75	4.3	29	5.2	67	22	8.2	7.9		
25	.20	.19	.28	.20	.75	4.4	12	251	63	21	8.1	7.5		
26	.15	.41	.28	.18	.73	4.3	11	23	62	20	7.4	7.4		
27	.15	.32	.28	.18	.69	4.3	9.6	12	59	19	7.2	7.2		
28	.15	.21	.28	.20	.69	4.0	8.8	9.6	56	19	7.1	5.4		
29	.15	.24	.28	.18	---	4.8	8.5	8.8	53	17	6.9	6.4		
30	.12	.24	.24	.17	---	4.3	8.2	8.2	51	16	6.9	6.6		
31	.12	---	.24	.12	---	4.3	---	8.2	---	15	6.9	---		
TOTAL	9.63	4.06	9.76	5.38	14.19	83.80	252.0	452.8	9645.0	968	312.9	2134.2		
MEAN	.31	.14	.31	.17	.51	2.70	8.40	14.6	322	31.2	10.1	71.1		
MAX	1.3	.41	.52	.24	1.0	4.8	34	251	3090	50	15	1800		
MIN	.10	.02	.21	.12	.10	.73	3.7	4.1	7.2	15	6.9	5.4		
CFSM	.004	.002	.004	.002	.006	.03	.10	.18	3.88	.38	.12	.86		
IN.	.00	.00	.00	.00	.01	.04	.11	.20	4.32	.43	.14	.96		
AC-FT	19	8.1	19	11	28	166	500	898	19130	1920	621	4230		
CAL YR 1980	TOTAL	4791.17	MEAN	13.1	MAX	2050	MIN	.02	CFSM	.16	IN	2.14	AC-FT	9500
WTR YR 1981	TOTAL	13891.72	MEAN	38.1	MAX	3090	MIN	.02	CFSM	.46	IN	6.22	AC-FT	27550

BRAZOS RIVER BASIN

08105100 BERRY CREEK NEAR GEORGETOWN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Sediment records: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
SEP 16...	1420	10	23.5	34	.93

BRAZOS RIVER BASIN

08105300 SAN GABRIEL RIVER NEAR WEIR, TX

LOCATION.--Lat 30°38'45", long 97°35'06", Williamson County, Hydrologic Unit 12070205, on left bank at downstream side of State Highway 29 bridge, 0.5 mi (0.8 km) upstream from Manske Branch, 4.7 mi (7.6 km) east of Georgetown, and 54.8 mi (88.2 km) upstream from mouth.

DRAINAGE AREA.--563 mi² (1,458 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 582.04 ft (177.406 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except for period of no gage-height record, which are fair. Flow regulated to some extent since March 1980 by Lake Georgetown. During the current year, the city of Georgetown released 1,180 acre-ft (1.45 hm³) of sewage effluent into the river 6.5 mi (10.5 km) above this station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,100 ft³/s (1,140 m³/s) Sept. 3, 1981, gage height, 21.85 ft (6.660 m); minimum daily, 0.45 ft³/s (0.013 m³/s) Aug. 22, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,100 ft³/s (1,140 m³/s) Sept. 3 at 1415 hours, gage height, 21.85 ft (6.660 m); minimum daily, 12 ft³/s (0.34 m³/s) Oct. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	15	23	26	30	35	55	49	78	2280	200	97
2	16	15	22	26	30	35	53	50	63	2200	150	89
3	15	15	20	26	26	43	56	56	151	2200	120	9160
4	15	15	19	26	29	83	174	58	7760	2180	110	1040
5	15	17	19	26	43	52	111	50	4490	2100	108	1260
6	15	17	19	27	40	45	67	46	941	2100	90	731
7	15	17	19	27	35	64	53	43	478	1300	88	677
8	15	18	61	26	32	60	53	42	1280	2100	89	709
9	14	18	60	25	32	50	53	42	3030	2050	87	872
10	13	18	36	25	70	45	52	41	3160	2010	84	974
11	13	17	32	25	68	43	52	39	6080	2000	48	952
12	13	17	30	25	45	103	52	35	2220	1980	56	939
13	13	16	29	24	37	115	52	35	1990	1940	56	926
14	12	16	28	25	36	90	50	34	5070	1900	56	916
15	12	15	31	24	35	77	50	34	1770	1850	57	950
16	85	29	29	24	34	70	52	123	5200	1200	57	901
17	21	33	27	23	34	64	51	107	1650	650	55	865
18	17	22	25	23	34	61	50	51	1100	390	98	844
19	20	18	25	34	34	58	48	35	791	290	90	834
20	16	16	25	42	35	56	44	33	678	210	70	827
21	14	16	27	33	35	56	38	32	515	150	62	647
22	13	15	28	29	35	55	43	33	963	130	59	102
23	13	16	28	27	34	55	272	33	2290	190	58	73
24	13	16	27	27	35	52	235	57	1800	250	58	56
25	13	19	26	28	34	52	91	2950	1800	260	55	50
26	13	47	26	27	46	55	71	300	1500	255	55	46
27	15	30	26	28	37	55	63	144	1200	250	53	46
28	15	25	26	27	30	55	55	108	1000	245	52	42
29	15	25	26	28	---	71	52	92	1200	240	55	41
30	15	23	26	26	---	71	48	90	2300	240	63	39
31	15	---	26	25	---	61	---	89	---	235	66	---
TOTAL	527	596	871	834	1045	1887	2196	4931	62548	35375	2405	25705
MEAN	17.0	19.9	28.1	26.9	37.3	60.9	73.2	159	2085	1141	77.6	857
MAX	85	47	61	42	70	115	272	2950	7760	2280	200	9160
MIN	12	15	19	23	26	35	38	32	63	130	48	39
AC-FT	1050	1180	1730	1650	2070	3740	4360	9780	124100	70170	4770	50990
CAL YR 1980	TOTAL	19598	MEAN	53.5	MAX	1840	MIN	10	AC-FT	38870		
WTR YR 1981	TOTAL	138920	MEAN	381	MAX	9160	MIN	12	AC-FT	275500		

NOTE: No gage-height record June 24 to Aug. 3.

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1976 to current year.

INSTRUMENTATION.--Water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 35.0°C July 24, 1977; minimum daily, 2.5°C Jan. 22, 1978, Jan. 2, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 33.5°C Aug. 15, 16; minimum daily, 6.0°C Dec. 26, Feb. 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 23...	1500	13	504	7.6	20.5	8	27	7.0	78	.5	220
DEC 17...	1915	27	518	8.1	15.5	0	13	13.0	131	.6	250
FEB 19...	1730	39	546	7.9	20.5	5	9.5	12.0	135	.4	250
APR 16...	0830	81	518	7.0	21.0	10	10	5.2	58	2.3	240
JUN 11...	1610	14600	193	7.5	21.0	40	540	7.8	88	5.1	95
AUG 20...	1600	60	450	8.0	29.5	5	8.6	9.2	120	1.3	210

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 23...	33	68	13	17	.5	2.4	190	24	23	.2	8.7
DEC 17...	32	81	12	16	.4	1.9	220	27	23	.2	6.2
FEB 19...	35	75	14	17	.5	1.8	210	32	23	.2	4.1
APR 16...	28	74	13	15	.4	1.4	210	27	18	.3	7.3
JUN 11...	5	33	3.1	2.9	.1	3.3	90	2.5	3.9	.1	10
AUG 20...	33	64	13	12	.4	1.7	180	17	19	.2	11

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 23...	288	44	14	1.5	.090	1.6	.070	.79	.86	.400	18
DEC 17...	300	22	2	2.7	.080	2.8	.000	1.1	1.10	.310	12
FEB 19...	293	11	2	2.0	.090	2.1	.070	1.4	1.50	.350	9.2
APR 16...	282	20	0	1.4	.090	1.5	.180	.75	.93	.220	11
JUN 11...	113	128	170	.22	.010	.23	.060	1.6	1.70	.480	8.8
AUG 20...	246	22	18	1.6	.030	1.6	.080	.87	.95	.080	2.7

BRAZOS RIVER BASIN

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
DEC 17...	1915	1	50	<1	0	<10	<10
APR 16...	0830	1	50	<1	10	<10	<10
AUG 20...	1600	1	50	<1	0	<10	11

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 17...	17	9	.4	0	0	<3
APR 16...	<10	20	.1	0	0	<3
AUG 20...	13	8	.0	0	1	26

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	12.5	10.0	11.5	19.0	16.5	18.0	24.5	18.0	21.0	29.5	25.0	27.0
2	13.5	11.0	11.5	16.5	16.0	16.5	21.0	18.0	19.5	26.5	23.5	24.5
3	13.5	8.0	10.5	16.0	15.5	16.0	23.5	20.0	21.5	23.5	22.5	23.0
4	12.0	10.0	11.0	20.5	16.0	18.0	23.0	20.5	21.5	24.0	21.5	22.5
5	10.5	10.0	10.0	21.0	15.0	17.5	23.0	18.5	20.5	25.0	22.0	23.0
6	11.0	9.5	10.0	17.0	14.5	15.5	22.5	17.5	19.5	27.5	21.5	24.0
7	15.5	10.0	12.5	18.0	15.0	16.0	22.5	17.5	19.5	27.5	22.0	24.5
8	13.0	11.5	12.0	16.5	15.0	16.0	21.5	19.0	20.0	26.0	23.0	24.5
9	13.5	10.5	12.0	17.5	13.5	15.0	23.5	20.0	21.5	27.0	23.5	24.5
10	16.5	11.5	14.0	19.5	13.5	16.5	24.0	21.0	22.5	25.5	20.0	22.5
11	12.5	7.5	10.0	17.0	15.5	16.0	23.5	21.0	22.5	24.5	19.0	21.5
12	10.5	6.0	8.0	15.5	14.0	15.0	24.0	21.0	22.5	26.0	20.0	22.5
13	9.5	8.0	9.0	17.0	14.0	15.0	26.0	21.0	23.0	26.0	22.0	23.5
14	14.0	9.0	11.0	19.0	14.0	16.0	25.5	22.0	23.5	27.5	22.0	24.5
15	16.0	9.0	12.0	22.0	16.0	18.5	23.5	21.5	22.5	24.5	21.0	22.5
16	16.5	11.0	13.5	19.5	16.5	18.0	23.5	20.5	22.0	24.0	19.0	21.0
17	18.5	13.0	15.5	20.5	15.0	17.5	25.5	21.0	23.0	26.5	22.0	24.0
18	18.5	15.0	16.5	20.5	15.5	17.5	25.0	22.0	23.5	31.0	24.0	27.0
19	23.0	16.5	18.5	19.5	13.5	16.5	26.5	22.5	24.0	28.5	23.0	26.0
20	22.5	17.0	19.5	18.5	13.5	15.5	28.5	23.5	25.5	27.5	22.0	24.5
21	23.5	18.5	20.5	19.5	15.5	17.0	26.5	23.5	25.0	25.0	22.0	23.5
22	20.0	16.5	18.5	19.5	14.5	16.5	24.0	23.0	23.5	25.0	22.0	23.5
23	20.5	14.0	17.0	20.5	14.5	17.0	23.0	20.5	22.0	28.0	23.5	25.0
24	19.5	15.0	16.5	21.0	14.0	17.5	21.5	19.0	20.0	28.0	23.0	25.0
25	17.0	15.5	16.5	17.5	15.5	16.5	23.0	19.0	20.5	23.0	19.5	21.5
26	20.0	16.5	18.0	21.0	16.0	18.0	24.5	19.0	21.5	27.0	23.0	24.5
27	20.5	18.0	19.0	19.5	17.0	18.5	26.0	21.0	23.5	28.5	25.0	26.5
28	20.5	19.0	19.5	20.0	18.0	19.0	26.5	23.0	24.5	30.0	26.0	27.5
29	---	---	---	23.0	17.5	20.0	28.5	23.5	25.5	27.5	26.0	27.0
30	---	---	---	23.5	16.5	20.0	29.5	24.0	26.5	26.5	24.0	25.0
31	---	---	---	23.5	18.0	20.5	---	---	---	27.5	23.0	24.5
MONTH	23.5	6.0	14.0	23.5	13.5	17.0	29.5	17.5	22.5	31.0	19.0	24.0

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

BRAZOS RIVER BASIN

08105600 GRANGER LAKE NEAR GRANGER, TX

LOCATION.--Lat 30°41'34", long 97°19'34", Williamson County, Hydrologic Unit 12070205, at Granger Dam on San Gabriel River, 1.5 mi (2.4 km) south of Friendship, 2.2 mi (3.5 km) upstream from Willis Creek, 7.1 mi (11.4 km) east of Granger, and at mile 31.9 (51.3 km).

DRAINAGE AREA.--730 mi² (1,891 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 27, 1980, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam, 16,320 ft (4,974 m) long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Jan. 21, 1980. The spillway is an ungated ogee weir, 950 ft (290 m) long, located near right end of dam. The spillway for normal flood releases is a gated 18-foot-diameter (5.5 m) conduit, controlled by two 8- by 18-foot (2 by 5 m) slide gates, located near the center of dam. The invert for the floodgate is 457.0 ft (139.3 m). A low-flow outlet, consisting of three 3- by 4-foot (0.9 by 1.2 m) gated openings, invert elevations of 486.0, 494.0, and 502.0 ft (148.13, 150.57, and 153.01 m). Figures given herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	555.0	674,500
Designed flood.....	550.3	580,000
Crest of spillway.....	528.0	244,200
Top of conservation pool.....	504.0	65,510
Lowest gated outlet (invert of 18 foot conduit).....	457.0	0

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 186,200 acre-ft (230 hm³) June 19, 1981, elevation, 522.25 ft (159.182 m); minimum, 615 acre-ft (0.758 hm³) Jan. 21, 1980, elevation 462.60 ft (141.000 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 186,200 acre-ft (230 hm³) June 19 at 1300 hours, elevation, 522.25 ft (159.281 m); minimum, 34,020 acre-ft (41.9 hm³) Oct. 13 at 1600 hours, elevation, 494.65 ft (150.769 m).

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

494.0	32,420	506.0	74,610	518.0	149,900
498.0	43,420	510.0	95,670	522.0	183,870
502.0	57,280	514.0	120,650	523.0	193,120

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34330	35120	36920	39110	41000	44200	51420	55890	67190	139800	71930	68800
2	34300	35120	36950	39170	41020	44290	51520	56080	67190	135400	72070	69970
3	34280	35150	36980	39200	41050	45090	51770	56350	67500	129600	71930	87740
4	34250	35150	37030	39230	41140	45730	52130	56510	73660	124900	71840	86720
5	34230	35150	37090	39250	41380	45960	52450	56580	92030	121100	71750	84860
6	34200	35150	37170	39370	41620	46080	52670	56620	93720	118000	71610	81530
7	34200	35150	37250	39450	41740	46480	52770	56700	94980	112300	71520	78410
8	34180	35180	37440	39480	41830	46480	52920	56780	90630	107000	71330	75620
9	34150	35180	37770	39540	41890	46900	53060	56850	89210	101300	71200	72490
10	34120	35180	37940	39600	43260	47070	53170	56780	88390	94920	71060	69970
11	34070	35200	38020	39630	42620	47370	53170	56780	97710	90800	70920	68800
12	34050	35200	38100	39680	42560	47860	53210	56780	114400	86990	70740	68080
13	34020	35200	38160	39710	42680	48370	53250	56780	130400	80060	70560	67500
14	34020	35200	38240	39770	42770	48740	53210	56780	144400	77080	70420	67140
15	34050	35200	38350	39800	42800	48970	53210	57010	153600	73950	70240	66880
16	34560	35460	38440	39860	42950	49170	53470	57320	179300	70830	70060	66260
17	34920	35730	38490	39880	43050	49380	53470	57550	183000	69520	70060	65510
18	35050	35750	38550	39880	43290	49480	53540	57670	185600	69380	70380	65380
19	35100	35780	38580	40060	43290	49620	53540	57630	183600	69970	70600	65640
20	35150	35800	38580	40260	43290	49750	53580	57590	177800	70240	70600	65900
21	35150	35830	38550	40350	43450	49820	53580	57630	168500	70510	70420	65860
22	35150	35880	38630	40440	43600	49920	53800	57630	160200	70600	70190	65900
23	35150	35940	38720	40520	43600	50060	54390	57900	154900	70790	70010	66080
24	35150	35940	38740	40580	43670	50200	54950	60250	149000	71060	69790	66210
25	35150	36090	38770	40640	43700	50370	55250	65900	149000	71240	69610	66340
26	35150	36440	38800	40700	43790	50470	55360	66700	150800	71470	69430	66480
27	35150	36660	38860	40730	43920	50650	55480	67050	151400	71750	69200	66610
28	35150	36760	38910	40790	44100	50820	55590	67280	145100	71890	68930	66740
29	35120	36760	38970	40850	---	50990	55740	67370	142900	71890	68750	66830
30	35120	36840	39030	40910	---	51130	55860	67280	141800	71890	68620	66970
31	35120	---	39050	40940	---	51280	---	66970	---	71840	68530	---
MAX	35150	36840	39050	40940	44100	51280	55860	67370	185600	139800	72070	87740
MIN	34020	35120	36920	39110	41000	44200	51420	55890	67190	69380	68530	65380
(+)	495.08	495.73	496.53	497.18	498.22	500.38	501.63	504.33	516.95	505.41	504.68	504.33
(#)	+790	+1720	+2210	+1890	+3160	+7180	+4580	+11100	+74830	-69960	-3310	-1560

WTR YR 1981 MAX 185600 MIN 34020 † +32640
CAL YR 1980 MAX 39050 MIN 0 † +39050

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

BRAZOS RIVER BASIN

425

08105600 GRANGER LAKE NEAR GRANGER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

304132097200801 GRANGER LAKE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
07...	1020	1.00	450	8.2	9.5	.58	9.9	87	K6	K1
07...	1021	1.00	--	--	--	--	--	--	--	--
07...	1022	10.0	450	8.2	9.5	--	9.9	87	--	--
07...	1024	20.0	450	8.2	9.5	--	9.8	86	--	--
07...	1028	35.0	450	8.2	9.5	--	9.8	86	--	--
07...	1030	42.0	450	8.2	9.5	--	9.9	87	--	--
APR										
29...	1120	1.00	466	8.2	24.0	1.20	7.9	94	K3	<1
29...	1125	10.0	469	8.1	23.5	--	7.2	86	--	--
29...	1130	20.0	471	7.9	22.0	--	5.5	63	--	--
29...	1135	30.0	480	7.5	21.0	--	1.2	13	--	--
29...	1140	40.0	483	7.5	20.5	--	.9	10	--	--
29...	1145	45.0	489	7.5	20.5	--	1.0	11	--	--
AUG										
21...	1200	1.00	397	7.7	28.5	.90	5.5	71	K2	<1
21...	1201	1.40	--	--	--	--	--	--	--	--
21...	1202	10.0	397	7.7	27.0	--	5.0	63	--	--
21...	1204	20.0	397	7.7	27.0	--	5.0	63	--	--
21...	1206	30.0	409	7.4	27.0	--	3.2	41	--	--
21...	1208	35.0	419	7.1	26.5	--	.9	11	--	--
21...	1210	40.0	454	6.9	26.0	--	.4	5	--	--
21...	1212	51.0	463	6.7	24.0	--	.7	8	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN										
07...	190	16	59	9.3	20	.6	4.5	170	28	17
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	190	16	59	9.4	20	.6	4.6	170	28	17
APR										
29...	190	9	60	9.6	20	.6	4.5	180	32	21
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	200	13	65	9.8	20	.6	4.5	190	30	20
AUG										
21...	190	17	61	8.5	11	.4	3.8	170	16	14
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	210	0	70	8.8	9.1	.3	3.8	220	18	12

BRAZOS RIVER BASIN
GRANGER LAKE NEAR GRANGER, TX--Continued

304132097200801 GRANGER LAKE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
07...	.4	7.0	248	.37	1.10	1.5	.080	80	5
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	.37	1.00	1.4	.070	50	<10
07...	--	--	--	--	--	--	--	--	--
07...	--	7.1	247	.36	.98	1.3	.080	90	8
APR									
29...	.3	5.2	261	.40	.97	1.4	.040	20	20
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	6.9	271	.38	1.10	1.5	.060	90	800
AUG									
21...	.2	11	228	<.09	.94	--	.030	<10	21
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	.12	1.10	1.2	.030	30	100
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	.30	1.70	2.0	.040	40	720
21...	--	17	271	<.09	3.10	--	.240	1600	1600

304209097195101 GRANGER LAKE SITE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
07...	0955	1.00	450	8.3	9.5	10.0	88
07...	0957	10.0	450	8.3	9.5	10.0	88
07...	0959	20.0	450	8.3	9.5	10.0	88
07...	1001	30.0	450	8.3	9.5	10.0	88
07...	1005	40.0	450	8.3	9.5	10.0	88
APR							
29...	1100	1.00	462	8.2	24.0	7.8	93
29...	1103	10.0	464	8.1	23.5	7.3	87
29...	1106	20.0	470	7.9	22.0	5.5	63
29...	1110	30.0	481	7.6	21.5	2.5	28
29...	1115	43.0	488	7.5	20.5	1.3	14
AUG							
21...	1130	1.00	397	7.6	27.0	4.9	62
21...	1132	10.0	397	7.5	26.5	4.3	54
21...	1134	20.0	397	7.5	26.5	4.1	51
21...	1136	30.0	397	7.4	26.0	3.7	46
21...	1138	40.0	420	6.9	25.5	.5	6
21...	1140	49.0	438	6.7	24.5	.8	10

BRAZOS RIVER BASIN

427

GRANGER LAKE NEAR GRANGER, TX--Continued

304206097215001 GRANGER LAKE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JAN							
07...	1100	1.00	470	8.3	9.5	.88	10.0
07...	1102	10.0	470	8.3	9.5	--	9.9
07...	1104	15.0	470	8.2	9.5	--	9.8
07...	1106	20.0	480	8.2	9.5	--	9.4
07...	1108	25.0	550	7.8	9.5	--	7.3
APR							
29...	1205	1.00	494	8.2	25.0	.90	9.0
29...	1210	10.0	505	7.9	23.5	--	6.0
29...	1215	20.0	526	7.4	22.0	--	.3
29...	1220	31.0	538	7.4	21.0	--	.4
AUG							
21...	1240	1.00	397	7.7	28.0	--	6.0
21...	1244	20.0	403	7.4	26.0	--	3.8
21...	1246	30.0	403	7.2	25.5	--	1.8
21...	1248	35.0	403	7.2	25.0	--	1.6

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN							
07...	88	.36	.96	1.3	.080	30	<10
07...	87	--	--	--	--	--	--
07...	86	.35	.83	1.2	.070	10	<10
07...	82	--	--	--	--	--	--
07...	63	2.3	1.10	3.4	.080	60	10
APR							
29...	110	.31	1.00	1.3	.060	20	20
29...	71	--	--	--	--	--	--
29...	3	--	--	--	--	--	--
29...	4	1.3	1.10	2.4	.080	30	150
AUG							
21...	77	<.09	.90	--	.030	10	10
21...	47	<.09	1.10	--	.050	40	30
21...	22	--	--	--	--	--	--
21...	20	<.09	1.30	--	.080	50	90

304108097215101 GRANGER LAKE SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN										
07...	1125	1.00	470	8.2	9.5	.88	9.9	87	K5	K1
07...	1127	10.0	470	8.2	9.5	--	9.9	87	--	--
07...	1129	20.0	470	8.2	9.5	--	9.8	86	--	--
07...	1131	30.0	477	8.1	9.5	--	9.3	82	--	--
07...	1133	36.0	494	8.0	9.5	--	8.9	78	--	--
APR										
29...	1225	1.00	452	8.2	25.0	1.20	10.8	132	<1	<1
29...	1230	10.0	469	8.0	23.0	--	6.5	76	--	--
29...	1235	20.0	477	7.6	22.0	--	1.7	20	--	--
29...	1240	30.0	466	7.5	21.0	--	1.4	16	--	--
29...	1245	40.0	466	7.5	21.0	--	.7	8	--	--
29...	1250	45.0	469	7.4	21.0	--	.6	7	--	--
AUG										
21...	1300	1.00	393	8.0	29.0	--	8.0	105	<1	K1
21...	1302	10.0	395	7.8	27.5	--	6.0	77	--	--
21...	1304	20.0	408	7.7	27.0	--	4.0	51	--	--
21...	1306	30.0	410	7.5	27.0	--	3.8	48	--	--
21...	1308	40.0	413	7.5	27.0	--	2.5	32	--	--
21...	1310	45.0	415	7.3	27.0	--	2.6	33	--	--

BRAZOS RIVER BASIN
GRANGER LAKE NEAR GRANGER, TX--Continued

304108097215101 GRANGER LAKE SITE CC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN										
07...	190	11	60	10	20	.6	4.4	180	29	16
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	220	28	69	11	19	.6	3.5	190	31	25
APR										
29...	190	9	59	10	19	.6	4.2	180	30	19
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	210	9	64	12	14	.4	2.4	200	29	11
AUG										
21...	180	14	60	8.4	9.8	.3	3.8	170	16	14
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	190	9	61	8.9	10	.3	3.7	180	16	15

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
07...	--	6.5	254	.57	1.10	1.7	.080	20	2
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	.56	.83	1.4	.080	50	<10
07...	--	--	--	--	--	--	--	--	--
07...	.5	5.3	278	1.1	1.20	2.3	.080	40	6
APR									
29...	--	5.0	254	.24	1.40	1.6	.060	20	10
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	.42	1.10	1.5	.040	40	80
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	8.9	262	.63	1.40	2.0	.100	20	200
AUG									
21...	--	10	224	<.09	.87	--	.030	<10	5
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	.23	1.10	1.3	.040	30	20
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	11	234	.22	1.20	1.4	.070	22	61

BRAZOS RIVER BASIN

429

GRANGER LAKE NEAR GRANGER, TX--Continued

303947097231401 GRANGER LAKE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC CI KF AGAR (COLS. PER 100 ML)
JAN										
07...	1215	1.00	501	8.3	10.0	.73	12.3	109	24	K3
07...	1216	1.20	--	--	--	--	--	--	--	--
07...	1217	10.0	540	8.0	9.5	--	9.8	86	--	--
07...	1219	22.0	555	7.9	9.5	--	8.0	70	--	--
APR										
29...	1305	1.00	474	8.0	24.0	1.30	8.1	96	K7	33
29...	1307	2.10	--	--	--	--	--	--	--	--
29...	1310	10.0	447	7.5	22.0	--	2.9	33	--	--
29...	1315	20.0	405	7.6	21.5	--	3.5	40	--	--
29...	1320	27.0	416	7.5	21.5	--	2.9	33	--	--
AUG										
21...	1345	1.00	427	7.6	27.0	.50	8.8	111	K10	44
21...	1346	.90	--	--	--	--	--	--	--	--
21...	1347	10.0	483	7.2	26.5	--	2.5	31	--	--
21...	1349	20.0	483	7.2	26.5	--	2.8	35	--	--
21...	1351	30.0	490	7.2	25.0	--	2.8	34	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JAN									
07...	220	32	69	12	19	.6	3.6	190	32
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	250	38	78	13	19	.5	1.6	210	34
APR									
29...	220	18	69	11	15	.4	2.1	200	28
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	190	21	60	10	11	.3	2.2	170	30
AUG									
21...	200	19	63	10	11	.4	3.2	180	18
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	230	26	69	13	14	.4	2.0	200	24

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
07...	26	3.4	279	.76	.70	1.5	.080	40	8
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	2.4	.98	3.4	.090	20	<10
07...	24	2.0	298	2.9	.80	3.7	.100	<10	9
APR									
29...	16	8.3	270	.94	.95	1.9	.110	10	3
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	11	9.4	236	.80	1.60	2.4	.100	30	20
AUG									
21...	18	11	242	.58	1.00	1.6	.040	<10	4
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	2.6	1.30	3.9	.030	40	20
21...	20	12	274	2.6	1.30	3.9	.090	<10	100

BRAZOS RIVER BASIN
GRANGER LAKE NEAR GRANGER, TX--Continued

304132097200801 GRANGER LAKE SITE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 7,81 1021	APR 29,81 1122	AUG 21,81 1201
TOTAL CELLS/ML	1400	2100	310000
DIVERSITY: DIVISION	1.2	2.0	0.1
..CLASS	1.2	2.0	0.1
..ORDER	1.9	2.0	0.1
...FAMILY	2.5	2.9	0.1
....GENUS	2.7	3.4	0.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
.BACILLARIOPHYCEAE						
..BACILLARIALES						
...NITZSCHIACEAE						
....NITZSCHIA	--	-	13	1	--	-
..EUPODISCALES						
...COSCINODISCACEAE						
....CYCLOTELLA	--	-	77	4	--	-
....MELOSIRA	39	3	120	5	--	-
..FRAGILARIALES						
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	3100	1
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHLOROCOCCACEAE						
....SCHROEDERIA	--	-	77	4	--	-
....TETRAEDRON	--	-	13	1	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	180	13	--	-	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	51	2	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	90	6	39	2	--	-
....CLOSTERIOPSIS	--	-	--	-	*	0
....KIRCHNERIELLA	--	-	100	5	--	-
....OOCYSTIS	--	-	64	3	--	-
....SELENASTRUM	13	1	--	-	--	-
...PALMELLACEAE						
....SPHAEROCYSTIS	--	-	51	2	--	-
...SCENEDESMACEAE						
....COELASTRUM	--	-	280	13	--	-
....CRUCIGENIA	210	15	51	2	*	0
....SCENEDESMUS	52	4	77	4	*	0
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	13	1	--	-	--	-
...PHACOTACEAE						
....PHACOTUS	390#	28	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	360#	17	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	39	3	170	8	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	370#	27	580#	27	--	-
..NOSTOCALES						
...NOSTOCACEAE						
....APHANIZOMENON	--	-	--	-	32000	10
....CYLINDROSPERMUM	--	-	--	-	280000#	88
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	--	-	13	1	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..DINOKONTAE						
...GLENODINIACEAE						
....GLENODINIUM	13	1	13	1	--	-

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

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

GRANGER LAKE NEAR GRANGER, TX--Continued

303947097231401 GRANGER LAKE SITE DC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	JAN 7,81 1216	APR 29,81 1307	AUG 21,81 1346
TOTAL CELLS/ML	4700	5600	310000
DIVERSITY: DIVISION	2.0	2.0	0.1
..CLASS	2.0	2.0	0.1
...ORDER	2.5	2.4	0.1
...FAMILY	2.8	2.9	0.1
....GENUS	2.9	3.0	0.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...BACILLARIALES						
....NITZSCHIA	72	2	100	2	--	-
...EUPODISCALES						
....COSCINODISCACEAE						
....CYCLOTELLA	650	14	500	9	--	-
...FRAGILARIALES						
....FRAGILARIACEAE						
....SYNEDRA	72	2	67	1	--	-
..NAVICULALES						
...NAVICULACEAE						
....NAVICULA	--	-	270	5	--	-
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....DICTYOSPHAERIA						
....DICTYOSPHAERIUM	--	-	33	1	--	-
...MICRACTINIA						
....MICRACTINIUM	--	-	170	3	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	72	2	200	4	--	-
....KIRCHNERIELLA	--	-	--	-	*	0
....SELENASTRUM	36	1	100	2	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	--	-	*	0
....SCENEDESMUS	140	3	200	4	2700	1
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	1800#	37	230	4	--	-
...PHACOTACEAE						
....DYSMORPHOCOCCUS	180	4	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
....CHROOMONAS	220	5	1000#	18	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	320	7	900#	16	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
....ANACYSTIS	180	4	1700#	31	--	-
...NOSTOCALES						
....NOSTOCACEAE						
....ANABAENA	860#	18	--	-	--	-
....APHANIZOMENON	--	-	--	-	310000#	98
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
....EUGLENA	36	1	33	1	--	-
....TRACHELOMONAS	36	1	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...DINOKONTAE						
....GLENODINIACEAE						
....GLENODINIUM	72	2	--	-	--	-

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

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

BRAZOS RIVER BASIN

08105700 SAN GABRIEL RIVER AT LANEPORT, TX

LOCATION.--Lat 30°41'40", long 97°16'43", Williamson County, Hydrologic Unit 12070205, on right bank 22 ft (7 m) downstream from county bridge, 0.2 mi (0.3 km) north of Laneport, 3.4 mi (5.5 km) downstream from Willis Creek, 7.5 mi (12.1 km) northwest of Thrall, and 26.2 mi (42.2 km) upstream from mouth.

DRAINAGE AREA.--738 mi² (1,911 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD TX-74-1: 1965(M), 1966(P), 1967(M), 1968, 1969(P), 1973(P). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 412.60 ft (125.760 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow partly regulated by Granger Lake (station 08105600) since Jan. 21, 1980.

AVERAGE DISCHARGE.--14 years (water years 1966-79) unregulated, 289 ft³/s (8.184 m³/s), 209,400 acre-ft/yr (258 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft³/s (884 m³/s) Oct. 31, 1974, gage height, 30.80 ft (9.388 m); minimum daily, 0.28 ft³/s (0.008 m³/s) Aug. 25-28, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1910, occurred September 1921, 39.6 ft (12.07 m); April 1957, 34.6 ft (10.55 m); and October 1959, 33.8 ft (10.30 m); from floodmarks at present site and datum. Discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,160 ft³/s (146 m³/s) June 21 at 2400 hours, gage height, 17.88 ft (5.450 m); minimum daily, 0.68 ft³/s (0.019 m³/s) May 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	4.9	5.2	4.1	6.4	8.5	7.4	.68	172	3120	31	137
2	8.5	4.9	5.2	4.1	6.4	8.2	7.4	.68	174	3700	72	135
3	7.3	4.9	5.2	4.1	6.4	10	7.4	24	175	4680	126	135
4	3.3	4.9	5.2	4.1	7.4	33	8.1	8.1	143	4750	126	896
5	3.9	4.9	5.2	4.1	8.5	11	7.8	2.6	13	4460	125	2380
6	4.1	4.9	5.2	4.1	8.5	8.6	7.8	1.4	6.0	3190	125	2410
7	4.1	4.9	5.2	4.1	8.1	10	7.5	1.0	3.2	3900	126	2340
8	4.1	4.9	6.7	4.1	7.5	9.5	3.4	.85	1640	4830	127	2290
9	4.1	4.9	7.4	4.1	7.4	8.1	2.4	2.3	4320	4890	128	2220
10	4.1	4.9	6.4	4.1	9.4	7.4	2.7	3.8	4220	4640	128	2270
11	4.1	4.9	5.5	4.1	9.1	6.7	52	2.2	2390	4430	128	1680
12	4.1	4.9	5.2	4.1	8.5	8.3	52	1.4	67	4600	128	1310
13	4.1	4.9	4.9	4.1	8.3	13	51	1.4	623	4590	127	1260
14	8.7	4.9	4.9	4.1	8.1	8.8	51	1.5	220	4260	126	1250
15	6.0	4.9	4.6	4.1	8.1	7.8	51	1.5	37	2900	126	1120
16	15	9.0	4.6	4.1	8.1	7.1	52	5.3	295	2640	127	1170
17	4.9	8.7	4.3	3.8	7.8	7.1	52	2.5	49	1300	90	1220
18	5.4	7.1	4.3	3.8	7.8	7.1	51	2.4	33	64	7.4	953
19	5.2	6.2	4.3	5.8	7.8	7.1	51	2.1	1070	57	4.9	698
20	4.3	5.8	4.3	7.6	7.8	7.1	51	1.8	3560	46	32	691
21	4.3	5.8	4.3	7.7	8.4	7.1	51	1.9	4590	45	139	691
22	4.3	5.8	4.3	7.3	7.8	7.1	52	1.9	5060	44	139	354
23	4.3	5.8	4.3	7.1	7.1	7.1	43	1.9	4970	41	139	12
24	6.2	5.8	4.3	7.1	7.1	7.1	3.1	9.1	4820	58	138	7.8
25	4.9	7.0	4.3	7.1	7.1	7.1	1.4	51	3250	84	137	6.1
26	4.9	11	4.3	7.1	7.1	7.1	1.1	8.1	71	74	136	5.2
27	4.9	8.0	4.3	6.9	7.1	7.1	.90	3.8	45	41	135	4.9
28	4.9	5.5	4.1	6.5	7.1	7.1	.80	31	1990	90	135	4.1
29	4.9	5.2	4.1	6.4	---	7.7	.69	176	4780	136	135	3.8
30	4.9	5.2	4.1	6.4	---	7.7	.69	178	3160	129	134	3.6
31	4.9	---	4.1	6.4	---	7.4	---	172	---	125	134	---
TOTAL	167.2	175.4	150.3	162.6	216.2	274.0	730.58	702.21	51946.2	67914	3511.3	27657.5
MEAN	5.39	5.85	4.85	5.25	7.72	8.84	24.4	22.7	1732	2191	113	922
MAX	15	11	7.4	7.7	9.4	33	52	178	5060	4890	139	2410
MIN	3.3	4.9	4.1	3.8	6.4	6.7	.69	.68	3.2	41	4.9	3.6
AC-FT	332	348	298	323	429	543	1450	1390	103000	134700	6960	54860
CAL YR 1980	TOTAL	3990.40	MEAN	10.9	MAX	59	MIN	1.2	AC-FT	7910		
WTR YR 1981	TOTAL	153607.49	MEAN	421	MAX	5060	MIN	.68	AC-FT	304700		

08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: July 1972 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1976 to current year.

