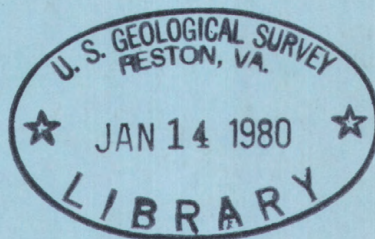


200)
Ga 3
Texas
1978
v. 2



Water Resources Data for Texas

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-78-2
WATER YEAR 1978

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

CALENDAR FOR WATER YEAR 1978

1 9 7 7

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	

1 9 7 8

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 for Texas

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

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-78-2

WATER YEAR 1978

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

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. W. Menard, Director

For additional information write to
District Chief, Water Resources Division
300 East 8th Street
Austin, Texas 78701

1979

Preface

This report was prepared by the U.S. Geological Survey in cooperation with the State of Texas and with other agencies by personnel of the Texas district of the Water Resources Division under the supervision of I. D. Yost, 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 J. S. Cragwall, Jr., Chief Hydrologist, and Phil Cohen, 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 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

BIBLIOGRAPHIC DATA SHEET	1. Report No. USGS/WRD/HD-80/002	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data for Texas, Water Year 1978, Volume 2; San Jacinto, Brazos, San Bernard River basins and Intervening Coastal basins		5. Report Date October 1979	
7. Author(s)		6.	
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division 300 East Eight Street Austin, TX 78701		8. Performing Organization Rept. No. USGS-WDR-TX-78-2	
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division 300 East Eight Street Austin, TX 78701		10. Project/Task/Work Unit No.	
		11. Contract/Grant No.	
		13. Type of Report & Period Covered Oct. 1, 1977 to Sept. 30, 1978	
		14.	
15. Supplementary Notes Prepared in cooperation with the State of Texas and with other agencies.			
16. Abstracts Surface-water data for the 1978 water year for Texas are presented in three volumes, appropriately identified as to content by river basins. Data in each volume consist of records of stage, discharge, and water quality of streams and canals; and stage, contents, and water quality of lakes and reservoirs. Also included are crest-stage and flood-hydrograph partial-record stations, reconnaissance partial-record stations, and low-flow partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. Records for a few pertinent stations in bordering States are also included. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Texas.			
17. Key Words and Document Analysis. 17a. Descriptors *Texas, *Hydrologic data, *Surface water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water analyses			
17b. Identifiers/Open-Ended Terms			
17c. COSATI Field/Group			
18. Availability Statement No restriction on distribution. This report may be purchased from: National Technical Information Service Springfield, VA 22161		19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 525
		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	6
Downstream order and station number	16
Special networks and programs	17
Explanation of stage and water-discharge records	18
Collection and computation of data	18
Accuracy of field data and computed results	22
Other data available	23
Records of discharge collected by agencies other than the Geological Survey	23
Explanation of surface-water quality records	23
Collection and examination of data	23
Water analysis	23
Water temperature	24
Sediment	25
Publications of techniques of water-resources investigations	26
Gaging-station records	29
Discharge at partial-record stations and miscellaneous sites	509
Low-flow partial-record stations	509
Crest-stage partial-record stations	510
Discharge measurements at miscellaneous sites	512
Index	513

ILLUSTRATION

Figure 1. Comparison of discharge at four long-term representative gaging stations during the 1978 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.	46
West Fork San Jacinto River below Lake Conroe near Conroe.	47
Lake Creek near Conroe	50
West Fork San Jacinto River near Conroe	51
Spring Creek at Spring.	61
Cypress Creek at Sharp Road near Hockley	62
Cypress Creek at Katy-Hockley Road near Hockley.	63
Cypress Creek at House and Hahl Road near Cypress.	64
Cypress Creek near Westfield	67
Cypress Creek near Humble	69
West Fork San Jacinto River near Humble	71
East Fork San Jacinto River near Cleveland	72
Caney Creek near Splendora.	74
San Jacinto River:	
Lake Houston near Sheldon	75
Lake Houston Plant Intake at Galena Park.	77
San Jacinto River near Sheldon	78
Buffalo Bayou near Katy.	79
Barker Reservoir near Addicks	80
South Mayde Creek:	
Bear Creek near Barker	83
Langham Creek at State Highway 6 near Addicks	84
Addicks Reservoir near Addicks.	85
Buffalo Bayou near Addicks	88
Buffalo Bayou at West Belt Drive, Houston.	91
Buffalo Bayou at Piney Point	92
Buffalo Bayou at Houston.	95
Whiteoak Bayou:	
Cole Creek at Deihl Road, Houston.	98
Brickhouse Gully at Costa Rica Street, Houston	99
Whiteoak Bayou at Houston.	102
Little Whiteoak Bayou at Houston	106
Buffalo Bayou at Main Street, Houston.	108
Buffalo Bayou at 69th Street, Houston.	109
Brays Bayou:	
Keegans Bayou at Roark Road near Houston	110
Brays Bayou at Houston.	114
Brays Bayou at Scott Street, Houston	117
Sims Bayou at Hiram Clarke Street, Houston.	119
Sims Bayou at Houston	123

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--Continued	
Buffalo Bayou--Continued	
Sims Bayou--Continued	
Berry Bayou at Forest Oaks Street, Houston.	126
Vince Bayou at Pasadena.	128
Hunting Bayou at Falls Street, Houston.	131
Hunting Bayou at Interstate Highway 610 at Houston.	134
Greens Bayou at U.S. Highway 75 near Houston.	138
Greens Bayou near Houston.	139
Halls Bayou at Houston.	143
Greens Bayou at Ley Road, Houston.	147
CLEAR CREEK BASIN	
Clear Creek near Pearland.	149
COASTAL BASIN	
Moses Lake-Galveston Bay near Texas City.	150
HIGHLAND BAYOU BASIN	
Highland Bayou at Hitchcock.	151
CHOCOLATE BAYOU BASIN	
Chocolate Bayou near Alvin.	152
OYSTER CREEK BASIN	
Oyster Creek near Angleton.	159
COASTAL BASIN	
East Levee Ditch near Freeport.	160
South Levee Ditch near Freeport.	161
BRAZOS RIVER BASIN	
Double Mountain Fork Brazos River (head of Brazos River) at Justiceburg.	162
Double Mountain Fork Brazos River near Aspermont.	166
Salt Fork Brazos River:	
McDonald Creek near Post.	173
Running Water Draw at Plainview.	177
Duck Creek near Girard.	178
Salt Fork Brazos River near Peacock.	179
Croton Creek:	
Short Croton Creek at mouth near Jayton.	183
Croton Creek below Short Croton Creek near Jayton.	184
Croton Creek near Jayton.	185
Salt Fork Brazos River near Aspermont.	188
Stinking Creek near Aspermont.	196
Brazos River:	
North Croton Creek near Knox City.	198
Brazos River at Seymour.	202
Millers Creek near Munday.	206
Millers Creek Reservoir near Bomartin.	208

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

	Page
WESTERN GULF OF MEXICO BASINS--Continued	
BRAZOS RIVER BASIN--Continued	
Brazos River--Continued	
Elm Creek near Proffitt.	210
Clear Fork Brazos River near Roby.	211
Clear Fork Brazos River at Hawley.	212
Mulberry Creek near Hawley.	216
Elm Creek near Abilene.	218
Little Elm Creek near Abilene.	219
Cat Claw Creek at Abilene.	220
Cedar Creek at Abilene.	221
Fort Phantom Hill Reservoir near Nugent.	222
Clear Fork Brazos River at Nugent.	224
Deadman Creek near Nugent.	226
Paint Creek:	
Lake Stamford near Haskell.	227
California Creek near Stamford.	229
Clear Fork Brazos River at Fort Griffin.	233
Hubbard Creek:	
Salt Prong Hubbard Creek:	
North Fork Hubbard Creek near Albany.	236
Hubbard Creek below Albany.	240
Big Sandy Creek above Breckenridge.	244
Hubbard Creek Reservoir near Breckenridge.	248
Hubbard Creek near Breckenridge.	269
Clear Fork Brazos River at Eliasville.	270
Brazos River near South Bend.	274
Salt Creek:	
Briar Creek near Graham.	283
Lake Graham near Graham.	284
Big Cedar Creek near Ivan.	286
Possum Kingdom Reservoir near Graford.	287
Brazos River at Possum Kingdom Dam near Graford.	309
Brazos River near Palo Pinto.	312
Palo Pinto Creek:	
Lake Palo Pinto near Santo.	313
Brazos River near Dennis.	315
Lake Granbury near Granbury.	319
Brazos River near Glen Rose.	340
Paluxy River at Glen Rose.	341
Squaw Creek:	
Squaw Creek Reservoir near Glen Rose.	342
Squaw Creek near Glen Rose.	343
Lake Pat Cleburne near Cleburne.	344

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

IX

	Page
WESTERN GULF OF MEXICO BASINS--Continued	
BRAZOS RIVER BASIN--Continued	
Brazos River--Continued	
Nolan River at Blum	346
Whitney Lake near Whitney	348
Brazos River at Whitney Dam near Whitney	365
Brazos River near Aquilla	368
Aquilla Creek:	
Cobb Creek near Abbott	369
Aquilla Creek near Aquilla	370
North Bosque River (head of Bosque River) at Stephenville	374
North Bosque River at Hico	375
North Bosque River near Clifton	376
North Bosque River at Valley Mills	377
South Bosque River:	
Middle Bosque River near McGregor	378
Hog Creek near Crawford	379
Waco Lake near Waco	380
Bosque River near Waco	382
Brazos River at Waco	383
Brazos River near Highbank	384
Pond Creek:	
Little Pond Creek at Burlington	391
Leon River (head of Little River):	
Leon Reservoir near Ranger	392
Leon River near De Leon	393
Sabana River near De Leon	394
Proctor Lake near Proctor	395
Leon River near Hasse	397
Leon River near Hamilton	398
Leon River at Gatesville	399
Cowhouse Creek at Pidcoke	400
Belton Lake near Belton	401
Leon River near Belton	412
Nolan Creek at Belton	413
Lampasas River near Kempner	414
Rocky Creek:	
South Fork Rocky Creek near Briggs	415
Lampasas River at Youngsfort	416
Stillhouse Hollow Lake near Belton	417
Lampasas River near Belton	419
Little River near Little River	420
San Gabriel River:	
North Fork San Gabriel River near Georgetown	422
South Fork San Gabriel River at Georgetown	423

X

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

	Page
WESTERN GULF OF MEXICO BASINS--Continued	
BRAZOS RIVER BASIN--Continued	
Brazos River--Continued	
Little River--Continued	
San Gabriel River:	
Berry Creek near Georgetown	424
San Gabriel River near Weir	426
San Gabriel River at Laneport	431
Brushy Creek near Rockdale	436
Little River at Cameron	437
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	450
Yegua Creek near Somerville	457
Davidson Creek near Lyons	459
Brazos River at Washington	460
Navasota River:	
Lake Mexia near Mexia	461
Navasota River above Groesbeck	463
Navasota River near Groesbeck	464
Big Creek near Freestone	468
Navasota River near Easterly	469
Navasota River near Bryan	472
Navasota River near College Station	478
Brazos River near Hempstead	480
Mill Creek near Bellville	481
Richmond Irrigation Co.'s canal near Richmond	483
Brazos River at Richmond	484
Big Creek near Needville	492
Dry Creek near Rosenberg	493
Brazos River near Rosharon	494
SAN BERNARD RIVER BASIN	
San Bernard River near Boling	502

WATER RESOURCES DATA FOR TEXAS, 1978

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 1978 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-78-2.' Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

COOPERATION

Organizations that assisted in the collection of data in this report through cooperative agreements with the Geological Survey in 1978 are:

Texas Department of Water Resources, J. M. Rose, Executive Director; A. L. Black, Chairman; R. B. Gilmore, Vice-Chairman; M. T. Potts, G. E. Roney, J. H. Garrett, and G. W. McCleskey, Members.

Pecos River Commission, Horace Babcock, Federal Representative and Chairman; R. B. McGowen, Jr., Commissioner for Texas, and J. L. Cathey, Commissioner for New Mexico.

Sabine River Compact Administration, W. H. Robinson, Federal Representative and Chairman; R. J. Palmer and D. V. Cresap for Louisiana; and J. M. Syler and G. M. Smith for Texas.

City of Austin, C. B. Graves, Jr., Director, Engineering Department.

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

City of Fort Worth, J. L. Robinson, Director of Public Works.

City of Garland, F. G. Greene, Director of Public Works.

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

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

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

Corps of Engineers, U.S. Army.

International Boundary and Water Commission, Department of State.

Soil Conservation Service, Department of Agriculture.

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

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

HYDROLOGIC CONDITIONS

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

During the 1978 water year, two of the four index stations, Neches River near Rockland in east Texas and North Bosque River near Clifton in central Texas, had deficient runoff for the year. The index station in the west, North Concho River near Carlsbad, was in the median range, and the index station Guadalupe River near Spring Branch, in south-central Texas, was in the excessive range. Figure 1 on page 28 shows a comparison of monthly and annual mean discharges for the index stations. Conservation storage in a selected group of 63 reservoirs, with a combined conservation capacity of 30,252,000 acre-feet, continued to decrease from 81 percent of capacity in September 1977, to 78 percent of capacity at the end of September 1978.

The 1978 water year began with deficient streamflow across the Panhandle and North Texas and near normal runoff in the remainder of the State. By the end of July, drought conditions had spread across the eastern two-thirds of the State with deficient streamflow noted in all areas except in the Rio Grande, Pecos, and Devils River Basins in far west Texas.

On July 31, 1978, tropical storm Amelia struck the Texas coast in the vicinity of Corpus Christi. The storm moved inland and produced torrential rains of 20 to 30 inches on August 1 and 2. The heaviest rainfall occurred north of the Edwards Escarpment in the Medina, Sabinal, and Guadalupe River Basins. Remnants of the storm continued to move northward into the Brazos River Basin where the storm collided with a stationary cold front. On August 3 and 4, rainfall amounts from 20 to 30 inches were recorded north of Abilene in Shackelford and Throckmorton Counties.

Along the path of the storm, flooding to some degree occurred in an area of approximately 25,000 square miles. Major flooding, some of it record breaking, occurred at the gaging stations and miscellaneous sites listed on the following page.

The large volume of runoff associated with the August floods in the upper Brazos River Basin had considerable effect on the water quality in the streams and reservoirs. The following table lists four sampling sites in the Brazos River basin in downstream order. The table shows the variations, before and after the flood, in the average specific conductance, along the centerline section of the three reservoirs and the range of specific conductance on the Brazos River below Whitney Lake.

	<u>Before flood</u>		<u>After flood</u>	
	Date (1978)	Specific conductance ^{1/}	Date (1978)	Specific conductance ^{1/}
Hubbard Creek Reservoir	June 9	1450	Aug. 29	700
Possum Kingdom Reservoir	June 13	4000	Aug. 30	1600
Whitney Lake	June 23	1600	Sept. 5	3000
Brazos River below Whitney Lake	July 1 - Aug. 1	1300 - 1600	Aug. 2-31	1600 - 3700

^{1/} In micromhos per centimeter at 25 C.

No.	Date	Site	Drainage area (mi ²)	Discharge (cfs)	(cfsm)	Recurrence Interval
08085500	Aug.4	Clear Fork Brazos River at Fort Griffin	3,988	149,000	37.4	> 100
08086150	Aug.4	North Fork Hubbard Creek near Albany	39.3	103,000	2,620	> 100
08086212	Aug.4	Hubbard Creek below Albany	613	330,000	538	> 100
08166000	.....	Johnson Creek near Ingram	114	73,900	648	60
08167000	.....	Guadalupe River at Comfort	838	240,000	286	> 100
08167500	.....	Guadalupe River near Spring Branch	1,315	158,000	120	> 100
08179000	.....	Medina River near Pipe Creek	474	281,000	593	> 100
Miscellaneous sites						
<u>a</u> /08152800	.....	Spring Creek near Fredericksburg	14.1	42,500	3,010	> 100
.....	.....	Turtle Creek at SH 16 near Kerrville	26.5	32,700	1,230	...
.....	.....	North Prong Medina River near Medina	67.5	123,000	1,820	...

a/ Formerly gaged site.

Seventeen counties in central Texas sustained widespread damages from tropical storm Amelia. Thirty-three persons were drowned and 154 were injured. More than 1,400 homes were destroyed or damaged. Total damages from this storm were estimated to be more than 110 million dollars.

At the end of the 1978 water year, streamflow was excessive in the Guadalupe, San Antonio, and Pecos River Basins, and deficient in the remainder of the State.

DEFINITION OF TERMS

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

During water year 1978, revisions were made in the terminology used to define 143 of the water-quality parameter codes that have been used by the Geological Survey in its publication of water-quality data in its WATSTORE data system. These revisions were made to achieve consistency in terminology. They do not represent a change in the way the codes have been used in the 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 this publication. Definitions on which the terminology is based are included in the 'Definitions' section 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 multicelled 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 $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ 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 organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually mL (milliliters) 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 a 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.

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 Unit 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 distribution 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, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

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

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

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

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

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

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats 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 crustaceous 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 in a given time. It is computed by multiplying discharge (ft^3/s) times mg/L times 0.0027.

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

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

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

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

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

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

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

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

Substrate is the physical surface upon which an organism lived.

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.....Hexageria
Species.....Hexagenia limbata

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the 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 Dataa' in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

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

DOWNSTREAM ORDER AND STATION NUMBER

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

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

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

SPECIAL NETWORKS AND PROGRAMS

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

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

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

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

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

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

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening 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.

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. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, 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 of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed 'REVISED RECORDS' has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: '(M)' means that only the instantaneous maximum discharge was revised; '(m)' that only the instantaneous minimum was revised; '(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 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.

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

The average discharge for the number of years indicated is given under 'AVERAGE DISCHARGE'; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under 'EXTREMES' are given first, the extremes for the

period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with **EXTREMES FOR THE CURRENT YEAR**; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in 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 discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed 'CFSM'), or in inches (line headed 'IN'), or in acre-feet (line headed 'AC-FT'). Figures for cubic feet per second per square mile and runoff in inches are generally omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges 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 sources, 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. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual, maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made and samples collected within a short time period to investigate the seepage and (or) pollutant gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements and analyses are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

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

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

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

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

Other 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 streamflow 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 on a following page.

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

At stream-gaging stations where daily samples are obtained, tables are included to show monthly and annual means of specified conductance; concentrations of dissolved solids, chloride, sulfate, hardness; and loads of dissolved solids, chloride, and sulfate. The means 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 values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water 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 continuously recording thermographs are present, the records published consist of maximum and minimum 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 measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1976. 65 p. \$1.60.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 p. \$1.00.
- 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. \$0.35.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 p. \$0.40.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 4 p. \$1.00.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 p. \$0.35.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 p. \$1.00.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 p. \$1.40.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 p. \$1.25.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 p. \$1.20.
- 3-A12. *Fluorometric procedures are dye tracing*, by J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A12. 1968. 31 p. \$0.35. Not currently available.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 p. \$0.65.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 p. \$2.50.

- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 p. \$2.10.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 p. \$1.60.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 p. \$0.35.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 p. \$0.65.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 p. \$0.75.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1975. 15 p. \$0.65.
- 5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 p. \$2.40.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 p. \$0.80.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 p. \$0.90.
- 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 Slack: USGS--TWRI Book 5, Chapter A4. 1977. Revised edition. 332 p. \$20.00.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 p. \$16.00.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 p. \$2.10.
- 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. \$1.10.

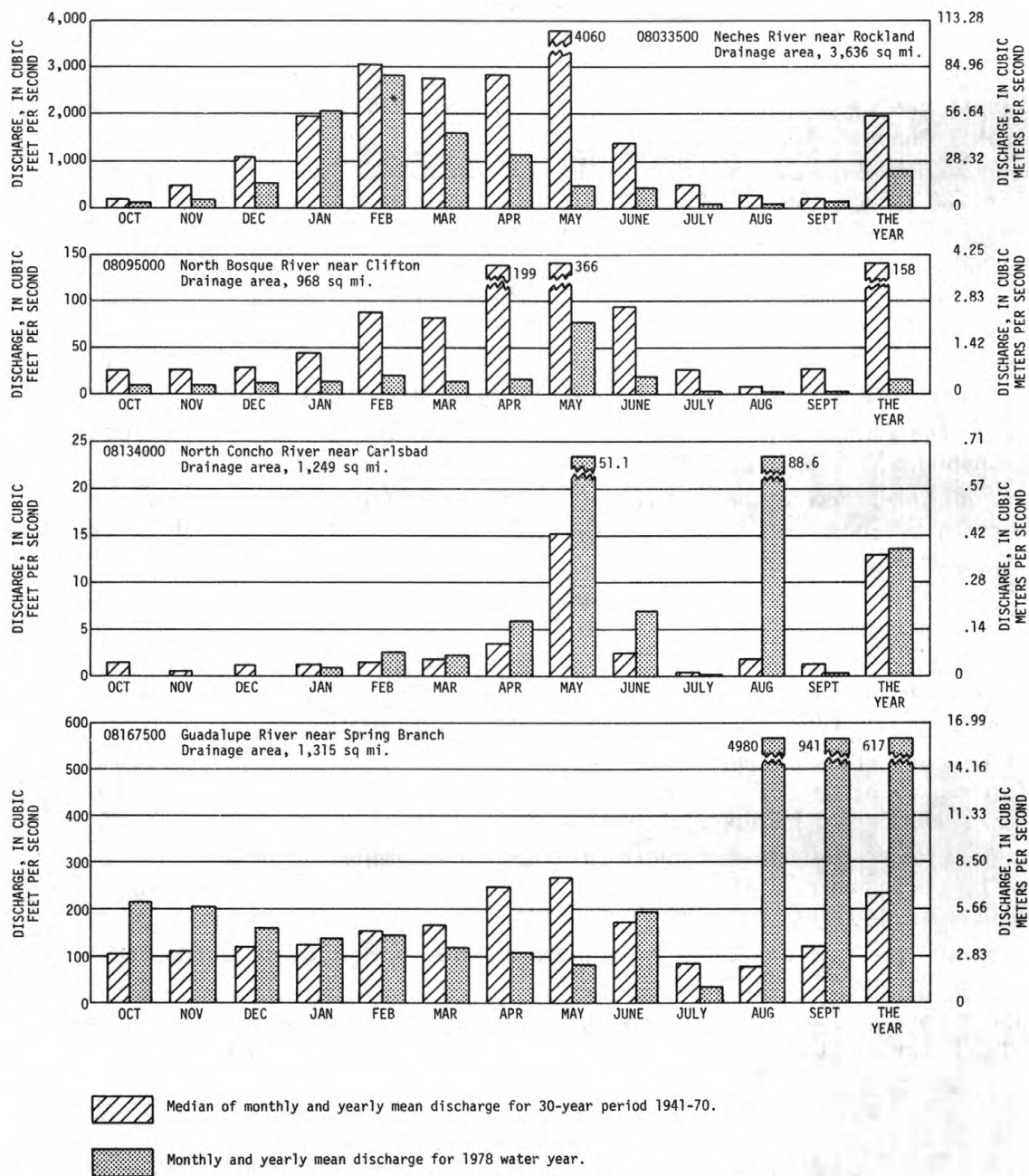


FIGURE 1.--COMPARISON OF DISCHARGE AT FOUR LONG-TERM REPRESENTATIVE GAGING STATIONS DURING THE 1978 WATER YEAR WITH MEDIAN DISCHARGE FOR THE PERIOD 1941-70

SAN JACINTO RIVER BASIN

29

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, 3,150 acre-ft (3.88 hm³) was diverted to Lewis Creek Reservoir for that purpose. A spillway with five 40 by 30 ft (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, 465,700 acre-ft (574 hm³) June 2, 1976, elevation, 202.64 ft (61.765 m); minimum since normal operating level was reached, 384,500 acre-ft (474 hm³) Dec. 12, 1977, elevation, 198.73 ft (60.573 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 446,300 acre-ft (550 hm³) Feb. 9, elevation, 201.75 ft (61.493 m); minimum 384,500 acre-ft (474 hm³) Dec. 12, elevation, 198.73 ft (60.573 m).

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

198.0	307,500
200.0	409,600
202.0	451,600

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400700	391400	386300	397100	433000	431600	429700	426200	421000	425800	414800	403100
2	401700	389800	386300	396300	433500	432400	429900	426600	420400	425300	414200	402500
3	401300	389200	386300	395700	433500	432000	429900	427200	421200	424900	413800	402100
4	400100	388800	386700	395700	433300	431000	429900	426400	421000	424500	413800	401700
5	399500	388400	387400	396100	432400	430500	429700	425800	420600	423900	413600	401100
6	399100	388000	386300	396100	431800	431000	429700	426200	423700	423300	413600	400500
7	397900	387600	385100	396700	435600	432400	429700	426400	431800	422900	412800	400100
8	398300	389000	386800	397700	443100	431600	429900	426800	432000	422500	412600	399100
9	397500	388600	385700	395700	446300	431400	429700	426600	432000	421600	412400	399300
10	396900	387600	385100	395300	444800	431000	430800	425800	431000	421400	411800	401100
11	397100	387400	384900	398500	442900	431600	430100	425600	430800	421000	411400	400700
12	396100	386800	384700	398900	442400	431000	430300	426000	430800	420400	410800	401300
13	394700	386300	387400	398300	441800	431400	429900	425800	432400	419600	410400	403100
14	394100	386100	392500	398500	439600	431600	429500	425100	432000	419400	409800	403300
15	394100	385900	395300	398300	437500	432400	429500	424700	431600	418500	409000	403300
16	393300	385900	396900	406300	435400	431400	429300	424500	431000	418500	408300	402700
17	392700	385700	396700	407300	436900	431000	429300	424300	430500	418100	407700	402100
18	392300	385300	396500	416700	435400	430500	429700	423900	430100	417500	406900	401500
19	392100	385100	397300	422200	433900	430500	429300	424100	429700	417500	406700	401100
20	391700	385100	396700	424900	434100	430800	428900	424500	429300	416900	406300	401100
21	391500	387200	395900	427200	432200	431200	428300	424100	429100	416500	407700	402100
22	391700	386800	395300	427600	431400	430800	429300	424100	428700	416500	407100	401700
23	391400	386500	395500	427800	431600	431000	428300	423700	428100	416500	406500	401100
24	391500	386300	395700	429100	431600	431800	428300	423100	427800	417100	406500	400300
25	391200	386300	395700	429700	432200	431600	428300	422900	427200	416500	405500	399700
26	391200	385700	395100	429700	432000	431400	427600	422700	426800	416300	404700	398900
27	390800	385900	394900	429700	431800	431000	426800	422500	426800	416100	404300	398300
28	390400	385700	395700	429700	432000	430300	426200	421600	426400	415900	404500	397300
29	389800	386500	396100	430100	---	430300	426200	421800	426200	415400	403700	397100
30	389200	386300	396100	430800	---	430500	426200	421400	426400	415200	403100	396500
31	388800	---	396100	431800	---	429900	---	420600	---	414800	402300	---
MAX	401700	391400	397300	431800	446300	432400	430800	427200	432400	425800	414800	403300
MIN	388800	385100	384700	395300	431400	429900	426200	420600	420400	414800	402300	396500
(†)	198.95	198.82	199.32	201.07	201.08	200.98	200.80	200.53	200.81	200.25	199.63	199.34
(‡)	-12300	-2500	+9800	+35700	+200	-2100	-3700	-5600	+5800	-11600	-12500	-5800
CAL YR 1977	MAX	458900	MIN	384700	‡	-34800						
WTR YR 1978	MAX	446300	MIN	384700	‡	-4600						

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SAN JACINTO RIVER BASIN
LAKE CONROE NEAR CONROE, TX--Continued
WATER-QUALITY RECORDS

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

302127095335501 - LAKE CONROE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA,MG)
MAR									
14...	0945	1.0	238	7.8	11.5	1.80	9.6	91	93
14...	0947	10	238	7.8	11.5	--	9.6	91	--
14...	0949	20	238	7.7	11.0	--	9.3	87	--
14...	0951	30	238	7.7	10.5	--	9.1	84	--
14...	0953	40	238	7.7	10.5	--	8.9	82	--
14...	0955	54	238	7.5	10.5	--	8.5	79	91

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
14...	22	33	2.5	13	.6	3.0	86	0	6.4
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	17	32	2.5	13	.6	3.1	90	0	6.9

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR									
14...	28	.1	3.3	132	.10	.01	.08	10	10
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	.13	.03	.09	10	10
14...	--	--	--	--	--	--	--	--	--
14...	29	.1	4.0	135	.09	.08	.09	20	40

302132095333701 - LAKE CONROE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
14...	1020	1.0	238	8.0	12.0	9.5	91
14...	1022	10	238	8.0	11.5	9.5	90
14...	1024	20	238	8.0	11.5	9.5	90
14...	1026	30	238	7.8	11.0	9.1	85
14...	1028	40	238	7.7	10.5	8.8	81
14...	1030	52	238	7.7	10.5	8.4	78

SAN JACINTO RIVER BASIN

31

LAKE CONROE NEAR CONROE, TX--Continued

302245095365301 - LAKE CONROE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
14...	0920	1.0	238	8.0	13.5	9.4	93
14...	0922	10	238	8.0	13.0	9.3	91
14...	0924	20	238	7.7	11.0	8.3	78
14...	0926	30	238	7.5	10.5	7.2	67

302323095341201 - LAKE CONROE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
14...	1100	1.0	238	8.2	13.5	9.7	96
14...	1102	10	238	8.0	12.5	9.6	93
14...	1104	20	238	7.8	12.0	9.2	88
14...	1106	30	238	7.7	11.5	9.0	85
14...	1108	40	238	7.6	11.0	8.6	80
14...	1110	49	238	7.6	11.0	7.9	74

302320095334001 - LAKE CONROE CL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
14...	1045	1.0	238	8.1	12.5	9.7	94
14...	1047	10	238	8.0	12.0	9.5	91
14...	1049	20	238	7.8	11.5	9.3	88
14...	1051	30	238	7.6	11.0	8.8	82
14...	1053	40	238	7.6	10.5	8.4	78
14...	1055	48	238	7.5	10.5	7.9	73

302448095374101 - LAKE CONROE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
14...	1130	1.0	238	8.0	13.5	9.6	95
14...	1132	10	238	8.0	12.5	9.6	93
14...	1135	20	238	7.7	12.0	8.9	86
14...	1137	28	238	7.6	12.0	8.3	80

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

302607095360901 - LAKE CONROE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA.MG) (MG/L)
MAR									
14...	1145	1.0	230	8.4	14.0	1.20	10.8	108	85
14...	1147	10	236	7.9	12.5	--	9.7	94	--
14...	1149	20	236	7.6	12.5	--	9.4	91	--
14...	1151	30	236	7.4	11.5	--	8.6	81	--
14...	1153	39	238	7.2	11.5	--	6.5	61	87

DATE	TIME	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR										
14...	19	30	2.4	12	.6	3.0	80	0	8.4	
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	19	31	2.3	12	.6	3.0	83	0	8.4	

DATE	TIME	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR									
14...	28	3.8	127	.06	.08	.10	40	0	
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	28	4.1	130	.10	.09	.11	20	80	

302714095372201 - LAKE CONROE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
14...	1215	1.0	226	8.1	15.0	10.1	103
14...	1217	10	226	7.8	13.0	9.7	95
14...	1219	20	226	7.3	12.0	7.9	76
14...	1221	27	226	7.3	12.0	5.2	50

SAN JACINTO RIVER BASIN

33

LAKE CONROE NEAR CONROE, TX--Continued

303129095360501 - LAKE CONROE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
MAR									
14...	1245	1.0	195	7.9	16.5	.60	9.8	103	66
14...	1247	10	199	7.2	13.5	--	8.0	79	--
14...	1249	20	208	7.0	12.5	--	6.8	66	--
14...	1252	32	208	7.0	12.5	--	6.2	60	63

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
14...	24	23	2.0	12	.6	3.3	51	0	13
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	22	22	2.0	13	.7	3.1	50	0	15

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
14...	28	9.1	116	.04	.04	.15	70	10
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
14...	30	11	121	.15	.11	.15	120	40

302127095335501 - LAKE CONROE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
MAR							
14...	0945	1.0	2	400	0	0	1
14...	0951	30	--	--	--	--	--
14...	0955	54	1	400	1	0	2

302127095335501 - LAKE CONROE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
MAR							
14...	10	0	10	.0	0	0	10
14...	10	--	10	--	--	--	--
14...	20	0	40	.0	0	1	20

SAN JACINTO RIVER BASIN

LAKE CONROE NEAR CONROE, TX--Continued

302127095335501 LAKE CONROE AC
PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO MARCH 1978

DATE	MAR 14, 78
TIME	0946
TOTAL CELLS/ML	3200
DIVERSITY: DIVISION	1.6
..CLASS	1.6
..ORDER	1.9
...FAMILY	2.2
....GENUS	2.7

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
....COELASTRACEAE		
.....COELASTRUM	69	2
....MICRACTINIACEAE		
.....MICRACTINIUM	23	1
...OOCYSTACEAE		
....ANKISTRODESMUS	76	2
....KIRCHNERIELLA	23	1
....OOCYSTIS	130	4
....SELENASTRUM	61	2
....TETRAEDRON	*	0
...SCENEDESMACEAE		
....CRUCIGENIA	31	1
....SCENEDESMUS	69	2
....TETRASTRUM	92	3
..TETRASPORALES		
...COCCOMYXACEAE		
....ELAKATOTHRIX	76	2
..ZYGNEMATALES		
...ZYGNEMATAACEAE		
....MOUGFOTIA	31	1
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
....COSCINODISCACEAE		
....CYCLOTELLA	230	7
....MELOSIRA	670#	21
..PENNALES		
...FRAGILARIACEAE		
....SYNEDRA	*	0
...NITZSCHACEAE		
....NITZSCHIA	99	3
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCOCCOCCALES		
....CHROCOCCOCCAEAE		
....ANACYSTIS	1400#	45
...HORMOGONALES		
....NOSTOCACEAE		
....ANARAENA	*	0
EUGLENOPHYTA (EUGLENOIDS)		
..EUGLENOPHYCEAE		
...EUGLENALES		
....EUGLENACEAE		
....TRACHELOMONAS	*	0
PYRRHOPHYTA (FIRE ALGAE)		
..DINOPHYCEAE		
...PERIDINIALES		
....GLENODINIACEAE		
....GLENODINIUM	31	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
LAKE CONROE NEAR CONROE, TX--Continued

35

303129095360501 LAKE CONROE GC
PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO MARCH 1978

DATE	MAR 14, 78
TIME	1246
TOTAL CELLS/ML	6100
DIVERSITY: DIVISION	1.6
.CLASS	1.6
..ORDER	2.0
...FAMILY	3.0
....GENUS	3.7

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALFS		
...COELASTRACEAE		
....COELASTRIUM	540	9
...MICRACTINIACEAE		
....GOLENKINIA	67	1
....MICRACTINIUM	200	3
...OOCYSTACEAE		
....ANKISTRODESMUS	570	9
....DICTYOSPHAERIUM	400	7
....KIRCHNERIELLA	200	3
...OOCYSTIS	100	2
....POLYDRIOPSIS	33	1
...SCENEDESMACEAE		
....SCENEDESMUS	870	14
....TETRASTRUM	540	9
..TETRASPORALES		
...PALMELLACEAE		
....GLOEOCYSTIS	130	2
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	1000#	16
....STEPHANODISCUS	33	1
..PENNALES		
...FRAGILARIACEAE		
....SYNEDRA	330	5
...GOMPHONEMATACEAE		
....GOMPHONEMA	33	1
...NAVICULACEAE		
....NAVICULA	33	1
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCCOCCALES		
...CHROCCOCCACEAE		
....ANACYSTIS	670	11
EUGLENOPHYTA (EUGLENOIDS)		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS	100	2
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
....EUGLENA	33	1
....TRACHELUMONAS	170	3
PYRRHOPHYTA (FIRE ALGAE)		
..DINOPHYCEAE		
...PERIDINIALES		
...PERIDINIACEAE		
....PERIDINIUM	67	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
LAKE CONROE NEAR CONROE, TX--Continued

302127095335501 - LAKE CONROE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CACO3)
JUL									
13...	1005	1.0	230	7.5	30.0	1.80	5.8	77	79
13...	1007	10	230	7.4	29.5	--	5.4	71	--
13...	1009	20	230	6.9	29.0	--	2.3	30	--
13...	1011	30	247	6.8	24.5	--	.3	4	--
13...	1013	40	250	6.8	21.0	--	.6	0	--
13...	1015	50	250	6.8	20.0	--	.5	6	--
13...	1017	59	298	6.8	19.0	--	.4	4	110

DATE	TIME	HARD- NESS, NONCAR- BONATE, DIS- (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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL										
13...	15	27	2.7	14	.7	2.7	78	0	7.1	
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	0	37	3.0	14	.6	3.1	130	0	2.7	

DATE	TIME	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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA 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)
JUL										
13...	28	.1	2.7	123	.00	.01	.03	70	10	
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	.03	.00	.02	60	90	
13...	--	--	--	--	.00	.01	.02	290	1400	
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	26	.1	8.6	167	.00	.98	.29	3000	5300	

302132095333701 - LAKE CONROE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
13...	1100	1.0	230	8.1	31.0	7.3	99
13...	1102	10	230	7.8	30.5	6.6	88
13...	1104	20	230	7.0	29.5	3.1	49
13...	1106	30	250	6.8	25.0	.4	5
13...	1108	40	250	6.8	21.5	.4	5
13...	1110	50	280	6.8	19.0	.4	4
13...	1112	56	300	6.8	18.5	.4	4

302245095365301 - LAKE CONROE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
13...	0942	1.0	223	8.4	31.5	7.8	105
13...	0944	10	223	8.3	31.0	7.8	105
13...	0946	20	224	6.6	29.0	.3	4
13...	0948	32	250	6.5	25.0	.4	5

SAN JACINTO RIVER BASIN

37

LAKE CONROE NEAR CONROE, TX--Continued

302323095341201 - LAKE CONROE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
13...	1134	1.0	230	8.1	32.0	7.2	99
13...	1136	10	230	7.9	31.0	6.7	91
13...	1138	20	230	7.3	30.0	5.0	67
13...	1140	30	248	6.7	24.5	.3	4
13...	1142	40	262	6.8	21.5	.3	3
13...	1144	50	275	6.8	20.5	.3	3
13...	1146	60	275	6.8	20.5	.4	5

302320095334001 - LAKE CONROE CL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
13...	1157	1.0	230	8.1	32.0	7.0	96
13...	1159	10	230	8.0	31.0	6.8	92
13...	1201	20	230	7.2	30.0	4.5	60
13...	1203	34	252	6.7	24.5	.4	5

302448095374101 - LAKE CONROE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
13...	1218	1.0	225	8.4	32.5	7.5	103
13...	1220	10	225	8.3	31.0	7.4	100
13...	1222	25	225	6.8	31.0	1.7	23

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

302607095360901 - LAKE CONROE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	HARD- NESS, DIS- SOLVED AS CACO3
JUL									
13...	1240	1.0	229	8.2	32.0	1.70	7.4	101	76
13...	1242	10	229	8.2	31.0	--	7.2	97	--
13...	1244	20	229	7.8	30.5	--	6.4	85	--
13...	1246	30	229	6.8	25.0	--	.7	9	--
13...	1248	42	282	6.6	21.5	--	.3	3	100

DATE	HARD- NESS, NONCAR- BONATE, DIS- (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL									
13...	12	26	2.6	14	.7	2.7	76	1	6.8
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	1	35	3.0	14	.6	3.0	120	0	1.9

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUL								
13...	27	2.7	120	.01	.00	.02	60	20
13...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
13...	--	--	--	.00	.02	.05	920	2800
13...	26	7.9	157	.01	.39	.36	3900	3400

302714095372201 - LAKE CONROE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION
JUL							
13...	1306	1.0	227	8.3	32.5	7.4	101
13...	1308	10	227	8.3	31.5	7.4	100
13...	1310	24	242	6.5	30.0	.4	5

SAN JACINTO RIVER BASIN

39

LAKE CONROE NEAR CONROE, TX--Continued

303129095360501 - LAKE CONROE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CACO3)
JUL										
13...	1330	1.0	235	8.4	33.0	1.50	7.5	104	74	
13...	1332	10	241	7.7	31.5	--	5.7	77	--	
13...	1334	20	306	6.4	29.5	--	.6	8	--	
13...	1336	33	348	6.3	27.5	--	.9	12	100	

DATE	HARD- NESS, NONCAR- BONATE, DIS- (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL									
13...	14	25	2.9	16	.8	2.6	69	2	7.4
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	3	35	3.3	23	1.0	3.2	120	0	2.4

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA 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)
JUL								
13...	31	3.1	124	.01	.01	.03	40	20
13...	--	--	--	--	--	--	--	--
13...	--	--	--	.00	.31	.29	1100	930
13...	46	8.4	185	.00	1.5	.84	2900	1700

302127095335501 - LAKE CONROE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
JUL							
13...	1005	1.0	2	200	0	0	0
13...	1009	20	--	--	--	--	--
13...	1011	30	--	--	--	--	--
13...	1017	59	15	200	0	0	0

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUL							
13...	70	0	10	.0	0	0	0
13...	60	--	90	--	--	--	--
13...	290	--	1400	--	--	--	--
13...	3000	0	5300	.0	0	0	10

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

302127095335501 LAKE CONROE AC
PHYTOPLANKTON ANALYSES, JUNE 1978 TO JULY 1978

DATE	JUL 13, 78
TIME	1006
TOTAL CELLS/ML	130000
DIVERSITY: DIVISION	0.4
..CLASS	0.4
..ORDER	1.4
...FAMILY	2.2
....GENUS	2.7

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OOCYSTACEAE		
....ANKISTRODESMUS	4300	3
....TETRAEDRON	*	0
....TREUBARIA	*	0
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	*	0
..ZYGNEATALES		
...ZYGNEATAACEAE		
....MOUGEOTIA	1200	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
....ACHNANTHES	*	0
...NITZSCHIAEAE		
....NITZSCHIA	1600	1
CRYPTOPHYTA (CRYPTOMONADS)		
..CRYPTOPHYCEAE		
..CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
..CHROCOCCALES		
...CHROCOCCACEAE		
....ANACYSTIS	49000#	37
..HORMOGONALES		
...NOSTOCACEAE		
....ANABAENA	11000	8
....ANABAENOPSIS	1800	1
...CYLINDROSPERMUM	3900	3
...OSCILLATORIACEAE		
....LYNGBYA	27000#	20
...OSCILLATORIA	12000	9
...RIVULARIACEAE		
....RAPHIDIOPSIS	20000	15
PYRRHOPHYTA (FIRE ALGAE)		
..DINOPHYCEAE		
..PERIDINIALES		
...PERIDINIACEAE		
....PERIDINIUM	*	0

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

SAN JACINTO RIVER BASIN

41

LAKE CONROE NEAR CONROE, TX--Continued

303129095360501 LAKE CONROE GC
 PHYTOPLANKTON ANALYSES, JUNE 1978 TO JULY 1978

DATE JUL 13, 78
 TIME 1331

TOTAL CELLS/ML 180000

DIVERSITY: DIVISION 0.4
 .CLASS 0.4
 ..ORDER 1.3
 ...FAMILY 1.6
GENUS 2.0

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
.CHLOROPHYCEAE		
..CHLOROCOCCALES		
...MICRACTINIACEAE		
....MICRACTINIUM	1000	1
...OOCYSTACEAE		
....ANKISTRODESMUS	3100	2
....DICTYOSPHAERIUM	3400	2
....KIRCHNERIELLA	*	0
....SELENASTRUM	*	0
....TETRAEDRUM	*	0
....TREUBARIA	*	0
...SCENEDESMACEAE		
....SCENEDESMUS	*	0
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	*	0
..ZYGNEMATALES		
...DESMIDIACEAE		
....STAUSTRUM	*	0
CHRYSTOPHYTA		
.BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
....ACHNANTHES	*	0
..XANTHOPHYCEAE		
...HETEROCOCCALES		
...CHLOROTHECIACEAE		
....OPHIOCYTIUM	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)		
.CYANOPHYCEAE		
..CHROCOCCALES		
...CHROCOCCACEAE		
....AGMENELLUM	2700	1
....ANACYSTIS	110000*	58
...HORMOGONALES		
...NOSTOCACEAE		
....ANABAENA	5600	3
...OSCILLATORIACEAE		
....LYNGBYA	38000*	21
....OSCILLATORIA	17000	9
...RIVULARIACEAE		
....RAPHIDIOPSIS	3400	2
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%

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

302127095335501 - LAKE CONROE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
------	------	--------------------------------	--	---------------	-----------------------------	---	-------------------------------------	--	--

SEP									
29...	1020	1.0	237	7.7	26.5	1.70	6.8	86	73
29...	1023	10	237	7.6	26.5	--	6.5	82	--
29...	1025	20	237	7.6	26.5	--	6.5	82	--
29...	1027	30	237	7.6	26.5	--	6.4	81	--
29...	1029	35	237	7.6	26.5	--	6.4	81	--
29...	1031	40	285	7.0	22.0	--	.3	0	--
29...	1033	45	285	6.9	22.0	--	.3	4	--
29...	1035	53	334	6.8	19.5	--	.3	3	110

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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
------	---	--	--	--	---	---	--	------------------------------------	---

SEP									
29...	7	25	2.5	15	.8	2.8	80	0	7.0
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	0	40	2.9	14	.6	3.5	150	0	1.0

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, 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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
------	---	--	---	---	--	--	---	--	--

SEP									
29...	28	.2	2.9	123	.00	.01	.02	<10	20
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	.00	.02	.02	30	100
29...	--	--	--	--	.00	.50	.04	550	6200
29...	--	--	--	--	--	--	--	--	--
29...	21	--	13	185	.00	3.3	.74	9500	5600

302132095333701 - LAKE CONROE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

SEP							
29...	1105	1.0	237	7.6	27.0	6.8	86
29...	1107	10	237	7.6	26.5	6.6	84
29...	1109	20	237	7.6	26.5	6.5	82
29...	1111	30	237	7.5	25.5	6.1	76
29...	1113	40	288	7.0	21.5	.2	2
29...	1115	52	334	6.7	20.5	.2	2

302245095365301 - LAKE CONROE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

SEP							
29...	1000	1.0	228	7.7	26.5	6.7	85
29...	1002	10	228	7.6	26.0	6.7	84
29...	1005	20	228	7.6	26.0	6.6	82
29...	1007	30	228	7.4	26.0	5.7	71

SAN JACINTO RIVER BASIN

43

LAKE CONROE NEAR CONROE, TX--Continued

302323095341201 - LAKE CONROE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
29...	1145	1.0	237	7.5	26.5	6.6	84
29...	1147	10	237	7.5	26.5	6.6	84
29...	1149	20	237	7.5	26.0	6.3	79
29...	1151	30	237	7.4	26.0	6.2	78
29...	1153	35	237	7.4	26.0	5.8	72
29...	1155	38	285	7.0	24.0	.4	5

302320095334001 - LAKE CONROE CL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
29...	1125	1.0	237	7.6	26.5	6.6	84
29...	1127	10	237	7.5	26.5	6.4	81
29...	1129	20	237	7.4	26.0	6.2	78
29...	1131	30	237	7.4	26.0	6.1	76
29...	1133	35	237	7.4	25.5	5.6	70
29...	1135	40	293	6.9	21.5	.2	2
29...	1137	48	313	6.8	20.5	.3	3

302448095374101 - LAKE CONROE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
29...	1205	1.0	237	7.6	27.0	6.8	86
29...	1207	10	237	7.5	26.5	6.2	78
29...	1209	20	237	7.4	26.5	6.1	77
29...	1211	25	237	7.3	26.5	5.4	68

SAN JACINTO RIVER BASIN

LAKE CONROE NEAR CONROE, TX--Continued

302607095360901 - LAKE CONROE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)
SEP									
29...	1220	1.0	239	7.5	27.0	1.60	6.6	84	79
29...	1222	10	239	7.4	26.0	--	6.1	76	--
29...	1224	20	239	7.4	26.0	--	5.9	74	--
29...	1226	30	239	7.3	26.0	--	5.8	72	--
29...	1228	35	327	7.1	25.0	--	.4	5	--
29...	1230	42	331	7.1	24.5	--	.3	4	120

DATE	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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
SEP									
29...	13	27	2.8	15	.7	3.0	80	0	5.9
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	22	42	3.0	15	.6	3.2	120	0	6.1

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
SEP								
29...	27	3.3	124	.00	.01	.02	10	60
29...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
29...	--	--	--	.00	.01	.02	20	400
29...	--	--	--	--	--	--	--	--
29...	32	8.5	178	.00	1.1	.11	1600	7200

302714095372201 - LAKE CONROE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
29...	1245	1.0	239	7.3	27.5	5.6	72
29...	1247	10	239	7.1	26.5	4.6	58
29...	1249	20	239	7.1	26.5	4.2	53

SAN JACINTO RIVER BASIN

45

LAKE CONROE NEAR CONROE, TX--Continued

303129095360501 - LAKE CONROE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)
SEP									
29...	1320	1.0	252	7.6	26.0	1.20	7.0	88	76
29...	1322	10	252	7.4	25.0	--	6.0	74	--
29...	1324	20	252	7.3	25.0	--	6.0	74	--
29...	1326	30	252	7.3	25.0	--	5.4	67	74

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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
SEP									
29...	12	26	2.7	18	.9	2.9	78	0	5.1
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	10	25	2.7	18	.9	2.9	78	0	6.2

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, AMMONIA 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)
SEP								
29...	32	4.6	130	.00	.01	.03	20	0
29...	--	--	--	.01	.03	.04	10	20
29...	--	--	--	--	--	--	--	--
29...	32	3.5	129	.01	.06	.04	10	60

302127095335501 - LAKE CONROE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
SEP							
29...	1020	1.0	1	60	<1	0	4
29...	1029	35	--	--	--	--	--
29...	1031	40	--	--	--	--	--
29...	1035	53	25	300	0	0	6

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)
SEP							
29...	<10	0	20	.0	0	0	<2
29...	30	--	100	--	--	--	--
29...	550	--	6200	--	--	--	--
29...	9500	0	5600	.1	0	0	20

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.--5 years, 10.6 ft³/s (0.300 m³/s), 7,680 acre-ft/yr (9.47 hm³/yr).

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

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 151 ft³/s (4.28 m³/s) for many days; maximum gage height, 8.48 ft (2.585 m) Feb. 9; no controlled releases for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	88	.00	.00	.00	.00	.00	.00	78	.00	.00	116
2	62	88	.00	.00	.00	.00	.00	.00	78	.00	.00	116
3	62	87	.00	.00	.00	.00	.00	.00	79	.00	.00	116
4	62	87	.00	.00	.00	.00	.00	.00	80	.00	.00	116
5	63	87	.00	.00	.00	.00	.00	.00	80	.00	.00	115
6	63	88	.00	.00	.00	.00	.00	.00	79	.00	.00	136
7	63	90	.00	.00	.00	.00	.00	.00	25	.00	.00	150
8	63	90	.00	.00	.00	.00	.00	.00	.00	.00	.00	150
9	63	88	.00	.00	.00	.00	.00	.00	.00	.00	.00	150
10	63	88	.00	.00	.00	.00	.00	.00	.00	.00	.00	150
11	63	87	.00	.00	.00	.00	.00	.00	.00	.00	30	150
12	63	87	.00	.00	.00	.00	.00	.00	.00	.00	79	151
13	74	87	.00	.00	.00	.00	.00	.00	.00	.00	78	151
14	78	87	.00	.00	.00	.00	.00	.00	.00	.00	80	151
15	78	88	.00	.00	.00	.00	.00	.00	.00	.00	81	151
16	78	90	.00	.00	.00	.00	.00	.00	.00	.00	80	151
17	78	90	.00	.00	.00	.00	.00	.00	.00	.00	81	151
18	78	88	.00	.00	.00	.00	.00	.00	.00	.00	82	151
19	78	88	.00	.00	.00	.00	.00	.00	.00	.00	82	151
20	76	88	.00	.00	.00	.00	.00	.00	.00	.00	84	151
21	75	88	.00	.00	.00	.00	.00	.00	.00	.00	82	151
22	76	88	.00	.00	.00	.00	.00	.00	.00	.00	82	150
23	76	88	.00	.00	.00	.00	.00	.00	.00	.00	92	150
24	76	88	.00	.00	.00	.00	.00	19	.00	.00	116	150
25	76	88	.00	.00	.00	.00	.00	76	.00	.00	116	150
26	76	87	.00	.00	.00	.00	.00	78	.00	.00	118	151
27	75	88	.00	.00	.00	.00	.00	78	.00	.00	118	150
28	81	88	.00	.00	.00	.00	.00	76	.00	.00	118	150
29	88	88	.00	.00	---	.00	.00	76	.00	.00	116	150
30	90	29	.00	.00	---	.00	.00	78	.00	.00	116	150
31	90	---	.00	.00	---	.00	---	78	---	.00	118	---
TOTAL	2249	2581	.00	.00	.00	.00	.00	559.00	499.00	.00	1949.00	4326
MEAN	72.5	86.0	.0000	.0000	.0000	.0000	.0000	18.0	16.6	.0000	62.9	144
MAX	90	90	.00	.00	.00	.00	.00	78	80	.00	118	151
MIN	62	29	.00	.00	.00	.00	.00	.00	.00	.00	.00	115
AC-FT	4460	5120	.00	.00	.00	.00	.00	1110	990	.00	3870	8580
CAL YR 1977	TOTAL	7104.00	MEAN	19.5	MAX	90	MIN	.00	AC-FT	14090		
WTR YR 1978	TOTAL	12163.00	MEAN	33.3	MAX	151	MIN	.00	AC-FT	24130		

SAN JACINTO RIVER BASIN

47

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. 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.--6 years (water years 1973-78), 216 ft³/s (6.117 m³/s), 156,500 acre-ft/yr (193 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,830 ft³/s (80.1 m³/s) Apr. 20, 1977, gage height, 29.83 ft (9.092 m); maximum gage height, 30.87 ft (9.409 m) June 13, 1973 (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 Texas Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,790 ft³/s (50.7 m³/s) Feb. 10, gage height, 25.95 ft (7.910 m); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	88	.00	.00	398	190	1.3	.00	78	.60	.00	116
2	62	88	.00	.00	414	186	1.3	.00	78	.32	.00	116
3	62	87	.00	.00	400	187	1.3	.00	79	.32	.00	116
4	62	87	.00	.00	396	171	1.3	.32	80	.32	.00	116
5	63	87	.00	.00	395	18	1.3	.32	80	.32	.00	115
6	63	88	.00	.00	389	5.6	1.6	.32	79	.32	.00	136
7	63	90	.00	.00	475	2.0	1.3	.32	25	.00	.00	150
8	63	90	.00	.00	1040	2.9	.92	.60	2.0	.00	.00	150
9	63	88	.00	.00	1530	2.5	.92	.60	2.0	.00	.00	150
10	63	88	.00	.00	1610	2.0	1.6	.60	2.0	.00	.00	150
11	63	87	.00	.00	1530	2.0	2.0	.32	1.6	.00	30	150
12	63	87	.00	.00	1690	2.0	1.6	.32	1.6	.00	79	151
13	74	87	.11	.00	1690	53	1.3	.00	2.0	.00	78	151
14	78	87	.00	.00	1670	19	1.3	.00	2.5	.00	80	151
15	78	88	.00	.00	1660	2.9	.92	.32	2.5	.00	81	151
16	78	90	.00	.67	1500	2.9	.92	.32	2.0	.00	80	151
17	78	90	.00	.00	1100	2.5	.60	.32	2.0	.00	81	151
18	78	88	.00	.96	868	1.6	.92	.00	1.6	.00	82	151
19	78	88	.00	.00	829	1.3	1.3	.00	1.6	.00	82	151
20	76	88	.00	.12	711	1.6	.60	.00	1.3	.00	84	151
21	75	88	.00	.92	452	1.6	.32	.60	1.3	.00	82	151
22	76	88	.00	1.3	264	2.0	.00	.60	.92	.00	82	150
23	76	88	.00	1.3	134	2.0	.32	.60	.60	.00	92	150
24	76	88	.00	1.3	15	2.9	.32	19	.60	.00	116	150
25	76	88	.00	2.0	2.9	2.5	.60	76	.32	.00	116	150
26	76	87	.00	1.6	2.9	2.5	.32	78	.32	.00	118	151
27	75	88	.00	1.6	93	2.0	.00	78	.32	.00	118	150
28	81	88	.00	1.6	187	2.0	.00	76	.32	.00	118	150
29	88	88	.00	1.6	---	2.0	.00	76	.00	.00	116	150
30	90	29	.00	1.6	---	2.0	.00	78	.32	.00	116	150
31	90	---	.00	69	---	1.6	---	78	---	.00	118	---
TOTAL	2249	2581	.11	85.57	21445.8	878.9	26.18	565.48	528.72	2.20	1949.00	4326
MEAN	72.5	86.0	.004	2.76	766	28.4	.87	18.2	17.6	.071	62.9	144
MAX	90	90	.11	69	1690	190	2.0	78	80	.60	118	151
MIN	62	29	.00	.00	2.9	1.3	.00	.00	.00	.00	.00	115
AC-FT	4460	5120	.2	170	42540	1740	52	1120	1050	4.4	3870	8580
CAL YR 1977	TOTAL	71985.65	MEAN	197	MAX	2610	MIN	.00	AC-FT	142800		
WTR YR 1978	TOTAL	34637.96	MEAN	94.9	MAX	1690	MIN	.00	AC-FT	68700		

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	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 19...	1000	261	7.6	21.0	20	10	8.0	92	1.0	88	9
DEC 27...	1200	506	7.6	10.0	10	20	9.2	84	1.4	180	30
FEB 06...	1130	252	7.7	6.5	20	20	11.5	97	1.4	86	13
APR 19...	1335	426	7.4	20.0	20	40	5.4	61	1.5	150	23
JUN 12...	1435	360	7.1	26.5	20	20	4.2	53	.8	120	17
AUG 16...	1050	260	7.5	28.5	20	20	7.4	96	1.3	79	15
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)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
OCT 19...	31	2.6	13	.6	2.9	97	0	4.9	22	.1	4.5
DEC 27...	62	5.4	27	.9	2.9	180	0	7.0	58	.1	17
FEB 06...	30	2.6	14	.7	2.8	89	0	7.6	26	.1	4.4
APR 19...	55	4.1	23	.8	2.8	160	0	7.7	47	.1	13
JUN 12...	40	3.8	20	.8	2.7	120	0	8.0	39	.1	12
AUG 16...	27	2.8	16	.8	2.8	78	0	6.6	28	.1	2.8
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 19...	129	13	2	.05	.02	.07	.06	.50	.56	.04	6.4
DEC 27...	268	26	1	.05	.01	--	.12	.30	--	.02	3.2
FEB 06...	131	21	6	.22	.01	.23	.09	.41	.50	.03	.3
APR 19...	232	60	24	.00	.01	.01	.03	.61	.64	.06	5.3
JUN 12...	185	62	18	.06	.01	.07	.04	.67	.71	.04	5.8
AUG 16...	125	45	14	.00	.01	.01	.02	.53	.55	.05	6.2

SAN JACINTO RIVER BASIN

49

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 27...	1200	1	100	1	0	2	20
APR 19...	1335	1	100	0	0	0	20
JUN 12...	1435	3	200	1	0	2	20
AUG 16...	1050	2	100	0	0	1	50

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 27...	0	60	.0	0	0	20
APR 19...	0	140	.0	0	0	20
JUN 12...	0	0	.0	0	0	0
AUG 16...	0	0	.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)
DEC 27...	1200	--	--	--	--	--	--	--
APR 19...	1335	.0	.00	.00	.0	.00	.00	.00

DATE	DI- AZINON, TOTAL (UG/L)	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)
DEC 27...	--	--	--	--	--	--	--	--	--
APR 19...	.00	.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)
DEC 27...	--	--	--	--	--	.00	.00	.00
APR 19...	.00	.00	.00	0	.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.