INSTRUMENTATION.--Water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 37.5°C July 9, 1978; minimum daily, 1.5°C Jan. 28, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 30.5°C June 7; minimum daily, 7.0°C Dec. 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 23...	1350	4.9	496	7.4	19.0	4	29	7.6	82	.9	200
DEC 17...	1745	4.3	528	7.3	14.5	0	19	7.9	77	1.0	210
FEB 19...	1600	7.1	540	7.4	18.0	10	30	10.2	109	.3	210
APR 15...	1430	51	486	7.9	21.5	5	70	6.9	78	2.4	200
JUN 11...	1440	1900	336	7.6	26.0	25	47	7.9	98	3.0	140
AUG 20...	1450	4.4	542	7.4	28.0	5	7.7	6.4	81	1.9	250

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 23...	27	63	9.9	23	.7	4.5	170	29	30	.3	11
DEC 17...	33	67	11	24	.7	4.1	180	31	37	.3	8.5
FEB 19...	28	65	11	26	.8	4.2	180	39	33	.2	5.4
APR 15...	19	64	9.4	20	.6	4.4	180	31	27	.3	5.7
JUN 11...	10	46	6.1	11	.4	4.3	130	18	15	.2	9.2
AUG 20...	34	82	12	16	.5	3.1	220	25	25	.2	14

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 23...	274	33	0	.73	.010	.74	.020	.63	.65	.200	7.8
DEC 17...	291	16	13	.98	.010	.99	.000	.81	.81	.070	37
FEB 19...	292	23	4	.80	.010	.81	.020	1.6	1.60	.070	14
APR 15...	270	99	0	.46	.030	.49	.140	1.4	1.50	.110	12
JUN 11...	188	146	39	.11	.020	.13	.090	1.2	1.30	.090	5.5
AUG 20...	310	19	22	2.7	.030	2.7	.040	1.2	1.20	.080	4.0

BRAZOS RIVER BASIN

08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
DEC 17...	1745	3	70	1	0	<10	10
APR 15...	1430	3	60	4	10	<10	20
AUG 20...	1450	6	80	<1	0	<10	<10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 17...	26	30	.2	0	0	<3
APR 15...	<10	6	.1	0	0	7
AUG 20...	<10	57	.0	1	0	5

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	27.0	23.0	23.5	15.5	13.5	14.5	13.0	10.5	12.0	12.0	10.0	11.0
2	24.0	22.5	23.0	16.0	14.5	15.5	12.5	11.0	12.0	12.0	10.5	11.0
3	23.0	21.0	22.0	16.5	15.0	16.0	11.5	10.0	11.0	12.0	10.0	11.0
4	23.0	20.0	21.5	17.0	16.0	16.5	13.0	11.0	12.0	11.5	10.5	11.0
5	23.0	20.5	21.5	16.5	15.0	16.0	14.0	13.0	13.5	11.0	10.0	10.5
6	22.0	20.0	21.0	16.5	15.0	16.0	15.0	14.0	14.5	12.0	10.5	11.0
7	21.5	19.5	20.5	17.5	15.5	16.5	16.0	15.0	15.5	12.0	11.0	11.5
8	21.0	19.0	20.0	18.5	16.5	17.5	16.0	14.5	15.5	11.5	10.0	11.0
9	21.0	19.0	20.0	19.5	17.5	18.5	17.5	12.0	15.5	12.5	11.0	12.0
10	20.5	18.5	19.5	19.5	18.0	18.5	12.0	11.0	11.5	13.0	12.0	12.5
11	20.0	18.0	18.5	19.0	17.5	18.0	11.0	10.0	10.5	13.5	12.5	13.0
12	19.0	17.0	18.0	18.0	17.0	17.5	11.0	9.5	10.5	12.5	11.0	12.0
13	18.5	16.5	17.5	17.0	16.0	16.5	12.0	10.5	11.0	11.5	10.0	11.0
14	18.5	17.0	17.5	17.0	16.0	16.5	12.5	11.5	12.0	12.5	10.5	11.5
15	19.0	18.0	18.0	16.0	14.5	15.0	13.0	12.0	12.5	12.5	10.5	11.0
16	19.0	18.0	18.5	14.0	12.5	13.5	13.5	12.0	12.5	11.5	10.0	11.0
17	20.0	18.5	19.0	12.5	11.0	12.0	13.5	11.5	12.5	11.0	10.0	10.5
18	18.5	17.0	17.5	11.5	10.5	11.0	14.0	12.0	13.0	10.0	10.0	10.0
19	16.5	15.0	16.0	11.5	10.0	11.0	13.5	11.0	12.5	10.0	9.5	10.0
20	15.5	15.0	15.0	11.5	10.0	10.5	11.0	8.5	10.0	11.0	9.5	10.0
21	15.0	14.5	14.5	11.5	10.0	11.0	8.5	8.0	8.0	11.5	10.0	10.5
22	14.5	14.5	14.5	11.0	11.0	11.0	9.0	8.0	8.5	12.5	10.5	11.0
23	14.5	14.0	14.0	12.5	11.0	11.5	11.0	9.0	10.0	13.0	10.5	11.5
24	14.0	14.0	14.0	12.0	11.5	11.5	11.0	10.0	10.5	13.5	11.0	12.0
25	14.0	13.5	14.0	11.5	9.5	11.0	9.5	8.0	8.5	14.0	12.0	13.0
26	13.5	13.5	13.5	9.5	8.0	8.5	9.5	7.0	8.0	15.0	13.5	14.0
27	13.5	13.5	13.5	9.5	8.0	8.5	10.0	8.0	9.0	16.0	14.5	15.0
28	13.5	13.0	13.5	9.5	7.5	8.5	10.5	9.0	10.0	15.5	14.0	14.5
29	13.0	13.0	13.0	10.0	8.0	9.0	11.0	9.5	10.5	17.0	15.0	16.0
30	15.0	13.0	14.5	11.0	9.0	10.0	11.5	10.0	10.5	16.0	14.5	15.5
31	15.0	13.0	14.0	---	---	---	11.5	9.5	10.5	14.5	13.5	14.0
MONTH	27.0	13.0	17.5	19.5	7.5	13.5	17.5	7.0	11.5	17.0	9.5	12.0

08105700 SAN GABRIEL RIVER AT LANEPOR, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	15.0	13.5	14.0	18.0	16.5	17.0	22.0	18.5	20.0	---	---	---
2	13.5	11.5	12.5	16.5	16.0	16.0	20.5	19.5	20.0	---	---	---
3	12.5	10.0	11.5	16.0	16.0	16.0	22.5	20.0	21.0	---	---	---
4	12.0	11.5	11.5	18.0	16.0	17.0	23.5	21.0	22.0	---	---	---
5	12.0	11.0	11.5	18.0	16.0	17.0	23.0	19.5	21.0	---	---	---
6	11.5	11.0	11.0	16.5	15.5	16.0	21.5	19.0	20.0	---	---	---
7	13.5	11.5	12.5	16.5	15.5	16.0	21.0	19.0	20.0	---	---	---
8	13.5	12.5	13.0	16.0	15.0	15.5	21.0	20.0	20.5	---	---	---
9	13.0	11.5	12.5	16.0	14.0	15.0	22.5	20.5	21.5	---	---	---
10	15.5	13.0	14.0	17.0	15.0	15.5	23.5	21.0	22.0	---	---	---
11	12.5	9.5	10.5	16.0	16.0	16.0	22.0	21.0	21.5	---	---	---
12	10.5	8.5	9.5	15.5	14.5	15.0	22.0	21.0	21.5	---	---	---
13	11.0	10.0	10.5	16.0	14.5	15.0	22.0	21.0	21.5	---	---	---
14	12.5	10.0	11.0	17.5	15.0	16.0	---	---	---	---	---	---
15	13.5	10.5	12.0	19.0	16.0	17.5	---	---	---	---	---	---
16	14.0	11.5	12.5	18.0	17.0	17.5	---	---	---	---	---	---
17	15.5	12.5	14.0	18.5	16.0	17.0	---	---	---	---	---	---
18	16.5	15.0	15.5	19.0	16.5	17.5	---	---	---	28.5	26.5	27.5
19	18.5	16.0	17.0	18.0	15.0	16.5	---	---	---	26.5	23.5	25.0
20	18.5	16.5	17.5	17.5	15.5	16.0	---	---	---	25.5	22.0	24.0
21	19.5	18.0	18.5	18.5	16.0	17.0	---	---	---	24.5	22.0	23.5
22	18.5	16.5	17.5	18.0	16.0	17.0	---	---	---	25.0	23.0	24.0
23	18.0	15.5	16.5	18.5	16.0	17.0	---	---	---	26.5	23.5	25.0
24	17.5	15.5	16.5	19.0	16.0	17.5	---	---	---	26.0	23.5	24.5
25	16.5	16.0	16.5	17.5	16.5	17.0	---	---	---	25.0	21.5	23.5
26	18.0	16.5	17.0	19.0	16.5	17.5	---	---	---	27.5	23.5	25.0
27	18.5	17.5	18.0	19.5	18.0	18.5	---	---	---	28.0	25.0	26.5
28	18.5	18.0	18.0	20.0	18.5	19.0	---	---	---	29.0	25.5	26.5
29	---	---	---	21.5	18.5	20.0	---	---	---	27.5	25.5	26.0
30	---	---	---	21.5	18.5	20.0	---	---	---	26.0	25.0	25.5
31	---	---	---	20.5	19.0	19.5	---	---	---	26.5	24.5	25.5
MONTH	19.5	8.5	14.0	21.5	14.0	17.0	23.5	18.5	21.0	29.0	21.5	25.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	27.0	25.0	26.0	27.0	26.0	26.5	28.5	27.0	27.5	28.0	26.5	27.5
2	27.0	25.5	26.0	27.0	26.0	26.5	28.0	26.5	27.5	27.5	26.5	27.0
3	26.5	25.5	26.0	27.5	26.0	27.0	28.0	26.0	27.0	28.0	19.0	26.5
4	26.0	24.5	25.0	27.0	26.5	27.0	28.0	26.0	27.0	27.5	26.0	26.5
5	26.5	24.5	25.0	27.0	26.0	26.5	28.5	26.0	27.5	26.0	25.5	26.0
6	29.0	25.0	26.5	27.5	19.0	26.0	28.5	19.5	26.5	26.0	25.5	26.0
7	30.5	26.0	28.0	28.0	19.0	27.0	28.5	26.0	27.5	26.5	25.5	26.0
8	28.5	26.0	27.0	27.5	27.0	27.0	28.0	26.0	27.0	26.0	26.0	26.0
9	27.0	26.0	26.5	27.5	27.0	27.0	28.5	25.5	27.0	26.0	25.5	25.5
10	27.0	25.5	26.5	27.5	19.0	27.0	28.0	26.0	27.0	26.5	25.5	26.0
11	26.0	25.0	25.5	27.5	27.0	27.5	---	---	---	26.5	25.5	26.0
12	25.0	24.5	24.5	28.0	27.0	27.5	---	---	---	26.5	25.5	25.5
13	25.0	24.0	24.5	28.0	27.0	27.5	---	---	---	26.5	25.5	26.0
14	24.5	24.0	24.0	28.5	27.5	28.0	---	---	---	26.0	25.5	25.5
15	25.5	24.0	24.5	28.5	27.5	28.0	---	---	---	26.0	25.0	25.5
16	25.0	22.0	23.0	28.5	19.0	27.5	---	---	---	25.0	24.5	25.0
17	24.0	22.0	23.0	28.5	19.0	27.5	---	---	---	24.5	24.0	24.0
18	25.5	23.0	24.0	28.5	19.0	27.5	---	---	---	24.0	23.0	23.5
19	26.0	24.5	24.5	28.5	26.5	27.5	---	---	---	24.0	23.0	23.0
20	25.0	24.0	24.5	28.5	19.0	27.0	27.5	25.5	26.5	23.5	22.5	23.0
21	26.0	24.5	25.0	28.5	27.0	28.0	28.5	26.5	27.5	25.0	23.0	24.5
22	26.0	25.0	25.5	29.0	27.0	28.0	28.5	26.5	27.5	25.5	24.0	24.5
23	26.0	25.5	25.5	29.0	27.0	28.0	28.5	26.5	27.5	26.5	24.5	25.0
24	26.0	25.5	25.5	28.5	27.0	28.0	28.5	26.5	27.5	26.0	24.0	25.0
25	26.5	25.5	26.0	27.5	27.0	27.0	28.5	26.5	27.5	26.0	24.0	25.0
26	28.0	24.5	27.0	27.0	26.5	27.0	28.5	26.5	27.5	26.0	24.5	25.0
27	28.0	25.5	27.0	28.0	26.0	26.5	28.5	26.5	27.5	26.5	24.5	25.5
28	27.5	25.5	26.5	28.0	26.5	27.0	28.5	26.5	27.5	25.5	24.0	25.0
29	26.0	26.0	26.0	27.5	25.5	27.0	28.0	26.5	27.5	25.0	24.0	24.5
30	26.5	25.5	26.0	28.0	25.5	27.0	27.5	27.0	27.0	25.0	23.5	24.5
31	---	---	---	27.5	26.0	27.0	28.0	26.5	27.0	---	---	---
MONTH	30.5	22.0	25.5	29.0	19.0	27.0	28.5	19.5	27.5	28.0	19.0	25.5

BRAZOS RIVER BASIN

08106310 SAN GABRIEL RIVER NEAR ROCKDALE, TX.

LOCATION.--Lat 30°43'29", long 97°02'19", Milam County, Hydrologic Unit 12070204, on left bank at downstream side of Farm Road 486, 1.2 mi (1.9 km) downstream from Brushy Creek, 4.3 mi (6.9 km) upstream from mouth, and 5.3 mi (8.5 km) north of Rockdale

DRAINAGE.--1,358 mi² (3,517 km²).

PERIOD OF RECORD.--October 1974 to current year. Prior to October 1980, gage-height record only (not published).

GAGE.--Water-stage recorder. Datum of gage is 311.59 ft (94.973 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow is largely regulated by Granger Lake (station 08105600). Flow is affected at times times by discharge from the flood-detention pools of 46 floodwater-retarding structures with a combined detention capacity of 46,140 acre-ft (56.9 hm³). These structures control runoff from 144 mi² (373 km²) in the Brushy Creek drainage basin. Gage-height telemeter is installed at station. Several observations of water temperature were made during the year. Backwater will occur at times from Little River.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 32.91 ft (10.031 m) July 27, 1979 (discharge not determined), but may have been in backwater from Little River). Maximum discharge, 15,600 ft³/s (442 m³/s) June 14, 1981, gage height, 32.11 ft (9.787 m); minimum daily, 3.1 ft³/s (0.088 m³/s) Oct. 12-14, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,600 ft³/s (442 m³/s) June 14 at 1300 hours, gage height, 32.11 ft (9.788 m); minimum daily, 3.1 ft³/s (0.088 m³/s) Oct. 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	53	34	31	51	67	28	373	3240	157	168
2	16	14	45	34	30	55	59	26	362	3540	145	183
3	12	13	43	34	33	81	64	33	488	4250	162	200
4	10	12	42	33	36	2560	51	83	792	4580	183	1500
5	7.5	11	41	31	41	2510	56	52	2570	5250	182	2300
6	4.2	11	37	31	95	784	105	37	3590	6500	179	2500
7	3.9	11	36	31	137	412	68	29	1540	3220	175	2400
8	3.9	10	38	31	93	397	56	25	785	4070	173	2300
9	3.9	10	49	31	76	314	51	22	3190	4670	169	2300
10	3.4	9.8	156	31	74	215	46	20	3580	4630	167	2200
11	3.4	13	147	31	137	174	43	18	3780	4430	161	2100
12	3.1	12	101	31	127	154	89	17	2420	4350	160	1800
13	3.1	12	77	30	90	224	92	16	5990	4420	158	1700
14	3.1	13	65	29	74	248	91	14	12900	4420	156	1700
15	29	13	58	28	69	204	89	12	11900	3400	156	1600
16	21	19	56	28	65	161	94	41	9230	2770	155	1700
17	106	29	55	27	63	130	91	87	10200	2390	153	1500
18	275	57	55	26	60	111	90	75	8740	550	83	1200
19	206	62	49	29	57	100	87	42	2760	235	34	1100
20	310	40	45	35	55	92	89	28	3780	189	39	756
21	114	31	43	67	53	83	88	22	4590	158	97	750
22	58	28	41	66	91	78	165	18	5400	144	168	697
23	38	26	40	49	69	74	105	16	5530	132	166	72
24	30	25	39	42	55	71	87	45	5610	122	163	23
25	26	27	39	39	49	66	82	1500	5600	145	159	15
26	23	37	39	37	46	64	55	2140	1860	154	157	12
27	18	124	38	35	47	64	41	1040	1050	133	155	9.6
28	14	127	37	34	47	64	35	392	930	116	153	8.3
29	14	86	36	33	---	68	32	328	3930	198	152	7.3
30	14	66	35	31	---	67	29	433	3550	210	153	7.6
31	14	---	34	30	---	69	---	422	---	203	164	---
TOTAL	1401.5	962.8	1669	1078	1900	9745	2197	7061	127020	72819	4634	32808.8
MEAN	45.2	32.1	53.8	34.8	67.9	314	73.2	228	4234	2349	149	1094
MAX	310	127	156	67	137	2560	165	2140	12900	6500	183	2500
MIN	3.1	9.8	34	26	30	51	29	12	362	116	34	7.3
AC-FT	2780	1910	3310	2140	3770	19330	4360	14010	251900	144400	9190	65080

CAL YR 1980 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1981 TOTAL 263296.1 MEAN 721 MAX 12900 MIN 3.1 AC-FT 522200

BRAZOS RIVER BASIN

437

08106350 LITTLE RIVER NEAR ROCKDALE, TX

LOCATION.--Lat 30°45'38", long 97°00'49", Milam County, Hydrologic Unit 12070204, on right bank downstream from Alcoa pumping station, 200 ft (61 m) downstream from mouth of San Gabriel River, and 6.8 mi (10.9 km) north of Rockdale.

DRAINAGE AREA.--6,959 mi² (18,024 km²).

PERIOD OF RECORD.--February to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 304.9 ft (92.93 m) National Geodetic Vertical Datum of 1929 (determined from plans of Alcoa Pumping Plant).

REMARKS.--Records good. Daily discharge are not published above 1,000 ft³/s (28.3 m³/s). There are numerous diversions for irrigation and municipal supply above station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station No. 08106310. Records furnished by the Aluminum Co. of America show that 11,340 acre-ft (14.0 hm³) was diverted from Little River to their plant reservoir. Gage-height telemeter at station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 35.67 ft (10.872 m) June 15, 1981 (discharge not determined); minimum daily discharge, 91 ft³/s (2.58 m³/s) May 13, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 35.67 ft (10.872 m) June 15 at 1700 hours (discharge not determined); minimum daily discharge, 91 ft³/s (2.58 m³/s) May 13.

DISCHARGE, IN CUBIC FEET PER SECOND, FEBRUARY TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	146	187	130	439	---	978	509
2					---	134	161	127	378	---	627	---
3					---	217	143	148	534	---	633	---
4					---	---	148	224	---	---	650	---
5					---	---	478	242	---	---	631	---
6					---	---	432	181	---	---	452	---
7					---	552	225	142	---	---	375	---
8					---	526	173	117	---	---	349	---
9					---	548	154	105	---	---	336	---
10					---	384	143	105	---	---	323	---
11					---	316	136	123	---	---	318	---
12					422	292	163	98	---	---	325	---
13					260	405	166	91	---	---	317	---
14					207	519	161	101	---	---	303	---
15					186	455	162	109	---	---	302	---
16					173	350	168	125	---	---	299	---
17					165	296	162	313	---	---	296	---
18					160	266	171	315	---	---	559	---
19					155	245	167	189	---	---	425	---
20					152	228	162	153	---	---	264	1000
21					151	215	173	137	---	---	279	962
22					177	208	209	118	---	838	362	929
23					198	191	---	111	---	747	484	391
24					186	177	1050	126	---	677	496	280
25					148	169	740	---	---	627	492	264
26					138	168	413	---	---	---	489	257
27					137	169	346	---	---	---	487	253
28					138	153	309	520	---	---	485	246
29					---	161	209	398	---	---	484	222
30					---	231	146	483	---	---	483	208
31					---	263	---	456	---	---	499	---
TOTAL					---	---	---	---	---	---	13802	---
MEAN					---	---	---	---	---	---	445	---
MAX					---	---	---	---	---	---	978	---
MIN					---	---	---	---	---	---	264	---
AC-FT					---	---	---	---	---	---	27380	---

WTR YR 1981 TOTAL - MEAN - MAX - MIN - AC-FT -

08106500 LITTLE RIVER AT CAMERON, TX

LOCATION.--Lat 30°49'53", long 96°57'01", Milam County, Hydrologic Unit 12070204, on right bank at site of old McCowan Bridge, 2,020 ft (616 m) upstream from bridge on U.S. Highway 77, 1.1 mi (1.8 km) upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2 mi (3 km) southeast of Cameron, and 33.6 mi (54.1 km) upstream from mouth.

DRAINAGE AREA.--7,065 mi² (18,298 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1916 to current year.

REVISED RECORDS.--WSP 718: 1918-20, 1922. WSP 1512: 1918-20(M), 1921, 1922(M), 1924(M), 1926, 1929-30, 1934, 1935(M), 1936, 1940(M), 1941, 1944-45(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 281.89 ft (85.920 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Nov. 2, 1916, to Sept. 30, 1922, nonrecording gage at site 1.8 mi (2.9 km) upstream at different datum. Oct. 1, 1922, to Apr. 8, 1926, nonrecording gage at McCowan Bridge 30 ft (9 m) downstream at same datum. Apr. 9, 1926, to Oct. 9, 1933, nonrecording gage at bridge on U.S. Highway 77, 2,020 ft (616 m) downstream at 1.58 ft (0.482 m) lower datum.

REMARKS.--Water-discharge records good. Many small diversions for irrigation and municipal supply affect very low flows. Since 1954, at least 10 percent of the drainage area has been regulated by reservoirs. Some regulation by Belton Lake (station 08102000) on Leon River beginning Mar. 8, 1954, and by Stillhouse Hollow Lake (station 08104050) on Lampasas River beginning Sept. 2, 1966. Records of the Aluminum Co. of America indicate that they diverted 11,340 acre-ft (14.0 hm³) from river above gage during the current year for use at their Rockdale plant. The city of Cameron diverted 1,160 acre-ft (1.43 hm³) and returned 841 acre-ft (1.04 hm³) of treated effluent above the station. Flow is affected at times by discharge from the flood-detention pools of 65 floodwater-retarding structures with a combined detention capacity of 68,500 acre-ft (84.5 hm³). These structures control runoff from 209 mi² (541 km²) in the Nolan, Donahoe, and Brushy Creeks drainage basins. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--36 years (water years 1918-53) unregulated, 1,807 ft³/s (51.17 m³/s), 1,309,000 acre-ft/yr (1.61 km³/yr); 28 years (water years 1954-81) regulated, 1,642 ft³/s (46.50 m³/s), 1,190,000 acre-ft/yr (1.47 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 647,000 ft³/s (18,300 m³/s) Sept. 10, 1921, gage height, 53.2 ft (16.22 m), present datum, from floodmark, from rating curve extended above 110,000 ft³/s (3,120 m³/s) on basis of slope-area measurement of 647,000 ft³/s (18,300 m³/s); no flow July 12-27, 1956. Maximum stage since 1852, that of Sept. 10, 1921.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1852 reached about the same stage as that of Sept. 10, 1921. Flood in December 1913 reached a stage of 49.0 ft (14.94 m). Stages based on information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,600 ft³/s (1,180 m³/s) June 15 at 1000 hours, gage height, 35.04 ft (10.680 m); minimum daily, 46 ft³/s (1.30 m³/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	61	122	115	109	154	231	133	551	7830	1150	552
2	124	60	104	115	105	142	191	116	406	8980	766	1230
3	80	60	99	115	106	358	165	150	627	8400	695	1390
4	69	60	106	111	128	3120	152	191	722	8530	731	1900
5	65	61	93	108	147	2940	409	293	6680	8900	718	2490
6	61	60	100	109	260	1140	540	207	11100	9680	534	2840
7	57	57	88	111	326	631	274	160	4570	5570	401	2730
8	57	55	105	105	258	590	188	111	1590	6490	374	2640
9	55	54	141	85	210	611	158	94	3460	8160	358	2500
10	55	53	323	83	287	451	142	82	4680	8520	347	2550
11	55	53	314	82	512	384	131	112	4980	8800	338	2640
12	53	57	204	82	460	346	145	85	5790	8680	344	1960
13	49	56	161	81	287	432	169	72	8880	8790	340	1800
14	46	53	141	77	227	572	166	68	15700	8810	321	1840
15	49	53	128	75	204	543	163	83	37900	8120	317	1800
16	76	69	124	74	190	427	172	101	23500	6780	316	1760
17	85	98	118	72	180	360	163	234	20300	6360	306	1780
18	194	217	115	71	173	310	170	391	19200	4230	543	1660
19	242	195	114	76	168	281	169	216	7970	2490	521	1350
20	296	106	109	91	165	262	155	149	5230	2340	279	1160
21	217	81	89	126	188	244	179	124	6160	2070	251	1090
22	122	77	84	196	199	233	198	98	6620	1070	362	1060
23	88	75	108	169	212	223	223	85	7080	892	492	495
24	79	74	110	141	207	192	918	96	8420	818	532	304
25	71	90	110	129	159	198	877	1150	9310	671	532	286
26	67	100	115	123	143	177	479	3100	6980	1130	530	279
27	65	229	115	118	140	197	393	2060	3410	1170	527	271
28	61	291	117	114	140	170	349	689	2020	1140	522	267
29	61	200	117	113	---	230	260	462	4930	1190	519	238
30	60	149	117	110	---	281	162	556	7060	1210	524	218
31	57	---	116	107	---	357	---	512	---	1190	538	---
TOTAL	2816	2904	4007	3284	5890	16556	8091	11980	245826	159011	15028	43080
MEAN	90.8	96.8	129	106	210	534	270	386	8194	5129	485	1436
MAX	296	291	323	196	512	3120	918	3100	37900	9680	1150	2840
MIN	46	53	84	71	105	142	131	68	406	671	251	218
AC-FT	5590	5760	7950	6510	11680	32840	16050	23760	487600	315400	29810	85450
CAL YR 1980	TOTAL	254864	MEAN	696	MAX	14700	MIN	46	AC-FT	505500		
WTR YR 1981	TOTAL	518473	MEAN	1420	MAX	37900	MIN	46	AC-FT	1028000		

08106500 LITTLE RIVER AT CAMERON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1959 to September 1974. Chemical and biochemical analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1959 to current year.

WATER TEMPERATURES: October 1959 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,280 micromhos Sept. 25, 26, 1963; minimum daily, 154 micromhos Sept. 13, 1974.

WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 6, 1964, Aug. 1, 1969; minimum daily, 3.0 °C Jan. 3, 14, 15, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 906 micromhos Nov. 21; minimum daily, 229 micromhos June 15.

WATER TEMPERATURES: Maximum daily, 28.0°C Aug. 16, 17; minimum daily, 6.5°C Feb. 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 19...	1100	214	669	7.7	9.0	40	10.6	91	1.1	700	740
JAN 14...	1400	77	746	7.7	9.0	.50	12.2	106	2.7	180	20
MAR 18...	1545	300	656	7.3	16.0	48	9.7	99	1.5	K230	93
MAY 13...	1715	69	699	7.6	24.0	40	9.4	112	1.0	58	75
JUL 15...	1715	7640	403	7.4	23.5	87	8.9	105	1.9	360	2000
SEP 23...	1350	451	483	7.3	24.0	45	8.3	98	1.3	200	460

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 19...	240	15	71	14	50	1.4	5.2	220	51	53
JAN 14...	260	22	80	15	51	1.4	2.9	240	61	43
MAR 18...	250	46	82	10	39	1.1	3.1	200	56	47
MAY 13...	260	27	80	14	48	1.3	3.8	230	58	56
JUL 15...	160	12	50	9.0	16	.5	3.4	150	15	24
SEP 23...	190	18	57	11	22	.7	3.0	170	21	31

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	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, ORGANIC DIS- SOLVED (MG/L AS N)
NOV 19...	.6	7.9	413	387	2.2	2.3	.030	.030	1.3	.96
JAN 14...	.4	1.7	424	402	2.6	2.6	.100	.130	1.1	.80
MAR 18...	.3	8.4	385	378	2.6	2.7	.120	.080	1.2	1.3
MAY 13...	.4	9.2	415	410	2.1	2.3	.150	.160	2.0	1.1
JUL 15...	.2	10	229	218	.23	.27	.130	.230	.81	.32
SEP 23...	.3	9.5	268	258	.89	.77	.120	.120	.64	.40

Brazos River Basin

08106500 LITTLE RIVER AT CAMERON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

08106500 LITTLE RIVER AT CAMERON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 19,80 1100	MAR 18,81 1545	MAY 13,81 1715	JUL 15,81 1715	SEP 23,81 1350
TOTAL CELLS/ML	440	2500	1100	10000	520
DIVERSITY: DIVISION	0.9	1.5	2.1	0.8	1.2
..CLASS	0.9	1.5	2.1	0.8	1.2
..ORDER	1.2	2.3	2.8	2.1	1.3
...FAMILY	1.2	2.4	3.3	2.2	1.7
....GENUS	1.2	2.4	3.6	2.3	2.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)										
..BACILLARIOPHYCEAE										
...ACHNANTHALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	28	1	--	-	--	-	--	-
....COCONEIS	--	-	14	1	--	-	*	0	--	-
..BACILLARIALES										
...NITZSCHIAEAE										
....NITZSCHIA	13	3	210	8	140	13	84	1	14	3
..EUPODISCALES										
...COSCINODISCAEAE										
....CYCLOTELLA	13	3	56	2	77	7	110	1	--	-
....MELOSIRA	--	-	--	-	--	-	180	2	--	-
..FRAGILARIALES										
...FRAGILARIAEAE										
....DIATOMA	--	-	28	1	--	-	--	-	--	-
..NAVICULALES										
...NAVICULACEAE										
....NAVICULA	64	15	84	3	64	6	*	0	14	3
..SURIRELLALES										
...SURIRELLACEAE										
....CYMATOPLEURA	--	-	14	1	--	-	--	-	--	-
....SURIRELLA	--	-	14	1	39	4	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...CHLOROCOCCACEAE										
....SCHROEDERIA	--	-	14	1	13	1	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	*	0	14	3
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	--	-	*	0	--	-
...DICTYOSPHAERIAEAE										
....DICTYOSPHAERIUM	--	-	--	-	--	-	*	0	--	-
..MICRACTINIACEAE										
...MICRACTINIUM	--	-	--	-	26	2	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	70	3	39	4	130	1	29	6
....SELENASTRUM	--	-	--	-	26	2	--	-	--	-
...SCENEDESMACEAE										
....COELASTRUM	--	-	--	-	--	-	220	2	--	-
....CRUCIGENIA	--	-	--	-	51	5	110	1	--	-
....SCENEDESMUS	--	-	140	6	210#	19	--	-	170#	33
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	250	10	51	5	110	1	--	-
...VOLVOCAEAE										
....PANDORINA	--	-	--	-	--	-	340	3	--	-
CHRYSTOPHYTA										
..XANTHOPHYCEAE										
...MISCHOCOCCALES										
...SCIADACEAE										
....CENTRITRACTUS	--	-	--	-	--	-	*	0	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	120	11	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	42	2	39	4	*	0	--	-

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

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

BRAZOS RIVER BASIN

08106500 LITTLE RIVER AT CAMERON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 19,80 1100		MAR 18,81 1545		MAY 13,81 1715		JUL 15,81 1715		SEP 23,81 1350	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	98	4	130	12	98	1	58	11
....GOMPHOSPHAERIA	--	-	--	-	--	-	980	10	220#	42
...NOSTOCALES										
...HAMMATOIDEACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	84	1	--	-
...NOSTOCACEAE										
....APHANIZOMENON	--	-	--	-	--	-	2300#	23	--	-
...OSCILLATORIALES										
...OSCILLATORIA	330#	76	1400#	56	--	-	5200#	51	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	13	3	--	-	39	4	--	-	--	-
....PHACUS	--	-	14	1	--	-	--	-	--	-
....TRACHELOMONAS	--	-	14	1	26	2	*	0	--	-

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

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

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1980	2816	612	341	2590	43	325	43	329	240
NOV.	1980	2904	678	380	2980	48	376	50	391	260
DEC.	1980	4007	642	358	3880	45	488	46	498	250
JAN.	1981	3284	723	407	3610	52	458	55	485	270
FEB.	1981	5890	649	363	5770	46	727	47	745	250
MAR.	1981	16556	494	273	12200	34	1510	33	1460	190
APR.	1981	8091	545	302	6600	38	820	37	802	210
MAY	1981	11980	434	239	7710	29	948	27	887	170
JUNE	1981	245826	311	169	112000	20	13400	17	11500	130
JULY	1981	159011	401	219	94200	27	11500	24	10300	160
AUG.	1981	15028	502	277	11200	34	1390	32	1320	200
SEPT	1981	43080	367	200	23300	24	2810	21	2480	150
TOTAL		518473	**	**	286000	**	34700	**	31100	**
WTD. AVG.		1420	374	204	**	25	**	22	**	150

08106500 LITTLE RIVER AT CAMERON, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	625	673	647	710	710	670	641	511	451	402	442	447
2	628	697	636	721	704	679	651	536	436	420	446	436
3	668	700	616	719	699	600	644	558	478	425	474	305
4	676	701	589	714	700	305	683	575	465	389	504	370
5	732	705	548	720	691	386	645	627	375	383	494	348
6	758	701	554	715	688	436	517	623	246	351	499	314
7	750	697	586	714	700	512	525	694	328	372	526	316
8	728	704	598	713	745	504	563	665	368	413	544	323
9	700	708	638	715	701	529	570	632	403	384	549	320
10	685	706	611	716	667	531	574	641	378	386	560	335
11	664	707	700	728	634	570	581	675	361	388	564	363
12	658	717	668	726	555	587	595	691	442	397	574	393
13	663	724	639	733	561	581	607	697	292	392	563	369
14	687	725	604	730	582	619	617	688	277	389	574	377
15	678	724	595	727	616	608	620	687	229	390	572	371
16	667	716	578	730	617	609	603	677	278	389	574	380
17	703	703	567	732	618	625	612	687	292	390	577	372
18	682	625	583	731	631	639	620	610	261	404	550	374
19	507	669	597	733	629	643	630	728	353	454	541	387
20	498	804	619	712	623	630	635	601	363	457	474	395
21	505	906	643	716	626	631	637	628	344	453	534	392
22	532	703	666	722	599	640	636	593	339	498	595	395
23	548	691	678	824	646	638	645	538	328	529	511	426
24	576	692	689	711	708	641	550	513	367	562	505	497
25	600	672	697	707	686	646	460	460	351	579	497	529
26	617	638	699	705	705	658	410	311	391	551	459	547
27	624	615	705	714	709	656	379	335	436	465	450	564
28	633	637	714	712	690	651	425	337	461	458	445	572
29	640	625	710	716	---	655	450	354	359	456	444	574
30	656	608	715	721	---	658	480	371	387	461	444	577
31	671	---	716	711	---	647	---	474	---	450	445	---
MEAN	644	696	639	723	659	593	574	572	361	433	514	412

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

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

BRAZOS RIVER BASIN

08109000 BRAZOS RIVER NEAR BRYAN, TX

LOCATION.--Lat 30°36'52", long 96°29'10", Brazos-Burleson County line, Hydrologic Unit 12070101, on left bank 2.4 mi (3.9 km) downstream from Little Brazos River, 5 mi (8 km) downstream from Texas and New Orleans Railroad Co. bridge, 9 mi (14 km) southwest of Bryan, and at mile 281.1 (452.3 km).

DRAINAGE AREA.--39,515 mi² (102,344 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--August 1899 to December 1902, February 1918 to January 1926, June 1926 to current year. Monthly figures only for some periods, published in WSP 1312. Prior to September 1925, published as "near College Station".

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 192.33 ft (58.622 m) National Geodetic Vertical Datum of 1929. Aug. 1, 1899, to Dec. 31, 1902, and Feb. 23, 1918, to Sept. 17, 1925, nonrecording gage at site 7.5 mi (12.1 km) downstream at different datum. Sept. 11, 1925, to Oct. 24, 1932, nonrecording gage at site 3,000 ft (910 m) upstream at present datum.

REMARKS.--Records fair. Flow is partly regulated by four upstream reservoirs with a combined capacity of 4,447,600 acre-ft (5.48 km³), of which 3,200,800 acre-ft (3.95 km³) is for flood control. Many small diversions above station for irrigation, municipal and industrial uses, and oilfield operation. Flow is affected at times by discharge from the flood-detention pools of 142 floodwater-retarding structures with a combined detention capacity of 151,500 acre-ft (187 km³). These structures control runoff from 446 mi² (1,155 km²). Since 1941, at least 10 percent of drainage area is regulated by upstream reservoirs.

AVERAGE DISCHARGE.--24 years (water years 1900-1902, 1919-25, 1927-40) unregulated, 5,652 ft³/s (160.1 m³/s), 4,095,000 acre-ft/yr (5.05 km³/yr); 41 years (water years 1941-81) regulated, 4,951 ft³/s (140.2 m³/s), 3,587,000 acre-ft/yr (4.42 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 54 ft (16.5 m) Sept. 12, 1921, present site and datum (discharge not determined); minimum daily, 89 ft³/s (2.52 m³/s) Aug. 24, 1934. Maximum stage since at least 1854, that of Sept. 12, 1921.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 5, 1913, reached a stage of 51 ft (15.5 m), present site and datum, from information by Texas and New Orleans Railroad Co. at their bridge 5 mi (8 km) upstream and from comparison of maximum stages reached by floods in 1913 and 1921 at gage near College Station. Flood in 1854 reached about the same stage as flood of Dec. 5, 1913.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59,900 ft³/s (1,700 m³/s) June 18 at 0700 hours, gage height, 28.16 ft (8.583 m); minimum daily, 299 ft³/s (8.47 m³/s) Oct. 9-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	536	1980	1420	1040	923	668	1420	1040	2200	10700	2560	1770
2	515	1540	1240	1360	1200	1020	1190	914	1730	11800	2420	1070
3	464	970	866	1180	1120	1430	1320	1040	1480	12100	2130	2420
4	425	601	942	779	1070	3280	1190	1020	5970	11400	1900	3670
5	377	420	840	867	981	4990	1340	1020	27900	14200	1560	3630
6	353	344	572	861	1540	4790	1430	998	38500	15700	1470	2790
7	330	317	548	704	2030	2770	1270	863	33900	14200	1270	3040
8	317	410	721	1890	1870	1720	1010	846	18000	8780	1030	2910
9	299	500	620	2940	1400	2430	914	928	10800	10500	1010	2710
10	299	490	778	1710	1120	2030	1060	880	10200	12600	1130	2510
11	299	1150	1690	910	1890	1870	984	683	10800	13400	929	2750
12	625	1340	2720	560	2580	2040	781	634	14900	13200	782	2850
13	691	1700	1290	424	2070	1870	739	568	17200	12600	850	2430
14	607	1340	3200	605	2940	1500	679	793	23200	12500	1800	2530
15	505	1180	880	1180	2740	1330	674	1120	34000	11400	1520	4010
16	525	1130	556	1290	1740	1160	668	1790	37700	9910	1260	3200
17	601	1150	438	1030	1240	1010	680	2060	52600	7940	1520	2750
18	679	1180	470	1060	929	832	699	3560	59200	7270	1660	2430
19	638	1350	1790	1080	1040	697	707	3950	48900	5280	1390	2600
20	819	1700	810	1180	984	662	703	2390	29500	3710	1140	1900
21	900	3540	498	897	846	631	703	1540	27400	3480	731	1520
22	819	2470	840	631	787	607	859	1220	26100	3030	563	1360
23	632	1530	2770	550	839	745	932	1100	23700	2530	1290	1320
24	531	1190	1910	955	921	691	2880	1160	21000	2250	1630	1020
25	578	1040	842	2040	846	560	4600	1220	19200	2010	1670	923
26	644	1060	956	2110	794	495	2490	2610	16900	1890	1610	1180
27	679	1070	876	1440	703	531	1590	4840	12500	2370	1810	1170
28	650	1240	808	878	668	949	1290	3540	8800	2410	1490	1120
29	584	1860	567	986	---	1150	1160	1950	6740	2330	1420	996
30	542	1700	620	1350	---	1190	1070	1670	9150	2430	2130	1020
31	1700	---	602	1050	---	1410	---	1710	---	2530	2710	---
TOTAL	18163	37492	33680	35537	37811	47058	37032	49657	650170	246450	46385	65599
MEAN	586	1250	1086	1146	1350	1518	1234	1602	21670	7950	1496	2187
MAX	1700	3540	3200	2940	2940	4990	4600	4840	59200	15700	2710	4010
MIN	299	317	438	424	668	495	668	568	1480	1890	563	923
AC-FT	36030	74370	66800	70490	75000	93340	73450	98490	1290000	488800	92000	130100
CAL YR 1980	TOTAL	823979	MEAN	2251	MAX	33800	MIN	299	AC-FT	1634000		
WTR YR 1981	TOTAL	1305034	MEAN	3575	MAX	59200	MIN	299	AC-FT	2589000		

BRAZOS RIVER BASIN

445

08109500 BRAZOS RIVER NEAR COLLEGE STATION, TX

LOCATION.--Lat 30°32'33", long 96°25'21", Brazos County, Hydrologic Unit 12070101, at bridge on Farm Road 60, 6.5 mi (10.5 km) south of College Station, 9 mi (14 km) downstream from gaging station near Bryan, and at mile 271.9 (437.6 km).

DRAINAGE AREA.--39,599 mi² (102,561 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: August 1961 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1961 to current year.

WATER TEMPERATURES: August 1961 to current year.

REMARKS.--Sampling at this site began in September 1966. From August 1961 to September 1965, samples were collected at State Highway 21 near Bryan 17 mi (27 km) upstream, and from October 1965 to September 1966, at the gaging station near Bryan 9 mi (14 km) upstream. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,810 micromhos Aug. 27, 1978; minimum daily, 235 micromhos Feb. 14, 1977.

WATER TEMPERATURES: Maximum daily, 34.5°C June 16, 1971; minimum daily, 2.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,920 micromhos Feb. 4; minimum daily, 309 micromhos June 17.

WATER TEMPERATURES: Maximum daily, 32.5°C Aug. 16; minimum daily, 5.0°C Feb. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
DEC 11...	1338	1600	1530	12.0	310	160	88	21	190
JAN 31...	1625	1050	1820	12.0	330	190	94	24	240
MAR 10...	0940	2240	1340	14.0	290	160	86	18	170
MAY 21...	1400	1560	883	25.0	190	83	59	11	100
JUN 11...	1020	10900	427	25.5	150	18	49	6.1	27
JUL 09...	1050	9930	599	27.0	190	49	59	10	49
AUG 13...	1415	935	1080	31.5	260	86	71	19	130

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
DEC 11...	4.7	5.4	150	160	300	.4	6.1	861
JAN 31...	5.7	5.7	140	200	390	.4	1.1	1040
MAR 10...	4.4	5.4	130	170	270	.4	7.7	806
MAY 21...	3.1	7.0	110	100	160	.3	9.6	513
JUN 11...	1.0	5.0	130	22	35	.2	12	234
JUL 09...	1.6	4.2	140	48	72	.2	11	338
AUG 13...	3.8	4.8	170	110	180	.3	10	627

BRAZOS RIVER BASIN

08109500 BRAZOS RIVER NEAR COLLEGE STATION, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	18163	1180	664	32600	190	9400	120	5840	280
NOV.	1980	37492	1510	864	87500	280	28600	160	16200	320
DEC.	1980	33680	1500	859	78200	280	25600	160	14500	320
JAN.	1981	35527	1780	1030	98600	360	35000	200	18800	350
FEB.	1981	37811	1590	916	93500	310	31900	170	17600	330
MAR.	1981	47058	1140	645	82000	190	23800	120	14700	280
APR.	1981	37052	1240	704	70400	210	21500	130	12800	290
MAY	1981	49657	1110	624	83600	180	23800	110	14900	270
JUNE	1981	650170	563	313	549000	73	127800	53	93300	160
JULY	1981	246450	643	356	237000	82	54500	60	40200	180
AUG.	1981	46385	1310	744	93200	230	28500	140	17000	300
SEPT	1981	65599	708	395	69900	97	17200	68	12000	190
TOTAL		1305044	**	**	1575000	**	428000	**	278000	**
WTD. AVG.		3575	796	447	**	120	**	79	**	200

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	1840	1280	1600	1880	1460	1510	1290	1490	818	1060	1480
2	1080	1800	1210	1770	1820	1410	1400	1530	1540	807	1080	1340
3	1040	1780	1150	1750	1870	1640	1610	1430	1650	743	1060	1120
4	1010	1700	1080	1700	1920	930	1560	1340	744	760	1250	662
5	1020	1630	1290	1650	1820	889	1660	1270	376	536	1150	569
6	1020	1570	1440	1740	1740	692	1580	1460	327	424	1100	416
7	1040	1480	1400	1710	1860	822	1120	1370	315	492	1040	379
8	1050	1450	1350	1730	1810	1010	1030	1420	339	673	1020	465
9	1060	1410	1470	1860	1690	1220	1090	1480	395	576	1070	425
10	1070	1370	1510	1900	1480	1370	1260	906	405	550	1140	444
11	1070	1320	1580	1880	1470	1190	1520	1220	420	500	1240	467
12	1050	1330	1410	1790	688	1150	1570	1260	437	718	1170	538
13	1130	1550	1230	1710	884	1460	1560	1250	605	659	1080	601
14	1100	1540	1530	1620	1660	1530	1550	1240	534	539	1100	554
15	1140	1430	1300	1790	1790	1270	1480	1200	345	540	1250	619
16	1170	1350	1210	1710	1810	1170	1500	1250	386	518	1430	750
17	1140	1360	1240	1860	1750	1200	1480	1050	309	497	1450	769
18	1070	1450	1250	1910	1730	1240	1470	1370	310	462	1620	661
19	1200	1400	1610	1870	1630	1260	1490	1100	502	537	1600	740
20	1130	1380	1480	1660	1670	1250	1490	1000	614	741	1300	808
21	1110	1500	1550	1740	1710	1240	1480	888	974	803	1200	734
22	1160	1730	1510	1710	1550	1280	1470	1080	1030	771	1130	710
23	1080	1760	1760	1640	1520	1260	1580	1040	1040	841	1210	673
24	1180	1690	1880	1660	1560	1440	1250	1000	1060	1090	1500	667
25	1110	1610	1850	1770	1600	1420	550	1180	818	1040	1620	708
26	1200	1220	1750	1740	1530	1350	896	962	746	1060	1460	1150
27	1270	1310	1790	1870	1560	1310	967	730	810	1150	1600	1320
28	1330	1320	1670	1840	1580	1280	1130	725	1260	1130	1580	1280
29	1320	1380	1610	1860	---	1580	1190	967	1370	1110	1430	1420
30	1390	1310	1560	1890	---	1460	1170	1180	917	980	1600	1430
31	1540	---	1630	1820	---	971	---	1400	---	1070	1520	---
MEAN	1140	1500	1470	1770	1630	1250	1350	1180	736	746	1290	797

BRAZOS RIVER BASIN

447

08109500 BRAZOS RIVER NEAR COLLEGE STATION, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

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

BRAZOS RIVER BASIN

08109700 MIDDLE YEGUA CREEK NEAR DIME BOX, TX

LOCATION.--Lat 30°20'21", long 96°54'16", Lee County, Hydrologic Unit 12070102, on right bank 25 ft (8 m) upstream from centerline of State Highway 21, 4.5 mi (7.2 km) upstream from West Yegua Creek, 5.0 mi (8.0 km) southwest of Dime Box, and 17.5 mi (28.2 km) upstream from mouth.

DRAINAGE AREA.--236 mi² (611 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 295.4 ft (90.04 m) State Department of Highways and Public Transportation datum. June 30 to July 21, 1970, nonrecording gage at same site and datum.

REMARKS.--Records fair. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--19 years, 53.4 ft³/s (1.512 m³/s), 3.07 in/yr (78 mm/yr), 38,690 acre-ft/yr (47.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft³/s (323 m³/s) May 24, 1975, gage height, 15.16 ft (4.621 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1851, 16 ft (4.9 m) in December 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 12	1900	*3,490 98.8	12.38 3.773
June 15	1430	2,770 78.4	11.91 3.630
June 19	1900	1,170 33.1	10.45 3.185

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.75	2.3	26	.84	8.8	16	2.2	.00
2	.00	.00	.00	.00	.62	1.7	15	.59	24	36	1.7	.00
3	.00	.00	.00	.00	.49	2.2	11	2.5	32	47	1.4	.00
4	.00	.00	.00	.00	.40	7.3	8.0	6.0	56	28	1.2	.00
5	.00	.00	.00	.00	.40	28	4.9	10	59	21	.89	.00
6	.00	.00	.00	.00	.43	70	3.9	12	78	26	.75	.00
7	.00	.00	.00	.00	1.1	32	2.7	12	112	71	.59	.00
8	.00	.00	.00	.00	5.9	18	2.5	4.0	83	143	.43	.00
9	.00	.00	.00	.00	5.6	16	2.6	1.5	39	228	.33	.00
10	.00	.00	.00	.00	5.7	12	2.4	1.0	21	182	.28	.00
11	.00	.00	.00	.00	5.9	8.2	2.1	.90	84	58	.22	.00
12	.00	.00	.00	.00	4.5	5.6	1.9	.80	1310	33	.14	.00
13	.00	.00	.00	.00	5.9	5.2	1.3	.70	2440	22	.09	.00
14	.00	.00	.00	.00	5.3	5.5	1.2	.60	2020	18	.02	.00
15	.00	.00	.00	.00	5.1	6.0	.94	1.5	2190	17	.01	.00
16	.00	.00	.00	.00	3.7	6.0	.78	6.0	1920	16	.00	.00
17	.00	.00	.00	.00	3.0	4.6	.62	3.1	1390	15	.00	.00
18	.00	.00	.00	.00	2.1	3.9	.77	10	996	13	.00	.00
19	.00	.00	.00	.00	1.6	3.2	2.2	19	995	11	.00	.00
20	.00	.00	.00	.00	1.8	2.8	2.7	13	896	10	.00	.00
21	.00	.00	.00	.00	1.9	2.4	1.8	7.4	519	8.6	.00	.00
22	.00	.00	.00	.00	1.7	1.8	1.8	3.3	122	7.1	.00	.00
23	.00	.00	.00	3.7	1.1	1.3	1.8	1.7	49	6.7	.00	.00
24	.00	.00	.00	5.3	6.7	1.5	1.9	5.2	34	5.8	.00	.00
25	.00	.00	.00	4.0	9.2	1.8	1.7	5.0	28	5.1	.00	.00
26	.00	.00	.00	2.9	6.6	1.4	1.4	21	23	4.4	.00	.00
27	.00	.00	.00	2.0	4.8	1.4	1.4	70	20	3.2	.00	.00
28	.00	.00	.00	1.4	3.3	1.5	1.4	65	19	3.2	.00	.00
29	.00	.00	.00	1.1	---	2.5	1.4	29	17	2.9	.00	.00
30	.00	.00	.00	.89	---	3.3	1.2	17	16	2.8	.00	.00
31	.00	---	.00	.80	---	34	---	12	---	2.4	.00	---
TOTAL	.00	.00	.00	22.09	95.59	293.4	109.31	342.63	15600.8	1063.2	10.25	.00
MEAN	.000	.000	.000	.71	3.41	9.46	3.64	11.1	520	34.3	.33	.000
MAX	.00	.00	.00	5.3	9.2	70	26	70	2440	228	2.2	.00
MIN	.00	.00	.00	.00	.40	1.3	.62	.59	8.8	2.4	.00	.00
CFSM	.000	.000	.000	.003	.01	.04	.02	.05	2.20	.15	.001	.000
IN.	.00	.00	.00	.00	.02	.05	.02	.05	2.46	.17	.00	.00
AC-FT	.00	.00	.00	44	190	582	217	680	30940	2110	20	.00
CAL YR 1980	TOTAL	15202.29	MEAN	41.5	MAX	1750	MIN	.00	CFSM	.18	IN	2.40
WTR YR 1981	TOTAL	17537.27	MEAN	48.0	MAX	2440	MIN	.00	CFSM	.20	IN	2.76
									AC-FT	30150		
									AC-FT	34790		

08109800 EAST YEGUA CREEK NEAR DIME BOX, TX

LOCATION.--Lat 30°24'26", long 96°49'02", Burleson County, Hydrologic Unit 12070102, on left bank 49 ft (15 m) upstream from centerline of State Highway 21, 0.8 mi (1.3 km) downstream from Buffalo Creek, 3.5 mi (5.6 km) north of Dime Box, and 12.2 mi (19.6 km) upstream from mouth.

DRAINAGE AREA.--244 mi² (632 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 284.00 ft (86.56 m) State Department of Highways and Public Transportation datum. Nov. 6 to Dec. 10, 1970, nonrecording gage at present site and datum.

REMARKS.--Records good. Diversions above station for irrigation. Gage-height telemeter located at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 59.1 ft³/s (1.674 m³/s), 42,800 acre-ft/yr (52.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s (396 m³/s) May 24, 1975, gage height, 13.91 ft (4.240 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1886, 17 ft (5.2 m) in 1899 and 1957, from information by local residents.

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

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
June 13	0900	1,520	43.0	9.82	2.993
June 18	0400	*2,000	56.6	10.25	3.124
July 7	1200	1,910	54.1	10.21	3.112

Minimum discharge, 0.14 ft³/s (0.004 m³/s) Oct. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.47	.41	3.1	2.5	4.0	6.9	18	2.8	4.3	35	2.6	.93
2	.33	.30	2.3	2.4	3.9	8.5	9.1	2.3	4.0	77	2.4	.69
3	.29	.32	1.9	2.3	3.6	8.9	6.2	2.7	10	35	2.1	.60
4	.27	.64	1.6	2.4	3.6	70	5.4	4.0	23	16	2.0	1.4
5	.26	.60	1.6	3.0	5.4	134	4.7	4.5	174	37	2.1	2.3
6	.25	.36	2.4	3.1	11	95	4.3	4.5	289	251	2.8	1.8
7	.23	.39	3.2	3.0	17	22	3.8	4.4	185	1430	2.7	1.2
8	.21	.49	4.0	3.2	12	13	3.4	3.7	28	1200	2.2	1.2
9	.23	.49	4.9	3.3	8.2	11	3.5	3.4	11	337	1.9	1.2
10	.23	.69	4.1	3.5	9.3	8.4	3.3	3.1	7.0	56	1.8	.98
11	.23	.80	3.3	3.8	11	6.9	3.1	2.9	12	21	1.4	.84
12	.20	.80	3.6	3.9	13	6.3	3.1	2.5	584	13	1.2	.74
13	.17	.83	3.6	3.4	9.2	6.4	2.9	2.0	1490	10	.91	.69
14	.15	.92	3.2	3.1	7.1	6.4	3.2	2.1	1270	8.6	.74	.81
15	.35	1.0	2.7	2.9	6.3	6.0	2.8	1.8	1410	7.2	.74	1.1
16	.54	1.7	2.5	2.6	6.6	5.4	2.7	32	1250	6.4	.80	6.4
17	.60	2.1	2.4	2.6	6.1	4.7	2.8	20	799	6.1	.80	6.3
18	.99	1.8	2.5	2.7	5.5	4.2	3.0	33	1730	5.6	.76	3.1
19	9.0	3.6	2.5	5.2	5.3	4.1	3.9	15	967	4.8	.70	2.5
20	4.1	4.7	2.2	17	5.6	4.5	3.3	6.7	259	6.2	.62	1.9
21	2.4	3.8	2.0	17	5.8	4.0	2.6	4.9	47	5.6	.54	1.6
22	2.2	3.0	2.2	11	5.8	3.4	2.5	4.6	21	4.1	.54	1.3
23	1.6	2.9	3.1	6.5	5.5	3.3	2.7	4.2	14	3.6	.62	1.0
24	1.0	2.5	2.9	4.9	7.8	3.3	3.4	5.7	27	3.6	.56	.80
25	.76	2.3	2.5	5.4	7.4	3.2	4.0	18	65	3.2	.52	.74
26	.60	4.5	2.3	4.7	6.2	3.0	4.5	49	49	3.1	.44	.74
27	.48	7.2	2.2	4.2	6.0	3.5	3.9	43	40	3.1	.35	.74
28	.56	9.6	2.1	3.9	6.1	3.6	3.2	15	17	3.1	.34	.69
29	.39	6.3	2.2	3.5	---	4.1	2.9	8.5	11	3.7	.32	.74
30	.37	4.3	2.5	3.3	---	32	3.1	6.3	10	3.4	.41	.86
31	.37	---	2.6	3.4	---	52	---	5.1	---	3.0	1.7	---
TOTAL	29.83	69.34	84.2	143.7	204.3	548.0	125.3	317.7	10807.3	3602.4	37.61	45.89
MEAN	.96	2.31	2.72	4.64	7.30	17.7	4.18	10.2	360	116	1.21	1.53
MAX	9.0	9.6	4.9	17	17	134	18	49	1730	1430	2.8	6.4
MIN	.15	.30	1.6	2.3	3.6	3.0	2.5	1.8	4.0	3.0	.32	.60
AC-FT	59	138	167	285	405	1090	249	630	21440	7150	75	91

CAL YR 1980	TOTAL	20901.75	MEAN	57.1	MAX	2790	MIN	.00	AC-FT	41460
WTR YR 1981	TOTAL	16015.57	MEAN	43.9	MAX	1730	MIN	.15	AC-FT	31770

BRAZOS RIVER BASIN

08109800 EAST YEGUA CREEK NEAR DIME BOX, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
NOV 21...	0750	3.8	885	7.0	7.5	15	--	9.0	75	.9	260
JAN 15...	1145	2.9	1060	7.3	7.0	20	8.1	9.9	82	.8	330
MAR 19...	1120	5.7	1200	7.1	11.0	20	17	10.2	92	4.0	410
MAY 14...	1155	2.5	1000	7.1	20.0	30	33	6.4	70	1.8	330
JUL 16...	1130	6.1	1240	7.2	26.5	10	16	5.8	72	1.2	410
SEP 24...	1040	.80	540	6.9	21.0	45	32	5.6	62	1.4	140

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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 21...	190	70	21	69	1.9	10	74	200	94	.3	12
JAN 15...	240	88	26	84	2.0	7.4	84	240	130	.3	17
MAR 19...	330	110	32	93	2.0	8.2	79	280	160	.4	16
MAY 14...	230	90	25	74	1.8	8.6	98	210	150	.3	17
JUL 16...	330	110	34	95	2.0	7.4	84	320	180	.4	22
SEP 24...	73	38	12	49	1.9	6.2	71	93	63	.3	13

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 21...	520	23	13	.02	.010	.03	.040	.49	.53	.040	8.7
JAN 15...	643	6	11	.05	.010	.06	.020	.70	.72	.050	6.2
MAR 19...	747	23	5	.00	.020	.00	.040	1.1	1.1	.080	11
MAY 14...	634	66	13	.15	.010	.16	.120	1.1	1.2	.120	8.7
JUL 16...	820	35	12	.14	.010	.15	.160	.68	.84	.040	6.9
SEP 24...	317	25	8	.12	.010	.13	.090	.67	.76	.110	5.9

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 21...	0750	0	70	<1	0	<10	30
MAY 14...	1155	1	80	<1	10	<10	70
JUL 16...	1130	1	100	2	0	<10	20

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 21...	<10	100	.0	0	0	40
MAY 14...	<10	420	.0	0	0	10
JUL 16...	<10	340	.0	0	0	5

08109900 SOMERVILLE LAKE NEAR SOMERVILLE, TX

LOCATION.--Lat 30°19'20", long 96°31'32", Burleson County, Hydrologic Unit 12070102, in intake structure of Somerville Dam on Yegua Creek, at the southwest edge of the city limits of Somerville, and 20.0 mi (32.2 km) upstream from mouth.

DRAINAGE AREA.--1,007 mi² (2,608 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1966 to current year. Prior to October 1970, published as Somerville Reservoir.

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

REMARKS.--The lake is formed by a rolled earthfill dam 20,210 ft (6,160 m) long, with a 4,715-foot-long (1,437 m) dike and a 1,250-foot-long (381 m) uncontrolled spillway. Deliberate impoundment began Jan. 3, 1967, and the dam was completed Oct. 27, 1967. The spillway is an uncontrolled ogee weir 1,250 ft (381 m) wide located near right end of dam. The low-flow outlet consists of one 10.0-foot-diameter (3.0 m) conduit that is controlled by two 5.0- by 10.0-foot (1.5 by 3.0 m) tractor-type gates. Capacity table is based on Geological Survey topographic maps dated 1959. The lake was designed for flood control and water conservation. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	280.0	-
Design flood.....	274.5	1,028,800
Crest of spillway.....	258.0	507,500
Top of conservation pool.....	238.0	160,100
Lowest gated outlet (invert of 10-foot conduit).....	206.0	200

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 311,000 acre-ft (383 hm³) June 9, 1979, elevation, 248.55 ft (75.758 m); minimum, 98,070 acre-ft (121 hm³) Sept. 7, 1978, elevation, 231.80 ft (70.653 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 184,900 acre-ft (228 hm³) June 22 at 0800 hours, elevation, 240.07 ft (73.173 m); minimum, 110,300 acre-ft (136 hm³) Jan. 19 at 0730 hours, elevation, 233.17 ft (71.070 m).

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

233.0	108,800	239.0	171,800
235.0	127,900	241.0	196,800
237.0	148,900		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114900	112400	112700	111100	112600	113600	113600	112000	120700	169200	163500	157800
2	114700	112400	112800	111100	112600	113500	113700	111900	121100	167700	163000	158400
3	114500	112400	112600	111100	112300	113800	113800	113300	121400	167200	162600	158600
4	114300	112400	112700	111100	112400	113900	113700	113600	122300	166600	162300	158400
5	113900	112400	112800	111000	112900	113600	113500	113800	122700	166300	162200	158300
6	113800	112200	112800	111100	113200	113700	113400	113600	123300	165800	162000	158100
7	113600	112000	112900	111100	113100	113900	113200	113400	125500	166500	162000	158100
8	113500	111900	112300	111100	113100	114200	113200	113200	126200	167100	161300	157800
9	113300	111900	113000	111100	113100	114100	113200	113900	126400	168400	161100	157600
10	113100	111800	112900	111100	113800	114000	113000	113800	126400	170000	161000	157300
11	113000	111700	112800	111000	113100	114100	113000	113600	126600	170300	160600	156900
12	112800	111500	112700	110900	112900	114700	113000	113400	133500	170000	160100	156800
13	112500	111500	112700	110900	112900	114700	112900	113400	138900	169800	159900	156700
14	112400	111500	112600	110900	113000	114700	112800	113500	145600	169300	159800	157500
15	113400	111100	112700	110800	113000	114700	112800	113400	154200	169000	159700	157100
16	113600	112400	112600	110600	113000	114600	112700	117500	162400	168400	159500	157000
17	113900	112100	112500	110400	113000	114600	112700	118300	169800	167900	159200	156400
18	114400	111800	112500	110300	113000	114300	112800	118500	175100	167400	158900	156000
19	114300	111800	112400	112000	113000	114000	112600	118400	180100	166700	158200	155800
20	114200	111700	112100	112600	113200	113900	112400	118300	182800	166300	157700	155600
21	114100	111500	111800	112700	113400	113900	112000	118100	184800	165800	157000	155300
22	113900	111900	111900	112800	113200	113800	111400	118000	184500	165500	156400	155200
23	113900	111800	111900	112800	113000	113600	112400	118400	182900	165300	155900	155100
24	113800	111600	111700	112900	112900	113400	112400	119200	181200	164800	155200	155100
25	113600	112600	111500	112800	112900	113500	112400	119900	179600	164600	155100	154900
26	113500	113000	111500	112800	113000	113400	112300	120000	177700	164500	154700	154700
27	113400	113000	111500	112700	113100	113000	112200	120000	175900	164400	154600	154700
28	113800	112900	111400	112700	113200	113200	112300	120200	174000	164200	154100	154400
29	112900	112800	111300	112800	---	113700	112200	120300	172300	164000	154100	154400
30	112700	112800	111300	112700	---	113800	112200	120500	170400	163900	153900	154300
31	112500	---	111200	112700	---	113600	---	120400	---	163600	156000	---
MAX	114900	113000	113000	112900	113800	114700	113800	120500	184800	170300	163500	158600
MIN	112400	111100	111200	110300	112300	113000	111400	111900	120700	163600	153900	154300
(†)	233.41	233.44	233.27	233.43	233.48	233.52	233.37	234.24	238.88	238.30	237.64	237.49
(‡)	-2500	+300	-1600	+1500	+500	+400	-1400	+8200	+50000	-6800	-7600	-1700
(††)	191	177	170	170	156	178	204	182	185	213	242	203

CAL YR 1980 MAX 192700 MIN 111100 ‡ -44000 †† 2330

WTR YR 1981 MAX 184800 MIN 110300 ‡ -39300 †† 2270

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by city of Brenham.

BRAZOS RIVER BASIN

08109900 SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

WATER-QUALITY RECORDS

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

301908096313101 SOMERVILLE LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TI E	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR										
06...	1140	1.0	449	7.8	15.5	1.00	9.9	99	K6	K6
06...	1141	1.6	--	--	--	--	--	--	--	--
06...	1142	10	449	7.8	15.5	--	9.6	96	--	--
06...	1144	20	449	7.6	15.5	--	9.3	93	--	--
06...	1146	24	449	7.5	15.5	--	9.2	92	--	--
APR										
30...	1140	1.0	458	8.5	26.5	.70	8.3	102	K1	K4
30...	1142	1.4	--	--	--	--	--	--	--	--
30...	1145	10	461	7.6	23.5	--	5.4	63	--	--
30...	1150	22	465	7.4	23.5	--	4.0	47	--	--
AUG										
24...	1345	1.0	390	7.2	29.5	.80	5.1	67	<1	K11
24...	1346	1.4	--	--	--	--	--	--	--	--
24...	1347	5.0	390	7.0	27.0	--	3.9	49	--	--
24...	1349	10	390	6.9	26.5	--	3.7	46	--	--
24...	1351	20	390	6.9	26.5	--	3.6	44	--	--
24...	1353	28	390	6.9	26.0	--	3.1	38	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
MAR										
06...	130	71	36	8.6	35	1.4	6.1	54	80	57
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	130	71	36	8.6	34	1.3	6.2	54	76	56
APR										
30...	130	80	39	9.0	35	1.3	6.6	54	79	60
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	140	85	40	9.0	35	1.3	6.9	52	81	58
AUG										
24...	110	47	32	7.6	28	1.2	6.9	64	58	47
24...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
24...	110	44	32	7.4	28	1.2	7.4	66	56	46

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR									
06...	.2	7.4	263	.03	1.20	1.2	.070	20	4
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	.03	1.40	1.4	.070	20	10
06...	--	--	--	--	--	--	--	--	--
06...	--	7.4	257	.04	1.20	1.2	.080	20	50
APR									
30...	.2	3.9	254	.02	1.30	1.3	.060	20	8
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	5.3	267	.04	3.20	3.2	.070	20	280
AUG									
24...	.5	14	233	<.10	1.20	--	.020	<10	22
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	<.10	1.20	--	.020	20	30
24...	--	--	--	--	--	--	--	--	--
24...	--	14	231	<.10	1.40	--	.040	40	300

BRAZOS RIVER BASIN

453

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301940096315801 SOMERVILLE LAKE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TE PER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
06...	1210	1.0	447	7.8	16.0	9.7	98
06...	1212	10	447	7.7	15.5	9.5	95
06...	1214	23	447	7.5	15.5	9.1	91
APR							
30...	1200	1.0	452	8.7	27.0	8.4	105
30...	1205	10	454	7.5	23.5	6.7	78
30...	1210	20	458	7.2	23.0	3.9	45
30...	1215	24	468	7.2	23.0	3.2	37
AUG							
24...	1415	1.0	390	7.9	27.5	7.4	92
24...	1417	10	390	7.1	26.5	4.1	51
24...	1419	20	390	7.1	26.5	4.1	51
24...	1421	28	390	7.1	26.5	3.8	47

302026096341501 SOMERVILLE LAKE BC

WATER QUALITY DATA WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
06...	1230	1.0	448	8.0	15.5	10.2	102
06...	1234	10	448	7.8	15.5	9.8	98
APR							
30...	1220	1.0	465	8.5	28.0	8.6	109
30...	1230	10	462	7.0	25.5	1.7	21
AUG							
24...	1430	1.0	387	8.6	29.5	10.6	139
24...	1432	10	387	8.3	28.0	8.0	101
24...	1434	13	389	7.5	28.0	5.3	67

301805096332501 SOMERVILLE LAKE CC

WATER QUALITY DATA WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
06...	1425	1.0	450	8.2	15.0	10.2	101
06...	1427	5.0	450	8.0	15.0	9.7	96
APR							
30...	1410	1.0	470	8.5	29.0	8.8	114
30...	1415	6.0	468	7.4	24.0	5.1	60
AUG							
24...	1630	1.0	389	8.3	28.5	8.4	108
24...	1632	5.0	389	8.3	28.5	8.4	108
24...	1634	12	394	7.1	26.5	1.5	19

BRAZOS RIVER BASIN
SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301847096334601 SOMERVILLE LAKE DR
WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
06...	1310	1.0	450	7.8	15.5	9.7	97
06...	1312	10	450	7.7	15.5	9.4	94
06...	1314	18	450	7.4	15.5	8.8	88
APR							
30...	1255	1.0	465	8.8	26.5	9.6	118
30...	1300	10	466	8.2	24.5	8.2	98
30...	1305	18	469	7.0	23.0	3.0	35
AUG							
24...	1510	1.0	386	8.5	28.5	9.7	124
24...	1512	10	391	7.4	27.0	4.8	60
24...	1514	23	391	7.2	26.5	2.8	35

301904096335601 SOMERVILLE LAKE DC
WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR										
06...	1300	1.0	450	7.9	15.5	.70	10.0	100	<1	K6
06...	1302	10	450	7.7	15.5	--	9.5	95	--	--
06...	1304	21	450	7.6	15.5	--	9.2	92	--	--
APR										
30...	1235	1.0	461	8.6	27.5	.90	9.1	114	<1	<1
30...	1240	10	463	7.5	24.5	--	6.1	73	--	--
30...	1245	20	463	7.0	23.0	--	2.4	28	--	--
30...	1250	24	466	7.0	23.0	--	2.4	28	--	--
AUG										
24...	1445	1.0	386	8.6	29.5	.70	10.2	134	K7	K8
24...	1447	10	389	7.8	27.5	--	6.4	80	--	--
24...	1449	20	394	6.8	27.0	--	1.6	20	--	--
24...	1451	26	394	6.9	26.5	--	.8	10	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
MAR									
06...	130	75	37	8.9	35	1.3	6.3	54	76
06...	--	--	--	--	--	--	--	--	--
06...	130	70	37	8.5	34	1.3	6.4	57	79
APR									
30...	140	78	39	9.2	35	1.3	6.7	57	80
30	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	140	77	40	9.2	35	1.3	6.7	61	79
AUG									
24...	120	52	34	7.6	28	1.2	6.9	64	58
24	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	110	45	32	7.6	28	1.2	7.3	66	56

BRAZOS RIVER BASIN
SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

455

301904096335601 SOMERVILLE LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR									
06...	54	7.3	257	.03	1.10	1.1	.070	20	3
06...	--	--	--	.04	1.20	1.2	.090	60	10
06...	59	7.4	266	.03	1.10	1.1	.070	20	30
APR									
30...	60	4.1	258	.02	1.10	1.1	.050	20	20
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	60	5.3	262	.04	1.30	1.3	.080	20	290
AUG									
24...	51	13	237	<.10	1.20	--	.020	13	9
24...	--	--	--	<.10	1.30	--	.020	0	30
24...	--	--	--	--	--	--	--	--	--
24...	47	14	232	.12	1.50	1.6	.040	20	250

301817096364101 SOMERVILLE LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
06...	1325	1.0	448	8.1	15.5	10.2	102
06...	1327	10	448	8.0	15.5	10.0	100
06...	1329	17	448	7.8	15.5	9.7	97
APR							
30...	1310	1.0	469	8.5	28.0	8.7	110
30...	1315	10	471	7.2	24.0	4.2	49
30...	1320	19	471	7.0	23.0	2.2	26
AUG							
24...	1525	1.0	389	8.5	28.5	9.4	121
24...	1527	10	394	8.0	28.0	6.4	81
24...	1529	15	398	7.2	27.5	3.8	48
24...	1531	22	402	6.9	27.0	.6	8

301754096380801 SOMERVILLE LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, K F AGAR (COLS. PER 100 ML)
MAR										
06...	1350	1.0	496	8.2	15.0	.20	9.9	98	K8	K11
06...	1351	.4	--	--	--	--	--	--	--	--
06...	1352	7.0	496	8.0	15.0	--	9.2	91	--	--
APR										
30...	1335	1.0	491	7.7	27.5	.40	6.4	80	<1	K1
30...	1337	.6	--	--	--	--	--	--	--	--
30...	1340	7.0	498	7.1	26.0	--	2.6	32	--	--
AUG										
24...	1550	1.0	395	8.6	29.5	.50	9.6	126	<1	K1
24...	1551	.8	--	--	--	--	--	--	--	--
24...	1553	5.0	405	8.5	29.0	--	8.2	106	--	--
24...	1556	10	418	7.0	27.0	--	2.4	30	--	--

BRAZOS RIVER BASIN
SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301908096313101 SOMERVILLE LAKE AC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	MAR 6,81 1141	APR 30,81 1142	AUG 24,81 1346
TOTAL CELLS/ML	170000	41000	500000
DIVERSITY: DIVISION	0.7	1.4	0.4
..CLASS	0.7	1.4	0.4
..ORDER	0.7	1.8	0.8
...FAMILY	0.8	2.3	0.9
....GENUS	1.6	2.6	0.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	1500	4	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	460	1	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	1600	1	1400	3	--	-
....CHODATELLA	*	0	--	-	--	-
....DICTYOSPHAERIUM	--	-	350	1	--	-
....KIRCHNERIELLA	--	-	--	-	11000	2
....OOCYSTIS	1600	1	--	-	--	-
....SELENASTRUM	*	0	*	0	--	-
....TETRAEDRON	--	-	290	1	--	-
....TREUBARIA	*	0	*	0	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	2800	2	230	1	--	-
....SCENEDESMUS	3100	2	4000	10	20000	4
....TETRASTRUM	2100	1	1400	3	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	1900	1	290	1	--	-
...ZYGNEATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	*	0	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	1900	1	1100	3	5700	1
....MELOSIRA	--	-	1600	4	--	-
...PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	*	0	1100	3	--	-
...FRAGILARIACEAE						
....SYNEDRA	2600	2	*	0	--	-
...NAVICULACEAE						
....NAVICULA	--	-	*	0	--	-
...NITZSCHIACEAE						
....NITZSCHIA	1600	1	*	0	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	*	0	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	980	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	28000#	17	--	-	--	-
....ANACYSTIS	120000#	71	23000#	56	--	-
....GOMPHOSPHAERIA	--	-	--	-	41000	8
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	*	0	--	-
...OSCILLATORIACEAE						
....LYNGBYA	--	-	1400	3	--	-
....OSCILLATORIA	--	-	1100	3	430000#	84
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	--	-	--	-

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

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

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301754096380801 SOMERVILLE LAKE FC

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO AUGUST 1981

DATE TIME	MAR 6,81 1351	APR 30,81 1337	AUG 24,81 1551
TOTAL CELLS/ML	240000	18000	800000
DIVERSITY: DIVISION	1.0	1.2	0.4
..CLASS	1.0	1.2	0.4
..ORDER	1.7	2.0	0.9
...FAMILY	1.9	2.5	1.6
....GENUS	2.6	2.9	2.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	1000	6	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	7000	3	*	0	--	-
....DICTYOSPHAERIUM	--	-	300	2	--	-
....KIRCHNERIELLA	--	-	*	0	8500	1
....OOCYSTIS	*	0	130	1	--	-
....POLYEDRIOPSIS	--	-	100	1	--	-
....TETRAEDRON	*	0	*	0	--	-
....TREUBARIA	--	-	*	0	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	43000	5
....CRUCIGENIA	--	-	400	2	--	-
....SCENEDESMUS	10000	4	500	3	--	-
....TETRASTRUM	8000	3	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	1500	1	*	0	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	8000	3	350	2	--	-
....MELOSIRA	--	-	600	3	--	-
..PENNALES						
...ACHNANTHACEAE						
....COCONEIS	*	0	130	1	--	-
...FRAGILARIACEAE						
....SYNEDRA	3000	1	150	1	*	0
...NAVICULACEAE						
....NAVICULA	1500	1	*	0	--	-
...NITZSCHIA						
....NITZSCHIA	6500	3	280	2	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	56000#	24	1000	6	41000	5
....ANACYSTIS	88000#	37	7100#	40	--	-
....GOMPHOSPHAERIA	--	-	--	-	61000	8
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	4400#	25	44000	6
...OSCILLATORIACEAE						
....LYNGBYA	--	-	550	3	48000	6
....OSCILLATORIA	45000#	19	--	-	480000#	60
...RIVULARIACEAE						
....RAPHIIDIOPSIS	--	-	--	-	72000	9
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	150	1	--	-
....PHACUS	--	-	*	0	--	-
....TRACHELOMONAS	--	-	280	2	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	*	0	--	-

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

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

BRAZOS RIVER BASIN

08110000 YEGUA CREEK NEAR SOMERVILLE, TX

LOCATION.--Lat 30°19'18", long 96°30'26", Burleson County, Hydrologic Unit 12070102, on left bank 40 ft (12 m) downstream from bridge on State Highway 36, 860 ft (262 m) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.0 mi (1.6 km) downstream from Somerville Lake, 2.0 mi (3.2 km) south of Somerville, 5.0 mi (8.0 km) upstream from Davidson Creek, and 18.4 mi (29.6 km) upstream from mouth.