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
OCT 20...	1530	3.3	207	6.7	19.5	47	17	15	2.3	19
DEC 05...	1435	7.6	240	6.5	19.0	56	23	18	2.6	21
JAN 19...	1245	1400	150	6.2	4.0	44	14	15	1.6	9.6
FEB 23...	1300	78	346	7.0	8.5	100	35	35	3.2	24
APR 06...	1200	15	598	7.4	22.0	160	65	56	5.7	45
MAY 04...	1400	9.0	443	7.1	18.5	120	43	40	4.1	34
JUN 14...	1710	25	286	7.0	27.0	87	31	29	3.6	19
AUG 01...	1425	2.5	416	6.7	28.0	76	35	25	3.3	43
30...	1745	2.7	220	7.0	27.0	47	15	15	2.3	21

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 20...	1.2	2.2	36	0	2.8	38	.1	26	123
DEC 05...	1.2	2.6	40	0	3.7	45	.1	22	135
JAN 19...	.6	3.1	37	0	5.4	23	.1	9.1	85
FEB 23...	1.0	2.7	80	0	17	56	.0	14	191
APR 06...	1.5	2.8	120	0	14	110	.1	18	311
MAY 04...	1.4	2.5	90	0	6.1	77	.1	18	226
JUN 14...	.9	3.2	69	0	9.3	42	.1	17	157
AUG 01...	2.1	2.8	50	0	4.9	93	.1	20	217
30...	1.3	2.3	39	0	4.7	39	.1	24	128

51

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	110	72	38	522	332	47	26	97	24	19	128
2	89	125	61	38	675	327	46	26	101	23	19	144
3	101	113	49	38	771	357	45	37	123	21	18	136
4	90	111	42	38	830	356	43	40	135	20	17	129
5	87	111	36	37	707	202	42	31	109	19	17	126
6	86	109	31	37	571	114	42	27	129	19	18	123
7	87	110	29	37	595	113	42	26	4670	18	20	154
8	88	126	28	36	2130	118	41	26	3680	17	19	161
9	85	141	27	38	2640	118	41	24	2700	17	17	162
10	83	123	25	76	4410	99	42	22	853	16	16	171
11	84	117	24	116	3800	90	58	21	243	16	17	220
12	84	114	25	144	2540	85	59	23	130	16	37	196
13	82	111	124	98	2320	83	48	21	93	16	85	215
14	94	111	161	87	2230	145	43	21	78	16	89	316
15	95	111	61	124	2120	88	40	21	68	15	99	305
16	93	113	414	259	1920	86	39	20	57	15	93	349
17	93	113	731	575	1500	86	37	21	50	15	91	307
18	93	112	319	902	1260	70	37	19	45	14	90	249
19	94	111	136	2110	1190	67	35	19	40	15	93	219
20	93	110	83	1870	1070	64	35	19	37	15	93	208
21	92	147	62	1780	878	61	34	19	34	15	94	218
22	92	148	51	1580	558	58	32	18	32	16	95	193
23	94	125	44	736	440	58	32	17	30	29	94	229
24	96	118	42	483	207	60	31	17	28	28	108	256
25	96	116	40	361	165	70	31	33	26	38	125	216
26	94	113	37	307	142	62	31	91	25	24	124	201
27	93	112	35	223	137	56	31	94	24	28	125	193
28	93	113	35	179	321	53	28	94	22	23	125	189
29	100	149	45	148	---	50	27	95	22	22	124	186
30	107	151	44	129	---	49	26	101	22	20	123	183
31	106	---	41	128	---	49	---	96	---	19	125	---
TOTAL	2846	3594	2954	12752	36649	3626	1165	1165	13703	609	2229	6082
MEAN	91.8	120	95.3	411	1309	117	38.8	37.6	457	19.6	71.9	203
MAX	107	151	731	2110	4410	357	59	101	4670	38	125	349
MIN	82	109	24	36	137	49	26	17	22	14	16	123
AC-FT	5650	7130	5860	25290	72690	7190	2310	2310	27180	1210	4420	12060
CAL YR 1977	TOTAL	153569	MEAN	421	MAX	11000	MIN	17	AC-FT	304600		
WTR YR 1978	TOTAL	87374	MEAN	239	MAX	4670	MIN	14	AC-FT	173300		

SAN JACINTO RIVER BASIN

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 763 micromhos Apr. 20, 1971; minimum daily, 52 micromhos May 12, 1972.

WATER TEMPERATURES: 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, 452 micromhos Jan. 16; minimum daily, 53 micromhos June 8.

WATER TEMPERATURES: Maximum daily, 32.5°C Aug. 8; minimum, 5.0°C Jan. 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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)
OCT 19...	0900	93	248	7.3	19.5	20	10	7.9	89	1.3	4500	54
NOV 28...	0845	110	259	7.5	19.0	20	10	8.4	93	1.0	2800	54
DEC 27...	1045	35	286	7.4	10.5	20	20	10.8	100	1.5	2900	62
JAN 24...	0915	540	160	7.3	5.5	160	60	11.3	93	2.0	17000	1000
FEB 06...	0945	560	261	7.7	6.5	40	20	11.1	93	2.1	2200	130
MAR 22...	1005	62	399	7.3	19.0	10	20	8.8	98	1.9	6700	230
APR 19...	1100	40	366	7.3	19.5	40	40	7.2	81	3.6	6700	74
MAY 15...	1010	21	320	6.8	22.0	30	20	6.4	75	3.5	84000	9300
JUN 12...	1250	138	220	6.3	27.0	80	40	6.2	78	1.4	13000	150
JUL 26...	1025	45	300	6.9	27.5	110	50	5.0	64	3.1	42000	2300
AUG 01...	1000	17	360	7.0	27.0	50	20	5.2	66	3.0	850	120
SEP 12...	1115	205	240	7.1	25.5	10	20	6.8	85	1.2	--	150

DATE	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CA03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 19...	110	80	6	28	2.5	16	.8	2.9	90	0	5.1
NOV 28...	130	85	16	29	3.0	16	.8	3.1	84	0	7.0
DEC 27...	46	73	21	24	3.2	25	1.3	3.3	64	0	11
JAN 24...	2200	44	14	15	1.6	11	.7	2.4	37	0	11
FEB 06...	130	85	20	29	3.0	19	.9	2.9	79	0	10
MAR 22...	32	110	35	36	4.0	30	1.3	2.3	87	0	13
APR 19...	60	91	18	30	3.8	31	1.4	2.8	89	0	9.6
MAY 15...	650	73	14	24	3.2	30	1.5	3.4	72	0	11
JUN 12...	260	65	19	22	2.4	15	.8	3.1	56	0	8.8
JUL 26...	600	77	33	20	6.6	29	1.4	3.2	54	0	10
AUG 01...	110	65	5	21	3.0	40	2.2	3.5	73	0	8.6
SEP 12...	130	76	11	26	2.6	15	.8	2.8	79	0	6.4

SAN JACINTO RIVER BASIN

53

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	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)
OCT 19...	26	.1	8.1	134	133	16	6	.20	.03	.23	.08
NOV 28...	28	.3	8.5	138	136	27	7	.28	.02	.30	.11
DEC 27...	44	.1	24	177	166	16	2	.45	.07	.52	.27
JAN 24...	21	.1	9.8	109	90	99	22	.08	.01	.09	.06
FEB 06...	34	.1	7.9	150	145	48	10	.20	.01	.21	.06
MAR 22...	68	.1	16	228	212	16	6	.04	.01	.05	.01
APR 19...	58	.1	20	--	199	46	29	.26	.08	.34	.41
MAY 15...	49	.0	20	178	176	36	9	.31	.09	.40	.49
JUN 12...	29	.1	13	137	122	82	15	.14	.02	.16	.10
JUL 26...	54	.1	16	169	166	89	31	.29	.06	.35	.38
AUG 01...	61	.1	22	189	195	40	17	.41	.19	.60	.84
SEP 12...	29	.1	6.7	146	128	37	31	.08	.02	.10	.00
DATE	NITRO- GEN, ORGANIC TOTAL (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 19...	.44	.52	.38	.14	.06	5.8	--	--	14	3.5	89
NOV 28...	.33	.44	.31	.07	.09	4.9	--	--	14	4.2	98
DEC 27...	.70	.97	.68	.19	.17	--	4.3	--	23	2.2	62
JAN 24...	.52	.58	.49	.19	.18	14	--	--	83	121	99
FEB 06...	.59	.65	.60	.11	.06	9.0	--	--	38	57	69
MAR 22...	.39	.40	.29	.18	.11	--	7.6	.8	12	2.0	97
APR 19...	.89	1.3	.99	.26	.08	5.7	--	--	14	1.5	89
MAY 15...	.46	.95	.82	.82	.62	4.6	--	--	22	1.2	98
JUN 12...	.83	.93	.81	.21	.09	--	10	.8	44	16	97
JUL 26...	1.0	1.4	.55	.44	.24	7.1	--	--	39	4.7	100
AUG 01...	.66	1.5	1.1	.32	.20	4.5	--	--	14	.64	97
SEP 12...	1.4	1.4	.71	.05	.04	--	6.5	.5	31	17	97

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		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)	
DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (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)	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)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)		
DEC 27...	1045	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
MAR 22...	1005	1	0	1	0	100	0	100	0	1	1	0	1	1	0	0	
JUN 12...	1250	2	0	2	0	300	100	200	0	0	0	5	0	0	5	5	
SFP 12...	1115	2	--	2	--	100	0	100	0	1	1	0	1	1	0	0	
DATE	TIME	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (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)	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)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)		
DEC 27...	0	0	0	0	0	0	0	0	3	1	2	680	1	2	680		
MAR 22...	0	0	0	0	0	0	0	0	3	2	1	570	2	1	570		
JUN 12...	10	0	10	2	0	2	5	1	4	1100	0	590	4	0	590		
SFP 12...	0	0	0	0	0	0	2	4	4	0	590	4	0	590	590		
DATE	TIME	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	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- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (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)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)		
DEC 27...	--	40	3	3	0	100	80	20	.3	.1	.1	.1	.3	.1	.1		
MAR 22...	--	40	0	0	0	110	60	50	.0	.0	.0	.0	.0	.0	.0		
JUN 12...	--	170	24	23	1	170	30	140	.5	.5	.5	.5	.5	.5	.5		
SFP 12...	560	30	3	3	0	210	210	0	.0	.0	.0	.0	.0	.0	.0		
DATE	TIME	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 RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (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)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)		
DEC 27...	.2	1	1	0	0	0	0	20	10	10	10	10	10	10	10		
MAR 22...	.0	0	0	0	0	0	0	20	20	0	0	0	0	0	0		
JUN 12...	.0	0	0	0	0	0	0	20	0	20	20	20	20	20	20		
SFP 12...	.0	0	0	1	0	0	0	20	20	0	0	0	0	0	0		
DATE	TIME	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCB, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ATRA- ZINE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ATRA- ZINE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)		
NOV 28...	0845	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
FEB 06...	0945	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--		
MAY 15...	1010	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND		
AUG 01...	1000	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--		

SAN JACINTO RIVER BASIN

55

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 28...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 06...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 15...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 01...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	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)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 28...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 06...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 15...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 01...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI- THION, TOTAL (UG/L)	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG)	PARA- THION, TOTAL (UG/L)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL COUL- SON COND. (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)
NOV 28...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 06...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 15...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
AUG 01...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOX- APHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 28...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 06...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 15...	ND	ND	ND	ND	--	--	--	--	--	--
AUG 01...	ND	--	ND	--	--	--	--	--	--	--

SAN JACINTO RIVER BASIN

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

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	NOV 28,77 0845	MAR 22,78 1005	MAY 15,78 1010	JUN 12,78 1250
TOTAL CELLS/ML	3200	1500	8100	880
DIVERSITY: DIVISION	1.7	0.7	1.6	1.4
..CLASS	1.7	0.7	1.6	1.4
..ORDER	1.8	1.6	1.9	2.0
...FAMILY	2.9	2.2	2.5	2.6
....GENUS	3.3	2.7	3.2	2.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....COELASTRACEAE								
.....COELASTRUM	220	7	--	-	--	-	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	220	7	--	-	--	-	--	-
...MICRACTINIACEAE								
.....GOLENKINIA	27	1	--	-	--	-	--	-
....MICRACTINIUM	*	0	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	250	8	110	7	200	2	59	7
....CHODATELLA	--	-	--	-	*	0	--	-
....DICTYOSPHAERIUM	55	2	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	200	2	--	-
....OOCYSTIS	--	-	--	-	880	11	120	13
....SELENASTRUM	--	-	14	1	57	1	--	-
....TETRAEDRON	82	3	--	-	57	1	15	2
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
....CRUCIGENIA	55	2	--	-	1300#	15	--	-
....SCENEDESMUS	490#	15	57	4	970	12	120	13
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	41	1	14	1	85	1	--	-
...ZYGNEATALES								
...DESMIDIACEAE								
....DESMIDIUM	--	-	--	-	--	-	290#	33
....STAUSTRUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
.....CYCLOTETRA	--	-	110	7	140	2	--	-
....MELOSIRA	--	-	650#	43	57	1	--	-
....STEPHANODISCUS	27	1	--	-	--	-	--	-
...PENNALES								
....ACHNANTHACEAE								
....ACHNANTHES	190	6	14	1	--	-	--	-
....COCCONEIS	68	2	28	2	--	-	--	-
...CYMBELLACEAE								
....AMPHORA	--	-	--	-	*	0	--	-
....CYMBELLA	*	0	--	-	--	-	--	-
...FRAGILARIACEAE								
....SYNEDRA	--	-	28	2	85	1	73	8
...GOMPHONEMACEAE								
....GOMPHONEMA	--	-	--	-	*	0	--	-
...NAVICULACEAE								
....DIPLONEIS	--	-	--	-	--	-	--	-
....NAVICULA	27	1	110	7	800	10	15	2
....NEIDIUM	27	1	--	-	--	-	--	-
....PINNULARIA	27	1	28	2	*	0	15	2
....STAURONEIS	--	-	--	-	57	1	--	-
...NITZSCHACEAE								
....HANTZSCHIA	--	-	14	1	--	-	--	-
....NITZSCHIA	82	3	280#	19	85	1	15	2
...SURIARELLACEAE								
....SURIARELLA	--	-	--	-	*	0	--	-
...XANTHOPHYCEAE								
..HETEROCOCCALES								
...CENTRITRACTACEAE								
....CENTRITRACTUS	--	-	--	-	--	-	--	-
...CHLOROTHECIACEAE								
....OPHIOCYTIUM	--	-	--	-	--	-	--	-

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

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

SAN JACINTO RIVER BASIN

57

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

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

(CONTINUED)

DATE TIME	NOV 28,77 0845		MAR 22,78 1005		MAY 15,78 1010		JUN 12,78 1250	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
..CHROCCOCCALES								
...CHROCCOCCAEAE								
....ANACYSTIS	1100#	35	--	-	2600#	33	120	13
..HORMOGONALES								
...NOSTOCACEAE								
....CYLINDROSPERMUM	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	310	4	--	-
....SPIRULINA	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	14	1	--	-	--	-
....PHACUS	*	0	--	-	--	-	--	-
....TRACHELOMONAS	190	6	28	2	110	1	44	5

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 1977 TO SEPTEMBER 1978

DATE TIME	JUL 26, 78 1025	AUG 1, 78 1000	SEP 12, 78 1115
TOTAL CELLS/ML	3000	6800	4700
DIVERSITY: DIVISION	1.6	1.5	0.9
..CLASS	1.6	1.6	0.9
...ORDER	1.7	1.7	1.7
....FAMILY	2.7	2.1	2.1
.....GENUS	2.9	2.6	2.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....COELASTRACEAE						
.....COELASTRUM	--	-	--	-	5R	1
...HYDRODICTYACEAE						
....PEDIASTRUM	170	6	--	-	120	2
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	150	5	200	3	100	2
....CHODATELLA	43	1	84	1	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-
....KIRCHNERIELLA	22	1	*	0	43	1
....OOCYSTIS	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-
....TETRAEDRON	22	1	84	1	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	5R	1
....CRUCIGENIA	--	-	1100#	17	--	-
....SCENEDESMUS	760#	26	840	12	270	6
...VOLVOCALES						
....CHLAMYDOMONADACEAE						
.....CHLAMYDOMONAS	22	1	110	2	--	-
...ZYGNEMATALES						
....DESMIDIACEAE						
.....DESMIDIUM	--	-	--	-	--	-
....STAURASTRUM	--	-	--	-	*	0
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
....COSCINODISCACEAE						
.....CYCLOTELLA	22	1	--	-	--	-
....MELOSIRA	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-
...PENNALES						
....ACHNANTHACEAE						
.....ACHNANTHES	--	-	250	4	--	-
....COCCONEIS	--	-	--	-	29	1
...CYMBELLACEAE						
....AMPHORA	22	1	--	-	--	-
....CYMBELLA	--	-	--	-	--	-
...FRAGILARIACEAE						
....SYNEDRA	22	1	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....DIPLONEIS	65	2	110	2	--	-
....NAVICULA	300	10	360	5	72	2
....NEIDIUM	--	-	--	-	--	-
....PINNULARIA	--	-	--	-	--	-
....STAURONEIS	--	-	--	-	--	-
...NITZSCHACEAE						
....HANTZSCHIA	--	-	--	-	--	-
....NITZSCHIA	500#	17	220	3	43	1
...SURIARELLACEAE						
....SURIARELLA	22	1	--	-	--	-
...XANTHOPHYCEAE						
...HETEROCOCCALES						
...CENTRITRACTACEAE						
....CENTRITRACTUS	--	-	--	-	29	1
...CHLOROTHECIACEAE						
....OPHIOCYTIUM	22	1	110	2	--	-

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

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

SAN JACINTO RIVER BASIN

59

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

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

(CONTINUED)

DATE TIME	JUL 26,78 1025		AUG 1,78 1000		SEP 12,78 1115	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCALES						
...CHROCOCCACEAE						
....ANACYSTIS	800#	27	3200#	47	2600#	54
..HORMOGONALES						
...NOSTOCACEAE						
....CYLINDROSPERMUM	--	-	--	-	100	2
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	1200#	25
....SPIRULINA	--	-	--	-	*	0
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	*	0	--	-
....PHACUS	--	-	--	-	--	-
....TRACHELOMONAS	--	-	*	0	43	1

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

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

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	2846	261	140	1080	39	296	8	61	71
NOV. 1977.....	3594	250	140	1320	36	353	8	75	68
DEC. 1977.....	2954	219	120	936	31	244	7	53	60
JAN. 1978.....	12752	196	110	3640	26	901	6	202	53
FEB. 1978.....	36649	251	140	13400	37	3610	8	750	68
MAR. 1978.....	3626	356	190	1880	56	553	11	105	96
APR. 1978.....	1165	379	200	641	61	191	11	36	100
MAY 1978.....	1165	288	160	491	44	138	9	28	78
JUNE 1978.....	13703	100	54	2000	12	429	3	121	27
JULY 1978.....	609	317	170	283	49	81	9	16	86
AUG. 1978.....	2229	253	140	823	37	223	8	46	69
SEPT 1978.....	6082	252	140	2230	37	607	8	128	68
TOTAL	87374	**	**	28700	**	7630	**	1620	**
WTD.AVG.	239.38	226	120	**	33	**	7.1	**	61

SAN JACINTO RIVER BASIN

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254	250	227	270	247	273		338	247	288	300	250
2	251	251	229	280	260	300		344	250	292	302	230
3	249	251	247	287	353	320		320	253	298	303	247
4	261	252	269	290	340	346		307	251	301	301	244
5	267	247	270	291	345	360		338	254	298	303	246
6	266	251	269	281	353	355		330	86	291	304	248
7	256	255	281	280	348	359		323	54	308	303	249
8	260	252	279	281	295	375		321	53	307	306	252
9	263	230	285	281	275	383		319	131	308	344	240
10	265	249	283	260	200	390		326	169	310	310	238
11	270	252	233	217	190	388		300	194	313	306	230
12	274	255	230	221	213	395		287	217	311	290	250
13	263	254	207	244	225	402		300	230	312	260	256
14	265	252	222	325	233	370		316	249	328	256	198
15	262	251	276	400	247	390		315	254	329	240	229
16	263	253	230	452	253	402		328	261	331	251	318
17	263	254	175	228	259	406		344	267	330	253	300
18	262	253	185	145	258	400		319	273	332	241	267
19	261	250	189	130	256	403		316	271	346	252	259
20	262	245	239	143	259	401		327	280	339	249	258
21	260	242	255	165	278	402		320	285	345	251	243
22	257	243	260	200	284	380		311	287	379	254	254
23	260	257	277	220	300	360		313	294	305	241	251
24	263	254	278	240	301	359		319	287	363	251	249
25	261	253	279	248	315	359		271	285	309	244	251
26	264	254	278	258	316	380		261	287	337	241	252
27	266	255	277	259	317	400		256	305	322	240	252
28	268	255	280	298	280	407		261	286	304	239	251
29	260	245	270	315	---	403		258	293	309	241	253
30	255	235	265	332	---	400		252	295	308	245	251
31	252	---	260	335	---	406		258	---	307	249	---
MEAN	261	250	252	264	279	377		306	238	318	270	251

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.0	20.0	18.0	---	9.0	14.0		27.0	27.0	25.0	25.0	26.0
2	28.0	21.0	19.0	---	10.0	14.0		23.0	26.0	25.0	25.0	25.0
3	26.0	20.0	19.0	12.0	8.0	12.0		19.0	26.0	26.0	27.0	27.5
4	21.0	22.0	20.0	12.0	---	12.0		26.0	25.0	26.0	25.0	26.5
5	26.0	20.0	16.0	15.0	---	13.0		26.0	25.0	26.0	25.0	25.5
6	26.0	23.0	16.0	15.0	---	13.0		25.0	24.0	29.0	26.0	26.0
7	23.0	---	17.0	20.0	---	15.0		25.0	24.0	28.0	27.0	26.0
8	---	22.0	16.0	14.0	---	13.0		29.0	25.0	28.0	32.5	25.5
9	---	17.0	---	13.0	---	---		31.0	28.0	28.0	25.0	25.0
10	28.5	15.0	13.0	11.0	---	---		28.0	25.5	27.0	25.0	25.0
11	28.0	---	14.0	10.0	---	---		26.0	27.0	---	25.0	25.0
12	23.0	---	16.0	9.0	10.0	---		27.0	28.0	27.0	25.0	25.0
13	26.0	14.0	16.0	10.0	13.0	15.0		28.0	26.0	32.0	28.0	25.5
14	22.0	17.0	17.0	12.0	12.0	15.0		27.0	26.0	27.0	26.0	25.0
15	---	19.0	17.0	17.0	9.0	16.0		23.0	29.0	27.0	26.0	25.0
16	---	20.0	16.0	12.0	---	18.0		31.0	29.0	27.0	26.0	27.0
17	---	21.0	17.0	11.0	10.0	18.0		28.0	29.0	28.0	27.0	26.0
18	---	---	---	10.0	10.0	20.0		30.0	29.0	28.0	26.0	25.5
19	---	20.0	16.0	---	---	22.0		29.0	29.0	29.0	26.5	26.0
20	---	20.0	15.0	5.0	11.0	---		26.0	25.0	25.0	28.0	26.0
21	---	12.0	16.0	---	9.0	22.0		30.0	26.0	27.0	27.0	26.0
22	---	19.0	16.0	---	11.0	23.0		29.0	25.0	27.0	27.0	25.5
23	---	---	14.0	6.0	12.0	22.0		29.0	25.0	27.5	27.0	25.0
24	---	19.0	14.0	7.0	13.0	18.0		28.0	26.0	26.0	26.5	25.0
25	---	17.0	13.0	7.0	14.0	17.0		28.0	28.0	25.5	30.0	25.0
26	---	16.0	14.0	8.0	14.0	16.0		28.0	26.5	26.5	29.0	25.0
27	---	19.0	13.0	8.0	15.0	16.0		29.0	26.0	26.0	28.0	25.0
28	---	22.0	14.0	9.0	---	16.0		26.0	20.0	25.0	28.0	25.0
29	---	---	14.0	9.0	---	22.0		26.0	25.5	25.0	27.0	25.0
30	---	---	14.0	9.0	---	24.0		28.0	25.0	25.0	27.0	26.0
31	---	---	14.0	9.0	---	18.0		26.5	---	26.0	18.0	---
MEAN	25.5	19.0	15.5	11.0	11.0	17.0		27.0	26.0	27.0	26.5	25.5

SAN JACINTO RIVER BASIN

61

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. 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 datum 15.93 ft (4.855 m) higher; unadjusted for land-surface subsidence. 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. No diversion above station. Several observations of water temperature were made during the current year.

AVERAGE DISCHARGE.--39 years, 207 ft³/s (5.862 m³/s), 6.87 in/yr (174 mm/yr), 150,000 acre-ft/yr (185 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 2,200 ft³/s (62.3 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)
Feb. 10	2200	2,820 79.9	14.30 4.359	June 8	0200	*8,590 243	21.60 6.584

Minimum daily discharge, 12 ft³/s (0.34 m³/s) for many days.

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	16	64	26	217	86	40	26	19	44	25	27
2	13	41	43	30	354	83	39	25	17	42	24	18
3	26	26	39	32	348	86	38	36	24	41	24	15
4	18	22	38	28	228	89	37	32	58	40	24	13
5	15	21	34	26	140	84	37	28	47	39	24	15
6	14	20	31	26	107	79	37	27	35	38	26	16
7	13	19	28	27	181	248	38	27	4530	37	31	16
8	13	34	26	32	1360	235	38	26	7230	35	26	16
9	13	76	24	27	2000	128	38	25	5970	34	22	15
10	13	39	23	26	2440	92	39	24	3290	33	22	15
11	13	28	23	41	2140	76	43	23	888	32	21	100
12	12	26	22	184	801	67	44	22	251	35	21	52
13	12	25	170	139	633	62	41	21	165	31	20	109
14	12	23	497	94	765	60	41	20	155	30	32	327
15	12	22	168	66	643	58	39	19	109	28	24	370
16	12	21	79	216	374	55	39	18	91	28	19	166
17	12	20	49	684	230	53	36	17	79	28	16	81
18	12	20	39	720	262	50	35	17	68	27	15	46
19	12	19	32	1570	372	48	34	16	62	26	15	32
20	12	19	28	1740	416	47	33	16	61	28	18	25
21	12	28	25	1440	222	46	32	16	60	27	21	24
22	12	46	23	1010	159	46	32	16	59	26	38	21
23	12	38	22	325	132	46	32	16	52	28	18	19
24	21	28	21	288	116	47	31	17	50	31	14	45
25	18	24	20	312	107	47	30	17	48	32	14	51
26	16	22	20	279	99	47	30	16	46	64	13	32
27	15	21	19	222	94	46	30	16	45	67	12	24
28	15	20	20	165	91	45	29	15	44	62	12	20
29	14	39	28	127	---	43	28	18	49	39	12	19
30	14	93	32	105	---	43	26	29	45	26	12	18
31	14	---	28	104	---	41	---	23	---	31	14	---
TOTAL	434	896	1715	10111	15031	2283	1066	664	23647	1109	629	1747
MEAN	14.0	29.9	55.3	326	537	73.6	35.5	21.4	788	35.8	20.3	58.2
MAX	26	93	497	1740	2440	248	44	36	7230	67	38	370
MIN	12	16	19	26	91	41	26	15	17	26	12	13
CFSM	.03	.07	.13	.78	1.28	.18	.09	.05	1.88	.09	.05	.14
IN.	.04	.08	.15	.90	1.33	.20	.09	.06	2.10	.10	.06	.16
AC-FT	861	1780	3400	20060	29810	4530	2110	1320	46900	2200	1250	3470
CAL YR 1977	TOTAL	74247	MEAN 203	MAX 9150	MIN 12	CFSM .48	IN 6.59	AC-FT 147300				
WTR YR 1978	TOTAL	59332	MEAN 163	MAX 7230	MIN 12	CFSM .39	IN 5.27	AC-FT 117700				

SAN JACINTO RIVER BASIN

08068700 CYPRESS CREEK AT SHARP ROAD NEAR HOCKLEY, TX

LOCATION.--Lat 29°55'15", long 95°50'24", Harris County, Hydrologic Unit 12040102, on right bank at bridge on Sharp Road, 3.3 mi (5.3 km) upstream from gage (station 08068720), and 7.4 mi (11.9 km) south of Hockley.

DRAINAGE AREA.--80.7 mi² (209.0 km²).

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

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

REMARKS.--Records fair except those for July and August, which are poor. Diversions and return flow for irrigation occur upstream from station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft³/s (56.6 m³/s) Apr. 21, 1977, gage height, 66.23 ft (20.187 m); no flow for many days in 1976 and 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1949, about 67.3 ft (20.51 m), date unknown, from information by local resident (also reported flow leaving basin and entering tributaries of Buffalo Bayou basin).

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)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 20	0300	506 14.3	62.55 19.065	June 8	1400	*800 22.7	64.15 19.553
Feb. 9	0700	612 17.3	63.16 19.251				

Minimum discharge, no flow May 18-28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.49	.80	.02	29	1.9	.49	.02	.18	6.0	9.0	.25
2	1.0	3.1	.83	.03	57	1.7	.47	.08	.74	5.6	4.0	3.5
3	1.5	2.4	.96	.03	24	1.5	1.0	.47	32	4.9	2.0	5.9
4	3.0	.34	.61	.02	11	2.7	.80	.40	48	4.2	1.5	.58
5	2.5	.33	.36	.03	5.7	2.2	.60	.62	16	3.6	1.0	4.5
6	1.5	.90	.19	.06	3.6	1.6	.49	.29	32	3.1	.80	4.5
7	1.3	.92	.11	.06	13	3.6	.43	.14	476	3.6	1.0	1.5
8	1.7	2.6	.09	.07	306	3.5	.43	.10	751	4.2	.80	2.2
9	1.8	4.8	.06	.06	522	2.2	.38	.08	414	3.9	.60	2.3
10	1.9	3.0	.03	.05	236	1.6	.34	.06	120	7.8	.50	7.6
11	1.8	1.5	.03	2.3	118	1.4	.47	.13	68	8.3	.45	56
12	2.4	.84	.01	7.4	94	1.2	1.2	.13	35	6.3	.40	145
13	2.7	.58	4.2	3.0	184	1.1	1.1	.22	39	5.2	.40	239
14	1.9	.45	4.3	1.6	113	1.1	.85	.08	136	4.6	.40	280
15	1.9	.36	2.8	.59	55	1.1	1.6	.04	73	7.0	.35	334
16	1.5	.29	1.6	34	33	1.0	.69	.02	37	7.8	.35	340
17	1.2	.24	.80	152	29	.71	.34	.01	15	5.6	.35	193
18	1.0	.19	.49	142	80	.60	.25	.00	10	5.6	.35	88
19	1.1	.16	.36	418	51	.70	.17	.00	9.9	6.6	.30	47
20	.85	.17	.20	421	21	.80	.11	.00	7.5	6.0	.40	26
21	.75	.12	.13	163	9.9	.75	.08	.00	5.6	10	.50	16
22	.69	.12	.10	96	5.1	.80	.05	.00	4.9	8.0	.40	9.9
23	.69	.09	.09	68	3.8	.75	.04	.00	4.5	6.0	.35	13
24	.63	.08	.09	52	3.2	.72	.04	.00	4.5	5.0	.35	6.5
25	.59	.08	.07	54	2.8	.70	.01	.00	5.2	7.6	.40	4.2
26	.47	.07	.05	54	2.4	.68	.13	.00	6.0	11	.45	3.5
27	.35	.07	.05	28	2.0	.66	.13	.00	6.3	15	.40	3.5
28	.24	.06	.03	14	2.0	.66	.13	.00	6.4	11	.35	4.3
29	.17	.45	.04	8.0	---	.64	.08	2.4	7.3	6.2	.31	4.8
30	.13	.72	.05	5.1	---	.60	.03	8.2	7.3	4.8	.26	4.4
31	.09	---	.04	4.3	---	.53	---	.53	---	10	.22	---
TOTAL	38.45	25.52	19.57	1728.72	2016.5	39.70	12.93	14.02	2378.32	204.5	28.94	1850.93
MEAN	1.24	.85	.63	55.8	72.0	1.28	.43	.45	79.3	6.60	.93	61.7
MAX	3.0	4.8	4.3	421	522	3.6	1.6	8.2	751	15	9.0	340
MIN	.09	.06	.01	.02	2.0	.53	.01	.00	.18	3.1	.22	.25
AC-FT	76	51	39	3430	4000	79	26	28	4720	406	57	3670
CAL YR 1977	TOTAL	12970.56	MEAN	35.5	MAX	1670	MIN	.01	AC-FT	25730		
WTR YR 1978	TOTAL	8358.10	MEAN	22.9	MAX	751	MIN	.00	AC-FT	16580		

SAN JACINTO RIVER BASIN

63

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. 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. Diversions and return flow for irrigation occur upstream from station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft³/s (56.6 m³/s) Apr. 22, 1977, gage height, 60.10 ft (18.318 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 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)
Jan. 19	1000	768 21.7	56.12 17.105	June 8	1000	*1,100 31.2	58.15 17.724
Feb. 9	0900	736 20.8	55.77 16.999				

Minimum discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	.01	.35	.00	31	3.1	.47	.00	.50	4.3	13	.00
2	1.7	.14	.27	.00	67	2.5	.43	.00	2.0	4.5	7.4	.00
3	2.1	.00	.17	.00	33	2.4	.98	2.7	45	4.0	3.1	1.1
4	4.4	.00	.07	.00	17	3.2	.61	3.4	65	3.2	1.9	.00
5	4.0	.00	.03	.00	9.4	3.4	.00	2.6	25	3.0	1.3	.00
6	2.9	.00	.01	.00	6.2	2.3	.00	1.9	45	3.8	.95	.85
7	2.4	.00	.00	.00	30	9.1	.00	1.9	650	2.7	1.5	.00
8	2.2	.00	.00	.00	442	9.4	.00	1.4	1060	3.6	1.2	.00
9	3.1	.82	.00	.00	691	4.6	.00	.73	738	7.1	.84	.73
10	3.3	.00	.00	.00	373	3.1	.00	.32	221	2.1	.52	7.3
11	2.7	.27	.00	2.1	174	2.5	.00	.24	113	6.4	.27	66
12	2.2	.35	.09	35	142	2.0	.00	.39	66	8.3	.21	115
13	2.0	.23	5.5	12	280	1.8	.60	.46	62	5.1	.23	208
14	1.6	.09	5.0	6.6	176	1.7	1.2	.46	174	.01	.20	296
15	1.4	.05	.67	3.5	95	1.7	2.1	.30	94	2.6	.18	355
16	1.3	.03	.15	75	55	1.6	1.4	.20	47	6.3	.10	379
17	.99	.06	.00	186	48	1.4	.65	.10	18	7.4	.12	210
18	.74	.09	.03	207	111	.99	.45	.05	14	8.0	.14	99
19	.53	.12	.21	720	78	1.1	.35	.02	12	6.2	.28	60
20	.43	.12	.08	632	31	1.1	.17	.00	4.0	6.1	.39	46
21	.35	.05	.02	254	18	1.3	.00	.00	4.7	11	.43	38
22	.24	.00	.00	130	9.9	1.4	.00	.00	3.2	8.8	.42	23
23	.18	.00	.00	93	7.4	1.2	.00	.00	.00	7.3	.35	29
24	.10	.00	.01	75	5.6	1.3	.00	.00	.08	5.2	.39	18
25	.06	.00	.02	76	4.9	.94	.00	.00	2.8	6.4	.43	13
26	.04	.00	.02	69	4.0	.80	.00	.00	4.4	7.7	.34	10
27	.02	.00	.02	40	3.3	.78	.00	.00	4.1	13	.10	4.3
28	.00	.01	.04	21	3.2	.63	.00	.00	4.1	13	.04	2.4
29	.00	.03	.08	12	---	.52	.00	3.0	5.0	8.2	.06	5.8
30	.00	.27	.01	8.0	---	.49	.00	10	5.6	7.4	.05	8.1
31	.00	---	.00	7.0	---	.48	---	1.5	---	14	.13	---
TOTAL	42.88	2.74	12.85	2664.20	2945.9	68.83	9.41	31.67	3489.48	196.71	36.57	1995.58
MEAN	1.38	.091	.41	85.9	105	2.22	.31	1.02	116	6.35	1.18	66.5
MAX	4.4	.82	5.5	720	691	9.4	2.1	10	1060	14	13	379
MIN	.00	.00	.00	.00	3.2	.48	.00	.00	.00	.01	.04	.00
AC-FT	85	5.4	25	5280	5840	137	19	63	6920	390	73	3960
CAL YR 1977 TOTAL	16656.28			MEAN 45.6	MAX 1910	MIN .00	AC-FT 33040					
WTR YR 1978 TOTAL	11496.82			MEAN 31.5	MAX 1060	MIN .00	AC-FT 22800					

SAN JACINTO RIVER BASIN

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

LOCATION.--Lat 29°57'32", long 95°43'03", Harris County, Hydrologic Unit 12040102, on right bank at bridge on House and Hahl Road, 1.4 mi (2.3 m) 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. 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 period of no gage-height record, which are poor. Diversions and return flow for irrigation occur upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft³/s (56.6 m³/s) Apr. 22, 1977, gage height, 45.17 ft (13.768 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 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)
Jan. 19	about 1600	1,080 30.6	42.41 12.927	June 7	2400	*1,800 51.0	44.73 13.634
Feb. 9	1400	801 22.7	40.75 12.421	Sept. 14	about 2000	811 23.0	40.83 12.445

Minimum daily discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	.05	3.9	.02	35	7.8	.29	.01	.50	5.7	25	.48
2	8.5	.30	3.9	.01	82	6.6	.29	2.5	.05	4.8	16	.81
3	7.5	.15	3.1	.00	47	5.7	.29	6.5	193	4.1	7.0	5.8
4	10	.05	2.3	.00	27	4.5	1.2	11	195	3.5	4.4	1.5
5	10	.03	1.4	.00	17	4.8	.25	5.7	62	2.9	3.7	2.2
6	8.8	.02	.80	.00	12	4.9	.03	5.5	71	3.8	3.7	3.5
7	7.2	.01	.42	.00	48	18	.01	3.7	1390	2.0	4.0	2.4
8	6.3	.00	.34	.00	523	16	.01	4.0	1740	3.1	3.5	2.3
9	5.4	1.0	.25	.00	766	9.4	.00	2.2	1240	5.4	2.6	2.2
10	4.7	.70	.15	.00	503	6.6	.05	1.2	460	2.6	2.0	4.6
11	4.0	.50	.03	12	232	5.3	.12	.46	193	4.4	1.4	88
12	3.5	.30	.35	75	176	4.3	.05	.29	87	9.4	1.2	152
13	3.0	.20	11	27	370	3.3	.02	.36	54	7.2	1.0	320
14	2.5	.15	21	14	250	2.9	1.2	1.1	216	3.7	.90	560
15	2.2	.10	6.0	7.5	138	3.1	1.9	1.0	117	4.9	.90	670
16	1.8	.08	2.0	202	81	1.9	2.5	1.2	48	8.3	.80	550
17	1.5	.06	.60	386	68	1.4	.94	.29	18	8.0	.70	370
18	1.2	.05	.20	351	117	.80	.70	.04	11	8.8	.60	160
19	.90	.20	.30	990	99	.70	.24	.06	11	6.4	.70	95
20	.70	.25	.20	860	47	.79	.26	.20	3.7	8.4	.90	65
21	.50	.10	.10	480	29	.79	.41	.75	3.1	16	1.0	45
22	.40	.05	.07	230	19	.80	.09	2.7	3.5	18	.90	30
23	.30	.03	.04	154	15	.89	.06	.59	1.1	15	.70	35
24	.20	.02	.03	121	12	1.3	.04	.08	.53	9.2	.60	30
25	.15	.01	.04	115	10	1.1	.00	.29	.81	14	.50	25
26	.12	.00	.05	101	8.7	.79	.00	.05	2.8	21	.40	22
27	.10	.00	.06	57	7.5	.64	.00	.05	3.0	23	.30	20
28	.08	.00	.08	31	7.9	.64	.00	.00	13	21	.18	18
29	.06	.69	.10	14	---	.56	.02	.00	23	16	.14	22
30	.05	3.1	.06	20	---	.46	.12	16	9.5	8.2	.10	25
31	.04	---	.03	14	---	.41	---	2.1	---	17	.15	---
TOTAL	101.70	8.20	58.90	4261.53	3747.1	117.17	11.09	69.92	6170.59	285.8	85.97	3327.79
MEAN	3.28	.27	1.90	137	134	3.78	.37	2.26	206	9.22	2.77	111
MAX	10	3.1	21	990	766	18	2.5	16	1740	23	25	670
MIN	.04	.00	.03	.00	7.5	.41	.00	.00	.05	2.0	.10	.48
AC-FT	202	16	117	8450	7430	232	22	139	12240	567	171	6600

CAL YR 1977 TOTAL 20516.19 MEAN 56.2 MAX 1960 MIN .00 AC-FT 40690
WTR YR 1978 TOTAL 18245.76 MEAN 50.0 MAX 1740 MIN .00 AC-FT 36190

NOTE.--No gage-height record Oct. 10 to Nov. 27, Dec. 16 to Jan. 8, and Aug. 8 to Sept. 30.

SAN JACINTO RIVER BASIN

65

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	
FEB 27...	1230	5.0	424	7.4	14.0	260	120	8.6	86	4.3	60	
SEP 05...	1225	2.3	543	7.4	29.0	200	20	6.7	88	8.3	140	
DATE		HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FEB 27...	25	19		3.0	52	2.9	5.0	42	0	24	81	.1
SEP 05...	0	44		7.3	46	1.7	22	200	0	15	59	.4
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, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	
FEB 27...		4.6	210	160	36	.24	.02	.11	1.8	.28	16	
SEP 05...		62	354	31	12	.08	.01	.17	2.1	2.4	27	

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		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									
FEB 27...	1230	1	100	1	10	5	60			
SEP 05...	1225	8	100	0	0	1	140			
		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 27...		0	0	.0	0	0	10			
SEP 05...		0	0	.0	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									
FEB 27...	1230	.0	.00	.00	.0	.00	.00	.00	.01	
SEP 05...	1225	.0	.00	.00	.0	.00	.00	.00	.00	
		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)	METHYL PARA- THION, TOTAL (UG/L)
DATE										
FEB 27...		.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 05...		.00	.00	.00	.00	.00	.00	.00	.00	.00
		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)	
DATE										
FEB 27...		.00	--	.00	0	.00	.00	.00	.00	
SEP 05...		.00	.00	.00	0	.00	.00	.02	.04	

67

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.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1732: Drainage area.

REMARKS.--Water-discharge records good. No large diversion above station. Low flow is maintained by sewage effluent. Channel below gage was rectified in 1950-51 and 1975.

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 FOR CURRENT YEAR.--Peak discharges above base of 1,800 ft³/s (51.0 m³/s) and maximum (*):

Minimum daily discharge, 6.5 ft³/s (0.18 m³/s) Oct. 30.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	30	25	8.9	183	22	9.1	10	22	38	34	202
2	18	67	15	28	139	33	9.0	11	17	47	39	102
3	25	14	13	17	127	61	9.9	46	56	28	36	32
4	20	9.9	11	11	80	27	8.8	20	183	24	30	39
5	14	11	10	9.5	54	23	8.4	22	229	23	31	39
6	12	8.8	8.8	9.3	39	23	8.4	17	280	42	56	26
7	11	7.9	7.9	36	250	240	9.0	17	3860	25	39	23
8	10	139	7.7	102	1150	110	8.8	16	3110	21	25	25
9	15	93	7.5	18	1250	49	8.7	15	3010	19	22	22
10	12	21	7.9	9.9	1130	28	11	14	2120	20	21	86
11	10	18	7.5	131	613	20	15	13	769	23	21	486
12	9.0	12	7.5	294	330	18	13	12	261	20	21	199
13	8.5	11	113	149	405	17	12	13	250	26	57	601
14	8.0	9.4	76	70	532	15	11	11	229	27	23	682
15	7.7	8.7	74	40	273	12	10	12	225	25	20	671
16	7.5	8.0	32	515	157	13	11	12	133	25	19	792
17	7.4	7.7	19	835	136	12	12	12	74	27	17	546
18	7.3	7.4	13	937	138	11	12	11	45	28	17	338
19	7.2	7.2	11	1740	157	11	10	12	37	28	17	146
20	7.1	7.6	9.1	1730	110	11	9.9	12	36	30	17	87
21	7.4	54	9.2	1390	67	10	10	12	30	29	22	64
22	7.6	18	9.1	596	47	9.7	9.9	13	27	74	21	48
23	8.5	9.1	8.7	299	38	9.6	11	14	25	43	19	34
24	17	8.7	8.3	290	32	19	11	14	23	32	19	39
25	11	9.0	8.2	247	28	12	11	13	22	34	18	38
26	7.6	7.3	7.5	199	26	9.5	9.3	13	21	38	18	26
27	7.0	7.3	7.6	144	25	8.5	9.2	13	32	118	18	23
28	6.7	8.1	18	92	23	11	9.0	11	27	140	18	25
29	6.6	93	29	64	---	9.4	9.4	30	30	67	19	22
30	6.5	89	16	51	---	9.3	10	118	45	67	19	26
31	6.6	---	10	71	---	9.1	---	25	---	49	42	---
TOTAL	325.2	802.1	607.5	10133.6	7539	873.1	306.8	584	15228	1237	795	5489
MEAN	10.5	26.7	19.6	327	269	28.2	10.2	18.8	508	39.9	25.6	183
MAX	25	139	113	1740	1250	240	15	118	3860	140	57	792
MIN	6.5	7.2	7.5	8.9	23	8.5	8.4	10	17	19	17	22
AC-FT	645	1590	1200	20100	14950	1730	609	1160	30200	2450	1580	10890
WTR YR 1977	TOTAL	38355.3	MEAN	105	2730	MIN	5.9	AC-FT	76080			
CAL YR 1978	TOTAL	43920.3	MEAN	120	3860	MIN	6.5	AC-FT	87120			

SAN JACINTO RIVER BASIN

08069000 CYPRESS CREEK NEAR WESTFIELD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Sediment records: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
OCT 20...	1100	7.1	22.5	29	.56
DEC 01...	1040	25	13.0	309	21
JAN 12...	1130	306	7.0	736	608
19...	1330	1900	4.0	583	2990
FEB 22...	1720	46	11.0	108	13
APR 10...	1200	9.3	22.0	34	.85
MAY 05...	1445	24	25.0	105	6.8
JUN 07...	1655	4160	--	691	7760

SAN JACINTO RIVER BASIN

69

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.

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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)
FEB 28...	1210	25	480	7.6	17.0	130	90	6.1	65	7.8	82	0
SEP 06...	1140	21	371	7.2	24.0	360	200	3.3	40	8.4	71	0
		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
FEB 28...	26		4.2	61	2.9	6.3	140	0	26	60	.3	13
SEP 06...	23		3.4	42	2.2	7.5	120	0	18	35	.3	13
		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 28...	266	118	16	.63	.16	--	--	--	--	3.0	12	
SEP 06...	201	420	68	1.0	.50	1.5	1.3	1.4	2.7	2.9	15	

SAN JACINTO RIVER BASIN

08069200 CYPRESS CREEK NEAR HUMBLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 28...	1210	3	100	1	0	5	40
SEP 06...	1140	6	0	0	0	2	50

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 28...	0	0	.0	0	0	20
SEP 06...	0	10	.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)
FEB 28...	1210	.0	.00	.00	.0	.00	.00	.00	.21
SEP 06...	1140	.0	.00	.00	.1	.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)	METHYL PARA- THION, TOTAL (UG/L)
FEB 28...	.01	.00	.00	.00	.00	.00	.03	.00	.00
SEP 06...	.01	.00	.00	.00	.00	.01	.06	.08	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
FEB 28...	.00	--	.00	0	.00	.01	.00	.00
SEP 06...	.00	.00	.00	0	.00	.01	.14	.01

SAN JACINTO RIVER BASIN

71

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.

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.
1954-78: Maximum gage height since first appreciable storage at Lake Houston, 23.09 ft (7.038 m) June 15, 1973; 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, 19.46 ft (5.931 m) June 8; minimum, 9.15 ft (2.789 m) Sept. 7.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.25	9.36	10.60	11.92	13.20	12.88	12.42	11.35	9.90	---	10.87	9.38
2	10.18	9.47	10.64	11.95	13.31	12.85	12.40	11.33	9.90	---	10.81	9.34
3	10.12	9.27	10.69	11.92	13.31	12.68	12.33	11.31	10.00	---	10.75	9.25
4	10.07	9.22	10.70	11.94	13.27	12.68	12.35	11.28	10.17	---	10.69	9.21
5	10.02	9.20	10.64	11.90	13.18	12.74	12.33	11.31	10.13	---	10.67	9.18
6	9.95	9.19	10.65	11.89	13.15	12.84	12.26	11.23	12.04	---	10.58	9.16
7	9.92	9.19	10.67	11.86	13.62	12.88	12.23	11.20	19.40	---	10.52	9.16
8	9.85	10.18	10.61	11.75	15.57	12.77	12.23	11.13	18.53	---	10.44	9.17
9	9.83	9.69	10.58	11.77	15.66	12.77	12.27	11.09	18.07	---	10.37	9.17
10	9.80	9.40	10.55	11.80	16.31	12.83	12.13	11.06	15.23	---	10.31	9.40
11	9.72	9.35	10.50	11.90	15.82	12.76	12.11	11.01	13.48	---	10.23	10.21
12	9.70	9.31	10.47	12.18	15.10	12.80	12.10	10.93	13.10	---	10.17	9.79
13	9.67	9.30	11.12	12.35	14.70	12.77	12.09	10.85	13.02	---	10.12	11.10
14	9.62	9.27	11.58	12.45	14.57	12.76	12.09	10.81	12.92	---	10.05	11.02
15	9.58	9.27	11.75	12.58	14.27	12.66	12.05	10.75	12.87	---	10.01	11.29
16	9.53	9.24	11.91	13.40	13.95	12.59	12.03	10.69	12.83	---	9.91	11.19
17	9.50	9.24	12.16	13.66	13.71	12.58	11.98	10.66	12.79	---	9.83	11.06
18	9.45	9.22	12.22	14.22	13.53	12.59	11.96	10.61	12.72	---	9.78	10.95
19	9.43	9.20	12.20	15.66	13.57	12.59	11.88	10.54	12.67	---	9.70	10.90
20	9.41	9.18	12.16	15.41	13.37	12.58	11.84	10.44	---	11.10	9.64	10.93
21	9.37	9.86	12.09	15.12	13.19	12.56	11.82	10.38	---	11.07	9.59	10.92
22	9.33	9.90	12.07	14.36	13.05	12.54	11.88	10.29	---	11.06	9.54	10.92
23	9.32	9.97	12.07	13.65	12.98	12.57	11.78	10.23	---	11.07	9.46	10.89
24	9.53	10.14	12.04	13.50	12.92	12.54	11.74	10.15	---	11.00	9.41	10.89
25	9.34	10.16	12.00	13.34	12.87	12.51	11.64	10.09	---	10.94	9.38	10.87
26	9.30	10.20	11.98	13.27	12.85	12.48	11.60	10.01	---	10.86	9.33	10.84
27	9.27	10.17	11.98	13.16	12.83	12.47	11.55	9.94	---	11.05	9.28	10.80
28	9.24	10.18	12.04	13.05	12.84	12.47	11.52	9.88	---	11.07	9.19	10.79
29	9.22	10.37	11.98	13.02	---	12.44	11.46	10.14	---	11.00	9.18	10.75
30	9.23	10.57	12.00	12.92	---	12.42	11.41	10.01	---	10.95	9.17	10.73
31	9.22	---	12.00	12.93	---	12.41	---	9.94	---	10.93	9.37	---
MAX	10.25	10.57	12.22	15.66	16.31	12.88	12.42	11.35	---	---	10.87	11.29
MIN	9.22	9.18	10.47	11.75	12.83	12.41	11.41	9.88	---	---	9.17	9.16

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 good. No large diversion above station. National Weather Service rain gage and gage-height telemeter at station.

AVERAGE DISCHARGE.--39 years, 220 ft³/s (6.230 m³/s), 9.19 in/yr (233 mm/yr), 159,400 acre-ft/yr (197 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, that of Nov. 24, 1940. 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, 2,480 ft³/s (70.2 m³/s) Feb. 10, gage height, 14.15 ft (4.313 m), no peak above base of 2,500 ft³/s (70.8 m³/s); minimum daily, 10 ft³/s (0.28 m³/s) for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	22	45	35	341	118	46	29	27	14	13	50
2	18	24	68	35	774	113	42	29	31	14	13	100
3	18	31	53	36	1110	112	42	33	42	13	12	50
4	17	26	43	34	1090	107	44	45	45	13	12	30
5	16	24	37	33	353	108	44	39	59	13	11	20
6	16	24	33	35	198	103	43	36	39	13	11	15
7	16	23	29	39	205	112	43	35	248	13	11	13
8	16	30	27	45	1060	107	42	36	483	13	11	13
9	16	71	26	38	1540	95	42	33	198	12	11	15
10	15	50	26	34	2270	89	43	29	104	12	10	20
11	15	29	24	42	2200	83	48	27	53	12	10	80
12	16	25	24	124	1040	79	51	27	36	12	10	60
13	17	24	46	268	531	77	47	27	29	12	11	50
14	16	24	380	259	660	79	44	24	45	12	12	180
15	15	23	406	122	907	76	41	23	32	12	13	150
16	15	24	409	168	597	71	40	23	23	12	12	72
17	15	23	152	586	293	66	38	23	20	11	11	48
18	15	23	79	941	468	63	35	22	19	11	10	31
19	15	22	57	1480	805	61	35	22	19	11	10	24
20	15	22	46	1870	630	61	32	22	18	11	10	20
21	15	55	39	2200	299	62	30	21	17	11	10	21
22	16	86	34	1830	207	61	30	21	16	11	11	18
23	17	96	32	556	171	61	30	20	15	11	12	16
24	53	67	32	414	152	65	32	20	15	12	12	26
25	44	45	32	568	143	72	31	20	14	15	11	24
26	31	34	30	738	137	61	29	18	14	100	10	20
27	26	30	29	609	127	58	28	18	14	60	10	17
28	24	28	29	344	123	52	29	18	13	30	10	16
29	23	28	39	202	---	47	28	18	13	20	15	15
30	22	37	44	162	---	46	29	21	14	15	14	16
31	21	---	37	157	---	48	---	36	---	13	20	---
TOTAL	610	1070	2387	14004	18431	2413	1138	815	1715	544	359	1230
MEAN	19.7	35.7	77.0	452	658	77.8	37.9	26.3	57.2	17.5	11.6	41.0
MAX	53	96	409	2200	2270	118	51	45	483	100	20	180
MIN	15	22	24	33	123	46	28	18	13	11	10	13
CFSM	.06	.11	.24	1.39	2.03	.24	.12	.08	.18	.05	.04	.13
IN.	.07	.12	.27	1.60	2.11	.28	.13	.09	.20	.06	.04	.14
AC-FT	1210	2120	4730	27780	36560	4790	2260	1620	3400	1080	712	2440
CAL YR 1977	TOTAL	63377	MEAN 174	MAX	4060	MIN 14	CFSM .54	IN 7.25	AC-FT	125700		
WTR YR 1978	TOTAL	44716	MEAN 123	MAX	2270	MIN 10	CFSM .38	IN 5.12	AC-FT	88690		

SAN JACINTO RIVER BASIN

73

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
DEC 15...	0940	389	155	6.7	13.0	44	12	15	1.7	10
FEB 02...	1520	829	136	6.6	6.5	44	16	15	1.5	8.8
MAR 06...	1540	105	312	7.2	12.0	78	34	26	3.2	27
APR 24...	1245	33	321	7.2	23.5	71	30	23	3.3	30
MAY 30...	1550	20	276	6.8	25.0	51	25	16	2.7	28
JUL 21...	1125	11	251	6.6	--	55	32	18	2.4	--
AUG 21...	1445	10	288	6.4	30.5	40	23	12	2.4	34

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
DEC 15...	.7	2.8	40	0	7.4	20	.1	8.8	86
FEB 02...	.6	1.7	34	0	5.9	22	.1	7.9	80
MAR 06...	1.3	1.4	54	0	11	65	.1	15	175
APR 24...	1.6	1.6	50	0	3.9	66	.1	13	166
MAY 30...	1.7	1.4	32	0	2.5	58	.1	12	136
JUL 21...	--	--	28	0	3.0	54	.1	13	--
AUG 21...	2.3	1.4	20	0	3.6	66	.1	12	141

SAN JACINTO RIVER BASIN

08070500 CANEY CREEK NEAR SPLENDORA, TX

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

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.--35 years, 72.7 ft³/s (2.059 m³/s), 9.40 in/yr (239 mm/yr), 52,670 acre-ft/yr (64.9 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)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 20	0400	1,650 46.7	12.57 3.831	Feb. 9	0600	*1,970 55.8	13.50 4.115

Minimum daily discharge, 11 ft³/s (0.31 m³/s) Aug. 27-30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	21	46	27	196	48	25	20	14	20	14	23
2	19	22	38	26	389	46	25	20	15	20	14	40
3	19	25	31	26	109	47	25	24	17	18	14	25
4	19	22	28	25	76	46	25	27	23	17	13	18
5	17	21	26	25	63	44	24	23	20	17	13	16
6	17	20	24	26	57	42	24	21	18	16	13	14
7	17	19	23	27	84	51	24	21	519	16	13	13
8	17	27	22	27	800	43	24	21	171	15	13	13
9	17	46	23	26	1310	39	24	20	49	15	13	15
10	17	32	23	24	234	38	25	19	32	15	12	19
11	18	25	22	27	145	37	27	18	27	15	12	35
12	18	22	22	140	120	36	29	19	25	15	12	35
13	17	21	88	146	382	35	26	19	23	14	13	35
14	17	21	226	49	233	37	25	17	23	14	14	68
15	17	20	67	36	105	36	24	17	26	14	15	52
16	17	21	40	91	88	33	24	17	21	14	15	31
17	17	21	32	676	86	32	24	16	20	14	13	23
18	16	21	29	443	450	31	24	16	19	14	12	19
19	16	20	27	919	172	31	23	16	19	14	12	18
20	16	20	26	936	92	31	21	16	19	14	12	16
21	16	52	25	131	72	31	21	16	18	14	12	17
22	18	64	24	97	62	32	21	16	18	14	12	16
23	20	50	25	88	58	31	21	16	18	21	14	19
24	35	30	26	165	55	32	22	16	17	29	12	19
25	30	26	26	250	54	33	21	15	17	50	12	15
26	27	24	25	156	52	30	20	15	17	29	12	13
27	25	22	24	94	49	28	20	15	17	26	11	13
28	24	22	25	76	49	27	19	15	17	22	11	13
29	23	26	30	63	---	27	19	14	17	18	11	13
30	22	63	32	57	---	26	19	15	17	16	11	14
31	22	---	30	60	---	26	---	15	---	15	14	---
TOTAL	608	846	1155	4959	5642	1106	695	555	1273	565	394	680
MEAN	19.6	28.2	37.3	160	202	35.7	23.2	17.9	42.4	18.2	12.7	22.7
MAX	35	64	226	936	1310	51	29	27	519	50	15	68
MIN	16	19	22	24	49	26	19	14	14	14	11	13
CFSM	.19	.27	.36	1.52	1.92	.34	.22	.17	.40	.17	.12	.22
IN.	.22	.30	.41	1.76	2.00	.39	.25	.20	.45	.20	.14	.24
AC-FT	1210	1680	2290	9840	11190	2190	1380	1100	2520	1120	781	1350
CAL YR 1977	TOTAL	24535	MEAN 67.2	MAX 2620	MIN 13	CFSM .64	IN 8.69	AC-FT 48670				
WTR YR 1978	TOTAL	18478	MEAN 50.6	MAX 1310	MIN 11	CFSM .48	IN 6.55	AC-FT 36650				

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 reservoir 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, 210,000 acre-ft (260 hm³) June 15, 1973, gage height, 49.08 ft (14.960 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, 175,200 acre-ft (216 hm³) June 8, gage height, 46.68 ft (14.228 m); minimum 108,800 acre-ft (134 hm³) Sept. 10, gage height, 41.09 ft (12.524 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 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123400	111000	127100	144100	156800	154000	148000	136100	119300	145800	130100	111200
2	123100	110700	127700	143400	157600	154200	147600	136000	119300	145200	129500	111200
3	122500	110500	128300	142900	158000	153200	147800	135700	119800	144600	128900	110900
4	121700	110200	128400	142500	157900	152200	147400	135200	119800	144000	128400	110700
5	121200	109900	129200	142500	157200	152600	146800	134500	120200	143200	127800	110400
6	120500	109700	128100	142200	156000	152500	147100	134100	124300	142300	127200	109900
7	119800	109500	127400	142500	158000	154600	146600	134000	124300	141600	126500	109700
8	119800	110700	127700	141700	164900	153500	146100	133500	129900	141000	125600	109200
9	119000	111800	127400	141000	167400	152900	145600	133100	129900	139900	125000	108900
10	118700	111700	126500	140500	166800	153200	146700	132400	129900	139200	123900	109400
11	118300	111800	126100	142400	167000	153500	145400	131900	129900	139000	123100	111000
12	117500	111600	125500	145600	166300	152800	145200	131300	129900	138000	122400	112500
13	116900	111300	132500	147700	163900	152900	145200	130800	129900	137100	121700	114400
14	116500	111200	137200	149100	162800	152800	144900	129900	129900	136300	120900	118500
15	116400	111000	140500	150500	161700	152200	144400	128900	129900	135700	120200	123000
16	115600	110700	142800	156400	160800	150900	143800	128400	129900	135400	119500	126000
17	114900	110600	144700	159700	160100	150700	143800	127700	129900	134700	118900	127900
18	114400	110300	146100	156000	158900	150400	143400	126700	129900	134100	118100	129100
19	113900	109900	146800	156900	159000	150400	142900	126100	129900	133600	117500	129800
20	113400	109700	146000	156200	158600	150400	142200	125300	129900	133100	116700	130200
21	113200	114700	144900	164200	156800	150500	141600	124500	129900	132500	116200	130500
22	112700	117800	144500	162800	156300	150200	141300	123800	129900	132400	115400	130800
23	112500	120100	144400	161100	155800	150600	140500	123000	129900	132500	114800	130500
24	112200	121700	144400	159400	155100	150900	140100	122200	129900	131800	114100	130300
25	112200	122500	144000	158200	154900	150400	139700	121400	129900	131100	113300	130300
26	112100	122200	143600	158100	154200	150000	138900	120500	129900	130800	112700	130100
27	111800	122600	143400	157500	154200	149600	138000	119800	129900	130700	112100	129800
28	111300	122800	143500	156400	154200	149400	137200	119200	129900	130600	111500	129500
29	110900	124400	143800	155400	---	149100	136800	119800	129900	130600	110600	129000
30	110600	126000	143800	155000	---	148800	136400	120100	129900	131200	110600	128700
31	110200	---	143600	154900	---	148500	---	119700	---	130800	110700	---
MAX	123400	126000	146800	166200	167400	154600	148000	136100	129900	145800	130100	130800
MIN	110200	109500	125500	140500	154200	148500	136400	119200	119300	130800	110600	108900
(†)	41.23	42.71	44.24	45.15	45.10	44.64	43.63	42.14	44.47	43.14	41.28	42.96
(†)	-13600	+15800	+17600	+11300	-700	-5700	-12100	-16700	+26800	-15700	-20100	+18000
(††)	22480	20310	20360	21780	19470	20090	22010	23860	23090	23610	25250	22230
CAL YR 1977	MAX	179900	MIN	109500	+	-8700	††	247900				
WTR YR 1978	MAX	172900	MIN	108900	+	+4900	††	264540				

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

† Change in contents, in acre-feet.