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

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year.

REVISED RECORDS.--WSP 1512: 1926(M), 1929, 1935. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 199.21 ft (60.719 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 30, 1934, nonrecording gage at railway bridge 860 ft (262 m) upstream at datum 34.30 ft (10.455 m) higher. Jan. 30, 1934, to Nov. 30, 1970, water-stage recorder at highway bridge 100 ft (30 m) upstream at same datum.

REMARKS.--Water-discharge records good above 1.0 ft³/s (0.028 m³/s) and fair below. Flow regulated by Somerville Lake (station 08109900) since Feb. 3, 1966. Gage-height telemeter located at station.

AVERAGE DISCHARGE.--41 years (water years 1925-65) unregulated, 290 ft³/s (8.312 m³/s), 210,100 acre-ft/yr (259 hm³/yr); 16 years (water years 1966-81) regulated, 298 ft³/s (8.439 m³/s), 215,900 acre-ft/yr (266 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,800 ft³/s (1,610 m³/s) July 1, 1940, gage height, 19.27 ft (5.873 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 22 ft (6.7 m) Dec. 5, 1913, present site and datum, from information by Gulf, Colorado, and Santa Fe Railway Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft³/s (31.2 m³/s) June 26 at 1400 hours, gage height, 7.13 ft (2.173 m); minimum daily, 0.05 ft³/s (0.001 m³/s) Sept. 11-13, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	3.9	3.6	4.1	4.6	4.6	3.2	2.4	.33	1070	.25	1.4
2	5.7	3.3	3.6	4.1	4.6	4.6	3.0	2.5	.37	997	.25	1.7
3	5.7	3.2	3.6	4.1	4.4	4.6	3.1	5.3	.48	590	.24	.87
4	5.7	3.4	3.7	4.1	4.4	4.6	3.4	6.6	.52	545	.23	.55
5	5.6	3.6	3.9	4.1	4.4	4.6	3.5	3.1	1.1	541	.23	.39
6	5.6	3.8	3.8	4.2	5.7	4.6	3.3	2.1	1.7	372	.25	.30
7	5.6	4.0	3.8	4.2	4.8	4.6	3.2	1.7	1.0	69	.23	.25
8	5.4	4.3	4.0	4.1	3.9	4.6	3.2	1.6	1.0	52	.21	.17
9	5.4	4.6	4.0	4.1	3.5	4.6	3.4	1.8	1.0	158	.20	.14
10	5.4	4.2	3.8	4.1	4.4	4.6	3.5	2.8	1.0	303	.18	.08
11	5.2	4.5	3.8	4.1	4.8	4.6	3.5	2.7	.85	274	.20	.05
12	5.0	3.9	3.9	4.1	4.6	4.6	3.5	2.3	1.0	270	.18	.05
13	4.8	3.5	4.1	4.1	4.6	4.6	3.6	2.2	1.0	249	.16	.05
14	4.8	3.5	4.1	4.1	4.6	4.6	3.3	2.2	1.0	132	.16	.07
15	5.6	3.7	4.1	3.9	4.6	4.6	3.3	2.2	1.0	174	.17	.15
16	5.0	4.6	4.1	3.9	4.4	4.6	3.4	15	1.5	255	.19	.16
17	4.1	4.4	3.9	3.8	4.4	4.6	3.6	7.6	1.4	257	.22	.15
18	5.0	4.2	3.9	3.4	4.4	4.6	11	3.1	212	258	52	.12
19	5.9	4.2	3.1	5.6	4.5	4.6	65	1.7	240	249	160	.12
20	4.1	4.3	3.2	14	4.6	4.6	63	.99	114	240	179	.12
21	3.6	4.4	3.9	6.2	4.6	4.6	117	.63	617	130	174	.13
22	3.4	4.5	3.9	4.6	4.6	4.6	239	.54	1040	3.7	174	.15
23	3.4	4.7	4.1	4.1	4.6	4.6	167	.44	1080	.92	171	.16
24	3.3	4.7	4.2	3.8	4.6	4.6	9.9	.97	1080	.52	168	.16
25	3.3	5.3	4.1	3.8	4.6	4.6	2.4	1.6	1090	.33	93	.19
26	3.3	9.9	3.9	3.9	4.6	4.6	1.9	1.3	1090	.28	3.5	.21
27	3.6	6.2	3.9	4.1	4.6	4.6	1.9	.89	1090	.26	1.2	.23
28	3.6	4.5	4.1	4.4	4.6	4.6	2.0	.62	1080	.27	.73	.25
29	3.6	3.8	4.1	4.5	---	4.6	2.3	.47	1070	.26	.55	.27
30	3.8	3.5	4.1	4.6	---	4.4	2.3	.41	1060	.25	.48	.28
31	4.0	---	4.1	4.6	---	3.6	---	.35	---	.25	1.3	---
TOTAL	144.2	130.6	120.4	140.8	127.0	141.4	741.7	78.11	10879.25	7192.04	1182.31	8.92
MEAN	4.65	4.35	3.88	4.54	4.54	4.56	24.7	2.52	363	232	38.1	.30
MAX	5.9	9.9	4.2	14	5.7	4.6	239	15	1090	1070	179	1.7
MIN	3.3	3.2	3.1	3.4	3.5	3.6	1.9	.35	.33	.25	.16	.05
AC-FT	286	259	239	279	252	280	1470	155	21580	14270	2350	18
CAL YR 1980	TOTAL	63749.46	MEAN	174	MAX	1370	MIN	.64	AC-FT	126400		
WTR YR 1981	TOTAL	20886.73	MEAN	57.2	MAX	1090	MIN	.05	AC-FT	41430		

BRAZOS RIVER BASIN

459

08110000 YEGUA CREEK NEAR SOMERVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: September 1961 to September 1967, October 1968 to current year. Water temperatures: September 1961 to September 1967.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)
MAR 06...	1000	4.6	651	7.3	14.0	10	27	8.8	85	4.7	180
APR 30...	1000	2.3	607	7.5	25.0	20	50	4.8	58	3.6	180
AUG 24...	1215	168	387	7.1	28.5	10	5.9	7.5	96	3.0	110

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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)
MAR 06...	130	54	11	56	1.8	7.0	46	130	94	.2	8.3
APR 30...	120	53	11	50	1.6	7.2	57	100	110	.2	5.8
AUG 24...	57	33	7.6	29	1.3	7.1	57	55	47	.5	14

DATE	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR 06...	389	48	13	.00	.000	.00	.000	1.2	1.2	.100	12
APR 30...	372	78	15	.00	.030	.01	.040	1.2	1.2	.120	12
AUG 24...	228	240	21	.09	.030	.12	.260	.94	1.2	.070	11

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAR 06...	1000	1	100	<1	10	<10	20
APR 30...	1000	1	200	0	0	0	0
AUG 24...	1215	2	86	<1	0	<10	<10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAR 06...	<10	200	.1	0	0	7
APR 30...	0	380	.0	0	0	10
AUG 24...	<10	11	.0	0	0	<3

BRAZOS RIVER BASIN

08110100 DAVIDSON CREEK NEAR LYONS, TX

LOCATION.--Lat 30°25'10", long 96°32'24", Burleson County, Hydrologic Unit 12070102, on left bank 83 ft (25 m) downstream from Farm Road 60, 1.2 mi (1.9 km) downstream from Berry Creek, 2.8 mi (4.5 km) northeast of Lyons, and 10.7 mi (17.2 km) upstream from mouth.

DRAINAGE AREA.--195 mi² (505 km²).

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

Water-quality records: Sediment records: June 1966 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 220.26 ft (67.135 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. During year, the city of Caldwell discharged 347 acre-ft (428,000 m³) of sewage effluent into creek above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 67.4 ft³/s (1.909 m³/s), 4.69 in/yr (119 mm/yr), 48,830 acre-ft/yr (60.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,200 ft³/s (657 m³/s) June 24, 1968, gage height, 18.67 ft (5.691 m); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902, that of June 24, 1968. Flood in 1947 reached a stage of 17 ft (5.2 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,110 ft³/s (59.8 m³/s) June 13 at 0430 hours, gage height, 14.81 ft (4.514 m), no other peak above base of 1,500 ft³/s (42.5 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.20	.00	1.3	1.2	1.6	3.0	4.4	.92	4.5	.50	.44	22		
2	.04	.00	.80	1.0	1.6	3.2	4.9	.74	2.0	45	.41	7.5		
3	.00	.00	.40	1.2	1.6	4.2	5.3	11	44	26	.30	4.0		
4	.00	.00	.26	1.3	1.6	37	6.4	33	85	12	.20	2.8		
5	.00	.00	.30	1.6	1.9	167	3.5	8.7	291	10	.16	2.3		
6	.00	.00	.44	1.7	2.9	95	3.3	3.4	131	447	.12	2.0		
7	.00	.00	.20	2.1	11	31	3.0	1.6	580	360	.09	1.7		
8	.00	.00	.17	2.1	13	20	2.7	1.0	627	324	.08	1.6		
9	.00	.00	.23	1.9	10	16	2.9	5.2	160	116	.05	1.2		
10	.00	.00	.21	2.1	8.9	13	2.9	42	37	47	.04	.71		
11	.00	.00	.21	2.3	36	12	2.6	8.1	191	30	.03	.62		
12	.00	.00	.19	1.9	23	10	2.6	3.1	995	20	.02	.54		
13	.00	.00	.96	2.2	12	9.1	1.7	1.8	1750	13	.00	.62		
14	.00	.00	1.7	2.6	9.7	8.4	.92	19	801	9.7	.03	.62		
15	.00	.00	.69	2.2	7.1	8.4	.45	8.0	658	18	.02	.54		
16	.00	.00	.42	2.0	5.7	7.9	.32	372	366	8.9	.02	.46		
17	.00	.00	.24	2.0	4.7	6.3	.25	189	641	6.9	.04	.39		
18	4.1	.00	.28	1.8	4.0	6.6	.54	33	307	5.8	.06	.26		
19	18	.00	.32	16	3.4	5.6	1.8	11	201	4.7	.05	.21		
20	2.9	.73	.32	84	3.4	5.2	1.3	7.1	61	3.8	.04	.21		
21	1.9	1.9	.32	37	3.4	5.3	1.2	3.9	37	3.3	.04	.21		
22	2.0	1.4	.32	16	3.4	5.0	1.1	2.3	24	2.7	.03	.26		
23	1.0	1.0	.32	8.7	3.1	4.6	1.5	.50	16	2.1	.03	.30		
24	.46	.73	.34	5.1	2.8	4.2	1.5	45	13	1.7	.04	.29		
25	.16	.97	.81	3.7	2.6	4.6	1.3	107	13	1.1	.04	.28		
26	.10	21	1.0	3.3	2.7	3.7	1.7	31	22	1.4	.04	.31		
27	.05	21	1.2	3.0	3.1	3.7	2.3	16	2.6	1.1	.03	.31		
28	.01	17	1.3	2.4	3.0	4.0	1.5	10	1.2	1.9	.77	.25		
29	.00	6.5	1.3	2.6	---	3.9	1.1	5.2	2.4	1.1	.80	.20		
30	.00	2.6	1.4	2.0	---	3.4	1.1	3.1	.85	.77	.99	.16		
31	.00	---	1.5	1.4	---	3.7	---	.13	---	.54	68	---		
TOTAL	30.92	74.83	19.45	218.4	187.2	515.0	66.08	983.79	8064.55	1526.01	73.01	52.85		
MEAN	1.00	2.49	.63	7.05	6.69	16.6	2.20	31.7	269	49.2	2.36	1.76		
MAX	18	21	1.7	84	36	167	6.4	372	1750	447	68	22		
MIN	.00	.00	.17	1.0	1.6	3.0	.25	.13	.85	.50	.00	.16		
CFSM	.005	.01	.003	.04	.03	.09	.01	.16	1.38	.25	.01	.009		
IN.	.01	.01	.00	.04	.04	.10	.01	.19	1.54	.29	.01	.01		
AC-FT	61	148	39	433	371	1020	131	1950	16000	3030	145	105		
CAL YR 1980	TOTAL	29051.84	MEAN	79.4	MAX	2960	MIN	.00	CFSM	.41	IN	5.54	AC-FT	57620
WTR YR 1981	TOTAL	11812.09	MEAN	32.4	MAX	1750	MIN	.00	CFSM	.17	IN	2.25	AC-FT	23430

08110200 BRAZOS RIVER AT WASHINGTON, TX

LOCATION.--Lat 30°21'40", long 96°09'18", Washington County, Hydrologic Unit 12070101, near right bank beneath floor of bridge on State Highway 105, 2.4 mi (3.9 km) upstream from Navasota River, 2.5 mi (4.0 km) north of Washington, and at mile 228.8 (368.1 km).

DRAINAGE AREA.--41,192 mi² (106,687 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--November 1965 to current year. Gage heights collected in this vicinity since 1915 are contained in reports of the National Weather Service.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 140.13 ft (42.712 m) National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder 1.8 mi (2.9 km) downstream at same datum.

REMARKS.--Records fair. Backwater at times from Navasota River. Many diversions above station for irrigation, municipal, industrial, and oilfield operations. At times, flow is affected by five upstream reservoirs with a combined capacity of 4,955,000 acre-ft (6.11 km³). Flow is also affected at times by discharge from the flood-dentention pools of 144 floodwater-retarding structures with a combined detention capacity of 151,900 acre-ft (187 hm³). These structures control runoff from 447 mi² (1,158 km²) above station. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--15 years, 5,204 ft³/s (147.4 m³/s), 3,770,000 acre-ft/yr (4.65 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 82,500 ft³/s (2,340 m³/s) Jan. 24, 1968, gage height, 33.60 ft (10.241 m); maximum gage height, 36.74 ft (11.198 m) Apr. 28, 1966 (backwater from Navasota River); minimum discharge, 170 ft³/s (4.81 m³/s) Oct. 22, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1856, 62.0 ft (18.90 m) Dec. 6, 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 62,100 ft³/s (1,760 m³/s) June 19 at 0300 hours, gage height, 31.35 ft (9.555 m); minimum daily, 196 ft³/s (5.55 m³/s) Nov. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	485	2210	887	707	1410	761	1600	1080	1890	11000	3220	4010
2	503	2270	781	1230	1240	781	1550	1040	2430	12900	3180	2280
3	469	1620	834	1680	1500	1220	1340	1450	2030	14200	2910	1540
4	410	988	723	1510	1480	2300	1410	1640	3700	13300	2520	3070
5	369	607	899	990	1430	5680	1270	1290	13800	13200	2140	4560
6	318	419	898	1080	1410	7000	1430	1070	29200	18800	1780	4430
7	289	327	635	1090	2070	6040	1560	971	39000	16100	1720	3830
8	265	275	533	918	2570	3120	1390	903	33900	12800	1400	4050
9	259	237	722	2810	2330	2150	1060	775	20200	9380	1110	3890
10	248	200	691	3800	1840	2770	914	1050	14200	12000	1070	3770
11	241	196	760	2140	1530	2400	1080	965	14200	13400	1180	3650
12	237	248	1860	1230	2600	2320	1050	619	10200	14400	978	3950
13	404	400	1800	754	2940	2500	824	548	23400	13600	820	4010
14	557	644	1670	544	2760	2310	737	514	23600	13500	889	3830
15	621	555	2240	615	3520	1870	691	688	31800	13100	2010	4600
16	610	456	1030	1390	3170	1700	679	2800	39500	11900	1680	4500
17	456	484	649	1600	2010	1520	644	3610	46800	10300	1340	3670
18	548	455	496	1350	1540	1220	650	2890	57900	9410	1610	2960
19	729	422	581	1390	1200	999	702	4110	60500	8830	2100	2700
20	652	485	1900	1960	1290	829	718	4490	48000	6550	2130	2740
21	753	794	996	1970	1250	741	741	2700	32600	5330	1790	2150
22	867	2560	611	1260	1060	729	768	1650	30500	4950	1230	1850
23	858	1630	976	824	978	708	1150	1290	27800	4130	1020	1780
24	695	796	3450	696	1060	865	1160	1290	24800	3620	1860	1690
25	538	517	2380	1260	1100	830	3900	1420	21700	3230	2540	1250
26	525	544	1130	2520	1010	700	5330	1390	19600	2790	2410	1100
27	603	587	1100	2580	1020	573	2860	3070	16800	2760	2420	1400
28	628	438	1080	1750	883	548	1710	5800	12000	3230	2740	1370
29	648	429	985	1150	---	1080	1340	4170	8790	3190	2200	1250
30	587	890	706	1260	---	1370	1170	2270	7680	3020	2240	1080
31	528	---	715	1630	---	1340	---	1900	---	3140	3250	---
TOTAL	15900	22683	34718	45688	48201	58974	41428	59453	718520	288060	59487	86960
MEAN	513	756	1120	1474	1721	1902	1381	1918	23950	9292	1919	2899
MAX	867	2560	3450	3800	3520	7000	5330	5800	60500	18800	3250	4600
MIN	237	196	496	544	883	548	644	514	1890	2760	820	1080
AC-FT	31540	44990	68860	90620	95610	117000	82170	117900	1425000	571400	118000	172500
CAL YR 1980	TOTAL	1071957	MEAN	2929	MAX	40400	MIN 196	AC-FT	2126000			
WTR YR 1981	TOTAL	1480072	MEAN	4055	MAX	60500	MIN 196	AC-FT	2936000			

BRAZOS RIVER BASIN

08110300 LAKE MEXIA NEAR MEXIA, TX

LOCATION.--Lat 31°38'37", long 96°34'43", Limestone County, Hydrologic Unit 12070103, 550 ft (168 m) downstream from Cedar Creek, 610 ft (186 m) upstream from spillway of dam on Navasota River, 1.0 mi (1.6 km) upstream from Echo Dam, 1.6 mi (2.6 km) upstream from Jacks Creek, 6 mi (10 km) southwest of Mexia, and 180.0 mi (289.6 km) upstream from mouth.

DRAINAGE AREA.--196 mi² (508 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 420.0 ft (128.02 m) National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by an earthfill dam, 1,645 ft (501 m) long, including a 520-foot (158 m) uncontrolled concrete ogee-type spillway near the center of dam. The dam was completed and deliberate impoundment of water began June 5, 1961. The Bistone Municipal Water Supply District reported a diversion of 2,560 acre-ft (3.16 hm³) for municipal use during the current year. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	42.3	-
Crest of spillway.....	28.3	9,400
Lowest gated outlet (invert).....	2.1	531

COOPERATION.--Capacity table was computed from data furnished by Fowler and Grafe, Inc., Consulting Engineers, Dallas. Data was based on a preconstruction survey in 1958 and was not adjusted for borrow in the lake area. Diversions from lake for municipal use were furnished by the Bistone Municipal Water Supply District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 22,460 acre-ft (27.7 hm³) May 11, 1979, gage height, 35.36 ft (10.778 m); minimum, 3,730 acre-ft (4.60 hm³) Jan. 15, 1964, gage height, 21.40 ft (6.523 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 11,910 acre-ft (14.7 hm³) June 17 at 0800 hours, gage height, 29.94 ft (9.126 m); minimum, 4,860 acre-ft (5.99 hm³) Dec. 4, 7, gage height, 23.73 ft (7.233 m).

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

23.0	4,430	28.0	8,970
26.0	6,650	30.0	12,010

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5550	5040	4910	5160	4970	5000	5320	5130	9140	9240	8670	8030
2	5520	5020	4890	5150	4950	5000	5300	5120	9170	9210	8620	8010
3	5500	5030	4870	5140	4940	5080	5310	5120	11330	9870	8580	7990
4	5490	5020	4860	5120	4950	5350	5330	5150	11780	9670	8530	7980
5	5460	5000	4890	5100	4980	5400	5320	5150	11060	10370	8490	7960
6	5440	4980	4870	5120	4970	5400	5290	5140	10090	9960	8460	7940
7	5430	4960	4860	5100	4980	5470	5260	5120	9930	9690	8420	7920
8	5400	4950	4980	5100	4970	5520	5260	5090	9670	9600	8370	7880
9	5390	4940	5320	5090	4980	5520	5240	5170	9570	9560	8330	7840
10	5380	4930	5370	5080	5090	5520	5240	5090	9530	9530	8290	7810
11	5350	4920	5380	5060	5000	5520	5230	5060	9510	9500	8260	7770
12	5320	4900	5380	5050	4980	5520	5220	5030	9540	9470	8230	7740
13	5290	4890	5370	5040	4980	5520	5210	5120	9990	9430	8210	7720
14	5290	4900	5360	5030	4980	5490	5200	5120	10100	9380	8170	7710
15	5260	4890	5350	5020	4970	5500	5180	5190	9740	9360	8140	7700
16	5260	4920	5340	5010	4970	5490	5160	7790	11590	9310	8280	7670
17	5260	4970	5320	5000	4960	5500	5150	8970	11030	9260	8260	7620
18	5260	4930	5350	4990	4950	5440	5120	9070	9900	9210	8240	7590
19	5230	4910	5290	5050	4950	5430	5120	9000	9670	9170	8220	7560
20	5210	4910	5280	5050	4940	5400	5110	8970	9580	9130	8190	7540
21	5200	4900	5260	5040	5000	5400	5090	8920	9530	9080	8160	7520
22	5180	4930	5250	5030	5000	5390	5080	8880	9500	9040	8120	7500
23	5230	4920	5250	5020	4980	5370	5150	8870	9470	9000	8080	7480
24	5180	4920	5240	5010	4970	5350	5150	8940	9430	8960	8040	7450
25	5160	4950	5210	5000	4970	5360	5120	9310	9400	8910	8020	7430
26	5130	4950	5210	5010	4970	5350	5110	9300	9380	8880	7980	7410
27	5150	4940	5200	5000	4950	5330	5100	9270	9340	8860	7970	7390
28	5100	4930	5190	4980	4970	5410	5090	9230	9310	8830	7990	7380
29	5080	4920	5190	4980	---	5370	5080	9230	9270	8790	7970	7360
30	5060	4910	5180	4970	---	5350	5090	9180	9270	8740	7960	7320
31	5040	---	5160	4970	---	5340	---	9160	---	8690	7940	---
MAX	5550	5040	5380	5160	5090	5520	5330	9310	11780	10370	8670	8030
MIN	5040	4890	4860	4970	4940	5000	5080	5030	9140	8690	7940	7320
(+)	23.03	23.81	24.19	23.91	23.92	24.43	24.10	28.13	28.21	27.78	27.18	26.63
(+)	-520	-130	+250	190	0	+370	-250	+4070	+110	-580	-750	-620
(++)	233	219	233	221	186	198	211	215	211	180	230	218

CAL YR 1980 MAX 13390 MIN 4860 ± -4480 ++ 2403
WTR YR 1981 MAX 11780 MIN 4860 ± +1760 ++ 2560

† Gage height, in feet, at end of month.

± Change in contents, in acre-feet.

++ Diversions, in acre-feet, for municipal use by Bistone Municipal Water Supply District.

BRAZOS RIVER BASIN
08110300 LAKE MEXIA NEAR MEXIA, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CaCO_3)	HARDNESS, NONCARBONATE (MG/L CaCO_3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)
FEB 03...	0755	294	7.0	120	8	41	3.8	15

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY (MG/L AS CaCO_3)	SULFATE DIS-SOLVED (MG/L AS SO_4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO_2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
FEB 03...	.6	4.8	110	19	20	.2	1.9	172

BRAZOS RIVER BASIN

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX

LOCATION.--Lat 31°34'27", long 96°31'14", Limestone County, Hydrologic Unit 12070103, in city of Groesbeck water supply pumping plant, 1.2 mi (1.9 km) downstream from Springfield Lake, 3.7 mi (6.0 km) north of Groesbeck, and 161.4 mi (259.7 km) upstream from mouth.

DRAINAGE AREA.--239 mi² (619 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1975 to May 1978 (periodic gage-height and low-flow measurements only), June 1978 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 396.65 ft (120.899 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow is partly regulated by Lake Mexia (station 08110300) 7.4 mi (11.9 km) upstream, capacity 9,400 acre-ft (11.6 hm³), and Springfield Lake 1.2 mi (1.9 km) upstream, approximate capacity 3,100 acre-ft (3.81 hm³). Several diversions above station for irrigation, municipal supply, and oilfield operation (total amount unknown). The city of Groesbeck diverted 481 acre-ft (593,000 m³) for municipal use from pool at gage during the water year and returned 15.3 acre-ft (18,900 m³) of washwater and 155 acre-ft (191,000 m³) of sewage effluent below station. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,200 ft³/s (770 m³/s) May 11, 1979, gage height, 15.06 ft (4.590 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1910, 26 ft (7.925 m) in 1910 and 1944, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,320 ft³/s (151 m³/s) June 4 at 0100 hours, gage height, 8.38 ft (2.554 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.22	.21	.47	.80	1.1	.54	.34	.41	2.4	.99	1.2
2	.37	.19	.22	.54	.55	.85	.51	.30	.84	2.4	1.2	.88
3	.29	.17	.14	.57	.38	.81	.57	.44	.787	3.3	1.1	.52
4	.32	.17	.17	.58	.53	1.9	1.9	.71	3330	20	.94	.48
5	.24	.11	.24	.66	.73	.85	.82	.70	2600	379	.83	.36
6	.25	.09	.20	.69	.61	.72	.67	.59	1240	623	.83	.27
7	.18	.05	.25	.56	.54	1.0	.62	.53	525	249	.47	.30
8	.12	.06	.99	.36	.55	.81	.71	.52	244	104	.52	.34
9	.09	.09	.91	.46	.66	.58	.69	.62	102	63	.46	.46
10	.08	.10	.44	.38	3.6	.58	.70	.49	65	46	.48	.47
11	.02	.00	.33	.35	.43	.58	.65	.42	46	31	.41	.57
12	.01	.00	.23	.35	.48	.58	.62	.37	38	20	.37	.47
13	.00	.00	.23	.42	.50	.58	.60	.37	128	14	.25	.44
14	.00	.00	.33	.36	.48	.48	.60	.45	1670	8.1	.17	.71
15	.00	.09	.36	.37	.52	.48	.54	.62	402	5.8	.16	.81
16	.00	.43	.37	.39	.54	.48	.61	3.6	1180	3.6	.36	.95
17	.00	.30	.35	.48	.55	.58	.51	1.2	2600	2.6	1.1	.64
18	.00	.14	.35	.48	.50	.48	.46	.61	1140	1.7	.61	.45
19	.02	.14	.32	.66	.54	.39	.50	.42	249	1.2	.49	.46
20	.02	.12	.37	1.0	.50	.39	.36	.47	99	1.0	.48	.48
21	.03	.08	.46	.74	.66	.48	.34	.41	59	1.0	.46	.49
22	.04	.17	.48	.50	.67	.48	.35	.38	40	.68	.42	.48
23	.07	.22	.48	.37	.48	.48	.92	.38	27	.68	.35	.47
24	.47	.19	.44	.34	.54	.48	.72	.72	18	.62	.33	.54
25	.44	.26	.39	.47	.37	.48	.56	.92	13	.67	.28	.38
26	.59	.56	.33	.42	.31	.58	.50	.70	10	.95	.32	.42
27	.43	.58	.29	.47	.53	.48	.49	.52	6.9	1.8	.14	.30
28	.32	.58	.37	.52	.64	.58	.47	.35	5.3	2.0	.34	.26
29	.26	.49	.46	.45	---	2.3	.44	.25	3.6	1.6	.58	.21
30	.24	.15	.41	.42	---	1.0	.38	.23	2.6	1.2	.48	.18
31	.26	---	.45	.46	---	.72	---	.36	---	1.1	.59	---
TOTAL	5.59	5.75	11.57	15.29	18.19	22.28	18.35	18.99	16631.65	1593.40	16.51	14.99
MEAN	.18	.19	.37	.49	.65	.72	.61	.61	554	51.4	.53	.50
MAX	.59	.58	.99	1.0	3.6	2.3	1.9	3.6	3330	623	1.2	1.2
MIN	.00	.00	.14	.34	.31	.39	.34	.23	.41	.62	.14	.18
AC-FT	11	11	23	30	36	44	36	38	32990	3160	33	30

CAL YR 1980 TOTAL 36877.71 MEAN 101 MAX 6310
WTR YR 1981 TOTAL 18372.56 MEAN 50.3 MAX 3330 MIN .00 AC-FT 73150
MIN .00 AC-FT 36440

BRAZOS RIVER BASIN

465

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1967 to current year.

WATER TEMPERATURES: November 1967 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,590 micromhos Oct. 8, 9, 1969; minimum daily, 71 micromhos June 4, 1973.

WATER TEMPERATURES: Maximum daily, 38.0°C on several days during July 1974, May 28, 1978; minimum daily, 1.5°C Jan. 10, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 564 micromhos Jan. 8; minimum daily, 153 micromhos June 6.

WATER TEMPERATURES: Maximum daily, 31.0°C Aug. 1; minimum daily, 9.0°C Jan. 23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 20...	0934	.14	476	13.5	220	5	80	3.7	12
DEC 31...	0800	.58	522	11.0	260	18	97	3.8	15
JAN 31...	0800	.69	532	12.0	250	10	94	3.8	13
APR 28...	1623	.39	520	24.0	260	16	96	4.0	14
MAY 31...	0800	.48	500	25.5	250	17	92	4.1	16
JUN 10...	1535	59	176	29.5	68	0	24	2.0	6.7
JUL 17...	1144	2.6	281	29.5	110	3	40	3.1	11
AUG 31...	0800	.94	444	28.0	210	5	80	3.6	11
SEP 04...	1145	.57	383	25.5	170	10	60	5.0	18

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 20...	.4	2.3	210	16	18	.2	13	271
DEC 31...	.4	1.9	240	17	20	.2	16	315
JAN 31...	.4	1.7	240	15	20	.2	15	307
APR 28...	.4	1.8	240	14	21	.2	16	311
MAY 31...	.4	1.7	230	5.0	29	.2	17	303
JUN 10...	.4	5.2	71	2.0	8.2	.1	9.9	101
JUL 17...	.5	4.7	110	10	15	.2	8.1	158
AUG 31...	.3	2.4	210	6.0	12	.2	13	254
SEP 04...	.6	4.5	160	5.0	32	.2	8.5	229

BRAZOS RIVER BASIN

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	5.59	466	270	4.1	31	0.5	18	0.3	200
NOV.	1980	5.75	478	277	4.3	32	0.5	18	0.3	200
DEC.	1980	11.57	511	298	9.3	36	1.1	18	0.6	220
JAN.	1981	15.29	534	313	13	38	1.6	18	0.7	230
FEB.	1981	18.19	526	308	15	37	1.8	18	0.9	230
MAR.	1981	22.28	522	305	18	37	2.2	18	1.1	230
APR.	1981	18.35	533	312	15	38	1.9	18	0.9	230
MAY	1981	18.99	507	295	15	35	1.8	18	0.9	220
JUNE	1981	16631.65	176	97	4340	7.7	347	11	486	65
JULY	1981	1593.40	231	128	551	11	47	13	58	88
AUG.	1981	16.51	407	233	10	25	1.1	18	0.8	170
SEPT	1981	14.99	457	264	11	30	1.2	18	0.7	190
TOTAL		18372.56	**	**	5000	**	408	**	551	**
WTD. AVG.		50	183	101	**	8.2	**	11	**	68

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	455	474	488	525	538	501	538	529	508	296	370	443
2	463	461	489	521	523	508	545	476	506	319	374	441
3	466	456	496	517	535	499	554	418	400	338	377	438
4	457	446	497	526	549	491	514	480	178	319	380	445
5	460	456	500	518	552	485	532	528	168	275	384	450
6	467	460	505	525	550	502	533	520	153	212	388	454
7	454	465	500	532	535	507	537	491	157	207	391	456
8	469	471	504	564	558	505	530	509	162	210	396	455
9	472	473	496	540	553	515	538	511	170	216	399	444
10	475	452	499	536	500	517	537	530	179	226	400	450
11	471	---	502	527	516	519	535	534	182	228	390	457
12	466	---	497	535	525	529	537	536	188	239	409	458
13	---	---	502	537	540	528	536	536	180	244	410	456
14	---	---	506	534	541	525	535	501	154	252	415	458
15	---	476	508	540	532	529	534	492	156	259	418	455
16	---	474	510	534	536	528	504	501	162	264	424	457
17	---	475	512	538	547	532	537	503	158	265	419	459
18	---	477	513	508	545	534	534	490	160	275	417	461
19	456	478	512	543	546	535	539	511	167	281	413	464
20	462	476	519	537	532	537	538	507	175	286	434	466
21	466	480	513	522	488	538	534	511	189	293	440	468
22	467	481	520	541	491	541	539	521	198	303	442	470
23	469	482	522	546	510	543	536	522	205	306	438	471
24	468	483	524	540	522	545	535	518	215	312	428	472
25	469	485	522	536	525	547	538	516	230	328	444	470
26	471	484	520	543	530	548	535	514	240	336	446	469
27	473	486	525	549	535	547	530	515	251	341	444	469
28	470	487	527	540	525	548	520	513	260	348	447	470
29	471	486	529	545	---	539	540	511	265	358	448	471
30	471	488	527	546	---	540	534	502	278	367	449	471
31	470	---	528	543	---	536	---	503	---	379	448	---
MEAN	466	474	510	535	531	526	534	508	220	287	416	459

BRAZOS RIVER BASIN

467

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	18.0	14.0	12.0	12.0	16.0	18.0	24.5	26.0	29.0	31.0	28.0
2	25.0	17.0	13.0	13.0	11.0	16.0	18.5	24.5	26.0	29.0	30.0	27.5
3	23.0	17.0	14.0	12.0	11.0	16.0	18.5	24.0	26.0	29.0	30.0	28.0
4	24.0	17.0	14.0	11.0	11.0	16.0	20.0	24.0	23.5	28.0	30.5	28.0
5	24.0	18.0	14.0	11.0	11.0	17.0	20.0	24.0	24.0	28.0	30.5	28.0
6	24.0	18.0	14.0	12.0	11.0	15.0	20.0	24.0	25.0	27.0	30.5	28.0
7	24.0	17.0	14.0	11.0	11.0	15.0	19.5	23.5	26.0	28.0	30.5	28.0
8	23.0	18.0	15.0	11.0	11.0	15.0	19.5	23.5	27.5	28.5	30.0	28.0
9	23.0	19.0	15.0	12.0	11.0	15.0	20.0	23.5	28.0	29.0	29.0	27.5
10	22.0	19.0	14.0	12.0	11.0	15.0	20.0	23.0	29.0	30.0	29.0	27.0
11	23.0	---	15.0	12.0	10.0	16.0	20.0	23.0	29.0	30.0	29.0	27.5
12	23.0	---	13.0	11.0	10.0	16.0	21.0	22.0	28.0	30.0	29.0	27.0
13	---	---	13.0	11.0	10.0	15.0	21.0	22.5	28.0	29.0	29.0	27.0
14	---	---	13.0	10.0	10.0	15.0	22.0	22.0	26.0	29.0	29.0	27.0
15	---	18.0	14.0	10.0	10.0	15.0	22.0	23.0	27.0	29.0	29.0	27.0
16	---	17.0	14.0	10.0	10.0	16.0	22.0	22.0	27.5	29.5	29.0	27.0
17	---	17.0	14.0	10.0	11.0	15.0	22.0	23.0	26.0	29.5	29.0	26.0
18	---	15.0	18.0	11.0	12.0	15.0	21.5	23.0	26.0	29.5	29.0	26.0
19	22.0	15.0	18.0	11.0	12.0	15.0	22.0	23.5	27.0	29.5	29.0	25.0
20	22.0	15.0	13.0	10.0	13.0	15.0	23.0	23.0	28.0	29.5	29.0	24.0
21	21.0	15.0	12.0	10.0	13.0	15.0	23.0	23.0	29.0	29.5	29.0	24.0
22	21.0	15.0	12.0	11.0	15.0	15.0	23.0	23.5	29.0	29.5	28.5	24.0
23	21.0	15.0	12.0	9.0	15.0	15.0	23.0	23.0	29.0	29.5	28.0	24.5
24	21.0	14.0	13.0	10.0	15.0	15.0	23.0	23.0	29.0	30.0	28.0	25.0
25	20.0	14.0	11.0	10.0	15.0	15.0	23.0	24.0	29.0	30.0	28.0	25.0
26	20.0	14.0	11.0	11.0	15.0	16.0	23.0	24.0	29.0	30.0	28.0	25.0
27	23.0	13.0	12.0	12.0	15.0	16.0	23.0	24.0	28.5	30.0	29.0	25.0
28	20.0	13.0	11.0	12.0	15.0	16.0	23.0	25.0	28.5	29.5	29.0	25.0
29	20.0	13.0	10.0	12.0	---	16.0	23.5	25.5	28.5	29.5	28.0	25.0
30	18.0	14.0	11.0	12.0	---	17.0	24.0	25.5	29.0	30.5	28.5	25.0
31	18.0	---	11.0	12.0	---	18.0	---	25.5	---	30.0	28.0	---
MEAN	22.0	16.0	13.5	11.0	12.0	15.5	21.5	23.5	27.5	29.5	29.0	26.5

BRAZOS RIVER BASIN

08110430 BIG CREEK NEAR FREESTONE, TX

LOCATION.--Lat 31°30'25", long 96°19'31", Limestone County, Hydrologic Unit 12070103, on left bank at downstream side of bridge on State Highway 164, 5.1 mi (8.2 km) southwest of Freestone, and 8.2 mi (13.2 km) upstream from mouth.

DRAINAGE AREA.--57.1 mi² (147.9 km²).

PERIOD OF RECORD.--July 1975 to June 1978 (periodic gage-height and low-flow measurements only), July 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 362.94 ft (110.624 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year. Gage-height tele-meter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,990 ft³/s (56.4 m³/s) May 30, 1979, gage height, 13.99 ft (4.264 m); no flow Sept 23-26, 1978, and Aug. 4-8, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1950, 19 ft (5.8 m) in April 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
June 6	0800	675	19.1	12.24	3.731
June 17	2230	979	27.7	12.86	3.920
July 6	0600	*1,220	34.6	13.18	4.017

Minimum discharge, 0.02 ft³/s (0.001 m³/s) Oct. 3-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.05	.06	.05	.05	.24	.81	6.8	.50	.36	1.4	.60	.52		
2	.05	.05	.05	.05	.22	.43	3.4	.43	.48	.96	.53	1.2		
3	.02	.05	.05	.05	1.0	.14	2.3	.48	23	1.6	.46	2.3		
4	.02	.05	.05	.05	1.2	9.3	32	.48	194	56	.39	1.8		
5	.02	.05	.05	.05	1.1	33	43	.68	473	229	.35	.99		
6	.02	.05	.05	.06	.96	18	17	1.4	617	1020	.33	.73		
7	.02	.06	.05	.05	.74	9.4	6.4	1.2	271	440	.30	.58		
8	.02	.07	.17	.05	1.0	7.4	3.4	.85	58	97	.29	.48		
9	.02	.07	.09	.05	1.1	11	2.1	.65	26	24	.29	.41		
10	.02	.07	.05	.05	12	7.6	1.8	.60	16	12	.30	.38		
11	.04	.07	.04	.05	36	3.7	1.6	.59	14	7.2	.30	.35		
12	.04	.07	.04	.05	13	2.6	1.4	.68	24	5.0	.30	.34		
13	.04	.07	.04	.04	3.9	2.2	1.1	.56	67	3.7	.30	.34		
14	.04	.07	.05	.04	1.9	1.9	.92	.46	52	3.1	.30	.41		
15	.03	.07	.05	.05	1.3	1.8	.74	.55	232	2.5	.30	.36		
16	.12	.19	.05	.05	.92	1.7	.59	37	409	2.3	.30	.34		
17	.09	.11	.05	.05	.74	1.5	.56	68	690	2.1	.33	.32		
18	.06	.05	.05	.05	.65	1.3	.48	24	713	1.8	.32	.31		
19	.05	.05	.05	.10	.59	1.2	.45	9.2	237	1.7	.31	.32		
20	.05	.04	.06	.20	.56	1.2	.45	3.3	46	1.5	.31	.33		
21	.04	.04	.06	.34	.96	1.0	.40	1.9	21	1.4	.33	.34		
22	.05	.04	.06	.98	1.2	.76	.38	1.6	12	1.2	.34	.33		
23	.05	.05	.06	.72	3.0	.61	.84	1.2	7.5	1.0	.34	.31		
24	.08	.04	.06	.56	2.9	.59	4.0	.77	5.6	.91	.34	.29		
25	.04	.05	.05	.45	2.4	.63	5.8	45	4.2	.78	.34	.28		
26	.04	.09	.05	.43	1.8	.64	2.6	39	3.6	.69	.34	.28		
27	.04	.06	.05	.40	1.5	.61	1.4	6.9	2.9	.62	.35	.26		
28	.05	.04	.05	.36	1.1	.63	.95	2.7	2.5	.67	.41	.26		
29	.06	.04	.05	.32	---	19	.65	1.2	2.0	.84	.32	.26		
30	.06	.04	.05	.26	---	51	.59	.68	1.7	.73	.35	.26		
31	.06	---	.05	.24	---	22	---	.50	---	.64	.35	---		
TOTAL	1.39	1.86	1.73	6.25	93.98	213.65	144.10	253.06	4225.84	1922.34	10.72	15.68		
MEAN	.045	.062	.056	.20	3.36	6.89	4.80	8.16	141	62.0	.35	.52		
MAX	.12	.19	.17	.98	36	51	43	68	713	1020	.60	2.3		
MIN	.02	.04	.04	.04	.22	.14	.38	.43	.36	.62	.29	.26		
CFSM	.001	.001	.001	.004	.06	.12	.08	.14	2.47	1.09	.006	.009		
IN.	.00	.00	.00	.00	.06	.14	.09	.16	2.75	1.25	.01	.01		
AC-FT	2.8	3.7	3.4	12	186	424	286	502	8380	3810	21	31		
CAL YR 1980	TOTAL	11274.89	MEAN	30.8	MAX	1010	MIN	.00	CFSM	.54	IN	7.35	AC-FT	22360
WTR YR 1981	TOTAL	6890.60	MEAN	18.9	MAX	1020	MIN	.02	CFSM	.33	IN	4.49	AC-FT	13670

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX

LOCATION.--Lat 31°19'30", long 96°19'08", Leon County, Hydrologic Unit 12070103, in left end bypass pier of Sterling C. Robertson Dam on the Navasota River, 7.5 mi (12.1 km) northwest of Marquez, and 124 mi (200 km) upstream from mouth.

DRAINAGE AREA.--675 mi² (1,748 km²).

WATER-DISCHARGE RECORDS

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

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

REMARK.--The lake is formed by a rolled earthfill dam 11,395 ft (3,473 m) long, including the spillway. The lake was built for water conservation. Deliberate impoundment began on Oct. 16, 1978. The spillway is an uncontrolled broad-crested weir 3,000 ft (914 m) long located near left end of dam. The spillway for normal flood releases is a gated concrete gravity structure with an ogee weir section and stilling basin located near center of dam. It is controlled by five 40- by 28-foot (12 by 9 m) tainter gates. There are two 4- by 8-foot (1 by 2 m) slide gates, located one each in the two center piers of the spillway that discharge into the stilling basin. These gates can also be opened during extreme floods. A low-flow outlet, consisting of a 10-inch-diameter (0.25 m) cast iron pipe, is located in the left end of the pier. In addition, there are two 36-inch (0.91 m, outside diameter) steel cylinder pipes located in the right end pier for water supply releases. The lowest invert from low flow and for water supply releases is at elevation 325.50 ft (99.212 m). The city of Mexia released 412 acre-ft (508,000 m³) of sewage effluent into stream above lake during the year. Gage-height telemeter at station. Figures given herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	380.0	-
Design flood.....	370.0	334,735
Crest of spillway.....	369.6	327,760
Top of gates.....	365.0	253,905
Concrete gated spillway.....	363.0	225,440
Top of conservation pool.....	337.0	21,125
Lowest gated outlet (invert).....	322.0	265

COOPERATION.--Records of daily lake elevations are obtained in cooperation with the Brazos River Authority. Area and capacity tables were furnished by the Brazos River Authority and are based on Geological Survey topographic maps.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 241,100 acre-ft (297 hm³) May 30, 1979, elevation, 364.12 ft (110.984 m); minimum, 10,740 acre-ft (13.2 hm³) Nov. 30, 1978, elevation, 332.63 ft (101.386 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 229,300 acre-ft (283 hm³) June 15, elevation, 363.28 ft (110.728 m); minimum, 190,800 acre-ft (235 hm³) Jan. 5, elevation, 360.34 ft (109.832 m).

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

360.0	186,600
362.0	212,000
364.0	239,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196200	192100	192200	191500	192100	195900	198300	200000	206400	221100	217800	214200
2	196100	192100	192200	191400	191400	195900	197900	199400	207200	221000	217500	214200
3	195700	191900	191900	191900	191200	196200	198200	199700	208000	220900	217100	214400
4	195400	192200	191900	191200	191700	196800	199100	200400	217800	221000	216700	214400
5	195100	191800	191900	190900	192200	197100	199200	200600	225400	223700	216400	214300
6	194900	191700	191800	191600	191900	197100	198700	200400	223700	226700	216200	214000
7	194700	191300	191900	191300	192400	197600	198200	200000	222200	226600	216200	214200
8	194400	191300	194400	191400	192100	198200	198300	199300	222900	224900	215600	214000
9	194400	191100	193800	191400	192300	197800	198300	200500	223200	223400	215400	213600
10	194200	191300	192900	191400	196900	197700	198300	199800	224000	223200	215000	213200
11	194100	191300	192800	191600	194700	197600	198600	199400	223600	223200	214700	213100
12	193700	191300	192800	191100	194600	197800	198300	199100	223400	223200	214400	212800
13	193300	191100	192800	191100	194700	197800	198300	199400	222100	222800	214200	212700
14	193200	191100	192700	192300	194700	197300	198800	199600	229100	222500	213900	213300
15	193100	191700	192800	191700	194700	197800	198300	201400	223400	222400	213800	213600
16	194300	191300	192800	191700	194700	197600	197800	204400	224500	222100	213800	213500
17	194600	192800	192300	191600	194600	197300	197800	205100	226400	221800	213800	212700
18	194700	192300	192400	191600	194600	197700	197900	205700	225300	221400	214000	212000
19	194400	192100	193100	191700	194600	197200	197800	205500	222800	221300	213300	211500
20	194200	191900	192600	191700	194300	196300	197900	205000	222100	221000	213200	211100
21	193900	191800	191900	191400	195300	196900	197800	204200	222100	220700	212800	211200
22	193800	192100	191900	191600	194900	197300	197800	204500	222200	220500	212700	211100
23	193700	192200	191900	191700	197100	196600	201000	204100	222100	220100	212300	211000
24	194300	192200	192400	191600	197400	196200	200700	205100	222100	219800	212100	210700
25	193400	192400	191600	192200	196900	196300	200500	207000	222100	219400	211700	210300
26	192800	192400	191600	191600	194700	196100	200500	207100	221800	219400	211500	210500
27	193200	192400	191600	191800	194900	196100	200200	206800	221700	219100	211500	210500
28	194200	192200	191400	191300	195600	196400	200100	206800	221500	219000	212300	210300
29	193400	192200	191800	191600	---	197900	200000	206800	221500	218600	212000	210200
30	192600	192200	191600	191600	---	198100	199800	206700	221300	218300	212100	209900
31	192300	---	191400	191600	---	198400	---	206400	---	217900	211900	---
MAX	196200	192800	194400	192300	197400	198400	201000	207100	229100	226700	217800	214400
MIN	192300	191100	191400	190900	191200	195900	197800	199100	206400	217900	211500	209900
(†)	360.46	360.45	360.39	360.40	360.72	360.95	361.06	361.51	362.69	362.44	361.99	361.84
(‡)	-4400	-100	-800	+200	+4000	+2800	+1400	+6600	+14900	-3400	-6000	-2000
CAL YR 1980	MAX	234000	MIN	191100	‡	-33600						
WTR YR 1981	MAX	229100	MIN	190900	‡	+13200						

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

BRAZOS RIVER BASIN

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1979 to current year.

311937096194601 LAKE LIMESTONE SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
05...	1545	1.00	283	7.8	12.5	10.0	94
05...	1547	10.0	283	7.7	12.5	10.0	94
05...	1549	20.0	297	7.7	12.5	10.0	94
05...	1551	30.0	283	7.7	12.5	10.0	94
05...	1553	32.0	288	7.7	12.5	10.0	94
MAY							
21...	1005	1.00	291	7.8	23.0	8.0	93
21...	1008	10.0	291	7.7	23.0	7.8	91
21...	1010	20.0	291	7.7	22.5	7.3	85
21...	1013	30.0	291	7.6	22.5	7.1	83
21...	1015	36.0	291	7.6	22.5	6.7	78
AUG							
14...	1110	1.00	249	7.8	31.0	6.3	84
14...	1112	10.0	249	7.3	30.0	4.3	57
14...	1114	20.0	249	7.3	29.5	4.1	54
14...	1116	30.0	287	7.1	27.5	.5	6
14...	1118	40.0	380	7.1	24.5	.4	5

311941096191401 LAKE LIMESTONE SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)
MAR										
05...	1528	1.00	290	7.8	13.0	1.00	10.2	98	97	8
05...	1530	10.0	290	7.8	13.0	--	10.2	98	--	--
05...	1532	20.0	290	7.7	13.0	--	9.9	95	--	--
05...	1534	30.0	290	7.7	12.5	--	9.7	92	--	--
05...	1536	40.0	290	7.6	12.5	--	9.6	91	--	--
05...	1538	48.0	290	7.6	12.5	--	9.6	91	98	9
MAY										
21...	0945	1.00	298	7.8	22.5	.90	7.8	91	100	12
21...	0947	10.0	298	7.8	22.5	--	7.8	91	--	--
21...	0949	20.0	298	7.7	22.5	--	7.4	86	--	--
21...	0951	30.0	298	7.7	22.0	--	7.1	82	--	--
21...	0953	40.0	298	7.6	22.0	--	7.1	82	--	--
21...	0955	49.0	300	7.6	22.0	--	7.1	82	100	14
AUG										
14...	1030	1.00	249	7.4	29.5	1.30	4.8	63	82	7
14...	1032	10.0	249	7.3	29.0	--	4.8	62	--	--
14...	1034	20.0	249	7.3	29.0	--	4.3	56	--	--
14...	1036	25.0	249	7.3	28.5	--	4.2	54	--	--
14...	1038	30.0	284	7.0	28.5	--	1.0	13	--	--
14...	1040	40.0	385	7.0	24.0	--	.6	7	--	--
14...	1042	46.0	410	7.2	22.5	--	.7	8	130	0

LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

311941096191401 LAKE LIMESTONE SITE AC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAR										
05...	30	5.4	19	.8	5.4	89	20	25	.2	1.5
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	30	5.6	19	.8	5.3	89	19	25	--	1.5
MAY										
21...	31	5.8	20	.9	5.5	89	20	26	.2	1.5
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	32	5.6	20	.9	5.7	89	19	28	--	1.6
AUG										
14...	25	4.7	17	.9	5.6	75	12	20	.2	4.1
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	41	7.4	23	.9	6.3	180	2.0	28	--	17

DATE	SOLIDS, SUM OF CONSTITUENTS, 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)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR										
05...	160	--	.25	--	--	1.00	1.3	.050	10	1
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	.25	--	--	1.10	1.4	.050	20	10
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	159	--	.25	.020	.97	.99	1.2	.060	20	10
MAY										
21...	163	--	.18	--	--	.82	1.0	.040	20	5
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	166	--	.21	--	--	.78	.99	.040	60	40
AUG										
14...	134	--	<.09	--	--	.57	--	.050	11	170
14...	--	--	--	--	--	--	--	--	--	--
14...	--	<.020	<.09	.070	.79	.86	--	.040	80	470
14...	--	--	--	--	--	--	--	--	--	--
14...	--	<.020	<.09	.300	.80	1.10	--	.050	20	1700
14...	--	<.020	<.09	2.70	.70	3.40	--	.790	6000	7500
14...	251	--	<.09	--	--	6.30	--	1.30	8300	10000

312458096205101 LAKE LIMESTONE SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
MAR										
05...	1645	1.00	296	7.7	14.0	.60	9.6	94	98	9
05...	1647	10.0	296	7.7	14.0	--	9.5	93	--	--
05...	1649	20.0	296	7.7	14.0	--	9.5	93	--	--
05...	1651	32.0	296	7.7	14.0	--	9.5	93	98	9
MAY										
21...	1050	1.00	303	7.8	23.0	.80	7.7	90	100	14
21...	1052	10.0	303	7.8	23.0	--	7.6	88	--	--
21...	1054	20.0	303	7.7	23.0	--	7.2	84	--	--
21...	1056	30.0	305	7.4	23.0	--	6.4	74	--	--
21...	1058	39.0	305	7.4	23.0	--	5.9	69	100	14
AUG										
14...	1130	1.00	245	7.7	31.0	1.10	6.1	81	82	2
14...	1132	10.0	245	7.4	30.5	--	4.8	63	--	--
14...	1134	20.0	245	7.4	30.5	--	4.7	62	--	--
14...	1136	25.0	245	7.3	30.5	--	4.1	54	--	--
14...	1138	30.0	253	7.1	29.5	--	.7	9	--	--
14...	1140	39.0	340	7.1	26.5	--	.4	5	120	0

BRAZOS RIVER BASIN
LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312458096205101 LAKE LIMESTONE SITE BC--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAR										
05...	30	5.6	19	.8	5.5	89	19	26	1.5	160
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	30	5.6	19	.8	5.3	89	20	25	1.5	160
MAY										
21...	32	5.8	20	.9	5.8	90	20	30	1.5	169
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	32	5.8	21	.9	5.5	90	21	29	1.8	170
AUG										
14...	25	4.7	17	.9	5.6	80	11	19	4.5	135
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	36	6.4	20	.8	6.0	140	.2	22	12	200

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR										
05...	--	--	.24	--	--	1.10	1.3	.060	40	6
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	.24	--	--	.99	1.2	.080	20	10
05...	--	--	.24	--	--	1.30	1.5	.070	20	7
MAY										
21...	--	--	.16	.070	.91	.98	1.1	.060	20	10
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	.13	.000	.13	.070	1.1	1.20	1.3	.090	30	140
AUG										
14...	--	--	<.09	--	--	.94	--	.050	45	49
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	<.020	<.09	.100	.90	1.00	--	.050	50	190
14...	--	<.020	<.09	.300	1.0	1.30	--	.130	580	990
14...	--	--	<.09	--	--	4.80	--	1.30	8200	4800

312625096205901 LAKE LIMESTONE SITE CC
WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
05...	1812	1.00	298	7.7	15.0	9.0	90
05...	1814	10.0	298	7.6	15.0	9.0	90
05...	1816	18.0	298	7.6	15.0	9.0	90
MAY							
21...	1130	1.00	303	8.1	23.0	8.4	98
21...	1133	10.0	303	8.0	23.5	8.1	95
21...	1135	20.0	303	7.8	23.5	7.4	87
AUG							
14...	1210	1.00	245	8.1	32.5	7.3	99
14...	1212	10.0	245	7.5	31.0	4.7	63
14...	1214	19.0	253	7.1	31.0	1.3	17

LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312622096224201 LAKE LIMESTONE SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
05...	1750	1.00	334	7.6	15.0	8.9	89
05...	1751	10.0	329	7.6	15.0	8.8	88
05...	1753	21.0	325	7.6	15.0	8.8	88
MAY							
21...	1215	1.00	334	7.7	23.5	7.1	84
21...	1217	10.0	334	7.7	23.5	6.8	80
21...	1219	21.0	334	7.6	23.5	6.6	78
AUG							
14...	1230	1.00	240	7.7	31.5	6.6	89
14...	1232	10.0	240	7.4	31.0	4.9	65
14...	1234	20.0	240	7.3	31.0	3.9	52

312726096240001 LAKE LIMESTONE SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
MAR										
05...	1724	1.00	346	7.4	15.5	.30	8.1	82	110	12
05...	1726	10.0	346	7.3	15.5	--	7.4	75	--	--
05...	1728	17.0	346	7.3	15.5	--	7.1	72	110	11
MAY										
21...	1250	1.00	346	7.8	23.5	.30	7.4	87	110	20
21...	1252	10.0	287	7.0	21.5	--	.7	8	--	--
21...	1254	18.0	221	6.8	20.5	--	.3	3	61	1
AUG										
14...	1250	1.00	239	7.3	32.5	.80	5.8	78	82	2
14...	1252	10.0	245	6.9	31.0	--	.4	5	--	--
14...	1254	18.0	274	6.8	30.0	--	.4	5	94	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 FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAR										
05...	34	5.8	25	1.0	5.3	97	25	33	1.7	188
05...	--	--	--	--	--	--	--	--	--	--
05...	34	5.7	24	1.0	5.3	97	25	33	1.7	187
MAY										
21...	36	5.8	27	1.1	5.7	94	27	40	3.8	202
21...	--	--	--	--	--	--	--	--	--	--
21...	19	3.3	18	1.0	5.5	60	12	23	8.0	125
AUG										
14...	26	4.2	16	.8	6.2	80	12	18	6.1	135
14...	--	--	--	--	--	--	--	--	--	--
14...	30	4.7	16	.7	6.2	100	5.0	17	8.8	147

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)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR									
05...	--	.19	--	--	1.40	1.6	.090	60	40
05...	--	.19	--	--	1.30	1.5	.090	40	50
05...	--	.20	--	--	1.60	1.8	.110	50	120
MAY									
21...	--	.00	--	--	1.30	1.3	.120	40	70
21...	--	--	--	--	--	--	--	--	--
21...	--	.25	.060	1.9	2.00	2.3	.330	410	620
AUG									
14...	--	<.09	--	--	1.10	--	.070	27	74
14...	<.020	<.09	.240	1.2	1.40	--	.100	90	320
14...	--	<.09	--	--	2.20	--	.410	1900	1100

BRAZOS RIVER BASIN

08110500 NAVASOTA RIVER NEAR EASTERLY, TX

LOCATION.--Lat 31°10'12", long 96°17'51", Leon-Robertson County line, Hydrologic Unit 12070103, at left downstream end of bridge on U.S. Highway 79, 1.0 mi (1.6 km) upstream from Missouri Pacific Railroad Co. bridge, 7 mi (11 km) northeast of Easterly, and 105.7 mi (170.1 km) upstream from mouth.

DRAINAGE AREA.--968 mi² (2,507 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1924 to current year.

REVISED RECORDS.--WSP 898: 1924, 1926-27, 1928(M), 1929-30, 1931(M). WSP 1512: 1932(M), 1936. WDR TX-76-2: Drainage area. WDR TX-78-2: 1974(M), 1977.

GAGE.--Water-stage recorder. Datum of gage is 271.46 ft (82.741 m) National Geodetic Vertical Datum of 1929. Prior to June 11, 1932, nonrecording gage at railroad bridge 1.0 mi (1.6 km) downstream at 19.86-foot (6.053 m) higher datum. June 11, 1932, to Sept. 30, 1978, water-stage recorder 46 ft (14 m) upstream at 5.00-foot (1.524 m) higher datum.

REMARKS.--Water-discharge records fair. Flow is largely regulated by Lakes Mexia and Limestone (stations 08110300 and 08110470). Numerous diversions above station for irrigation, municipal supply, and oilfield operation. Gage-height telemeter at station.

AVERAGE DISCHARGE.--36 years (water years 1925-60) unregulated, 406 ft³/s (11.50 m³/s), 5.70 in/yr (145 mm/yr), 294,100 acre-ft/yr (363 hm³/yr); 21 years (water years 1961-81) regulated, 457 ft³/s (12.94 m³/s), 331,100 acre-ft/yr (408 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,300 ft³/s (1,710 m³/s) May 2, 1944, gage height, 27.13 ft (8.269 m) no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1845, 29 ft (8.8 m) June 1899, from information by local residents, discharge, 90,000 ft³/s (2,550 m³/s), from rating curve extended above 60,000 ft³/s (1,700 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,900 ft³/s (365 m³/s) June 16 0400 hours, gage height, 22.15 ft (6.751 m); minimum daily, 0.28 ft³/s (0.008 m³/s) Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	7.0	7.9	6.8	8.7	14	51	5.3	37	41	4.3	.30
2	9.8	7.1	7.5	6.7	9.3	22	30	4.2	33	35	3.8	5.0
3	16	6.9	7.3	6.8	8.7	38	21	7.6	29	32	3.4	47
4	9.2	6.9	7.1	7.2	9.1	55	18	16	27	30	3.0	21
5	4.7	6.9	7.6	7.2	14	48	14	17	24	55	2.6	7.0
6	3.9	7.0	7.6	8.2	16	60	51	30	23	96	2.2	13
7	4.0	6.9	7.7	9.1	16	61	48	24	21	689	2.0	8.2
8	4.1	7.4	9.4	9.3	13	45	31	15	6000	1030	1.8	1.9
9	4.5	7.4	16	9.8	11	31	25	11	2300	1080	1.5	.89
10	4.3	7.2	18	9.4	58	23	21	8.4	1290	717	1.4	1.1
11	4.2	7.0	13	9.4	174	19	18	5.5	222	95	1.3	.82
12	4.5	7.0	9.6	9.2	173	19	17	6.9	653	45	1.2	.54
13	4.4	7.0	8.8	8.4	102	20	16	7.7	1250	35	1.1	.47
14	4.6	7.0	8.3	8.2	49	19	15	47	1240	30	1.0	.43
15	4.7	6.7	8.2	8.2	33	19	14	142	4570	28	.88	.41
16	6.3	10	7.8	8.2	25	19	14	706	11200	15	.81	.39
17	8.9	12	7.3	7.8	23	19	14	1420	7210	16	.74	.38
18	8.4	9.0	7.2	7.7	21	17	14	1300	7440	14	.68	.36
19	5.5	8.2	7.2	11	17	15	14	652	7270	14	.63	.35
20	4.4	7.7	6.8	28	15	15	14	126	4820	13	.60	.34
21	6.0	6.7	6.7	28	14	15	14	46	1480	13	.56	.33
22	6.6	6.5	6.7	25	16	14	10	32	104	12	.54	.32
23	6.3	7.8	6.8	20	15	14	17	26	66	11	.50	.31
24	7.3	8.6	7.3	13	13	13	113	32	60	10	.48	.31
25	7.8	8.7	7.4	10	11	10	239	49	53	9.6	.45	.30
26	7.4	12	7.3	9.6	10	9.0	106	250	56	8.8	.43	.30
27	7.0	14	7.7	9.0	11	9.0	37	320	57	7.7	.42	.29
28	9.4	13	7.9	8.7	11	9.3	26	150	56	6.9	.40	.29
29	9.0	10	7.7	8.1	---	17	17	80	52	6.2	.38	.28
30	8.4	8.9	7.1	7.7	---	26	9.3	54	49	5.6	.37	.28
31	8.1	---	7.1	7.3	---	61	---	44	---	4.9	.35	---
TOTAL	204.4	248.5	260.0	333.0	896.8	775.3	1048.3	5634.6	57692	4205.7	39.82	112.89
MEAN	6.59	8.28	8.39	10.7	32.0	25.0	34.9	182	1923	136	1.28	3.76
MAX	16	14	18	28	174	61	239	1420	11200	1080	4.3	47
MIN	3.9	6.5	6.7	6.7	8.7	9.0	9.3	4.2	21	4.9	.35	.28
AC-FT	405	493	516	661	1780	1540	2080	11180	114400	8340	79	224
CAL YR 1980	TOTAL	105086.46	MEAN	287	MAX	10900	MIN	.19	AC-FT	208400		
WTR YR 1981	TOTAL	71451.31	MEAN	196	MAX	11200	MIN	.28	AC-FT	141700		

BRAZOS RIVER BASIN

475

08110500 NAVASOTA RIVER NEAR EASTERLY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year. Sediment records: October 1968 to September 1973.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 09...	0916	4.5	391	19.5	90	43	24	7.3	41
NOV 20...	1544	7.6	298	11.0	73	29	20	5.7	28
DEC 30...	0946	6.9	347	7.5	82	39	22	6.6	35
FEB 02...	1650	9.5	356	9.5	84	42	23	6.4	32
MAR 17...	1221	20	390	18.0	110	52	28	8.6	36
APR 28...	0840	27	342	23.0	81	45	22	6.3	31
JUN 10...	1145	740	284	24.0	95	13	28	6.1	20
JUL 16...	1610	15	437	32.5	120	33	34	8.1	39
SEP 03...	1200	45	753	25.0	180	82	48	15	78

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 09...	1.9	3.7	47	52	57	.2	14	227
NOV 20...	1.4	4.0	44	42	38	.1	13	177
DEC 30...	1.7	3.1	43	49	46	.1	16	204
FEB 02...	1.5	3.3	42	49	50	.1	13	202
MAR 17...	1.5	3.9	53	57	50	.2	12	228
APR 28...	1.5	4.7	36	52	49	.1	13	200
JUN 10...	.9	7.1	82	23	31	.2	9.8	174
JUL 16...	1.7	5.3	85	47	52	.2	13	250
SEP 03...	2.7	6.5	100	81	130	.2	12	431

BRAZOS RIVER BASIN

08111000 NAVASOTA RIVER NEAR BRYAN, TX

LOCATION.--Lat 30°52'10", long 96°11'32", Brazos-Madison County line, Hydrologic Unit 12070103, on right bank at upstream side of bridge on U.S. Highway 190, 2.5 mi (4.9 km) upstream from Shepard Creek, 17 mi (27 km) north-east of Bryan, and 68.4 mi (110.1 km) upstream from mouth.

DRAINAGE AREA.--1,454 mi² (3,766 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1951 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 224.64 ft (68.470 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow is largely regulated by Lakes Mexia and Limestone (stations 08110300 and 08110470). There are numerous diversions above station for irrigation, municipal, and oilfield operation.

AVERAGE DISCHARGE.--9 years (water years 1952-60) unregulated, 437 ft³/s (12.38 m³/s), 316,600 acre-ft/yr (390 hm³/yr); 21 years (water years 1961-81) regulated, 607 ft³/s (17.19 m³/s), 439,800 acre-ft/yr (542 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,200 ft³/s (1,080 m³/s) Apr. 29, 1966, gage height, 16.57 ft (5.951 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1840, 19.5 ft (5.94 m) in June 1899, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,600 ft³/s (300 m³/s) June 18 at 2100 hours, gage height, 14.13 ft (4.307 m); minimum daily, 6.9 ft³/s (0.20 m³/s) Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	9.3	33	22	27	33	87	40	70	77	18	315
2	9.3	9.9	30	21	26	32	105	33	59	67	14	332
3	11	10	27	21	26	38	97	39	69	54	12	250
4	11	10	24	22	28	1130	74	70	278	43	11	442
5	11	10	23	21	30	1090	59	130	245	209	10	463
6	12	10	22	21	39	350	52	138	304	967	9.9	236
7	13	10	22	21	56	213	46	121	693	693	9.7	155
8	9.0	9.0	22	22	60	164	58	92	1080	494	9.4	111
9	8.9	8.3	24	26	54	170	79	71	1760	762	9.2	91
10	8.0	8.1	26	27	141	172	64	94	3680	928	9.0	62
11	7.7	8.5	34	28	192	138	51	114	4470	1020	8.8	40
12	7.3	9.0	37	28	167	117	43	84	2710	816	9.0	30
13	7.2	9.6	35	27	253	103	37	54	1890	246	9.7	25
14	7.1	10	33	26	182	93	34	54	1440	114	9.1	550
15	6.9	10	32	25	123	96	33	110	1400	67	8.6	1940
16	6.9	13	27	24	86	92	31	285	1490	47	8.5	1180
17	7.0	18	25	23	63	79	29	670	2160	38	8.4	574
18	7.3	28	25	23	53	68	28	892	8030	33	8.4	244
19	8.2	45	25	24	47	59	28	1110	9530	30	8.4	142
20	9.9	48	24	29	48	54	28	1250	7960	28	8.7	95
21	10	37	23	54	92	53	29	1110	7780	26	8.8	68
22	11	30	22	85	75	46	29	497	6860	24	8.9	51
23	10	26	21	79	58	42	29	187	4990	23	9.0	41
24	10	24	21	63	53	40	32	137	2560	21	9.0	35
25	9.5	24	20	50	48	39	56	136	949	21	8.9	31
26	8.9	28	20	40	43	38	165	122	367	21	8.7	28
27	9.1	28	20	34	37	38	199	160	192	23	8.5	26
28	9.3	34	20	31	34	36	127	349	136	23	8.3	25
29	9.3	38	20	30	---	36	80	382	105	23	8.0	23
30	9.3	36	21	29	---	39	54	216	89	23	8.0	22
31	9.3	---	22	27	---	56	---	110	---	21	9.2	---
TOTAL	282.1	598.7	780	1003	2141	4754	1863	8857	73346	6982	295.1	7627
MEAN	9.10	20.0	25.2	32.4	76.5	153	62.1	286	2445	225	9.52	254
MAX	13	48	37	85	253	1130	199	1250	9530	1020	18	1940
MIN	6.9	8.1	20	21	26	32	28	33	59	21	8.0	22
AC-FT	560	1190	1550	1990	4250	9430	3700	17570	145500	13850	585	15130
CAL YR 1980	TOTAL	149036.1	MEAN 407	MAX 11000	MIN 1.9	AC-FT 295600						
WTR YR 1981	TOTAL	108528.9	MEAN 297	MAX 9530	MIN 6.9	AC-FT 215300						

BRAZOS RIVER BASIN

477

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1958 to September 1981 (discontinued). Sediment records: October 1973 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1958 to September 1981 (discontinued)

WATER TEMPERATURES: October 1958 to September 1981 (discontinued)

SUSPENDED-SEDIMENT DISCHARGE: October 1975 to September 1981 (discontinued).