†† Diversions, in acre-feet, by the San Jacinto River Authority and by the 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 1977 TO SEPTEMBER 1978

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
OCT 20...	1730	236	7.5	58	6	19	2.6	21	1.2

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 20...	2.7	64	0	6.2	32	.1	8.6	124

SAN JACINTO RIVER BASIN

77

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 1977 TO SEPTEMBER 1978

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 02...	1305	1	0	1	0	21	80
MAY 16...	1200	1	0	1	0	20	50
SEP 06...	1130	3	0	1	0	41	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)
MAR 02...		1	10	.0	0	0	10
MAY 16...		4	20	.0	0	0	10
SEP 06...		0	0	.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)
MAR 02...	1305	.0	.00	.00	.0	.00	.00	.00	.01
MAY 16...	1200	.0	.00	.00	.0	.00	.00	.00	.00
SEP 06...	1130	.0	.00	.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)	METHYL PARA- THION, TOTAL (UG/L)
MAR 02...	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAY 16...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 06...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR 02...	.00	--	.00	0	.00	.00	.00	.00
MAY 16...	.00	--	.00	0	.00	.00	.00	.00
SEP 06...	.00	.00	.00	0	.00	.00	.01	.00

SAN JACINTO RIVER BASIN

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. 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, 7.65 ft (2.332 m) June 8; minimum, -1.91 ft (-0.582 m) Dec. 21.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	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	3.22	1.90	3.03	1.18	2.26	0.75	2.21	0.25	1.98	0.77	2.37	0.36	2.09	0.26	3.05	-	-	-	2.42	0.63	2.53	0.44	-	-
2	2.88	-	2.67	.22	2.16	1.02	1.32	-.22	1.89	.27	2.44	.89	2.12	.86	-	-	-	2.22	.72	2.41	.92	-	-	
3	-	-	1.63	-.15	2.35	1.30	1.89	.73	1.79	.48	2.35	-.15	2.65	1.43	-	-	-	-	-	2.12	.65	-	-	
4	3.08	-	1.11	.40	2.52	1.65	2.40	.92	1.88	.42	1.06	-1.08	2.15	.92	-	-	-	-	-	1.78	.28	-	-	
5	-	-	1.28	.36	2.51	.08	2.46	.95	1.85	.18	2.04	.19	2.23	1.07	-	-	-	-	-	2.23	.12	-	-	
6	-	-	2.02	.73	1.04	-1.61	2.03	.26	2.29	.41	2.67	1.17	2.75	1.33	3.45	-	-	-	-	2.27	.71	-	-	
7	-	-	2.50	1.26	3.17	1.04	2.74	.92	3.47	1.95	2.56	.82	2.17	.57	-	-	4.00	-	-	-	-	-	-	
8	-	-	3.21	1.70	3.75	2.40	2.74	-1.38	3.57	2.52	1.17	-.73	2.32	.55	-	-	7.65	4.00	-	-	-	-	-	
9	-	-	2.57	-.37	2.40	-.06	.62	-1.84	3.95	3.35	.85	-.48	2.94	.83	-	-	7.25	4.80	-	-	-	-	-	
10	3.43	-	1.29	-.75	2.69	.61	2.32	.67	3.59	2.92	1.73	.00	3.10	1.36	-	-	-	-	-	-	-	-	-	
11	-	-	1.80	-.05	2.96	1.16	3.07	1.52	4.27	3.19	2.23	.74	1.70	-.06	-	-	-	-	-	-	-	-	-	
12	-	-	1.70	-.17	3.18	1.52	3.15	1.00	4.38	3.79	2.13	.49	2.22	.44	-	-	-	-	-	-	-	-	-	
13	-	-	1.90	.08	2.99	.99	1.94	.12	4.15	2.08	2.40	.76	2.22	.78	-	-	-	-	-	-	-	-	-	
14	-	-	2.05	.51	2.47	.22	1.28	-.58	2.18	1.16	2.20	.79	2.02	.35	-	-	-	-	-	-	-	-	-	
15	-	-	2.98	1.44	2.13	1.06	2.14	.10	2.49	1.80	1.89	.48	2.20	.70	-	-	-	-	-	2.45	.75	-	-	
16	-	-	2.62	.87	2.33	1.20	3.03	1.90	2.62	1.55	.95	-.72	2.35	.75	-	-	-	-	-	2.12	.35	-	-	
17	-	-	2.37	.62	2.47	.40	1.90	.05	2.57	1.44	1.20	-.72	2.82	1.50	-	-	-	-	-	.33	-	-	-	
18	-	-	2.44	1.47	1.38	.40	2.74	.92	1.44	-.09	1.25	-.35	2.15	.84	3.67	2.17	-	-	-	-	-	-	-	
19	-	-	2.88	1.55	2.07	.75	2.79	1.93	1.71	.06	1.56	.00	1.44	.32	2.82	1.34	-	-	-	-	-	-	-	
20	-	-	2.87	1.87	1.45	-.52	2.90	2.02	1.83	.62	1.60	.17	1.99	-	2.51	1.10	-	-	-	-	-	-	-	
21	-	-	3.03	1.49	.13	-1.91	2.98	1.97	1.57	-1.48	1.91	.52	2.42	-	2.27	.72	-	-	-	-	-	-	-	
22	-	-	2.67	1.06	1.34	-1.21	2.59	1.75	1.00	-.82	1.81	.42	2.82	-	2.44	.57	-	-	-	-	-	-	-	
23	-	-	2.79	1.00	1.64	.21	3.03	1.78	.95	-.67	2.19	.86	3.01	-	2.77	.82	-	-	-	-	-	-	-	
24	-	-	2.87	1.23	1.70	-.03	3.04	1.70	1.21	-.20	2.14	.36	-	-	2.80	1.00	-	-	-	-	-	-	-	
25	-	-	2.60	.76	1.64	-.37	2.66	-.46	1.58	.44	1.04	-.17	-	-	-	-	-	-	-	-	-	-	-	
26	-	-	3.12	1.30	2.36	.58	.44	-1.01	1.80	.37	.89	-.50	-	-	-	-	-	-	-	-	-	-	-	
27	-	-	3.52	1.88	2.36	.34	1.64	.44	2.45	.83	1.40	-.41	-	-	-	-	-	2.72	-	-	-	-	-	
28	-	-	2.81	.93	2.47	1.01	1.42	.24	2.45	1.13	1.74	-.23	-	-	-	-	-	2.23	.66	-	-	-	-	
29	-	-	2.57	.80	3.04	1.13	1.71	.90	-----	-----	1.66	-.12	-	-	-	-	2.27	.62	2.21	.64	-	-	-	
30	-	-	2.40	1.61	2.20	.60	1.99	1.38	-----	-----	1.12	-.69	-	-	-	-	2.52	.78	2.47	.84	-	-	-	
31	-	-	-----	-----	2.00	.95	1.69	.46	-----	-----	1.55	-.39	-----	-----	-	-	-----	-----	2.27	.77	-	-	-	

SAN JACINTO RIVER BASIN

79

08072300 BUFFALO BAYOU NEAR KATY, TX

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 to September 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
JUN 09...	1010	190	185	7.0	27.0	140	80	5.3	67	9.6
15...	1255	16	242	6.7	29.0	240	100	4.4	58	14
		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 CAC03)	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
JUN 09...	25000		780	1000	46	2	16	1.4	13	.8
15...	50000		750	2800	55	7	19	1.8	19	1.1
		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
JUN 09...	2.7	53	0	10	20	.2	7.5	97	120	
15...	4.4	58	0	22	23	.2	4.6	123	130	
		SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN 09...	32	.16	.11	.27	.41	1.1	1.5	.01	9.9	
15...	45	1.1	.27	1.4	.21	1.7	1.9	.62	11	

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

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,910 acre-ft (12.2 hm³) Jan. 21, gage height, 90.00 ft (27.432 m); minimum, 3.4 acre-ft (4,190 m³) Dec. 10-13, gage height, 75.42 ft (22.988 m).

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

75.0	1.7	83.0	258
76.0	6.3	84.0	510
77.0	14	85.0	999
78.5	31	86.0	1,830
80.0	55	87.5	3,850
81.0	79	89.0	7,040
82.0	129	90.0	9,910

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	5.6	7.5	3.8	10.0	3.7	3.6	3.6	3.7	6.0	5.8	3.9
2	4.7	7.9	5.5	5.6	8.4	3.7	3.6	3.7	5.8	4.7	6.2	4.8
3	3.9	5.8	4.4	4.6	6.9	3.7	3.6	6.1	70.8	4.4	5.7	7.5
4	4.0	4.2	3.7	4.0	5.7	3.7	3.6	4.7	335.0	4.1	4.7	4.7
5	5.5	3.6	3.5	3.9	4.9	3.7	3.6	3.7	482.0	4.1	4.2	4.2
6	4.7	3.6	3.5	3.6	4.4	3.7	3.6	3.7	526.0	4.5	6.3	3.9
7	4.3	3.6	3.5	3.6	19.2	35.8	3.6	3.7	3640.0	5.0	4.5	3.9
8	4.3	10.9	3.5	3.6	189.0	25.7	3.6	3.6	6770.0	4.7	4.7	4.2
9	4.6	8.4	3.5	3.6	499.0	6.2	3.6	3.6	6890.0	4.4	4.5	3.9
10	4.0	5.5	3.5	3.5	353.0	4.9	3.6	3.6	5900.0	4.3	4.0	27.4
11	3.7	3.8	3.5	18.5	37.4	4.2	3.6	3.6	4570.0	4.5	3.9	103.0
12	4.2	3.6	3.5	138.0	20.3	4.0	4.0	3.6	3120.0	5.3	3.9	175.0
13	4.2	3.6	425.0	103.0	127.0	3.8	3.7	3.6	1660.0	5.9	3.9	357.0
14	3.7	3.6	1490.0	7.2	284.0	3.6	3.7	3.6	479.0	5.4	3.9	649.0
15	3.6	3.6	1380.0	5.1	70.6	3.6	3.6	3.6	12.9	5.6	5.1	982.0
16	3.6	3.6	632.0	422.0	21.1	3.6	3.6	3.6	4.7	6.2	4.0	1060.0
17	3.6	3.6	55.0	2420.0	26.5	3.6	3.6	3.6	4.1	6.0	3.9	834.0
18	3.6	3.6	5.9	3910.0	52.8	3.6	3.5	3.6	3.7	6.2	3.9	465.0
19	3.6	3.6	5.9	7800.0	21.5	3.6	3.5	3.6	3.7	6.3	3.9	89.0
20	3.6	3.6	5.0	9730.0	7.2	3.6	3.5	3.6	3.7	6.2	3.9	16.1
21	3.6	7.5	4.5	9820.0	6.0	3.6	3.5	3.6	3.7	5.6	3.8	13.3
22	3.6	5.3	4.1	9300.0	6.0	3.6	3.6	3.6	3.7	8.0	3.8	12.9
23	4.1	3.8	3.9	8310.0	5.2	3.6	5.2	3.6	3.7	8.5	3.8	13.1
24	15.2	3.7	3.8	5700.0	4.3	3.7	3.8	3.6	3.7	7.9	3.8	12.0
25	4.6	3.7	3.6	5510.0	4.3	3.6	3.6	3.6	3.7	10.5	3.8	35.9
26	3.7	3.6	3.5	3770.0	4.1	3.6	3.6	6.5	3.7	9.1	3.7	91.0
27	3.6	3.6	3.5	2270.0	4.2	3.6	3.8	7.7	3.7	7.8	3.7	67.7
28	3.6	3.6	3.6	919.0	4.1	3.6	3.7	4.4	3.8	6.5	3.7	15.0
29	3.6	17.5	5.8	17.0	---	3.6	3.6	3.9	5.2	5.8	3.7	9.2
30	3.6	12.8	4.7	6.4	---	3.6	3.6	5.4	9.0	5.7	3.9	7.5
31	3.6	---	4.0	7.3	---	3.6	---	3.8	---	5.7	3.9	---
MAX	15	17	1490	9820	499	35	5.2	7.7	6890	10	6.3	1060
MIN	3.6	3.6	3.5	3.5	4.1	3.6	3.5	3.6	3.7	4.1	3.7	3.9
CAL YR 1977	MAX	5090	MIN	3.2								
WTR YR 1978	MAX	9820	MIN	3.5								

SAN JACINTO RIVER BASIN

81

08072500 BARKER RESERVOIR NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

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

294610095385400 - BARKER RESERVOIR OUTFLOW

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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. (COLI S. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUN												
09...	1455	125	6.4	26.5	240	200	5.8	73	4.9	1700	170	820
15...	1145	215	6.5	28.0	160	40	5.7	73	18	32000	160	1000

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN												
09...	39	8	12	2.1	7.5	.5	2.7	37	0	6.0	12	.2
15...	71	0	22	3.8	13	.7	3.7	89	0	8.1	10	.2

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)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN											
09...	8.2	69	320	100	.16	.05	.21	.16	1.0	.22	12
15...	11	116	32	1	.00	.01	.01	.01	1.6	.38	14

294617095390501 - BARKER RES LINE 10, SITE 10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
09...	1100	1.0	137	6.8	26.0	2.3	29
09...	1102	4.0	137	6.4	25.0	.3	4
09...	1104	7.0	137	6.4	25.0	.3	4

SAN JACINTO RIVER BASIN

BARKER RESERVOIR NEAR ADDICKS, TX--Continued

294617095390502 - BARKER RES LINE 10, SITE 20

DISTRICT CODE 48

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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)
JUN												
09...	1202	1.0	137	6.6	27.0	220	200	3.2	41	5.9	6700	500
09...	1204	5.0	137	6.4	25.5	--	--	2.4	30	--	--	--
09...	1206	10	137	6.4	24.5	--	--	1.7	21	--	--	--
09...	1208	12	117	6.4	24.0	220	250	.9	11	6.6	7300	520
15...	0930	1.0	206	6.7	27.0	160	30	.9	11	20	32000	200
15...	0935	5.0	205	6.7	27.5	140	30	.9	12	20	40000	170

DATE	TIME	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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JUN													
09...	720	42	6	13	2.3	8.5	.6	2.9	44	0	7.6	11	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	920	36	5	11	2.0	7.1	.5	2.7	38	0	7.8	9.4	--
15...	490	68	0	21	3.7	12	.6	3.7	85	0	9.0	15	--
15...	1000	66	0	20	3.9	12	.6	3.6	87	0	3.9	16	--

DATE	TIME	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)	NITRO- GEN, NITRATE (MG/L AS N)	NITRO- GEN, NITRITE (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)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN													
09...		.2	8.8	76	340	128	.19	.06	.25	.18	1.0	.24	--
09...		--	--	--	--	--	--	--	--	--	--	--	--
09...		--	--	--	--	--	--	--	--	--	--	--	--
09...		.2	7.9	67	436	108	.15	.05	.20	.18	1.2	.25	11
15...		.2	10	117	59	3	.00	.01	.01	.01	2.4	.40	14
15...		.1	7.4	110	87	56	.02	.01	.03	.01	1.8	.39	13

294617095390503 - BARKER RES LINE 10, SITE 30

DISTRICT CODE 48

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
09...	1210	1.0	137	6.9	27.5	5.8	74
09...	1212	3.0	137	6.8	27.0	5.1	65
09...	1214	5.0	137	6.4	25.0	1.7	21
09...	1216	6.5	137	6.4	25.0	.6	7

SAN JACINTO RIVER BASIN

83

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 to September 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
JUN 09...	1220	115	132	6.8	27.5	140	40	4.8	62	9.3
15...	1110	9.2	205	6.8	28.0	140	300	4.7	60	22
DATE		COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS 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
JUN 09...	7300	310	600	36	6	13	.9	6.2	.4	
15...	12000	190	260	61	14	21	2.0	11	.6	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
JUN 09...	2.7	37	0	5.8	8.2	.1	7.6	63	72	
15...	3.8	57	0	12	18	.2	6.0	102	50	
DATE		SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN 09...	14	.05	.11	.16	.90	1.0	1.9	.01	10	
15...	18	.35	.41	.76	.84	1.5	2.3	.44	17	

SAN JACINTO RIVER BASIN

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

WATER-QUALITY RECORDS

LOCATION.--Lat 29°51'55", long 95°38'44", Harris County, Hydrologic Unit 12040104, 2.2 mi (3.5 km) downstream from Dinners Creek and 5.6 mi (9.0 km) north of Addicks.

DRAINAGE AREA.--25.8 mi² (66.8 km²).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
JUN 09...	1130	210	105	6.8	28.0	140	40	4.0	51	4.6
15...	1005	12	220	7.1	28.5	240	120	4.6	60	16
		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)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
JUN 09...		2800	200	950	32	2	10	1.6	6.2	.5
15...		31000	500	630	72	0	24	2.9	12	.6
		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
JUN 09...		2.2	36	0	7.4	8.6	.1	3.9	58	70
15...		4.3	94	0	3.8	17	.2	9.0	120	276
		SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN 09...		22	.02	.02	.04	.11	.99	1.1	.01	9.7
15...		58	.18	.15	.33	.18	1.6	1.8	.49	16

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.

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. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,080 acre-ft (5.03 hm³) Jan. 20, elevation, 91.88 ft (28.005 m); minimum, reservoir was dry for many days.

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

73.7	0	85.0	189
76.0	7	86.5	385
78.0	22	88.5	1,020
80.0	46	90.0	2,020
82.0	82	91.0	2,970
84.0	135	92.0	4,260

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.00	.10	.00	2.5	.0	0	0	.00	.35	9.60	.00
2	0	.00	.00	.00	1.1	.0	0	0	31.60	.00	1.20	.00
3	0	.00	.00	.00	.2	.0	0	0	75.70	.00	.25	.00
4	0	.00	.00	.00	.0	.0	0	0	206.00	.00	.00	.00
5	0	.00	.00	.00	.0	.0	0	0	285.00	.00	.00	.00
6	0	.00	.00	.00	.0	.0	0	0	260.00	.00	3.30	.00
7	0	.00	.00	.00	12.5	13.0	0	0	1870.00	.00	.00	.00
8	0	8.80	.00	.25	145.0	1.5	0	0	3530.00	.00	.00	.00
9	0	.63	.00	.00	191.0	.0	0	0	3530.00	.13	.00	.00
10	0	.00	.00	.00	99.2	.0	0	0	2920.00	.00	.00	42.70
11	0	.00	.00	28.30	24.5	.0	0	0	2060.00	.00	.00	106.00
12	0	.00	.00	53.30	34.0	.0	0	0	1190.00	.00	.00	101.00
13	0	.00	68.10	16.90	102.0	.0	0	0	451.00	.08	.00	86.80
14	0	.00	32.70	.33	75.0	.0	0	0	136.00	.00	.00	103.00
15	0	.00	.05	.00	6.0	.0	0	0	37.90	.20	.00	194.00
16	0	.00	.00	119.00	1.0	.0	0	0	.05	.20	.00	335.00
17	0	.00	.00	524.00	12.3	.0	0	0	.00	.00	.00	358.00
18	0	.00	.00	797.00	5.0	.0	0	0	.00	.10	.00	217.00
19	0	.00	.00	3100.00	.8	.0	0	0	.00	2.30	.00	111.00
20	0	.00	.00	4050.00	.0	.0	0	0	.00	1.50	.00	25.80
21	0	.48	.00	3260.00	.0	.0	0	0	.00	1.50	.00	.80
22	0	.00	.00	2000.00	.0	.0	0	0	.00	16.30	.00	.05
23	0	.00	.00	1060.00	.0	.0	0	0	.00	1.80	.00	.00
24	0	.00	.00	683.00	.0	.0	0	0	.00	5.50	.00	.00
25	0	.00	.00	375.00	.0	.0	0	0	.00	7.90	.00	.00
26	0	.00	.00	217.00	.0	.0	0	0	.00	2.40	.00	.00
27	0	.00	.00	120.00	.0	.0	0	0	.00	1.00	.00	.00
28	0	.00	.00	48.00	.0	.0	0	0	1.40	.93	.00	.00
29	0	21.40	.00	2.60	---	.0	0	0	8.80	5.50	.00	.00
30	0	1.30	.00	.00	---	.0	0	0	1.30	17.70	.00	.00
31	0	---	.00	.18	---	.0	---	0	---	25.30	.00	---
MAX	.00	.21	.68	4050	191	13	.00	.00	3530	.25	9.6	358
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CAL YR 1977	MAX	1800	MIN	.00								
WTR YR 1978	MAX	4050	MIN	.00								

SAN JACINTO RIVER BASIN

08073000 ADDICKS RESERVOIR NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUN												
09...	1430	94	6.2	25.5	180	120	6.3	79	3.8	3300	190	500
15...	1125	172	6.2	28.0	160	60	5.6	72	15	12000	150	260

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN												
09...	28	4	8.4	1.6	4.8	.4	2.6	29	0	4.7	6.3	.2
15...	54	0	17	2.9	9.6	.6	3.6	70	0	5.1	10	.2

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)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN											
09...	6.3	49	264	92	.10	.03	.13	.14	1.1	.19	9.8
15...	6.3	89	55	24	.08	.03	.11	.04	1.6	.42	12

294729095372501 - ADDICKS RES LINE 10, SITE 10

DISTRICT CODE 48

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
09...	1325	1.0	89	6.5	24.5	3.1	38
09...	1327	3.0	89	6.3	24.5	1.4	17
09...	1329	5.0	89	6.2	24.5	.4	5
09...	1331	10	89	6.2	24.0	.2	2
09...	1333	13	92	6.2	24.0	.2	2
15...	1030	1.0	171	6.9	28.0	.7	9

SAN JACINTO RIVER BASIN

87

ADDICKS RESERVOIR NEAR ADDICKS, TX--Continued

294729095372502 - ADDICKS RES LINE 10, SITE 20

DISTRICT CODE 48

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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)
JUN												
09...	1352	1.0	89	6.2	25.0	14	110	3.8	48	4.3	5000	210
09...	1354	5.0	89	6.1	24.0	--	--	2.2	27	--	--	--
09...	1356	7.0	89	6.1	23.0	--	--	1.6	19	--	--	--
09...	1358	10	89	6.1	23.0	--	--	.3	4	--	--	--
09...	1400	12	92	6.1	23.5	200	200	.3	4	5.0	1200	1000
15...	1050	4.0	171	6.7	27.5	160	60	.9	12	16	30000	170

DATE	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)	BICAR- BONATE (MG/L AS HC03)	CAP- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JUN												
09...	500	28	5	8.6	1.5	4.6	.4	2.4	28	0	5.1	6.4
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	520	29	3	8.9	1.6	5.2	.4	2.8	31	0	4.7	6.1
15...	210	51	0	16	2.7	9.6	.6	3.8	70	0	4.6	13

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)	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)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
09...	.2	6.2	49	183	64	.11	.04	.15	.20	.80	.18	8.9
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	.2	6.7	51	636	124	.01	.04	.15	.12	1.2	.28	13
15...	.1	7.1	91	74	23	.09	.02	--	.04	1.7	.44	14

294729095372503 - ADDICKS RES LINE 10, SITE 30

DISTRICT CODE 48

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
09...	1345	1.0	89	6.5	26.0	4.4	55
09...	1347	5.5	89	6.3	24.5	2.9	35
09...	1349	7.0	89	6.1	23.5	.4	5
09...	1351	10	89	6.2	23.5	.5	6

SAN JACINTO RIVER BASIN

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

AVERAGE DISCHARGE.--33 years, 202 ft³/s (5.721 m³/s), 146,300 acre-ft/yr (180 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, 2,790 ft³/s (79.0 m³/s) June 7, gage height, 67.78 ft (20.659 m); minimum daily, 9.4 ft³/s (0.27 m³/s) Nov. 19, 20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	45	150	26	230	29	14	11	33	162	263	41
2	57	160	79	29	256	25	13	17	69	86	162	36
3	44	74	47	32	166	23	12	100	440	56	89	92
4	36	44	35	26	109	20	12	64	585	52	61	53
5	40	31	28	20	75	18	17	46	699	52	50	40
6	53	22	22	18	58	17	15	30	1300	49	101	36
7	48	18	20	20	126	262	11	24	1750	54	93	34
8	49	240	22	23	689	381	13	20	663	60	44	40
9	52	200	15	32	893	162	17	18	1340	52	50	46
10	44	120	13	27	1070	68	22	18	1370	78	48	330
11	38	48	19	182	777	43	20	19	1290	45	41	543
12	37	27	17	645	488	33	29	17	1230	52	31	530
13	41	19	800	774	793	28	34	17	1160	77	27	603
14	37	14	700	461	883	26	24	17	992	65	24	590
15	29	12	550	133	755	21	20	14	595	61	30	576
16	26	10	550	698	395	17	14	14	197	79	43	599
17	29	9.8	400	917	338	19	14	17	56	75	33	599
18	23	9.8	110	1350	438	18	15	14	43	68	23	579
19	20	9.4	50	1850	356	16	14	15	38	182	35	545
20	20	9.4	38	1960	182	16	11	15	33	108	37	426
21	18	250	30	1990	95	16	9.6	13	30	98	25	211
22	22	100	26	1880	71	18	26	12	32	114	39	113
23	28	40	23	1700	57	18	53	14	32	262	26	88
24	111	30	20	1630	45	34	34	13	26	140	23	82
25	78	21	20	1560	36	24	24	11	25	221	24	56
26	38	16	16	1460	34	17	16	37	24	253	23	24
27	27	12	15	1270	31	17	19	119	25	160	23	106
28	18	10	15	972	28	15	17	41	44	116	23	161
29	15	150	40	752	---	12	15	21	140	116	24	99
30	12	300	29	194	---	14	13	158	266	158	107	76
31	12	---	26	111	---	14	---	41	---	259	56	---
TOTAL	1188	2051.4	3925	22742	9474	1441	567.6	987	14527	3410	1678	7354
MEAN	38.3	68.4	127	734	338	46.5	18.9	31.8	484	110	54.1	245
MAX	111	300	800	1990	1070	381	53	158	1750	262	263	603
MIN	12	9.4	13	18	28	12	9.6	11	24	45	23	24
AC-FT	2360	4070	7790	45110	18790	2860	1130	1960	28810	6760	3330	14590
CAL YR 1977	TOTAL	41546.4	MEAN 114	MAX 1150	MIN 6.0	AC-FT 82410						
WTR YR 1978	TOTAL	69345.0	MEAN 190	MAX 1990	MIN 9.4	AC-FT 137500						

SAN JACINTO RIVER BASIN

89

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 05...	1245	27	409	7.5	21.0	240	110	6.9	79	--
JAN 18...	0915	1260	103	6.9	8.0	280	200	10.5	91	4.5
APR 25...	1030	25	510	7.2	23.0	60	160	6.0	71	12
JUN 08...	1325	616	136	7.1	26.5	160	120	6.4	81	4.9
09...	1220	1310	118	6.4	26.5	200	100	6.2	78	4.2
15...	0905	654	204	6.6	28.0	140	40	3.1	40	13
JUL 12...	0940	47	512	7.2	28.0	60	100	5.4	69	9.3
AUG 02...	1020	163	369	7.0	28.0	120	60	6.7	86	4.1
23...	1130	25	539	7.1	25.0	60	100	4.9	60	4.9
SEP 27...	0950	28	449	7.3	24.0	160	50	6.0	73	6.7
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS 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)
DEC 05...	35000	1300	500	--	--	--	--	--	--	--
JAN 18...	120000	6700	8000	--	--	--	--	--	--	--
APR 25...	56000	1200	950	130	5	39	7.4	48	1.8	5.0
JUN 08...	54000	2100	340	--	--	--	--	--	--	--
09...	25000	500	800	--	--	--	--	--	--	--
15...	34000	190	580	68	0	21	3.7	12	.6	3.8
JUL 12...	12000	2000	900	130	0	41	6.3	49	1.9	3.6
AUG 02...	9300	600	220	--	--	--	--	--	--	--
23...	100000	7000	950	--	--	--	--	--	--	--
SEP 27...	13000	500	150	--	--	--	--	--	--	--
DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	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)
DEC 05...	--	--	--	--	--	--	--	162	28	1.3
JAN 18...	--	--	--	--	--	--	--	384	64	.36
APR 25...	150	0	34	55	.5	14	277	302	68	1.8
JUN 08...	--	--	--	--	--	--	--	246	44	.27
09...	--	--	--	--	--	--	--	162	56	.17
15...	85	0	8.2	14	.2	10	115	64	19	.00
JUL 12...	170	0	18	57	.4	14	274	198	41	.63
AUG 02...	--	--	--	--	--	--	--	180	31	.35
23...	--	--	--	--	--	--	--	246	36	1.2
SEP 27...	--	--	--	--	--	--	--	49	24	1.1

SAN JACINTO RIVER BASIN
08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DEC 05...	.08	1.4	.21	1.5	1.7	1.3	14	--	.20
JAN 18...	.01	--	.10	1.0	1.1	.31	16	--	.00
APR 25...	.23	2.0	.39	1.5	1.9	2.2	15	--	.40
JUN 08...	.05	.32	.10	1.2	1.3	.30	12	--	.00
09...	.05	.22	.16	.71	.87	.01	12	--	.00
15...	.01	.01	.07	2.0	2.1	.41	13	--	--
JUL 12...	.15	.78	.15	1.5	1.6	1.1	10	0	.00
AUG 02...	.05	.40	.26	.74	1.0	.46	8.9	3	.10
23...	.17	1.4	.39	1.2	1.6	1.8	11	--	.00
SEP 27...	.12	1.2	.14	1.4	1.5	1.4	12	--	.20

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...	1250	2	300	1	10	3	40
JUL 12...	0940	5	500	0	20	4	20

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN 05...	1	0	.2	0	0	10
JUL 12...	0	0	.0	0	0	0

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...	1250	.0	.00	.00	.0	.00	.00	.00	.09
JUL 12...	0940	.0	.00	.00	.0	.00	.00	.00	.30
AUG 02...	1020	.0	.00	.00	.0	.00	.00	.00	.10

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)	METHYL PARA- THION, TOTAL (UG/L)
JUN 05...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 12...	.01	.00	.00	.00	.00	.00	.01	.00	.01
AUG 02...	.01	.00	.00	.00	.00	.00	.00	.00	.01

DATE	METHYL TRI- THION, TOTAL (UG/L)	PIREX, 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	.01	0	.00	.01	.03	.00
JUL 12...	.00	.00	.00	0	.00	.01	.01	.00
AUG 02...	.00	.00	.00	0	.00	.02	.03	.00

SAN JACINTO RIVER BASIN

91

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.

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

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

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

AVERAGE DISCHARGE.--7 years, 315 ft³/s (8.912 m³/s), 228,200 acre-ft/yr (281 hm³/yr).

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,520 ft³/s (99.7 m³/s) June 7, gage height, 60.34 ft (18.392 m); minimum daily, 34 ft³/s (0.96 m³/s) Nov. 16, May 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
	MEAN VALUES											
1	111	146	177	42	245	54	37	37	54	166	283	74
2	89	168	106	55	256	52	38	39	95	108	200	61
3	74	112	75	50	193	50	37	161	432	77	136	128
4	64	81	58	44	149	47	37	86	582	68	106	87
5	66	63	51	42	115	46	40	71	681	64	91	68
6	86	52	45	39	94	45	40	55	1340	62	215	62
7	79	49	42	42	226	246	36	48	2520	66	153	67
8	82	271	41	50	821	349	38	43	743	70	89	72
9	97	231	40	61	890	180	41	40	1250	75	89	81
10	76	132	38	50	1130	89	49	38	1360	102	84	376
11	66	81	37	270	870	68	48	42	1310	66	75	677
12	63	59	37	631	662	60	66	40	1240	69	63	579
13	67	47	886	802	851	58	64	38	1190	87	59	699
14	65	43	742	515	921	55	52	36	1080	82	57	695
15	56	38	565	166	815	51	46	35	694	78	59	622
16	51	34	554	994	423	45	38	36	214	90	76	644
17	51	38	435	1060	406	44	38	40	77	89	65	645
18	50	35	170	1440	439	44	39	39	65	82	56	629
19	49	35	68	2050	352	40	38	37	62	217	82	591
20	48	38	57	1920	196	40	36	37	57	159	70	464
21	48	297	46	1980	120	40	35	35	54	147	57	226
22	59	143	41	1900	97	42	69	35	56	176	92	129
23	58	74	40	1790	86	43	99	37	57	280	58	108
24	135	52	40	1730	73	74	63	36	53	180	53	103
25	117	45	38	1640	62	48	51	34	51	238	54	84
26	63	41	37	1530	59	40	42	83	50	287	53	51
27	49	39	37	1370	56	40	43	117	52	209	53	95
28	45	38	36	1050	54	38	42	69	65	174	54	174
29	44	198	67	828	---	37	40	83	159	167	54	121
30	44	349	52	234	---	37	39	226	243	200	133	103
31	42	---	46	161	---	38	---	68	---	276	102	---
TOTAL	2094	3029	4704	24536	10661	2140	1381	1821	15886	4211	2871	8515
MEAN	67.5	101	152	791	381	69.0	46.0	58.7	530	136	92.6	284
MAX	135	349	886	2050	1130	349	99	226	2520	287	283	699
MIN	42	34	36	39	54	37	35	34	50	62	53	51
AC-FT	4150	6010	9330	48670	21150	4240	2740	3610	31510	8350	5690	16890
CAL YR 1977	TOTAL	52556	MEAN 144	MAX 1100	MIN 34	AC-FT 104200						
WTR YR 1978	TOTAL	81849	MEAN 224	MAX 2520	MIN 34	AC-FT 162300						

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).

WATER-DISCHARGE RECORDS

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

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,470 ft³/s (127 m³/s) June 13, 1973, gage height, 54.98 ft (16.758 m); minimum daily, 6.0 ft³/s (0.17 m³/s) Dec. 6, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 52.71 ft (16.066 m) June 7; minimum, 32.25 ft (9.830 m) Oct. 30.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.12	38.48	36.20	---	36.52	33.04	32.96	32.85	33.52	36.04	36.13	34.58
2	33.77	38.28	34.70	---	36.57	33.44	32.98	34.75	37.43	35.25	36.06	33.50
3	33.39	34.71	---	33.30	36.20	33.40	32.99	37.57	38.80	34.22	34.87	34.70
4	33.20	33.97	---	33.20	35.55	33.34	32.95	34.43	39.08	33.80	34.23	34.20
5	33.10	33.44	33.30	33.10	35.05	33.31	32.98	33.92	39.98	33.64	33.88	33.60
6	---	33.15	33.18	33.10	34.62	33.24	33.10	33.54	48.81	33.60	39.12	33.50
7	---	32.95	32.98	---	41.30	37.06	32.42	33.30	52.71	33.68	35.76	33.97
8	---	40.00	33.06	---	41.77	37.44	32.97	33.05	46.30	33.72	34.32	33.97
9	35.40	36.94	32.97	33.70	41.54	36.90	33.11	32.98	43.80	34.70	34.16	35.10
10	---	35.25	33.00	33.40	41.98	34.76	33.62	32.92	43.90	34.72	33.80	41.90
11	---	34.30	32.98	40.60	41.49	33.98	33.51	33.02	43.65	34.04	33.68	41.90
12	33.13	33.63	32.97	40.40	41.56	33.68	34.50	32.98	43.25	33.89	33.43	38.80
13	33.19	33.28	43.94	40.00	41.16	33.64	34.33	32.90	42.95	34.07	33.38	41.50
14	33.20	33.04	42.57	39.90	40.81	33.48	33.42	32.87	42.65	34.07	33.24	41.30
15	33.05	33.13	39.72	37.00	40.73	33.35	33.23	32.83	41.00	33.90	33.37	39.10
16	32.95	33.13	38.73	46.60	39.70	33.27	33.05	32.80	38.20	34.10	33.60	39.20
17	32.84	35.21	38.28	44.10	39.90	33.22	32.94	32.97	---	34.16	33.42	39.20
18	32.80	---	36.00	45.50	38.28	33.29	33.05	32.93	---	34.00	33.17	39.15
19	32.76	---	34.00	46.78	37.83	33.15	32.93	32.90	33.70	37.18	35.08	39.00
20	32.72	---	33.60	45.49	36.67	33.14	32.88	32.89	33.60	35.79	34.64	38.60
21	32.70	40.12	33.40	45.60	35.25	33.13	32.84	32.88	33.50	34.92	33.31	37.00
22	33.78	---	33.20	45.60	34.56	33.15	36.59	32.85	33.45	36.65	35.39	34.80
23	33.78	---	33.10	45.06	34.38	33.18	36.60	32.86	33.48	36.28	34.39	34.50
24	35.19	---	---	44.68	34.10	35.03	33.92	32.83	33.43	35.58	33.12	34.40
25	35.21	---	---	44.39	33.79	33.45	33.42	32.79	33.30	36.04	33.17	34.10
26	33.72	---	---	44.02	33.71	33.14	33.08	35.95	33.27	37.01	33.12	33.20
27	33.15	---	33.00	43.49	33.11	33.15	33.06	35.00	33.63	36.92	33.18	35.40
28	32.92	---	33.00	42.20	33.03	33.03	33.07	34.70	34.52	35.53	33.18	35.50
29	32.72	36.90	34.50	41.10	---	33.00	32.99	41.50	37.98	35.53	33.18	34.43
30	32.69	37.70	33.40	39.36	---	32.93	32.94	41.82	36.38	35.68	36.73	34.25
31	32.63	---	---	36.47	---	33.01	---	34.94	---	36.14	35.38	---
MAX	---	---	---	---	41.98	37.44	36.60	41.82	---	37.18	39.12	41.90
MIN	---	---	---	---	33.03	32.93	32.42	32.79	---	33.60	33.12	33.20

SAN JACINTO RIVER BASIN

93

08073700 BUFFALO BAYOU AT PINEY POINT, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 06...	0920	45	722	7.6	17.5	120	50	4.7	51	--
JAN 18...	1030	1140	120	7.0	8.0	280	200	10.5	91	4.8
APR 25...	1130	51	705	7.4	24.5	40	60	4.0	49	22
JUN 05...	1400	664	219	6.7	26.5	200	100	5.6	71	10
07...	1145	3430	132	6.9	24.5	200	150	6.0	73	9.6
JUL 11...	1145	59	635	7.2	29.0	80	100	1.7	22	20
AUG 08...	1035	71	525	7.4	28.5	70	100	4.2	55	12
SEP 27...	1110	42	723	7.3	25.5	60	20	3.6	45	19
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS 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)
DEC 06...	120000	650	720	--	--	--	--	--	--	--
JAN 18...	140000	8000	3800	--	--	--	--	--	--	--
APR 25...	38000	720	580	140	0	42	7.9	80	3.0	7.4
JUN 05...	32000	1300	220	61	2	19	3.2	17	1.0	3.5
07...	200000	19000	7200	43	2	14	2.0	7.4	.5	2.6
JUL 11...	300000	19000	2500	130	0	39	6.7	72	2.8	6.3
AUG 08...	31000	3100	600	--	--	--	--	--	--	--
SEP 27...	10000	720	60	--	--	--	--	--	--	--
DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS 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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC 06...	--	--	--	--	--	--	--	108	34	.61
JAN 18...	--	--	--	--	--	--	--	412	64	.36
APR 25...	230	0	37	73	.6	17	378	103	24	.81
JUN 05...	72	0	14	21	.2	9.8	123	204	64	.40
07...	50	0	7.1	7.3	.2	6.2	71	428	72	.20
JUL 11...	220	0	23	62	.6	18	337	191	51	.42
AUG 08...	--	--	--	--	--	--	--	204	36	.81
SEP 27...	--	--	--	--	--	--	--	30	28	.72

SAN JACINTO RIVER BASIN
08073700 BUFFALO BAYOU AT PINEY POINT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DEC 06...	.35	.96	7.0	2.0	9.0	9.0	12	--	1.0
JAN 18...	.01	--	.30	1.0	--	.39	15	--	.00
APR 25...	.39	1.2	6.0	.60	6.6	4.7	12	--	.70
JUN 05...	.14	.54	.95	1.3	2.2	.43	10	1	.00
JUN 07...	.05	.25	.17	.83	1.0	.32	11	--	.00
JUL 11...	.37	.79	2.4	4.7	7.1	4.3	11	2	.10
AUG 08...	.39	1.2	2.4	1.4	3.8	2.5	10	--	.30
SEP 27...	.68	1.4	6.0	1.6	7.6	4.5	9.8	4	.70

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...	1400		3	200	0	0	40
JUL 11...	1145		4	400	0	0	20
SEP 27...	1110		4	0	0	8	50

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN 05...		1	0	.2	0	0
JUL 11...		0	0	.0	0	10
SEP 27...		0	10	.0	0	20

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUN 05...	1400	.0	.00	.00	.0	.00	.00	.00	.09
JUL 11...	1145	.0	.00	.00	.1	.00	.00	.00	1.4
SEP 27...	1110	.0	.00	.00	.0	.00	.00	.00	.72

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)	METHYL PARA- THION, TOTAL (UG/L)
JUN 05...	.01	.00	.00	.00	.00	.00	.01	.00	.00
JUL 11...	.02	.00	.00	.00	.00	.00	.04	.12	.00
SEP 27...	.01	.00	.00	.00	.00	.00	.19	.00	.04

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 05...	.00	.00	.00	0	.00	--	--	--
JUL 11...	.00	.00	.00	0	.00	.00	.04	.00
SEP 27...	.00	.00	.00	0	.00	--	--	--

SAN JACINTO RIVER BASIN

95

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. 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 (28.3 m³/s) are computed or estimated following designated storm periods only. Low flow is mostly sustained by sewage effluent from Houston suburbs. Gage heights are affected by tides, backwater from Whiteoak Bayou, and other streams. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--8 years (water years 1936-44) unregulated, 272 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 2.8 mi (4.5 km) downstream, from rating curve extended above 15,300 ft³/s (433 m³/s), stage-discharge relation materially affected by bridge; furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,660 ft³/s (160 m³/s) June 7, gage height, 19.34 ft (5.895 m); minimum discharge not determined (affected by tides).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	---			---	---			
2			---	---	---			---	---			
3			---	---	---			---	---			
4			---	---	---			---	---			
5			---	---	---			---	---			
6			---	---	---			---	1610			
7			---	---	281			---	4440			
8			---	---	1320			---	2080			
9			---	---	938			---	1360			
10			---	---	1110			---	1660			
11			---	407	1100			---	1650			
12			---	982	1150			---	1530			
13			1110	746	1020			---	1520			
14			1160	---	882			---	1430			
15			693	---	903			---	1120			
16			---	1410	678			---	702			
17			---	1930	---			---	---			
18			---	1470	---			---	---			
19			---	2490	---			---	---			
20			---	1860	---			---	---			
21			---	1890	---			---	---			
22			---	1880	---			---	---			
23			---	1860	---			---	---			
24			---	1840	---			---	---			
25			---	1670	---			---	---			
26			---	1530	---			---	---			
27			---	1480	---			---	---			
28			---	1180	---			---	---			
29			---	974	---			327	---			
30			---	549	---			1090	---			
31			---	250	---			413	---			
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 current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 14...	1110	1190	175	--	18.0	160	220	6.0	65	26
JAN 17...	1315	1680	159	7.7	11.5	180	180	8.9	84	9.0
JUN 05...	1050	1010	217	6.4	26.5	200	200	4.7	59	13
07...	1335	5080	136	7.2	24.5	180	150	5.6	68	5.9
JUL 11...	0940	221	606	6.9	28.5	90	10	2.1	27	10
AUG 08...	0925	104	420	6.9	27.0	70	100	4.0	51	9.6
SEP 06...	0845	72	661	7.3	23.0	80	65	5.7	68	16
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS 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)
DEC 14...	600000	120000	48000	--	--	--	--	--	--	--
JAN 17...	480000	26000	16000	--	--	--	--	--	--	--
JUN 05...	100000	11000	620	60	3	19	3.0	17	1.0	3.6
07...	220000	51000	16000	45	0	15	1.9	6.9	.4	2.6
JUL 11...	180000	40000	6000	130	0	42	7.0	67	2.5	5.9
AUG 08...	110000	40000	500	--	--	--	--	--	--	--
SEP 06...	39000	28000	820	130	0	41	7.1	75	2.8	7.4
DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC 14...	--	--	--	--	--	--	--	572	12	.41
JAN 17...	--	--	--	--	--	--	--	356	60	.28
JUN 05...	69	0	14	20	.3	7.8	119	328	48	.43
07...	55	0	7.1	6.4	.2	5.3	73	440	48	.21
JUL 11...	200	0	25	62	.4	17	325	25	18	.78
AUG 08...	--	--	--	--	--	--	--	308	49	1.1
SEP 06...	230	0	31	62	.5	22	360	113	14	.87

SAN JACINTO RIVER BASIN
08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

97

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)		
DEC 14...	.01	.42	.45	1.4	1.8	.59	16	--	.00		
JAN 17...	.03	.31	.39	1.2	1.6	.45	16	--	.00		
JUN 05...	.18	.61	.85	1.7	2.5	.85	14	3	.10		
JUN 07...	.04	.25	.17	1.3	1.5	.39	12	--	.00		
JUL 11...	.72	1.5	2.1	1.5	3.6	3.6	7.8	2	.20		
AUG 08...	.35	1.4	.60	1.0	1.6	1.3	11	--	.10		
SEP 06...	.43	1.3	4.2	1.4	5.6	3.9	13	1	.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)				
JUN 05...	1050	5	300	0	0	2	30				
JUL 11...	0940	8	500	0	0	4	20				
SEP 06...	0845	2	200	0	0	0	20				
DATE	TIME	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)				
JUN 05...		1	0	.2	0	0	10				
JUL 11...		0	0	.0	1	0	10				
SEP 06...		0	0	.0	1	0	10				
DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)		
JUN 05...	1050	.0	.00	.00	.0	.01	.00	.17	.15		
JUL 11...	0940	.0	.00	.00	.1	.00	.00	.00	.75		
SEP 06...	0845	.0	.00	.00	.1	.01	.00	.00	.55		
DATE	TIME	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)	METHYL PARA- THION, TOTAL (UG/L)	
JUN 05...	.01	.00	.00	.00	.00	.00	.00	.01	.00	.00	
JUL 11...	.02	.00	.00	.00	.00	.00	.01	.04	.15	.00	
SEP 06...	.08	.00	.00	.00	.00	.00	.01	.03	--	.01	
DATE	TIME	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	.01	0	.00	.03	.06	.00		
JUL 11...		.00	.00	.00	0	.00	.07	.09	.00		
SEP 06...		.00	.00	.00	0	.00	.02	.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.--7.33 mi² (18.98 km²). Prior to Oct. 1, 1976, 8.05 mi² (20.85 km²).

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.--WDR TX-74-1: Drainage area.

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

REMARKS.--Records 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.--14 years, 7.59 ft³/s (0.215 m³/s), 5,500 acre-ft/yr (6.78 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), 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)
Dec. 13	0830	738 20.9	75.89 23.131	June 7	0330	*850 24.1	76.85 23.424
Jan. 16	1500	423 12.0	74.46 22.695	July 28	1630	693 19.6	76.26 23.244

Minimum daily discharge, 0.01 ft³/s (0.0003 m³/s) Nov. 6, 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	8.0	1.1	.16	8.4	.87	1.0	.36	48	.40	1.1	.74
2	.36	10	.32	1.5	4.5	1.0	.76	4.3	60	.44	.56	.54
3	.18	.68	.19	.68	3.2	1.2	.96	72	57	.45	.37	.59
4	.13	.11	.13	.33	2.5	.76	.77	.99	7.7	.30	.33	1.8
5	.13	.02	.10	.21	1.9	.68	.69	.56	.83	31	.35	.53
6	.12	.01	.04	.15	1.5	.78	.65	.60	169	1.9	9.4	.25
7	.11	.01	.03	.23	25	15	.64	.27	354	.30	5.0	2.1
8	.28	16	.04	.20	71	3.9	.84	.21	98	.22	.56	2.3
9	.09	4.5	.06	.13	18	1.7	.78	.15	13	.21	.28	1.2
10	.11	.65	.06	.11	9.9	1.5	.61	.10	3.5	.20	.21	13
11	.41	.17	.05	34	5.9	1.1	.83	.08	1.8	.29	.18	22
12	.24	.09	.02	23	75	.73	1.1	.11	1.1	.23	.75	4.0
13	.20	.04	258	2.3	50	1.0	.76	.10	1.5	.17	1.3	18
14	.17	.03	20	.93	13	1.0	.52	.06	1.1	.13	2.2	24
15	.15	1.2	3.2	.36	7.5	.86	.45	.06	.72	.13	1.2	3.0
16	.13	.28	1.1	162	6.8	.65	.36	.16	.54	.14	.23	1.1
17	.12	.11	.54	56	26	.62	.36	.15	.47	.16	.20	.50
18	.11	.05	.38	69	14	.58	.35	.33	.74	.21	.15	.30
19	.10	.04	.33	171	6.3	.62	.32	.31	.57	.34	.35	.24
20	.12	.04	.29	23	4.0	.64	.30	4.3	.51	.32	.27	.33
21	.11	9.9	.24	10	2.7	.65	.30	.42	.46	.43	2.1	.30
22	.41	4.0	.33	11	2.8	.73	4.6	.21	.46	28	.64	.21
23	.18	.65	.33	11	2.3	.73	3.9	.21	.41	16	.30	.16
24	.26	.24	.31	32	1.5	17	.40	.20	.47	.86	.28	.14
25	.40	.12	.34	20	1.5	1.9	.27	.17	.42	.86	.27	.10
26	.30	.05	.52	8.4	1.3	1.3	.27	.18	.38	18	.24	.09
27	.20	.05	.41	4.7	1.2	1.7	.26	.18	.35	4.0	.25	.09
28	.15	.04	.46	2.8	1.1	1.9	.24	.18	.33	103	.30	.09
29	.12	3.9	1.3	2.0	---	1.6	.27	.42	5.7	19	.30	.09
30	.10	4.1	.44	2.5	---	1.4	.29	56	1.2	26	.82	.08
31	.10	---	.22	3.9	---	1.3	---	35	---	8.5	1.2	---
TOTAL	5.76	65.08	290.88	653.59	368.8	65.40	23.85	178.37	830.26	262.19	31.69	97.87
MEAN	.19	2.17	9.38	21.1	13.2	2.11	.80	5.75	27.7	8.46	1.02	3.26
MAX	.41	16	258	171	75	17	4.6	72	354	103	9.4	24
MIN	.09	.01	.02	.11	1.1	.58	.24	.06	.33	.13	.15	.08
AC-FT	11	129	577	1300	732	130	47	354	1650	520	63	194
(††)	.63	4.56	3.86	7.30	3.08	1.13	1.00	2.78	7.61	4.16	1.82	4.40

CAL YR 1977 TOTAL 1699.32 MEAN 4.66 MAX 258 MIN .00 AC-FT 3370 †† 30.67
WTR YR 1978 TOTAL 2873.74 MEAN 7.87 MAX 354 MIN .01 AC-FT 5700 †† 42.33

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

SAN JACINTO RIVER BASIN

99

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX

LOCATION.--Lat 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.--WDR TX-74-1: Drainage area.

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

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

AVERAGE DISCHARGE.--14 years, 13.2 ft³/s (0.374 m³/s), 9,560 acre-ft/yr (11.8 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 850 ft³/s (24.1 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)				
Dec. 13	0830	1,570	44.5	61.41	18.718	June 7	0330	*3,180	90.1	65.10	19.842
aJan. 16	1330	1,910	54.1	62.30	18.989	July 26	1815	1,190	33.7	60.28	18.373
aMay 30	1630	848	24.0	59.07	18.005	July 28	1615	2,300	65.1	63.23	19.273
aJune 6	1600	2,730	77.3	64.19	19.565	July 30	1500	1,090	30.9	59.97	18.279

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

Minimum daily discharge, 0.92 ft³/s (0.026 m³/s) July 9.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	50	4.3	1.8	15	3.8	3.4	1.8	53	2.5	5.9	1.3
2	3.4	11	2.1	11	7.5	5.3	2.1	12	59	2.4	2.9	2.1
3	3.6	5.0	1.5	2.8	10	5.2	3.2	35	37	1.4	3.2	1.3
4	3.7	3.0	2.2	3.6	3.5	4.0	3.4	3.2	7.0	1.6	4.4	2.6
5	3.4	3.0	2.5	4.3	2.9	5.0	3.9	2.1	4.3	6.3	3.9	2.6
6	2.5	2.5	3.9	4.8	3.6	5.8	2.9	3.2	482	2.5	30	1.6
7	2.5	6.0	2.1	5.7	92	30	3.2	3.4	501	1.1	4.4	6.8
8	3.0	88	2.0	5.0	69	4.4	3.7	4.8	38	.98	3.4	2.1
9	2.5	6.9	2.5	4.6	16	3.5	3.7	3.9	13	.92	3.9	3.2
10	3.0	3.2	2.5	6.1	7.7	3.0	7.2	3.4	5.5	1.4	1.8	78
11	4.0	2.7	.95	105	5.4	2.9	7.7	3.4	3.9	1.6	1.3	31
12	3.5	1.6	1.5	26	117	2.8	8.9	3.7	3.4	2.2	3.7	11
13	3.0	2.3	320	7.9	42	3.9	4.2	2.9	4.5	1.6	2.3	64
14	3.0	2.9	28	5.1	18	3.0	3.9	2.3	5.3	1.2	2.6	15
15	3.0	14	9.2	4.2	13	3.1	4.2	3.2	3.7	1.3	2.6	4.8
16	3.0	3.6	4.1	339	9.3	5.5	4.2	2.3	2.5	1.3	2.3	2.1
17	2.5	7.7	2.8	43	64	2.4	4.2	3.7	2.4	1.6	2.1	1.8
18	2.3	2.2	1.9	162	20	2.8	3.7	4.4	4.8	1.6	1.6	1.6
19	2.1	2.1	2.1	170	8.5	4.0	3.9	3.7	5.2	7.2	1.8	1.6
20	2.0	1.9	2.3	26	5.9	4.0	3.9	22	2.6	2.6	2.3	3.7
21	3.0	51	2.2	21	5.7	4.2	3.7	2.6	5.7	2.9	1.8	3.2
22	10	3.7	3.7	16	7.3	4.3	8.9	1.6	2.5	47	2.6	2.9
23	5.0	2.7	2.5	24	6.7	4.7	6.3	2.9	1.8	19	1.6	1.8
24	7.0	4.0	1.9	38	6.3	17	1.8	4.4	1.6	9.5	1.6	1.1
25	5.0	3.2	2.0	24	7.5	4.8	1.8	5.2	1.5	5.9	1.1	1.4
26	3.5	3.4	3.2	9.5	6.9	3.9	3.4	1.8	1.5	73	1.1	3.2
27	3.0	3.2	2.0	6.2	6.8	5.5	3.7	2.1	2.0	9.5	1.6	1.6
28	3.0	3.8	3.3	4.4	6.2	5.2	3.9	1.3	1.3	249	2.6	2.1
29	2.5	18	13	4.2	---	3.9	3.2	17	37	18	1.6	2.9
30	2.5	15	3.4	6.9	---	3.4	2.9	99	5.1	140	11	3.2
31	2.5	---	2.5	12	---	4.8	---	11	---	22	1.8	---
TOTAL	106.2	327.6	438.15	1104.1	583.7	166.1	125.1	273.3	1298.1	639.10	114.8	261.6
MEAN	3.43	10.9	14.1	35.6	20.8	5.36	4.17	8.82	43.3	20.6	3.70	8.72
MAX	10	88	320	339	117	30	8.9	99	501	249	30	78
MIN	2.0	1.6	.95	1.8	2.9	2.4	1.8	1.3	1.3	.92	1.1	1.1
AC-FT	211	650	869	2190	1160	329	248	542	2570	1270	228	519
(+)	.45	4.78	3.60	7.22	3.32	.96	.90	2.78	8.71	5.61	1.56	3.66
CAL YR 1977	TOTAL	3560.56	MEAN	9.75	MAX	320	MIN	.65	AC-FT	7060	++	33.62
WTR YR 1978	TOTAL	5437.85	MEAN	14.9	MAX	501	MIN	.92	AC-FT	10790	++	43.55

++ Weighted-mean rainfall, in inches, based on five rain gages.