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,190 micromhos Feb. 8, 1964; minimum daily, 55 micromhos Sept. 17, 1964.

WATER TEMPERATURES (1958-79): Maximum daily, 33.0° July 14, 17, 1978; minimum daily, 1.0°C Jan. 13, 1962.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 438 mg/L Feb. 15, 1978; minimum daily mean, 10 mg/L Sept. 5, 6, 1977.

SEDIMENT LOADS: Maximum daily, 9400 tons June 1, 1979; minimum daily, 0.03 tons Aug. 23-25, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 505 micromhos Aug. 30; minimum daily, 131 micromhos June 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CaCO3)
OCT 28...	1250	9.4	393	--	16.0	--	--	--	--	--	85
NOV 20...	1430	49	326	7.0	10.0	30	--	9.5	83	1.3	76
DEC 15...	1033	31	317	--	12.0	--	--	--	--	--	75
JAN 15...	0930	24	301	6.7	6.0	50	6.5	10.8	86	1.2	68
MAR 19...	0910	59	410	7.1	12.0	90	75	8.2	76	1.7	100
MAY 14...	0905	41	270	6.8	20.5	60	100	5.9	65	1.6	68
20...	1850	1380	169	--	24.0	--	--	--	--	--	41
JUL 16...	0910	49	324	7.2	27.5	40	41	4.9	62	2.4	96
SEP 24...	0840	37	276	6.4	22.0	90	43	6.3	71	1.7	66

DATE	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CaCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 28...	36	22	7.3	40	1.9	3.9	49	51	56	.1	12
NOV 20...	33	20	6.2	29	1.5	4.4	43	39	45	.2	15
DEC 15...	42	20	6.1	28	1.4	3.8	33	47	43	.1	17
JAN 15...	40	18	5.6	27	1.4	2.8	28	41	40	.1	17
MAR 19...	75	26	8.7	36	1.6	4.0	26	71	54	.1	17
MAY 14...	32	18	5.6	24	1.3	3.4	36	43	39	.1	14
20...	16	11	3.3	12	.8	6.3	25	17	23	.1	9.9
JUL 16...	21	28	6.4	23	1.0	5.3	75	30	33	.1	9.6
SEP 24...	36	17	5.6	24	1.4	6.1	30	47	36	.1	15

BRAZOS RIVER BASIN

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 28...	222	--	--	--	--	--	--	--	--	--	--
NOV 20...	185	27	8	.01	.020	.03	.030	.71	.74	.050	12
DEC 15...	185	--	--	--	--	--	--	--	--	--	--
JAN 15...	169	23	8	.07	.010	.08	.030	.76	.79	.050	4.5
MAR 19...	232	82	3	.15	.030	.18	.060	1.3	1.40	.110	11
MAY 14...	170	284	168	.18	.020	.20	.180	4.8	5.00	.210	40
20...	98	--	--	--	--	--	--	--	--	--	--
JUL 16...	180	75	23	.02	.010	.03	.180	1.0	1.20	.110	8.4
SEP 24...	169	58	12	.07	.020	.09	.100	.90	1.00	.010	8.3

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 20...	1430	1	60	<1	0	<10	170
JAN 15...	0930	0	60	<1	0	<10	190
MAY 14...	0905	1	100	0	10	0	780
JUL 16...	0910	1	90	<1	0	<10	130

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 20...	<10	40	.0	0	0	20
JAN 15...	67	20	.1	0	0	10
MAY 14...	0	140	.0	0	0	10
JUL 16...	<10	90	.0	0	0	4

BRAZOS RIVER BASIN

479

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1980	282.1	383	214	163	51	39	49	37	100
NOV.	1980	598.7	320	179	290	41	66	42	68	85
DEC.	1980	780	309	173	365	39	82	41	86	82
JAN.	1981	1003	314	176	476	40	108	41	111	83
FEB.	1981	2141	282	158	913	35	202	37	216	75
MAR.	1981	4754	297	167	2140	38	484	39	500	79
APR.	1981	1863	395	221	1110	53	269	50	251	100
MAY	1981	8857	219	123	2940	26	626	30	706	59
JUNE	1981	73346	167	94	18600	19	3750	23	4570	45
JULY	1981	6982	270	152	2860	33	630	36	678	72
AUG.	1981	295.1	454	253	202	64	51	56	45	120
SEPT	1981	7627	258	145	2990	32	658	34	707	69
TOTAL		108528.9	**	**	33000	**	6960	**	7970	**
WTD. AVG.		297	200	113	**	24	**	27	**	54

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	438	349	301	306	333	414	378	435	395	382	381	371
2	375	345	295	310	326	418	364	459	412	400	387	355
3	316	335	286	313	320	410	369	448	400	421	394	384
4	335	330	293	305	340	232	396	400	343	435	402	281
5	366	325	300	314	363	241	422	375	355	358	411	275
6	400	330	306	305	370	276	449	358	300	247	415	301
7	417	335	312	316	335	295	476	365	254	289	424	323
8	426	339	325	323	330	320	452	380	210	304	436	350
9	395	344	318	325	345	310	392	399	185	276	442	382
10	360	351	315	327	297	307	386	370	162	242	456	403
11	331	347	305	318	252	335	390	332	155	223	461	425
12	328	341	302	305	265	358	396	300	180	235	459	459
13	350	336	300	299	235	381	404	260	202	281	455	476
14	365	330	308	292	248	396	407	270	225	297	463	345
15	377	325	317	301	259	385	412	242	230	311	472	189
16	380	317	320	300	269	392	434	235	220	324	476	196
17	370	326	328	306	277	400	455	218	200	327	480	205
18	365	315	332	303	289	406	457	195	145	331	482	224
19	357	303	325	315	300	410	460	175	131	336	488	235
20	380	298	315	307	296	412	466	169	137	342	484	252
21	405	292	307	298	250	407	462	158	142	345	482	265
22	420	300	299	287	258	404	465	204	159	350	480	280
23	415	322	306	295	272	400	468	251	175	357	477	303
24	410	340	310	310	286	399	455	277	208	364	480	311
25	412	355	313	322	315	398	416	285	227	368	485	315
26	409	340	316	336	340	397	370	299	248	373	491	329
27	400	345	315	358	368	400	332	265	284	364	494	346
28	390	315	313	355	392	406	345	194	305	367	500	359
29	393	303	317	352	---	413	391	191	334	368	503	368
30	378	305	305	345	---	405	418	246	355	370	505	380
31	364	---	306	338	---	394	---	315	---	375	493	---
WTR YR 1981	MEAN	340		MAX	505		MIN	131				

BRAZOS RIVER BASIN

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.5	16.0	12.0	9.0	---	---	21.0					
2	16.0	---	---	---	---	---	---					
3	16.5	---	12.5	9.0	10.0	---	---					
4	---	---	---	---	---	---	---					
5	---	---	15.5	8.5	---	---	---					
6	24.0	---	18.0	9.5	---	---	---					
7	21.0	19.0	---	---	---	---	22.0					
8	22.5	19.5	13.5	9.5	---	---	---					
9	23.0	---	14.5	---	---	---	---					
10	19.5	---	---	9.5	12.0	---	---					
11	20.0	---	---	10.5	---	---	---					
12	17.5	---	---	10.5	---	---	---					
13	---	17.5	---	---	---	---	---					
14	21.5	---	14.0	9.5	---	---	---					
15	22.0	---	13.0	---	---	---	---					
16	---	---	---	8.5	12.0	---	---					
17	---	12.0	13.0	7.5	---	---	---					
18	---	---	13.0	7.5	---	---	---					
19	20.5	---	---	---	---	---	---					
20	---	---	9.0	7.5	---	---	---					
21	20.5	---	---	---	---	---	---					
22	20.0	10.0	9.0	8.0	---	---	---					
23	---	---	11.0	8.0	---	---	---					
24	13.5	---	10.0	---	---	---	---					
25	14.0	---	---	---	---	---	---					
26	16.5	9.0	8.0	9.5	---	18.0	---					
27	---	8.0	---	12.0	---	---	---					
28	14.5	---	9.0	14.0	---	---	---					
29	13.5	11.0	---	15.0	---	---	---					
30	---	---	10.0	13.0	---	22.0	---					
31	---	---	9.5	---	---	---	---					
WTR YR 1981	MEAN	14.0	MAX	24.5	MIN	7.5						

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	7.7	65	1.4	9.3	52	1.3	33	40	3.6
2	9.3	65	1.6	9.9	55	1.5	30	40	3.2
3	11	65	1.9	10	55	1.5	27	40	2.9
4	11	68	2.0	10	55	1.5	24	38	2.5
5	11	70	2.1	10	50	1.4	23	37	2.3
6	12	70	2.3	10	50	1.4	22	37	2.2
7	13	72	2.5	10	45	1.2	22	35	2.1
8	9.0	70	1.7	9.0	45	1.1	22	35	2.1
9	8.9	65	1.6	8.3	43	.96	24	35	2.3
10	8.0	65	1.4	8.1	42	.92	26	30	2.1
11	7.7	60	1.2	8.5	38	.87	34	55	5.0
12	7.3	60	1.2	9.0	35	.85	37	50	5.0
13	7.2	55	1.1	9.6	32	.83	35	40	3.8
14	7.1	55	1.1	10	28	.76	33	32	2.9
15	6.9	55	1.0	10	30	.81	32	30	2.6
16	6.9	50	.93	13	30	1.1	27	25	1.8
17	7.0	55	1.0	18	30	1.5	25	30	2.0
18	7.3	57	1.1	28	48	3.6	25	42	2.8
19	8.2	70	1.5	45	95	12	25	30	2.0
20	9.9	67	1.8	48	112	15	24	30	1.9
21	10	70	1.9	37	77	7.7	23	27	1.7
22	11	70	2.1	30	35	2.8	22	27	1.6
23	10	65	1.8	26	20	1.4	21	30	1.7
24	10	62	1.7	24	25	1.6	21	30	1.7
25	9.5	55	1.4	24	27	1.7	20	25	1.4
26	8.9	35	.84	28	25	1.9	20	20	1.1
27	9.1	32	.79	28	32	2.4	20	20	1.1
28	9.3	48	1.2	34	32	2.9	20	25	1.4
29	9.3	50	1.3	38	35	3.6	20	25	1.4
30	9.3	55	1.4	36	40	3.9	21	25	1.4
31	9.3	55	1.4	---	---	---	22	21	1.2
TOTAL	282.1	---	46.26	598.7	---	80.00	780	---	70.8

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY				FEBRUARY				MARCH	
1	22	21	1.2	27	58	4.2	33	---	---
2	21	21	1.2	26	55	3.9	32	---	---
3	21	20	1.1	26	52	3.7	38	---	---
4	22	27	1.6	28	55	4.2	1130	---	---
5	21	30	1.7	30	55	4.5	1090	---	---
6	21	30	1.7	39	55	5.8	350	748	707
7	21	35	2.0	56	62	9.4	213	---	---
8	22	30	1.8	60	65	11	164	---	---
9	26	30	2.1	54	70	10	170	---	---
10	27	30	2.2	141	150	57	172	---	---
11	28	30	2.3	192	---	---	138	---	---
12	28	30	2.3	167	---	---	117	---	---
13	27	32	2.3	253	---	---	103	---	---
14	26	32	2.2	182	---	---	93	---	---
15	25	34	2.3	123	---	---	96	---	---
16	24	33	2.1	86	---	---	92	---	---
17	23	36	2.2	63	---	---	79	---	---
18	23	40	2.5	53	---	---	68	---	---
19	24	35	2.3	47	---	---	59	---	---
20	29	30	2.3	48	---	---	54	---	---
21	54	30	4.4	92	---	---	53	---	---
22	85	45	10	75	---	---	46	---	---
23	79	60	13	58	---	---	42	---	---
24	63	77	13	53	---	---	40	---	---
25	50	82	11	48	---	---	39	---	---
26	40	72	7.8	43	---	---	38	---	---
27	34	67	6.2	37	---	---	38	---	---
28	31	67	5.6	34	---	---	36	---	---
29	30	62	5.0	---	---	---	36	---	---
30	29	60	4.7	---	---	---	39	88	9.3
31	27	63	4.6	---	---	---	56	---	---
TOTAL	1003	---	124.7	2141	---	113.7	4754	---	716.3

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL				MAY				JUNE	
1	87	---	---	40	---	---	70	---	---
2	105	---	---	33	---	---	59	---	---
3	97	---	---	39	---	---	69	---	---
4	74	---	---	70	---	---	278	---	---
5	59	---	---	130	---	---	245	---	---
6	52	---	---	138	---	---	304	---	---
7	46	---	---	121	---	---	693	---	---
8	58	---	---	92	---	---	1080	---	---
9	79	---	---	71	---	---	1760	---	---
10	64	---	---	94	---	---	3680	---	---
11	51	---	---	114	---	---	4470	---	---
12	43	---	---	84	---	---	2710	---	---
13	37	---	---	54	---	---	1890	---	---
14	34	---	---	54	---	---	1440	---	---
15	33	117	10	110	---	---	1400	---	---
16	31	---	---	285	---	---	1490	---	---
17	29	---	---	670	---	---	2160	---	---
18	28	---	---	892	---	---	8030	---	---
19	28	---	---	1110	---	---	9530	---	---
20	28	---	---	1250	---	---	7960	---	---
21	29	---	---	1110	---	---	7780	---	---
22	29	---	---	497	---	---	6860	---	---
23	29	---	---	187	---	---	4990	---	---
24	32	---	---	137	---	---	2560	---	---
25	56	---	---	136	---	---	949	---	---
26	165	---	---	122	---	---	367	---	---
27	199	---	---	160	---	---	192	---	---
28	127	---	---	349	---	---	136	---	---
29	80	---	---	382	---	---	105	---	---
30	54	---	---	216	---	---	89	---	---
31	---	---	---	110	---	---	---	---	---
TOTAL	1863	---	10	8857	---	---	73346	---	---

BRAZOS RIVER BASIN

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	77			18			315		
2	67			14			332		
3	54			12			250		
4	43			11			442		
5	209			10			463		
6	967			9.9			236		
7	693			9.7			155		
8	494			9.4			111		
9	762			9.2			91		
10	928			9.0			62		
11	1020			8.8			40		
12	816			9.0			30		
13	246			9.7			25		
14	114			9.1			550		
15	67			8.6			1940		
16	47			8.5			1180		
17	38			8.4			574		
18	33			8.4			244		
19	30			8.4			142		
20	28			8.7			95		
21	26			8.8			68		
22	24			8.9			51		
23	23			9.0			41		
24	21			9.0			35		
25	21			8.9			31		
26	21			8.7			28		
27	23			8.5			26		
28	23			8.3			25		
29	23			8.0			23		
30	23			8.0			22		
31	21			9.2			---		
TOTAL	6982			295.1			7627		
YEAR	108528.9		1161.76						

BRAZOS RIVER BASIN

483

08111010 NAVASOTA RIVER NEAR COLLEGE STATION, TX

LOCATION.--Lat 30°36'26", long 96°10'53", Grimes County, Hydrologic Unit 12070103, on left bank at downstream side of bridge on State Highway 30, 0.5 mi (0.8 km) downstream from Wickson Creek, 9.8 mi (15.8 km) east of the post office in College Station, and 35.2 mi (56.6 km) upstream from mouth.

DRAINAGE AREA.--1,809 mi² (4,685 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 178.00 ft (54.254 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for periods of no gage-height record, Mar. 10 to Apr. 15 and June 6 to July 8, which are fair. Since 1961, flow regulated to some extent by upstream reservoirs. Numerous diversions above station for irrigation, municipal, and oilfield operation. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s (748 m³/s) June 2, 1979, gage height, 22.13 ft (6.745 m); minimum daily, 0.07 ft³/s (0.002 m³/s) Aug. 31, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 41 ft (12 m) + 3 ft (1 m) in 1899. Flood of 1913 reached a stage of about 36 ft (11 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,800 ft³/s (221 m³/s) June 22, gage height, 19.0 ft (5.79 m), from floodmark; minimum daily, 7.2 ft³/s (0.20 m³/s) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	10	39	23	28	61	40	88	241	220	28	121
2	8.5	11	39	23	27	61	70	61	185	190	25	522
3	7.8	11	37	24	28	58	101	69	567	170	21	556
4	8.5	10	34	24	28	228	190	200	941	530	18	430
5	11	11	31	24	30	1050	165	514	1700	1200	16	339
6	11	11	28	24	39	1480	109	373	1850	3000	14	377
7	12	11	26	25	39	1240	80	248	900	2700	13	328
8	12	11	25	24	46	622	72	189	620	2100	12	215
9	13	11	24	24	65	329	65	148	500	1740	11	139
10	13	11	23	24	78	232	135	157	850	1100	10	101
11	13	11	23	25	125	190	140	94	1300	871	10	79
12	11	10	24	28	255	156	80	111	4000	909	9.5	59
13	9.2	10	28	29	253	124	60	124	5300	962	9.5	45
14	8.2	10	38	29	219	102	50	100	3300	736	9.5	175
15	10	11	39	29	266	95	42	86	1850	321	11	1440
16	8.5	23	38	28	230	90	38	240	1700	150	11	2260
17	8.2	23	36	27	166	85	36	574	1850	88	9.6	2350
18	7.8	16	33	26	119	83	34	729	2500	62	9.0	2060
19	13	17	29	28	89	80	33	972	4000	49	7.8	1080
20	8.8	23	27	165	74	76	31	966	6000	40	7.8	371
21	8.2	39	27	61	66	69	31	1050	7500	34	7.2	179
22	8.2	48	26	24	63	62	30	1170	7700	30	7.4	110
23	9.9	45	26	36	106	57	32	1160	6300	27	8.1	76
24	12	36	25	66	105	52	37	845	4100	24	8.9	60
25	12	31	24	74	83	48	33	519	4400	21	9.6	50
26	13	84	24	63	79	46	34	333	2700	21	10	44
27	13	44	23	52	73	44	69	233	1500	24	9.9	38
28	11	30	23	44	66	43	173	174	700	44	9.5	33
29	11	30	23	38	---	42	189	260	450	79	27	29
30	9.9	33	23	33	---	41	133	379	270	47	11	26
31	10	---	23	31	---	40	---	386	---	31	29	---
TOTAL	325.7	682	888	1175	2845	6986	2332	12552	75774	17520	400.3	13692
MEAN	10.5	22.7	28.6	37.9	102	225	77.7	405	2526	565	12.9	456
MAX	13	84	39	165	266	1480	190	1170	7700	3000	29	2350
MIN	7.8	10	23	23	27	40	30	61	185	21	7.2	26
AC-FT	646	1350	1760	2330	5640	13860	4630	24900	150300	34750	794	27160

CAL YR 1980 TOTAL 215054.55 MEAN 588 MAX 12700 MIN .53 AC-FT 426600
WTR YR 1981 TOTAL 135172.00 MEAN 370 MAX 7700 MIN 7.2 AC-FT 268100

NOTE.--No gage-height record Mar. 10 to Apr. 15 and June 6 to July 8.

BRAZOS RIVER BASIN

08111500 BRAZOS RIVER NEAR HEMPSTEAD, TX

LOCATION.--Lat 30°07'35", long 96°11'05", Washington-Waller County line, Hydrologic Unit 12070101, at downstream side of bridge on U.S. Highway 290, 6,000 ft (1,830 m) upstream from Texas and New Orleans Railroad Co. bridge, 6.5 mi (10.5 km) northwest of Hempstead, 10.5 mi (16.9 km) upstream from Caney Creek, and at mile 193.8 (311.8 km).

DRAINAGE AREA.--43,880 mi² (113,649 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--October 1938 to current year. Gage-height records collected in this vicinity at intermittent periods since 1903 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1512: 1941. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 117.90 ft (35.936 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 1, 1940, nonrecording gage at railroad bridge 6,000 ft (1,830 m) downstream at datum 5.80 ft (1.768 m) lower. Nov. 1, 1940, to Sept. 30, 1963, nonrecording gage at site 1,500 ft (457 m) downstream at present datum. Oct. 1, 1964, to July 31, 1974, water-stage recorder 1,500 ft (457 m) downstream at present datum.

REMARKS.--Records good. There are many small diversions above station for irrigation, municipal and industrial uses, and oilfield operations. At times, flow is affected by reservoirs on the Brazos River above Waco and by reservoirs on the Lampasas and Little Rivers above Cameron. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08110200. Several observations of water temperature were made during the year. Brazos River Authority gage-height telemeters at station.

AVERAGE DISCHARGE.--43 years, 6,610 ft³/s (187.2 m³/s), 4,789,000 acre-ft/yr (5.90 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft³/s (4,050 m³/s) May 2, 1957, gage height, 44.21 ft (13.475 m), at site 1,500 ft (457 m) downstream; minimum daily, 137 ft³/s (3.88 m³/s) Nov. 6, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 56.1 ft (17.10 m) Dec. 8, 1913, at site 1,500 ft (457 m) downstream at present datum, from information by Texas and New Orleans Railroad Co., obtained at bridge 6,000 ft (1,830 m) downstream. Flood of July 4, 1899, reached a stage of 53.6 ft (16.34 m), at site 1,500 ft (457 m) downstream at present datum, from information by Texas and New Orleans Railroad Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59,200 ft³/s (1,680 m³/s) June 19, gage height, 29.41 ft (8.964 m); minimum daily (estimated), 400 ft³/s (11.3 m³/s) Nov. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	689	646	1090	874	1600	1100	1570	1610	2540	11500	2560	2670
2	725	1610	1050	879	1430	1050	1750	1540	2750	12400	2580	3590
3	753	1750	1010	1350	1350	1000	1560	4270	2830	12900	2510	4020
4	680	1410	1040	1610	1520	1100	1540	5870	2630	12900	2310	3320
5	619	1010	944	1370	1570	2660	1540	3770	8980	12100	2050	4510
6	560	719	1130	1000	1520	4490	1560	2770	28200	14900	1760	5090
7	520	570	1060	1140	1670	5460	1740	2390	37500	16500	1590	4280
8	500	520	847	1060	2170	4880	1670	2110	36300	15000	1500	3870
9	480	480	868	1170	2390	3320	1460	1860	25200	11900	1300	3790
10	460	450	989	2460	2160	3020	1240	1630	17800	12600	1130	3470
11	440	420	891	2730	1840	3160	1230	1760	15200	14600	1110	3150
12	420	400	1140	1870	1700	2620	1310	1490	34000	15000	1140	2970
13	420	400	1770	1240	2400	2540	1180	1180	51900	14300	1010	3120
14	600	500	1650	904	2700	2500	1040	1170	36600	13500	906	3090
15	746	680	1780	739	2900	2250	975	1100	37600	13200	1010	3450
16	926	659	1870	924	3100	1960	951	4750	43300	12400	1600	4620
17	744	626	1210	1500	2900	1780	918	7360	46900	10800	1400	4890
18	829	635	888	1500	2200	1580	999	4350	53900	9030	1190	4550
19	1160	635	749	1410	1700	1380	1060	3730	58600	8000	1390	4200
20	919	635	945	2150	1500	1210	1020	4710	52800	6500	1660	4250
21	805	645	1600	2500	1400	1050	1020	4300	37100	4750	1640	3650
22	910	986	1120	2100	1300	981	1020	3200	31100	4220	1390	3000
23	952	1930	823	1610	1250	956	1850	2610	29800	3730	1070	2450
24	870	1520	1400	1180	1200	972	2380	2810	28400	3170	1020	2000
25	731	1010	2550	969	1250	1050	1840	3120	26400	2860	1500	1730
26	643	949	1900	1540	1300	1010	3930	2890	24600	2590	1970	1330
27	661	1000	1230	2310	1200	875	3960	2940	22200	2290	1670	1280
28	697	929	1240	2260	1150	791	2600	4690	18400	2380	1770	1370
29	700	854	1190	1700	---	904	1900	5230	14500	2610	1850	1350
30	699	800	1060	1250	---	1470	1690	3640	11500	2580	1540	1250
31	660	---	876	1460	---	1550	---	2760	---	2510	1960	---
TOTAL	21518	25378	37910	46759	50370	60669	48503	97610	839530	283720	49086	96310
MEAN	694	846	1223	1508	1799	1957	1617	3149	27980	9152	1583	3210
MAX	1160	1930	2550	2730	3100	5460	3960	7360	58600	16500	2580	5090
MIN	420	400	749	739	1150	791	918	1100	2540	2290	906	1250
AC-FT	42680	50340	75190	92750	99910	120300	96210	193600	1665000	562800	97360	191000
CAL YR 1980	TOTAL	1286123	MEAN	3514	MAX	39800	MIN	400	AC-FT	2551000		
WTR YR 1981	TOTAL	1657363	MEAN	4541	MAX	58600	MIN	400	AC-FT	3287000		

08111700 MILL CREEK NEAR BELLVILLE, TX

LOCATION.--Lat 29°52'51", long 96°12'18", Austin County, Hydrologic Unit 12070104, on left bank at upstream side of abandoned bridge pier about 5 ft (2 m) downstream from State Highway 36, 5.0 mi (8.0 km) southeast of Bellville, 6.0 mi (9.7 km) upstream from Brazos River, and 9.0 mi (14.5 km) upstream from mouth.

DRAINAGE AREA.--376 mi² (974 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 2122: 1965(P). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 122.82 ft (37.436 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except those for period of no gage-height record, which are poor. During the year, the city of Bellville discharged about 377 acre-ft (465,000 m³) of sewage effluent into a tributary of Mill Creek above gage.

AVERAGE DISCHARGE.--18 years, 246 ft³/s (6.967 m³/s), 8.89 in/yr (226 mm/yr), 178,200 acre-ft/yr (220 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,400 ft³/s (1,260 m³/s) June 13, 1973, gage height, 17.95 ft (5.471 m); minimum daily, 0.08 ft³/s (0.002 m³/s) July 22, 23, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1899, 22.8 ft (6.95 m) in 1940, from information by local residents and the State Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,200 ft³/s (855 m³/s) June 13 at 0400 hours, gage height, 16.58 ft (5.054 m), no other peak above base of 5,500 ft³/s (156 m³/s); minimum daily, 4.3 ft³/s (0.12 m³/s) Oct. 14.

NOTE.--No gage-height record.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	13	13	29	23	33	44	24	34	90	37	13	229		
2	10	13	27	22	31	53	23	68	80	37	12	59		
3	8.5	13	24	22	28	53	22	1110	70	36	11	183		
4	7.0	12	23	22	31	53	23	1940	80	32	11	88		
5	6.3	11	24	22	42	46	21	512	100	41	11	40		
6	5.8	11	24	24	58	40	19	187	90	81	9.9	27		
7	5.3	11	24	27	58	36	18	88	80	111	9.6	22		
8	5.2	11	26	26	49	34	18	61	70	158	9.0	19		
9	5.0	11	52	26	42	31	18	184	65	76	8.6	17		
10	5.0	12	48	25	43	29	17	1200	60	48	8.3	14		
11	4.8	12	37	24	38	29	16	700	100	720	8.0	13		
12	4.6	11	30	23	35	32	16	300	5860	532	8.4	12		
13	4.4	11	28	22	33	66	14	120	19700	86	8.6	11		
14	4.3	12	27	23	30	92	15	150	1050	72	8.4	14		
15	4.7	12	26	23	30	71	14	200	440	58	8.3	28		
16	6.6	16	28	22	31	49	13	250	200	39	8.1	24		
17	8.5	26	26	22	30	41	14	150	150	31	7.8	16		
18	104	29	26	21	30	38	21	130	90	29	7.5	13		
19	645	25	26	54	31	32	79	110	70	25	8.4	12		
20	108	20	23	378	30	29	47	100	60	22	11	12		
21	41	18	21	292	30	28	29	95	55	20	11	11		
22	24	19	21	100	31	28	21	90	50	18	9.3	11		
23	17	24	23	62	27	25	724	90	47	17	8.6	11		
24	14	24	25	50	26	25	2600	400	45	16	7.9	10		
25	12	28	23	44	32	23	479	1000	50	15	7.4	10		
26	12	106	23	40	57	24	114	200	88	17	7.0	9.8		
27	12	92	23	37	66	23	71	120	64	21	6.7	9.7		
28	16	55	24	34	50	23	54	100	47	20	6.5	9.8		
29	18	40	23	34	---	29	45	90	41	20	6.5	9.3		
30	15	32	23	33	---	27	38	80	36	16	7.5	9.2		
31	14	---	23	31	---	24	---	100	---	14	332	---		
TOTAL	1161.0	730	830	1608	1052	1177	4627	9959	29028	2465	598.3	953.8		
MEAN	37.5	24.3	26.8	51.9	37.6	38.0	154	321	968	79.5	19.3	31.8		
MAX	645	106	52	378	66	92	2600	1940	19700	720	332	229		
MIN	4.3	11	21	21	26	23	13	34	36	14	6.5	9.2		
CFSM	.10	.07	.07	.14	.10	.10	.41	.85	2.57	.21	.05	.09		
IN.	.11	.07	.08	.16	.10	.12	.46	.99	2.87	.24	.06	.09		
AC-FT	2300	1450	1650	3190	2090	2330	9180	19750	57580	4890	1190	1890		
CAL YR 1980	TOTAL	52057.8	MEAN	142	MAX	6460	MIN	2.9	CFSM	.38	IN	5.15	AC-FT	103300
WTR YR 1981	TOTAL	54189.1	MEAN	148	MAX	19700	MIN	4.3	CFSM	.39	IN	5.36	AC-FT	107500

NOTE.--No gage-height record May 10 to June 11.

BRAZOS RIVER BASIN

08111700 MILL CREEK NEAR BELLVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year. Sediment records: October 1966 to September 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 21...	1205	41	366	19.5	130	17	46	2.5	18
DEC 08...	1605	23	603	20.0	230	19	84	4.6	35
JAN 30...	0600	34	593	13.0	230	23	86	4.5	34
MAR 11...	1410	28	603	16.0	220	14	82	4.6	36
APR 22...	1250	20	556	24.5	210	21	77	4.5	33
JUL 24...	1100	16	546	29.5	210	2	77	4.7	31

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 21...	.7	4.3	110	15	36	.3	13	200
DEC 08...	1.0	3.1	210	19	60	.3	22	354
JAN 30...	1.0	3.1	210	18	57	.3	17	346
MAR 11...	1.0	2.1	210	13	60	.4	16	340
APR 22...	1.0	3.1	190	12	58	.3	19	321
JUL 24...	.9	3.4	210	10	46	.4	25	324

08114000 BRAZOS RIVER AT RICHMOND, TX

LOCATION.--Lat 29°34'56", long 95°45'27", Fort Bend County, Hydrologic Unit 12070104, on right bank at downstream side of downstream bridge on U.S. Highway 59 in Richmond, 925 ft (282 m) downstream from Texas and New Orleans Railroad Co. bridge, and at mile 92.0 (148.0 km).

DRAINAGE AREA.--45,007 mi² (116,568 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1903 to June 1906 and October 1922 to current year. Published as "at Rosenberg" October 1922 to September 1931 and equivalent except for diversion by Richmond Irrigation Co.'s canal. June to November 1901 and June to September 1902 in U.S. Department of Agriculture, Office of Experiment Stations, Bulletin Nos. 119 and 133. Gage-height records collected in this vicinity since 1914 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1392: 1933. WSP 1632: 1958. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 37.94 ft (11.564 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1922, various types of nonrecording gages at railroad bridge 925 ft (282 m) upstream at different datums. Oct. 1, 1922, to Sept. 30, 1931, nonrecording chain gage at Rosenberg 7.6 mi (12.2 km) upstream at datum about 7 ft (2.1 m) higher; Oct. 1, 1931, to Sept. 30, 1975, water-stage recorder at present site at datum 3.00 ft (0.914 m) higher.

REMARKS.--Water-discharge records good. Considerable water diverted above station for irrigation and municipal supply. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08110200. Gage-height telemeters at station.

AVERAGE DISCHARGE.--20 years (water years 1904-5, 1923-40) unregulated, 7,209 ft³/s (204.2 m³/s), 5,223,000 acre-ft/yr (6.44 km³/yr); 41 years (water years 1941-81) regulated, 7,316 ft³/s (207.2 m³/s), 5,300,000 acre-ft/yr (6.53 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft³/s (3,480 m³/s) June 6, 1929, gage height, 43.6 ft (13.29 m), from floodmarks, present site and datum; minimum daily, 35 ft³/s (0.99 m³/s) Aug. 23, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 51.2 ft (15.61 m) Dec. 10, 1913, present datum, from floodmarks on right bank 1,000 ft (305 m) upstream from gage. From information by Texas and New Orleans Railroad Co., stages of other floods at railroad bridge, present datum, are as follows: May 1884, 46.7 ft (14.23 m); June 13, 1885, 47.7 ft (14.54 m); July 1899, 48.6 ft (14.81 m); May 2, 1915, 46.3 ft (14.11 m); May 9, 1922, 43.9 ft (13.38 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 64,700 ft³/s (1,830 m³/s) June 14 at 1100 hours, gage height, 29.67 ft (9.043 m); minimum daily, 380 ft³/s (10.8 m³/s) Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	759	617	1100	1200	1500	1360	980	1890	3290	14700	3370	7320
2	862	605	990	1050	1480	1320	1130	1510	2520	13600	3290	5710
3	831	574	1080	981	1630	1210	1160	1640	2270	14200	3310	5000
4	765	991	1160	969	1530	1110	1310	3000	2340	14500	3310	5220
5	789	1490	1100	1160	1500	1060	1340	8940	2850	15200	3220	5060
6	764	1330	1110	1370	1620	1260	1170	8220	4420	14600	2920	4560
7	629	1040	1070	1330	1690	2330	1170	5100	25600	17900	2500	5490
8	571	845	1130	1100	1660	4460	1110	3330	36200	20600	2220	5540
9	535	682	1270	1040	1760	5530	1250	2800	34600	18600	2020	4720
10	509	575	1140	1040	2170	4720	1320	3250	25100	15500	1850	4320
11	443	505	1040	1050	2410	3510	1200	3440	18500	14500	1610	4190
12	451	459	1080	1950	2260	3250	1010	3120	16200	16400	1430	3870
13	432	469	1040	2380	1960	3240	884	2000	43100	17200	1330	3540
14	408	449	1080	1850	1840	2800	957	1630	62800	16400	1330	3440
15	380	442	1590	1300	2490	2660	914	1360	49400	15400	1160	3750
16	411	509	1710	1120	2710	2550	787	1280	41600	14800	1070	3710
17	638	664	1730	968	2940	2210	698	1230	45500	14200	1140	4110
18	926	751	1880	927	3230	2020	675	4590	49000	13000	1770	5150
19	1300	711	1460	1440	2930	1820	646	6520	54800	11500	1820	5360
20	2190	702	1130	1830	2310	1520	690	4280	59200	10200	1700	5360
21	2580	690	947	2350	1890	1380	791	3550	55200	9060	1720	5240
22	1830	720	908	3000	1610	1210	754	4160	40400	7230	2000	5290
23	1300	724	1410	2910	1540	1090	838	3740	31900	5860	2010	4740
24	1070	881	1320	2440	1460	986	1400	2820	30000	5230	1770	3830
25	1040	1630	1050	1920	1380	889	4580	2590	29300	4660	1460	3010
26	965	1750	1210	1500	1310	855	4560	4070	27500	4120	1300	2440
27	853	1520	2180	1250	1380	925	2500	4130	26700	3830	1630	2040
28	665	1410	2030	1520	1430	953	3640	2770	24200	3530	2140	1660
29	620	1280	1480	2240	---	893	3970	2520	20900	3150	2070	1520
30	645	1190	1300	2280	---	844	2760	3850	17500	3210	2060	1560
31	640	---	1280	1890	---	754	---	4440	---	3410	7070	---
TOTAL	26801	26205	40005	49355	53620	60719	46194	107770	882890	356290	676000	126750
MEAN	865	874	1290	1592	1915	1959	1540	3476	29430	11490	2181	4225
MAX	2580	1750	2180	3000	3230	5530	4580	8940	62800	20600	7070	7320
MIN	380	442	908	927	1310	754	646	1230	2270	3150	1070	1520
AC-FT	53160	51980	79350	97900	106400	120400	91630	213800	1751000	706700	134100	251400
CAL YR 1980	TOTAL	1468108	MEAN	4011	MAX	44200	MIN	380	AC-FT	2912000		
WTR YR 1981	TOTAL	1844199	MEAN	5053	MAX	62800	MIN	380	AC-FT	3658000		

BRAZOS RIVER BASIN

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1945 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: February 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1945 to current year.

WATER TEMPERATURES: November 1950 to current year.

SUSPENDED-SEDIMENT DISCHARGE: January 1966 to current year.

REMARKS.--Mean monthly and annual 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, 2,600 micromhos Sept. 4, 1978; minimum daily, 187 micromhos Aug. 31, 1947.

WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 5, 1951; minimum daily, 1.0°C Jan. 8, 1970.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 13,500 mg/L Apr. 4, 1979; minimum daily mean, 8 mg/L Nov. 29, 1967, Sept. 20, and Oct. 6, 7, 1980.

SEDIMENT LOADS: Maximum daily, 1,860,000 tons Apr. 4, 1979; minimum daily, 10 tons Oct. 15, 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,740 micromhos Jan. 18; minimum daily, 212 micromhos June 14.

WATER TEMPERATURES: Maximum daily, 31.0°C Aug. 11-14; minimum daily, 8.0°C Nov. 28, Feb. 14.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,280 mg/L June 7; minimum daily mean, 8 mg/L Oct. 6, 7.

SEDIMENT LOADS: Maximum daily, 511,000 tons June 20; minimum daily, 10 tons Oct. 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)
OCT											
28...	1125	656	1030	8.3	19.5	--	.40	9.0	98	.5	7300
NOV											
13...	1045	480	1540	8.3	19.0	--	3.0	9.2	99	.5	100
DEC											
15...	1130	1600	960	8.2	14.5	10	15	10.8	105	.8	100
JAN											
13...	1445	2400	1580	8.0	11.0	--	.70	11.2	101	.5	88
27...	1130	1310	--	--	--	--	--	--	--	--	--
FEB											
06...	1255	1630	1630	8.2	10.0	5	3.6	11.0	96	.3	120
MAR											
12...	0430	3200	--	--	15.0	--	--	--	--	--	--
13...	1610	3340	--	--	--	--	--	--	--	--	--
24...	1345	989	1180	8.3	18.0	--	22	11.4	119	1.0	210
APR											
14...	1500	982	1530	8.3	25.0	--	16	9.9	118	1.2	820
27...	1100	2360	--	--	--	--	--	--	--	--	--
MAY											
06...	0800	8840	--	--	23.0	--	--	--	--	--	--
13...	1215	1980	510	7.9	23.5	--	140	7.8	92	3.2	1600
19...	0445	6970	--	--	25.0	--	--	--	--	--	--
JUN											
08...	0445	34800	--	--	25.0	--	--	--	--	--	--
11...	1230	18200	260	7.8	27.0	--	660	5.8	72	2.8	720
14...	0615	64000	--	--	25.0	--	--	--	--	--	--
JUL											
08...	1520	20500	560	8.0	26.5	--	400	7.5	91	2.2	650
AUG											
06...	1320	2900	920	8.6	31.0	--	84	7.7	101	1.9	520
SEP											
10...	1145	4320	780	8.2	28.0	--	230	7.0	89	2.1	1100

BRAZOS RIVER BASIN

489

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 28...	130	240	56	68	16	110	3.1	5.2	180	86	160
NOV 13...	120	300	130	85	21	190	4.8	7.0	167	130	300
DEC 15...	64	250	65	75	14	100	2.8	4.3	180	89	140
JAN 13...	36	290	150	85	19	190	4.9	5.1	140	150	300
27...	--	--	--	--	--	--	--	--	--	--	--
FEB 06...	36	310	170	89	21	210	5.2	5.2	140	180	330
MAR 12...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
24...	60	280	110	86	16	130	3.4	4.7	160	120	210
APR 14...	160	310	150	90	21	200	4.9	5.9	160	170	310
27...	--	--	--	--	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--	--	--	--	--
13...	150	140	49	46	6.7	51	1.9	5.0	94	57	72
19...	--	--	--	--	--	--	--	--	--	--	--
JUN 08...	--	--	--	--	--	--	--	--	--	--	--
11...	5100	100	19	34	4.5	12	.5	5.1	84	22	18
14...	--	--	--	--	--	--	--	--	--	--	--
JUL 08...	5600	170	54	53	10	44	1.5	4.5	120	55	67
AUG 06...	520	240	69	71	71	99	2.0	4.4	170	84	160
SEP 10...	2000	180	73	55	11	82	2.8	5.0	110	86	130
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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, 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)
OCT 28...	.4	5.9	566	561	--	--	.38	.35	.020	.040	.70
NOV 13...	.3	4.9	865	839	15	19	.42	.42	.060	.080	.65
DEC 15...	.3	8.3	540	543	36	19	.85	.85	.070	.080	.86
JAN 13...	.4	4.1	884	838	--	--	.62	.61	.070	.090	.73
27...	--	--	--	--	--	--	--	--	--	--	--
FEB 06...	.3	3.7	911	925	22	2	.42	.43	.020	.040	.65
MAR 12...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
24...	.4	8.9	681	677	--	--	1.1	1.1	.060	.020	.83
APR 14...	.4	5.0	915	899	--	--	.49	.52	.090	.050	.67
27...	--	--	--	--	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--	--	--	--	--
13...	.2	11	306	306	--	--	.76	.67	.100	.120	1.4
19...	--	--	--	--	--	--	--	--	--	--	--
JUN 08...	--	--	--	--	--	--	--	--	--	--	--
11...	.2	11	164	157	--	--	.49	.47	.180	.030	1.7
14...	--	--	--	--	--	--	--	--	--	--	--
JUL 08...	.2	13	314	319	--	--	.39	.44	.130	.080	1.4
AUG 06...	.3	9.4	528	546	--	--	.11	.12	.160	.140	.84
SEP 10...	.3	9.8	463	449	--	--	.86	.84	.080	.070	1.4

BRAZOS RIVER BASIN

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 28...	.45	.72	.49	.340	.260	7.4	--	--	29	51	98
NOV 13...	.61	.71	.69	.110	.100	--	25	.4	18	23	98
DEC 15...	.88	.93	.96	.210	.180	12	--	--	27	117	99
JAN 13...	.67	.80	.76	.160	.110	--	7.2	.6	42	272	98
JAN 27...	--	--	--	--	--	--	--	--	44	156	10
FEB 06...	.62	.67	.66	.160	.130	4.8	--	--	28	123	96
MAR 12...	--	--	--	--	--	--	--	--	872	7530	99
MAR 13...	--	--	--	--	--	--	--	--	329	2970	97
MAR 24...	.81	.89	.83	.200	.170	4.4	--	--	31	83	100
APR 14...	.57	.76	.62	.170	.130	4.9	--	--	68	180	92
APR 27...	--	--	--	--	--	--	--	--	363	2310	79
MAY 06...	--	--	--	--	--	--	--	--	1220	29100	90
MAY 13...	.85	1.50	.97	.280	.160	--	10	1.5	234	1250	99
MAY 19...	--	--	--	--	--	--	--	--	1310	24700	98
JUN 08...	--	--	--	--	--	--	--	--	54	5070	86
JUN 11...	.87	1.90	.90	.370	.090	23	--	--	1290	63400	87
JUN 14...	--	--	--	--	--	--	--	--	2840	491000	80
JUL 08...	.37	1.50	.45	.570	.070	--	4.2	1.1	2020	112000	79
AUG 06...	.50	1.00	.64	.210	.050	4.7	--	--	162	1270	99
SEP 10...	1.2	1.50	1.3	.230	.080	11	--	--	4820	56200	97

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
NOV 13...	1045	5	2	3	200	0	200	3	2	1	10
JAN 13...	1445	3	1	2	200	0	200	1	0	2	0
MAY 13...	1215	10	6	4	100	0	100	0	0	0	10
JUL 08...	1520	8	4	4	400	300	100	1	--	<1	20

DATE	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 13...	10	0	2	--	<3	5	3	2	450	--	<10
JAN 13...	0	0	0	--	<3	5	4	1	970	--	<10
MAY 13...	0	10	3	3	0	38	32	6	6100	6100	40
JUL 08...	20	0	10	--	<3	47	43	4	22000	21000	640

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)
NOV 13...	65	56	9	50	40	8	.2	.2	.0	7	0
JAN 13...	5	5	0	60	60	4	.2	.0	.2	2	0
MAY 13...	9	7	2	150	150	0	.3	.2	.1	9	7
JUL 08...	19	18	1	740	700	40	.4	.3	.1	30	28

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

BRAZOS RIVER BASIN

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 13, 80 1045	MAR 24, 81 1345	MAY 13, 81 1215	JUN 11, 81 1230				
TOTAL CELLS/ML	210	320	450	730				
DIVERSITY: DIVISION	0.3	1.3	0.2	1.4				
..CLASS	0.3	1.3	0.2	1.4				
...ORDER	1.5	1.4	1.1	2.4				
...FAMILY	1.5	1.4	1.5	2.6				
...GENUS	1.5	1.4	1.6	2.6				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)								
..BACILLARIOPHYCEAE								
...BACILLARIALES								
...NITZSCHIAEAE								
...NITZSCHIA	140#	69	64#	20	84#	19	--	-
...EUPODISCALES								
...COSCINODISCACEAE								
...CYCLOTELLA	26	13	13	4	14	3	--	-
...MELOSIRA	--	-	--	-	--	-	14	2
...FRAGILARIALES								
...FRAGILARIAEAE								
...FRAGILARIA	13	6	--	-	--	-	55	8
...NAVICULALES								
...CYMBELLACEAE								
...AMPHORA	--	-	--	-	--	-	28	4
...ENTOMONEIDACEAE								
...ENTOMONEIS	--	-	--	-	290#	66	--	-
...NAVICULACEAE								
...CALONEIS	--	-	--	-	--	-	14	2
...GYROSIGMA	--	-	--	-	14	3	--	-
...NAVICULA	13	6	--	-	28	6	--	-
...SURIRELLALES								
...SURIRELLACEAE								
...SURIRELLA	--	-	--	-	--	-	14	2
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...COCCOMYXACEAE								
...ELAKATOTHRIX	--	-	--	-	--	-	--	-
...DICTYOSPHAERIACEAE								
...DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE								
...PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
...MICRACTINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
...ANKISTRODESMUS	--	-	--	-	--	-	--	-
...FRANCEIA	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	--	-	--	-
...OOCYSTIS	--	-	--	-	--	-	14	2
...TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
...ACTINASTRUM	--	-	--	-	--	-	--	-
...COELASTRUM	--	-	--	-	--	-	--	-
...SCENEDESMUS	--	-	--	-	--	-	110#	15
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CARTERIA	--	-	--	-	--	-	--	-
...CHLAMYDOMONAS	--	-	39	12	--	-	--	-
...POLYBLEPHARIDACEAE								
...SPERMATOOZOPSIS	13	6	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
...CHROOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
...AGMENELLUM	--	-	210#	64	--	-	--	-
...ANACYSTIS	--	-	--	-	--	-	55	8
...NOSTOCALES								
...HAMMATOIDEACEAE								
...RAPHIDIOPSIS	--	-	--	-	--	-	--	-
...NOSTOCACEAE								
...ANABAENA	--	-	--	-	--	-	83	11
...APHANIZOMENON	--	-	--	-	--	-	--	-
...OSCILLATORIALES								
...OSCILLATORIAEAE								
...OSCILLATORIA	--	-	--	-	--	-	330#	45
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
...TRACHELOMONAS	--	-	--	-	14	3	14	2

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

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

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	JUL 1520	8,81	AUG 1320	6,81	SEP 1145	10,81
TOTAL CELLS/ML	1400		43000		3700	
DIVERSITY: DIVISION	1.5		1.5		0.7	
..CLASS	1.5		1.5		0.7	
...ORDER	2.2		1.9		2.2	
....FAMILY	2.5		2.4		2.4	
....GENUS	2.5		3.3		2.4	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...BACILLARIALES						
....NITZSCHIAEAE						
....NITZSCHIA	96	7	1400	3	180	5
...EUPODISCALES						
....COSCINODISCAEAE						
....CYCLOTELLA	--	-	3300	8	--	-
....MELOSIRA	28	2	--	-	--	-
...FRAGILARIALES						
....FRAGILARIAEAE						
....FRAGILARIA	120	9	--	-	--	-
...NAVICULALES						
....CYMBELLACEAE						
....AMPHORA	--	-	--	-	--	-
...ENTOMONEIDACEAE						
....ENTOMONEIS	--	-	--	-	--	-
...NAVICULACEAE						
....CALONEIS	--	-	--	-	--	-
....GYROSIGMA	--	-	--	-	*	0
....NAVICULA	--	-	--	-	*	0
...SURIRELLALES						
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....COCCOMYXACEAE						
....ELAKATOTHRIX	--	-	320	1	--	-
...DICTYOSPHAERIACEAE						
....DICTYOSPHAERIUM	--	-	*	0	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	340#	24	--	-	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	1900	4	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	14	1	950	2	--	-
....FRANCEIA	--	-	*	0	--	-
....KIRCHNERIELLA	--	-	530	1	--	-
....OOCYSTIS	--	-	850	2	28	1
....TREUBARIA	--	-	*	0	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	1700	4	--	-
....COELASTRUM	--	-	10000#	24	96	3
....SCENEDESMUS	110	8	2100	5	55	1
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	*	0	--	-
....CHLAMYDOMONAS	--	-	640	1	83	2
...POLYBLEPHARIDACEAE						
...SPERMATOZOOPSIS	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	420	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
....AGMENELLUM	--	-	10000#	24	--	-
....ANACYSTIS	--	-	5700	13	1300#	34
...NOSTOCALES						
....HAMMATOIDEACEAE						
....RAPHIDIOPSIS	--	-	--	-	540	15
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	--	-
....APHANIZOMENON	430#	30	--	-	250	7
...OSCILLATORIALES						
....OSCILLATORIAEAE						
....OSCILLATORIA	280#	19	2200	5	1100#	31
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
....TRACHELOMONAS	--	-	*	0	28	1

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

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

BRAZOS RIVER BASIN

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	26801	861	475	34400	120	8910	81	5870	220
NOV.	1980	26205	1240	686	48500	210	14800	120	8400	280
DEC.	1980	40005	1240	689	74400	210	22800	120	12900	280
JAN.	1981	49355	1480	820	109000	280	36800	140	19100	300
FEB.	1981	53620	1520	841	122000	290	41600	150	21300	310
MAR.	1981	60719	1030	571	93500	160	26400	98	16100	250
APR.	1981	46194	905	500	62400	140	17300	86	10700	220
MAY	1981	107770	619	341	99200	77	22500	58	16800	170
JUNE	1981	882890	449	247	589000	52	123900	42	99100	130
JULY	1981	356290	588	324	311000	71	68400	55	52500	170
AUG.	1981	67600	998	552	101000	150	27600	95	17300	250
SEPT	1981	126750	678	374	128000	90	30900	63	21700	180
TOTAL		1844199	**	**	1773000	**	442000	**	302000	**
WTD. AVG.		5053	646	356	**	89	**	61	**	170

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1120	1020	1030	1640	1510	1390	1110	633	819	792	905	557
2	1050	1000	1110	1670	1590	1390	1090	607	648	584	940	803
3	1000	988	1090	1650	1570	1340	1130	615	640	924	963	730
4	1020	1010	1230	1640	1580	1260	1230	620	632	900	945	1150
5	1090	1050	1310	1630	1620	1210	1210	450	800	710	948	1280
6	1060	1110	1180	1480	1650	1260	1300	374	956	685	946	1310
7	1060	1280	1160	1580	1570	1280	1420	413	894	624	947	1000
8	1060	1320	1130	1520	1600	1330	1160	533	396	572	947	980
9	1060	1480	1150	1470	1590	1000	1220	666	289	376	940	1010
10	1070	1550	1140	1520	1620	967	1390	569	274	388	935	694
11	1050	1580	1130	1600	1510	630	1350	548	280	411	928	519
12	1020	1550	1090	1600	1590	601	1460	523	298	520	942	408
13	1020	1520	1060	1610	1610	611	1480	618	339	535	988	400
14	1030	1470	990	1690	1680	697	1500	662	212	557	1080	463
15	1040	1440	963	1700	1660	883	1530	868	244	491	1000	468
16	1050	1400	1110	1710	1640	1030	1220	988	350	640	932	436
17	1060	1370	1270	1720	1520	1120	1070	1040	428	606	920	464
18	1000	1380	1380	1740	1480	1060	1010	913	320	532	941	559
19	920	1390	1400	1710	1000	1030	1010	470	391	525	947	545
20	721	1380	1500	1550	1080	1150	1070	558	446	453	1090	436
21	653	1370	1580	1540	1510	1270	1180	500	309	475	976	482
22	482	1340	1280	1350	1530	1350	1190	857	305	480	1040	507
23	481	1220	1060	1200	1550	1320	1150	937	421	458	1130	500
24	491	1180	1250	1110	1550	1200	750	1100	832	476	1350	460
25	658	1170	1300	1360	1520	1110	582	946	895	547	1330	456
26	855	1200	1260	1400	1510	1080	514	600	845	674	1310	525
27	955	1240	1210	1270	1510	1070	701	524	877	677	1410	599
28	994	1080	1430	1190	1470	1080	514	477	735	746	1340	619
29	1010	1250	1490	1160	---	1110	500	618	611	723	1280	643
30	1020	1070	1460	1410	---	1130	600	661	583	698	1000	671
31	1070	---	1620	1560	---	1130	---	774	---	880	725	---
MEAN	941	1280	1240	1520	1530	1100	1090	667	536	602	1030	656

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	16.0	12.0	---	14.0	16.0	20.0	29.0	26.0	28.0	---	30.0
2	24.0	17.0	12.0	10.0	9.0	16.0	21.0	24.0	26.0	28.0	30.0	30.0
3	24.0	17.0	13.0	10.0	9.0	16.0	21.0	---	---	28.0	30.0	30.0
4	24.0	17.0	13.0	---	---	15.0	21.0	---	26.0	---	30.0	30.0
5	24.0	17.0	15.0	11.0	---	16.0	21.0	24.0	26.0	28.0	30.0	30.0
6	24.0	18.0	16.0	11.0	---	18.0	21.0	24.0	26.0	28.0	30.0	---
7	23.0	17.0	19.0	11.0	11.0	15.0	21.0	23.0	25.0	28.0	30.0	---
8	23.0	18.0	19.0	---	---	15.0	21.0	23.0	25.0	28.0	30.0	30.0
9	23.0	20.0	18.0	12.0	---	15.0	---	23.0	25.0	28.0	---	30.0
10	23.0	20.0	---	---	14.0	15.0	21.0	21.0	25.0	28.0	---	30.0
11	23.0	20.0	---	12.0	---	15.0	21.0	21.0	---	28.0	31.0	30.0
12	23.0	20.0	11.0	12.0	---	15.0	21.0	---	26.0	28.0	31.0	30.0
13	23.0	19.0	11.0	10.0	14.0	16.0	---	21.0	26.0	---	31.0	30.0
14	22.0	20.0	13.0	11.0	8.0	15.0	23.0	23.0	26.0	28.0	31.0	30.0
15	22.0	17.0	14.0	11.0	10.0	16.0	23.0	23.0	25.0	28.0	---	30.0
16	22.0	16.0	18.0	---	11.0	16.0	23.0	23.0	27.0	28.0	30.0	24.0
17	22.0	14.0	15.0	---	11.0	16.0	23.0	23.0	27.0	29.0	30.0	24.0
18	---	14.0	16.0	10.0	13.0	17.0	23.0	23.0	27.0	29.0	30.0	24.0
19	20.0	14.0	16.0	11.0	13.0	17.0	23.0	23.0	27.0	29.0	30.0	24.0
20	20.0	14.0	---	11.0	15.0	14.0	23.0	22.0	26.0	29.0	30.0	24.0
21	20.0	14.0	11.0	9.0	18.0	14.0	23.0	22.0	26.0	29.0	---	29.0
22	20.0	14.0	11.0	9.0	16.0	16.0	23.0	22.0	26.0	29.0	30.0	24.0
23	20.0	12.0	11.0	9.0	12.0	16.0	23.0	23.0	27.0	29.0	30.0	25.0
24	20.0	12.0	12.0	10.0	12.0	16.0	---	26.0	27.0	29.0	30.0	26.0
25	20.0	12.0	---	10.0	---	17.0	23.0	28.0	---	29.0	30.0	26.0
26	18.0	---	11.0	14.0	13.0	17.0	23.0	---	27.0	29.0	30.0	---
27	21.0	11.0	11.0	14.0	18.0	17.0	24.0	26.0	27.0	29.0	30.0	26.0
28	21.0	8.0	10.0	14.0	18.0	18.0	---	26.0	28.0	29.0	30.0	26.0
29	19.0	9.0	10.0	14.0	---	20.0	24.0	26.0	28.0	29.0	30.0	26.0
30	17.0	9.0	10.0	14.0	---	20.0	24.0	26.0	28.0	30.0	30.0	26.0
31	16.0	---	10.0	14.0	---	20.0	---	26.0	---	30.0	---	---
MEAN	21.5	15.5	13.5	11.5	13.0	16.5	22.0	24.0	26.5	28.5	30.0	27.5

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	759	20	41	617	40	67	1100	30	89
2	862	17	40	605	75	123	990	21	56
3	831	14	31	574	25	39	1080	22	64
4	765	10	21	991	17	45	1160	18	56
5	789	12	26	1490	25	101	1100	16	48
6	764	8	17	1330	24	86	1110	17	51
7	629	8	14	1040	17	48	1070	17	49
8	571	10	15	845	16	37	1130	17	52
9	535	12	17	682	18	33	1270	40	137
10	509	9	12	575	16	25	1140	34	105
11	443	11	13	505	20	27	1040	28	79
12	451	16	19	459	18	22	1080	24	70
13	432	10	12	469	18	23	1040	22	62
14	408	20	22	449	18	22	1080	26	76
15	380	10	10	442	20	24	1590	25	107
16	411	14	16	509	20	27	1710	30	139
17	638	18	31	664	16	29	1730	32	149
18	926	20	50	751	13	26	1880	38	193
19	1300	70	246	711	13	25	1460	32	126
20	2190	187	1110	702	18	34	1130	24	73
21	2580	222	1550	690	12	22	947	16	41
22	1830	245	1210	720	10	19	908	14	34
23	1300	95	333	724	20	39	1410	18	69
24	1070	82	237	881	14	33	1320	26	93
25	1040	59	166	1630	22	97	1050	21	60
26	965	43	112	1750	25	118	1210	16	52
27	853	31	71	1520	20	82	2180	34	200
28	665	24	43	1410	31	118	2030	52	285
29	620	23	39	1280	38	131	1480	36	144
30	645	18	31	1190	22	71	1300	23	81
31	640	50	86	---	---	---	1280	22	76
TOTAL	26801	---	5641	26205	---	1593	40005	---	2916

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	1200	32	104	1500	42	170	1360	26	95
2	1050	30	85	1480	32	128	1320	25	89
3	981	35	93	1630	31	136	1210	18	59
4	969	32	84	1530	30	124	1110	62	186
5	1160	40	125	1500	30	121	1060	65	186
6	1370	40	148	1620	30	131	1260	31	105
7	1330	42	151	1690	24	110	2330	62	422
8	1100	50	148	1660	25	112	4460	316	4020
9	1040	47	132	1760	20	95	5530	816	12200
10	1040	35	98	2170	24	141	4720	790	10100
11	1050	30	85	2410	27	176	3510	969	9180
12	1950	58	305	2260	22	134	3250	780	6840
13	2380	87	559	1960	28	148	3240	430	3760
14	1850	77	385	1840	22	109	2800	324	2450
15	1300	60	211	2490	29	195	2660	233	1670
16	1120	42	127	2710	45	329	2550	159	1090
17	968	27	71	2940	58	460	2210	124	740
18	927	14	35	3230	177	1540	2020	115	627
19	1440	14	54	2930	352	2780	1820	102	501
20	1830	31	153	2310	167	1040	1520	70	287
21	2350	76	482	1890	62	316	1380	52	194
22	3000	92	745	1610	50	217	1210	44	144
23	2910	177	1390	1540	43	179	1090	46	135
24	2440	145	955	1460	33	130	986	31	83
25	1920	90	467	1380	27	101	889	28	67
26	1500	48	194	1310	26	92	855	22	51
27	1250	30	101	1380	28	104	925	20	50
28	1520	31	127	1430	24	93	953	21	54
29	2240	56	339	---	---	---	893	20	48
30	2280	75	462	---	---	---	844	19	43
31	1890	54	276	---	---	---	754	19	39
TOTAL	49355	---	8691	53620	---	9411	60719	---	55515

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	980	20	53	1890	430	2190	3290	550	4890
2	1130	30	92	1510	325	1330	2520	575	3910
3	1160	31	97	1640	314	1390	2270	425	2600
4	1310	42	149	3000	450	4120	2340	279	1760
5	1340	50	181	8940	1050	25800	2850	242	1860
6	1170	31	98	8220	1080	24300	4420	1350	37900
7	1170	33	104	5100	630	8680	25600	5280	353000
8	1110	28	84	3330	310	2790	36200	4930	480000
9	1250	30	101	2800	234	1800	34600	3400	318000
10	1320	40	143	3250	896	7730	25100	2250	152000
11	1200	39	126	3440	416	3830	18500	1700	84900
12	1010	34	93	3120	500	4210	16200	1660	74800
13	884	32	76	2000	325	1760	43100	3420	374000
14	957	30	78	1630	182	801	62800	2500	424000
15	914	24	59	1360	100	367	49400	1600	213000
16	787	31	66	1280	66	228	41600	1900	213000
17	698	34	64	1230	56	186	45500	2850	350000
18	675	32	58	4590	1230	19200	49000	3200	423000
19	646	33	58	6520	1060	18700	54800	3320	491000
20	690	32	60	4280	625	7220	59200	3200	511000
21	791	30	64	3550	500	4790	55200	2600	388000
22	754	26	53	4160	436	4900	40400	2050	224000
23	838	42	95	3740	440	4440	31900	2000	172000
24	1400	144	585	2820	404	3080	30000	1850	150000
25	4580	344	4560	2590	316	2210	29300	1820	144000
26	4560	693	8540	4070	425	4670	27500	1620	120000
27	2500	370	2560	4130	375	4180	26700	1550	112000
28	3640	275	2700	2770	284	2120	24200	1350	88200
29	3970	360	3860	2520	194	1320	20900	1200	67700
30	2760	380	2830	3850	231	2400	17500	---	---
31	---	---	---	4440	375	4500	---	---	---
TOTAL	46194	---	27687	107770	---	175242	882890	---	5980520

BRAZOS RIVER BASIN

497

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	14700	800	31800	3370	199	1810	7320	926	18800
2	13600	670	24600	3290	199	1770	5710	525	8090
3	14200	700	26800	3310	199	1780	5000	425	5740
4	14500	800	31300	3310	193	1720	5220	370	5210
5	15200	950	39000	3220	215	1870	5060	430	5870
6	14600	1230	48500	2920	177	1400	4560	475	5850
7	17900	1500	72500	2500	123	830	5490	450	6670
8	20600	1640	91300	2220	92	551	5540	400	5980
9	18600	1670	84300	2020	62	338	4720	450	5730
10	15500	1160	48500	1850	58	290	4320	536	6250
11	14500	1070	41900	1610	60	261	4190	576	6520
12	16400	950	42100	1430	98	378	3870	540	5640
13	17200	900	41800	1330	74	266	3540	452	4320
14	16400	840	37200	1330	72	259	3440	350	3250
15	15400	820	34100	1160	57	179	3750	341	3450
16	14800	770	30800	1070	53	153	3710	340	3410
17	14200	750	28800	1140	80	246	4110	330	3660
18	13000	700	24600	1770	101	483	5150	395	5490
19	11500	630	19600	1820	106	521	5360	611	8840
20	10200	600	16500	1700	94	431	5360	860	12400
21	9060	530	13000	1720	89	413	5240	618	8740
22	7230	500	9760	2000	123	664	5290	443	6330
23	5860	460	7280	2010	128	695	4740	368	4710
24	5230	450	6350	1770	86	411	3830	270	2790
25	4660	420	5280	1460	62	244	3010	164	1330
26	4120	400	4450	1300	41	144	2440	140	922
27	3830	340	3520	1630	41	180	2040	106	584
28	3530	300	2860	2140	72	416	1660	80	359
29	3150	240	2040	2070	106	592	1520	62	254
30	3210	200	1730	2060	103	590	1560	60	253
31	3410	200	1840	7070	1390	32400	---	---	---
TOTAL	356290	---	874110	67600	---	52285	126750	---	157442
YEAR	1844199		7351053						

BRAZOS RIVER BASIN

08115000 BIG CREEK NEAR NEEDVILLE, TX

LOCATION.--Lat 29°28'35", long 95°48'45", Fort Bend County, Hydrologic Unit 12070104, near center of stream at downstream side of bridge on State Highway 36, 1.5 mi (2.4 km) downstream from Coon Creek, 5.5 mi (8.8 km) north of Needville, and 10.5 mi (16.9 km) upstream from Fairchild Creek, and 33.0 mi (53.1 km) upstream from mouth.

DRAINAGE AREA.--42.8 mi² (110.9 km²).

PERIOD OF RECORD.--May 1947 to June 1950, March 1952 to current year.

REVISED RECORDS.--WSP 1148: 1947. WSP 1712: 1957-58, 1959(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 59.39 ft (18.102 m) National Geodetic Vertical Datum of 1929. Prior to June 30, 1950, and May 29, 1959, to Mar. 29, 1960, nonrecording gage at 10.00 ft (3.048 m) higher datum. March 1952 to May 28, 1959, and Mar. 30, 1960, to Sept. 30, 1967, water-stage recorder at 10.00 ft (3.048 m) higher datum.

REMARKS.--Records good. Channel rectification was completed in April 1955. No diversion above station. Low flow supplemented by drainage from irrigated fields. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years (water years 1948-49, 1953-81), 34.2 ft³/s (0.969 m³/s), 24,780 acre-ft/yr (30.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s (295 m³/s) June 26, 1960, gage height, 23.81 ft (7.257 m); maximum gage height, 24.03 ft (7.324 m) Oct. 31, 1959; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1913, 24.4 ft (7.44 m) in August 1945 before channel rectification, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 10	0100	2,180 61.7	19.56 5.962	July 7	1330	2,430 68.8	19.98 6.090
July 5	2000	1,820 51.5	18.85 5.745	Aug. 31	2000	*6,420 182	22.95 6.995

Minimum daily discharge, 0.25 ft³/s (0.007 m³/s) May 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	1.2	.83	.74	1.0	1.8	.74	.53	10	76	.98	2730
2	6.6	.66	1.3	.70	.99	1.8	.85	.39	5.0	19	.88	438
3	1.5	.75	.76	.65	1.4	1.6	.93	101	100	5.9	1.0	387
4	.92	1.4	.50	.67	18	23	.89	171	20	2.5	1.1	133
5	1.1	.66	1.2	.70	11	10	.74	250	44	515	1.3	52
6	.60	.66	.69	.80	4.7	4.4	.77	28	23	449	1.3	24
7	1.4	.63	.87	.61	2.6	2.5	.51	6.4	10	1660	1.6	12
8	.91	.68	1.0	.74	1.9	1.5	.72	1.4	5.1	482	2.0	6.9
9	.73	.68	13	1.3	1.7	1.5	1.1	313	2.3	153	2.4	4.2
10	2.5	.88	8.6	.72	1.7	2.0	.83	1030	.89	90	2.0	2.4
11	1.1	.70	2.6	.85	2.1	1.7	.74	128	44	163	.93	1.5
12	.84	.73	1.0	.93	1.7	1.8	.68	40	140	40	.88	1.2
13	.73	.68	.64	.84	1.5	12	1.0	14	184	18	1.1	1.2
14	.88	.73	.64	1.1	1.6	5.0	.80	56	58	9.7	1.7	4.1
15	.88	.65	.68	1.1	1.7	2.7	.86	24	21	6.9	.92	7.6
16	.75	.73	.81	1.0	1.6	1.9	.93	8.8	119	5.1	.83	2.5
17	1.3	.97	.69	.83	1.5	1.5	.79	5.4	128	4.0	1.0	1.9
18	.73	.84	.65	.97	1.9	1.5	1.1	2.9	36	3.4	1.8	1.7
19	8.4	.75	.59	18	1.8	1.1	2.6	1.6	14	3.9	1.1	1.2
20	3.1	.79	.51	87	1.7	1.2	1.5	1.4	5.3	3.5	.85	1.1
21	1.7	.88	.55	14	1.6	1.3	1.5	.73	1.9	3.3	1.0	.86
22	1.1	1.1	.62	4.4	2.2	1.3	.86	.49	.64	2.8	.95	.74
23	.72	2.0	.65	3.2	1.8	1.1	1.6	.25	1.0	2.3	1.1	.62
24	.74	1.4	.58	3.0	1.7	.96	3.2	.88	28	2.3	1.4	.53
25	.56	1.0	.54	2.4	2.7	1.2	5.5	2.3	389	2.0	1.1	.51
26	.70	9.3	.50	1.8	5.0	1.1	18	5.0	228	2.5	.89	.52
27	.77	4.8	.68	2.1	2.9	1.1	13	3.0	180	2.0	1.0	.55
28	.83	1.7	.63	1.7	1.9	1.2	7.0	2.0	94	3.4	.98	.57
29	.68	1.1	.66	1.2	---	.98	2.9	1.5	42	2.6	1.4	.56
30	.74	.86	.63	.91	---	.85	1.2	1.0	44	1.4	1.2	.60
31	.66	---	.60	1.0	---	.84	---	25	---	1.2	3310	---
TOTAL	67.17	39.91	44.20	155.96	81.89	92.43	73.84	2225.97	1978.13	3735.7	3346.69	3819.56
MEAN	2.17	1.33	1.43	5.03	2.92	2.98	2.46	71.8	65.9	121	108	127
MAX	23	9.3	13	87	18	23	18	1030	389	1660	3310	2730
MIN	.56	.63	.50	.61	.99	.84	.51	.25	.64	1.2	.83	.51
AC-FT	133	79	88	309	162	183	146	4420	3920	7410	6640	7580
CAL YR 1980	TOTAL	4484.41	MEAN	12.3	MAX	1100	MIN	.50	AC-FT	8890		
WTR YR 1981	TOTAL	15661.45	MEAN	42.9	MAX	3310	MIN	.25	AC-FT	31060		

08117500 SAN BERNARD RIVER NEAR BOLING, TX

LOCATION.--Lat 29°18'47", long 95°53'36", Wharton-Fort Bend County line, Hydrologic Unit 12090401, near left bank at downstream side of pile bent of bridge on Farm Road 442, 2.5 mi (4.0 km) downstream from Snake Creek, and 4.5 mi (7.2 km) northeast of Boling.

DRAINAGE AREA.--727 mi² (1,883 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1712: 1958. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 30.81 ft (9.391 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for November through February, which are poor. Part of low flow is drainage from areas irrigated with diversions from Colorado River. Diversions above station for irrigation and other uses.

AVERAGE DISCHARGE.--27 years, 498 ft³/s (14.10 m³/s), 360,800 acre-ft/yr (445 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s (600 m³/s) June 28, 1960, gage height, 42.41 ft (12.927 m); minimum daily, 2.4 ft³/s (0.068 m³/s) Nov. 27-30, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 43.5 ft (13.26 m) in 1913 (probably December). Flood in September 1938 reached a stage of 43.3 ft (13.20 m), from information by local resident.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 17	1500	3,940 112	20.78 6.334	Sept. 1	0900	*4,130 117	21.28 6.486
July 8	1700	4,040 114	21.04 6.413	Sept. 5	1400	3,620 103	19.91 6.069

Minimum daily discharge, 9.4 ft³/s (0.27 m³/s) Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	641	34	107	15	45	28	12	312	306	2060	153	3940
2	742	27	99	15	42	30	11	201	252	1720	126	2870
3	783	23	76	15	59	30	11	141	210	1280	104	2580
4	636	20	55	15	50	26	11	368	399	905	97	3380
5	488	18	40	15	41	23	12	1320	603	898	84	3610
6	360	16	34	16	42	21	14	1340	627	2190	79	3550
7	266	15	30	17	55	20	11	1310	681	2190	80	3300
8	207	14	32	16	65	20	10	1380	562	3870	78	2620
9	178	13	35	16	47	22	9.9	1140	384	3540	81	1620
10	138	12	71	15	40	22	9.8	1300	263	2920	81	1080
11	105	11	210	15	35	20	13	1380	202	2570	75	778
12	96	11	187	15	32	20	13	1450	276	2190	77	536
13	93	11	131	15	30	20	11	1550	1330	1680	86	359
14	88	10	107	15	28	25	9.4	1410	2010	1280	90	265
15	92	10	86	15	27	36	11	1120	2930	1030	95	589
16	121	11	65	16	26	35	20	763	3870	848	102	439
17	165	12	45	17	25	27	15	495	3920	630	105	369
18	158	20	35	17	24	22	29	333	3740	497	122	319
19	600	30	30	20	23	19	28	231	3360	404	123	276
20	787	25	26	79	23	17	15	175	2870	295	115	242
21	660	20	24	245	22	16	21	134	2160	230	116	224
22	695	22	22	332	25	16	32	102	1360	183	131	211
23	616	22	20	277	25	15	57	82	891	157	165	206
24	534	20	20	215	24	14	124	84	611	135	185	216
25	425	18	20	195	30	14	336	163	445	118	188	226
26	296	17	19	159	35	13	582	887	437	107	172	236
27	193	25	18	141	32	12	644	1090	696	132	159	222
28	124	45	17	240	29	12	680	766	1430	150	149	226
29	77	82	16	112	---	13	626	549	1800	162	136	221
30	57	96	15	69	---	13	450	487	2010	179	140	232
31	42	---	15	51	---	14	---	410	---	176	1750	---
TOTAL	10463	710	1707	2415	981	635	3828.1	22473	40635	34726	5244	34942
MEAN	338	23.7	55.1	77.9	35.0	20.5	128	725	1355	1120	169	1165
MAX	787	96	210	332	65	36	680	1550	3920	3870	1750	3940
MIN	42	10	15	15	22	12	9.4	82	202	107	75	206
AC-FT	20750	1410	3390	4790	1950	1260	7590	44580	80600	68880	10400	69310

CAL YR 1980 TOTAL 101998.0 MEAN 279 MAX 6110 MIN 10 AC-FT 202300
WTR YR 1981 TOTAL 158759.1 MEAN 435 MAX 3940 MIN 9.4 AC-FT 314900

NOTE.--No gage-height record Dec. 17 to Jan. 20, Feb. 9 to Mar. 9.