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	
DEC											
06...	1030	3.9	1010	8.2	10.0	20	10	12.1	111	--	
JAN											
16...	1335	1790	110	8.2	15.5	180	250	9.8	101	5.7	
16...	1500	1170	106	8.0	15.5	180	220	10.0	103	5.6	
16...	1615	687	115	7.7	15.5	200	200	9.7	100	5.4	
17...	1000	39	187	7.8	6.5	260	150	12.0	1	4.8	
MAY											
02...	1210	3.9	873	8.1	24.5	10	20	16.6	202	5.0	
30...	1800	396	140	6.7	26.5	120	300	7.2	91	19	
30...	1910	165	186	6.6	26.5	90	180	6.8	86	48	
31...	1335	7.2	716	6.8	32.0	60	40	3.6	49	28	
JUN											
06...	1545	2710	138	7.4	25.5	200	350	6.6	82	12	
JUL											
10...	1330	1.8	862	8.2	33.0	20	10	15.4	214	5.1	
AUG											
02...	1120	2.9	621	8.6	31.0	50	6	17.5	236	5.8	
DATE		COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI 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)
DEC											
06...	120000	6700	900	--	--	--	--	--	--	--	--
JAN											
16...	300000	51000	29000	39	0	13	1.7	6.3	.4	1.9	--
16...	220000	40000	28000	--	--	--	--	--	--	--	--
16...	170000	30000	24000	--	--	--	--	--	--	--	--
17...	240000	29000	9100	--	--	--	--	--	--	--	--
MAY											
02...	140000	25000	2000	240	0	71	16	97	2.7	1.5	--
30...	1300000	560000	9900	42	0	14	1.7	8.8	.6	2.7	--
30...	1600000	290000	14000	--	--	--	--	--	--	--	--
31...	1900000	780000	16000	150	0	47	7.9	79	2.8	6.4	--
JUN											
06...	420000	140000	6800	--	--	--	--	--	--	--	--
JUL											
10...	11000	3200	200	150	15	32	16	100	3.6	2.1	--
AUG											
02...	1100000	220000	620	170	0	49	11	73	2.5	2.9	--
DATE		BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC											
06...	--	--	--	--	--	--	--	--	20	7	.16
JAN											
16...	56	0	7.6	5.6	.1	4.1	68	796	96	.25	--
16...	--	--	--	--	--	--	--	640	68	.21	--
16...	--	--	--	--	--	--	--	484	64	.24	--
17...	--	--	--	--	--	--	--	324	60	.17	--
MAY											
02...	360	0	15	91	.5	20	489	14	13	.01	--
30...	57	0	7.7	7.6	.1	2.5	74	1180	124	.76	--
30...	--	--	--	--	--	--	--	516	72	.82	--
31...	260	4	21	89	.4	12	396	42	14	.05	--
JUN											
06...	--	--	--	--	--	--	--	1610	176	.15	--
JUL											
10...	160	0	13	150	.4	11	404	26	23	.02	--
AUG											
02...	210	14	--	69	.4	16	--	14	14	.02	--

SAN JACINTO RIVER BASIN

101

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	
DEC 06...	.02	.18	.10	.64	.74	.20	7.7	--	.30	
JAN 16...	.01	.26	.03	1.2	1.2	.37	18	--	.00	
16...	.01	.22	.08	1.4	1.5	.39	16	--	.00	
16...	.01	.25	.06	1.1	1.2	.35	15	--	.00	
17...	.01	.18	.09	.84	.93	.23	14	--	.00	
MAY 02...	.01	.02	.04	.61	.65	.14	6.4	--	.20	
30...	.09	.85	.24	2.0	2.2	.58	15	5	.80	
30...	.05	.87	.04	2.2	2.2	.68	15	6	.20	
31...	.04	.09	9.0	3.0	12	2.5	18	12	1.0	
JUN 06...	.02	.17	.11	2.0	2.1	.46	20	--	.00	
JUL 10...	.00	.02	.01	3.4	3.4	.13	6.3	4	.00	
AUG 02...	.01	.03	.55	.65	1.2	.61	7.8	8	.90	
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 30...	1750	54	300	1	0	4	80			
31...	1335	30	300	0	10	4	70			
JUL 10...	1330	4	600	0	0	4	20			
AUG 02...	1120	17	--	0	0	4	30			
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 30...		4	10	.0	0	0	10			
31...		2	30	.0	0	0	20			
JUL 10...		0	0	.0	1	0	10			
AUG 02...		0	0	.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)	
MAY 30...	1750	.4	.00	.00	.7	.12	.00	.00	1.1	
31...	1335	.4	.00	.00	.0	.00	.00	.00	.39	
JUL 10...	1330	.0	.00	.00	.0	.00	.00	.00	.04	
AUG 02...	1120	.0	.00	.00	.0	.00	.00	.00	.29	
DATE	TIME	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)	METHYL PARA- THION, TOTAL (UG/L)
MAY 30...		.17	.00	.00	.00	.00	.00	.00	.00	.00
31...		.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 10...		.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG 02...		.00	.00	.00	.00	.00	.00	.01	.00	.00
DATE	TIME	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 30...		.00	.00	.00	0	.00	.00	.00	.00	
31...		.00	.00	.00	0	.00	.00	.00	.00	
JUL 10...		.00	.00	.00	0	.00	.05	.00	.00	

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°46'30", long 95°23'49", Harris County, Hydrologic Unit 12040104, at downstream side of downstream bridge on Heights Boulevard in Houston, 560 ft (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.--42 years, 76.8 ft³/s (2.175 m³/s), 55,640 acre-ft/yr (68.6 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 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)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 13	1300	4,350	123	27.17	8.281	June 7	0530	*8,290	235	32.86	10.016
aJan. 16	1500	5,000	142	28.20	8.595	July 28	1730	4,700	133	27.73	8.452
aMay 26	1400	994	28.2	20.43	6.227	aAug. 22	1630	127	3.60	17.36	5.291
aJune 6	1730	4,920	139	28.08	8.559	aAug. 30	1600	279	7.90	18.06	5.505

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

Minimum daily discharge, 14 ft³/s (0.40 m³/s) July 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	257	46	26	143	31	38	23	239	30	40	67
2	58	131	24	79	72	32	33	28	342	37	31	66
3	42	34	19	29	63	60	32	210	285	29	22	26
4	28	22	19	23	40	36	29	29	98	26	20	37
5	27	19	19	22	33	34	27	20	43	168	22	45
6	25	19	20	21	32	35	27	18	1450	104	95	20
7	28	18	17	31	317	245	25	20	2920	26	70	85
8	27	387	16	80	608	96	23	27	375	24	27	46
9	36	128	19	30	184	45	23	28	129	23	21	58
10	32	35	18	22	130	37	40	22	54	22	20	293
11	40	24	17	367	84	33	42	21	37	21	18	414
12	28	20	18	332	501	29	57	20	33	24	131	164
13	28	20	1320	72	349	37	39	21	36	19	103	314
14	25	21	214	33	139	31	27	19	40	18	27	350
15	24	62	58	26	101	29	23	19	37	18	31	99
16	26	29	31	1440	92	34	23	20	33	16	21	35
17	27	50	24	483	327	29	24	21	30	16	20	20
18	24	25	24	637	159	30	22	20	37	14	19	17
19	22	20	21	1250	79	33	21	19	39	19	19	25
20	20	19	18	273	55	45	19	71	26	65	21	40
21	24	332	17	159	47	42	28	33	29	67	26	37
22	55	64	17	155	41	40	38	24	28	118	43	22
23	29	26	18	153	40	47	61	25	27	130	20	21
24	45	25	19	273	39	116	19	24	29	41	18	20
25	26	20	20	192	36	35	18	29	28	73	19	21
26	22	17	21	114	34	35	18	126	27	255	24	17
27	22	17	21	64	34	39	19	28	30	76	25	16
28	20	19	29	45	33	41	21	21	32	878	27	15
29	21	159	95	40	---	40	25	105	179	193	26	16
30	22	163	31	51	---	40	21	443	52	265	64	17
31	20	---	22	83	---	39	---	165	---	131	25	---
TOTAL	915	2182	2272	6605	3812	1495	862	1699	6744	2946	1095	2423
MEAN	29.5	72.7	73.3	213	136	48.2	28.7	54.8	225	95.0	35.3	80.8
MAX	58	387	1320	1440	608	245	61	443	2920	878	131	414
MIN	20	17	16	21	32	29	18	18	26	14	18	15
AC-FT	1810	4330	4510	13100	7560	2970	1710	3370	13380	5840	2170	4810
(+)	.56	4.60	3.10	7.42	3.16	1.26	.92	2.84	6.87	4.15	1.80	4.39

CAL YR 1977 TOTAL 27407 MEAN 75.1 MAX 1890 MIN 16 AC-FT 54360 ++ 32.69
WTR YR 1978 TOTAL 33050 MEAN 90.5 MAX 2920 MIN 14 AC-FT 65550 ++ 41.07

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

SAN JACINTO RIVER BASIN

103

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 06...	1140	19	1140	8.3	16.0	20	30	9.4	98	--
JAN 17...	1100	413	196	7.8	9.0	160	150	11.3	101	12
APR 25...	0850	18	1110	7.5	23.0	20	20	7.7	92	23
MAY 26...	1430	762	253	7.9	26.0	60	200	12.4	155	19
JUN 05...	0945	42	742	6.5	27.0	60	40	6.6	84	23
JUN 06...	1725	4870	170	6.8	27.0	220	300	6.1	77	19
JUL 11...	0850	21	1030	7.2	28.5	40	20	7.2	94	29
AUG 02...	0910	31	832	7.2	28.0	50	20	6.8	87	32
AUG 23...	1045	15	965	7.4	26.0	50	20	5.1	64	29
AUG 30...	1700	224	375	7.4	27.0	120	120	3.9	50	40
SEP 25...	0840	20	939	7.5	23.5	30	10	5.1	61	25
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS 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)
DEC 06...	2000000	1000000	13000	--	--	--	--	--	--	--
JAN 17...	1100000	71000	12000	--	--	--	--	--	--	--
APR 25...	1400000	180000	4900	230	0	67	15	140	4.0	7.5
MAY 26...	1100000	48000	85000	78	0	27	2.6	14	.7	3.9
JUN 05...	150000	10000	550	180	0	53	11	81	2.6	6.5
JUN 06...	810000	240000	79000	--	--	--	--	--	--	--
JUL 11...	39000	3400	30	210	0	60	14	130	3.9	8.2
AUG 02...	900000	38000	720	190	0	55	12	93	3.0	7.5
AUG 23...	1100000	79000	2500	--	--	--	--	--	--	--
AUG 30...	2000000	140000	36000	--	--	--	--	--	--	--
SEP 25...	1100000	50000	3100	--	--	--	--	--	--	--

SAN JACINTO RIVER BASIN
08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF 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)
DEC 06...	--	--	--	--	--	--	--	70	36	.96
JAN 17...	--	--	--	--	--	--	--	336	52	.20
APR 25...	380	0	32	150	.5	22	621	22	21	.40
MAY 26...	96	0	15	18	.1	4.0	132	820	204	.78
JUN 05...	280	0	27	75	.5	20	413	62	22	1.1
JUN 06...	--	--	--	--	--	--	--	980	120	.19
JUL 11...	350	0	25	130	.4	16	557	25	17	.40
AUG 02...	290	0	22	85	.4	21	439	36	11	.91
AUG 23...	--	--	--	--	--	--	--	21	17	.11
AUG 30...	--	--	--	--	--	--	--	400	92	1.3
SEP 25...	--	--	--	--	--	--	--	17	12	1.3

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DEC 06...	.74	1.7	6.9	2.6	9.5	7.4	20	--	.30
JAN 17...	.03	.23	.68	1.2	1.9	.63	17	--	.00
APR 25...	.48	.88	6.7	.90	7.6	7.0	14	--	1.6
MAY 26...	.08	.86	.65	2.4	3.0	1.1	30	4	.30
JUN 05...	.08	1.2	4.1	7.9	12	.00	12	2	.20
JUN 06...	.03	.22	.24	2.0	2.2	.54	24	--	.00
JUL 11...	.48	.88	3.3	6.0	9.3	8.2	11	7	.60
AUG 02...	.59	1.5	4.9	2.2	7.1	9.0	16	8	.80
AUG 23...	.02	.13	3.1	3.5	6.6	6.0	15	9	1.3
AUG 30...	.12	1.4	1.3	3.7	5.0	1.9	45	22	.30
SEP 25...	.77	2.1	6.1	2.3	8.4	6.0	14	--	2.2

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)
MAY 26...	1430	6	200	1	10	5	260
JUN 05...	0945	32	400	1	10	3	30
JUL 11...	0850	19	500	0	0	4	30
AUG 02...	0910	16	200	0	0	2	40
AUG 23...	1045	140	200	1	0	2	80

DATE	LEAD, DIS- SOLVED (UG/L AS PR)	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 26...	12	60	.1	0	0	20
JUN 05...	4	40	.1	0	0	10
JUL 11...	0	10	.0	1	0	10
AUG 02...	0	0	.0	1	0	20
AUG 23...	0	10	.0	0	0	20

SAN JACINTO RIVER BASIN

105

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 26...	1430	--	.00	.00	1.1	.00	.00	.00	.62
JUN 05...	0945	.0	.00	.00	.1	.00	.00	.00	.14
JUL 11...	0850	.0	.00	.00	.0	.00	.00	.00	1.1
AUG 02...	0910	.0	.00	.02	.0	.00	.00	.00	.70
23...	1045	.0	.00	.00	.0	.00	.00	.00	.84

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)	METHYL PARA- THION, TOTAL (UG/L)
MAY 26...	.05	.00	.00	.00	.00	.02	.01	.00	.00
JUN 05...	.01	.00	.00	.00	.00	.00	.01	.01	.00
JUL 11...	.00	.00	.00	.00	.00	.00	.04	.00	.00
AUG 02...	.00	.00	.00	.00	.00	.00	.05	.09	.00
23...	.01	--	.00	.00	.03	.00	.04	.12	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 26...	.00	.00	.00	0	.00	.00	.00	.02
JUN 05...	.00	.00	.00	0	.00	--	--	--
JUL 11...	.00	.00	.00	0	.00	--	--	--
AUG 02...	.00	.00	.00	0	.00	.04	.08	.00
23...	.00	.00	.00	0	.00	.05	.01	.00

SAN JACINTO RIVER BASIN

08074550 LITTLE WHITEOAK BAYOU AT HOUSTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 29°47'05", Long 95°21'56", Harris County, Hydrologic Unit 12040104, at bridge on North Main Street, 0.8 mi (1.3 km) upstream from mouth, and 1.7 mi (2.7 km) north of Harris County courthouse.

DRAINAGE AREA.--20.9 mi² (54.1 km²).

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

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	
DATE	TIME										
DEC 06...	1325	6.9	778	8.0	18.0	20	10	7.4	80	--	
JUN 05...	0850	5.0	525	6.7	26.5	70	20	3.4	43	10	
06...	1835	1300	189	6.8	27.0	200	180	5.1	65	18	
JUL 18...	1220	4.6	794	7.1	29.5	30	20	3.7	49	29	
AUG 07...	1025	5.2	815	7.5	28.0	50	10	4.4	56	7.5	
30...	1530	132	524	7.1	27.5	120	60	.3	4	74	
30...	1615	120	461	7.2	27.5	120	85	3.8	49	43	
31...	1000	10	415	7.1	24.0	100	25	.7	9	29	
		COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-HF (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)	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)
DATE	100 ML)										
DEC 06...	3900000	440000	7000	--	--	--	--	--	--	--	--
JUN 05...	140000	25000	2500	150	0	46	8.4	48	1.7	4.1	
06...	1600000	1000000	70000	77	4	27	2.4	6.5	.3	2.7	
JUL 18...	910000	200000	10000	160	0	46	12	110	3.7	3.9	
AUG 07...	41000	7000	650	150	0	44	10	110	3.9	4.6	
30...	3500000	1200000	160000	98	0	31	5.1	61	2.7	4.8	
30...	4000000	1200000	52000	--	--	--	--	--	--	--	
31...	180000	50000	820	84	0	27	4.0	45	2.1	4.2	
		BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DATE											
DEC 06...	--	--	--	--	--	--	--	--	13	2	.10
JUN 05...	220	0	24	40	.4	14	294	27	3	.10	
06...	89	0	7.3	5.7	.1	6.5	102	464	56	.28	
JUL 18...	320	0	18	80	.6	8.7	437	28	25	.04	
AUG 07...	320	0	23	80	.4	10	440	17	16	.06	
30...	220	0	19	41	.4	11	282	127	53	.58	
30...	--	--	--	--	--	--	--	209	73	.73	
31...	170	0	14	36	.3	9.4	224	31	18	.06	
		NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	
DATE											
DEC 06...	.05	.15	1.1	.90	2.0	1.2	5.5	--	.40		
JUN 05...	.07	.17	1.2	.80	2.0	.04	8.8	6	.10		
06...	.04	.32	.24	1.5	1.7	.56	16	--	.00		
JUL 18...	.00	.04	1.0	2.6	3.6	1.5	11	10	.40		
AUG 07...	.05	.11	3.8	4.0	7.8	2.1	9.3	8	.40		
30...	.05	.63	4.5	7.5	12	3.1	70	--	1.0		
30...	.07	.80	1.1	4.5	5.6	1.8	37	12	1.1		
31...	.01	.07	2.8	2.5	5.3	1.8	22	11	2.0		

SAN JACINTO RIVER BASIN

107

08074550 LITTLE WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		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...	0850	14	300	1	10	4	40			
JUL 18...	1220	5	400	0	10	3	20			
AUG 07...	1025	9	200	0	0	3	20			
31...	1000	31	0	0	0	1	20			
		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...		3	0	.2	0	0	10			
JUL 18...		0	10	.0	0	0	10			
AUG 07...		0	10	.0	1	0	10			
31...		8	120	.0	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...	0850	.0	.00	.00	.0	.00	.00	.00	.52	
JUL 18...	1220	.0	.00	.00	.0	.00	.00	.00	.37	
AUG 31...	1000	.0	.00	.00	.1	.00	.00	.00	.73	
		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)	METHYL PARA- THION, TOTAL (UG/L)
DATE	TIME									
JUN 05...		.00	.00	.00	.00	.00	.00	.04	.01	.00
JUL 18...		.01	.00	.00	.00	.00	.00	.01	.02	.00
AUG 31...		.01	.00	.00	.00	.00	.00	.02	.10	.00
		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	0	.00	.00	.00	.00	
JUL 18...		.00	.00	.00	0	.00	.00	.00	.00	
AUG 31...		.00	.00	.00	0	.00	.00	.01	.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 Whiteoak Bayou at up-stream 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. 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, 197; 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, 14.6 ft (4.45 m) June 7; minimum, -1.6 ft (-0.49 m) Dec. 21.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	4.0	2.8	4.1	2.5	3.2	1.6	3.3	1.1	3.1	1.8	3.6	1.2	3.1	1.4	4.2	2.4	3.6	2.3	3.4	1.8	3.6	1.5	4.0	2.3
2	3.8	1.8	3.8	1.2	3.1	1.7	2.5	.8	3.0	1.1	3.6	2.0	3.2	1.8	4.6	2.8	4.1	2.3	3.4	1.8	3.4	2.0	3.7	2.2
3	3.4	2.4	2.8	.8	3.1	2.0	2.9	1.7	2.8	1.3	3.2	.6	3.7	2.5	4.4	1.9	4.4	2.3	3.1	1.5	3.1	1.8	3.4	2.3
4	-	-	2.1	1.3	3.2	2.3	3.5	2.0	2.7	1.0	2.2	-.2	3.3	2.0	2.7	1.5	3.8	2.1	3.2	1.5	2.9	1.4	3.4	2.0
5	-	-	2.2	1.2	3.4	1.1	3.5	1.8	2.6	.8	3.1	1.2	3.4	2.1	3.7	1.6	4.0	2.3	3.2	1.4	3.4	1.2	3.4	2.2
6	-	-	2.9	1.7	2.3	-.3	3.0	1.3	3.5	1.3	3.8	2.1	3.7	2.3	4.7	2.9	9.6	2.5	3.3	1.5	3.5	1.8	3.6	2.4
7	-	-	3.5	2.3	4.1	2.2	3.7	1.8	6.5	2.9	3.7	2.0	3.4	1.7	4.6	2.9	14.6	6.0	2.9	1.5	3.1	1.6	4.4	2.5
8	-	-	5.0	3.2	4.8	3.2	3.6	-.3	6.4	2.9	2.0	.3	3.4	1.7	4.0	2.6	6.0	2.8	2.7	1.1	3.1	1.9	4.3	2.7
9	-	2.2	3.7	.8	3.4	1.1	1.7	-.8	4.0	2.3	1.8	.6	4.0	1.8	3.7	2.0	3.5	2.1	2.9	1.3	3.0	2.0	4.6	2.9
10	4.3	2.9	2.2	.3	4.0	1.6	3.3	1.6	3.1	2.1	2.8	1.1	4.2	2.3	4.0	1.8	4.0	2.5	3.0	1.5	3.0	2.2	5.3	2.9
11	3.5	1.5	2.8	1.0	4.0	2.1	6.3	3.0	4.1	2.3	3.3	1.8	2.9	.8	4.8	2.0	4.0	2.7	3.0	1.8	3.1	1.6	5.3	3.3
12	2.7	1.2	2.7	.8	4.3	2.5	5.5	2.1	6.1	3.4	3.2	1.4	3.5	1.4	4.0	2.6	3.6	2.6	3.6	1.9	2.9	1.6	4.9	3.1
13	3.4	1.6	2.9	1.2	9.3	3.4	3.2	1.4	4.8	1.9	3.6	1.8	3.3	1.8	3.3	1.7	3.7	2.2	3.3	1.9	3.1	1.5	4.5	3.0
14	3.3	1.8	3.3	1.6	4.3	1.5	2.5	.7	2.6	.9	3.2	1.8	3.1	1.5	3.2	1.3	3.5	2.1	3.0	1.5	3.2	1.6	4.3	2.8
15	3.2	1.3	4.1	2.5	3.4	2.2	3.3	1.3	3.3	1.9	2.9	1.5	3.3	1.7	3.2	1.8	3.8	2.5	3.0	1.5	3.3	1.5	3.8	2.3
16	2.8	.9	3.7	2.0	3.5	2.3	11.7	3.0	3.4	2.1	2.2	.4	3.4	1.8	3.6	2.0	3.6	2.4	3.0	1.4	3.1	1.4	3.7	2.2
17	3.0	1.7	3.5	1.7	3.6	1.5	6.5	2.0	3.7	2.1	2.2	.4	3.9	2.6	3.8	2.4	4.0	2.2	3.0	1.1	3.3	1.4	4.2	2.5
18	3.1	1.3	3.6	2.5	2.8	1.5	7.4	2.0	2.4	.7	2.3	.6	3.2	1.9	4.8	2.7	4.5	2.6	3.3	1.4	3.4	1.7	4.3	3.0
19	3.0	1.3	4.0	2.6	3.1	1.6	8.4	3.2	2.6	.9	2.7	1.0	2.5	1.3	3.9	2.3	4.2	2.2	3.4	1.3	3.3	1.7	4.3	2.7
20	2.9	1.4	3.8	2.8	2.3	.6	3.2	2.2	2.8	1.2	2.7	1.2	3.1	1.2	3.4	2.2	4.0	2.2	3.4	.9	3.2	1.8	3.9	2.7
21	3.7	1.8	4.6	3.0	1.1	-1.6	3.4	2.4	1.7	-.7	3.0	1.6	3.4	1.8	3.3	1.7	4.0	2.0	3.5	1.2	3.3	1.8	4.0	2.5
22	4.5	2.3	3.6	2.1	2.3	.0	3.6	2.5	1.9	.0	2.9	1.5	3.9	2.6	1.5	3.4	4.0	2.0	3.0	1.7	3.2	2.0	3.9	2.8
23	3.8	2.3	3.7	1.8	2.7	1.1	4.4	3.1	1.7	.4	3.3	1.9	4.1	2.0	3.7	1.7	3.9	2.2	3.8	2.1	3.2	2.1	4.0	2.3
24	4.2	2.8	3.8	2.1	2.7	.8	4.4	3.2	2.2	.7	3.3	1.4	3.8	2.1	4.0	1.9	3.5	1.9	3.8	2.4	3.1	2.2	3.9	2.1
25	3.3	2.0	3.5	1.7	2.6	.7	4.1	1.3	2.6	1.5	2.3	.8	3.5	1.7	3.9	2.2	3.4	1.8	3.5	2.4	3.6	2.5	3.3	2.2
26	3.4	1.7	4.0	2.1	3.3	1.6	2.1	1.1	2.8	1.2	1.9	.6	3.2	1.1	4.6	2.2	3.6	2.2	3.8	2.2	3.8	2.5	3.6	2.2
27	3.2	1.4	4.4	2.7	3.2	1.2	3.1	2.1	3.4	1.7	2.6	.7	3.3	1.3	3.6	1.8	3.7	2.1	3.9	1.6	4.2	2.5	3.5	1.8
28	3.0	1.5	3.7	1.8	3.7	2.0	2.8	1.6	3.5	2.1	2.8	1.2	3.7	1.7	3.6	2.0	3.2	1.7	6.8	1.8	4.8	2.4	3.3	1.6
29	3.0	1.5	3.9	1.7	4.0	2.1	3.0	2.1	---	---	2.7	1.0	3.9	1.9	4.5	2.1	4.5	1.7	3.3	2.0	3.7	2.3	3.9	2.4
30	3.2	1.8	3.3	2.0	3.2	1.6	3.3	2.4	---	---	2.2	.3	3.9	2.5	5.5	2.6	3.7	1.9	4.2	1.9	3.9	2.0	3.7	2.6
31	3.5	2.4	---	---	3.1	1.9	3.0	1.5	---	---	2.7	.6	---	---	3.5	2.4	---	---	3.8	1.9	3.9	2.3	---	---

SAN JACINTO RIVER BASIN

109

08074700 BUFFALO BAYOU AT 69TH STREET, HOUSTON, TX

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

DRAINAGE AREA.--476 mi² (1,233 km²).

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 5.2 ft (1.58 m) Sept. 11; minimum, -1.2 ft (-0.37 m) Dec. 21.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	-	-	4.3	2.4	3.4	1.9	3.6	1.9	3.3	2.0	3.8	1.6	3.5	1.7	4.5	2.7	3.8	2.6	3.9	2.2	3.9	1.8	3.9	2.6
2	-	-	3.8	1.6	3.3	2.1	2.9	1.2	3.2	1.4	3.7	2.2	3.6	2.2	4.8	3.1	4.0	2.4	3.7	2.2	3.8	2.3	3.9	2.6
3	-	-	3.0	1.2	3.4	2.4	3.2	2.1	3.0	1.5	3.4	.9	4.0	2.9	4.5	2.3	4.2	2.3	3.5	1.9	3.5	2.1	3.7	2.6
4	-	-	2.4	1.6	3.5	2.7	3.8	2.3	3.0	1.3	2.5	.1	3.6	2.4	3.1	1.8	4.0	2.3	3.6	1.9	3.2	1.8	3.7	2.6
5	-	-	2.5	1.6	3.6	1.6	3.8	2.1	2.9	1.2	3.3	1.6	3.7	2.6	4.0	2.0	4.1	2.5	3.4	1.8	3.7	1.6	3.7	2.6
6	-	-	3.2	2.0	2.7	.0	3.3	1.6	3.5	1.6	4.0	2.6	4.1	3.8	4.9	3.2	4.8	2.6	3.6	1.9	3.7	2.1	4.0	2.8
7	4.2	2.9	3.7	2.6	4.5	2.7	4.1	2.2	4.8	3.2	3.8	2.2	3.6	2.1	4.8	3.3	4.7	3.2	3.2	1.8	3.4	1.9	4.5	2.9
8	4.4	2.8	4.5	2.9	5.0	3.4	4.0	.1	4.8	2.7	2.2	.5	3.7	2.1	4.3	3.0	3.7	2.2	3.1	1.6	3.3	2.2	4.4	3.1
9	3.8	2.6	3.9	1.0	3.3	1.4	1.9	-5	4.1	2.3	2.1	.9	4.3	2.5	3.9	2.4	3.3	1.8	3.3	1.8	3.3	2.4	4.8	3.2
10	4.6	3.3	2.5	.7	4.2	2.0	3.6	1.9	3.1	1.9	3.0	1.3	4.5	2.7	4.2	2.1	3.8	2.1	3.4	1.9	3.4	2.6	5.0	3.4
11	3.9	2.0	3.1	1.3	4.2	2.6	4.6	3.0	4.3	2.3	3.6	2.1	3.2	1.2	4.9	2.4	4.0	2.4	3.3	2.2	3.4	2.1	5.2	3.4
12	3.1	1.6	3.0	1.1	4.6	2.9	4.6	2.3	4.7	3.2	3.4	1.8	3.6	1.7	4.4	3.0	3.5	2.5	3.5	2.4	3.3	2.0	5.0	3.3
13	3.6	1.9	3.2	1.5	4.0	2.5	3.3	1.5	3.8	1.8	3.8	2.2	3.5	2.1	3.6	2.1	3.6	2.0	3.6	2.2	3.4	2.0	4.5	3.2
14	3.5	2.1	3.5	1.9	3.7	1.5	2.7	.8	2.7	.7	3.4	2.2	3.4	1.8	3.5	1.6	3.6	2.0	3.3	1.9	3.5	2.0	4.4	3.0
15	3.5	1.7	4.3	2.8	3.7	2.4	3.7	1.6	3.5	1.9	3.2	1.8	3.5	2.0	3.5	2.2	3.9	2.8	3.3	1.8	3.6	2.0	3.9	2.5
16	3.1	1.2	4.0	2.2	3.7	2.6	4.8	2.4	3.6	2.2	2.3	.7	3.7	2.1	3.7	2.4	3.9	2.7	3.3	1.8	3.5	1.8	4.0	2.5
17	3.2	2.0	3.7	2.1	3.8	1.8	2.4	1.0	3.3	1.9	2.6	.8	4.1	2.8	3.9	2.6	4.4	2.7	3.3	1.4	3.7	1.8	4.5	2.8
18	3.5	1.7	3.8	2.9	3.1	1.8	3.9	1.9	2.3	.8	2.6	.9	3.4	2.2	4.9	2.8	4.7	3.0	3.7	1.8	3.8	2.1	4.7	3.3
19	3.3	1.7	4.2	3.0	3.4	2.0	3.9	1.1	2.8	1.0	2.9	1.4	2.7	1.7	3.9	2.6	4.5	2.7	3.4	1.7	3.8	2.2	4.7	3.0
20	3.2	2.0	4.1	3.2	2.6	1.0	2.5	.8	3.0	1.5	3.0	1.5	3.4	1.5	3.6	2.3	4.4	2.5	3.7	1.2	3.6	2.2	4.3	3.0
21	3.8	2.3	4.6	2.9	1.1	-1.2	2.7	1.3	1.9	-4	3.3	1.9	3.7	2.1	3.3	1.9	4.4	2.3	3.9	1.6	3.5	2.2	4.3	3.0
22	4.7	2.8	3.9	2.4	2.6	.3	3.1	1.6	2.1	.3	3.2	1.8	4.2	2.9	3.5	1.7	4.4	2.3	4.2	2.0	3.6	2.5	4.2	3.2
23	4.1	2.9	3.9	2.2	3.0	1.4	4.0	2.3	2.0	.5	3.5	2.2	4.2	2.4	3.8	1.9	4.3	2.5	4.1	2.5	3.6	2.6	4.3	2.7
24	4.4	3.2	4.0	2.4	2.9	1.2	3.9	2.4	2.5	1.0	3.4	1.8	4.1	2.5	4.0	2.1	3.9	2.3	4.0	2.8	3.6	2.8	4.2	2.6
25	3.6	2.4	3.8	2.0	2.9	1.0	3.8	-1	2.8	1.7	2.6	1.1	3.7	2.1	4.0	2.4	3.7	2.1	3.8	2.6	4.0	3.0	3.7	2.6
26	3.5	2.1	4.3	2.4	3.6	1.9	1.9	.0	3.1	1.6	2.2	1.0	3.5	1.5	4.2	2.5	3.9	2.5	3.7	2.3	4.2	3.0	3.9	2.7
27	3.5	1.8	4.6	3.1	3.6	1.7	2.8	1.7	3.7	2.0	2.8	1.0	3.6	1.7	3.8	2.1	4.0	2.4	4.0	2.0	4.4	3.0	3.9	2.2
28	3.3	1.8	4.0	2.1	3.9	2.4	2.8	1.4	3.7	2.4	3.1	1.5	3.9	2.0	3.8	2.2	3.6	2.1	3.5	2.0	5.1	2.9	3.7	2.0
29	3.2	1.9	3.8	2.0	4.3	2.4	3.1	2.1	---	---	3.0	1.3	4.2	2.3	4.4	2.4	4.1	1.8	3.6	2.1	5.1	2.7	4.3	2.8
30	3.5	2.2	3.6	2.2	3.5	1.9	3.4	2.7	---	---	2.6	.7	4.2	2.8	3.8	2.6	4.0	2.2	3.9	2.3	4.2	2.5	4.2	3.2
31	3.8	2.8	---	---	3.4	2.2	3.2	1.8	---	---	2.9	1.0	---	---	3.7	2.6	---	---	3.9	2.2	4.1	2.5	---	---

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 and about 2 mi (3 km) southwest of city limits of Houston.

DRAINAGE AREA (revised).--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.--WDR 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 poor. Recording rain gage at station.

AVERAGE DISCHARGE.--14 years, 10.6 ft³/s (0.300 m³/s), 7,680 acre-ft/yr (9.47 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,570 ft³/s (44.5 m³/s) June 13, 1973, elevation, 73.37 ft (22.363 m); no flow for many days.

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)
aDec. 13	1200	222 6.29	66.57 20.291	aJune 2	2100	34 0.96	63.17 19.254
Jan. 11	1930	*558 15.8	68.94 21.013	June 7	0330	485 13.7	68.77 20.961
Jan. 16	1430	508 14.4	68.32 20.824	aJuly 19	1030	298 8.44	67.30 20.513
Jan. 19	0300	441 12.5	67.86 20.684	aAug. 8	1800	43 1.22	63.62 19.391
aMay 29	2300	107 3.03	64.86 19.769	aAug. 31	1100	23 .65	62.61 19.084

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

Minimum daily discharge, 1.8 ft³/s (0.051 m³/s) Apr. 20, 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	32	4.5	2.7	9.5	2.1	2.1	3.7	3.5	7.2	4.8	6.7
2	3.4	14	3.1	5.4	6.2	2.1	2.0	8.0	13	3.5	4.9	4.8
3	3.2	3.6	2.7	3.8	5.6	2.0	4.3	16	29	3.2	3.9	5.2
4	3.3	2.9	2.7	2.4	4.9	8.2	6.5	4.6	6.9	3.7	3.8	4.6
5	3.3	2.3	2.3	2.4	4.5	5.3	4.7	4.1	4.8	3.9	3.8	5.0
6	3.2	2.8	2.4	2.2	4.1	4.2	5.2	3.7	4.3	4.2	25	4.8
7	3.8	2.5	2.0	12	39	5.8	4.6	4.0	163	4.0	8.9	9.3
8	3.4	54	2.5	4.8	129	3.4	3.4	3.6	26	4.1	12	6.6
9	3.4	12	2.0	2.6	50	2.4	3.1	3.8	16	3.5	5.5	5.8
10	4.3	3.7	2.3	2.4	22	2.5	5.1	3.2	8.0	4.4	5.1	45
11	64	2.9	2.0	132	13	7.3	5.6	4.9	5.4	4.3	5.1	43
12	7.1	2.4	2.1	63	90	4.7	7.6	3.7	5.1	4.4	5.3	10
13	4.9	2.4	61	13	54	4.9	4.7	3.2	8.1	5.7	13	23
14	4.2	2.9	9.1	5.7	21	3.7	3.2	3.1	3.8	5.8	5.2	21
15	3.6	2.1	4.9	3.9	10	3.8	3.2	4.0	4.2	3.9	4.5	11
16	4.0	1.9	3.1	197	8.5	3.5	2.9	3.3	3.4	3.5	4.7	6.9
17	3.8	4.0	2.9	113	105	3.5	3.8	3.8	3.9	4.0	5.4	4.6
18	4.0	4.2	2.4	144	52	3.7	2.9	3.1	3.6	4.1	5.0	5.9
19	3.9	2.2	2.5	254	17	3.7	1.9	3.7	4.5	61	5.1	4.2
20	3.5	2.2	2.6	100	10	3.9	1.8	3.3	3.5	7.8	6.6	4.9
21	4.1	38	2.3	48	7.4	3.4	1.8	3.4	4.1	5.3	6.1	36
22	6.5	17	2.8	16	6.2	3.5	7.6	3.4	3.3	7.1	4.5	16
23	4.3	6.1	2.6	16	5.6	3.5	15	3.7	3.8	4.4	5.1	9.7
24	4.5	3.1	2.4	30	4.7	9.4	4.3	3.4	3.1	3.8	4.9	7.0
25	3.6	2.4	2.0	25	4.4	3.9	3.4	3.6	3.7	3.8	5.3	6.6
26	3.6	2.6	2.5	13	4.3	3.4	2.7	3.7	3.4	4.5	5.2	4.3
27	3.4	2.2	3.2	7.5	4.3	3.9	3.7	3.4	3.9	11	5.4	4.1
28	3.1	2.3	3.7	5.2	3.6	3.7	3.4	3.1	6.8	5.9	5.2	4.8
29	3.6	8.3	5.0	4.7	---	3.3	2.9	10	6.2	4.5	5.0	4.6
30	3.9	10	4.2	4.5	---	2.0	3.2	12	6.9	4.0	6.7	4.5
31	3.9	---	2.4	8.5	---	2.1	---	4.1	---	5.4	9.2	---
TOTAL	182.2	249.0	152.2	1244.7	695.8	122.8	126.6	144.6	365.2	205.9	200.2	329.9
MEAN	5.88	8.30	4.91	40.2	24.9	3.96	4.22	4.66	12.2	6.64	6.46	11.0
MAX	64	54	61	254	129	9.4	15	16	163	61	25	45
MIN	3.1	1.9	2.0	2.2	3.6	2.0	1.8	3.1	3.1	3.2	3.8	4.1
AC-FT	361	494	302	2470	1380	244	251	287	724	408	397	654
(++)	1.99	4.72	1.34	6.87	3.24	.47	1.11	1.63	4.72	2.17	1.21	5.78

CAL YR 1977 TOTAL 3027.6 MEAN 8.29 MAX 217 MIN 1.9 AC-FT 6010 ++ 31.17
WTR YR 1978 TOTAL 4019.1 MEAN 11.0 MAX 254 MIN 1.8 AC-FT 7970 ++ 35.25

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

SAN JACINTO RIVER BASIN

111

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 14...	1220	6.9	456	7.6	18.0	700	150	6.9	75	7.8
MAR 01...	0930	2.0	873	7.6	17.0	10	10	6.6	70	11
APR 25...	1330	3.3	780	7.6	26.5	20	30	6.9	86	7.8
MAY 30...	1105	8.0	546	6.4	26.0	30	30	4.6	58	5.4
JUN 02...	1235	14	437	6.3	27.0	40	100	5.5	70	16
JUL 11...	1045	3.8	778	7.4	28.5	30	20	3.8	49	7.5
19...	1410	141	231	6.6	27.0	110	250	4.5	57	16
19...	1745	60	263	7.0	28.0	110	225	4.1	53	14
31...	0830	6.2	710	7.4	25.5	50	60	4.2	52	11
AUG 09...	0850	4.6	690	7.3	26.0	60	30	4.1	51	6.0
23...	1240	5.4	791	7.9	27.5	40	30	6.8	87	3.6
31...	1100	22	567	7.5	23.5	50	60	5.5	66	18
SEP 25...	0945	8.0	636	7.3	23.5	40	50	5.9	71	10
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS 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)
DEC 14...	54000	6700	520	--	--	--	--	--	--	--
MAR 01...	950	64	16	250	0	75	16	75	2.1	7.0
APR 25...	35000	700	310	230	4	72	13	65	1.9	8.4
MAY 30...	120000	8300	2500	--	--	--	--	--	--	--
JUN 02...	520000	34000	19000	130	1	41	7.2	35	1.3	5.6
JUL 11...	46000	9300	1500	220	28	67	12	69	2.0	8.3
19...	39000	26000	8900	66	9	21	3.2	15	.8	4.6
19...	21000	14000	8000	--	--	--	--	--	--	--
31...	100000	3800	3400	--	--	--	--	--	--	--
AUG 09...	59000	9700	6700	--	--	--	--	--	--	--
23...	54000	3500	620	--	--	--	--	--	--	--
31...	100000	30000	8000	160	16	52	8.1	42	1.4	7.0
SEP 25...	140000	16000	2800	--	--	--	--	--	--	--

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	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)
DEC 14...	--	--	--	--	--	--	--	218	32	2.5
MAR 01...	320	0	31	78	.3	24	464	19	9	4.3
APR 25...	280	0	44	70	.3	22	433	30	17	4.0
MAY 30...	--	--	--	--	--	--	--	59	18	4.5
JUN 02...	160	0	23	37	.2	15	243	220	16	2.1
JUL 11...	230	0	43	78	.2	21	412	56	41	5.9
19...	69	0	14	18	.2	6.7	117	652	132	1.7
19...	--	--	--	--	--	--	--	396	104	1.8
31...	--	--	--	--	--	--	--	112	21	3.0
AUG 09...	--	--	--	--	--	--	--	45	11	3.7
23...	--	--	--	--	--	--	--	62	15	6.8
31...	180	0	47	50	.2	18	313	144	30	2.1
SEP 25...	--	--	--	--	--	--	--	111	33	3.8

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DEC 14...	.03	2.5	.52	1.6	2.1	3.4	12	--	.20
MAR 01...	.22	4.5	4.2	1.1	5.3	6.0	9.0	4	.60
APR 25...	.36	4.4	1.1	1.7	2.8	5.2	8.3	--	.30
MAY 30...	.24	4.7	.67	1.4	2.1	5.0	9.4	--	.20
JUN 02...	.21	2.3	.36	1.5	1.9	1.7	19	--	.00
JUL 11...	.32	6.2	.68	2.2	2.9	6.3	6.8	3	.20
19...	.05	1.7	.52	2.4	2.9	1.7	18	--	.20
19...	.07	1.9	.36	2.4	2.8	1.8	14	3	.20
31...	.20	3.2	2.1	1.2	3.3	6.5	14	--	.50
AUG 09...	.24	3.9	.63	.77	1.4	4.7	7.4	--	.30
23...	.27	7.1	.36	1.4	1.8	7.9	6.2	--	.10
31...	.18	2.3	.78	1.9	2.7	3.6	15	5	.20
SEP 25...	.28	4.1	.39	1.2	1.6	5.5	7.7	--	.30

SAN JACINTO RIVER BASIN

113

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		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									
MAR 01...	0930	4	200	1	0	3	20			
JUL 11...	1045	8	--	0	20	3	20			
19...	1410	41	400	0	0	4	30			
AUG 31...	1100	12	100	1	60	2	20			
		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									
MAR 01...		0	110	.0	2	0	30			
JUL 11...		0	0	.0	2	0	20			
19...		0	0	.0	1	0	10			
AUG 31...		3	0	.0	1	0	20			
		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									
MAR 01...	0930	.0	.00	.00	.0	.00	.00	.00	.15	
JUL 11...	1045	.0	.00	.00	.0	.00	.00	.00	.59	
19...	1410	.0	.00	.00	.1	.00	.00	.00	1.8	
AUG 31...	1100	.0	.00	.00	.3	.00	.00	.00	.38	
		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)	METHYL PARA- THION, TOTAL (UG/L)
DATE	TIME									
MAR 01...	.01	.00	.00	.00	.00	.00	.00	.01	.00	.00
JUL 11...	.01	.00	.00	.00	.00	.00	.01	.03	.00	.00
19...	.01	.00	.00	.00	.00	.00	.02	.04	.14	.00
AUG 31...	.00	.00	.00	.00	.00	.01	.00	.03	.04	.00
		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									
MAR 01...		.00	--	.00	0	.00	--	--	--	
JUL 11...		.00	.00	.00	0	.00	1.8	.09	.00	
19...		.00	.00	.00	0	.00	.00	.00	.00	
AUG 31...		.00	.00	.00	0	.00	.01	.09	.01	

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).

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 except those for period of no gage-height record, which are poor. No diversion above station. Low flow is mostly sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--42 years, 110 ft³/s (3.115 m³/s), 79,700 acre-ft/yr (98.3 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; maximum discharge, that of June 15, 1976.

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)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 11	2030	5,130 145	34.62 10.552	June 7	unknown	*6,260 177	35.90 10.942
Jan. 16	1500	5,800 164	35.39 10.787	aAug. 6	1500	1,210 34.3	29.44 8.973
aMay 29	2330	5,240 148	34.75 10.592	aAug. 30	1430	2,280 64.6	31.12 9.485

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

Minimum daily discharge, 68 ft³/s (1.93 m³/s) May 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	369	97	93	205	74	72	77	97	150	76	127
2	106	228	81	141	124	74	72	88	264	100	76	88
3	97	88	76	95	115	76	73	222	500	80	74	102
4	92	80	74	87	102	75	76	88	150	75	74	99
5	92	79	75	86	97	79	73	77	100	72	73	85
6	90	80	74	86	93	76	75	68	300	71	293	82
7	91	79	74	152	554	145	75	70	2500	71	128	109
8	96	531	73	141	1090	82	73	70	400	71	201	116
9	108	181	71	90	398	71	72	70	150	72	110	103
10	93	89	71	87	233	70	80	75	100	77	79	605
11	317	78	72	1270	148	70	97	72	80	135	74	527
12	94	74	75	651	1040	73	151	70	70	107	73	185
13	83	73	839	175	550	73	99	70	150	78	114	339
14	83	75	221	108	214	72	78	70	80	79	89	293
15	82	75	101	99	134	73	72	70	70	75	77	114
16	79	73	84	1700	118	70	73	75	70	75	76	108
17	82	200	82	734	709	69	75	72	70	77	76	91
18	81	170	80	901	364	69	76	72	70	78	74	87
19	83	77	80	2020	163	70	73	73	70	186	74	85
20	83	74	81	446	119	70	71	88	70	111	77	100
21	82	436	82	251	101	70	71	74	70	84	87	340
22	123	180	85	189	89	71	114	73	70	207	85	149
23	98	92	88	219	86	71	183	72	75	94	87	99
24	129	77	87	350	81	177	88	71	72	82	80	82
25	87	71	84	288	79	78	78	73	70	80	101	80
26	80	71	86	166	78	73	75	94	70	77	81	79
27	78	69	88	122	80	75	73	89	70	143	78	80
28	77	73	93	104	82	78	72	71	70	172	79	78
29	76	319	142	97	---	76	70	316	100	85	79	79
30	76	172	102	100	---	75	72	690	130	81	427	76
31	78	---	89	146	---	73	---	105	---	85	251	---
TOTAL	3010	4333	3507	11194	7246	2448	2502	3365	6158	3030	3423	4587
MEAN	97.1	144	113	361	259	79.0	83.4	109	205	97.7	110	153
MAX	317	531	839	2020	1090	177	183	690	2500	207	427	605
MIN	76	69	71	86	78	69	70	68	70	71	73	76
AC-FT	5970	8590	6960	22200	14370	4860	4960	6670	12210	6010	6790	9100
(††)	1.79	3.66	1.67	6.65	3.27	.68	1.22	2.38	5.08	2.57	2.25	4.90

CAL YR 1977 TOTAL 52743 MEAN 145 MAX 2310 MIN 62 AC-FT 104600 †† 33.46
WTR YR 1978 TOTAL 54803 MEAN 150 MAX 2500 MIN 68 AC-FT 108700 †† 36.12

†† Weighted-mean rainfall, in inches, based on eight rain gages.
NOTE.--No gage-height record June 3 to July 5.

SAN JACINTO RIVER BASIN

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 05...	1135	77	830	8.2	24.0	20	10	11.1	135	--
MAR 01...	1310	76	868	7.9	21.0	20	10	11.1	128	14
MAY 02...	0905	70	822	7.4	24.5	20	40	6.6	80	13
MAY 30...	0950	340	341	6.5	25.0	60	150	8.4	104	15
JUL 17...	1215	81	758	7.7	30.5	20	20	10.1	135	11
AUG 07...	1145	122	615	7.4	29.0	40	30	7.8	103	13
AUG 31...	1840	374	363	7.5	26.5	120	110	6.6	84	18
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-HF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	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)
DEC 05...	94	4	18	--	--	--	--	--	--	--
MAR 01...	2100	10	44	170	0	51	11	110	3.6	6.9
MAY 02...	1800	44	30	170	0	50	11	110	3.7	7.4
MAY 30...	300000	39000	6900	--	--	--	--	--	--	--
JUL 17...	2000	12	8	140	0	42	8.4	100	3.7	6.2
AUG 07...	290000	45000	950	130	0	39	7.4	76	2.9	5.3
AUG 31...	560000	200000	5700	100	0	33	4.6	33	1.4	3.9
DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	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)
DEC 05...	--	--	--	--	--	--	--	18	5	1.5
MAR 01...	300	0	40	80	.7	20	468	22	19	1.3
MAY 02...	270	0	40	84	.4	22	458	19	10	1.1
MAY 30...	--	--	--	--	--	--	--	388	56	1.0
JUL 17...	260	0	44	73	.6	23	426	32	22	1.7
AUG 07...	190	0	41	58	.5	14	335	42	7	1.1
AUG 31...	130	0	23	26	.3	12	200	302	112	.74
DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	
DEC 05...	.59	2.1	7.0	2.2	9.2	3.6	7.6	--	.30	
MAR 01...	.56	1.9	5.4	1.4	6.8	2.9	11	3	.40	
MAY 02...	.39	1.5	5.1	.50	5.6	4.6	8.5	--	.50	
MAY 30...	.17	1.2	1.2	1.5	2.7	.93	14	0	.40	
JUL 17...	.37	2.1	2.2	2.8	5.0	2.4	7.2	4	.30	
AUG 07...	.25	1.3	2.1	1.0	3.1	1.7	7.9	2	.30	
AUG 31...	.14	.88	1.4	1.2	2.6	1.6	18	--	.10	

SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		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						
MAR 01...	1310	4	100	1	0	5	20
JUL 17...	1215	6	400	0	0	3	20
AUG 07...	1145	47	200	0	0	2	30

		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						
MAR 01...		0	40	.0	1	0	30
JUL 17...		0	10	.0	1	0	10
AUG 07...		0	0	.0	1	0	20

DATE	TIME	PCB, TOTAL (UG/L)	MAPH- 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 01...	1310	.0	.00	.00	.2	.00	.00	.00	.43
MAY 30...	0950	.1	.00	.00	.2	.00	.00	.00	.08
JUL 17...	1215	.0	.00	.00	.0	.00	.00	.00	.71
AUG 07...	1145	.0	.00	.06	.1	.00	.00	.00	.71

DATE	TIME	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)	METHYL PARA- THION, TOTAL (UG/L)
MAR 01...		.02	.00	.00	.00	.00	.01	.00	.00	.00
MAY 30...		.02	.00	.00	.00	.00	.01	.02	.00	.00
JUL 17...		.01	.00	.00	.00	.00	.01	.06	.00	.00
AUG 07...		.01	.00	.00	.00	.00	.01	.19	.00	.00

DATE	TIME	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 01...		.00	--	.00	0	.00	.00	.00	.00
MAY 30...		.00	.00	.00	0	.00	.02	.03	.06
JUL 17...		.00	.00	.00	0	.00	.04	.02	.00
AUG 07...		.00	.00	.02	0	.00	.00	1.1	.02

SAN JACINTO RIVER BASIN

117

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 current year.

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 05...	1020	72	851	7.8	23.0	30	40	6.8	81	--
JUN 07...	1600	1850	265	7.3	24.5	160	280	6.1	74	14
AUG 31...	1720	500	468	7.4	26.5	100	90	6.2	78	29
	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)	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)
DEC 05...	1000	24	42	--	--	--	--	--	--	--
JUN 07...	1100000	540000	38000	--	--	--	--	--	--	--
AUG 31...	120000	7700	7300	110	0	35	5.5	50	2.1	4.5
	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC 05...	--	--	--	--	--	--	--	73	15	1.3
JUN 07...	--	--	--	--	--	--	--	812	132	.54
AUG 31...	160	0	30	39	.5	14	257	216	48	1.0
	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	
DEC 05...	1.1	2.4	3.5	1.4	4.9	4.1	6.3	--		.60
JUN 07...	.07	.61	.70	1.7	2.4	.78	17	--		.00
AUG 31...	.19	1.2	1.7	1.4	3.1	1.6	21	11		.10

SAN JACINTO RIVER BASIN

08075100 BRAYS BAYOU AT SCOTT STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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...	1720	.0	.00	.00	.2	.00	.00	.01	.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)	METHYL PARA- THION, TOTAL (UG/L)
AUG 31...	.14	.00	.00	.00	.05	.01	.03	.00	.00
DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	
AUG 31...	.00	.00	.00	0	.00	.00	.13	.04	

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.

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

REMARKS.--Water-discharge records poor. During the current year, all peak discharges above 250 ft³/s (7.08 m³/s) are estimated, because of construction activity and rectification in the vicinity of the gage. 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 420 acre-ft (0.518 hm³) of ground-water was used for cooling purposes then released to the bayou about 300 ft (90 m) upstream from gage. Recording rain gage located at station.

AVERAGE DISCHARGE.--14 years, 26.5 ft³/s (0.750 m³/s), 19,200 acre-ft/yr (23.7 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 500 ft³/s (14.2 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)
Jan. 11	2200	*800 22.7	44.50 13.564	Feb. 12	1945	564 16.0	43.92 13.387
Jan. 16	1700	*800 22.7	44.50 13.564	aAug. 6	1800	120 3.40	38.73 11.805
Jan. 19	unknown	700 19.8	unknown -	aAug. 30	2230	151 4.28	39.09 11.915
Feb. 8	unknown	600 17.0	unknown -				

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

Minimum daily discharge, 4.0 ft³/s (0.11 ft³/s) Oct. 18-21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	40	15	6.4	35	11	8.4	8.1	8.4	18	11	33
2	12	60	12	7.5	25	11	8.7	9.0	11	14	11	15
3	10	25	10	6.7	22	12	7.8	15	77	11	12	14
4	9.0	15	8.0	6.2	19	11	8.4	9.0	23	9.4	11	13
5	8.0	12	8.0	6.4	17	12	9.9	7.8	12	8.9	11	13
6	7.0	10	11	5.9	17	12	8.4	8.1	13	9.1	52	13
7	7.0	10	9.0	11	70	12	8.2	9.4	104	8.6	33	16
8	8.0	40	8.0	16	292	12	8.6	9.4	24	8.4	20	18
9	7.0	30	7.0	7.5	70	12	7.3	8.4	13	8.6	23	15
10	12	15	6.5	6.4	49	12	8.7	7.2	12	8.5	15	53
11	25	12	6.0	208	32	12	8.6	7.5	11	9.1	13	126
12	12	10	6.0	287	151	14	13	8.1	10	9.1	13	29
13	9.0	9.0	25	41	148	12	12	10	13	9.1	13	36
14	6.0	8.5	30	27	36	11	8.8	9.0	18	8.9	12	70
15	5.0	8.0	13	21	26	11	8.8	8.1	11	8.5	11	22
16	4.5	7.5	9.7	338	23	11	8.2	7.2	9.5	9.0	12	16
17	4.2	7.0	8.4	221	37	12	8.3	8.1	9.2	8.8	12	14
18	4.0	12	8.7	140	41	12	9.2	7.9	9.3	9.2	13	13
19	4.0	10	8.4	400	23	10	8.5	7.9	9.1	14	13	13
20	4.0	8.0	7.8	92	18	8.6	8.2	8.8	9.0	12	12	17
21	4.0	25	8.1	46	15	8.9	8.1	8.8	8.6	12	12	18
22	12	18	8.4	37	14	12	13	8.0	7.6	13	12	15
23	10	12	8.7	40	13	10	36	7.7	7.6	12	13	16
24	8.0	14	7.2	52	12	16	14	7.7	8.1	12	12	14
25	7.0	12	7.5	41	13	11	9.1	7.9	8.6	11	12	12
26	6.0	10	6.7	29	13	9.7	8.1	8.4	7.8	11	12	12
27	5.5	9.0	7.0	22	12	8.7	7.5	8.1	7.3	24	12	12
28	5.0	12	7.2	19	12	8.7	7.5	7.7	8.2	30	11	11
29	5.0	100	16	18	---	8.7	8.7	14	12	18	12	12
30	5.0	40	8.7	18	---	8.7	8.1	34	15	12	38	11
31	5.0	---	6.2	21	---	8.4	---	11	---	12	95	---
TOTAL	238.2	601.0	309.2	2198.0	1255	341.4	298.1	297.3	497.3	369.2	564	692
MEAN	7.68	20.0	9.97	70.9	44.8	11.0	9.94	9.59	16.6	11.9	18.2	23.1
MAX	25	100	30	400	292	16	36	34	104	30	95	126
MIN	4.0	7.0	6.0	5.9	12	8.4	7.3	7.2	7.3	8.4	11	11
AC-FT	472	1190	613	4360	2490	677	591	590	986	732	1120	1370
(††)	1.40	4.14	1.37	6.07	2.70	.52	2.11	1.78	4.58	2.33	4.36	3.44

CAL YR 1977 TOTAL 7209.8 MEAN 19.8 MAX 551 MIN 4.0 AC-FT 14300 †† 31.69
WTR YR 1978 TOTAL 7660.7 MEAN 21.0 MAX 400 MIN 4.0 AC-FT 15190 †† 34.80

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

NOTE.--No gage-height record Oct. 1 to Dec. 6, Dec. 9-14, 21, 22, Jan. 17, 19, 20, Feb. 5, 7, 8. All discharges above 250 ft³/s are estimated.

SAN JACINTO RIVER BASIN

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 28...	1045	6.7	870	7.8	16.0	10	10	9.6	100	4.7
JAN 16...	1040	19	966	7.9	17.0	30	30	9.7	103	3.5
MAR 01...	1225	11	904	8.1	19.0	20	20	9.1	101	4.8
MAY 02...	1100	8.4	930	7.3	25.0	20	40	8.6	106	2.9
JUN 06...	0920	11	716	6.7	28.0	40	40	6.3	81	4.1
JUL 17...	1325	8.7	848	7.7	32.0	20	10	10.4	142	6.2
JUL 31...	1005	13	690	7.5	26.5	50	35	7.4	94	5.2
AUG 07...	1305	26	505	7.3	29.0	60	60	6.6	87	7.5
AUG 31...	1200	72	369	6.7	26.5	120	200	6.3	80	8.4
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-F (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)	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)
DEC 28...	12	1	4	130	0	39	8.8	130	4.9	6.8
JAN 16...	18	2	6	--	--	--	--	--	--	--
MAR 01...	16000	1500	850	180	0	51	13	120	3.9	5.8
MAY 02...	1100	1	4	140	0	40	10	150	5.5	7.6
JUN 06...	3100	30	6	130	0	38	8.8	97	3.7	5.7
JUL 17...	520	24	22	130	0	38	8.2	130	5.0	7.4
JUL 31...	10000	500	390	120	0	35	7.4	97	3.9	7.0
AUG 07...	4300	58	62	96	0	29	5.8	67	3.0	4.8
AUG 31...	13000	4900	9900	88	0	28	4.4	38	1.8	4.0
DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC 28...	290	0	45	85	.6	26	484	17	2	7.6
JAN 16...	--	--	--	--	--	--	--	46	14	3.5
MAR 01...	330	0	48	90	.6	20	511	27	13	3.0
MAY 02...	350	0	45	92	.4	24	542	22	13	.35
JUN 06...	240	0	42	70	.6	21	402	61	11	.82
JUL 17...	280	0	44	88	.6	27	482	33	20	3.8
JUL 31...	230	0	34	62	.4	21	377	51	20	3.3
AUG 07...	180	0	22	47	.5	14	279	197	36	.37
AUG 31...	120	0	20	33	.4	9.8	197	344	68	1.8

SAN JACINTO RIVER BASIN

121

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DEC 28...	.09	--	1.1	1.7	--	6.4	4.4	--	.30
JAN 16...	.05	3.5	1.8	1.4	3.2	4.6	6.0	--	.30
MAR 01...	.04	3.0	.58	1.4	2.0	4.3	12	2	.30
MAY 02...	.06	.41	1.6	1.1	2.7	5.6	7.6	--	.30
JUN 06...	.15	.97	.93	1.2	2.1	3.3	12	2	.20
JUL 17...	.14	3.9	.14	2.4	2.5	5.3	5.3	2	.40
31...	.12	3.4	.75	1.1	1.8	6.1	6.5	4	.30
AUG 07...	.08	.45	1.6	1.5	3.1	2.0	14	4	.40
31...	.07	1.9	.26	1.1	1.4	1.4	15	--	.00

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAR 01...	1225	4	200	1	10	5	10
JUN 06...	0920	12	300	1	0	2	30
JUL 17...	1325	8	400	0	0	6	10
31...	1005	8	100	0	10	5	20
AUG 07...	1305	11	100	0	0	4	60

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAR 01...	0	60	.0	0	0	20
JUN 06...	0	20	.2	0	0	10
JUL 17...	0	0	.0	0	0	10
31...	0	20	.0	1	0	20
AUG 07...	0	10	.0	1	0	20

SAN JACINTO RIVER BASIN

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

WATER QUALITY DATA. WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 01...	1225	.0	.00	.00	.1	.00	.00	.00	.06
JUN 06...	0920	.0	.00	.00	.0	.00	.00	.00	.20
JUL 17...	1325	.0	.00	.00	.0	.00	.00	.00	.14
JUL 31...	1005	.0	.00	.02	.0	.00	.00	.00	.31
AUG 07...	1305	.0	.00	.03	.1	.00	.00	.00	1.4

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)	METHYL PARA- THION, TOTAL (UG/L)
MAR 01...	.02	.00	.00	.00	.00	.00	.00	.00	.00
JUN 06...	.01	.00	.00	.00	.00	.01	.00	.00	.00
JUL 17...	.01	.00	.00	.00	.00	.01	.00	.00	.00
JUL 31...	.02	.00	.00	.00	.00	.00	.02	.02	.00
AUG 07...	.00	.00	.00	.00	.00	.01	.02	.00	.01

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR 01...	.00	--	.00	0	.00	.00	.00	.00
JUN 06...	.00	.00	.00	0	.00	--	--	--
JUL 17...	.00	.00	.00	0	.00	.03	.00	.00
JUL 31...	.00	.00	.00	0	.00	.02	.03	.00
AUG 07...	.00	.00	.00	0	.00	.00	.05	.00

SAN JACINTO RIVER BASIN

123

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. Prior to Oct. 1, 1976, 64.0 mi² (165.8 km²).