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1978 to current year.

WATER TEMPERATURES: February 1978 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression 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, 1,130 micromhos Mar. 3, Apr. 15, 1981; minimum daily, 64 micromhos May 25, 1979.

WATER TEMPERATURES: Maximum daily, 32.0°C June 26-28, 1980; minimum daily, 3.5°C Jan. 5, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,130 micromhos Mar. 3, Apr. 15; minimum daily, 81 micromhos June 15.

WATER TEMPERATURES: Minimum daily, 9.0°C Jan. 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	DIS- SOLVED (PER- CENT SATUR- ATION)	DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV 26...	1015	17	965	7.8	10.0	25	4.7	9.5	83	1.0	100
JAN 14...	0930	15	1010	7.8	10.5	--	.40	10.4	93	.9	50
MAR 25...	0920	14	700	7.9	16.0	--	23	10.0	99	.6	230
MAY 14...	1015	1400	125	7.3	21.5	--	60	7.4	83	2.4	470
JUL 08...	0935	3930	132	7.4	25.5	--	94	5.8	70	2.9	3300
SEP 09...	1445	1500	192	7.4	27.5	--	15	5.5	69	3.1	210

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 26...	170	300	35	89	20	78	1.9	6.0	270	24	140
JAN 14...	K12	310	45	93	20	80	2.0	4.4	270	34	140
MAR 25...	230	220	15	63	14	56	1.7	4.0	200	27	90
MAY 14...	1700	44	8	13	2.9	6.5	.4	3.2	36	10	8.9
JUL 08...	14000	52	14	16	2.9	5.8	.4	3.4	40	9.4	12
SEP 09...	980	68	0	19	5.0	9.4	.5	5.2	70	6.0	14

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 CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, 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)
NOV 26...	.2	21	543	540	0	15	.00	.03	.010	.010	.63
JAN 14...	.3	9.7	567	543	--	--	.05	.03	.010	.040	.69
MAR 25...	.3	9.1	398	384	--	--	.12	.12	.060	.030	.75
MAY 14...	.1	9.2	93	77	--	--	.54	.75	.100	.100	1.6
JUL 08...	.1	13	100	87	--	--	.00	.00	.210	.150	.99
SEP 09...	.2	25	144	126	--	--	.07	.07	.160	.120	1.2

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDEDED TOTAL (MG/L AS C)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 26...	.46	.64	.47	.180	.160	--	16	.1	7	.32	93
JAN 14...	.65	.70	.69	.050	.050	--	21	.3	51	2.1	29
MAR 25...	.81	.81	.84	.120	.090	9.8	--	--	24	.91	98
MAY 14...	1.2	1.70	1.3	.250	.210	--	8.8	1.0	89	336	98
JUL 08...	.62	1.20	.77	.310	.220	--	7.1	--	90	955	99
SEP 09...	1.4	1.40	1.5	.300	.210	12	--	--	29	117	96

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDEDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDEDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDEDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
NOV 26...	1015	4	0	4	200	0	200	2	1	1	10
JAN 14...	0930	2	0	2	200	0	200	0	--	<1	0
MAY 14...	1015	3	0	3	100	60	40	0	--	<1	10

DATE	SUS- PENDEDED RECOV. (UG/L AS CR)	MIUM, DIS- SOLVED (UG/L AS CR)	TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	TOTAL RECOV- ERABLE (UG/L AS CU)	PENDEDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	TOTAL RECOV- ERABLE (UG/L AS FE)	PENDEDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	TOTAL RECOV- ERABLE (UG/L AS PB)
NOV 26...	10	0	1	<3	2	0	2	200	180	20	18
JAN 14...	0	0	0	<3	3	3	0	250	240	10	5
MAY 14...	10	0	1	<3	15	10	5	3300	3200	80	6
JUL 08...	0	10	1	<3	10	7	3	3900	3800	140	7

DATE	LEAD, SUS- PENDEDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDEDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDEDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDEDED RECOV- ERABLE (UG/L AS NI)
NOV 26...	1	17	60	0	60	.3	.3	.0	5	5
JAN 14...	5	0	100	10	90	.1	.0	.1	3	3
MAY 14...	3	3	40	40	3	.8	.5	.3	2	1
JUL 08...	7	0	60	60	3	.3	.1	.2	3	1

DATE	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDEDED TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDEDED RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDEDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 26...	0	0	0	0	0	0	0	10	2	8
JAN 14...	0	0	0	0	0	0	0	20	0	20
MAY 14...	1	0	0	0	1	1	0	40	--	<3
JUL 08...	2	0	0	0	0	0	1	130	120	10

SAN BERNARD RIVER BASIN

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 26, 80 1015	MAR 25, 81 0920	MAY 14, 81 1015	JUL 8, 81 0935	SEP 9, 81 1445	
TOTAL CELLS/ML	26	26	1100	1200	230	
DIVERSITY: DIVISION	1.0	0.0	1.4	1.0	0.0	
..CLASS	1.0	0.0	1.4	1.0	0.0	
...ORDER	1.0	0.0	1.9	2.0	0.0	
...FAMILY	1.0	0.0	2.0	2.1	0.3	
....GENUS	1.0	0.0	2.0	2.1	0.3	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
.BACILLARIOPHYCEAE						
..BACILLARIALES						
...NITZSCHIAEAE						
....NITZSCHIA	13# 50	-- -	150 13	140 11	-- -	
...EUPODISCALES						
...COSCINODISCACEAE						
....CYCLOTELLA	-- -	-- -	84 7	-- -	-- -	
...NAVICULALES						
...CYMBELLACEAE						
....CYMBELLA	-- -	-- -	-- -	14 1	-- -	
...NAVICULACEAE						
....CALONEIS	-- -	-- -	-- -	14 1	-- -	
....NAVICULA	-- -	26#100	14 1	-- -	-- -	
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....MICRACTINIUM	-- -	-- -	56 5	-- -	-- -	
...OOCYSTACEAE						
....ANKISTRODESMUS	-- -	-- -	98 9	55 4	-- -	
....KIRCHNERIELLA	-- -	-- -	-- -	-- -	14 6	
...SCENEDESMACEAE						
....CRUCIGENIA	-- -	-- -	-- -	-- -	220# 94	
...SCENEDESMUS	-- -	-- -	-- -	28 2	-- -	
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	-- -	-- -	14 1	-- -	-- -	
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	-- -	-- -	42 4	96 8	-- -	
...NOSTOCALES						
...HAMMATOIDEACEAE						
....RAPHIDIOPSIS	-- -	-- -	-- -	230# 19	-- -	
...OSCILLATORIALES						
...OSCILLATORIAEAE						
....OSCILLATORIA	-- -	-- -	670# 59	630# 52	-- -	
EUGLENOPHYTA (EUGLENIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	13# 50	-- -	14 1	14 1	-- -	

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

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

SAN BERNARD RIVER BASIN

503

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1980 TO SEPTEMBER 1981

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1980	10463	320	178	5020	31	869	19	547	100
NOV.	1980	710	675	366	702	89	171	23	45	210
DEC.	1980	1707	400	221	1020	42	194	22	100	130
JAN.	1981	2415	365	200	1300	42	272	17	112	120
FEB.	1981	981	545	298	790	65	172	24	63	170
MAR.	1981	635	767	415	712	100	178	25	42	240
APR.	1981	3828.1	351	193	2000	38	396	18	186	110
MAY	1981	22473	177	99	6000	15	909	12	738	58
JUNE	1981	40635	155	86	9490	13	1400	11	1190	51
JULY	1981	34726	178	99	9290	15	1400	12	1150	59
AUG.	1981	5244	407	224	3170	45	630	21	293	130
SEPT	1981	34942	204	114	10700	18	1660	14	1300	67
TOTAL		158759.1	**	**	50200	**	8250	**	5770	**
WTD. AVG.		435	211	117	**	19	**	13	**	69

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
EQUIVALENT MEAN

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	355	440	364	787	425	881	875	255	273	153	472	160
2	320	450	353	784	449	911	869	290	331	169	499	233
3	333	461	335	848	428	1130	900	266	340	180	501	186
4	348	480	319	857	460	900	923	244	310	200	520	157
5	363	497	312	852	475	750	924	162	271	163	538	162
6	373	525	360	942	460	640	1030	179	260	134	552	185
7	378	568	395	940	350	660	1030	146	290	132	548	190
8	370	580	427	895	340	656	1060	122	301	129	560	198
9	395	567	456	937	370	657	1080	122	310	142	551	191
10	425	617	493	970	419	666	1050	132	311	156	545	195
11	452	651	305	960	471	679	1030	137	321	169	550	199
12	428	675	356	1010	495	684	1050	118	344	182	555	218
13	438	740	337	972	519	717	1120	119	226	195	546	235
14	453	860	350	1010	543	697	1120	121	130	203	556	253
15	458	940	357	1080	555	698	1130	142	81	212	580	240
16	462	865	370	1120	570	831	1070	169	100	220	570	315
17	471	863	396	1100	590	824	1020	200	120	225	575	330
18	480	872	421	1110	622	750	984	239	138	240	565	335
19	330	871	444	1000	623	700	975	273	140	262	570	342
20	267	864	481	909	700	696	965	317	140	288	559	345
21	249	900	519	280	775	698	957	343	142	308	555	350
22	246	934	556	263	772	697	761	365	145	340	568	354
23	247	933	594	245	770	697	712	375	162	378	562	365
24	246	934	650	217	828	686	545	395	178	400	540	377
25	252	931	750	228	780	693	390	429	195	415	475	368
26	260	957	856	219	760	720	343	350	210	425	485	365
27	272	930	770	240	912	745	285	237	195	395	500	376
28	300	909	720	266	921	795	226	210	152	414	515	370
29	337	600	690	262	---	840	233	220	145	423	505	380
30	400	348	715	340	---	883	224	234	140	440	511	375
31	431	---	765	406	---	884	---	270	---	465	156	---
MEAN	359	725	491	711	585	757	829	232	213	263	525	278

SAN BERNARD RIVER BASIN
08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

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

Because the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than continuous stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage of those events. The data collected for special reasons are called measurements at miscellaneous sites.

Streamflow data collected at partial-record stations where water-quality data other than observations of water temperature are not obtained are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations; the second is a table of annual maximum stage and (or) discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low and high flows are given in a third table. Discharge measurements and water-quality data collected at partial-record stations are presented in downstream order in the section of this report entitled "Gaging-station records."

Low-flow partial-record stations

Measurements of streamflow at low-flow partial-record stations that are not published in the gaging-station section are given in the following table. Most of the measurements of low flow were made during periods when streamflow was sustained primarily by ground-water discharge. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will indicate the low-flow potential of the stream. The years listed in the column headed "Period of record" identifies the water years in which measurements were made at the same or at practically the same site.

Discharge measurements made at low-flow partial-record stations during water year 1981

Discharge measurements made at 10w-flow partial-record stations during water year 1901						
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
Brazos River basin						
08080900	White River below falls near Crosbyton, Tex.	Lat 33°39'57", long 101°09'35", Crosby County, at bridge on U.S. Highway 82 and 4.5 mi east of Crosbyton.	(a)	1951-81	10-18-80 1- 6-81 5-18-81 9- 9-81	1.17 .46 2.12 1.39
08082950	Elm Creek near Proffitt, Tex.	Lat 33°11'00", long 98°53'40", Young County, at bridge on U.S. Highway 380 in Proffitt community, 1,000 ft west of Farm Road 578, 5.5 mi upstream from mouth, and about 9 mi west of Newcastle.	275	1968-81	10-21-80 12- 1-80 1-12-81 2-24-81 4- 6-81 5-18-81 6-29-81 8-10-81 9-21-81	1.29 .30 1.39 .45 .80 1.47 0 0 0
08111600	Piney Creek near Bellville, Tex.	Lat 29°57'06", long 96°10'20", Austin County, at bridge on county road and about 5.1 mi east of Bellville.	30.7	1948, 1955, 1958, 1964-81	1-29-81 9-29-81	5.2 1.8
08111650	West Fork Mill Creek near Industry, Tex.	Lat 29°58'55", long 96°30'00", Austin County, at bridge on Farm Road 109 and about 0.6 mi north of Industry.	75.3	1964-81	9-29-81	.04

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 occurring between inspections of the gage. The years used in the column "Period of record" identify the years in which the annual maximum has been determined.

Annual maximum stage and (or) discharge during water year 1981							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
San Jacinto River basin							
08068700	Cypress Creek at Sharp Road near Hockley, Tex.	Lat 29°55'15", long 95°50'24", Harris County, at bridge on Sharp Road and 7.4 mi south of Hockley.	80.7	1976-78+, 1979-81	10-20-80	64.63	-
08072400	Buffalo Bayou near Clodine, Tex.	Lat 29°43'06", long 95°43'53", Fort Bend County, on private road to Cinco Ranch, 2.8 mi west of Clodine, and 9.0 mi upstream from Barker Reservoir discharge structure.	84.2	1974-81	8-31-81	98.80	3,400
08072700	South Mayde Creek near Addicks, Tex.	Lat 29°48'03", long 95°41'33", Harris County, at bridge on Groeschke Road, 3.2 mi west of Addicks, and 4.6 mi upstream from Langham Creek.	32.3	1974-81	8-31-81	108.76	4,080
08072800	Langham Creek near Addicks, Tex.	Lat 29°50'08", long 95°37'32", Harris County, at bridge on Clay Road, 3.6 mi north of Addicks, and 4.4 mi upstream from mouth.	48.9	1974-81	8-31-81	102.25	3,360
08073630	Bettina Street Ditch at Houston, Tex.	Lat 29°46'32", long 95°32'23", Harris County, at intersection of Bettina Street ditch and Kimberly Street in west Houston.	1.37	1979-81	8-31-81	81.69	562
08074200	Brickhouse Gully at Clarblak Street, Houston, Tex.	Lat 29°49'53", long 95°31'42", Harris County, at bridge on Clarblak Street in northwest Houston.	2.56	1965-81	10-15-80	89.57	409
08074760	Brays Bayou at Alief Road, Alief, Tex.	Lat 29°42'39", long 95°35'13", Harris County, at bridge on High Star Street in Alief.	14.1	1977-81	8-31-81	19.59	4,580
08074780	Keegans Bayou at Keegan Road near Houston, Tex.	Lat 29°39'55", long 95°35'42", Harris County, at bridge on Keegan Road and about 16 mi southwest of Houston.	7.47	1965-71, 1975-81	8-31-81	79.41	1,370
08074810	Brays Bayou at Gessner Drive, Houston, Tex.	Lat 29°40'21", long 95°31'41", Harris County, at bridge on Gessner Drive in southwest Houston and 0.10 mi below mouth of Keegans Bayou.	53.2	1977-81	8-31-81	62.47	16,900
08074850	Bintliff Ditch at Bissonnet Street, Houston, Tex.	Lat 29°41'16", long 95°30'20", Harris County, at bridge on Bissonnet Street in southwest Houston.	4.38	1968-81	5- 3-81	*63.69	1,350
08074910	Hummingbird Street Ditch at Mullins Street, Houston, Tex.	Lat 29°39'44", long 95°29'11", Harris County, at intersection of Hummingbird Street ditch and Mullins Street in southwest Houston.	.32	1979-81	5- 3-81	*59.46	227
08075470	Sims Bayou at Martin Luther King Boulevard, Houston, Tex.	Lat 29°38'42", long 95°20'13", Harris County, at bridge on Martin Luther King Boulevard in south Houston.	48.4	1978-81	8-31-81	37.33	-
08075550	Berry Bayou at Gilpin Street, Houston, Tex.	Lat 29°38'32", long 95°13'22", Harris County, at bridge on Gilpin Street in southeast Houston.	2.56	1965-81	5- 3-81	*35.92	628
08075780	Greens Bayou at Cutten Road near Houston, Tex.	Lat 29°56'56", long 95°31'10", Harris County, at bridge on Cutten Road and about 16.5 mi northwest of Houston.	8.06	1965-81	8-31-81	112.94	498
08076200	Halls Bayou at Deertrail Street near Houston, Tex.	Lat 29°54'07", long 95°25'21", Harris County, at bridge on Deertrail Street, 0.6 mi west of U.S. Highway 75, and about 11 mi northwest of Houston.	8.99	1965-81	8-31-81	*85.43	1,020
Clear Creek basin							
08077600	Clear Creek near Friendswood, Tex.	Lat 29°31'02", long 95°10'42", Galveston County, at bridge on Farm Road 528 and 1.5 mi southeast of Friendswood.	-	1966-81	5- 4-81	*15.89	-
Highland Bayou basin							
08077780	Highland Bayou near Texas City, Tex.	Lat 29°19'54", long 94°56'42", Galveston County, at bridge on State Highway 6, 0.4 mi southwest of U.S. Highway 75, 1.5 mi from mouth, and about 3 mi southwest of Texas City.	-	1974-81	9- 1-81	*3.65	-

* Elevation.

* Operated as a continuous-record station.

a Approximately.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

507

Annual maximum stage and (or) discharge during water year 1981--Continued

Annual maximum stage and (or) discharge during water year 1961-Continued				Annual maximum			
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Elevation (feet)	Discharge (ft ³ /s)
Brazos River basin							
08079300	Blackwater Draw tributary near Floyd, N. Mex.	Lat 34°14'52", long 103°44'51", Roosevelt County, 0.5 mi below section road and 10 mi west of Floyd.	a10	1963-75, 1979, 1981	8-11-81	3.04	431
08080600	Running Water Draw near Clovis, N. Mex.	Lat 34°31'55", long 103°12'05", Curry County, 0.25 mi upstream from Highway 18 and 8 mi west of Clovis.	109	1953-56, 1957-64#, 1979, 1981	8-12-81	6.59	a4,700
08093530	Aquilla Creek at abandoned Missouri-Kansas-Texas Railroad bridge near Aquilla, Tex.	Lat 31°48'59", long 97°11'35", Hill County, on right bank at downstream side of abandoned Missouri-Kansas-Texas Railroad bridge, 0.8 mi downstream from Alligator Creek, 2.5 mi downstream from gaging station Aquilla Creek near Aquilla at Farm Road 1304 (08093500), 2.5 mi upstream from Farm Road 2114, and 2.8 mi southeast of Aquilla.	-	1976-81	6-16-81	468.66	-
08093540	Aquilla Creek at Farm Road 2114 near Aquilla, Tex.	Lat 31°47'23", long 97°11'13", McLennan County, on right bank at downstream side of bridge on Farm Road 2114, 2.1 mi upstream from Snake Creek, 3.3 mi downstream from Alligator Creek, and 4.6 mi southeast of Aquilla.	-	1976-81	6-16-81	455.67	-
08093560	Aquilla Creek at Farm Road 1858 near Ross, Tex.	Lat 31°43'33", long 97°12'39", McLennan County, on right bank at downstream side of bridge on Farm Road 1858, 0.9 mi downstream from Patten Branch, 1.6 mi upstream from Dry Creek, 3.4 mi west of Ross, and 4.4 mi upstream from Farm Road 933.	-	1976-81	6-16-81	421.23	
08093580	Aquilla Creek at Farm Road 933 near Ross, Tex.	Lat 31°41'06", long 97°11'02", McLennan County, on left bank at downstream side of bridge on Farm Road 933, 1.5 mi downstream from Elm Creek, 2.5 mi southwest of Ross, 2.6 mi upstream from mouth (Brazos River), and 2.8 mi downstream from Dry Creek.	-	1976-81	6-16-81	403.04	

* Operated as a continuous-record station.

a Approximately.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Measurements of streamflow at points other than gaging stations of partial-record stations are given in the following table:

Discharge measurements made at miscellaneous sites during water year 1981

Discharge measurements made at miscellaneous sites during water year 1981						
Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Brazos River Basin						
Springfield Springs	Navasota River	Lat 31°35'18", long 96°31'22", Limestone County, on left bank about 20 ft above low-flow channel of Navasota River, 600 ft upstream from State Highway 14, and 4.6 mi north of Groesbeck.	-	-	5-20-81	0.80

INDEX

	Page		Page
Accuracy of field data and computed results.....	21	Clear Creek basin, crest-stage partial-record stations in.....	506
Acre-foot, definition of.....	4	Clear Fork Brazos River, at Eliasville.....	244-247
Addicks Reservoir near Addicks.....	81-85	at Fort Griffin.....	222
Agencies other than Geological Survey, records collected by.....	22	at Hawley.....	207
Algae, definition of.....	4	at Nugent.....	214-215
Aquilla Creek, above Aquilla.....	324-328	near Roby.....	206
at abandoned Missouri-Kansas-Texas Railroad bridge near Aquilla.....	507	Coastal Basin, gaging-station records in.....	162-164
at Farm Road 933 near Ross.....	507	Cole Creek at Deihl Road, Houston.....	104
at Farm Road 1858 near Ross.....	507	Coliform organisms, definition of.....	4-5
at Farm Road 2114 near Aquilla.....	507	Collection, and computation of data.....	17-21
near Aquilla.....	329-332	and examination of data.....	22
Ash mass, definition of.....	5	Color Unit, definition of.....	6
Bacteria, definition of.....	4	Computation, and collection of data.....	17-21
Barker Reservoir near Addicks.....	72-76	Contents, definition of.....	6
Bear Creek near Barker.....	77-78	Control, definition of.....	6
Bed material, definition of.....	5	Cooperation.....	2
Belton Lake near Belton.....	381-382	Cowhouse Creek at Pidcoke.....	380
Berry Bayou, at Forest Oaks Street, Houston.....	134-135	Crest-stage partial-record measurements.....	506-507
at Gilpin Street, Houston.....	506	Crest-stage partial-record station, definition of.....	21
Berry Creek near Georgetown.....	418-419	Croton Creek, below Short Croton Creek near Jayton....	181
Bettina Street Ditch at Houston.....	506	near Jayton.....	182-184
Big Cedar Creek near Ivan.....	260	Cubic foot per second (FT ³ /s, ft ³ /s), definition of...	6
Big Creek, near Freestone.....	468	Cubic foot per second per square mile (CFSM), definition of.....	6
near Needville.....	498	Cypress Creek, at House and Hahl Road near Cypress....	56-58
Big Sandy Creek above Breckenridge.....	230-232	at Katy-Hockley Road near Hockley.....	55
Bingle Road storm sewer at Houston.....	100-103	at Sharp Road near Hockley.....	506
Bintliff Ditch at Bissonnet Street, Houston.....	506	near Humble.....	60-61
Biochemical oxygen demand (BOD), definition of.....	5	near Westfield.....	59
Biomass, definition of.....	5	Data, accuracy of field, and computed results.....	21
Biomass pigment ratio, definition of.....	6	collection and computation of.....	17
Blackwater Draw tributary near Floyd, NM.....	507	collection and examination of.....	22
Blue-green algae, definition of.....	11	other available.....	22
Bosque River near Waco.....	349-350	Davidson Creek near Lyons.....	460
Bottom material, definition of.....	6	Deadman Creek near Nugent.....	216
Brays Bayou, at Alief.....	506	Definition of terms.....	4-15
at Gessner Drive, Houston.....	506	Diatoms, definition of.....	11
at Houston.....	124-126	Discharge, at partial-record stations and miscellaneous sites.....	505-508
at Scott Street at Houston.....	127	definition of.....	7
Brazos River, at Morris Sheppard Dam near Graford....	274-276	Dissolved, definition of.....	7
at Richmond.....	487-497	Diversity index, definition of.....	7
at Seymour.....	198-201	Double Mountain Fork Brazos River, at Justiceburg....	165-168
at Waco.....	351	near Aspermont.....	169-174
at Washington.....	461-462	Downstream order and station number.....	16
at Whitney Dam near Whitney.....	316-318	Drainage area, definition of.....	7
near Aquilla.....	319	Drainage basin, definition of.....	8
near Bryan.....	444	Dry mass, definition of.....	5
near College Station.....	445-447	Duck Creek near Girard.....	175
near Dennis.....	280-283	East Fork San Jacinto River near Cleveland.....	63-64
near Glen Rose.....	295-297	East Levee Ditch near Freeport.....	162
near Hempstead.....	484	East Yegua Creek near Dime Box.....	449
near Highbank.....	352-361	Elm Creek, at Abilene.....	210
near Palo Pinto.....	277	near Proffitt.....	205,505
near South Bend.....	248-256	Examination of data.....	22
Brazos River basin, crest-stage partial-record stations in.....	507	Explanation, of stage and water-discharge records....	17
discharge measurement at miscellaneous site in.....	508	of surface-water quality records.....	22
gaging-station records in.....	165-498	Fecal coliform bacteria, definition of.....	5
low-flow partial-record stations in.....	505	Fecal streptococcal bacteria, definition of.....	5
Briar Creek near Graham.....	257	Fort Phantom Hill Reservoir near Nugent.....	212-213
Brickhouse Gully, at Clarblak Street, Houston.....	506	Gage height, definition of.....	8
at Costa Rica Street, Houston.....	105-107	Gaging station, definition of.....	8
Buffalo Bayou, at Houston.....	97-99	Gaging-station records.....	29-504
at Main Street, Houston.....	118	Granger Lake near Granger.....	424-431
at Piney Point.....	96	Green algae, definition of.....	11
at West Belt Drive, Houston.....	89-95	Greens Bayou, at Cutten Road near Houston.....	506
at 69th Street, Houston.....	119	at Ley Road at Houston.....	151-152
near Addicks.....	86-88	at U.S. Highway 75 near Houston.....	143
near Clodine.....	506	near Houston.....	144-147
near Katy.....	70-71	Hackberry Creek, at Hillsboro.....	320-321
California Creek near Stamford.....	219	below Hillsboro.....	322-323
Caney Creek near Splendora.....	65	Halls Bayou, at Deertrail Street near Houston.....	506
Cedar Creek at Abilene.....	211	at Houston.....	148-150
Cells/volume, definition of.....	6	Hardness, definition of.....	8
Cfs-days, definition of.....	6	Highland Bayou, at Hitchcock.....	155
Chemical oxygen demand (COD), definition of.....	6	near Texas City.....	506
Chlorophyll, definition of.....	6		
Chocolate Bayou near Alvin.....	156-161		
Clear Creek, near Friendswood.....	506		
near Pearland.....	153		

	Page		Page
Highland Bayou basin, crest-stage partial-record stations in.....	506	Low-flow partial-record station, definition of.....	21
Hog Creek near Crawford.....	339	Mean concentration, definition of.....	12
Hubbard Creek, below Albany.....	227-229	Mean discharge, definition of.....	7
near Breckenridge.....	243	Methylene blue active substance, definition of.....	8
Hubbard Creek Reservoir near Breckenridge.....	233-242	Micrograms per gram, definition of.....	8
Hummingbird Street Ditch at Mullins Street, Houston.....	506	Micrograms per liter, definition of.....	8
Hunting Bayou, at Falls Street, Houston.....	137-139		
at Interstate Highway 610 at Houston.....	140-142	Middle Bosque River near McGregor.....	338
Hydrologic bench-mark station.....	16	Middle Yegua Creek near Dime Box.....	448
Hydrologic conditions.....	3	Mill Creek near Bellville.....	485-486
Hydrologic unit.....	8	Millers Creek near Munday.....	202
		Millers Creek Reservoir near Bomartin.....	203-204
Illustration.....	28	definition of.....	8
Index.....	509-511	Moses Lake-Galveston Bay near Texas City.....	154
Instantaneous discharge, definition of.....	7	Mulberry Creek near Hawley.....	208-209
Introduction.....	1		
Keegans Bayou, at Keegan Road near Houston.....	506	National Geodetic Vertical Datum of 1929, definition of.....	9
at Roark Road near Houston.....	120-123	National stream-quality accounting network (NASQAN), definition of.....	17
Lake Conroe, at outflow weir near Conroe.....	38	Navasota River, above Groesbeck.....	464-467
near Conroe.....	29-37	near Bryan.....	476-482
Lake Creek near Conroe.....	42	near College Station.....	483
Lake Georgetown near Georgetown.....	408-414	near Easterly.....	474-475
Lake Graham near Graham.....	258-259	Networks and programs, special.....	16
Lake Granbury near Granbury.....	284-294	ND, definition of.....	9
Lake Houston near Sheldon.....	66-67	NGVD, definition of.....	9
Lake Houston Plant Intake at Galena Park.....	68	Nolan Creek at Belton.....	384
Lake Limestone near Marquez.....	469-473	Nolan River at Blum.....	303-304
Lake Mexia near Mexia.....	463	North Bosque River, at Hico.....	333
Lake Palo Pinto near Santo.....	278-279	at Valley Mills.....	335-337
Lake Pat Cleburne near Cleburne.....	301-302	near Clifton.....	334
Lake Stamford near Haskell.....	217-218	North Croton Creek near Knox City.....	197
Lake Whitney near Whitney.....	305-315	North Fork Hubbard Creek near Albany.....	223-226
Lake Surveys (Water Quality):		North Fork San Gabriel River, near Georgetown.....	415-416
Addicks Reservoir near Addicks.....	82-85	near Liberty Hill.....	406
Barker Reservoir near Addicks.....	73-76		
Conroe, Lake, near Conroe.....	30-37	Old Brazos River near Freeport.....	163
Georgetown, Lake, near Georgetown.....	409-414	Organic mass, definition of.....	5
Granbury, Lake, near Granbury.....	284-294	Organism, definition of.....	9
Granger Lake near Granger.....	425-431	Organism count/area, definition of.....	9
Hubbard Creek Reservoir near Breckenridge.....	234-242	Organism count/volume, definition of.....	9
Limestone, Lake, near Marquez.....	470-473	Other data available.....	22
Possum Kingdom Lake near Graford.....	262-273		
Proctor Lake near Proctor.....	269-375	Paluxy River at Glen Rose.....	298
Somerville Lake near Somerville.....	452-457	Partial-record station, definition of.....	9
Stillhouse Hollow Lake near Belton.....	392-400	Partial-record stations, crest-stage.....	506-507
Waco Lake near Waco.....	341-348	low-flow.....	505
Whitney, Lake, near Whitney.....	306-315	Particle size, definition of.....	9
Lakes and reservoirs:		Particle-size classification, definition of.....	10
Addicks Reservoir near Addicks.....	81-85	Percent composition, definition of.....	10
Barker Reservoir near Addicks.....	72-76	Periphyton, definition of.....	10
Belton Lake near Belton.....	381-382	Pesticide program.....	17
Conroe, Lake, near Conroe.....	29-37	Pesticides, definition of.....	10
Fort Phantom Hill Reservoir near Nugent.....	212-213	Phytoplankton, definition of.....	10
Lake Georgetown near Georgetown.....	408-414	Picocurie, definition of.....	10
Graham, Lake, near Graham.....	258-259	Piney Creek near Bellville.....	505
Granbury, Lake, near Granbury.....	284-294	Plankton, definition of.....	10
Granger Lake near Granger.....	425-431	Polychlorinated biphenyls, definition of.....	11
Houston, Lake, near Sheldon.....	66-67	Possum Kingdom Lake near Graford.....	261-273
Hubbard Creek Reservoir near Breckenridge.....	233-242	Proctor Lake near Proctor.....	368-375
Leon Reservoir near Ranger.....	363-364	Programs, special networks and.....	16
Limestone, Lake, near Marquez.....	469-473	Publication of techniques of water-resources investigations.....	26-27
Mexia, Lake, near Mexia.....	463		
Millers Creek Reservoir near Bomartin.....	203-204	Radiochemical program.....	17
Palo Pinto, Lake, near Santo.....	278-279	Records of discharge collected by agencies other than the Geological Survey.....	22
Pat Cleburne, Lake, near Cleburne.....	301-302	Recoverable from bottom material, definition of.....	11
Possum Kingdom Lake near Graford.....	261-273	Reservoirs. See Lakes and reservoirs.	
Proctor Lake near Proctor.....	368-375	Running Water Draw near Clovis, NM.....	507
Somerville Lake near Somerville.....	451-457	Runoff in inches, definition of.....	11
Squaw Creek Reservoir near Glen Rose.....	299		
Stamford, Lake, near Haskell.....	217-218	Sabana River near De Leon.....	367
Stillhouse Hollow Lake near Belton.....	391-400	Salt Fork Brazos River, near Aspermont.....	185-191
Waco Lake near Waco.....	340-348	near Peacock.....	176-179
Whitney, Lake, near Whitney.....	305-315	San Bernard River near Boling.....	499
Lampasas River, near Belton.....	401-402	San Gabriel River, at Laneport.....	432-435
near Kempner.....	385-387	near Rockdale.....	436
Langham Creek, at State Highway 6 near Addicks.....	79-80	near Weir.....	420-423
near Addicks.....	506	San Jacinto River near Sheldon.....	69
Lazybrook Street storm sewer at Houston.....	108-111	San Jacinto River basin, crest-stage partial-record stations in.....	506
Leon Reservoir near Ranger.....	363-364	gaging-station records in.....	29-151
Leon River, at Gatesville.....	379	Sediment, collection and examination.....	24-25
near Belton.....	383	definition of.....	12
near De Leon.....	365-366	Short Croton Creek at mouth near Jayton.....	180
near Hamilton.....	378	Sims Bayou, at Hiram Clarke Street, Houston.....	128-130
near Hasse.....	376	at Houston.....	131-133
Little Pond Creek at Burlington.....	362	at Martin Luther King Boulevard, Houston.....	506
Little River, at Cameron.....	438-443	Sodium adsorption ration (SAR), definition of.....	12
near Little River.....	403-407		
near Rockdale.....	437		
Little Whiteoak Bayou at Trimble Street at Houston.....	115-117		
Low-flow partial-record measurements.....	505		

	Page		Page
Solute, definition of.....	12	Total coliform bacteria, definition of.....	4
Somerville Lake near Somerville.....	451-457	Total (in tables of chemical analyses), definition of.....	14
South Fork Rocky Creek near Briggs.....	388-390	Total in bottom material, definition of.....	14
South Fork San Gabriel River at Georgetown.....	417	Total load (tons), definition of.....	14
South Levee Ditch near Freeport.....	164	Total organism count, definition of.....	9
South Mayde Creek near Addicks.....	506	Total, recoverable, definition of.....	15
Special networks and programs.....	16	Total sediment discharge, definition of.....	12
Specific conductance, definition of.....	12		
Spring Creek at Spring.....	54		
Squaw Creek near Glen Rose.....	300	Vince Bayou at Pasadena.....	136
Squaw Creek Reservoir near Glen Rose.....	299		
Stage, explanation of.....	17	Waco Lake near Waco.....	340-348
Stage-discharge relation, definition of.....	13	Water analysis.....	23
Station number and downstream order.....	16	Water discharge records, explanation of stage and.....	17
Stillhouse Hollow Lake near Belton.....	391-400	Water temperature.....	24
Stinking Creek near Aspermont.....	192-196	WDR, definition of.....	15
Streamflow, definition of.....	13	Weighted average, definition of.....	15
Substrate, definition of.....	13	West Fork Mill Creek near Industry.....	505
Surface-water quality records.....	22	West Fork San Jacinto River, below Lake Conroe	
Suspended, recoverable, definition of.....	13	near Conroe.....	39-41
Suspended sediment, definition of.....	12	near Conroe.....	43-53
Suspended-sediment concentration, definition of.....	12	near Humble.....	62
Suspended-sediment discharge, definition of.....	12	Wet mass, definition of.....	6
Suspended-sediment load, definition of.....	12	Whiteoak Bayou at Houston.....	112-114
Suspended, total, definition of.....	14	White River below falls near Crosbyton.....	505
		Lake Whitney near Whitney.....	305-315
Taxonomy, definition of.....	15	WRD, definition of.....	15
Temperature, collection and examination.....	24	WSP, definition of.....	15
Terms, definition of.....	4-15		
Time-weighted average, definition of.....	14	Yegua Creek near Somerville.....	458-459
Tons per acre-foot, definition of.....	14		
Tons per day, definition of.....	14	Zooplankton, definition of.....	11

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
649 Federal Building, 300 East 8th Avenue
Austin, TX 78701

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300
SPECIAL 4TH CLASS BOOK RATE



U.S. GEOLOGICAL SURVEY LIBRARY
NATIONAL CENTER, MAIL STOP 950
12201 SUNRISE VALLEY DRIVE
RESTON, VA 22092