REVISED RECORDS.--WSP 1922: 1960. WDR TX-76-2: 1975(M).

GAGE.--Water-stage recorder. 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 except those for January and February, which are poor. Low flow is largely sustained by sewage effluent from Houston suburbs and industrial wastes.

AVERAGE DISCHARGE.--26 years, 74.2 ft³/s (2.101 m³/s), 53,760 acre-ft/yr (66.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 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 1,600 ft³/s (45.3 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)
aDec. 13	b1800	b500 14.2	b13.4 4.08	Jan. 19	unknown	*b2,000 56.6	unknown
Jan. 11	unknown	b1,600 45.3	unknown	aAug. 9	0600	88 2.49	9.77 2.978
Jan. 16	unknown	b1,800 51.0	unknown	aAug. 31	0930	176 4.98	10.83 3.301

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

b Estimate.

Minimum daily discharge, 27 ft³/s (0.76 m³/s) Dec. 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	128	77	41	117	46	35	34	38	47	44	118
2	64	182	55	55	79	46	36	34	37	41	40	57
3	57	75	46	48	70	45	35	65	262	39	38	50
4	42	57	43	42	64	43	35	41	128	33	36	47
5	41	53	42	40	56	43	35	36	46	31	36	46
6	42	50	38	40	52	43	34	35	47	32	59	48
7	43	48	27	48	192	56	34	39	615	31	109	66
8	45	127	58	75	970	41	36	38	121	31	58	74
9	49	115	41	50	370	42	40	35	49	32	159	70
10	46	63	42	40	220	42	39	34	39	34	87	171
11	85	54	45	600	150	42	42	34	36	35	41	347
12	61	51	45	700	450	41	67	34	34	43	38	136
13	45	50	170	130	350	42	60	35	44	42	42	97
14	46	50	110	66	138	42	39	34	60	38	41	166
15	46	52	57	53	85	39	39	32	37	35	38	87
16	44	51	45	1000	74	37	37	30	31	34	39	60
17	43	113	43	600	125	37	35	30	33	36	38	49
18	44	236	41	400	153	43	35	32	39	34	38	47
19	44	68	41	1200	80	42	34	35	35	38	41	45
20	45	55	41	300	62	40	33	33	30	53	41	130
21	52	126	42	150	55	38	34	37	30	48	42	79
22	60	70	44	115	48	35	36	32	28	77	42	56
23	63	55	41	120	46	35	116	32	28	58	42	65
24	53	56	41	157	45	86	61	31	29	47	40	48
25	52	51	38	141	46	44	39	30	29	44	41	44
26	50	49	38	87	47	40	37	34	29	41	42	42
27	51	51	38	68	46	37	33	33	60	106	43	44
28	50	52	40	61	47	36	33	31	39	99	44	41
29	50	505	77	57	---	37	33	101	38	78	45	41
30	51	229	58	58	---	37	35	195	51	76	51	40
31	52	---	42	68	---	35	---	52	---	49	140	---
TOTAL	1559	2922	1606	6610	4237	1312	1237	1328	2122	1462	1635	2411
MEAN	50.3	97.4	51.8	213	151	42.3	41.2	42.8	70.7	47.2	52.7	80.4
MAX	85	505	170	1200	970	86	116	195	615	106	159	347
MIN	41	48	27	40	45	35	33	30	28	31	36	40
AC-FT	3090	5800	3190	13110	8400	2600	2450	2630	4210	2900	3240	4780
(††)	1.09	4.37	1.15	5.72	2.67	.56	1.38	1.84	3.94	2.56	2.69	3.94

CAL YR 1977 TOTAL 27742 MEAN 76.0 MAX 1860 MIN 26 AC-FT 55030 †† 31.63
WTR YR 1978 TOTAL 28441 MEAN 77.9 MAX 1200 MIN 27 AC-FT 56410 †† 31.91

†† Weighted-mean rainfall, in inches, based on six 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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 14...	1345	93	1000	7.9	17.0	40	300	7.0	74	24
APR 26...	1300	37	1420	7.6	23.0	30	80	2.4	29	11
JUN 06...	1050	37	770	6.4	28.0	40	40	1.1	14	13
JUL 17...	0905	36	1560	7.4	30.0	30	40	1.9	25	8.4
AUG 09...	1000	77	1590	7.4	28.0	60	40	1.3	17	8.7
28...	1315	44	672	7.2	28.0	30	20	4.0	51	10
31...	1330	159	553	6.8	26.5	60	300	2.4	30	17
SEP 27...	1230	45	728	7.5	25.5	20	20	4.1	51	13
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-F (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	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)
DEC 14...	890000	110000	11000	--	--	--	--	--	--	--
APR 26...	400000	5100	950	150	0	45	10	240	8.4	5.1
JUN 06...	460000	34000	720	140	0	41	8.9	100	3.7	4.8
JUL 17...	400000	32000	700	140	0	43	8.0	280	10	4.8
AUG 09...	460000	36000	650	160	0	48	9.3	270	9.3	5.1
28...	160000	11000	500	110	0	33	6.5	96	4.0	4.4
31...	440000	34000	7700	100	0	32	5.1	73	3.2	4.8
SEP 27...	190000	50000	1000	110	0	33	6.9	110	4.5	4.5
DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC 14...	--	--	--	--	--	--	--	544	84	1.1
APR 26...	250	0	320	97	.5	16	857	143	270	.38
JUN 06...	210	0	53	93	.4	16	421	73	12	.18
JUL 17...	210	0	430	90	.5	13	973	57	21	.80
AUG 09...	200	0	33	370	.5	13	848	97	19	.70
28...	210	0	38	69	.4	14	365	25	1	.91
31...	140	0	54	65	.5	9.5	313	908	168	1.8
SEP 27...	220	0	43	85	.5	15	407	46	22	1.1
DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	
DEC 14...	.06	1.2	.65	1.5	2.1	2.3	12	--	.40	
APR 26...	.33	.71	2.7	1.4	4.1	3.2	9.6	--	1.8	
JUN 06...	.36	.54	2.5	13	15	3.7	29	4	.10	
JUL 17...	.18	.98	1.0	1.4	2.4	1.9	5.9	2	.30	
AUG 09...	.20	.90	1.5	1.3	2.8	2.0	9.2	--	.40	
28...	.29	1.2	1.5	1.0	2.5	3.4	4.8	--	.20	
31...	.06	1.9	.62	1.4	2.0	1.8	17	--	.00	
SEP 27...	.34	1.4	.95	.85	1.8	2.3	11	4	.50	

SAN JACINTO RIVER BASIN

125

08075500 SIMS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		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)			
DATE	TIME									
JUN 06...	1050	19	200	1	0	12	40			
JUL 17...	0905	5	--	0	10	10	40			
SEP 25...	1230	12	100	1	0	7	<10			
		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)			
JUN 06...		0	0	.2	0	0	10			
JUL 17...		0	0	.0	0	0	10			
SEP 25...		0	2	.0	0	0	10			
		PCB, TOTAL (UG/L)	NAPHTHALENES, POLY- CHLOR. 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)	
JUN 06...	1050	.0	.00	.00	.3	.00	.01	.00	.39	
JUL 17...	0905	.0	.00	.00	.1	.00	.00	.00	.22	
SEP 25...	1230	.0	.00	.00	.2	.00	.00	.00	.15	
DATE	TIME	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)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
JUN 06...		.01	.00	.00	.00	.00	.00	.23	.03	.00
JUL 17...		.01	.00	.00	.00	.00	.00	.01	.00	.00
SEP 25...		.01	.00	.00	.00	.00	.00	.01	.01	.00
DATE	TIME	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)	STLVEX, TOTAL (UG/L)	
JUN 06...		.00	.00	.00	0	.00	.02	.00	.03	
JUL 17...		.00	.00	.00	0	.00	.05	.00	.00	
SEP 25...		.00	.00	.00	0	.00	.00	.00	.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 (revised).--10.7 mi² (27.7 km²). Prior to Oct. 1, 1973, 11.1 mi² (28.7 km²). Oct. 1, 1976, to Dec. 31, 1977, 10.1 mi² (26.2 km²). Drainage ditch relocations resulted in drainage area changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year. April 1964 to September 1966 operated as a daily discharge station.

GAGE.--Water-stage recorder. 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, 1978."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s (144 m³/s) June 9, 1975; maximum gage height, 21.69 ft (6.611 m) June 9, 1975.

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)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
aJan. 16	1500	801 22.7	-- --	June 27	1800	*1,010 28.6	11.42 3.481
	1530	-- --	10.54 3.213				

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	
DEC 28...	1310	8.0	966	7.6	16.5	20	20	6.9	73	16	
JAN 16...	1438	740	244	8.1	15.0	140	220	8.7	89	8.1	
16...	1725	530	199	7.8	15.0	160	150	8.0	82	8.4	
17...	0920	50	416	7.6	9.0	160	60	7.7	69	18	
DATE	100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER	COLI- FORM, FECAL, 0.7 UM-MF (COLS./	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER	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)
DEC 28...	380000	61000	17000	93	0	27	6.2	170	7.7	6.2	
JAN 16...	520000	120000	65000	61	0	19	3.3	20	1.1	2.6	
16...	820000	140000	39000	--	--	--	--	--	--	--	
17...	580000	120000	35000	--	--	--	--	--	--	--	
DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	
DEC 28...	320	0	37	110	1.4	13	529	28	11	3.3	
JAN 16...	76	0	16	25	.2	5.1	129	596	80	.41	
16...	--	--	--	--	--	--	--	292	44	.26	
17...	--	--	--	--	--	--	--	122	48	1.1	

SAN JACINTO RIVER BASIN

127

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	
DEC 28...	.31	--	3.9	2.2	--	4.8	9.4	--	.70	
JAN 16...	.05	.46	.45	1.8	2.2	.61	22	21	.20	
16...	.03	.29	.40	1.6	2.0	.67	12	--	.20	
17...	.26	1.4	.89	3.2	4.1	1.0	19	--	.30	
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 16...	1438	5	0	0	0	1	30			
AUG 31...	1520	19	100	0	0	4	20			
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)			
JAN 16...		3	0	.0	0	0	0			
AUG 31...		0	0	.0	0	0	10			
DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	
JAN 16...	1725	1.0	.00	.00	.1	.00	.00	.00	.16	
AUG 31...	1520	.1	.00	.00	.4	.00	.00	.00	.21	
DATE	TIME	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)	METHYL PARA- THION, TOTAL (UG/L)
JAN 16...		.01	.00	.00	.00	.00	.00	.01	.00	.00
AUG 31...		.03	.00	.00	.00	.00	.00	.00	.00	.00
DATE	TIME	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)	
JAN 16...		.00	--	.00	0	.00	.00	.00	.02	
AUG 31...		.00	.00	.00	0	.00	.00	.01	.00	

08075730 VINCE BAYOU AT PASADENA, TX

LOCATION.--Lat 29°41'40", Long 95°12'58", Harris County, Hydrologic Unit 12040104, on right bank of concrete lined channel at end of West Ellaine Avenue in Pasadena and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA (revised).--7.61 mi² (19.71 km²). Prior to Jan. 1, 1978, 8.21 mi² (21.26 km²). Drainage area revision due to storm sewers routed to new ditch in Berry Bayou basin.

WATER-DISCHARGE RECORDS

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.--Water-discharge records fair. Low flow is sustained by sewage effluent.

AVERAGE DISCHARGE.--7 years, 16.4 ft³/s (0.464 m³/s), 11,880 acre-ft/yr (14.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,360 ft³/s (95.2 m³/s) June 11, 1973, gage height, 16.20 ft (4.938 m); no flow Aug. 5, 6, 18, 1972.

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)
June 27	1630	*1,470 41.6	13.06 3.981	aSept. 7	1130	152 4.30	9.48 2.890
aAug. 31	1500	154 4.36	9.49 2.893				

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

Minimum daily discharge, 0.15 ft³/s (0.004 m³/s) June 10, 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	47	5.2	2.1	15	.78	1.4	.86	6.6	2.8	1.5	3.3
2	9.7	12	1.6	4.0	6.2	.90	1.4	1.9	5.6	35	1.1	1.2
3	2.2	4.1	2.0	1.1	11	1.4	2.0	11	22	16	.85	.66
4	1.8	2.8	1.8	3.0	4.7	1.2	1.9	.62	1.7	4.5	1.3	1.7
5	1.1	2.0	1.8	2.4	3.3	1.0	2.5	.62	3.1	20	1.5	1.9
6	1.0	.67	2.6	1.6	2.7	1.0	1.3	.71	1.1	11	12	1.4
7	3.1	1.8	2.8	7.1	120	21	.75	.33	60	6.3	2.1	31
8	1.4	24	1.6	4.1	89	3.7	3.0	.38	.56	7.0	.69	11
9	1.3	5.9	1.8	1.4	19	3.6	1.3	.31	.22	6.9	.81	33
10	1.0	2.6	1.5	1.3	4.9	3.3	2.7	.31	.15	4.8	.49	81
11	1.4	1.2	1.5	133	2.3	1.6	1.3	.47	.15	11	.44	97
12	.88	1.1	1.8	28	14	1.4	13	.84	.19	9.8	.71	102
13	1.0	.85	43	6.9	2.9	1.3	1.8	1.1	.26	6.4	33	25
14	.98	.80	5.1	2.2	1.1	1.3	.68	.46	1.7	5.6	1.5	6.1
15	1.2	2.4	1.5	1.7	1.7	1.5	1.2	.33	1.5	3.2	.62	21
16	2.0	1.5	1.4	192	1.4	1.6	1.2	.46	1.5	5.3	.30	2.7
17	1.8	1.6	1.6	24	24	2.5	1.3	.32	2.1	1.6	.30	1.9
18	1.3	2.1	1.6	123	4.4	2.1	.94	.35	7.6	1.2	.30	1.5
19	1.2	1.9	1.8	149	1.3	1.1	1.5	.81	.48	1.2	.30	1.0
20	1.3	1.7	1.6	12	.97	1.0	1.6	1.0	.87	.70	.30	27
21	2.3	76	1.5	5.2	1.9	1.7	1.9	1.2	.82	1.0	.78	5.2
22	5.2	5.7	3.1	2.4	1.6	1.3	1.7	4.3	.45	3.9	.38	1.7
23	1.4	2.2	2.6	20	.81	2.7	3.5	6.2	.17	4.7	.46	1.4
24	.74	1.6	1.4	28	.77	22	1.1	7.1	.34	1.1	.78	1.7
25	.87	1.5	.99	15	.66	2.7	1.3	2.7	.26	.82	.78	1.2
26	1.1	1.2	.96	5.2	.78	2.5	1.6	.61	.43	1.3	.66	.78
27	1.3	1.4	.70	5.8	1.3	1.7	.97	.48	207	8.8	.46	.56
28	1.2	5.7	1.3	5.6	.99	2.6	1.6	.32	21	1.0	.56	.56
29	1.2	136	11	3.7	---	2.5	.94	9.9	5.3	.76	1.2	.46
30	1.2	20	2.1	4.3	---	2.9	.78	6.3	4.3	1.2	2.1	.46
31	.84	---	2.1	17	---	2.6	---	.87	---	2.8	22	---
TOTAL	58.61	369.32	111.35	812.1	338.68	98.48	58.16	63.16	357.45	187.68	90.27	465.38
MEAN	1.89	12.3	3.59	26.2	12.1	3.18	1.94	2.04	11.9	6.05	2.91	15.5
MAX	9.7	136	43	192	120	22	13	11	207	35	33	102
MIN	.74	.67	.70	1.1	.66	.78	.68	.31	.15	.70	.30	.46
AC-FT	116	733	221	1610	672	195	115	125	709	372	179	923
(††)	.44	5.52	1.02	5.88	2.44	.84	.76	.85	4.84	1.14	2.56	7.46

CAL YR 1977 TOTAL 4025.65 MEAN 11.0 MAX 381 MIN .27 AC-FT 7980 †† 37.09
WTR YR 1978 TOTAL 3010.64 MEAN 8.25 MAX 207 MIN .15 AC-FT 5970 †† 33.75

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

SAN JACINTO RIVER BASIN

129

08075730 VINCE BAYOU AT PASADENA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: May 1971 to September 1973, October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
DEC 28...	1200	1.9	1120	7.9	10.0	40	10	9.5	87	10
APR 24...	1100	1.0	658	9.9	31.0	50	20	20.0	270	4.7
MAY 30...	1410	1.0	425	9.2	35.0	90	20	18.6	266	7.8
JUL 17...	0950	1.2	683	8.1	31.0	40	20	13.2	178	9.0
AUG 09...	1100	.56	467	9.7	30.0	50	20	16.4	219	5.5
28...	1025	.38	843	9.1	24.5	60	10	18.8	229	16
31...	1300	2.4	126	7.0	27.0	100	90	13.4	170	8.1
31...	1410	73	409	7.1	22.5	70	20	7.7	91	4.8
SEP 07...	1345	53	160	6.9	26.5	100	65	5.9	75	9.9
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS 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)
DEC 28...	1600000	120000	9700	170	0	46	13	180	6.0	7.0
APR 24...	830	2500	100	130	0	37	10	92	3.5	5.7
MAY 30...	6700	880	500	--	--	--	--	--	--	--
JUL 17...	100000	25000	700	130	0	37	9.2	84	3.2	4.8
AUG 09...	3200	160	60	98	5	31	5.1	54	2.4	2.9
28...	200000	3800	62	130	0	42	7.0	120	4.5	4.6
31...	400000	300000	9100	72	6	27	1.1	4.4	.2	1.2
31...	580000	310000	9400	110	0	33	5.6	38	1.6	5.2
SEP 07...	400000	220000	20000	61	11	21	2.0	9.3	.5	2.3
DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC 28...	420	0	36	130	1.2	3.9	624	16	6	.19
APR 24...	78	66	33	92	.6	8.1	383	11	10	.00
MAY 30...	--	--	--	--	--	--	--	23	9	.04
JUL 17...	210	0	32	80	.5	9.9	361	29	22	.03
AUG 09...	87	13	43	58	.2	3.0	253	32	21	.01
28...	180	26	63	110	.5	6.8	469	15	6	.03
31...	81	0	10	4.0	.1	2.8	91	370	84	.38
31...	140	0	23	43	.3	8.3	226	30	6	.03
SEP 07...	61	0	14	7.9	.2	4.2	91	118	25	.42

SAN JACINTO RIVER BASIN
08075730 VINCE BAYOU AT PASADENA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DEC 28...	.07	--	1.2	3.3	--	1.9	9.8	--	.80
APR 24...	.01	.01	.01	1.6	1.6	.27	19	--	.00
MAY 30...	.03	.07	.11	1.2	1.3	.26	23	--	.60
JUL 17...	.00	.03	.01	1.2	1.2	.39	19	4	.50
AUG 09...	.01	.02	.02	1.6	1.6	.26	26	--	.60
28...	.01	.04	.04	1.6	1.6	2.5	15	5	1.1
31...	.02	.40	.19	1.4	1.6	.44	17	3	.30
31...	.02	.05	.03	4.1	4.1	.27	14	5	.40
SEP 07...	.05	.47	.12	.80	.92	.24	15	--	.40

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 17...	0950	15	300	0	0	7	20
AUG 28...	1025	4	0	0	0	2	20
31...	1300	3	0	0	0	3	10
31...	1410	4	100	0	10	3	20

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)
JUL 17...		0	0	.0	0	0	10
AUG 28...		0	0	.0	1	0	20
31...		2	10	.0	0	0	20
31...		2	0	.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)
JUL 17...	0950	.0	.00	.00	.0	.00	.00	.00	.98
AUG 28...	1025	.0	.00	.00	.0	.00	.00	.00	.12
31...	1300	.2	.00	.01	.3	.00	.01	.03	.14
31...	1410	.0	.00	.00	.0	.00	.00	.00	.14

DATE	TIME	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)	METHYL PARA- THION, TOTAL (UG/L)
JUL 17...		.01	.00	.00	.00	.00	.00	.01	.00	.00
AUG 28...		.00	.00	.00	.00	.00	.00	.08	.00	.00
31...		.01	.00	.00	.04	.02	.01	.00	.14	.05
31...		.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	TIME	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 17...		.00	.00	.00	0	.00	--	--	--
AUG 28...		.00	.00	.00	0	.00	.00	.00	.00
31...		.00	.00	.00	0	.00	.30	.12	.02
31...		.00	.00	.00	0	.00	.13	.12	.00

SAN JACINTO RIVER BASIN

131

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.--2.75 mi² (7.12 km²). Prior to Oct. 1, 1973, 3.50 mi² (9.07 km²). Drainage area change 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.--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, 1978."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 778 ft³/s (22.0 m³/s) June 13, 1973, elevation, 46.70 ft (14.234 m).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)
Jan. 16	1400	342 9.69	42.19 12.806	aJune 7	0515	*345 9.77	42.72 13.021
aMay 30	1745	176 4.98	40.59 12.372				

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

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	
DEC 27...	1235	.32	1170	7.7	13.5	10	20	13.8	137	4.4	
APR 26...	0830	1.4	971	7.4	19.0	30	40	4.0	44	9.3	
MAY 30...	1830	123	179	7.8	24.5	110	220	7.1	87	11	
JUN 06...	2200	39	343	6.8	26.0	200	100	2.2	28	13	
JUL 18...	0935	.40	1250	8.0	29.0	60	30	6.7	88	36	
AUG 29...	0920	.55	1510	8.4	24.0	200	40	1.7	21	36	
31...	1645	4.8	586	7.0	23.0	140	250	3.6	43	73	
DATE	TIME	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)	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)
DEC 27...	35000	500	190	320	64	91	22	110	2.7	2.8	
APR 26...	26000	5000	1200	210	0	60	15	120	3.6	4.5	
MAY 30...	1000000	72000	49000	64	18	21	2.7	11	.6	3.5	
JUN 06...	2100000	1100000	120000	--	--	--	--	--	--	--	
JUL 18...	440000	100000	2000	200	0	56	14	160	5.0	4.7	
AUG 29...	1500000	1200000	49000	110	0	34	7.2	200	8.1	7.6	
31...	540000	8000	76000	130	0	43	5.6	74	2.8	5.8	

SAN JACINTO RIVER BASIN

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	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)
DEC 27...	310	0	52	180	.5	17	628	22	0	.59
APR 26...	330	0	45	120	.6	16	544	67	8	.03
MAY 30...	56	0	20	13	.1	.6	100	576	120	.80
JUN 06...	--	--	--	--	--	--	--	202	46	.56
JUL 18...	440	0	39	150	.7	20	662	55	32	.02
AUG 29...	310	0	25	240	.6	14	682	71	48	.00
31...	230	0	41	50	.6	14	348	840	268	.14

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DEC 27...	.09	--	.47	.93	--	.69	6.2	--	.40
APR 26...	.03	.06	2.2	2.0	4.2	1.7	14	--	.70
MAY 30...	.05	.85	.46	1.3	1.8	.78	14	8	.20
JUN 06...	.06	.62	.80	1.3	2.1	.06	17	--	.30
JUL 18...	.03	.05	16	11	27	2.0	16	4	.30
AUG 29...	.01	.01	22	19	41	3.1	50	28	2.5
31...	.11	.25	.94	1.9	2.8	.94	48	--	.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)
MAY 30...	1830	6	200	0	0	6	40
JUL 18...	0935	6	400	0	0	2	40
AUG 29...	0920	3	200	0	0	0	20
31...	1645	3	100	1	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)
MAY 30...	3	20	.0	0	0	40
JUL 18...	0	120	.0	1	0	20
AUG 29...	2	160	.0	1	0	10
31...	0	210	.0	0	0	20

SAN JACINTO RIVER BASIN

133

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTH- THA- IENES, 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									
30...	1830	.0	.00	.00	.0	.01	.00	.04	.19
31...	0945	.0	.00	.00	.0	.00	.00	.00	.11
JUL									
18...	0935	.0	.00	.00	.0	.00	.00	.00	.00
AUG									
29...	0920	.1	.00	.01	.0	.01	.00	.00	.16
31...	1645	.4	.00	.00	.2	.00	.00	.02	.14

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)	METHYL PARA- THION, TOTAL (UG/L)
MAY									
30...	.00	.00	.00	.00	.00	.00	.00	.00	.00
31...	.00	.00	.00	.00	.00	.00	.00	.03	.00
JUL									
18...	.00	.00	.00	.00	.00	.01	.00	.00	.04
AUG									
29...	.00	.00	.00	.00	.00	.00	.00	.04	.00
31...	.00	.00	.00	.00	.01	.00	.00	.22	.06

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIPEX, 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								
30...	.00	.00	.00	0	.00	.00	.00	.01
31...	.00	.00	.00	0	.00	--	--	--
JUL								
18...	.00	.00	.00	0	.00	.05	.00	.02
AUG								
29...	.00	.00	.00	0	.00	.00	.00	.00
31...	.00	.00	.00	0	.00	1.2	.51	.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.--14.7 mi² (38.1 km²). Prior to Oct. 1, 1973, 16.8 mi² (43.5 km²).

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.--WDR TX-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence. Prior to Oct. 1, 1972, water-stage recorder at site 1,800 ft (549 m) upstream at same datum.

REMARKS.--Water-discharge records fair during period January to June and poor thereafter. Low flow is largely maintained by sewage and industrial effluent. Recording rain gage at station.

AVERAGE DISCHARGE.--14 years, 21.3 ft³/s (0.603 m³/s), 15,430 acre-ft/yr (19.0 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)
aNov. 29	1430	268 7.59	26.09 7.952	aMay 30	2130	462 13.1	28.16 8.583
aDec. 13	1530	577 16.3	29.07 8.861	June 7	0630	*1,370 38.8	33.77 10.293
Jan. 16	1630	1,060 30.0	32.17 9.805	aAug. 31	1830	20 .57	21.70 6.614

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

Minimum daily discharge, 3.4 ft³/s (0.10 m³/s) Nov. 27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	38	17	7.4	29	9.4	5.7	4.5	29	4.9	6.0	40
2	13	45	11	15	19	8.8	5.7	5.1	105	4.5	5.0	20
3	9.6	9.3	8.1	7.6	14	12	5.6	22	107	4.2	4.5	12
4	5.4	6.4	7.0	6.1	13	8.8	5.6	5.3	28	4.0	4.2	13
5	6.2	5.4	6.2	6.0	11	7.9	5.5	4.6	17	21	4.0	8.9
6	7.6	4.4	5.6	6.0	9.6	8.5	5.4	4.7	112	24	4.0	7.5
7	7.4	9.6	4.2	7.8	74	27	5.4	5.5	718	5.1	4.0	25
8	7.4	72	4.6	14	194	12	5.3	4.7	95	4.6	7.0	12
9	7.4	24	3.9	6.9	51	9.4	5.2	4.6	22	3.9	5.0	21
10	7.2	8.0	3.8	6.4	28	8.6	6.0	4.2	12	4.5	4.5	108
11	7.4	5.0	4.2	89	20	7.6	8.0	4.2	10	4.5	4.0	115
12	7.8	5.0	3.8	144	166	7.1	12	4.1	8.4	6.1	7.0	26
13	5.8	5.0	225	23	140	7.1	12	4.0	7.8	6.2	10	28
14	4.8	4.1	64	13	29	8.2	7.0	3.8	7.4	4.2	6.0	35
15	4.4	3.9	14	10	22	8.0	5.5	3.9	6.8	4.1	4.5	50
16	6.0	3.8	10	386	21	7.0	4.9	3.8	6.8	4.5	4.2	40
17	7.4	4.4	8.2	172	96	6.8	4.8	4.4	6.2	4.8	4.0	20
18	5.4	8.0	7.2	136	59	6.6	5.6	4.6	9.8	4.3	4.0	12
19	7.0	4.4	7.4	332	22	6.5	5.0	4.7	6.0	7.9	4.0	10
20	4.8	4.1	5.8	55	17	6.4	5.1	4.7	5.2	5.4	4.0	20
21	4.4	68	7.0	24	13	6.3	4.8	4.2	5.4	4.0	6.0	60
22	5.6	17	5.6	26	12	6.2	5.5	4.6	5.4	37	4.8	30
23	6.6	5.8	4.6	44	11	6.2	7.0	4.9	5.0	97	4.4	15
24	7.0	4.2	4.4	75	12	20	5.3	4.2	4.4	26	4.2	9.0
25	6.4	3.9	4.2	44	11	10	5.9	4.1	4.2	29	10	7.0
26	4.8	3.6	4.1	21	11	8.0	4.5	4.3	3.9	33	7.0	6.0
27	4.6	3.4	4.0	16	13	7.0	4.4	4.2	15	40	6.0	5.0
28	4.4	4.2	5.4	13	12	6.5	4.8	4.5	8.3	30	5.0	4.5
29	4.2	115	16	11	---	6.2	4.6	75	12	15	5.0	4.2
30	4.2	57	8.3	11	---	6.0	4.5	180	7.4	8.0	6.0	4.0
31	5.2	---	6.4	18	---	5.8	---	116	---	7.0	11	---
TOTAL	194.8	551.9	491.0	1746.2	1129.6	271.9	176.6	513.4	1390.4	458.7	169.3	768.1
MEAN	6.28	18.4	15.8	56.3	40.3	8.77	5.89	16.6	46.3	14.8	5.46	25.6
MAX	13	115	225	386	194	27	12	180	718	97	11	115
MIN	4.2	3.4	3.8	6.0	9.6	5.8	4.4	3.8	3.9	3.9	4.0	4.0
AC-FT	386	1090	974	3460	2240	539	350	1020	2760	910	336	1520
(††)	1.00	5.10	2.07	7.43	3.45	.83	.79	4.14	7.17	5.94	1.07	6.10

CAL YR 1977 TOTAL 7187.4 MEAN 19.7 MAX 364 MIN 2.5 AC-FT 14260 †† 37.62
WTR YR 1978 TOTAL 7861.9 MEAN 21.5 MAX 718 MIN 3.4 AC-FT 15590 †† 45.09

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

SAN JACINTO RIVER BASIN

135

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
NOV 30...	1100	110	341	7.8	14.0	110	110	8.1	81	20
DEC 14...	0845	59	399	7.2	15.0	110	50	6.0	61	12
APR 24...	1215	5.2	822	7.9	26.5	30	20	12.8	162	12
MAY 30...	2000	411	241	6.4	25.5	80	200	13.6	170	14
31...	0720	144	343	7.0	24.5	90	60	2.0	24	10
JUN 07...	0120	331	268	7.2	26.0	140	150	2.6	32	16
07...	1235	898	176	7.1	23.0	80	60	5.4	64	9.3
JUL 12...	1315	4.2	738	7.3	30.5	50	30	7.4	99	29
AUG 08...	1150	4.1	785	7.5	28.5	50	20	8.2	106	7.8
22...	1245	4.8	590	7.2	28.0	60	20	4.5	58	11
31...	1745	19	666	7.7	23.0	120	90	1.4	17	14
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
NOV 30...	640000	74000	91000	--	--	--	--	--	--	--
DEC 14...	1600000	300000	76000	--	--	--	--	--	--	--
APR 24...	200000	3100	130	200	0	59	13	87	2.7	5.3
MAY 30...	1200000	300000	100000	73	19	24	3.2	11	.6	3.5
31...	1300000	310000	96000	--	--	--	--	--	--	--
JUN 07...	500000	190000	69000	--	--	--	--	--	--	--
07...	1200000	280000	74000	--	--	--	--	--	--	--
JUL 12...	280000	100000	3200	160	0	48	9.2	77	2.7	6.4
AUG 08...	17000	2900	66	170	0	50	9.7	95	3.2	5.3
22...	240000	49000	750	--	--	--	--	--	--	--
31...	580	40	140	110	0	36	4.8	91	3.8	6.0

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, 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)
NOV 30...	--	--	--	--	--	--	--	206	54	1.0
DEC 14...	--	--	--	--	--	--	--	107	7	1.7
APR 24...	270	0	66	84	.6	13	461	21	18	.08
MAY 30...	66	0	39	4.3	.3	3.9	122	712	124	1.8
31...	--	--	--	--	--	--	--	114	18	1.6
JUN 07...	--	--	--	--	--	--	--	468	64	.52
07...	--	--	--	--	--	--	--	119	13	.34
JUL 12...	220	0	56	70	.6	6.4	383	51	38	.22
AUG 08...	240	0	56	85	.4	4.1	424	33	31	.14
22...	--	--	--	--	--	--	--	23	14	.07
31...	240	0	37	66	.5	10	370	158	50	.08

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
NOV 30...	.06	1.1	.73	1.2	1.9	.64	16	--	.20
DEC 14...	.09	1.8	.18	2.3	2.5	.98	24	--	.50
APR 24...	.08	.16	7.4	1.0	8.4	3.2	17	--	2.1
MAY 30...	.00	1.8	2.9	4.3	7.2	.99	30	14	.40
31...	.22	1.8	2.3	.90	3.2	1.2	20	--	.40
JUN 07...	.07	.59	.67	1.2	1.9	.85	17	--	.10
07...	.04	.38	.38	1.0	1.4	.72	12	--	.10
JUL 12...	.41	.63	4.1	4.9	9.0	3.4	18	9	.50
AUG 08...	.21	.35	4.8	1.5	6.3	2.9	12	3	.60
22...	.07	.14	3.6	3.2	6.8	4.9	30	--	.50
31...	.14	.22	5.1	2.6	7.7	2.1	506	7	.30

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 30...	2000	22	200	0	0	4	40
JUL 12...	1315	5	400	0	0	4	30
AUG 08...	1150	8	--	0	0	2	20
31...	1745	6	100	1	0	0	20

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELF- NIUM, DIS- SOLVED (UG/L AS SF)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY 30...	0	30	.0	0	0	20
JUL 12...	0	0	.0	0	0	20
AUG 08...	0	10	.0	0	0	20
31...	3	40	.0	0	0	20

SAN JACINTO RIVER BASIN

137

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 30...	2000	.0	.00	.00	.1	.30	.00	.10	.13
JUL 12...	1315	.0	.00	.00	.0	.02	.01	.01	.52
AUG 08...	1150	.0	.00	.00	.0	.02	.00	.01	.29
31...	1745	.0	.00	.00	.1	.05	.01	.00	.74

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)	METHYL PARA- THION, TOTAL (UG/L)
MAY 30...	.10	.00	.00	.00	.00	.00	.00	.00	.00
JUL 12...	.01	.05	.00	.00	.00	.00	.02	.10	.00
AUG 08...	.01	--	.00	.00	.00	.00	.02	.02	.00
31...	.01	.00	.00	.00	.00	.00	.01	.68	.00

DATE	METHYL THI- 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 30...	.00	.00	.00	0	.00	.00	.00	.00
JUL 12...	.00	.00	.00	0	.00	.06	.00	.00
AUG 08...	.00	.00	.00	0	.00	.00	.00	.02
31...	.00	.00	.00	0	.00	.13	.00	.00

SAN JACINTO RIVER BASIN

08075900 GREENS BAYOU AT U.S. HIGHWAY 75 NEAR HOUSTON, TX

LOCATION.--Lat 29°57'24", long 95°25'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of U.S. Highway 75 bridge, 9.0 mi (14.5 km) upstream from station 08076000, and 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.

REVISED RECORDS.--WDR TX-76-1: Drainage area.

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

REMARKS.--Records fair. Records furnished by Houston Lighting and Power Co. show that about 1,600 acre-ft (1.97 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 known diversion above station. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 28.5 ft³/s (0.807 m³/s), 20,650 acre-ft/yr (25.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,940 ft³/s (83.3 m³/s) Mar. 20, 1972, elevation, 89.75 ft (27.356 m); maximum elevation, 91.09 ft (27.764 m) Feb. 21, 1969; minimum daily discharge, 0.16 ft³/s (0.004 m³/s) Oct. 21, 22, 1969.

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)	Elevation (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Elevation (ft) (m)
Jan. 16	1600	1,170 33.1	85.77 26.143	June 7	0600	*2,530 71.6	89.04 27.139
Jan. 19	0400	702 19.9	84.02 25.609	Sept. 13	2130	779 22.1	84.35 25.710

Minimum daily discharge, 4.4 ft³/s (0.12 m³/s) Dec. 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	13	13	7.5	42	9.0	11	9.0	13	22	12	84
2	7.1	48	6.7	22	20	9.4	11	8.6	37	16	11	96
3	7.8	13	5.1	11	15	22	12	36	28	11	9.8	19
4	7.5	13	6.1	7.4	13	12	11	15	21	10	9.2	55
5	7.8	12	5.9	7.9	11	10	11	11	8.6	11	10	41
6	8.3	9.8	5.2	9.5	22	11	12	10	73	23	11	19
7	7.5	10	4.8	12	80	89	12	10	1210	11	12	14
8	7.0	80	6.4	25	257	40	13	10	172	11	10	15
9	9.9	57	5.8	9.2	83	21	13	8.3	39	9.7	8.7	12
10	10	12	4.6	8.3	52	15	13	8.2	20	10	9.4	45
11	11	6.8	4.4	69	33	13	15	8.5	16	8.5	9.8	190
12	9.2	5.3	6.5	108	113	14	15	9.0	14	9.4	21	41
13	9.2	5.2	146	18	113	15	14	7.6	16	9.1	39	188
14	9.2	5.1	49	9.7	50	14	12	7.5	35	8.2	13	218
15	8.4	4.6	11	6.6	35	14	11	8.9	15	8.4	12	34
16	7.3	5.3	8.1	360	25	17	11	8.5	12	8.0	10	14
17	5.3	4.9	7.2	134	40	19	13	9.5	10	8.5	11	11
18	5.5	4.8	6.5	152	34	12	11	9.1	10	8.3	11	11
19	4.7	5.6	6.9	396	20	12	9.8	8.7	10	7.6	11	12
20	4.5	7.1	6.7	75	15	13	9.6	9.8	9.8	8.0	9.7	11
21	4.6	47	7.9	36	13	12	9.0	11	8.5	7.9	9.8	11
22	8.9	14	7.3	32	12	14	9.1	7.4	8.2	11	9.8	11
23	8.5	9.7	8.2	26	10	17	10	8.3	9.0	17	11	9.4
24	6.3	8.0	6.5	58	9.6	25	9.8	8.8	9.5	10	12	7.1
25	6.0	6.5	6.1	45	9.9	14	8.4	7.6	10	11	12	7.5
26	8.5	6.7	6.4	28	9.9	11	8.4	13	9.8	14	9.9	7.2
27	7.3	7.7	7.2	18	9.7	10	9.4	9.7	11	10	11	7.4
28	6.7	6.4	9.8	13	9.7	10	9.0	10	14	68	10	8.3
29	6.1	35	18	12	---	11	11	19	10	56	12	7.8
30	7.8	36	9.5	12	---	11	8.8	44	12	20	14	7.7
31	7.8	---	8.0	17	---	12	---	20	---	23	38	---
TOTAL	233.2	499.5	410.8	1745.1	1156.8	528.4	333.3	372.0	1871.4	466.6	400.1	1214.4
MEAN	7.52	16.7	13.3	56.3	41.3	17.0	11.1	12.0	62.4	15.1	12.9	40.5
MAX	11	80	146	396	257	89	15	44	1210	68	39	218
MIN	4.5	4.6	4.4	6.6	9.6	9.0	8.4	7.4	8.2	7.6	8.7	7.1
AC-FT	463	991	815	3460	2290	1050	661	738	3710	926	794	2410
(††)	.49	3.05	2.37	7.38	2.86	1.51	.57	1.96	6.10	3.21	1.64	5.87

CAL YR 1977 TOTAL 8157.1 MEAN 22.3 MAX 725 MIN 4.4 AC-FT 16180 †† 28.63
WTR YR 1978 TOTAL 9231.6 MEAN 25.3 MAX 1210 MIN 4.4 AC-FT 18310 †† 37.01

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

SAN JACINTO RIVER BASIN

139

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 poor except those for January and June, which are 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.--26 years, 53.1 ft³/s (1.504 m³/s), 38,470 acre-ft/yr (47.4 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 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)
aNov. 29	2230	123 3.48	46.67 14.225	Jan. 19	0530	1,800 51.0	55.18 16.819
Dec. 13	1430	1,920 54.4	55.55 16.932	aJune 7	0700	*3,790 107	61.99 18.895
aJan. 16	1900	2,400 68.0	56.95 17.358				

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

Minimum daily discharge, 8.8 ft³/s (0.25 m³/s) Dec. 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	45	38	15	133	22	18	15	118	35	22	218
2	16	103	17	33	62	22	18	15	306	32	18	303
3	16	37	13	23	43	69	17	78	175	17	16	32
4	16	24	12	16	35	34	18	30	62	15	15	23
5	17	21	13	14	27	25	17	19	20	15	15	90
6	17	19	12	15	23	26	19	15	239	28	16	21
7	17	19	11	15	156	140	19	16	2470	18	16	16
8	17	185	11	24	776	90	21	15	533	15	14	18
9	31	180	11	18	266	42	20	14	106	14	13	17
10	25	42	9.2	14	150	30	20	12	32	14	12	127
11	28	21	8.8	109	86	23	24	13	20	17	12	431
12	23	16	10	308	338	21	26	14	16	22	30	122
13	20	14	869	60	282	23	29	13	15	16	100	81
14	18	13	210	26	490	25	20	11	47	15	150	471
15	17	21	39	18	85	22	17	12	30	14	50	86
16	17	28	21	921	79	19	16	13	19	14	30	30
17	14	16	16	575	210	18	18	13	19	14	20	18
18	13	14	14	380	187	19	19	14	16	12	17	16
19	13	14	14	1180	79	18	16	14	16	16	15	18
20	12	15	15	271	53	19	17	13	16	14	14	16
21	12	245	10	119	36	20	15	16	15	12	25	22
22	15	76	10	136	33	19	17	13	14	50	30	18
23	21	21	13	109	30	25	19	12	15	35	20	17
24	19	16	12	262	26	87	16	13	15	25	17	14
25	16	14	10	199	25	30	16	12	17	20	15	13
26	15	12	9.2	99	24	21	14	16	15	25	14	12
27	14	12	12	54	23	18	14	24	21	20	13	13
28	13	13	20	36	23	17	15	14	28	80	15	16
29	13	60	47	27	---	19	18	22	22	250	16	14
30	13	76	24	34	---	19	16	134	21	60	36	13
31	14	---	16	42	---	18	---	56	---	30	86	---
TOTAL	527	1392	1547.2	5152	3780	1000	549	691	4458	964	882	2306
MEAN	17.0	46.4	49.9	166	135	32.3	18.3	22.3	149	31.1	28.5	76.9
MAX	31	245	869	1180	776	140	29	134	2470	250	150	471
MIN	12	12	8.8	14	23	17	14	11	14	12	12	12
AC-FT	1050	2760	3070	10220	7500	1980	1090	1370	8840	1910	1750	4570
(††)	.57	3.29	2.39	7.31	3.01	1.36	.45	2.28	6.63	2.64	2.25	5.56
CAL YR 1977 TOTAL	18386.7			MEAN 50.4	MAX 1350	MIN 5.4	AC-FT 36470	†† 29.70				
WTR YR 1978 TOTAL	23248.2			MEAN 63.7	MAX 2470	MIN 8.8	AC-FT 46110	†† 37.74				

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

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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)
NOV											
23...	1000	21	649	--	18.0	--	--	--	--	--	--
30...	0920	73	360	7.9	14.0	80	300	8.3	83	20	180000
DEC											
27...	1250	12	893	--	12.5	--	--	--	--	--	--
JAN											
17...	1120	419	205	8.0	8.0	280	300	8.8	77	4.8	260000
FEB											
02...	1250	59	460	--	8.5	--	--	--	--	--	--
APR											
26...	0930	14	840	7.9	19.5	10	60	6.2	70	12	58000
JUN											
06...	1100	15	770	--	--	--	--	--	--	--	--
06...	2300	1490	155	7.0	24.0	260	400	6.0	73	8.7	150000
07...	0050	1510	174	--	24.0	--	--	--	--	--	--
07...	1135	3210	135	6.9	22.5	180	400	6.9	81	11	520000
08...	1100	483	207	7.2	25.0	240	220	5.5	68	8.4	100000
08...	1407	390	211	--	--	--	--	--	--	--	--
09...	1105	97	307	7.1	27.5	140	120	5.8	74	10	110000
09...	1225	95	304	--	--	--	--	--	--	--	--
JUL											
10...	1115	14	909	7.6	31.0	40	80	7.5	101	9.3	10000
20...	1230	14	897	--	31.5	--	--	--	--	--	--
AUG											
08...	1345	14	883	7.8	32.0	50	80	7.7	105	6.4	9000
29...	1245	16	995	7.5	26.5	60	100	6.6	84	13	30000
SEP											
25...	1045	12	812	7.5	24.5	40	--	6.6	80	13	40000

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI 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)	BICAR- BONATE (MG/L AS HC03)
NOV										
23...	--	--	--	--	--	--	--	--	--	--
30...	29000	26000	--	--	--	--	--	--	--	--
DEC										
27...	--	--	--	--	--	--	--	--	--	--
JAN										
17...	31000	26000	--	--	--	--	--	--	--	--
FEB										
02...	--	--	--	--	--	--	--	--	--	--
APR										
26...	8700	110	210	0	69	9.3	86	2.6	6.4	300
JUN										
06...	--	--	--	--	--	--	--	--	--	--
06...	45000	39000	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	50000	49000	56	0	19	2.0	5.6	.3	1.9	68
08...	8700	3200	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
09...	4000	2600	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
JUL										
10...	2000	62	240	30	79	9.1	90	2.6	6.9	250
20...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	500	14	--	--	--	--	--	--	--	--
29...	3000	94	220	10	75	8.6	110	3.2	7.6	260
SEP										
25...	580	140	--	--	--	--	--	--	--	--

SAN JACINTO RIVER BASIN
08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

141

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
NOV										
23...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	696	106	.71	.09
DEC										
27...	--	--	--	--	--	--	--	--	--	--
JAN										
17...	--	--	--	--	--	--	988	128	.26	.02
FEB										
02...	--	--	--	--	--	--	--	--	--	--
APR										
26...	0	35	93	.4	29	476	116	27	1.6	.55
JUN										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	1200	128	.17	.04
07...	--	--	--	--	--	--	--	--	--	--
07...	0	4.9	4.7	.2	5.7	78	1560	176	.15	.02
08...	--	--	--	--	--	--	600	116	.06	.02
08...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	460	92	.14	.08
09...	--	--	--	--	--	--	--	--	--	--
JUL										
10...	0	72	100	.4	35	516	147	32	1.4	.43
20...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	177	25	1.5	.35
29...	0	110	110	.4	38	588	180	18	2.1	.42
SEP										
25...	--	--	--	--	--	--	84	33	2.4	.58

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
NOV										
23...	--	--	--	--	--	--	--	--	36	2.1
30...	.80	.97	1.3	2.3	2.0	11	--	.10	--	--
DEC										
27...	--	--	--	--	--	--	--	--	34	1.1
JAN										
17...	.28	.25	1.2	1.4	.51	14	--	.10	--	--
FEB										
02...	--	--	--	--	--	--	--	--	130	21
APR										
26...	2.1	1.5	2.0	3.5	3.2	7.7	--	.20	--	--
JUN										
06...	--	--	--	--	--	--	--	--	217	9.0
06...	.21	.17	1.3	1.5	.42	15	--	.00	--	--
07...	--	--	--	--	--	--	--	--	103	420
07...	.17	.23	1.4	1.6	.46	14	--	.00	--	--
08...	.08	.20	.90	1.1	.23	13	--	.00	--	--
08...	--	--	--	--	--	--	--	--	702	739
09...	.22	.52	1.2	1.7	.03	14	--	.00	--	--
09...	--	--	--	--	--	--	--	--	634	163
JUL										
10...	1.8	1.4	2.0	3.4	4.2	7.0	1	.10	--	--
20...	--	--	--	--	--	--	--	--	138	5.4
AUG										
08...	--	2.1	1.5	--	3.4	9.0	--	.30	--	--
29...	2.5	2.6	1.8	4.4	5.0	6.8	1	.00	--	--
SEP										
25...	3.0	2.2	1.2	3.4	4.4	7.3	--	.30	--	--

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		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 10...	1115	13	500	0	10	4	20			
AUG 02...	1410	13	--	0	0	3	20			
29...	1245	5	200	0	0	4	20			
		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 10...		0	0	.0	1	0	10			
AUG 02...		0	0	.0	1	0	10			
29...		0	0	.0	0	0	10			
		PCR, 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									
JUL 10...	1115	.0	.00	.00	.0	.00	.00	.00	.38	
AUG 02...	1410	.0	.00	.00	.1	.00	.00	.00	.70	
29...	1245	.0	.00	.00	.0	.00	.00	.00	.38	
		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)	METHYL PARA- THION, TOTAL (UG/L)
DATE	TIME									
JUL 10...		.00	.00	.00	.00	.00	.00	.01	.00	.00
AUG 02...		.01	.00	.00	.00	.00	.00	.02	.03	.00
29...		.00	.00	.00	.00	.00	.00	.01	.00	.00
		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									
JUL 10...		.00	.00	.00	0	.00	.93	.01	.00	
AUG 02...		.00	.00	.00	0	.00	.33	.03	.01	
29...		.00	.00	.00	0	.00	.02	.02	.02	

SAN JACINTO RIVER BASIN

143

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 (revised).--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). Both changes were result of drainage ditch extension or relocation.

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. No known diversion above station. Low flow is sustained by sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--26 years, 26.2 ft³/s (0.742 m³/s), 18,980 acre-ft/yr (23.4 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 950 ft³/s (26.9 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)				
aNov. 29	1730	59	1.67	46.66	14.222	June 1	2300	218	6.17	49.43	15.066
Dec. 13	b1600	1,070	30.3	54.76	16.691	aJune 7	0800	*1,800	51.0	57.61	17.560
aJan. 16	1800	1,750	49.6	57.07	17.395	aAug. 13	b0200	b110	3.12	b47.6	14.51
Jan. 19	b0500	b1,060	30.0	b54.7	16.67	aSept. 5	0530	31	0.88	46.15	14.066
aMay 30	0130	215	6.09	49.40	15.057						

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

Minimum daily discharge, 5.3 ft³/s (0.15 m³/s) May 25, 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	24	15	8.1	58	14	11	9.4	50	12	12	40
2	7.3	40	10	17	31	13	11	8.8	170	14	8.0	87
3	8.5	12	8.9	12	24	53	12	37	107	8.5	6.6	12
4	7.2	10	9.0	8.5	21	18	11	11	33	7.1	6.5	7.5
5	6.2	9.0	9.2	7.9	18	15	11	7.7	13	7.0	6.2	23
6	6.4	8.0	7.9	8.2	16	15	11	7.0	160	6.9	6.9	10
7	6.3	7.4	8.0	8.0	97	65	12	7.0	1180	6.5	6.9	7.1
8	10	104	8.8	8.4	362	28	11	7.4	142	6.4	6.2	6.4
9	24	42	12	7.4	79	18	10	6.8	46	6.1	6.4	6.4
10	8.6	11	8.2	7.0	52	16	11	6.2	25	6.3	5.9	55
11	8.3	8.3	9.3	62	35	15	11	6.2	16	6.0	6.0	128
12	8.0	9.5	10	117	177	14	12	6.8	14	7.4	18	34
13	6.5	7.9	526	17	184	14	14	6.2	13	7.4	76	25
14	6.8	8.4	96	10	51	14	10	6.2	12	6.4	18	72
15	6.5	26	18	9.0	35	12	8.9	6.2	10	6.1	8.8	17
16	5.9	29	11	593	38	12	9.5	5.9	10	6.3	7.1	10
17	6.5	10	9.1	242	135	11	9.6	5.9	9.5	6.6	6.8	11
18	6.8	8.5	8.1	208	86	12	10	6.2	9.7	6.3	6.7	8.8
19	6.8	8.8	7.7	640	38	12	9.1	5.7	9.7	6.6	6.5	8.2
20	6.8	9.5	7.5	91	28	12	7.8	5.6	9.0	7.6	6.6	8.6
21	6.5	77	7.0	50	22	13	7.8	9.5	8.5	6.4	8.0	8.1
22	6.2	24	8.1	62	19	13	8.0	6.3	8.2	8.3	7.6	7.8
23	8.0	10	8.2	58	16	12	16	6.5	7.7	9.8	6.9	7.5
24	8.0	8.1	8.0	135	15	39	10	5.6	7.9	9.3	6.4	7.9
25	6.8	7.9	7.6	88	15	16	8.8	5.3	7.9	16	6.2	7.6
26	6.5	7.3	6.8	46	14	13	8.3	8.9	7.4	48	5.8	7.3
27	6.2	7.5	7.4	29	14	12	9.5	9.3	7.4	11	6.4	7.5
28	6.2	8.2	9.9	22	15	12	8.2	5.3	7.8	101	6.6	7.1
29	5.9	33	22	18	---	12	7.8	20	7.4	114	6.4	7.2
30	5.9	26	12	22	---	12	8.6	88	8.8	57	20	7.2
31	6.5	---	8.2	26	---	12	---	24	---	53	40	---
TOTAL	232.9	602.3	904.9	2637.5	1695	549	305.9	357.9	2117.9	581.3	352.4	652.2
MEAN	7.51	20.1	29.2	85.1	60.5	17.7	10.2	11.5	70.6	18.8	11.4	21.7
MAX	24	104	526	640	362	65	16	88	1180	114	76	128
MIN	5.9	7.3	6.8	7.0	14	11	7.8	5.3	7.4	6.0	5.8	6.4
AC-FT	462	1190	1790	5230	3360	1090	607	710	4200	1150	699	1290
(††)	.96	4.43	3.37	6.89	3.09	1.26	.67	2.51	5.00	5.62	2.21	4.46

CAL YR 1977 TOTAL 8705.6 MEAN 23.9 MAX 705 MIN 5.8 AC-FT 17270 †† 37.68
WTR YR 1978 TOTAL 10989.2 MEAN 30.1 MAX 1180 MIN 5.3 AC-FT 21800 †† 40.47

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

SAN JACINTO RIVER BASIN

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
NOV 30...	1010	24	535	7.7	15.0	100	40	4.8	49	22
JAN 17...	1205	127	261	7.5	8.0	180	100	8.1	70	13
APR 24...	1315	8.9	833	7.6	28.0	40	20	8.0	103	11
MAY 31...	1035	25	441	6.5	27.0	70	30	2.0	25	9.6
JUN 02...	1035	67	310	6.2	26.0	140	150	2.6	32	12
06...	1935	233	385	6.8	27.0	110	120	3.1	39	17
JUL 10...	1020	6.5	837	7.3	30.0	60	10	5.4	72	9.0
AUG 02...	1410	7.0	624	7.2	30.5	50	10	3.1	41	7.2
13...	2115	77	250	6.8	28.0	80	60	2.0	26	14
SEP 06...	1015	10	474	7.2	23.5	90	40	2.7	33	9.9
25...	1125	7.4	822	7.4	25.0	40	8	6.6	81	12
DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	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)
NOV 30...	660000	38000	15000	--	--	--	--	--	--	--
JAN 17...	640000	49000	34000	82	1	25	4.8	21	1.0	3.4
APR 24...	2200000	140000	600	180	0	55	11	93	3.0	8.0
MAY 31...	180000	20000	3400	100	0	32	5.3	40	1.7	5.2
JUN 02...	640000	30000	7000	91	0	29	4.5	24	1.1	3.9
06...	900000	200000	44000	--	--	--	--	--	--	--
JUL 10...	940000	110000	620	170	0	52	9.1	94	3.2	9.1
AUG 02...	240000	30000	220	140	0	45	6.8	65	2.4	7.4
13...	1100000	240000	23000	70	0	23	3.0	23	1.2	3.3
SEP 06...	35000	25000	270	110	0	34	4.9	45	1.9	6.5
25...	32000	7000	500	--	--	--	--	--	--	--
DATE	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
NOV 30...	--	--	--	--	--	--	--	71	16	.63
JAN 17...	99	0	17	21	.1	8.1	149	208	31	.53
APR 24...	300	0	34	92	.4	21	462	25	19	.07
MAY 31...	140	0	24	43	.3	11	230	55	16	.15
JUN 02...	120	0	14	24	.3	10	169	308	44	.29
06...	--	--	--	--	--	--	--	604	96	.14
JUL 10...	280	0	32	87	.2	25	447	24	24	.04
AUG 02...	230	0	27	56	.2	19	340	19	5	.06
13...	92	0	15	18	.1	1.7	132	130	8	.90
SEP 06...	180	0	21	38	.3	15	254	54	13	.02
25...	--	--	--	--	--	--	--	16	11	.05

SAN JACINTO RIVER BASIN

145

08076500 HALLS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
NOV 30...	.14	.77	4.4	.20	4.6	3.6	13	--	.90
JAN 17...	.05	--	.75	1.2	--	.85	13	--	.10
APR 24...	.10	.17	9.5	.00	9.4	7.4	14	--	.90
MAY 31...	.10	.25	4.6	1.2	5.8	2.8	10	1	.20
JUN 02...	.11	.40	1.7	1.7	3.4	1.4	18	--	.00
06...	.05	.19	1.8	3.2	5.0	2.4	18	--	.10
JUL 10...	.14	.18	6.0	4.0	10	7.9	11	4	.50
AUG 02...	.09	--	6.6	2.3	--	4.5	8.4	0	1.4
13...	.10	--	1.5	2.0	--	2.0	15	--	--
SEP 06...	.04	.06	5.4	1.2	6.6	4.8	11	4	1.1
25...	.16	.21	10	1.0	11	6.7	16	--	1.3

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAY 31...	1035	28	300	0	0	4	50
JUL 10...	1020	6	400	0	10	4	20
SEP 06...	1015	7	100	0	0	2	20

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY 31...	0	10	.0	0	0	20
JUL 10...	0	10	.0	1	0	10
SEP 06...	4	0	.0	1	0	20

SAN JACINTO RIVER BASIN
08076500 HALLS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 31...	1035	.0	.00	.00	.0	.00	.00	.00	.09
JUL 10...	1020	--	--	--	--	--	--	--	--
SEP 06...	1015	.0	.00	.00	.0	.00	.00	.00	.73

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)	METHYL PARA- THION, TOTAL (UG/L)
MAY 31...	.01	.00	.00	.00	.00	.00	.00	.01	.00
JUL 10...	--	--	--	--	--	--	--	--	--
SEP 06...	.01	.00	.00	.00	.00	.01	.02	.04	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 31...	.00	.00	.00	0	.00	--	--	--
JUL 10...	--	--	--	--	--	.25	.00	.00
SEP 06...	.00	.00	.00	0	.00	.00	.00	.00

SAN JACINTO RIVER BASIN

147

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX

LOCATION.--Lat 29°50'13", Long 95°13'59", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of Ley Road Bridge in northeast Houston, and 300 ft (91 m) downstream from mouth of Halls Bayou.

DRAINAGE AREA.--182 mi² (471 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1962 to December 1964, May to September 1971 (discharge measurements only), October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2.13 ft (0.649 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Water-discharge records fair except those below 1,000 ft³/s (28.3 m³/s), which are poor. Discharge is computed for all storms which produce peak discharges over 1,000 ft³/s (28.3 m³/s). Tidal influences on the stage-discharge relationship affect discharge below about 500 ft³/s (14.2 m³/s). Discharge below 1,000 ft³/s (28.3 m³/s) is estimated following designated storm period only.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft³/s (473 m³/s) June 13, 1973, gage height, 34.27 ft (10.445 m); minimum not determined (affected by tides).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62.3 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)
aDec. 13	2100	4,550 129	19.02 5.797	Feb. 8	0800	2,860 81.0	15.18 4.627
aJan. 17	0100	5,280 150	20.82 6.346	Feb. 13	0200	2,600 73.6	14.32 4.365
Jan. 19	1200	4,080 116	18.50 5.639	aJune 7	1700	*11,400 323	27.75 8.458

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

Minimum not determined (affected by tides).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	---	---				100			---
2		---	---	---	---				650			---
3		---	---	---	---				830			---
4		---	---	---	---				210			---
5		---	---	---	---				80			---
6		---	---	---	---				640			---
7		---	---	---	340				8300			---
8		---	---	---	2260				4000			---
9		---	---	---	840				450			---
10		---	---	---	425				120			172
11		---	---	270	150				---			940
12		---	---	1110	910				---			300
13		---	2220	240	1670				---			125
14		---	1620	70	450				---			635
15		---	210	---	150				---			410
16		---	80	1610	70				---			330
17		---	---	2960	560				---			80
18		---	---	1060	800				---			---
19		---	---	3360	250				---			---
20		---	---	1050	100				---			---
21		640	---	410	---				---			---
22		300	---	450	---				---			---
23		60	---	410	---				---			---
24		---	---	1040	---				---			---
25		---	---	690	---				---			---
26		---	---	330	---				---			---
27		---	---	100	---				---			---
28		---	---	---	---				---			---
29		---	---	---	---				---			---
30		---	---	---	---				---			---
31		---	---	---	---				---			---
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 current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	
DATE	TIME										
DEC											
13...	1145	2090	280	8.0	18.0	100	450	7.4	80	34	
13...	1715	4200	190	8.2	18.0	160	400	6.8	74	24	
14...	0745	2120	225	7.5	14.0	180	250	8.0	80	9.6	
14...	1315	880	276	7.4	16.0	160	220	8.6	90	32	
JAN											
17...	1030	3330	188	7.9	9.5	240	250	8.1	73	5.3	
JUN											
07...	0020	2060	295	7.7	25.5	140	380	5.0	62	29	
07...	1340	10800	135	7.8	22.5	180	250	6.4	75	9.3	
08...	0935	4010	174	6.9	24.0	140	120	5.1	62	7.5	
09...	0950	440	303	6.9	25.5	140	180	5.3	66	11	
		COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	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)
DATE											
DEC											
13...	1100000	150000	180000	--	--	--	--	--	--	--	
13...	1000000	160000	240000	64	6	21	2.7	13	.7	2.4	
14...	970000	160000	170000	--	--	--	--	--	--	--	
14...	990000	140000	120000	--	--	--	--	--	--	--	
JAN											
17...	790000	100000	59000	--	--	--	--	--	--	--	
JUN											
07...	250000	51000	30000	--	--	--	--	--	--	--	
07...	480000	150000	32000	--	--	--	--	--	--	--	
08...	60000	7700	3200	--	--	--	--	--	--	--	
09...	110000	9700	2100	--	--	--	--	--	--	--	
		BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DATE											
DEC											
13...	--	--	--	--	--	--	--	2400	224	.50	
13...	70	0	20	13	.3	4.5	111	1800	212	.48	
14...	--	--	--	--	--	--	--	704	68	.47	
14...	--	--	--	--	--	--	--	628	4	.55	
JAN											
17...	--	--	--	--	--	--	--	624	68	.24	
JUN											
07...	--	--	--	--	--	--	--	3670	532	.40	
07...	--	--	--	--	--	--	--	676	80	.10	
08...	--	--	--	--	--	--	--	276	84	.11	
09...	--	--	--	--	--	--	--	540	104	.13	
		NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	
DATE											
DEC											
13...	.05	.55	.59	2.7	3.3	.99	22	--	--	.30	
13...	.04	.52	.47	2.5	3.0	.81	20	2	--	.00	
14...	.03	.50	.00	1.6	1.6	.56	23	--	--	.10	
14...	.04	.59	.30	1.7	2.0	.68	25	--	--	.10	
JAN											
17...	.02	.26	.21	1.1	1.3	.39	18	--	--	.10	
JUN											
07...	.05	.45	.51	8.8	9.3	.89	34	--	--	.00	
07...	.02	.12	.09	.84	.93	.25	13	--	--	.00	
08...	.04	.15	.23	.87	1.1	.39	11	--	--	.10	
09...	.06	.19	.36	3.7	4.1	.02	16	--	--	.10	

CLEAR CREEK BASIN

149

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. 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.--27 years (water years 1948-59, 1964-78), 35.2 ft³/s (0.997 m³/s), 25,500 acre-ft/yr (31.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft³/s (61.5 m³/s) Mar. 18, 1957, gage height, 16.80 ft (5.121 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1960 (stage and discharge unknown), probably exceeded that of Mar. 18, 1957, from records of rainfall and nearby stations. Because of channel rectification in 1933, 1952, and 1968, there is no relation between historic and recent floods.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 801 ft³/s (22.7 m³/s) Jan. 19, gage height, 12.99 ft (3.959 m), no other peak above base of 600 ft³/s (17.0 m³/s); minimum daily, 0.16 ft³/s (0.005 m³/s) Oct. 30, 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	7.9	58	2.6	37	4.9	2.2	2.0	13	14	14	5.6
2	2.2	6.6	29	3.9	37	4.3	2.2	1.9	10	20	10	4.3
3	6.1	4.0	17	3.1	30	4.0	2.5	2.9	27	16	9.2	3.6
4	4.7	2.6	10	2.8	24	3.5	2.5	4.8	59	13	7.1	3.1
5	4.0	1.8	6.1	2.7	18	3.2	2.4	5.2	40	10	5.6	5.8
6	3.5	1.3	3.8	2.6	13	3.2	2.2	3.5	25	13	4.5	5.4
7	3.5	.98	2.5	2.5	28	5.3	2.7	4.4	71	12	6.7	4.3
8	3.6	3.9	1.9	2.6	373	3.9	8.2	3.1	70	10	7.3	5.9
9	3.8	4.5	1.4	2.5	230	3.5	5.1	2.3	34	9.2	6.9	5.8
10	3.2	3.4	1.0	2.2	162	3.2	8.5	1.7	20	8.6	5.7	9.0
11	6.4	2.0	.89	41	92	3.1	5.3	2.2	13	8.5	3.4	32
12	6.1	1.3	.85	293	76	2.9	7.7	11	9.5	10	2.6	37
13	3.5	1.1	30	125	161	2.9	19	13	8.5	8.7	2.3	21
14	2.0	.92	59	46	91	2.9	21	4.9	8.3	7.7	2.1	24
15	1.2	.86	28	25	50	2.7	12	3.4	6.8	8.6	2.0	20
16	.74	.80	15	135	46	2.6	9.5	4.2	6.3	8.8	1.8	14
17	.47	6.4	9.5	415	48	2.5	14	6.2	4.7	8.8	1.7	7.3
18	.36	13	6.4	265	66	2.4	12	5.9	4.7	10	1.7	4.3
19	.31	3.5	5.3	690	43	2.4	4.6	5.7	5.7	10	1.7	3.2
20	.26	2.2	3.7	364	28	2.4	3.6	9.3	4.7	14	1.5	15
21	.24	22	2.6	155	18	2.5	6.2	14	5.1	16	1.5	13
22	.61	7.6	2.2	92	12	2.4	5.4	17	3.8	34	1.4	6.3
23	1.5	4.4	2.1	68	9.2	2.1	5.1	8.4	4.7	95	1.4	3.6
24	.95	3.7	2.0	89	7.6	3.6	17	6.7	2.9	64	1.3	2.5
25	.67	3.4	1.8	85	6.7	3.1	9.0	8.6	2.6	51	1.2	1.8
26	.48	2.0	1.6	54	6.0	3.0	3.7	13	2.9	38	6.6	1.4
27	.34	1.5	1.5	32	5.5	2.7	3.2	19	3.1	29	8.3	1.3
28	.26	1.3	1.9	21	5.4	2.5	3.2	25	4.1	30	5.5	1.3
29	.19	93	4.6	14	---	2.5	2.9	18	4.8	35	3.6	1.3
30	.16	156	3.2	11	---	2.4	2.2	31	5.6	27	2.7	1.2
31	.16	---	2.9	13	---	2.3	---	20	---	20	4.8	---
TOTAL	62.90	363.96	315.74	3060.5	1723.4	94.9	205.1	278.3	480.8	659.9	136.1	264.3
MEAN	2.03	12.1	10.2	98.7	61.6	3.06	6.84	8.98	16.0	21.3	4.39	8.81
MAX	6.4	156	59	690	373	5.3	21	31	71	95	14	37
MIN	.16	.80	.85	2.2	5.4	2.1	2.2	1.7	2.6	7.7	1.2	1.2
AC-FT	125	722	626	6070	3420	188	407	552	954	1310	270	524
CAL YR 1977 TOTAL	7970.09			MEAN 21.8	MAX 914	MIN .16	AC-FT 15810					
WTR YR 1978 TOTAL	7645.90			MEAN 20.9	MAX 690	MIN .16	AC-FT 15170					

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. 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 gage heights in Galveston Bay exceed 3.0 ft (0.91 m).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (Moses Lake), 3.8 ft (1.16 m) Sept. 9, 1971, and Mar. 23, 1973; minimum, -2.6 ft (-0.79 m) Mar. 12, 13, 1968. Maximum gage height (Galveston Bay), 4.7 ft (1.43 m) Feb. 14, 1969; minimum not recorded but probably occurred Mar. 12 or 13, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum gage height (Moses Lake), 2.9 ft (0.88 m) Jan. 12; minimum, -1.8 ft (-0.55 m) Dec. 21. Maximum gage height (Galveston Bay), 3.3 ft (1.01 m) Aug. 28; minimum, -1.9 ft (-0.58 m) Dec. 12, Jan. 9.

MAXIMUM DAILY GAGE HEIGHT, IN FEET, GALVESTON BAY AND MOSES LAKE
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake	Galv. Bay	Moses Lake
1	2.5	-	2.4	-	1.7	-	1.7	-	-	-	-	-	1.2	-	2.1	-	1.8	-	1.8	-	1.8	-	1.9	-
2	2.2	-	2.1	-	1.6	-	1.3	-	-	-	-	-	1.3	-	2.3	-	2.1	-	1.8	-	1.6	-	1.8	-
3	2.1	-	1.4	-	1.5	-	1.7	-	-	-	-	-	1.6	-	3.0	2.2	2.1	-	1.5	-	1.6	-	1.8	-
4	2.7	-	.9	-	1.6	-	1.8	-	-	-	-	-	1.4	-	1.2	-	-	-	1.5	-	1.2	-	1.7	-
5	2.5	-	1.0	-	1.8	-	1.9	-	-	-	-	-	1.4	-	1.8	-	-	-	1.4	-	1.6	-	1.7	-
6	2.3	-	1.4	-	1.1	-	1.6	-	-	-	-	-	1.8	-	2.8	-	-	-	1.4	-	1.5	-	2.0	-
7	2.5	-	2.0	-	2.6	-	2.2	-	-	-	-	-	1.4	-	2.8	-	2.4	-	1.2	-	1.4	-	2.1	-
8	2.6	-	2.8	-	2.8	-	2.2	-	-	-	0.8	-	1.5	-	2.4	-	1.9	-	1.2	-	1.3	-	2.5	-
9	2.0	-	2.0	-	2.2	-	.2	-	-	-	.2	-	1.9	-	1.9	-	-	-	1.2	-	1.3	-	2.7	-
10	2.8	-	.8	-	2.2	-	1.7	-	-	-	.8	-	2.2	-	2.1	-	-	-	1.3	-	1.5	-	3.0	2.2
11	2.3	-	1.2	-	2.5	-	2.9	-	-	-	1.4	-	1.3	-	2.6	-	-	-	1.2	-	1.5	-	3.1	2.2
12	1.4	-	1.2	-	2.7	-	2.9	-	-	-	1.2	-	1.8	-	2.2	-	1.5	-	1.3	-	1.3	-	2.8	-
13	1.7	-	1.3	-	2.3	-	1.4	-	-	-	1.8	-	1.6	-	1.7	-	1.6	-	1.4	-	1.4	-	2.4	-
14	1.8	-	1.6	-	1.8	-	.7	-	-	-	1.5	-	1.4	-	1.4	-	-	-	1.3	-	1.5	-	2.3	-
15	1.7	-	2.4	-	1.7	-	1.8	-	-	-	1.2	-	1.6	-	1.3	-	-	-	1.4	-	1.5	-	1.7	-
16	1.4	-	2.0	-	1.8	-	2.2	-	-	-	.8	-	1.6	-	1.5	-	-	-	1.3	-	1.3	-	1.7	-
17	1.6	-	1.8	-	1.8	-	1.1	-	-	-	.4	-	1.9	-	1.8	-	-	-	1.4	-	1.4	-	2.0	-
18	1.8	-	2.0	-	1.4	-	2.0	-	-	-	.5	-	1.7	-	2.9	-	2.6	-	1.7	-	1.6	-	2.2	-
19	1.5	-	2.3	-	1.5	-	1.9	-	-	-	.9	-	1.1	-	2.0	-	2.4	-	1.4	-	1.5	-	2.2	-
20	1.5	-	2.2	-	1.4	-	.8	-	-	-	1.1	-	1.2	-	1.8	-	-	-	1.4	-	1.3	-	2.2	-
21	1.7	-	3.2	2.4	-.3	-	.9	-	-	-	1.3	-	1.3	-	1.6	-	2.4	-	1.8	-	1.4	-	2.4	-
22	2.2	-	1.9	-	.9	-	1.3	-	-	-	1.0	-	2.0	-	1.7	-	2.3	-	1.7	-	1.4	-	2.6	-
23	2.3	-	2.1	-	1.1	-	2.0	-	-	-	1.2	-	2.3	-	1.9	-	2.1	-	2.0	-	1.6	-	2.4	-
24	2.4	-	2.2	-	1.2	-	2.1	-	-	-	1.5	-	2.0	-	2.2	-	1.7	-	1.8	-	1.8	-	2.3	-
25	2.1	-	2.2	-	1.3	-	1.7	-	-	-	.6	-	1.8	-	2.0	-	1.4	-	1.6	-	2.1	-	1.9	-
26	1.7	-	2.3	-	1.8	-	-.1	-	-	-	.4	-	1.8	-	2.1	-	1.5	-	1.6	-	2.3	-	2.1	-
27	1.7	-	2.8	-	1.9	-	-	-	-	-	.8	-	1.7	-	1.7	-	1.6	-	2.3	-	2.6	-	2.1	-
28	1.5	-	2.2	-	2.1	-	-	-	-	-	.9	-	1.7	-	1.7	-	1.4	-	1.6	-	3.3	1.6	1.8	-
29	1.5	-	2.1	-	2.6	-	-	-	----	----	.9	-	1.9	-	1.7	-	1.4	-	1.7	-	2.1	-	2.2	-
30	1.7	-	2.2	-	1.7	-	-	-	----	----	.6	-	2.1	-	1.6	-	1.7	-	1.7	-	2.1	-	2.1	-
31	2.1	-	----	----	1.6	-	-	-	----	----	.8	-	----	----	1.6	-	----	----	1.9	-	2.1	-	----	----

HIGHLAND BAYOU BASIN

151

08077700 HIGHLAND BAYOU AT HITCHCOCK, TX

LOCATION.--Lat 29°21'12", long 95°01'49", Galveston County, Hydrologic Unit 12040204, at downstream side of bridge on Farm Road 2004, 0.6 mi (1.0 km) west of Hitchcock, and 7 mi (11 km) from mouth and Jones Bay.

DRAINAGE AREA.--15.6 mi² (40.4 km²).

PERIOD OF RECORD.--August 1963 to current year (elevations only prior to 1973, beginning 1973 gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 0.80 ft (0.244 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 10.51 ft (3.203 m) Mar. 23, 1973; minimum unknown.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1930, 14.6 ft (4.45 m) July 25, 1959, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 6.13 ft (1.868 m) Jan. 12; minimum, -1.11 ft (-0.338 m) Dec. 21.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	2.76	1.87	2.68	1.66	2.25	1.00	2.05	0.85	2.03	1.50	2.04	0.81	1.56	0.49	2.49	1.73	2.96	2.91	2.14	1.22	2.14	0.92	2.28	1.44
2	2.45	1.43	2.27	.91	1.85	1.04	1.71	.88	1.87	.67	2.25	1.20	1.72	.84	2.66	2.01	3.07	2.93	2.14	1.17	2.00	1.16	2.21	1.47
3	2.29	1.70	1.69	.52	1.98	1.09	1.95	1.20	1.64	.63	1.98	.62	2.06	1.47	2.86	1.36	3.60	2.95	1.87	1.07	1.79	.95	2.10	1.60
4	2.90	2.02	1.37	.59	1.91	1.45	2.15	1.28	1.62	.54	1.35	-.17	1.92	1.18	1.77	.94	3.28	3.02	1.87	.99	1.61	.77	2.03	1.37
5	2.84	1.77	1.29	.54	2.01	.72	2.25	1.18	1.65	.31	1.85	.59	1.84	1.25	2.62	.84	3.02	2.93	1.81	.94	1.80	.69	2.05	1.47
6	2.56	1.82	1.71	.94	1.38	.13	1.94	.75	1.90	.63	2.30	1.39	2.17	1.29	3.20	1.69	3.04	2.91	1.79	.88	1.66	1.12	2.34	1.56
7	2.77	2.02	2.19	1.52	2.83	1.34	2.62	1.12	3.33	1.90	2.43	1.09	1.75	1.12	3.03	2.17	3.04	2.99	1.55	.78	1.74	.77	2.52	1.37
8	2.88	1.85	2.77	2.19	3.21	2.22	2.46	-.12	3.51	2.39	1.09	-.12	1.97	.95	2.70	1.89	3.04	2.90	1.57	.63	1.72	1.13	3.11	2.21
9	2.44	1.79	2.52	.60	2.33	.74	.70	-.72	2.59	1.86	.86	-.16	2.32	1.18	2.31	1.46	2.90	1.64	1.54	.63	1.72	1.18	3.56	2.36
10	3.30	1.95	1.10	-.12	2.63	1.23	2.14	.70	1.86	1.09	1.25	.14	2.45	1.60	2.41	1.14	2.17	1.32	1.65	.83	1.89	1.38	3.18	2.31
11	2.74	1.52	1.59	.52	2.90	1.63	6.10	2.13	2.61	1.15	1.83	.98	1.75	.70	2.74	1.70	2.10	1.31	1.64	.95	1.82	.96	3.51	2.13
12	1.91	1.04	1.52	.34	3.00	1.86	6.13	3.07	2.79	2.14	1.67	.64	2.09	.98	2.56	1.83	1.80	1.20	1.77	1.13	1.66	.82	3.20	2.12
13	2.04	1.09	1.65	.52	2.60	1.84	3.07	1.20	2.14	.48	2.17	1.12	1.95	1.21	2.12	1.34	1.45	.77	1.79	1.15	1.80	.79	2.76	1.84
14	2.11	1.20	1.89	.86	2.18	.74	1.33	.21	1.21	-.06	1.91	1.18	1.80	.77	1.76	.98	1.88	.91	1.72	.91	1.78	.76	2.59	1.62
15	1.90	.86	2.66	1.64	2.03	1.26	2.35	.48	2.14	.91	1.62	.92	1.91	1.02	1.67	1.11	2.27	1.37	1.72	.84	1.83	.83	2.11	1.43
16	1.63	.54	2.37	1.26	2.15	1.54	2.92	1.95	2.15	1.37	1.02	.01	1.95	1.09	1.80	1.31	2.27	1.44	1.62	.66	1.75	.66	2.16	1.25
17	1.87	.96	2.12	1.07	2.16	.68	2.68	.95	1.92	1.23	.90	-.13	2.28	1.57	2.14	1.55	2.62	1.44	1.86	.62	1.85	.67	2.53	1.60
18	1.98	.88	2.32	1.64	1.67	.64	2.56	1.13	1.23	.28	.81	-.08	2.08	1.34	2.72	1.80	2.90	1.76	2.12	.84	1.97	.85	2.63	2.02
19	1.76	.77	2.55	2.13	1.79	1.08	2.89	1.38	1.47	.20	1.17	.25	1.54	.85	2.81	2.38	2.74	1.76	1.81	.89	1.94	.98	2.55	1.79
20	1.71	1.01	2.59	2.06	1.44	.31	1.38	.40	1.55	.67	1.46	.52	1.82	.82	2.87	2.33	2.75	1.62	1.80	.46	1.72	1.07	2.53	1.78
21	2.15	1.24	3.32	2.20	.58	4.11	1.27	.36	.77	-.88	1.70	.90	1.86	1.17	3.14	2.57	2.72	1.48	2.04	.62	1.78	1.02	2.68	1.94
22	2.78	1.87	2.58	1.64	1.15	-.70	1.84	1.10	.36	-.66	1.43	.72	2.47	1.47	3.25	2.67	2.67	1.49	2.33	1.06	1.72	1.12	2.83	2.11
23	2.64	2.11	2.33	1.42	1.44	.45	2.48	1.41	.60	-.29	1.62	1.05	2.68	1.87	3.16	2.77	2.44	1.54	2.31	1.27	1.87	1.23	2.75	1.77
24	2.78	2.16	2.39	1.48	1.40	.40	2.70	2.06	.77	-.13	1.86	.87	2.43	1.59	3.36	3.16	2.15	1.33	2.26	1.64	1.96	1.40	2.58	1.49
25	2.42	1.64	2.42	1.11	1.55	.20	2.49	.40	1.17	.61	1.09	.49	2.02	1.20	3.44	2.87	1.89	1.13	2.07	1.45	2.42	1.73	2.28	1.55
26	2.04	1.16	2.07	1.45	2.12	1.10	.40	-.16	1.33	.55	.89	.13	2.16	.77	2.87	2.84	1.92	1.33	2.05	1.33	2.47	1.72	2.48	1.75
27	1.96	.90	3.05	1.99	2.13	.89	1.23	.42	1.97	.86	1.32	.18	1.98	.87	2.84	2.82	2.10	1.35	2.50	1.40	2.82	1.85	2.38	1.40
28	1.76	.94	2.42	1.09	2.64	1.56	1.19	.53	1.91	1.37	1.36	.45	2.11	.97	2.83	2.80	1.90	1.16	1.94	1.10	3.32	2.36	2.22	1.40
29	1.84	.88	3.34	1.90	3.04	1.80	1.72	.88	----	----	1.26	.25	2.14	1.36	2.80	2.78	1.88	1.12	2.05	1.03	2.47	1.46	2.63	1.76
30	1.94	1.10	3.29	2.00	2.08	1.05	1.90	1.68	----	----	1.04	.02	2.42	1.55	2.85	2.78	2.17	1.12	2.21	1.15	2.39	1.40	2.48	2.00
31	2.39	1.49	----	----	1.96	1.33	2.03	.86	----	----	1.19	.02	----	----	2.96	2.85	----	----	2.05	1.06	2.61	1.52	----	----

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 Highway 35.

DRAINAGE AREA.--87.7 mi² (227.1 km²).

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.--29 years (water years 1948-57, 1960-78), 104 ft³/s (2.945 m³/s), 75,350 acre-ft/yr (92.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,400 ft³/s (210 m³/s) Oct. 8, 1949, gage height, 21.80 ft (6.645 m), present datum from floodmark before channel rectification, from rating curve extended above 3,800 ft³/s (108 m³/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage in recent years, 22.9 ft (6.98 m) July 14, 1939, 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 1,000 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)	
Jan. 12	0800	1,030	29.2	11.67	3.557	June 4	0300	*1,340	37.9	13.76	4.194
Jan. 19	2000	1,240	35.1	13.17	4.014						

Minimum daily discharge, 0.07 ft³/s (0.002 m³/s) Oct. 18-21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	1.7	298	2.5	223	12	11	26	94	76	47	34
2	.43	11	140	2.7	177	11	8.5	22	287	113	45	23
3	.77	10	80	2.7	111	11	9.7	29	1110	122	42	15
4	1.3	6.4	50	2.7	82	9.2	11	28	1190	114	29	9.7
5	1.3	3.8	33	2.7	57	8.5	17	24	770	100	24	5.8
6	1.1	3.1	22	2.7	39	8.1	13	26	768	91	26	2.7
7	.47	2.3	15	7.0	49	8.1	22	27	806	88	59	4.6
8	.29	2.1	13	17	640	7.7	26	26	665	80	44	21
9	.23	2.3	11	10	540	7.4	24	22	241	82	26	30
10	.18	2.3	7.4	6.4	426	7.0	30	25	121	82	15	297
11	.23	2.3	5.8	214	222	6.7	42	33	87	88	13	740
12	.36	2.1	5.2	933	138	6.4	60	27	68	98	12	554
13	.23	1.9	27	419	157	6.1	110	23	57	99	7.0	278
14	.14	1.7	101	165	105	5.8	64	21	57	109	3.6	214
15	.12	1.4	51	87	65	5.5	22	24	44	103	2.5	117
16	.08	1.3	28	265	83	5.2	11	23	47	83	2.1	68
17	.08	1.7	20	865	82	4.6	8.5	19	44	90	1.9	38
18	.07	1.6	14	549	96	4.3	6.4	28	46	109	1.4	21
19	.07	1.4	12	1080	62	4.1	3.3	28	54	114	1.2	14
20	.07	1.3	9.2	881	41	4.1	2.9	25	57	150	.95	10
21	.07	162	6.4	297	28	4.3	7.4	22	54	198	1.6	12
22	.36	120	4.9	295	22	4.6	13	22	53	324	20	20
23	1.3	52	4.6	278	18	5.5	157	21	50	435	20	13
24	1.1	29	3.8	259	17	9.2	113	18	51	423	17	8.1
25	.89	20	3.3	268	15	11	43	20	47	304	9.2	4.1
26	.83	13	2.9	171	14	11	17	24	52	175	3.1	2.7
27	.77	8.5	2.5	97	13	11	7.0	26	54	111	1.4	2.1
28	.71	5.8	2.5	65	13	9.2	6.1	24	72	199	1.3	1.6
29	.66	223	2.3	43	---	13	13	32	67	162	1.1	1.4
30	.61	550	2.3	36	---	9.7	20	35	76	99	14	1.4
31	.66	---	2.3	40	---	6.1	---	96	---	63	55	---
TOTAL	16.14	1245.0	980.4	7363.4	3535	237.4	898.8	846	7189	4484	546.35	2563.2
MEAN	.52	41.5	31.6	238	126	7.66	30.0	27.3	240	145	17.6	85.4
MAX	1.3	550	298	1080	640	13	157	96	1190	435	.95	740
MIN	.07	1.3	2.3	2.5	13	4.1	2.9	18	44	63	59	1.4
AC-FT	32	2470	1940	14610	7010	471	1780	1680	14260	8890	1080	5080
CAL YR 1977	TOTAL	24673.24	MEAN	67.6	MAX	1870	MIN	.07	AC-FT	48940		
WTR YR 1978	TOTAL	29904.69	MEAN	81.9	MAX	1190	MIN	.07	AC-FT	59320		

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: May 1971 to current year.
 SPECIFIC CONDUCTANCE: February to September 1978.
 WATER TEMPERATURES: February to September 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,360 micromhos Mar. 20; minimum, 260 micromhos Sept. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY	COLI- FORM, TOTAL, IMMED.	COLI- FORM, FECAL, 0.7
									(PER- CENT SATUR- ATION)	(MG/L)	(COLS. PER 100 ML)	UM-MF (COLS./ 100 ML)
FEB 13...	1030	170	408	7.7	11.0	240	100	9.8	92	2.4	25000	620
MAR 21...	1710	4.6	1340	8.1	22.0	10	20	8.2	96	3.6	13000	48
APR 10...	1200	34	875	7.9	22.5	40	60	7.2	85	5.4	9700	98
MAY 16...	1030	26	980	7.9	25.5	60	40	7.7	96	4.9	9300	130
JUN 13...	1130	57	640	7.8	29.0	30	100	6.0	79	2.5	1000	76
JUL 18...	1040	116	920	7.7	28.5	40	20	6.8	88	.9	7700	580
AUG 08...	1055	44	580	7.5	28.5	50	40	6.8	88	.8	2500	650
SEP 26...	1230	1.4	660	7.8	27.5	10	20	8.2	105	1.6	--	220
DATE	STREP- TOCQCCI 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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB 13...	980	120	26	32	8.7	35	1.4	2.8	110	0	31	50
MAR 21...	92	370	69	98	31	150	3.4	2.4	370	0	48	230
APR 10...	56	250	81	67	19	81	2.2	4.4	200	0	82	120
MAY 16...	74	240	110	60	21	98	2.8	5.8	160	0	130	140
JUN 13...	270	190	29	51	14	55	1.8	3.1	190	0	38	72
JUL 18...	620	230	44	62	19	89	2.5	2.9	230	0	48	140
AUG 08...	220	170	46	48	12	52	1.7	4.9	150	0	39	79
SEP 26...	100	180	12	49	13	58	1.9	5.6	200	0	28	88
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- 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)
FEB 13...	.2	11	229	225	138	20	.06	.01	.07	.05	1.1	1.1
MAR 21...	.5	7.5	721	750	39	16	.00	.01	.01	.00	.52	.52
APR 10...	.4	9.7	500	482	68	26	.48	.04	.52	.06	1.6	1.7
MAY 16...	.4	6.3	526	540	78	21	.30	.05	.35	.10	1.7	1.8
JUN 13...	.5	15	349	343	217	40	.65	.45	1.1	.14	1.5	1.6
JUL 18...	.5	15	498	490	56	16	.01	.00	.01	.01	.80	.81
AUG 08...	.4	13	326	322	57	10	.10	.01	.11	.02	1.4	1.4
SEP 26...	.5	20	384	361	31	23	.06	.02	.08	.06	1.1	1.2

CHOCOLATE BAYOU BASIN

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
FEB 13...	.80	.14	.23	12	--	--	--	--	120	55	97
MAR 21...	.36	.08	.05	--	5.0	.7	--	--	43	.53	92
APR 10...	1.3	.13	.09	14	--	--	4	.10	50	4.6	96
MAY 16...	1.4	.14	.03	13	--	--	--	.10	57	4.0	100
JUN 13...	1.3	.08	.04	--	11	.8	3	.10	33	5.1	98
JUL 18...	1.0	.05	.04	7.2	--	--	2	.30	35	11	97
AUG 08...	.61	.05	.02	7.0	--	--	1	.10	45	5.3	99
SEP 26...	1.1	.14	.08	--	13	.5	4	.20	32	.12	95

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)
MAR 21...	1710	1	0	1	200	0	200	1	1	0
JUN 13...	1130	4	1	3	300	100	200	0	0	3
SEP 26...	1230	--	--	4	--	--	--	--	--	2

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDED RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
MAR 21...	10	10	0	1	1	0	3	2	1	610
JUN 13...	10	10	0	2	0	2	6	3	3	740
SEP 26...	--	--	0	--	--	--	--	--	4	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)
MAR 21...	--	0	1	1	0	60	50	10	.0	.0
JUN 13...	690	50	6	6	0	60	60	0	.4	.4
SEP 26...	--	--	--	--	0	--	--	--	--	--

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	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)
MAR 21...	.1	0	0	0	0	0	0	10	10	0
JUN 13...	.0	0	0	0	0	0	0	10	0	10
SEP 26...	.0	--	--	0	--	--	--	--	--	9

CHOCOLATE BAYOU BASIN

155

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	PCH, TOTAL (UG/L)	PCH, 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)
MAR 21...	1710	.0	0	.00	.00	.0	.0	0	.00	.0
JUN 13...	1130	.0	1	.00	.00	.2	.0	1	.00	.8
JUL 18...	1040	.0	1	.00	.00	.0	.0	0	.00	.0
SEP 26...	1230	.0	0	.00	.00	.0	.0	0	.00	.0

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAR 21...	.00	.3	.00	.0	.00	.00	.2	.00	.00	.0
JUN 13...	.00	.3	.01	1.0	.01	.00	.4	.00	.00	.0
JUL 18...	.00	.5	.00	.0	.00	.00	.5	.00	.00	.0
SEP 26...	.00	.0	.00	.0	.00	.00	.1	.00	.00	.0

DATE	ETHION, TOTAL (UG/L)	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 MATERIAL (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)
MAR 21...	.00	.01	.1	.00	.0	.00	.0	.00	.00
JUN 13...	.00	.00	.0	.00	.0	.00	.0	.00	.00
JUL 18...	.00	.00	.0	.00	.0	.00	.0	.00	.03
SEP 26...	.00	.00	.0	.00	.0	.00	.0	.00	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	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)
MAR 21...	.00	.00	.00	0	0	.00	.00	.00	.00
JUN 13...	.00	.00	.00	0	0	.00	.10	.00	.02
JUL 18...	.00	.00	.00	0	0	.00	.00	.00	.00
SEP 26...	.00	.00	.00	0	0	.00	.02	.03	.00

CHOCOLATE BAYOU BASIN
08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO AUGUST 1978

DATE TIME	MAR 21.78 1710	MAY 16.78 1030	JUN 13.78 1130	JUL 18.78 1040	AUG 8.78 1055
TOTAL CELLS/ML	1100	49000	750	2400	2800
DIVERSITY: DIVISION	1.0	1.2	1.4	0.9	1.0
..CLASS	1.0	1.2	1.4	0.9	1.0
..ORDER	1.8	1.5	1.5	1.3	1.9
...FAMILY	2.8	2.7	1.8	1.6	2.5
....GENUS	3.3	3.2	2.6	1.7	2.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....COELASTRACEAE										
.....COELASTRUM	110	10	11000#	23	--	-	--	-	--	-
....HYDRODICTYACEAE										
.....SORASTRUM	--	-	--	-	--	-	230	10	--	-
....MICRACTINIACEAE										
.....MICRACTINIUM	--	-	3400	7	--	-	--	-	--	-
....OOCYSTACEAE										
.....ANKISTRODESMUS	100	9	2100	4	44	6	29	1	100	4
.....DICTYOSPHAERIUM	230#	21	2200	4	--	-	--	-	57	2
.....KIRCHNERIELLA	--	-	770	2	--	-	14	1	160	6
.....OOCYSTIS	14	1	--	-	--	-	--	-	--	-
.....SELFASTRUM	--	-	--	-	--	-	14	1	--	-
.....TETRAEDRON	--	-	*	0	--	-	--	-	--	-
.....TREUBARTA	--	-	330	1	--	-	--	-	--	-
....SCENEDESMACEAE										
.....ACTINASTRUM	--	-	8600#	18	--	-	--	-	--	-
.....CRUCIGENIA	--	-	1300	3	180#	24	--	-	--	-
....SCENEDESMUS	86	8	3100	6	120#	16	140	6	260	9
....TETRASTRUM	57	5	--	-	--	-	--	-	--	-
..TETRASPORALES										
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	660	1	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	210#	19	440	1	--	-	--	-	29	1
...PHACOTACEAE										
....PHACOTUS	29	3	--	-	--	-	--	-	--	-
...POLYBLEPHARIDACEAE										
....SPERMATOZOOPSIS	43	4	--	-	--	-	--	-	--	-
..ZYGNEWATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	--	-	--	-	57	2	86	3
....COSMARIUM	--	-	*	0	--	-	--	-	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCAEAE										
.....CYCLOTELLA	43	4	2200	4	--	-	--	-	100	4
....MELOSIRA	--	-	--	-	29	4	--	-	--	-
..PENNALES										
...FRAGILARIACEAE										
.....SYNEDRA	--	-	880	2	44	6	--	-	--	-
...NAVICULACEAE										
.....NAVICULA	--	-	*	0	15	2	--	-	--	-
...NITZSCHIAEAE										
.....NITZSCHIA	100	9	330	1	--	-	--	-	--	-
..XANTHOPHYCEAE										
...HETEROCOCCALES										
....CHLOROTHECIACEAE										
.....OPHIOCYTIUM	--	-	*	0	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
....CRYPTOMONODACEAE										
.....CRYPTOMONAS	43	4	--	-	--	-	14	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCCOCCALES										
....CHROCCOCCAEAE										
.....AGMENELLUM	--	-	--	-	120#	16	--	-	860#	30
....ANACYSTIS	--	-	11000#	22	210#	27	110	5	--	-
...HORMOGONALES										
....NOSTOCACEAE										
.....ANABAENA	--	-	--	-	--	-	--	-	750#	26
...OSCILLATORIACEAE										
.....OSCILLATORIA	--	-	--	-	--	-	1700#	70	430#	15
...CHROCCOCCALES										
....CHROCCOCCAEAE										
.....GOMPHOSPHAERIA	--	-	--	-	--	-	57	2	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENACEAE										
.....EUGLENA	--	-	--	-	--	-	14	1	--	-
....PHACUS	--	-	*	0	--	-	--	-	--	-
....TRACHELOMONAS	29	3	*	0	--	-	14	1	14	1

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

CHOCOLATE BAYOU BASIN

157

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	****	****	****	****	****	****	****	****	****
NOV. 1977.....	****	****	****	****	****	****	****	****	****
DEC. 1977.....	****	****	****	****	****	****	****	****	****
JAN. 1978.....	****	****	****	****	****	****	****	****	****
FEB. 1978.....	3535	391	220	2060	50	482	25	240	110
MAR. 1978.....	237.4	1180	650	417	190	124	76	49	330
APR. 1978.....	898.8	731	400	979	98	237	47	115	200
MAY 1978.....	846	933	510	1170	140	308	60	137	260
JUNE 1978.....	7189	483	270	5150	62	1200	31	604	130
JULY 1978.....	4484	595	330	3970	81	978	38	465	170
AUG. 1978.....	546.35	641	350	519	85	125	41	60	180
SEPT 1978.....	2563.2	351	190	1320	45	310	23	157	98
TOTAL	20299.75	**	**	15600	**	3760	**	1830	**
WTD.AVG.	83.9	517	290	**	69	**	33	**	140

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					400	1100	1090	797	750	822	440	570
2					450	1170	1100	850	666	825	500	590
3					517	1190	1000	871	300	835	550	620
4					463	1110	990	938	461	850	590	700
5					500	1130	900	942	500	861	620	760
6					409	1130	862	1020	585	870	670	900
7					400	1160	855	1030	293	888	550	860
8					265	1190	844	980	407	896	580	630
9					274	1230	840	975	480	912	620	610
10					282	1250	840	961	550	917	660	400
11					398	1180	850	956	609	888	690	260
12					387	1210	862	960	623	912	710	280
13					409	1190	686	961	631	908	760	330
14					433	1300	726	933	645	896	820	390
15					512	1320	780	938	650	888	880	460
16					520	1310	819	960	620	900	930	470
17					530	1320	850	990	656	890	960	490
18					551	1240	858	950	658	880	1010	510
19					556	1300	905	924	654	872	1040	550
20					650	1360	921	925	651	425	1090	570
21					727	1290	905	947	693	414	1080	560
22					799	1250	820	942	696	360	920	510
23					861	1210	522	951	711	350	880	550
24					952	1180	610	950	708	355	890	590
25					1000	1170	693	947	788	460	940	630
26					1080	1190	720	995	791	540	980	660
27					1110	1200	763	1010	781	650	1020	680
28					1150	1220	881	965	832	320	1030	720
29					---	1000	850	970	833	340	1080	750
30					---	1040	820	966	829	370	900	790
31					---	1090	---	800	---	400	620	---
MEAN					592	1200	839	945	635	700	807	580

CHOCOLATE BAYOU BASIN

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					7.0	---	22.0	25.0	---	29.0		
2					7.0	---	22.0	---	26.0	30.0		
3					8.0	9.0	22.0	22.0	27.0	31.0		
4					8.0	8.0	22.0	23.0	27.0	30.0		
5					10.0	13.0	25.0	24.0	27.0	31.0		
6					9.0	13.0	23.0	25.0	29.0	31.0		
7					7.0	---	---	26.0	24.0	30.0		
8					5.0	---	25.0	26.0	29.0	32.0		
9					7.0	---	24.0	30.0	---	31.0		
10					6.0	18.0	22.0	29.0	---	30.0		
11					6.0	19.0	16.0	29.0	30.0	30.0		
12					12.0	18.0	15.0	28.0	30.0	30.0		
13					11.0	17.0	17.0	27.0	30.0	30.0		
14					11.0	18.0	21.0	27.0	29.0	29.0		
15					10.0	11.0	23.0	27.0	---	30.0		
16					10.0	---	22.0	28.0	---	30.0		
17					10.0	18.0	23.0	28.0	---	30.0		
18					9.0	20.0	25.0	29.0	50.0	30.0		
19					8.0	---	25.0	28.0	30.0	29.0		
20					---	17.0	22.0	28.0	30.0	26.0		
21					11.0	22.0	23.0	28.0	30.0	26.0		
22					12.0	---	23.0	27.0	31.0	---		
23					14.0	---	25.0	28.0	31.0	---		
24					14.0	---	26.0	28.0	31.0	---		
25					---	---	25.0	29.0	30.0	---		
26					---	---	25.0	30.0	30.0	---		
27					---	---	24.0	29.0	30.0	---		
28					---	---	24.0	29.0	30.0	---		
29					---	---	24.0	28.0	30.0	---		
30					---	---	---	28.0	30.0	---		
31					---	22.0	---	---	---	---		
MEAN					9.0	16.0	22.5	27.5	30.0	30.0		

08079000 OYSTER CREEK NEAR ANGLETON, TX

LOCATION.--Lat 29°09'30", long 95°28'32", Brazoria County, Hydrologic Unit 12040205, near center of low-water channel at downstream side of bridge on State Highway 35, 2.7 mi (4.3 km) west of Angleton, 4.1 mi (6.6 km) upstream from Missouri Pacific Railroad Co. bridge, 4.5 mi (7.2 km) downstream from Styles Bayou, and about 45 mi (72 km) upstream from Gulf of Mexico.

DRAINAGE AREA.--171 mi² (443 km²).

PERIOD OF RECORD.--October 1944 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1392: 1947. WDR TX-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.31 ft (0.399 m) below National Geodetic Vertical Datum of 1929. Prior to Apr. 30, 1958, at site 500 ft (150 m) downstream at same datum.

REMARKS.--Records good. Diversions above station for irrigation. A large part of flow is water released from Harris Reservoir, capacity 12,000 acre-ft (14.8 hm³) for industrial use below station. Harris Reservoir is supplied with water diverted from Brazos River during periods of floodflow. Several observations of water temperature were made during the year.

COOPERATION.--Records of water released from Harris Reservoir into Oyster Creek above station furnished by Dow Chemical Co.

AVERAGE DISCHARGE.--34 years, 178 ft³/s (5.041 m³/s), 129,000 acre-ft/yr (159 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft³/s (300 m³/s) May 10, 1957, gage height, 31.45 ft (9.586 m), present site, overflow from Brazos River; minimum daily, 0.3 ft³/s (0.008 m³/s) at times in 1955-56.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1900, 32.2 ft (9.81 m) in December 1913; flood of Dec. 5, 1940, reached a stage of 30.9 ft (9.42 m), from information by Texas Department of Highways and Public Transportation. At extreme high stages, the Brazos River overflows into Oyster Creek above this station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 543 ft³/s (15.4 m³/s) Jan. 12, gage height, 14.94 ft (4.554 m), no peak above base of 800 ft³/s (22.7 m³/s); minimum daily, 61 ft³/s (1.73 m³/s) Oct. 18-20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	69	218	140	249	109	89	158	152	164	138	128
2	66	86	162	140	287	106	85	151	153	169	136	127
3	67	82	135	140	244	102	85	153	215	168	142	129
4	67	77	120	139	214	99	87	154	256	169	141	138
5	66	80	110	139	187	96	128	156	254	175	139	139
6	66	80	96	138	166	92	149	153	237	163	135	138
7	66	78	92	151	168	90	153	159	256	157	151	150
8	65	74	115	169	382	89	152	161	277	156	150	155
9	65	78	134	149	439	88	152	158	227	154	146	143
10	65	79	146	143	410	88	152	155	215	154	146	135
11	76	69	148	214	336	87	153	150	203	158	140	149
12	69	68	147	522	250	86	162	153	193	160	132	151
13	64	67	151	411	210	85	179	149	191	161	129	148
14	64	66	244	291	181	85	160	145	162	161	128	149
15	63	66	253	212	150	84	153	145	155	158	128	149
16	62	66	206	177	145	82	154	144	163	159	127	173
17	62	67	178	267	149	82	151	144	166	159	127	184
18	61	67	162	344	178	81	140	144	164	159	127	182
19	61	73	153	463	157	80	142	145	163	160	127	164
20	61	75	146	520	131	79	162	153	156	161	126	158
21	62	93	141	419	113	81	153	152	157	171	127	159
22	70	103	141	354	117	85	153	151	153	206	127	163
23	74	83	140	335	122	87	228	151	153	196	126	166
24	77	75	142	300	122	88	223	153	166	384	125	165
25	79	72	142	275	123	90	153	150	171	251	125	162
26	71	69	140	251	120	88	133	145	164	136	127	160
27	65	69	139	205	117	88	131	147	154	143	131	159
28	65	68	137	184	114	88	139	149	152	153	130	157
29	72	99	138	165	---	88	157	148	161	151	132	148
30	73	239	139	152	---	89	159	149	164	137	133	150
31	73	---	140	148	---	95	---	151	---	142	132	---
TOTAL	2084	2437	4655	7657	5581	2757	4417	4676	5553	5295	4130	4578
MEAN	67.2	81.2	150	247	199	88.9	147	151	185	171	133	153
MAX	79	239	253	522	439	109	228	161	277	384	151	184
MIN	61	66	92	138	113	79	85	144	152	136	125	127
AC-FT	4130	4830	9230	15190	11070	5470	8760	9270	11010	10500	8190	9080
(†)	3790	3790	7040	5150	2660	4570	7950	9190	8640	8720	7650	8650

CAL YR 1977 TOTAL 42299 MEAN 116 MAX 1000 MIN 49 AC-FT 83900 † 55200
WTR YR 1978 TOTAL 53820 MEAN 147 MAX 522 MIN 61 AC-FT 106800 † 77800

† Discharge, in acre-feet, released from Harris Reservoir into Oyster Creek above gage (included in total flow past gage).

COASTAL BASIN

08079100 EAST LEVEE DITCH NEAR FREEPORT, TX
(Formerly East Levee Ditch-Gulf of Mexico near Freeport)

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. Datum of gage is National 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 those on the downstream side exceed 3.0 ft (0.91 m). The levee is an earthen structure about 43 mi (69 km) long with a maximum height of 22 ft (6.7 m) NGVD. Gravity drainage structures with flapper gates and pumps to remove floodwaters from the downstream side are located at various points along the levee.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation (upstream side), 4.4 ft (1.34 m) Oct. 13, 14, 1973; minimum not determined. Maximum elevation (downstream side), 5.5 ft (1.68 m) Sept. 10, 1971; minimum, -2.2 ft (-0.67 m) Feb. 3, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (upstream side), 2.5 ft (0.76 m) Feb. 7, Sept. 9; minimum, -1.1 ft (-0.34 m) Jan. 19. Maximum elevation (downstream side), 3.4 ft (1.04 m) Feb. 7; minimum, -1.1 ft (-0.34 m) Jan. 9.

MAXIMUM DAILY GAGE HEIGHT, IN FEET, UPSTREAM AND DOWNSTREAM SIDES OF LEVEE
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down
1	-	2.2	-	2.5	-	2.0	-	-	-	1.9	-	-	-	1.6	-	2.4	-	-	-	2.3	-	2.2	-	2.4
2	-	2.0	-	2.1	-	1.9	-	-	-	-	-	-	-	1.7	-	2.6	-	-	-	2.2	-	2.0	-	2.1
3	-	2.7	-	1.7	-	1.7	-	-	-	-	-	-	-	1.8	-	2.7	-	-	-	1.9	-	1.8	-	2.1
4	-	2.7	-	1.3	-	1.6	-	-	-	-	-	-	-	1.6	-	2.1	-	-	-	2.0	-	1.8	-	2.0
5	-	2.7	-	1.3	-	1.4	-	-	-	-	-	-	-	1.6	-	1.9	-	-	-	1.8	-	1.8	-	2.2
6	-	2.6	-	1.8	-	1.5	-	-	-	-	-	-	2.1	-	2.7	-	-	-	-	-	1.8	-	2.5	
7	-	2.7	-	2.4	-	2.6	-	-	-	-	-	2.0	-	1.7	-	2.8	-	-	-	-	1.7	-	2.6	
8	-	2.7	-	2.5	-	2.6	-	-	-	-	-	1.2	-	1.8	-	2.7	-	-	-	-	1.7	-	2.9	
9	-	2.3	-	2.3	-	2.4	-	-	-	-	-	1.1	-	2.1	-	2.3	-	-	-	-	1.7	-	3.0	
10	-	2.8	-	1.5	-	3.0	-	-	-	-	-	1.2	-	2.3	-	2.2	-	-	-	-	1.8	2.3	3.1	
11	-	2.3	-	1.8	-	2.8	-	-	-	2.5	-	1.9	-	2.0	-	2.6	-	-	-	-	1.7	2.1	3.1	
12	-	-	-	1.6	-	2.9	-	-	-	2.5	-	1.5	-	2.2	-	2.4	-	-	-	-	1.6	1.9	3.1	
13	-	-	-	1.9	-	2.3	-	-	-	-	-	2.0	-	2.1	-	-	-	-	-	-	1.7	-	2.7	
14	-	-	-	2.3	-	1.9	-	-	-	-	-	1.8	-	1.8	-	-	-	-	-	-	1.9	-	2.6	
15	-	1.9	-	2.5	-	2.1	-	-	-	-	-	1.5	-	1.8	-	-	-	-	-	-	1.9	-	2.1	
16	-	1.7	-	2.3	-	2.2	-	-	-	-	-	1.1	-	1.9	-	-	-	-	-	-	1.8	-	2.1	
17	-	2.0	-	2.3	-	1.9	-	-	-	-	-	.7	-	2.2	-	-	-	-	-	-	1.8	-	2.3	
18	-	2.0	-	2.4	-	1.6	-	-	-	-	-	.7	-	1.8	-	-	-	-	-	-	2.0	-	2.5	
19	-	1.7	-	2.5	-	1.5	-	-	-	-	-	1.0	-	1.4	-	-	-	-	-	-	1.8	-	2.4	
20	-	1.9	-	2.5	-	1.5	-	-	-	-	-	1.2	-	1.9	-	-	-	-	-	-	1.8	-	2.6	
21	-	2.3	-	2.5	-	.3	-	-	-	-	-	1.2	-	1.9	-	-	-	-	-	-	1.8	-	2.9	
22	-	2.5	-	2.5	-	1.3	-	-	-	-	-	1.4	-	2.4	-	-	-	-	-	-	1.7	-	3.0	
23	-	2.5	-	2.5	-	1.4	-	-	-	-	-	1.5	-	2.7	-	-	-	2.6	-	-	1.9	-	3.0	
24	-	2.6	-	2.4	-	1.6	-	-	-	-	-	1.8	-	2.7	-	-	-	2.3	-	-	2.3	-	2.7	
25	-	2.2	-	2.2	-	1.6	-	-	-	-	-	1.4	-	2.4	-	-	-	1.9	-	-	2.4	-	2.4	
26	-	2.1	-	2.7	-	2.3	-	-	-	-	-	1.2	-	2.6	-	-	-	1.9	-	1.8	-	2.5	-	2.6
27	-	1.8	-	2.5	-	2.0	-	-	1.4	-	-	1.3	-	1.9	-	-	-	1.8	-	2.0	-	2.8	-	2.6
28	-	1.6	-	2.1	-	-	-	-	1.3	-	-	1.5	-	2.1	-	-	-	1.7	-	2.0	.90	3.2	-	2.5
29	-	1.8	-	2.7	-	-	-	-	1.7	----	----	1.5	-	2.2	-	-	-	2.0	-	1.9	-	2.6	-	-
30	-	1.9	-	2.3	-	-	-	-	1.8	----	----	1.1	-	2.3	-	-	-	2.2	-	2.1	-	2.5	-	-
31	-	2.2	----	----	-	-	-	-	1.8	----	----	1.1	----	----	-	-	----	----	-	2.3	-	2.3	----	----

COASTAL BASIN

161

08079150 SOUTH LEVEE DITCH NEAR FREEPORT, TX
(Formerly South Levee Ditch-Gulf of Mexico near Freeport)

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. Datum of gage 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 those on the downstream side exceed 3.0 ft (0.91 m). 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), 3.3 ft (1.01 m) Oct. 13, 1973, Nov. 2, 1974; minimum not determined. Maximum elevation (downstream side), 5.8 ft (1.77 m) Sept. 10, 1971; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (upstream side), 1.9 ft (0.58 m) for many days; minimum not determined. Maximum elevation (downstream side), 3.3 ft (1.01 m) Feb. 7, Aug. 28; minimum not determined.

MAXIMUM DAILY GAGE HEIGHT, IN FEET, UPSTREAM AND DOWNSTREAM SIDES OF LEVEE
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down
1	-	2.2	-	2.2	-	1.8	-	-	-	1.6	-	1.6	-	1.4	-	2.2	-	1.9	-	2.0	-	1.9	-	-
2	-	2.1	-	2.2	-	1.8	-	-	-	1.3	-	2.0	-	1.6	-	2.2	-	2.1	-	2.0	-	1.8	-	-
3	-	2.6	-	1.8	-	1.5	-	-	-	1.6	-	1.4	-	1.6	-	2.4	-	2.2	-	1.8	-	1.6	-	-
4	-	2.7	-	1.4	-	1.5	-	-	-	1.7	-	1.2	-	1.3	-	1.9	-	2.3	-	1.9	-	1.6	-	-
5	-	2.6	-	1.3	-	1.3	-	-	-	1.4	-	1.6	-	1.5	-	1.9	-	2.3	-	1.6	-	1.4	-	-
6	-	2.4	-	1.7	-	1.3	-	-	-	1.9	-	2.0	-	1.8	-	2.5	-	2.4	-	1.6	-	1.5	-	-
7	-	2.5	-	2.0	-	2.4	-	-	-	3.0	-	1.8	-	-	-	2.6	-	2.2	-	1.5	-	1.4	-	-
8	-	2.5	-	2.3	-	2.4	-	-	-	2.8	-	.9	-	-	-	2.4	-	2.1	-	1.3	-	1.6	-	-
9	-	2.2	-	2.2	-	2.2	-	-	-	2.1	-	.9	-	-	-	2.2	-	1.9	-	1.4	-	1.2	-	-
10	-	2.6	-	1.5	-	2.7	-	-	-	1.4	-	1.1	-	-	-	2.1	-	1.9	-	1.5	-	1.4	-	-
11	-	2.3	-	1.9	-	2.6	-	-	-	2.1	-	1.8	-	-	-	-	-	1.8	-	1.4	-	1.3	-	-
12	-	2.1	-	1.7	-	2.6	-	-	-	2.2	-	1.3	-	-	-	-	-	1.5	-	1.4	-	1.2	-	-
13	-	2.1	-	1.9	-	2.3	-	-	-	1.3	-	1.8	-	-	-	-	-	1.2	-	1.4	-	1.4	-	-
14	-	2.0	-	2.2	-	1.8	-	-	-	1.0	-	1.7	-	-	-	-	-	1.5	-	1.3	-	1.5	-	-
15	-	1.9	-	2.3	-	2.0	-	-	-	2.0	-	1.4	-	-	-	-	-	1.8	-	1.5	-	1.6	-	-
16	-	1.9	-	2.1	-	2.0	-	-	-	1.9	-	1.0	-	-	-	-	-	1.8	-	1.7	-	1.5	-	-
17	-	2.0	-	2.1	-	1.8	-	-	-	2.0	-	.7	-	-	-	-	-	2.0	-	1.7	-	1.5	-	-
18	-	2.0	-	2.1	-	1.4	-	-	-	1.2	-	.6	-	-	-	2.3	-	2.5	-	2.0	-	1.6	-	-
19	-	1.8	-	2.2	-	1.4	-	-	-	1.5	-	1.0	-	1.9	-	2.0	-	2.4	-	1.8	-	1.5	-	-
20	-	1.8	-	2.2	-	1.3	-	-	-	1.3	-	1.1	-	1.5	-	2.0	-	2.6	-	1.8	-	1.2	-	-
21	-	2.0	-	2.2	-	-	-	-	-	.7	-	1.1	-	1.6	-	1.9	-	2.4	-	1.8	-	1.4	-	-
22	-	2.3	-	2.2	-	-	-	-	-	.6	-	1.2	-	2.0	-	2.0	-	2.6	-	2.2	-	1.3	-	-
23	-	2.3	-	2.2	-	-	-	-	-	.5	-	1.3	-	2.3	-	2.2	-	2.3	-	2.0	-	1.5	-	-
24	-	2.4	-	2.1	-	-	-	-	-	.7	-	1.6	-	2.2	-	2.3	-	2.1	-	1.9	-	2.0	-	-
25	-	2.1	-	2.0	-	-	-	-	-	.9	-	1.1	-	2.1	-	2.2	-	1.8	-	1.6	-	2.1	-	-
26	-	2.1	-	2.5	-	-	-	-	-	1.1	-	1.0	-	2.2	-	2.3	-	1.7	-	1.6	-	2.2	-	-
27	-	1.8	-	2.4	-	-	-	1.2	-	1.5	-	1.2	-	1.7	-	2.1	-	1.6	-	1.7	-	2.4	-	-
28	-	1.7	-	2.0	-	-	-	1.1	-	1.7	-	1.3	-	1.9	-	2.0	-	1.5	-	1.8	-	3.0	-	-
29	-	1.9	-	2.3	-	-	-	1.4	---	---	-	1.3	-	1.9	-	1.9	-	1.5	-	1.7	-	2.4	-	-
30	-	2.0	-	2.2	-	-	-	1.5	---	---	-	.9	-	2.1	-	1.8	-	1.8	-	1.9	-	-	-	-
31	-	2.2	---	---	-	-	-	1.5	---	---	-	1.0	---	---	-	1.7	---	---	-	2.1	-	-	---	---

BRAZOS RIVER BASIN

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 mi (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. 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.--16 years (water years 1963-78), 27.2 ft³/s (0.770 m³/s), 1.52 in/yr (39 mm/yr), 19,710 acre-ft/yr (24.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49600 ft³/s (1,400 m³/s) May 6, 1969, gage height, 19.8 ft (6.04 m), from floodmarks; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1895, 25.8 ft (7.89 m) in 1914 and 22.2 ft (6.77 m) in September 1955, from information by local resident. Flood in July 1961 reached a stage of 18.2 ft (5.55 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,100 ft³/s (59.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 19	0400	a*18,400 521	12.62 3.847	Sept. 20	2300	3,960 112	8.90 2.713

a Maximum observed.

Minimum discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	513	40	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	649	.02	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	46	40	4.5	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	43	.63	5.2	.00	8.6
5	.00	.00	.00	.00	.00	.00	.00	.02	2.7	.00	.00	1.8
6	.00	.00	.00	.00	.00	.00	.00	.00	42	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	13	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	1.6	.00	.00	100
9	.00	.00	.00	.00	.00	.00	.00	.00	.63	.00	.00	52
10	.00	.00	.00	.00	.00	.00	.00	.00	.63	.00	5.3	.10
11	.00	.00	.00	.00	.00	.00	.00	.00	.86	.00	.55	.00
12	.00	.00	.00	.00	.07	.00	.00	.00	.63	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.24	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.07	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.24	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	7.6	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	2740	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	554	.00	.00	.00	366
21	.00	.00	.00	.00	.00	.00	.00	74	.00	.00	.00	562
22	5.3	.00	.00	.00	.00	.00	.00	12	.00	176	.00	9.9
23	4.0	.00	.00	.00	.00	.00	.00	4.4	.00	58	.00	.86
24	.02	.00	.00	.00	.00	.00	.00	.86	.00	.05	.00	.01
25	.01	.00	.00	.00	.00	.00	.00	.37	.00	.00	.00	245
26	.00	.00	.00	.00	.00	.00	.00	282	.00	.00	.00	330
27	.00	.00	.00	.00	.00	.00	.00	14	.00	.00	11	81
28	.01	.00	.00	.00	.00	.00	.00	3.8	.00	.00	68	2.0
29	.01	.00	.00	.00	---	.00	.00	2.2	.00	.00	.10	.01
30	.01	.00	.00	.00	---	.00	.00	1.1	10	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.74	---	.00	.00	---
TOTAL	9.36	.00	.00	.00	.07	.00	.00	3786.72	1279.81	302.57	84.95	1759.28
MEAN	.30	.000	.000	.000	.003	.000	.000	122	42.7	9.76	2.74	58.6
MAX	5.3	.00	.00	.00	.07	.00	.00	2740	649	176	68	562
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.000	.000	.000	.08	.03	.007	.002	.04
IN	.00	.00	.00	.00	.00	.00	.00	.10	.03	.01	.00	.04
AC-FT	19	.00	.00	.00	.1	.00	.00	7510	2540	600	168	3490
CAL YR 1977 TOTAL	4919.12			MEAN 13.5	MAX 1570	MIN .00	CFSM .009	IN .12	AC-FT 9760			
WTR YR 1978 TOTAL	7222.76			MEAN 19.8	MAX 2740	MIN .00	CFSM .01	IN .18	AC-FT 14330			

BRAZOS RIVER BASIN

163

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 September 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1975-78): Maximum daily, 20,600 micromhos Oct. 22, 1975; minimum daily, 550 micromhos Sept. 21, 1978.

WATER TEMPERATURES: Minimum daily, 4.0°C Jan. 7-9, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 18,000 micromhos Feb. 12; minimum daily, 550 micromhos Sept. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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	
MAY												
02...	1300	61	10200	--	20.0	750	610	200	61	2300	37	
02...	1530	16	9420	7.6	12.0	550	450	150	42	1800	33	
19...	0345	17700	740	--	17.0	--	--	--	--	--	--	
19...	0405	18400	650	--	17.0	120	0	33	8.3	120	4.8	
19...	0645	4280	624	--	--	--	--	--	--	--	--	
19...	0730	2910	546	--	17.0	96	0	28	6.3	100	4.4	
19...	1010	1250	638	--	--	--	--	--	--	--	--	
23...	1430	3.0	5280	--	29.0	430	240	110	37	950	20	
JUN												
01...	1100	985	758	7.8	24.0	85	0	24	6.2	130	6.1	
06...	1535	73	844	--	24.0	--	--	--	--	--	--	
JUL												
01...	0745	30	1400	8.0	22.0	88	0	24	6.7	260	12	
AUG												
10...	0950	.10	1600	--	23.0	140	0	37	12	310	11	
SEP												
05...	0810	7.3	1290	--	18.5	120	0	36	8.1	250	9.8	
		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDEED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAY												
02...	9.4	170	0	380	3300	--	11	6350	--	--	--	
02...	8.1	120	0	360	2900	.5	7.0	5330	9970	450	98	
19...	--	--	--	--	--	--	--	--	52300	2500000	62	
19...	4.0	230	0	50	95	1.1	16	441	--	--	--	
19...	--	--	--	--	--	--	--	--	37800	437000	--	
19...	3.6	210	0	45	72	1.1	15	375	--	--	--	
19...	--	--	--	--	--	--	--	--	23800	80300	--	
23...	10	230	0	250	1500	1.3	12	2980	--	--	--	
JUN												
01...	4.3	220	0	59	90	1.3	14	437	--	--	--	
06...	--	--	--	--	--	--	--	--	19800	3940	71	
JUL												
01...	4.8	230	0	150	220	1.4	14	794	--	--	--	
AUG												
10...	9.1	330	0	170	250	2.4	19	972	--	--	--	
SEP												
05...	6.6	270	0	110	230	1.5	16	791	--	--	--	

BRAZOS RIVER BASIN

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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
MAY								
02...	1530	16	12.0	9970	450	66	82	93
19...	0345	17700	17.0	52300	2500000	23	30	37
19...	0645	4280	--	37800	437000	--	--	--
19...	1010	1250	--	23800	80300	--	--	--
JUN								
06...	1535	73	24.0	19800	3940	43	54	62
		SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
MAY								
02...		97	97	98	99	100	--	--
19...		46	53	62	81	97	100	--
19...		--	--	--	--	--	--	--
19...		--	--	--	--	--	--	--
JUN								
06...		67	69	71	72	83	98	100

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	9.36	8740	5070	128	2720	69	340	8.7	540
NOV. 1977.....	0	*****	*****	0	*****	0	*****	0	****
DEC. 1977.....	0	*****	*****	0	*****	0	*****	0	****
JAN. 1978.....	0	*****	*****	0	*****	0	*****	0	****
FEB. 1978.....	0.07	18000	10400	2	6040	1.1	540	0.1	****
MAR. 1978.....	0	*****	*****	0	*****	0	*****	0	****
APR. 1978.....	0	*****	*****	0	*****	0	*****	0	****
MAY 1978.....	3786.72	865	500	5140	180	1830	78	800	78
JUNE 1978.....	1279.81	965	560	1950	200	683	86	299	87
JULY 1978.....	302.57	1090	640	514	200	164	110	89	99
AUG. 1978.....	84.95	826	480	110	150	35	84	19	75
SEPT 1978.....	1759.28	656	380	1810	120	558	67	321	59
TOTAL	7222.75	**	**	9660	**	3340	**	1540	**
WTD.AVG.	19.79	851	490	**	170	**	78	**	77

BRAZOS RIVER BASIN

165

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---				---			---	750	1400	---	---
2	---				---			9500	700	4000	---	---
3	---				---			3000	1000	3000	---	---
4	---				---			5350	3500	1600	---	750
5	---				---			16700	6000	---	---	1280
6	---				---			---	3000	---	---	---
7	---				---			---	4200	---	---	---
8	---				---			---	6000	---	---	600
9	---				---			---	8000	---	---	950
10	---				---			---	9000	---	1600	1400
11	---				---			---	8500	---	1390	---
12	---				18000			---	10000	---	---	---
13	---				---			---	12000	---	---	---
14	---				---			---	14000	---	---	---
15	---				---			---	13000	---	---	---
16	---				---			---	15000	---	---	---
17	---				---			---	---	---	---	---
18	---				---			8000	---	---	---	---
19	---				---			600	---	---	---	---
20	---				---			850	---	---	---	750
21	---				---			1110	---	---	---	550
22	10000				---			3500	---	700	---	800
23	7000				---			5280	---	1700	---	2700
24	12000				---			7500	---	2500	---	4910
25	13000				---			9500	---	---	---	700
26	---				---			1030	---	---	---	560
27	---				---			2500	---	---	1500	1000
28	14000				---			4000	---	---	650	---
29	14500				---			7500	---	---	2000	2500
30	15000				---			9000	10000	---	---	---
31	---				---			10000	---	---	---	---
MEAN	12200				18000			5830	7330	2130	1430	1390

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	24.0	22.0	---	---
2								20.0	24.0	---	---	---
3								18.0	---	---	---	---
4								18.0	---	32.5	---	---
5								---	---	---	---	18.5
6								---	---	---	---	---
7								---	---	---	---	---
8								---	---	---	---	---
9								---	---	---	---	21.5
10								---	---	---	23.0	---
11								---	---	---	22.5	---
12								---	---	---	---	---
13								---	---	---	---	---
14								---	---	---	---	---
15								---	---	---	---	---
16								---	---	---	---	---
17								---	---	---	---	---
18								19.0	---	---	---	---
19								18.0	---	---	---	---
20								---	---	---	---	---
21								24.0	---	---	---	14.0
22								---	---	---	---	14.0
23								---	---	22.0	---	17.5
24								---	---	21.0	---	19.0
25								28.0	---	---	---	18.5
26								---	---	---	---	17.5
27								---	---	---	---	16.5
28								---	---	---	19.5	14.5
29								---	---	---	---	15.5
30								---	---	---	---	---
31								---	---	---	---	---
MEAN								20.5	24.0	24.5	21.5	17.0

BRAZOS RIVER BASIN

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.--49 years (water years 1925-34, 1940-78), 164 ft³/s (4.644 m³/s), 1.20 in/yr (30 mm/yr), 118,800 acre-ft/yr (146 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 91,400 ft³/s (2,590 m³/s) Sept. 26, 1955, gage height, 29.5 ft (8.99 m), present datum; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, that of Sept. 26, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,900 ft³/s (167 m³/s) May 20, gage height, 8.80 ft (2.682 m), no peak above base of 8,800 ft³/s (249 m³/s); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.00	.00	.00	.00	.00	.00	.00	164	.01	1.2	.00		
2	.00	.00	.00	.00	.00	.03	.00	2.7	76	.00	2.0	.00		
3	.00	.00	.00	.00	.00	.00	.00	31	645	.00	4.4	.00		
4	.00	.00	.00	.00	.00	.00	.00	1.4	607	.00	8.4	.00		
5	.00	.00	.00	.00	.00	.00	.00	.02	372	.05	5.0	27		
6	.00	.00	.00	.00	.00	.00	.00	.00	739	.00	2.6	4.3		
7	.00	.00	.00	.00	.00	.00	.00	.00	585	.00	.17	.20		
8	.00	.00	.00	.00	9.6	.00	.00	.00	716	.00	.00	1.5		
9	.00	.00	.00	.00	13	.00	.00	.00	392	.00	.00	.44		
10	.00	.00	.00	.00	5.5	.00	.00	.00	271	.00	2.3	.02		
11	.00	.00	.00	.00	4.1	.00	.00	.00	190	.00	1.9	.00		
12	.00	.00	.00	.00	2.8	.00	.00	.00	127	.00	.00	.00		
13	.00	.00	.00	.00	5.3	.00	.00	.00	96	.00	.00	.00		
14	.00	.00	.00	.00	1.7	.00	.00	.00	67	.00	.00	.00		
15	.00	.00	.00	.00	1.1	.00	.00	.00	51	.00	.00	.00		
16	.00	.00	.00	.00	.90	.00	.00	.00	32	.00	.00	.00		
17	.00	.00	.00	.00	1.0	.00	.00	.00	21	.00	.00	222		
18	.00	.00	.00	.00	1.2	.00	.00	.00	15	.00	.00	234		
19	.00	.00	.00	.00	1.0	.00	.00	.00	11	.00	.00	40		
20	.00	.00	.00	.00	3.3	.00	.00	2860	8.5	.00	.00	20		
21	.00	.00	.00	.00	.81	.00	.00	1370	6.7	.00	.00	701		
22	1.0	.00	.00	.00	.56	.00	.00	693	4.5	.00	.00	1870		
23	.64	.00	.00	.00	.28	.00	.00	380	2.6	.00	.00	574		
24	.17	.00	.00	.00	.09	.00	.00	224	1.4	24	.00	278		
25	.01	.00	.00	.00	.01	.00	.00	117	.90	208	.00	237		
26	.00	.00	.00	.00	.00	.00	.00	60	.50	122	.00	165		
27	.00	.00	.00	.00	.00	.00	.00	36	.17	100	.00	496		
28	.00	.00	.00	.00	.00	.00	.00	28	.14	54	.00	569		
29	.00	.00	.00	.00	---	.00	.00	281	.11	15	.00	376		
30	.00	.00	.00	.00	---	.00	.00	383	.09	7.8	.00	228		
31	.00	---	.00	.00	---	.00	---	248	---	3.9	.00	---		
TOTAL	1.82	.00	.00	.00	52.25	.03	.00	6715.12	5202.61	534.76	27.97	6043.46		
MEAN	.059	.000	.000	.000	1.87	.001	.000	217	173	17.3	.90	201		
MAX	1.0	.00	.00	.00	13	.03	.00	2860	739	208	8.4	1870		
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00		
CFSM	.000	.000	.000	.000	.000	.000	.000	.03	.02	.002	.000	.02		
IN.	.00	.00	.00	.00	.00	.00	.00	.03	.02	.00	.00	.03		
AC-FT	3.6	.00	.00	.00	104	.06	.00	13320	10320	1060	55	11990		
CAL YR 1977	TOTAL	14003.38	MEAN	38.4	MAX	1920	MIN	.00	CFSM	.004	IN	.06	AC-FT	27780
WTR YR 1978	TOTAL	18578.02	MEAN	50.9	MAX	2860	MIN	.00	CFSM	.006	IN	.08	AC-FT	36850

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 12,800 micromhos May 30, 1973; minimum daily, 735 micromhos Oct. 24, 1957.

WATER TEMPERATURES (1945-51, 1956-67, 1969-77): 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, 10,000 micromhos Mar. 2; minimum daily, 1,000 micromhos Sept. 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	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)
OCT											
10...	0745	.00	--	--	--	--	--	--	--	--	--
31...	0810	.00	--	--	--	--	--	--	--	--	--
JAN											
10...	0745	.00	--	--	--	--	--	--	--	--	--
FEB											
07...	0900	.00	--	--	--	--	--	--	--	--	--
21...	1400	.76	9770	7.6	7.0	--	--	--	--	--	--
MAR											
07...	0810	.00	--	--	--	--	--	--	--	--	--
APR											
12...	--	.00	--	--	--	--	--	--	--	--	--
MAY											
09...	1500	.00	--	--	--	--	--	--	--	--	--
20...	1045	4300	2280	--	20.0	--	--	--	--	--	--
24...	1820	186	1520	--	29.0	--	--	--	--	--	--
JUN											
14...	1300	59	2800	8.1	27.0	400	8.2	105	2.1	5300	1700
JUL											
19...	--	.00	--	--	--	--	--	--	--	--	--
28...	0835	68	2540	--	23.0	--	--	--	--	--	--
AUG											
15...	1600	.00	--	--	--	--	--	--	--	--	--
SEP											
19...	1500	38	1800	7.9	30.0	350	7.6	101	1.5	--	5800
DATE	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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
OCT											
10...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
10...	--	--	--	--	--	--	--	--	--	--	--
FEB											
07...	--	--	--	--	--	--	--	--	--	--	--
21...	--	2600	2500	760	170	1400	12	12	150	0	2100
MAR											
07...	--	--	--	--	--	--	--	--	--	--	--
APR											
12...	--	--	--	--	--	--	--	--	--	--	--
MAY											
09...	--	--	--	--	--	--	--	--	--	--	--
20...	--	470	280	140	30	320	6.4	8.5	230	0	420
24...	--	260	130	74	18	210	5.7	7.5	160	0	260
JUN											
14...	K240	590	460	160	47	390	7.0	13	160	0	540
JUL											
19...	--	--	--	--	--	--	--	--	--	--	--
28...	--	1100	1000	380	40	180	2.3	8.4	100	0	1100
AUG											
15...	--	--	--	--	--	--	--	--	--	--	--
SEP											
19...	880	690	640	240	23	120	2.0	9.9	60	0	580

BRAZOS RIVER BASIN

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	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)
OCT										
10...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
JAN										
10...	--	--	--	--	--	--	--	--	--	--
FEB										
07...	--	--	--	--	--	--	--	--	--	--
21...	2300	--	12	--	6830	--	--	--	--	--
MAR										
07...	--	--	--	--	--	--	--	--	--	--
APR										
12...	--	--	--	--	--	--	--	--	--	--
MAY										
09...	--	--	--	--	--	--	--	--	--	--
20...	390	1.0	15	--	1440	--	--	--	--	--
24...	230	1.4	13	--	893	--	--	--	--	--
JUN										
14...	520	--	--	1760	--	.00	.01	.00	.00	.90
JUL										
19...	--	--	--	--	--	--	--	--	--	--
28...	230	.5	10	--	2000	--	--	--	--	--
AUG										
15...	--	--	--	--	--	--	--	--	--	--
SEP										
19...	210	.2	9.0	1330	1220	.45	.02	.47	.02	.58
DATE	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
OCT										
10...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
JAN										
10...	--	--	--	--	--	--	--	--	--	--
FEB										
07...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
MAR										
07...	--	--	--	--	--	--	--	--	--	--
APR										
12...	--	--	--	--	--	--	--	--	--	--
MAY										
09...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
JUN										
14...	.90	.95	.21	.24	--	4.6	3.0	501	80	98
JUL										
19...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
AUG										
15...	--	--	--	--	--	--	--	--	--	--
SEP										
19...	.60	.82	.14	.15	4.6	--	--	73	7.5	99

BRAZOS RIVER BASIN

169

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVE (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVE (UG/L AS CD)
JUN 14...	1300		0		200	0	200	0	0	0
DATE	TIME	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVE (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
JUN 14...	20	20	0	2	2	0	14	12	2	11000
DATE	TIME	IRON, DIS- SOLVE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)
JUN 14...	20	11	8	3	240	240	0	.0	.0	.1
DATE	TIME	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, SUS- PENDE RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVE (UG/L AS ZN)
JUN 14...	1	1	0	1	0	0	0	40	30	10

BRAZOS RIVER BASIN

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	JUN 14, 78 1300	SEP 19, 78 1500
TOTAL CELLS/ML	8900	1300
DIVERSITY: DIVISION	1.1	0.4
..CLASS	1.1	0.4
...ORDER	1.7	0.4
....FAMILY	2.8	0.4
.....GENUS	3.1	0.4

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)				
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
....COELASTRACEAE				
.....COELASTRUM	1700#	19	--	-
...OOCYSTACEAE				
....ANKISTRODESMUS	45	1	--	-
....KIRCHNERIELLA	130	2	--	-
...OOCYSTIS	2000#	23	--	-
....TETRAEDRON	*	0	--	-
...SCENEDESMACEAE				
....ACTINASTRUM	180	2	--	-
....SCENEDESMUS	1100	12	--	-
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS	110	1	--	-
..ZYGEMATALES				
...DESMIDIACEAE				
....CLOSTERIUM	*	0	--	-
....COSMARTIUM	360	4	--	-
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE				
...CENTRALES				
....COSCINODISCACEAE				
.....CYCLOTELLA	160	2	--	-
..PENNALES				
...NITZSCHACEAE				
....NITZSCHIA	45	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)				
..CRYPTOPHYCEAE				
...CRYPTOMONADALES				
....CRYPTOMONADACEAE				
.....CRYPTOMONAS	--	-	88	7
CYANOPHYTA (BLUE-GREEN ALGAE)				
..CYANOPHYCEAE				
...CHROCOCCALES				
....CHROCOCCACEAE				
.....AGMENELLUM	1000	12	--	-
....ANACYSTIS	270	3	--	-
..HORMOGONALES				
...NOSTOCACEAE				
....APHANIZOMENON	470	5	--	-
...OSCILLATORIACEAE				
....OSCILLATORIA	1200	14	1200#	93

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

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

BRAZOS RIVER BASIN

171

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	1.82	3310	2190	11	610	3	740	3.5	870
NOV. 1977.....	0	*****	*****	0	*****	0	*****	0	****
DEC. 1977.....	0	*****	*****	0	*****	0	*****	0	****
JAN. 1978.....	0	*****	*****	0	*****	0	*****	0	****
FEB. 1978.....	52.25	4940	3270	461	1040	146	1000	142	1300
MAR. 1978.....	0.03	10000	6630	0.5	2460	0.2	1890	0.2	****
APR. 1978.....	0	*****	*****	0	*****	0	*****	0	****
MAY 1978.....	6715.12	1860	1230	22300	250	4420	420	7580	490
JUNE 1978.....	5202.6	1620	1060	14900	200	2860	370	5130	430
JULY 1978.....	534.76	2620	1730	2500	440	637	590	848	690
AUG. 1978.....	27.97	5390	3570	270	1140	86	1100	83	1420
SEPT 1978.....	6043.46	1460	950	15500	170	2810	330	5370	380
TOTAL	18577.99	**	**	55900	**	11200	**	19200	**
WTD.AVG.	50.9	1700	1100	**	220	**	380	**	450

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---				---	---		---	1680	9520	5800	---
2	---				---	10000		3000	2700	---	5500	---
3	---				---	---		1720	1500	---	5000	---
4	---				---	---		2430	1410	---	4000	---
5	---				---	---		3750	1190	7490	5000	4960
6	---				---	---		---	1260	---	7000	5670
7	---				---	---		---	2030	---	9000	6890
8	---				3500	---		---	1500	---	---	7290
9	---				2000	---		---	1320	---	---	7420
10	---				5000	---		---	1540	---	7500	6180
11	---				6000	---		---	1500	---	8000	---
12	---				6500	---		---	1780	---	---	---
13	---				6240	---		---	2280	---	---	---
14	---				5250	---		---	2730	---	---	---
15	---				6310	---		---	3290	---	---	---
16	---				7520	---		---	3790	---	---	---
17	---				8000	---		---	4190	---	---	1100
18	---				8830	---		---	4650	---	---	1000
19	---				8350	---		---	5210	---	---	1800
20	---				8690	---		2000	5620	---	---	2200
21	---				9770	---		1660	6070	---	---	1800
22	3000				9220	---		1430	6480	---	---	1400
23	3500				9400	---		1480	6870	---	---	1260
24	4220				9500	---		1520	7030	5000	---	1150
25	6030				9550	---		1660	7260	3000	---	1390
26	---				---	---		2060	7560	2270	---	1440
27	---				---	---		2640	7910	1630	---	1960
28	---				---	---		3210	8230	2540	---	1560
29	---				---	---		3000	8540	2410	---	1140
30	---				---	---		2000	8910	3750	---	1120
31	---				---	---		1830	---	4050	---	---
MEAN	4190				7200	10000		2210	4200	4170	6310	2940

BRAZOS RIVER BASIN

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---				---			---	20.0	22.0		---
2	---				---			---	23.0	---		---
3	---				---			10.0	21.0	---		---
4	---				---			9.0	22.0	---		---
5	---				---			14.0	22.0	25.0		20.0
6	---				---			---	19.0	---		29.0
7	---				---			---	20.0	---		21.0
8	---				---			---	22.0	---		22.0
9	---				---			---	22.0	---		23.0
10	---				---			---	22.0	---		23.0
11	---				---			---	22.0	---		---
12	---				---			---	24.0	---		---
13	---				2.0			---	25.0	---		---
14	---				2.0			---	24.0	---		---
15	---				3.0			---	23.0	---		---
16	---				3.0			---	22.0	---		---
17	---				2.0			---	22.0	---		---
18	---				8.0			---	22.0	---		---
19	---				3.0			---	23.0	---		---
20	---				2.0			21.0	23.0	---		23.0
21	---				1.0			21.0	23.0	---		---
22	---				2.0			22.0	22.0	---		16.0
23	---				4.0			23.0	22.0	---		18.0
24	15.0				4.0			24.0	22.0	---		20.0
25	15.0				4.0			24.0	23.0	24.0		21.0
26	---				---			23.0	23.0	25.0		20.0
27	---				---			23.0	23.0	23.0		18.0
28	---				---			20.0	23.0	23.0		18.0
29	---				---			21.0	23.0	23.0		19.0
30	---				---			21.0	23.0	22.0		20.0
31	---				---			22.0	---	23.0		---
MEAN	15.0				3.0			20.0	22.5	23.5		20.5

BRAZOS RIVER BASIN

173

08080540 MCDONALD CREEK NEAR POST, TX

LOCATION.--Lat 33°21'03", long 101°13'36", Garza County, Hydrologic Unit 12050007, on right bank at downstream side of bridge on Farm Road 651, 2.6 mi (4.2 km) downstream from Lake Creek, 4.1 mi (6.6 km) upstream from mouth, and 14.4 mi (23.2 km) northeast of Post.

DRAINAGE AREA.--103 mi² (267 km²), of which 23.8 mi² (61.6 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1959-61, occasional low-flow measurements at road crossing 4 mi (6 km) downstream, September 1965 to September 1978 (discontinued).

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,301.6 ft (701.53 m) National Geodetic Vertical Datum of 1929 (Texas Department of Highways and Public Transportation bridge plans).

REMARKS.--Water-discharge records poor. No diversions above station. Recording rain gage located at station prior to June 6, 1978.

AVERAGE DISCHARGE.--13 years (water years 1966-78), 1.83 ft³/s (0.0518 m³/s), 0.31 in/yr (8 mm/yr), 1,330 acre-ft/yr (1.64 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,300 ft³/s (433 m³/s) June 9, 1968, gage height, 14.98 ft (4.566 m), from rating curve extended above 740 ft³/s (21.0 m³/s) on basis of slope-area measurements of 3,020 and 15,300 ft³/s (85.5 and 433 m³/s); no flow for many days.

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)
May 19	0900	*1,080 30.6	6.80 2.073	Sept. 20	2200	799 22.6	6.55 1.996
June 14	0600	568 16.1	6.17 1.881				

Minimum discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.00	.00	.00	.42	.00	.00	.00	.72	.00	.00	.00		
2	.00	.00	.00	.00	.15	.00	.00	12	23	.00	.00	.00		
3	.00	.00	.00	.00	.15	.02	.00	3.2	4.5	.00	.00	.00		
4	.00	.00	.00	.00	.11	.01	.00	.30	.19	.00	.00	.00		
5	.00	.00	.00	.00	.06	.00	.00	.08	.19	.00	.00	.00		
6	.00	.00	.00	.00	.11	.01	.00	.04	60	.00	.00	.00		
7	.00	.00	.00	.00	.34	.01	.00	.01	5.3	.00	.00	.00		
8	.00	.00	.00	.00	.01	.00	.00	.00	1.3	.00	.00	.04		
9	.00	.00	.00	.00	.08	.00	.00	.00	.49	.00	.00	.02		
10	.00	.00	.00	.00	.02	.00	.00	.00	.04	.00	.00	.00		
11	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00		
12	.00	.00	.00	.00	.90	.00	.00	.00	.00	.00	.00	.00		
13	.00	.00	.00	.00	.06	.09	.00	.00	.00	.00	.00	.00		
14	.00	.00	.00	.00	.02	.00	.00	.00	75	.00	.00	.00		
15	.00	.00	.00	.00	.03	.00	.00	.00	1.3	.00	.00	.00		
16	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00		
17	.00	.00	.00	.00	.17	.00	.00	.00	.00	.00	.00	.00		
18	.00	.00	.00	.00	.18	.00	.00	.00	.00	.00	.00	.00		
19	.00	.00	.00	.00	.12	.00	.00	168	.00	.00	.00	.02		
20	.00	.00	.00	.00	.17	.00	.00	6.9	.00	.00	.00	151		
21	.00	.00	.00	.00	.04	.00	.00	1.4	.00	.00	.00	38		
22	33	.00	.00	.00	.04	.00	.00	.08	.00	.00	.00	.15		
23	4.3	.00	.00	.00	.02	.00	.00	.02	.00	.00	.00	.00		
24	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12		
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15	.00	8.9		
27	.05	.00	.00	.00	.00	.00	.00	.00	.00	6.1	.00	1.0		
28	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15		
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.03		
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00		
31	.00	---	.00	.23	---	.00	---	.06	---	.00	.00	---		
TOTAL	37.45	.00	.00	.23	3.30	.14	.00	192.09	172.03	6.25	.00	211.31		
MEAN	1.21	.000	.000	.007	.12	.005	.000	6.20	5.73	.20	.000	7.04		
MAX	33	.00	.00	.23	.90	.09	.00	168	75	6.1	.00	151		
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
CFSM	.01	.000	.000	.000	.001	.000	.000	.06	.06	.002	.000	.07		
IN.	.01	.00	.00	.00	.00	.00	.00	.07	.06	.00	.00	.08		
AC-FT	74	.00	.00	.5	6.5	.3	.00	381	341	12	.00	419		
CAL YR 1977	TOTAL	572.46	MEAN	1.57	MAX	195	MIN	.00	CFSM	.02	IN	.21	AC-FT	1140
WTR YR 1978	TOTAL	622.80	MEAN	1.71	MAX	168	MIN	.00	CFSM	.02	IN	.22	AC-FT	1240

BRAZOS RIVER BASIN

08080540 MCDONALD CREEK NEAR POST, 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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1965-66, 1973-78): Maximum daily, 76,400 micromhos Dec. 9, 1974; minimum daily, 975 micromhos Aug. 29, 1966.

WATER TEMPERATURES (1965-66): Maximum daily, 29.0°C Sept. 1, 1966; minimum daily, 10.0°C Apr. 30, 1966.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 58,000 micromhos Feb. 5; minimum daily, 1,900 micromhos Sept. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
OCT 26...	1840	.01	37500	7.7	20.0	1700	1500	430	140	8300
FEB 01...	1745	.19	55400	7.7	6.0	2600	2500	480	340	13000
MAR 04...	1100	.01	51300	7.7	.0	2000	1800	370	250	12000
MAY 02...	1300	32	23200	--	10.0	1200	1000	320	86	5500
JUN 01...	1430	.30	48100	--	31.0	1900	1800	460	180	11000
JUL 27...	0810	15	10600	--	21.0	750	620	210	55	2200
SEP 20...	1830	242	3860	--	15.0	240	140	68	16	720

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 26...	89	27	190	0	1600	13000	--	6.5	23600
FEB 01...	111	35	180	0	1300	20000	--	3.0	35200
MAR 04...	118	32	220	0	2100	15000	--	1.6	29900
MAY 02...	70	15	160	0	1300	8100	--	9.1	15400
JUN 01...	110	29	110	0	1500	17000	.5	3.5	30200
JUL 27...	35	12	160	0	570	3400	1.1	15	6540
SEP 20...	20	5.2	120	0	230	1100	.5	8.1	2210

08080540 MCDONALD CREEK NEAR POST, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	37.45	10300	6610	668	3120	315	420	43	****
NOV. 1977.....	0	*****	*****	0	*****	0	*****	0	****
DEC. 1977.....	0	*****	*****	0	*****	0	*****	0	****
JAN. 1978.....	0.23	57000	33800	21	20000	13	2360	1.5	****
FEB. 1978.....	3.3	52000	31200	278	18800	168	2150	19	****
MAR. 1978.....	0.14	53800	32200	12	19500	7.4	2230	0.9	****
APR. 1978.....	0	*****	*****	0	*****	0	*****	0	****
MAY 1978.....	192.09	3510	2080	1080	980	508	150	75	220
JUNE 1978.....	172.03	5470	3240	1500	1600	744	230	105	310
JULY 1978.....	6.25	10700	6880	114	3240	55	440	7.4	****
AUG. 1978.....	0	*****	*****	0	*****	0	*****	0	****
SEPT 1978.....	211.31	3790	2070	1180	1060	602	160	89	230
TOTAL	622.8	**	**	4850	**	2410	**	341	**
WTD.AVG.	1.71	4510	2900	**	1400	**	210	**	280

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---			---	55200	---		---	47000	---		---
2	---			---	56000	---		15000	12000	---		---
3	---			---	56000	51000		10600	15000	---		---
4	---			---	56800	51200		29400	25000	---		---
5	---			---	58000	---		51000	27000	---		---
6	---			---	57700	51000		53000	4000	---		---
7	---			---	56000	52000		55000	5000	---		---
8	---			---	57000	---		---	7000	---		20000
9	---			---	56000	---		---	12000	---		22000
10	---			---	56300	---		---	20000	---		---
11	---			---	55700	---		---	---	---		---
12	---			---	47000	---		---	---	---		---
13	---			---	48000	55200		---	---	---		---
14	---			---	49000	---		---	3500	---		---
15	---			---	48500	---		---	7500	---		---
16	---			---	48300	---		---	---	---		---
17	---			---	48000	---		---	---	---		---
18	---			---	48100	---		---	---	---		---
19	---			---	51200	---		2320	---	---		19000
20	---			---	52600	---		5830	---	---		3860
21	---			---	53500	---		7500	---	---		1900
22	10000			---	54400	---		12000	---	---		5000
23	12000			---	55000	---		20000	---	---		---
24	17500			---	---	---		---	---	---		---
25	---			---	---	---		---	---	---		5670
26	---			---	---	---		---	---	19000		7000
27	39300			---	---	---		---	---	10500		10000
28	38000			---	---	---		---	---	---		12000
29	---			---	---	---		---	---	---		15000
30	---			---	---	---		---	---	---		---
31	---			57000	---	---		---	---	---		---
MEAN	23400			57000	53200	52100		23800	15400	14800		11000

BRAZOS RIVER BASIN

08080540 MCDONALD CREEK NEAR POST, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---				6.0	---		---	31.0	---		---
2	---				---	---		10.0	20.0	---		---
3	---				---	---		10.5	---	---		---
4	---				---	.0		17.0	---	---		---
5	---				---	---		20.0	---	---		---
6	---				---	---		---	---	---		---
7	---				---	---		---	---	---		---
8	---				---	---		---	---	---		---
9	---				---	---		---	---	---		---
10	---				---	---		---	---	---		---
11	---				5.0	---		---	---	---		---
12	---				---	---		---	---	---		---
13	---				---	14.0		---	---	---		---
14	---				---	---		---	---	---		---
15	---				---	---		---	---	---		---
16	---				---	---		---	---	---		---
17	---				---	---		---	---	---		---
18	---				.0	---		---	---	---		---
19	---				---	---		28.0	---	---		---
20	---				---	---		15.0	---	---		15.0
21	---				---	---		---	---	---		16.0
22	---				---	---		---	---	---		---
23	---				---	---		---	---	---		---
24	---				---	---		---	---	---		---
25	---				---	---		---	---	---		20.0
26	---				---	---		---	---	---		---
27	15.0				---	---		---	---	21.0		---
28	---				---	---		---	---	---		---
29	---				---	---		---	---	---		---
30	---				---	---		---	---	---		---
31	---				---	---		---	---	---		---
MEAN	15.0				3.5	7.0		17.5	25.5	21.0		17.0

08080700 RUNNING WATER DRAW AT PLAINVIEW, TX

LOCATION.--Lat 34°10'44", Long 101°42'08", Hale County, Hydrologic Unit 12050005, on downstream side of bridge on Broadway Street in Plainview, 0.5 mi (0.8 km) upstream from Atchison, Topeka, and Santa Fe Railway Co. bridge, and 28.1 mi (45.2 km) upstream from mouth.

DRAINAGE AREA.--1,291 mi² (3,344 km²), of which 909 mi² (2,354 km²) is noncontributing.

PERIOD OF RECORD.--June 1939 to September 1949, October 1949 to September 1953, and October 1956 to April 1960 (monthly figures only), February 1961 to September 1978 (discontinued). Prior to October 1963, published as White River at Plainview.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,341.11 ft (1,018.370 m) National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--34 years (water years 1940-53, 1957-59, 1962-78), 3.12 ft³/s (0.088 m³/s), 0.03 in/yr (1 mm/yr), 2,260 acre-ft/yr (2.79 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft³/s (340 m³/s) June 6, 1941, gage height, 8.75 ft (2.667 m), from rating curve extended above 800 ft³/s (22.7 m³/s) on basis of slope-area measurement of 12,000 ft³/s (340 m³/s); no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1880, that of June 6, 1941; maximum stage, 9.38 ft (2.859 m) July 8, 1960, discharge 9,130 ft³/s (259 m³/s), by contracted-opening measurement. A flood in 1890 (stage not determined) was probably the second highest, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 369 ft³/s (10.5 m³/s) June 1, gage height, 3.98 ft (1.213 m), no other peak above base of 100 ft³/s (2.83 m³/s); no flow most of year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.00	.00	.00	.05	.00	.00	.00	96	.00	.00	.00		
2	.00	.00	.00	.00	.00	.00	.00	9.0	53	.00	.00	.00		
3	.00	.00	.00	.00	.00	.00	.00	.14	24	.00	.03	.00		
4	.00	.00	.00	.00	.00	.00	.00	.00	9.5	.00	.00	.00		
5	.00	.00	.00	.00	.00	.00	.00	.00	13	.00	.00	.00		
6	.11	.00	.00	.00	.00	.00	.00	.00	20	.00	.00	.00		
7	3.6	.00	.00	.00	.00	.00	.00	.00	13	.00	.00	.00		
8	.00	.00	.00	.00	.00	.00	.47	.00	3.1	.00	.00	.00		
9	.00	.00	.00	.00	.00	.00	.00	.00	.48	.00	.00	.00		
10	.00	.00	.00	.00	.01	.00	.00	.00	.01	.00	.00	.00		
11	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00		
12	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00		
13	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00		
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
19	.00	.00	.00	.00	.00	.00	.00	.35	.00	.00	.07	.52		
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.8		
21	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.04		
22	.04	.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	.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	.04	---	.00	---	19	---	.00	.00	---		
TOTAL	3.75	.00	.00	.04	.11	.04	.47	28.50	232.09	.00	.10	3.36		
MEAN	.12	.000	.000	.001	.004	.001	.016	.92	7.74	.000	.003	.11		
MAX	3.6	.00	.00	.04	.05	.02	.47	19	96	.00	.07	2.8		
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
CFSM	.000	.000	.000	.000	.000	.000	.000	.001	.006	.000	.000	.000		
IN.	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00		
AC-FT	7.4	.00	.00	.08	.2	.08	.9	57	460	.00	.2	6.7		
CAL YR 1977	TOTAL	1034.20	MEAN	2.83	MAX	317	MIN	.00	CFSM	.002	IN	.03	AC-FT	2050
WTR YR 1978	TOTAL	268.46	MEAN	.74	MAX	96	MIN	.00	CFSM	.001	IN	.01	AC-FT	532

BRAZOS RIVER BASIN

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.--WDR 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.--14 years, 6.25 ft³/s (0.177 m³/s), 4,530 acre-ft/yr (5.59 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 July 19 to Aug. 6, Aug. 18-21, 1966, Aug. 19, 1969, July 20, 1971, and Aug. 17-22, 1974.

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, 962 ft³/s (27.2 m³/s) May 19, gage height, 12.42 ft (3.786 m); minimum, 0.02 ft³/s (0.001 m³/s) Sept. 19, 20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.1	1.7	2.0	2.2	1.7	1.9	1.5	2.6	.50	.12	.06
2	1.4	1.1	1.7	2.0	2.0	1.8	1.8	4.6	12	.62	.12	.06
3	1.4	1.1	1.7	2.0	1.9	1.7	1.8	7.3	5.3	1.3	.14	.07
4	1.4	1.2	1.7	2.1	1.9	1.6	1.7	3.3	2.9	.44	.35	.07
5	1.4	1.2	1.7	2.1	1.8	1.6	1.6	2.6	2.3	.46	.92	.08
6	1.4	1.3	1.6	2.1	1.9	1.6	1.6	2.4	11	.34	.92	.07
7	1.3	1.3	1.7	2.1	2.3	1.5	1.6	2.1	7.0	.25	.70	.05
8	1.3	1.4	1.8	2.0	2.2	1.5	1.7	1.9	5.9	.21	.55	.08
9	1.3	1.2	1.6	2.0	2.1	1.5	1.7	1.8	2.5	.19	.49	.11
10	1.3	1.2	1.6	1.9	2.0	1.5	1.9	1.8	1.9	.18	.51	.15
11	1.3	1.3	1.7	1.9	2.0	1.5	1.8	1.7	1.6	.17	5.5	.17
12	1.2	1.3	1.8	2.0	2.6	1.4	1.7	1.6	1.6	.15	1.7	.12
13	1.2	1.5	1.7	2.0	2.2	1.5	1.7	1.5	1.5	.13	.74	.09
14	1.2	1.5	1.7	2.0	1.9	1.5	1.7	1.4	1.5	.09	.70	.07
15	1.2	1.5	1.8	2.0	1.8	1.5	1.8	1.4	1.4	.07	.65	.06
16	1.2	1.5	1.7	2.1	1.8	1.3	1.8	1.4	1.3	.06	.60	.07
17	1.1	1.5	1.7	2.0	2.2	1.3	1.7	1.3	1.1	.06	.57	.06
18	1.1	1.6	1.8	2.0	2.0	1.4	1.6	17	1.1	.05	.55	.05
19	1.1	1.7	1.8	2.0	2.0	1.5	1.6	363	1.1	.06	.91	.04
20	1.1	1.7	1.8	1.8	1.9	1.6	1.7	348	1.0	.06	1.3	13
21	1.0	1.5	1.8	1.8	1.8	1.5	1.9	49	.90	.06	.99	225
22	1.2	1.6	1.9	1.9	1.7	1.6	2.0	21	.79	.06	.75	50
23	1.4	1.7	1.9	1.9	1.7	1.8	2.0	9.1	.64	.06	.64	7.3
24	1.2	1.5	1.9	2.0	1.7	1.7	1.9	6.1	.61	.11	.44	2.2
25	1.1	1.6	1.8	2.0	1.7	1.9	1.9	5.6	.58	.12	.29	11
26	1.0	1.6	1.9	1.9	1.7	2.0	1.8	17	.48	.12	.21	40
27	1.1	1.6	1.9	1.8	1.7	1.9	1.8	6.5	.43	.12	.19	2.3
28	1.2	1.6	2.0	1.8	1.7	1.9	1.7	3.8	.42	.11	.16	1.7
29	1.2	1.6	2.0	1.9	---	1.9	1.7	3.1	.37	.12	.12	1.4
30	1.2	1.6	2.1	1.9	---	1.9	1.6	2.7	.38	.11	.06	1.1
31	1.1	---	2.0	2.2	---	1.9	---	2.4	---	.12	.05	---
TOTAL	38.1	43.1	55.5	61.2	54.4	50.5	52.7	893.9	72.20	6.50	21.94	356.53
MEAN	1.23	1.44	1.79	1.97	1.94	1.63	1.76	28.8	2.41	.21	.71	11.9
MAX	1.5	1.7	2.1	2.2	2.6	2.0	2.0	363	12	1.3	5.5	225
MIN	1.0	1.1	1.6	1.8	1.7	1.3	1.6	1.3	.37	.05	.05	.04
AC-FT	76	85	110	121	108	100	105	1770	143	13	44	707
CAL YR 1977	TOTAL	4077.62	MEAN	11.2	MAX	454	MIN	.31	AC-FT	8090		
WTR YR 1978	TOTAL	1706.57	MEAN	4.68	MAX	363	MIN	.04	AC-FT	3380		

179

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 Corton 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.

WATER-DISCHARGE RECORDS

REVISID RECORD.--WDR TX-76-2: Drainage area.

AVERAGE DISCHARGE.--15 years (water years 1951, 1965-78), 38.2 ft³/s (1.082 m³/s), 27,680 acre-ft/yr (34.1 hm³/yr).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1939, that of Aug. 13, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,960 ft³/s (83.8 m³/s) May 20, gage height, 8.24 ft (2.512 m), no peak above base of 5,000 ft³/s (142 m³/s); no flow at times.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.02	1.2	2.0	6.5	4.0	3.0	.13	16	.23	1.2	.00
2	.00	.02	1.5	2.1	5.0	4.3	2.7	7.6	19	.22	.86	.00
3	.00	.03	1.6	2.5	4.6	4.0	3.0	12	76	.21	4.6	.00
4	.03	.03	1.7	3.3	4.5	4.0	2.3	4.1	63	.11	9.7	.00
5	.06	.03	1.6	3.5	4.0	4.6	2.1	3.1	47	.06	6.6	.78
6	.06	.04	1.5	3.1	4.2	4.6	1.8	2.7	86	.04	4.0	.02
7	.08	.06	1.8	3.0	5.5	4.0	1.9	3.1	121	.02	2.3	.01
8	.04	.21	1.8	2.3	5.4	4.0	1.6	2.1	105	.02	1.5	.05
9	.02	.02	1.1	1.8	5.4	4.0	1.9	1.1	44	.01	1.0	.01
10	.06	.01	1.2	1.3	5.1	4.6	2.5	.89	23	.01	.86	.00
11	.00	.02	1.8	1.4	5.2	4.0	2.1	.96	14	.00	.67	.00
12	.00	.03	2.6	2.3	9.4	3.2	1.6	.61	10	.00	.60	.00
13	.01	.05	2.5	2.5	7.5	3.5	1.3	.30	8.4	.00	.43	.00
14	.01	.05	2.1	2.7	5.0	3.2	1.2	.25	7.5	.00	.30	.00
15	.01	.07	2.3	3.4	4.3	3.2	1.2	.21	6.1	.00	.34	.00
16	.00	.06	2.4	3.6	4.2	3.0	.98	.23	5.2	.00	.30	.00
17	.03	.06	1.8	2.4	5.2	3.2	.89	.20	4.4	.00	.16	.00
18	.03	.09	1.8	2.4	4.3	3.5	.50	.15	3.9	.00	.17	.00
19	.04	.16	2.0	1.9	4.9	3.2	.39	149	3.5	.00	2.5	.00
20	.05	.20	1.9	1.9	4.6	3.2	.39	1500	3.3	.00	.81	.23
21	.05	.12	1.7	2.2	4.6	3.2	.36	337	2.6	.00	.31	210
22	1.3	.22	1.9	2.6	4.3	3.5	.39	157	2.1	.00	.22	401
23	.32	.34	2.1	4.0	4.0	4.3	.28	82	1.5	.00	.15	99
24	.13	.41	2.3	4.5	4.0	3.0	.27	46	1.2	286	.11	40
25	.08	.65	1.6	4.2	3.7	2.7	.18	30	.87	75	.07	32
26	.05	.82	1.6	3.3	3.7	3.0	.19	22	.65	26	.10	130
27	.05	.72	1.8	3.0	4.6	3.0	.17	27	.50	36	.06	222
28	.06	.71	2.1	3.0	4.6	3.0	.20	19	.41	9.9	.03	119
29	.06	.83	2.5	3.0	---	2.7	.19	14	.31	4.7	.03	58
30	.08	1.1	2.7	3.3	---	2.7	.17	12	.27	3.0	.01	31
31	.05	---	2.8	5.8	---	3.0	---	10	---	1.9	.00	---
TOTAL	2.76	7.18	59.3	88.3	138.3	109.4	35.75	2444.73	676.71	443.43	39.99	1343.10
MEAN	.089	.24	1.91	2.85	4.94	3.53	1.19	78.9	22.6	14.3	1.29	44.8
MAX	1.3	1.1	2.8	5.8	9.4	4.6	3.0	1500	121	286	9.7	401
MIN	.00	.01	1.1	1.3	3.7	2.7	.17	.13	.27	.00	.00	.00
AC-FT	5.5	14	118	175	274	217	71	4850	1340	880	79	2660
CAL YR 1977	TOTAL	8927.89	MEAN	24.5	MAX	975	MIN	.00	AC-FT	17710		
WTR YR 1978	TOTAL	5388.95	MEAN	14.8	MAX	1500	MIN	.00	AC-FT	10690		

BRAZOS RIVER BASIN

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 61,100 micromhos July 31, 1966; minimum daily, 900 micromhos Aug. 31, 1966.

WATER TEMPERATURES (1949-50, 1964-69, 1971-78): 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, 44,700 micromhos May 15; minimum daily, 2,920 micromhos May 21.

WATER TEMPERATURES: Maximum daily, 39.0°C July 30; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 26...	1455	.05	31100	7.5	28.0	3200	3100	840	270	6700
DEC 07...	1215	1.9	32000	7.7	9.0	2800	2700	700	260	7100
JAN 24...	1100	4.6	24600	7.7	4.5	2500	2400	690	200	5300
FEB 15...	1035	4.2	28100	7.6	2.0	2600	2500	670	230	5800
MAR 29...	1005	2.5	34400	7.2	17.0	3100	3000	800	270	7900
MAY 20...	1520	1750	4010	--	21.5	560	410	180	28	700
24...	1515	45	8610	--	29.0	900	780	250	68	1600
JUL 27...	1230	21	4580	--	28.5	890	810	300	35	670
SEP 28...	1435	100	3550	--	25.0	240	150	68	18	680

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 26...	51	30	170	0	2700	9800	.6	10	20400
DEC 07...	58	21	160	0	2400	11000	--	6.5	21600
JAN 24...	46	20	180	0	2000	8000	--	14	16300
FEB 15...	49	19	180	0	2000	8900	--	8.0	17700
MAR 29...	62	25	150	0	2500	12000	--	2.0	23600
MAY 20...	13	8.6	190	0	550	980	.7	14	2560
24...	23	13	150	0	770	2500	--	12	5290
JUL 27...	9.8	8.2	100	0	840	1000	.5	7.9	2910
SEP 28...	19	7.6	120	0	240	990	.6	7.9	2070

BRAZOS RIVER BASIN

181

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	2.76	28900	19100	143	9630	71	2150	16	****
NOV. 1977.....	7.18	35300	23500	455	11900	231	2570	50	****
DEC. 1977.....	59.3	32000	21300	3410	10800	1720	2350	377	****
JAN. 1978.....	88.3	27500	18200	4340	9140	2180	2070	493	****
FEB. 1978.....	138.3	27200	18000	6730	9050	3380	2050	765	****
MAR. 1978.....	109.4	32100	21300	6300	10800	3180	2370	699	****
APR. 1978.....	35.75	37700	25200	2430	12800	1240	2710	261	****
MAY 1978.....	2444.73	6490	4000	26400	1740	11500	700	4620	710
JUNE 1978.....	676.71	9460	5980	10900	2750	5020	920	1680	980
JULY 1978.....	443.43	6030	3670	4400	1590	1910	650	783	670
AUG. 1978.....	39.99	27200	18000	1950	9050	977	2040	220	****
SEPT 1978.....	1343.1	5210	3190	11600	1390	5040	560	2010	600
TOTAL	5388.95	**	**	79100	**	36400	**	12000	**
WTD.AVG.	14.76	8590	5400	**	2500	**	820	**	900

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	37200	32700	26200	22500	31000	36000	41300	22400	35000	37500	---
2	---	37400	32100	24600	25900	32700	36600	27500	20300	34700	39000	---
3	---	37500	33200	35600	26000	32000	38700	18900	9550	34500	25900	---
4	34700	37600	32800	30600	26400	31000	37500	27800	5270	32600	20800	---
5	31300	38900	33100	27900	27500	30500	37600	37900	5450	33000	25200	20300
6	33000	37400	33200	34800	27800	30800	37500	35000	5200	32600	28000	21800
7	34600	37500	32300	35900	29000	30500	37600	33700	5580	33000	32000	37200
8	34500	35500	32600	33600	27500	31000	38400	34100	5660	32600	35900	31600
9	35500	36000	32000	35000	24500	31600	37000	36000	5630	36200	35400	32900
10	36700	37500	32500	36700	24200	29000	36900	40400	8540	38100	36200	---
11	---	37300	31800	33000	26000	25600	37200	40600	15400	---	36600	---
12	---	37300	32400	25300	23000	27300	36600	41600	19400	---	35700	---
13	37500	37200	31500	27500	24100	32800	37500	42500	23600	---	38600	---
14	37100	37000	30400	28200	27200	33200	37700	44500	28000	---	38500	---
15	36800	36900	31100	25700	26400	33100	38900	44700	32900	---	38100	---
16	---	37000	32700	20500	27300	32700	38400	43500	34700	---	37500	---
17	37600	37200	33000	27100	28400	30400	39300	34700	36500	---	37900	---
18	37400	37000	33600	36800	30000	32700	40000	35200	38600	---	38300	---
19	36100	36300	31900	33500	33200	32900	40400	11300	37900	---	20000	---
20	36400	37100	34800	31200	31800	33400	39800	5690	39000	---	23000	34500
21	37800	37300	35300	30600	29500	34000	40400	2920	39800	---	27300	8000
22	24400	37200	32500	27400	28000	35200	41200	3680	40900	---	37300	3050
23	28000	37000	32600	26500	29000	31800	40400	5550	41700	---	37900	2990
24	28500	36400	32700	25100	29600	32100	40200	8610	36900	6280	38100	3010
25	29300	36700	32000	23800	30000	33000	40300	11700	38400	3250	38400	9350
26	31100	36000	31700	24400	29600	33700	39800	17300	38900	4100	37700	11300
27	35000	35000	31800	22000	28800	34200	40600	14200	38700	3500	38000	4720
28	35600	34100	31000	23500	29000	35900	40100	13600	37200	17600	38100	3580
29	36600	33100	30800	25400	---	34900	40000	17900	36600	19000	38100	3850
30	36800	33000	28600	25900	---	35500	41900	20400	36000	20600	37900	6070
31	37000	---	28800	18700	---	35900	---	23500	---	22900	---	---
MEAN	34400	36600	32200	28500	27600	32300	38800	26300	26200	24400	34300	14600

BRAZOS RIVER BASIN

08081000 SALT FORK BRAZOS RIVER NEAR PEACOCK, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	13.0	10.0	6.0	2.0	8.0	14.0	21.0	20.0	22.0	20.0	---
2	---	8.0	13.0	5.0	2.0	8.0	18.0	10.0	20.0	21.0	24.0	---
3	---	15.0	13.0	.0	3.0	7.0	24.0	13.0	20.0	23.0	25.0	---
4	20.0	10.0	15.0	4.0	3.0	.0	19.0	12.0	20.0	22.0	20.0	---
5	22.0	11.0	5.0	5.0	8.0	17.0	18.0	14.0	20.0	22.0	19.0	22.0
6	19.0	12.0	3.0	4.0	3.0	---	11.0	19.0	20.0	22.0	20.0	20.0
7	19.0	12.0	10.0	5.0	3.0	5.0	11.0	16.0	20.0	22.0	20.0	20.0
8	19.0	13.0	7.0	8.0	.0	10.0	17.0	16.0	20.0	22.0	20.0	21.0
9	19.0	4.0	.0	---	---	21.0	19.0	18.0	23.0	22.0	21.0	21.0
10	14.0	.0	.0	.0	---	7.0	12.0	20.0	20.0	22.0	21.0	---
11	---	5.0	10.0	.0	---	7.0	14.0	20.0	32.0	---	20.0	---
12	---	6.0	10.0	2.0	11.0	17.0	12.0	17.0	25.0	---	21.0	---
13	10.0	15.0	5.0	.0	9.0	23.0	22.0	12.0	23.0	---	27.0	---
14	10.0	15.0	5.0	9.0	---	23.0	13.0	18.0	23.0	---	21.0	---
15	10.0	16.0	5.0	9.0	---	7.0	31.0	19.0	23.0	---	21.0	---
16	---	16.0	10.0	7.0	2.0	5.0	14.0	19.0	22.0	---	21.0	---
17	10.0	9.0	10.0	.0	---	5.0	18.0	23.0	22.0	---	22.0	---
18	12.0	7.0	15.0	.0	---	12.0	11.0	23.0	33.0	---	22.0	---
19	11.0	16.0	6.0	.0	---	23.0	10.0	22.0	22.0	---	21.0	---
20	11.0	18.0	6.0	.0	1.0	24.0	11.0	21.0	33.0	---	24.0	21.0
21	16.0	4.0	.0	6.0	---	14.0	21.0	25.0	22.0	---	25.0	20.0
22	17.0	15.0	4.0	4.0	3.0	16.0	15.0	22.0	21.0	---	27.0	16.0
23	24.0	13.0	6.0	2.0	5.0	14.0	24.0	24.0	20.0	---	22.0	20.0
24	14.0	12.0	12.0	5.0	6.0	9.0	---	30.0	20.0	21.0	22.0	20.0
25	14.0	13.0	13.0	3.0	17.0	8.0	22.0	24.0	22.0	32.0	23.0	20.0
26	15.0	7.0	13.0	.0	8.0	13.0	13.0	28.0	22.0	21.0	23.0	21.0
27	14.0	10.0	8.0	.0	17.0	13.0	14.0	29.0	21.0	21.0	28.0	18.0
28	17.0	9.0	9.0	.0	16.0	22.0	14.0	30.0	21.0	21.0	22.0	25.0
29	17.0	6.0	17.0	3.0	---	13.0	14.0	31.0	21.0	21.0	22.0	17.0
30	15.0	3.0	14.0	3.0	---	13.0	22.0	21.0	21.0	39.0	28.0	18.0
31	15.0	---	15.0	2.0	---	14.0	---	20.0	---	24.0	---	---
MEAN	15.5	10.5	8.5	3.0	6.5	12.5	16.5	20.5	22.5	23.5	22.5	20.0

BRAZOS RIVER BASIN

183

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	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)
FEB 22...	1030	.03	89500	6.0	5600	1400	510	4500	36000

BRAZOS RIVER BASIN

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) north-east of Jayton.

PERIOD OF RECORD.--Periodic discharge measurements: August 1959 to current year. Periodic water-quality data: October 1960 to current year.

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	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)
OCT 18...	0740	.04	33600	12.0	4700	1300	360	4600	11000
NOV 29...	0720	.10	28700	6.0	3500	1000	250	3900	8200
FEB 22...	1100	.17	43600	6.0	4200	1100	360	3600	14000
MAR 28...	0915	.05	49600	12.5	5200	1300	470	4800	17000

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.--WSP 2122: Drainage area. 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.--19 years, 14.7 ft³/s (0.416 m³/s), 0.69 in/yr (18 mm/yr), 10,650 acre-ft/yr (13.1 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, 1,160 ft³/s (32.9 m³/s) Sept. 21, gage height, 7.25 ft (2.210 m), no 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 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.00	.00	.00	.00	.12	.00	.00	1.6	.00	.00	.00		
2	.00	.00	.00	.00	.00	.14	.00	42	4.5	.00	.00	.00		
3	.00	.00	.00	.00	.00	.11	.00	26	16	.23	.00	.00		
4	.00	.00	.00	.00	.00	.10	.00	15	26	.00	.01	.00		
5	.00	.00	.00	.00	.00	.13	.00	13	7.3	.00	.04	3.6		
6	.00	.00	.00	.00	.00	.13	.00	8.4	94	.00	.00	7.5		
7	.00	.00	.00	.00	.00	.04	.00	2.5	78	.00	.00	.44		
8	.00	.00	.00	.00	.26	.03	.00	1.0	24	.00	.00	.25		
9	.00	.00	.00	.00	3.1	.01	.00	.50	8.0	.00	.00	.25		
10	.00	.00	.00	.00	4.4	.01	.00	.30	3.6	.00	1.7	.61		
11	.00	.00	.00	.00	2.0	.00	.00	.07	1.7	.00	7.2	37		
12	.00	.00	.00	.00	8.3	.00	.00	.00	.89	.00	.06	.10		
13	.00	.00	.00	.00	5.3	.00	.00	.00	.42	.00	.00	.00		
14	.00	.00	.00	.00	1.8	.00	.00	.00	.46	.00	.00	.00		
15	.00	.00	.00	.00	.96	.00	.00	.00	.11	.00	.00	.00		
16	.00	.00	.00	.00	.73	.00	.00	.00	.02	.00	28	.00		
17	.00	.00	.00	.00	1.3	.00	.00	.00	.00	.00	46	.00		
18	.00	.00	.00	.00	4.0	.00	.00	.00	.00	.00	4.1	.00		
19	.00	.00	.00	.00	1.7	.00	.00	33	.00	.00	1.3	.00		
20	.00	.00	.00	.00	1.4	.00	.00	151	.00	.00	2.0	.00		
21	.00	.00	.00	.00	1.0	.00	.00	143	.00	.00	.23	283		
22	.00	.00	.00	.00	.66	.00	.00	52	.00	.00	.00	15		
23	.00	.00	.00	.00	.60	.00	.00	18	.00	.00	.00	3.4		
24	.00	.00	.00	.00	.51	.00	.00	8.7	.00	.00	.00	1.4		
25	.00	.00	.00	.00	.28	.00	.00	4.3	.00	.00	.00	1.0		
26	.00	.00	.00	.00	.17	.00	.00	14	.00	.00	.00	8.8		
27	.00	.00	.00	.00	.22	.00	.00	71	.00	.00	.00	11		
28	.00	.00	.00	.00	.19	.00	.00	23	.00	.00	.00	5.8		
29	.00	.00	.00	.00	---	.00	.00	9.0	.00	.00	.00	3.8		
30	.00	.00	.00	.00	---	.00	.00	4.3	.00	.00	.00	3.1		
31	.00	---	.00	.00	---	.00	---	2.1	---	.00	.00	---		
TOTAL	.00	.00	.00	.00	38.88	.82	.00	642.17	266.60	.23	90.64	386.05		
MEAN	.000	.000	.000	.000	1.39	.026	.000	20.7	8.89	.007	2.92	12.9		
MAX	.00	.00	.00	.00	8.3	.14	.00	151	94	.23	46	283		
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
CFSM	.000	.000	.000	.000	.005	.000	.000	.07	.03	.000	.01	.04		
IN.	.00	.00	.00	.00	.00	.00	.00	.08	.03	.00	.01	.05		
AC-FT	.00	.00	.00	.00	.77	1.6	.00	1270	529	.5	180	766		
CAL YR 1977	TOTAL	9068.29	MEAN	24.8	MAX	3300	MIN	.00	CFSM	.09	IN	1.16	AC-FT	17990
WTR YR 1978	TOTAL	1425.39	MEAN	3.91	MAX	283	MIN	.00	CFSM	.01	IN	.18	AC-FT	2830

BRAZOS RIVER BASIN

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1961-64, 1972-78): Maximum daily, 54,100 micromhos Feb. 11, 1978; minimum daily, 1,570 micromhos Aug. 3, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 54,100 micromhos Feb. 11; minimum daily, 3,050 micromhos Set. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	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)
FEB 14...	1725	1.6	46500	9.0	4300	4200	1100	380	10000
MAY 20...	1825	156	11200	23.0	2100	2000	730	75	2000
20...	2015	173	9350	23.0	2000	1900	690	65	1500
24...	1310	9.2	14600	29.5	2700	2600	850	140	2700
JUN 06...	1030	161	4860	--	1800	1800	630	65	510
15...	1000	.19	23300	--	3100	3000	900	210	4900
SEP 22...	1010	26	2950	--	1400	--	510	26	--
DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
FEB 14...	66	33	130	0	4000	16000	--	12	31600
MAY 20...	19	12	120	0	1800	3100	--	12	7790
20...	15	11	100	0	1900	2300	--	11	6530
24...	23	14	90	0	2200	4200	.3	8.7	10200
JUN 06...	5.2	6.4	76	0	1700	790	.3	9.2	3750
15...	38	18	94	0	3200	7300	.3	6.4	16600
SEP 22...	--	--	--	--	1400	340	--	--	--

BRAZOS RIVER BASIN

187

08081200 CROTON CREEK NEAR JAYTON, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	0	*****	*****	0	*****	0	*****	0	****
NOV. 1977.....	0	*****	*****	0	*****	0	*****	0	****
DEC. 1977.....	0	*****	*****	0	*****	0	*****	0	****
JAN. 1978.....	0	*****	*****	0	*****	0	*****	0	****
FEB. 1978.....	38.88	48300	33700	3540	17000	1790	4350	456	****
MAR. 1978.....	0.82	46500	32500	72	16400	36	4210	9.5	****
APR. 1978.....	0	*****	*****	0	*****	0	*****	0	****
MAY 1978.....	642.17	12000	8520	14800	3400	5890	2090	3620	****
JUNE 1978.....	266.6	10700	7660	5510	2940	2110	2000	1440	****
JULY 1978.....	0.23	35500	24800	15	12200	7.6	3540	2.2	****
AUG. 1978.....	90.64	14700	10400	2550	4410	1080	2180	533	****
SEPT 1978.....	386.05	4970	3880	4040	890	924	1660	1730	1450
TOTAL	1425.39	**	**	30500	**	11800	**	7790	**
WTD.AVG.	3.91	11000	7900	**	3100	**	2000	**	*****

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	46600		---	18900	---	---	---
2					---	46400		7840	19300	---	---	---
3					---	47000		27000	23900	35500	---	---
4					---	47200		36200	19200	---	37000	---
5					---	46100		18600	11100	---	36500	12500
6					---	46000		19500	10800	---	---	5940
7					---	46500		22400	6120	---	---	8860
8					48000	46600		25600	4830	---	---	11900
9					45900	47000		31500	7690	---	---	12000
10					52500	47300		37100	11100	---	22500	11500
11				54100	---	---	39500	15000	---	---	15700	10400
12				47700	---	---	---	17000	---	---	21300	12900
13				50200	---	---	---	19700	---	---	---	---
14				46500	---	---	---	20500	---	---	---	---
15				46800	---	---	---	22600	---	---	---	---
16				47600	---	---	---	24600	---	---	15000	---
17				46900	---	---	---	---	---	---	13600	---
18				45300	---	---	---	---	---	---	16200	---
19				47000	---	---	---	20500	---	---	17700	---
20				47300	---	---	---	10600	---	---	19100	---
21				47100	---	---	---	7160	---	---	20200	3050
22				46800	---	---	---	7250	---	---	---	3270
23				46700	---	---	---	10700	---	---	---	5230
24				47200	---	---	---	14000	---	---	---	10700
25				47500	---	---	---	16900	---	---	---	15300
26				47700	---	---	---	22300	---	---	---	14000
27				46000	---	---	---	12500	---	---	---	10200
28				46200	---	---	---	7100	---	---	---	18900
29				---	---	---	---	10400	---	---	---	18000
30				---	---	---	---	13500	---	---	---	17000
31				---	---	---	---	16800	---	---	---	---
MEAN				47700	46700	---	---	18900	15800	35500	21300	11200

LOCATION.--Lat 33°20'02", long 100°14'24", 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.

WATER-DISCHARGE RECORDS

REVISID RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. 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 (station 08080910), capacity 44,900 acre-ft (55.4 hm³), 106 mi (171 km) upstream.

AVERAGE DISCHARGE.--39 years (water years 1940-78), 115 ft³/s (3.257 m³/s), 83,320 acre-ft/yr (103 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, that of Sept. 25, 1955. 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, 2,190 ft³/s (62.0 m³/s) May 20, gage height, 5.32 ft (1.622 m), no peak above base of 12,000 ft³/s (340 m³/s); minimum, 0.10 ft³/s (0.003 m³/s) Oct. 16.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.45	.83	3.4	21	5.4	2.0	.30	19	.38	.47	.21
2	.18	.46	.89	3.2	21	5.3	3.3	15	40	.39	.24	.24
3	.21	.41	.77	3.2	16	4.0	2.5	116	29	.41	149	.21
4	.21	.41	.76	3.3	13	4.0	2.1	53	62	30	229	2.8
5	.21	.41	.76	3.8	11	4.5	1.3	38	67	17	.36	6.2
6	.21	.48	.76	4.0	9.5	5.4	1.2	21	138	2.3	14	.76
7	.21	.48	.76	4.0	15	4.5	.89	14	215	.74	4.9	.96
8	.18	2.4	.76	3.3	21	4.0	.75	7.0	210	.47	1.9	29
9	.18	2.6	.69	2.9	17	4.0	.65	2.9	149	.39	1.1	8.9
10	.17	1.3	.65	2.7	16	4.0	.87	1.5	78	.35	4.6	2.4
11	.13	.78	.65	2.1	16	4.0	1.8	.73	47	.35	68	2.6
12	.13	.76	.65	2.9	27	3.2	1.9	.32	30	.35	13	10
13	.13	.89	.74	4.0	38	3.1	1.5	.21	22	.35	3.3	2.5
14	.13	.89	.82	4.0	21	2.6	1.0	.18	32	.39	1.4	.79
15	.13	.89	.89	5.3	13	2.5	.71	.16	20	.41	.67	.62
16	.11	.89	.80	6.3	13	2.3	.49	.13	15	.45	.64	.56
17	.12	.89	.56	6.1	17	2.3	.38	.14	12	.48	19	.48
18	.13	.89	.56	6.2	17	2.2	.25	.34	9.5	.48	20	.55
19	.13	.89	.56	4.9	18	2.0	.25	30	7.6	.48	8.0	2.4
20	.13	.82	.54	4.2	19	1.7	.25	1220	4.9	.48	6.8	17
21	.13	.88	.56	4.5	14	1.5	.25	952	2.1	.48	6.6	509
22	.32	.76	.56	5.1	12	1.7	.25	397	1.7	.48	2.9	769
23	.92	.76	.56	5.7	10	2.6	.25	207	1.3	11	1.4	336
24	.87	.76	.56	6.5	8.5	2.3	.25	102	.99	9.9	.73	146
25	.30	.76	.56	8.0	6.5	2.6	.25	59	.78	246	.50	271
26	.22	.76	.69	8.9	5.4	2.6	.25	37	.54	67	.40	189
27	.21	.65	.87	8.6	5.4	2.3	.29	38	.47	125	.35	350
28	.25	.65	1.1	7.1	5.4	2.3	.30	50	.41	21	.34	293
29	.33	.65	1.7	7.1	---	2.3	.30	30	.49	4.0	.35	164
30	.35	.72	2.0	6.5	---	2.0	.30	19	.56	1.8	.29	93
31	.41	---	3.4	9.0	---	2.0	---	13	---	.96	.18	---
TOTAL	7.52	25.34	26.96	156.8	426.7	95.2	26.78	3424.91	1216.34	544.27	596.06	3209.18
MEAN	.24	.84	.87	5.06	15.2	3.07	.89	110	40.5	17.6	19.2	107
MAX	.92	2.6	3.4	9.0	38	5.4	3.3	1220	215	246	229	769
MIN	.11	.41	.54	2.1	5.4	1.5	.25	.13	.41	.35	.18	.21
AC-FT	15	50	53	311	846	189	53	6790	2410	1080	1180	6370
CAL YR 1977	TOTAL	19986.68		MEAN 54.8	MAX 1530	MIN .11	AC-FT 39640					
WTR YR 1978	TOTAL	9756.06		MEAN 26.7	MAX 1220	MIN .11	AC-FT 19350					

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.

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, 95,900 micromhos Jan. 2; minimum daily, 5,000 micromhos Sept. 23.

WATER TEMPERATURES: Maximum daily, 35.0°C Aug. 21; minimum daily, 0.0°C on several days during January and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	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)	
DATE	TIME											
OCT 04...	1200	.20	70700	7.7	23.0	5	7.0	115	1.5	130	11	
NOV 01...	1100	.43	72000	8.0	17.0	10	7.5	110	1.4	400	9	
DEC 06...	1305	1.9	78600	7.7	11.0	5	10.2	138	.2	1	1	
JAN 10...	0830	1.8	84700	7.7	.0	3	9.0	93	.7	16	5	
FEB 07...	0950	11	53700	8.0	4.5	3	10.2	104	1.5	25	13	
MAR 07...	0845	3.4	53900	8.0	6.0	5	10.0	106	.7	17	3	
APR 13...	0830	1.3	91000	7.6	14.5	9	6.1	97	1.7	54	4	
MAY 10...	0800	1.2	49000	7.5	17.5	3	6.4	84	1.0	20	K10	
JUN 14...	0900	43	16200	7.7	23.0	1200	7.6	96	5.6	>9600	9600	
JUL 19...	0930	.80	81000	7.5	25.5	5	5.3	98	1.4	740	14	
AUG 15...	1350	.50	54000	7.6	36.5	2	6.8	128	.8	--	96	
SEP 19...	1220	.80	74100	8.0	29.0	3	6.0	111	1.0	--	44	
		STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 04...	480	5100	4900	1400	380	18000	110	64	170	0	3900	
NOV 01...	350	4800	4600	1300	370	18000	113	60	160	0	3700	
DEC 06...	19	4900	4800	1300	410	20000	124	71	160	0	3200	
JAN 10...	26	4800	4600	1200	430	21000	132	68	170	0	2400	
FEB 07...	210	3300	3200	840	290	12000	91	40	150	0	2000	
MAR 07...	16	3700	3600	970	320	13000	93	46	150	0	3200	
APR 13...	23	5200	5100	1300	470	26000	157	98	150	0	3200	
MAY 10...	28	4100	4000	1100	320	12000	82	47	120	0	3200	
JUN 14...	200	1800	1700	510	130	3400	35	17	100	0	1500	
JUL 19...	50	6000	5800	1600	480	23000	130	85	170	0	3800	
AUG 15...	56	4100	4000	1200	270	13000	88	51	96	0	2400	
SEP 19...	180	2000	1900	270	320	18000	176	54	170	0	3600	

BRAZOS RIVER BASIN

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	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)
OCT 04...	29000	.4	9.1	52000	52800	.01	.01	.02	.08	.39
NOV 01...	28000	.8	--	50800	--	.04	.01	.05	.33	.06
DEC 06...	33000	.3	7.7	62400	58100	.56	.01	.57	.14	.16
JAN 10...	33000	.6	7.6	58600	58200	.90	.02	.92	.12	.78
FEB 07...	20000	.4	6.2	35200	35300	.75	.02	.77	.39	.11
MAR 07...	20000	.6	2.0	34600	37600	.21	.01	.22	.02	.38
APR 13...	37000	.6	10	73000	68200	.22	.03	.25	.10	.50
MAY 10...	17000	--	.0	34000	33700	.06	.02	.08	.08	.66
JUN 14...	5500	--	--	11100	--	.07	.01	.08	.03	3.0
JUL 19...	36000	.5	11	62400	65100	.03	.00	.03	.02	.38
AUG 15...	21000	.4	6.0	38200	38000	.04	.00	.04	.05	.45
SEP 19...	28000	.5	9.6	535000	50300	.03	.00	.03	.03	.37
DATE	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 04...	.47	.35	.02	.01	2.3	--	--	13	.01	88
NOV 01...	.39	.05	.02	.02	2.8	--	--	11	.01	87
DEC 06...	.30	.13	.01	.02	2.8	--	--	7	.04	90
JAN 10...	.90	.75	.03	.04	2.4	--	--	13	.06	82
FEB 07...	.50	.52	.01	.01	--	3.9	--	9	.27	57
MAR 07...	.40	.37	.06	.07	4.0	--	--	5	.05	41
APR 13...	.60	.43	.00	.01	4.0	--	--	2	.01	77
MAY 10...	.74	.75	.04	.03	4.9	--	--	16	.05	99
JUN 14...	3.0	.96	.84	.13	--	3.7	<5.0	2670	310	97
JUL 19...	.40	.45	.22	.21	2.5	--	--	18	.04	78
AUG 15...	.50	.40	.03	.03	--	3.9	.4	34	.05	95
SEP 19...	.40	.44	.11	.06	3.6	--	--	207	.45	96

BRAZOS RIVER BASIN

191

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC		ARSENIC		BARIUM,		BARIUM,		CADMIUM		CADMIUM
		TOTAL (UG/L AS AS)	SUS- PENDE TOTAL (UG/L AS AS)	DIS- SOLVED (UG/L AS AS)	TOTAL RECOV- ERABLE (UG/L AS BA)	SUS- PENDE RECOV- ERABLE (UG/L AS BA)	DIS- SOLVED (UG/L AS BA)	TOTAL RECOV- ERABLE (UG/L AS CD)	SUS- PENDE RECOV- ERABLE (UG/L AS CD)	DIS- SOLVED (UG/L AS CD)		
OCT 04...	1200	3	0	3	500	--	--	10	9	1		
FEB 07...	0950	1	0	1	1300	300	1000	0	0	0		
JUN 14...	0900	12	9	3	500	300	200	0	0	0		
AUG 15...	1350	5	--	4	200	200	0	0	0	0		
DATE	TIME	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (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)	
OCT 04...	20	0	50	50	50	0	10	10	0	410		
FEB 07...	30	0	30	0	0	0	4	3	1	240		
JUN 14...	50	30	20	18	18	0	45	40	5	35000		
AUG 15...	40	10	30	0	0	0	6	3	3	70		
DATE	TIME	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	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- ERABLE (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)	
OCT 04...	--	30	100	100	0	90	0	440	.0	.0		
FEB 07...	--	40	0	0	0	160	30	130	.8	.7		
JUN 14...	35000	50	28	23	5	1300	1300	20	.1	.0		
AUG 15...	50	20	3	0	3	180	10	170	.0	.0		
DATE	TIME	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 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 04...	.0	9	0	13	10	10	0	10	0	50		
FEB 07...	.1	7	0	7	--	--	0	60	40	20		
JUN 14...	.1	2	0	2	0	0	0	140	20	120		
AUG 15...	.1	7	0	8	0	0	0	50	0	50		

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

PERIPHYTON

DATE	LENGTH OF EXPOSURE (DAYS)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	SAMPLING METHOD
OCT 04...	34	4.02	4.49	.684	.007	POLYETHYLENE STRIP
MAR 07...	28	8.35	12.0	4.23	.000	POLYETHYLENE STRIP
MAY 10...	30	276	280	18.0	.000	POLYETHYLENE STRIP

BRAZOS RIVER BASIN

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	NOV 1,77 1100	MAR 7,78 0945	MAY 10,78 0800	JUN 14,78 0900
TOTAL CELLS/ML	800	580	180	280
DIVERSITY: DIVISION	1.8	0.2	0.0	0.0
..CLASS	1.8	0.2	0.0	0.0
..ORDER	1.9	0.2	0.9	0.0
...FAMILY	2.3	1.2	1.4	1.0
....GENUS	2.3	1.5	1.4	1.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
..CHLOROCOCCALES								
...OOCYSTACEAE								
....ANKISTRODESMUS	7	1	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
..PENNALES								
...NAVICULACEAE								
....ENTOMONEIS	--	-	51	9	--	-	--	-
..CENTRALES								
...CHAETOCERACEAE								
....CHAETOCEROS	--	-	--	-	--	-	--	-
...COSCINODISCACEAE								
...CYCLOTELLA	7	1	--	-	--	-	--	-
...MELOSIRA	--	-	--	-	120#	69	--	-
..PENNALES								
...ACHNANTHACEAE								
...COCCONEIS	7	1	--	-	--	-	--	-
...CYMBELLACEAE								
...AMPHORA	--	-	--	-	--	-	140#	50
...FRAGILARIACEAE								
...SYNEDRA	240#	30	--	-	27#	15	--	-
...NAVICULACEAE	--	-	--	-	--	-	--	-
...DIPLONEIS	--	-	--	-	--	-	95#	33
...NAVICULA	27	3	220#	38	14	8	47#	17
...NITZSCHACEAE								
...NITZSCHIA	27	3	290#	50	14	8	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONIDALES								
...CRYPTOMONODACEAE								
....CRYPTOMONAS	310#	38	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	130#	17	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA	20	2	--	-	--	-	--	-
....TRACHELOMONAS	--	-	17	3	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
..PERIDINIALES								
...PERIDINIAEAE								
....PERIDINIUM	27	3	--	-	--	-	--	-

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

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

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	JUL 19,78 0930	AUG 15,78 1350	SEP 19,78 1220
TOTAL CELLS/ML	86	2000	15000
DIVERSITY: DIVISION	0.0	0.2	0.1
..CLASS	0.0	0.2	0.1
..ORDER	0.0	1.1	0.1
...FAMILY	0.0	1.5	0.3
....GENUS	0.7	1.5	0.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	22	1	--	-
....CHLAMYDOMONAS	--	-	22	1	150	1
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...PENNALES						
...NAVICULACEAE						
....ENTOMONEIS	14#	17	--	-	150	1
...CENTRALES						
...CHAETOCERACEAE						
....CHAETOCEROS	--	-	800#	40	--	-
...COSCINODISCACEAE						
....CYCLOTELLA	--	-	39	4	--	-
....MELOSIRA	--	-	--	-	--	-
...PENNALES						
...ACHNANTHACEAE						
....COCONEIS	--	-	--	-	--	-
...CYMBELLACEAE						
....AMPHORA	--	-	--	-	--	-
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	--	-
...NAVICULACEAE	--	-	--	-	15000#	65
....DIPLONEIS	--	-	--	-	--	-
....NAVICULA	72#	83	44	2	--	-
...NITZSCHACEAE						
....NITZSCHIA	--	-	1000#	51	450	3
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONIDALES						
...CRYPTOMONODACEAE						
....CRYPTOMONAS	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-
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%

BRAZOS RIVER BASIN

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	7.52	67400	46600	946	25800	523	3260	66	****
NOV. 1977.....	25.34	74800	51700	3540	28700	1960	3530	241	****
DEC. 1977.....	26.96	83000	58600	4260	32600	2370	3910	284	****
JAN. 1978.....	156.8	79100	55500	23500	30900	13100	3730	1580	****
FEB. 1978.....	426.7	60000	41500	47800	22900	26300	2970	3430	****
MAR. 1978.....	95.2	60700	41800	10800	23100	5930	2990	770	****
APR. 1978.....	26.78	75700	52800	3810	29300	2120	3580	259	****
MAY 1978.....	3424.91	9380	6060	56000	2890	26800	880	8150	970
JUNE 1978.....	1216.34	12800	8430	27700	4170	13700	1080	3550	****
JULY 1978.....	544.27	12400	8160	12000	4080	5990	1000	1480	****
AUG. 1978.....	596.06	16600	11100	17900	5640	9060	1280	2050	****
SEPT 1978.....	3209.18	9060	5730	49600	2680	23200	890	7710	940
TOTAL	9756.05	**	**	258000	**	131000	**	29600	**
WTD.AVG.	26.73	14700	9800	**	5000	**	1100	**	*****

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77700	72000	77600	94500	70000	58900	81100	79800	30000	81500	48800	71000
2	77100	71700	79800	95900	83300	53500	77400	37100	25000	83800	65300	74100
3	75400	69500	82100	85600	70900	56100	80500	23700	30400	83100	13900	76300
4	69700	67600	82800	87000	63700	55600	83800	34600	15000	23500	8500	74100
5	72100	66400	79800	86300	62500	58500	81800	36600	10500	35000	35000	55000
6	73200	66000	78200	82500	60600	51000	77400	40500	9500	54000	47200	62300
7	74000	65200	77900	84900	58800	56100	74800	41200	8000	80200	47000	64100
8	78300	74500	77600	81900	65000	56500	68200	48000	7650	87400	48300	25000
9	75900	85000	77900	83900	75800	58900	63600	55000	7190	89400	49500	55000
10	76200	82000	76400	86300	71700	56900	58000	50500	7980	85200	30900	75000
11	78900	80200	77600	74800	58800	63400	63300	56000	11100	85200	17100	86200
12	75700	72400	80500	76200	61300	60300	70000	63400	14600	90600	26100	33000
13	76500	69300	83200	81600	60000	57100	75000	68800	18800	90200	38300	47900
14	77000	68600	84600	90100	47900	54100	82100	76600	25000	86000	45500	61300
15	77700	72200	87500	82600	43400	57000	76500	81000	30000	93100	52700	73600
16	76000	73000	87100	79500	45200	59500	74300	76000	38300	91800	56400	76000
17	73700	75500	80200	90100	44300	66200	72900	76100	36100	90600	17900	75700
18	75000	73800	76500	95000	52000	67800	75200	77200	38100	91800	12100	71000
19	76500	74300	75400	72600	56100	62500	77200	52600	38400	92700	16700	68000
20	75900	76000	74300	86400	58600	63100	76600	6500	40400	89400	26800	42500
21	77100	73200	72700	78600	58100	58500	77200	6120	43400	91000	40000	11700
22	37900	72900	72400	76000	58100	59200	75200	6070	48900	86600	59200	6370
23	44900	73700	74300	80400	56600	63800	75200	6520	57000	65000	61900	5000
24	65000	72400	75400	72800	52900	65000	77200	8430	64000	62200	68000	5290
25	76800	71800	77000	75700	50200	70000	76900	10500	73000	7500	70300	6000
26	72100	74300	78900	86400	53900	73200	78100	13900	79600	6070	72900	15000
27	68500	78700	87800	74600	48800	73200	79300	16300	80600	5500	76700	8000
28	65400	75100	86300	67200	51100	79000	77500	14500	73800	10000	72300	7700
29	65400	74500	87800	64700	---	71600	75200	13800	76600	12200	73400	8810
30	68900	76200	90200	64900	---	69800	78400	16800	81600	19000	74500	9900
31	71400	---	93900	61700	---	70300	---	20000	---	27700	75900	---
MEAN	71800	73300	80400	80700	58600	62100	75300	39200	37400	64400	46700	45000

BRAZOS RIVER BASIN

195

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	12.0	15.0	3.0	5.0	7.0	25.0	23.0	30.0	29.0	30.0	27.0
2	24.0	11.0	13.0	6.0	5.0	15.0	25.0	10.0	22.0	30.0	29.0	30.0
3	23.0	19.0	17.0	10.0	6.0	5.0	22.0	10.0	26.0	29.0	28.0	30.0
4	21.0	19.0	14.0	11.0	11.0	11.0	23.0	22.0	26.0	23.0	19.0	29.0
5	22.0	20.0	12.0	12.0	7.0	14.0	20.0	23.0	28.0	23.0	21.0	31.0
6	25.0	21.0	10.0	8.0	5.0	16.0	17.0	23.0	25.0	31.0	30.0	28.0
7	21.0	15.0	14.0	12.0	5.0	6.0	25.0	23.0	29.0	30.0	29.0	26.0
8	20.0	15.0	17.0	8.0	.0	4.0	21.0	25.0	26.0	29.0	24.0	26.0
9	19.0	10.0	6.0	4.0	.0	14.0	19.0	25.0	27.0	30.0	22.0	27.0
10	21.0	10.0	6.0	.0	3.0	16.0	17.0	22.0	26.0	23.0	24.0	---
11	19.0	7.0	10.0	.0	4.0	18.0	17.0	26.0	29.0	24.0	31.0	31.0
12	20.0	15.0	15.0	3.0	7.0	14.0	11.0	25.0	31.0	30.0	30.0	29.0
13	20.0	17.0	14.0	9.0	9.0	16.0	25.0	29.0	29.0	30.0	32.0	34.0
14	22.0	18.0	15.0	5.0	7.0	21.0	26.0	29.0	28.0	24.0	31.0	24.0
15	18.0	18.0	14.0	9.0	4.0	---	25.0	24.0	25.0	26.0	24.0	29.0
16	---	9.0	8.0	6.0	3.0	16.0	25.0	30.0	28.0	28.0	33.0	30.0
17	23.0	17.0	9.0	4.0	.0	19.0	21.0	30.0	31.0	29.0	34.0	29.0
18	26.0	18.0	14.0	1.0	5.0	22.0	16.0	30.0	29.0	28.0	33.0	21.0
19	26.0	17.0	14.0	2.0	5.0	22.0	23.0	30.0	28.0	28.0	23.0	27.0
20	24.0	19.0	7.0	4.0	6.0	20.0	23.0	21.0	30.0	30.0	32.0	22.0
21	23.0	18.0	7.0	3.0	11.0	21.0	22.0	22.0	31.0	29.0	35.0	17.0
22	19.0	15.0	8.0	8.0	12.0	24.0	26.0	28.0	30.0	29.0	31.0	19.0
23	21.0	17.0	11.0	5.0	14.0	14.0	28.0	30.0	29.0	25.0	32.0	22.0
24	19.0	13.0	7.0	6.0	17.0	21.0	26.0	26.0	30.0	28.0	30.0	23.0
25	24.0	12.0	10.0	9.0	14.0	18.0	19.0	30.0	30.0	30.0	33.0	25.0
26	24.0	15.0	10.0	8.0	15.0	20.0	23.0	26.0	30.0	32.0	29.0	20.0
27	19.0	13.0	7.0	5.0	16.0	25.0	24.0	29.0	27.0	28.0	20.0	22.0
28	22.0	10.0	11.0	.0	12.0	20.0	25.0	29.0	22.0	25.0	26.0	25.0
29	24.0	6.0	14.0	3.0	---	21.0	18.0	30.0	22.0	23.0	26.0	26.0
30	23.0	11.0	10.0	4.0	---	22.0	21.0	30.0	21.0	32.0	25.0	25.0
31	23.0	---	12.0	2.0	---	23.0	---	27.0	---	34.0	26.0	---
MEAN	22.0	14.5	11.5	5.5	7.5	17.0	22.0	25.5	27.5	28.0	28.0	26.0

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 (Texas 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.--13 years, 3.36 ft³/s (0.095 m³/s), 0.51 in/yr (13 mm/yr), 2,430 acre-ft/yr (3.00 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,620 ft³/s (45.9 m³/s) Aug. 13, 1972, gage height, 9.85 ft (3.00 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.--Maximum discharge, 336 ft³/s (9.52 m³/s) Aug. 10, gage height, 6.11 ft (1.862 m), no other peak above base of 300 ft³/s (8.50 m³/s); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.07	.11	.00	.00	.10	.00	.01	.08
2	.00	.00	.00	.00	.05	.11	.00	4.0	37	.00	.01	.08
3	.00	.00	.00	.00	.05	.06	.00	7.9	4.9	.00	1.0	.06
4	.00	.00	.00	.00	.04	.07	.00	2.0	1.3	.00	22	.27
5	.00	.00	.00	.00	.03	.07	.00	.30	.42	.00	8.2	1.5
6	.00	.00	.00	.00	.04	.07	.00	.02	10	.00	1.9	.41
7	.00	.00	.00	.00	.08	.07	.00	.00	13	.00	.50	.11
8	.00	.00	.00	.00	.08	.06	.00	.00	11	.00	.07	9.1
9	.00	.00	.00	.00	.09	.07	.00	.00	1.3	.00	.01	7.4
10	.00	.00	.00	.00	.08	.07	.00	.00	.32	.00	50	2.4
11	.00	.00	.00	.00	.07	.05	.00	.00	.09	.00	27	.70
12	.00	.00	.00	.00	.58	.05	.00	.00	.06	.00	4.7	.16
13	.00	.00	.00	.00	1.1	.05	.00	.00	.05	.00	1.5	.09
14	.00	.00	.00	.00	.92	.04	.00	.00	2.4	.00	.55	.06
15	.00	.00	.00	.01	.15	.04	.00	.00	.38	.00	.23	.05
16	.00	.00	.00	.02	.06	.03	.00	.00	.06	.00	.17	.04
17	.00	.00	.00	.02	.11	.02	.00	.00	.02	.00	.23	.09
18	.00	.00	.00	.03	.10	.00	.00	.00	.01	.00	.25	1.4
19	.00	.00	.00	.03	.09	.00	.00	.00	.00	.00	82	.52
20	.00	.00	.00	.04	.09	.00	.00	24	.00	.00	52	1.4
21	.00	.00	.00	.05	.08	.00	.00	8.0	.00	.00	5.6	65
22	.00	.00	.00	.04	.10	.00	.00	1.6	.00	.00	2.4	12
23	.00	.00	.00	.04	.08	.01	.00	.47	.00	.00	1.3	3.8
24	.00	.00	.00	.04	.07	.01	.00	.22	.00	2.5	.66	1.9
25	.00	.00	.00	.05	.07	.00	.00	.07	.00	1.2	.33	1.6
26	.00	.00	.00	.04	.07	.00	.00	.03	.00	.07	.19	2.2
27	.00	.00	.00	.03	.09	.00	.00	.02	.00	.03	.16	2.6
28	.00	.00	.00	.03	.14	.00	.00	.02	.00	.00	.13	1.6
29	.00	.00	.00	.03	---	.00	.00	.02	.00	.00	.12	.92
30	.00	.00	.00	.04	---	.00	.00	.02	.00	.00	.10	.52
31	.00	---	.00	.06	---	.00	---	.02	---	.00	.08	---
TOTAL	.00	.00	.00	.60	4.58	1.06	.00	48.71	82.41	3.80	263.40	118.06
MEAN	.000	.000	.000	.019	.16	.034	.000	1.57	2.75	.12	8.50	3.94
MAX	.00	.00	.00	.06	1.1	.11	.00	24	37	2.5	82	65
MIN	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.01	.04
CFSM	.000	.000	.000	.000	.002	.000	.000	.02	.03	.001	.10	.04
IN.	.00	.00	.00	.00	.00	.00	.00	.02	.03	.00	.11	.05
AC-FT	.00	.00	.00	1.2	9.1	2.1	.00	97	163	7.5	522	234
CAL YR 1977	TOTAL 629.23	MEAN 1.72	MAX 105	MIN .00	CFSM .02	IN .26	AC-FT 1250					
WTR YR 1978	TOTAL 522.62	MEAN 1.43	MAX 82	MIN .00	CFSM .02	IN .22	AC-FT 1040					

BRAZOS RIVER BASIN

197

08082100 STINKING CREEK NEAR ASPERMONT, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
FEB 21...	1540	.08	7820	7.8	8.0	2500	2400	560	270	980	8.5
MAY 20...	1830	5.9	1640	--	22.0	540	480	160	33	130	2.4
JUN 05...	1245	.33	2500	--	26.0	850	760	230	66	230	3.4
AUG 28...	1310	.16	3730	--	29.0	1300	1200	350	98	380	4.6

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
FEB 21...	9.8	170	0	1700	1800	.3	1.1	5410	--	--
MAY 20...	6.5	62	0	430	230	.2	3.3	1020	142	2.3
JUN 05...	7.4	110	0	580	470	.3	5.5	1640	--	--
AUG 28...	13	120	0	1100	690	.4	9.8	2700	--	--

BRAZOS RIVER BASIN

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX

LOCATION.--Lat 33°22'59", long 100°04'51", Stonewall County, Hydrologic Unit 12060101, on left bank 600 ft (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.--13 years, 15.2 ft³/s (0.430 m³/s), 0.82 in/yr (21 mm/yr), 11,010 acre-ft/yr (13.6 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 ft³/s (75.3 m³/s), 6,530 ft³/s (185 m³/s), and 32,100 ft³/s (909 m³/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1921, that of Aug. 30, 1966. Flood in 1932 reached a stage of about 32 ft (9.8 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 225 ft³/s (6.37 m³/s) Sept. 21, gage height, 9.05 ft (2.758 m), no peak above base of 500 ft³/s (14.2 m³/s); minimum, 500 ft³/s (14.2 m³/s) no flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.62	.72	.62	.95	.48	.08	.00	.02	.00	.00	.00
2	.00	.55	.71	.64	.97	.45	.10	10	2.4	.00	.00	.00
3	.00	.62	.71	.64	.86	.38	.12	1.7	.48	.00	32	.00
4	.00	.62	.71	.64	.71	.38	.10	.65	1.6	.00	54	.00
5	.01	.55	.68	.64	.65	.36	.07	.42	53	.00	11	.00
6	.02	.55	.68	.62	.67	.33	.07	.36	8.1	.00	3.0	.00
7	.01	.62	.70	.60	.94	.31	.06	1.3	3.9	.00	1.1	.00
8	.01	.79	.72	.56	1.1	.29	.04	.16	2.1	.00	.64	1.7
9	.01	.79	.68	.56	1.2	.28	.05	.02	1.4	.00	.38	.01
10	.01	.70	.67	.57	1.2	.26	.05	.01	.93	.00	.27	.01
11	.01	.62	.69	.55	1.1	.22	.05	.00	.62	.00	.50	.00
12	.00	.62	.70	.61	1.7	.21	.05	.00	.99	.00	2.1	.00
13	.01	.70	.62	.58	1.9	.22	.05	.00	1.3	.00	1.7	.00
14	.01	.70	.59	.57	1.1	.18	.04	.00	2.8	.00	.67	.00
15	.02	.70	.66	.62	1.0	.18	.04	.00	.46	.00	.36	.00
16	.02	.70	.44	.67	.98	.17	.03	.00	.05	.00	.21	.00
17	.02	.70	.57	.62	1.0	.16	.03	.00	.04	.00	.07	.00
18	.02	.79	.45	.64	.49	.16	.02	.00	.03	.00	.03	.00
19	.02	.79	.44	.62	.36	.12	.02	.24	.03	.00	.30	.00
20	.02	.79	.52	.59	.48	.11	.01	72	.03	.00	.16	.82
21	.02	.79	.52	.57	.55	.12	.02	40	.01	.00	.41	118
22	.09	.79	.53	.60	.63	.14	.02	7.8	.00	.25	.24	33
23	.06	.79	.54	.58	.57	.18	.02	4.3	.00	.01	.13	3.6
24	.02	.70	.53	.63	.57	.11	.02	1.6	.00	.00	.05	1.2
25	.02	.70	.51	.65	.46	.10	.01	.87	.00	.00	.01	17
26	.02	.70	.52	.65	.43	.11	.01	.60	.00	.00	.00	54
27	.02	.70	.58	.65	.44	.10	.01	.52	.00	.00	.00	4.5
28	4.1	.67	.57	.60	.48	.09	.00	1.5	.00	.00	.00	1.8
29	1.5	.65	.59	.59	---	.09	.00	.89	.00	.00	.00	1.0
30	.79	.66	.60	.58	---	.09	.00	.49	.00	.00	.00	.77
31	.70	---	.64	.75	---	.07	---	.04	---	.00	.00	---
TOTAL	7.56	20.67	18.79	19.01	23.49	6.45	1.19	145.47	80.29	.26	109.33	237.41
MEAN	.24	.69	.61	.61	.84	.21	.040	4.69	2.68	.008	3.53	7.91
MAX	4.1	.79	.72	.75	1.9	.48	.12	72	53	.25	54	118
MIN	.00	.55	.44	.55	.36	.07	.00	.00	.00	.00	.00	.00
CFSM	.001	.003	.002	.002	.003	.001	.000	.02	.01	.000	.01	.03
IN.	.00	.00	.00	.00	.00	.00	.00	.02	.01	.00	.02	.04
AC-FT	15	41	37	38	47	13	2.4	289	159	.5	217	471
CAL YR 1977	TOTAL	1666.51	MEAN 4.57	MAX 175	MIN .00	CFSM .02	IN .25	AC-FT 3310				
WTR YR 1978	TOTAL	669.92	MEAN 1.84	MAX 118	MIN .00	CFSM .007	IN .10	AC-FT 1330				

BRAZOS RIVER BASIN

199

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 47,400 micromhos Oct. 23, 1969; minimum daily, 1,060 micromhos Aug. 30, 1966.

WATER TEMPERATURES: Maximum daily, 37.0°C June 16, 1978; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 41,900 micromhos Apr. 27; minimum daily, 2,060 micromhos Sept. 21.

WATER TEMPERATURES: Maximum daily, 37.0°C June 16; minimum daily, 0.0°C on several days during January, February, and March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 30...	1730	.55	31200	7.8	8.0	4200	4100	1000	410	5700
JAN 09...	1600	.58	33500	7.7	3.0	4100	4000	1000	390	6900
FEB 22...	0855	.69	23800	7.7	1.0	3300	3200	840	300	4700
MAR 27...	1550	.10	31900	7.2	24.0	4500	4400	1100	430	6500
MAY 31...	1035	.11	28700	--	26.0	3100	3000	760	300	6000
JUN 05...	1510	8.7	4350	--	26.0	1500	1400	520	53	410
SEP 30...	1800	1.2	13200	--	25.0	2200	2100	620	160	2400

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 30...	38	42	110	0	2900	9900	--	.0	20000
JAN 09...	47	42	160	0	2900	11000	--	.7	22300
FEB 22...	35	37	160	0	2600	7500	--	12	16100
MAR 27...	42	46	130	0	2800	11000	--	.4	21900
MAY 31...	47	41	110	0	2400	9900	.3	2.8	19500
JUN 05...	4.6	12	86	0	1300	770	.2	8.7	3120
SEP 30...	22	24	110	0	2000	3800	.3	4.7	9060

BRAZOS RIVER BASIN

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	7.56	31700	21300	434	10500	215	2750	56	****
NOV. 1977.....	20.67	31900	21400	1200	10600	592	2770	154	****
DEC. 1977.....	18.79	31500	21100	1070	10500	531	2760	140	****
JAN. 1978.....	19	32400	21900	1120	10900	558	2780	143	****
FEB. 1978.....	23.49	28300	14900	1200	9250	587	2690	171	****
MAR. 1978.....	6.45	31100	20800	363	10300	179	2750	48	****
APR. 1978.....	1.19	35100	23600	75	11800	38	2830	9.4	****
MAY 1978.....	145.47	7590	5090	2000	1860	732	1510	594	1770
JUNE 1978.....	80.29	8250	5530	1200	2080	451	1600	347	1870
JULY 1978.....	0.26	7600	5090	3.6	1840	1.3	1540	1	1770
AUG. 1978.....	109.33	10200	6830	2020	2680	790	1770	522	****
SEPT 1978.....	237.41	3270	2190	1410	570	367	930	597	1090
TOTAL	669.92	**	**	12100	**	5040	**	2780	**
WTD.AVG.	1.84	9970	6700	**	2800	**	1500	**	2100

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	34200	29600	32100	31300	28200	33600	---	29000	---	---	---
2	---	34600	29700	28100	31500	28200	32600	10100	22500	---	---	---
3	---	34000	31400	30500	31600	28300	33200	9670	20300	---	12500	---
4	---	33900	31500	32800	32900	28600	33600	15500	18000	---	8000	---
5	27300	32500	31700	33500	32000	28900	34000	20200	5000	---	10000	---
6	23100	32000	31900	33200	32900	32800	34100	24500	11700	---	12700	---
7	21000	31700	31800	32900	30500	32000	34200	12100	15600	---	14300	---
8	19300	31600	31900	33000	29100	31100	34900	22000	17400	---	14600	12100
9	19000	24200	32100	33500	28500	30800	34500	25600	17500	---	15000	10000
10	18100	29700	32000	33700	29500	31300	34300	25400	17600	---	15400	8900
11	17800	29000	32100	34700	30000	31700	34100	---	17300	---	15000	---
12	---	32700	31500	33500	25700	32300	35400	---	17100	---	6500	---
13	17800	32600	31200	32600	25900	32400	36800	---	8160	---	13000	---
14	17100	32800	31300	32300	27200	32500	37300	---	7530	---	20500	---
15	16900	31900	31400	31500	22700	32600	37500	---	17000	---	26600	---
16	16600	31800	30800	31900	28000	32600	37300	---	18100	---	22800	---
17	16400	32000	31500	32700	27500	33000	37200	---	18500	---	23500	---
18	15900	32100	31000	32900	29200	33200	38900	---	20000	---	24100	---
19	15600	32300	31300	32700	26900	33400	38500	27200	20200	---	19200	---
20	15100	32200	32000	33000	24600	33500	38300	7570	21700	---	20400	13300
21	15800	32100	32500	33400	24500	33400	39000	4460	22800	---	18600	2060
22	14600	32400	32400	32900	24300	33400	38900	7200	---	7500	17900	3280
23	12300	32000	31800	32500	25500	32100	39600	9900	---	10000	18500	4040
24	12000	31700	31200	32200	26900	31900	40400	11600	---	---	19200	6070
25	11300	32400	31600	33000	28200	32100	40300	13700	---	---	20200	5500
26	11200	32000	31500	32800	28500	32300	40300	15500	---	---	---	3960
27	11200	31500	31400	33200	29600	32200	41900	17200	---	---	---	5940
28	30000	31100	31600	33300	28300	32100	---	15000	---	---	---	9000
29	37700	31300	31800	33400	---	32600	---	26600	---	---	---	11100
30	36700	31200	31700	33200	---	33200	---	28900	---	---	---	13200
31	34400	---	31800	31400	---	33000	---	29000	---	---	---	---
MEAN	19400	32000	31500	32700	28300	31800	36700	17200	17300	8750	16900	7750

BRAZOS RIVER BASIN

201

08082180 NORTH CROTON CREEK NEAR KNOX CITY, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	14.0	6.0	1.0	3.0	7.0	23.0	---	26.0	---	---	---
2	---	10.0	8.0	.0	2.0	12.0	20.0	---	25.0	---	---	---
3	---	16.0	9.0	5.0	4.0	.0	20.0	12.0	23.0	---	---	---
4	---	14.0	8.0	5.0	7.0	4.0	20.0	23.0	---	---	---	---
5	21.0	16.0	5.0	11.0	4.0	5.0	23.0	24.5	---	---	---	---
6	18.0	11.0	4.0	10.0	4.0	5.0	18.0	24.0	25.0	---	---	---
7	16.0	12.0	8.0	8.0	---	7.0	26.0	26.0	30.0	---	29.0	---
8	16.0	14.0	4.0	3.0	---	5.0	23.0	24.0	29.0	---	29.0	---
9	14.0	10.0	2.0	.0	---	4.0	26.0	22.0	30.0	---	27.0	22.0
10	14.0	10.0	2.0	.0	---	13.0	16.0	22.0	28.0	---	27.0	22.0
11	12.0	9.0	2.0	.0	1.0	9.0	15.0	---	25.0	---	30.0	24.0
12	---	9.0	10.0	.0	4.0	11.0	18.0	---	24.0	---	31.0	25.0
13	10.0	10.0	6.0	6.0	3.0	12.0	20.0	---	24.0	---	31.0	---
14	18.0	15.0	10.0	1.0	1.0	12.0	24.0	---	32.0	---	30.0	---
15	12.0	10.0	11.0	2.0	2.0	10.0	24.0	---	31.0	---	28.0	---
16	17.0	9.0	12.0	5.0	2.0	13.0	24.0	---	37.0	---	31.0	---
17	18.0	10.0	6.0	.0	---	8.0	26.0	---	25.0	---	32.0	---
18	19.0	14.0	10.0	.0	.0	14.0	23.0	---	31.0	---	32.0	---
19	21.0	16.0	8.0	.0	2.0	13.0	18.0	30.0	26.0	---	23.0	---
20	16.0	11.0	7.0	.0	12.0	20.0	19.0	22.0	31.0	---	24.0	---
21	16.0	10.0	1.0	.0	---	14.0	21.0	24.0	29.0	---	25.0	18.0
22	18.0	14.0	3.0	.0	12.0	18.0	21.0	---	---	26.0	30.0	21.0
23	15.0	11.0	10.0	1.0	10.0	16.0	18.0	30.0	---	---	26.0	24.0
24	21.0	12.0	6.0	4.0	9.0	14.0	18.0	30.0	---	---	27.0	19.0
25	21.0	7.0	3.0	2.0	7.0	11.0	18.0	31.0	---	---	---	---
26	21.0	6.0	5.0	5.0	8.0	17.0	18.0	30.0	---	---	---	20.0
27	16.0	---	2.0	.0	9.0	13.0	18.0	29.0	---	---	---	23.0
28	14.0	10.0	7.0	2.0	7.0	18.0	---	25.0	---	---	---	22.0
29	21.0	7.0	12.0	.0	---	19.0	---	28.0	---	---	---	19.0
30	19.0	8.0	9.0	3.0	---	19.0	---	29.0	---	---	---	25.0
31	17.0	---	14.0	2.0	---	19.0	---	26.0	---	---	---	---
MEAN	17.0	11.0	7.0	2.5	5.0	11.5	20.5	25.5	28.0	26.0	28.5	22.0

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 upstream side of bridge on U.S. Highways 277 and 283, 0.8 mi (1.3 km) upstream from Wichita Valley Railway bridge, 1.0 mi (1.6 km) southwest of courthouse in Seymour, and at mile 847.4 (1,363.5 km).

DRAINAGE AREA.--15,538 mi² (40,243 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1923 to current year.

REVISED RECORDS.--WSP 808: 1924-29. WSP 1312: 1933. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,238.97 ft (377.638 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 6, 1972, at datum 2.00 ft (0.610 m) higher.

REMARKS.--Water-discharge records fair. Small diversions above station for irrigation and oilfield operation. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years (water years 1925-78), 383 ft³/s (10.85 m³/s), 277,500 acre-ft/yr (342 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Since 1906 the maximum stage was that of Sept. 28, 1955, and maximum discharge was that of Oct. 16, 1926. A flood in 1906 reached about the same stage as flood in 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,200 ft³/s (799 m³/s) Aug. 5, gage height, 14.20 ft (4.328 m), no other peak above base of 11,000 ft³/s (312 m³/s); no flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.23	1.8	3.4	6.4	13	26	3.3	.00	253	.51	33	36
2	.08	1.4	3.8	6.4	12	25	3.1	1.2	350	.48	18	110
3	.10	1.8	3.8	7.4	12	22	3.0	.47	272	4.1	68	39
4	.10	2.1	3.9	7.4	11	18	1.9	45	380	14	3590	34
5	.71	2.1	3.6	8.1	11	16	2.9	36	289	6.4	19200	31
6	1.1	2.1	4.1	7.8	10	17	2.3	12	890	2.7	4380	29
7	1.8	2.8	4.7	7.7	9.0	18	1.3	8.4	510	.56	1940	28
8	.92	5.8	4.1	6.4	8.0	16	.69	5.2	484	.10	923	29
9	.50	3.8	4.6	6.9	7.0	13	2.3	2.4	527	.00	575	57
10	.53	3.0	4.1	5.8	6.0	14	5.7	1.1	559	.00	412	169
11	.40	3.0	5.2	6.9	5.0	17	4.3	.58	417	.00	500	208
12	.35	2.7	6.4	7.8	6.0	14	1.9	.33	265	.00	543	101
13	.37	2.9	4.9	9.2	8.0	9.8	.87	.12	179	.05	286	70
14	.39	3.0	5.2	9.8	9.1	7.4	.43	.01	135	.08	193	52
15	.36	3.1	5.3	12	8.0	8.6	.42	.00	95	.13	139	42
16	.15	2.6	5.3	11	7.0	6.4	.46	.00	137	.10	94	35
17	.08	2.3	4.2	9.8	6.0	9.2	.61	.00	64	.08	85	31
18	.00	2.8	5.0	9.2	5.0	8.0	.34	.00	39	.00	72	31
19	.00	3.5	4.2	8.0	7.0	7.4	.14	.18	23	.00	58	856
20	.00	3.0	3.7	7.0	9.2	8.0	.15	1.8	11	.00	47	592
21	.03	1.7	3.8	7.0	7.4	7.4	.11	1080	8.8	.00	50	467
22	.50	2.5	5.3	9.0	9.0	14	.03	1110	5.8	.00	62	2780
23	3.9	2.5	4.5	12	12	110	.02	994	10	.00	83	2820
24	6.8	2.1	4.3	16	16	20	.03	691	8.0	.00	73	1130
25	5.1	2.6	4.5	16	20	17	.01	438	5.8	.36	58	797
26	3.6	3.6	4.9	11	20	12	.03	297	4.1	.00	51	1330
27	3.1	2.5	4.9	9.8	24	8.0	.02	223	2.4	.56	47	862
28	2.8	2.6	5.5	9.2	28	7.9	.02	142	1.4	36	42	552
29	2.9	2.8	5.5	9.2	---	3.5	.01	111	.83	43	38	397
30	2.8	3.1	5.9	11	---	3.8	.00	89	.54	79	37	651
31	2.8	---	7.3	11	---	3.8	---	128	---	54	36	---
TOTAL	42.50	81.6	145.9	282.2	305.7	488.2	36.39	5464.32	5926.67	242.21	33733	14366
MEAN	1.37	2.72	4.71	9.10	10.9	15.7	1.21	176	198	7.81	1088	479
MAX	6.8	5.8	7.3	16	28	110	5.7	1110	890	79	19200	2820
MIN	.00	1.4	3.4	5.8	5.0	3.5	.00	.00	.54	.00	18	28
AC-FT	84	162	289	560	606	968	72	10840	11760	480	66910	28490
CAL YR 1977	TOTAL	52359.46	MEAN 143	MAX 1750	MIN .00	AC-FT 103900						
WTR YR 1978	TOTAL	61114.69	MEAN 167	MAX 19200	MIN .00	AC-FT 121200						

BRAZOS RIVER BASIN

203

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 80,400 micromhos May 24, 1971; minimum daily, 750 micromhos Aug. 5, 1978.

WATER TEMPERATURES (1959-77): 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, 46,200 micromhos May 20; minimum daily, 750 micromhos Aug. 5.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	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 31...	1600	2.2	10100	7.9	24.0	1100	1000	280	100	1600
NOV 30...	1600	3.1	8080	8.0	14.0	910	730	200	99	1500
JAN 24...	1045	16	11300	7.6	3.5	1600	1400	420	130	2000
FEB 28...	1600	28	26600	--	11.0	2600	2400	660	220	5800
MAR 31...	1600	3.8	16200	7.9	25.0	1800	1700	420	180	3200
MAY 31...	0810	112	6210	--	21.5	810	690	240	50	1100
JUN 30...	1700	.52	15700	--	34.0	1900	1900	510	160	3300
AUG 06...	1000	4670	931	--	21.0	150	80	47	7.6	130
SEP 27...	1055	875	1870	--	20.5	410	320	130	20	240

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 31...	21	11	120	0	1200	2400	--	3.8	5650
NOV 30...	22	8.7	210	0	990	2100	--	4.0	5010
JAN 24...	22	9.2	210	0	1300	3200	--	7.2	7170
FEB 28...	50	21	130	0	2100	9600	.5	.4	18500
MAR 31...	33	17	160	0	1900	4800	--	.3	10600
MAY 31...	17	13	140	0	730	1600	--	11	3810
JUN 30...	33	4.3	110	0	1800	5000	1.2	13	10800
AUG 06...	4.6	5.1	84	0	80	200	.3	7.3	519
SEP 27...	5.2	7.4	110	0	370	340	.5	11	1170

BRAZOS RIVER BASIN

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	42.5	10300	6550	751	2840	326	1170	134	****
NOV. 1977.....	81.6	8540	5320	1170	2290	506	990	218	1090
DEC. 1977.....	145.9	9270	5800	2280	2520	993	1080	424	1160
JAN. 1978.....	282.2	11400	7350	5600	3190	2430	1260	962	****
FEB. 1978.....	305.7	21800	14900	12300	7240	5980	1690	1400	****
MAR. 1978.....	488.2	16200	10900	14400	5220	6880	1330	1750	****
APR. 1978.....	36.39	15300	10200	1000	4510	443	1360	133	****
MAY 1978.....	5464.32	5560	3440	50700	1380	20400	640	9510	800
JUNE 1978.....	5926.65	4660	2870	45900	1110	17700	540	8660	710
JULY 1978.....	242.21	9180	5770	3770	2490	1630	1050	684	1160
AUG. 1978.....	33733	2070	1260	115000	460	41900	240	21500	450
SEPT 1978.....	14366	4410	2710	105000	1020	39700	510	19900	680
TOTAL	61114.66	**	**	358000	**	139000	**	65300	**
WTD.AVG.	167.44	3510	2200	**	840	**	400	**	600

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12300	9540	8050	9500	15500	26000	16200	---	5750	15100	8500	10700
2	11100	9570	8020	9400	15800	25200	16300	12500	5470	15200	17200	3650
3	10600	9590	8140	9290	16500	24700	16400	6000	4150	14000	15000	6000
4	9850	9520	8170	9400	17200	24100	16600	6600	3200	12200	1200	6550
5	12500	9500	8370	9500	17900	23600	16500	8180	2980	13500	750	9760
6	8240	9290	8540	9810	18400	23000	16200	5380	3450	14000	2000	10500
7	13500	9410	8470	9860	18300	21900	16600	6830	4930	10100	2430	11000
8	13900	7880	8710	10000	18500	20700	17000	7500	4550	14100	4500	11100
9	13100	8220	8800	10200	18400	20500	15000	8500	3170	---	6450	9800
10	12500	8200	8850	10400	19300	20700	13400	10300	7520	---	8120	8000
11	13400	8390	8900	10700	20100	20900	14600	12700	6000	---	8280	6000
12	11000	8430	8760	10900	17900	20900	13800	15000	4300	---	8440	4020
13	10600	8600	9060	9590	17800	21000	14200	18300	4200	16700	8590	4440
14	9850	8820	9020	9500	19300	21100	14300	24600	4240	17200	8750	5280
15	9270	8860	9210	9800	21100	21000	14200	---	4450	17800	8910	5810
16	9310	8850	9500	10000	23000	20500	14200	---	5350	18100	9070	6490
17	9100	8600	9810	10700	23800	20300	15300	---	3700	18800	9230	7320
18	---	8460	9860	11500	24600	20400	15700	---	5600	---	9390	7880
19	---	8120	10000	12300	24300	20600	16100	32800	7520	---	9540	4500
20	---	8130	10100	12500	24400	20700	15700	46200	8770	---	9700	3000
21	8980	8570	10200	12700	29600	20500	16100	7500	8880	---	9860	2500
22	12300	8500	10100	11100	27500	18000	15000	6060	9800	---	11000	4500
23	10800	8600	10000	11300	25000	4350	14200	5070	11000	---	12100	4620
24	8780	8500	10100	11600	24100	6950	13600	4650	11700	---	13200	4410
25	11400	8260	10100	12300	23600	7100	13400	4130	12600	10600	14300	4000
26	10600	8130	9900	13000	23900	7320	14200	3810	13200	---	16000	3000
27	10000	8200	9800	13800	24500	8800	14100	3280	14300	10000	15800	2600
28	9750	8230	9720	14200	26600	13300	14400	4330	14900	7500	13600	2730
29	9450	8160	9550	14600	---	14900	14200	4770	15500	7800	11900	6310
30	9310	8070	9420	14900	---	15600	---	5670	15800	9760	11000	7710
31	9230	---	9290	15300	---	16100	---	6360	---	8440	10600	---
MEAN	10700	8640	9240	11300	21300	18400	15100	10700	7570	13200	9530	6140

BRAZOS RIVER BASIN

205

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	15.0	14.0	3.0	6.0	---	---	---	---	33.0	33.0	24.0
2	23.0	---	12.0	---	7.0	10.0	---	---	24.0	---	32.0	26.0
3	22.0	19.0	15.0	5.0	6.0	---	16.0	11.0	27.0	35.0	25.0	25.5
4	19.0	---	7.0	9.0	10.0	11.0	---	20.0	---	34.0	18.0	25.5
5	24.0	22.0	11.0	16.0	---	---	24.0	20.0	29.0	---	19.0	31.0
6	18.0	19.0	9.0	17.0	5.0	12.0	30.0	24.0	23.0	34.0	---	25.0
7	24.0	20.0	13.0	13.0	---	---	28.0	20.0	27.0	36.0	---	24.0
8	22.0	17.0	11.0	---	---	13.0	---	---	---	34.0	---	23.0
9	18.0	11.0	---	3.0	1.0	18.0	---	---	30.0	---	31.0	24.0
10	24.0	15.0	---	---	---	---	17.0	---	22.0	---	---	25.0
11	18.0	17.0	6.0	---	2.0	19.0	23.0	---	---	---	---	25.0
12	19.0	16.0	17.0	1.0	6.0	---	27.0	---	33.0	---	---	24.5
13	21.0	---	13.0	5.0	7.0	20.0	24.0	---	29.0	33.0	---	32.0
14	22.0	19.0	14.0	1.0	7.0	---	---	---	31.0	---	---	26.0
15	20.0	22.0	18.0	---	---	13.0	27.0	---	---	35.0	---	24.5
16	19.0	20.0	---	3.0	3.0	20.0	25.0	---	31.0	31.0	---	32.0
17	23.0	16.0	14.0	---	---	22.0	25.0	---	29.0	---	---	29.0
18	---	17.0	14.0	---	2.0	---	25.0	---	---	---	---	29.5
19	---	16.0	13.0	.0	5.0	---	21.0	31.0	31.0	---	---	24.0
20	---	16.0	9.0	2.0	8.0	25.0	25.0	26.0	33.0	---	---	23.5
21	16.0	11.0	6.0	1.0	9.0	26.0	21.0	---	33.0	---	---	17.5
22	19.0	17.0	---	4.0	12.0	24.0	---	26.0	---	---	---	17.0
23	21.0	17.0	11.0	---	18.0	14.0	---	25.0	34.0	---	---	19.0
24	24.0	11.0	14.0	4.0	18.0	15.0	26.0	---	---	---	---	23.0
25	25.0	16.0	8.0	10.0	14.0	---	22.0	---	---	33.0	25.0	21.5
26	26.0	15.0	---	7.0	16.0	20.0	21.0	27.0	---	---	25.0	20.5
27	20.0	15.0	6.0	9.0	14.0	25.0	21.0	30.0	34.0	34.0	25.0	20.0
28	---	9.0	12.0	10.0	11.0	25.0	---	27.0	---	---	23.5	20.0
29	19.0	10.0	14.0	---	---	20.0	---	30.0	---	35.0	24.5	26.0
30	21.0	14.0	8.0	4.0	---	27.0	---	31.0	34.0	36.0	22.0	21.0
31	24.0	---	14.0	---	---	25.0	---	30.0	---	34.0	22.5	---
MEAN	21.5	16.0	11.5	6.0	8.5	19.0	23.5	25.5	29.5	34.0	25.0	24.5

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).

WATER-DISCHARGE RECORDS

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

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 diversion above station.

AVERAGE DISCHARGE.--15 years (water years 1964-78), 6.17 ft³/s (0.175 m³/s), 0.81 in/yr (21 mm/yr), 4,470 acre-ft/yr (5.51 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,600 ft³/s (980 m³/s) Aug. 24, 1978, gage height, 17.53 ft (5.343 m); no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1883 occurred June 13, 1930, and exceeded 18.0 ft (5.49 m); maximum stage since 1930, 18.0 ft (5.49 m) in October 1962, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,600 ft³/s (980 m³/s) Aug. 24, gage height, 17.53 ft (5.343 m), no other peak above base of 200 ft³/s (5.66 m³/s); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8730	.00		
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3370	.00		
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	369	.00		
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	20	.00		
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.5	.00		
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.0	.00		
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.3	.00		
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.5	.00		
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.4	.00		
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.22	.00		
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00		
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00		
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00		
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00		
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.17		
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03		
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01		
24	.00	.00	.00	.00	.00	.27	.00	.00	.00	.00	.00	.00		
25	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.01		
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.2		
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.1		
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0		
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.43		
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.11		
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---		
TOTAL	.00	.00	.00	.00	.00	.28	.00	.00	.00	.00	12508.06	11.06		
MEAN	.000	.000	.000	.000	.000	.009	.000	.000	.000	.000	.403	.37		
MAX	.00	.00	.00	.00	.00	.27	.00	.00	.00	.00	8730	4.2		
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
CFSM	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	3.88	.004		
IN.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.47	.00		
AC-FT	.00	.00	.00	.00	.00	.6	.00	.00	.00	.00	24810	22		
CAL YR 1977	TOTAL	163.95	MEAN	.45	MAX	47	MIN	.00	CFSM	.004	IN	.06	AC-FT	325
WTR YR 1978	TOTAL	12519.40	MEAN	34.3	MAX	8730	MIN	.00	CFSM	.33	IN	4.48	AC-FT	24830

BRAZOS RIVER BASIN

207

08082700 MILLERS CREEK NEAR MUNDAY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Sediment records: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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
AUG								
04...	1525	16000	18.5	3770	163000	54	68	75
06...	1050	406	23.0	1720	1890	--	--	--
08...	1055	7.4	25.5	42	.84	--	--	--
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
AUG								
04...		85	92	96	98	99	99	100
06...		--	--	--	--	--	--	--
08...		--	--	--	--	--	--	--

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, Nichols, and Endress, 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 (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, Nichols, and Endress 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, 34,380 acre-ft (42.5 hm³) Aug. 6, elevation, 1,335.30 ft (406.999 m); minimum contents were below dead storage elevation July 17 to Aug. 3.

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

1,303.0	1,100	1,324.0	14,270
1,306.0	1,960	1,330.0	22,950
1,312.0	4,500	1,336.0	36,340
1,318.0	8,460		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2260	2120	2030	1920	1880	1920	1840	1680	1530	1360	1100	24000
2	2250	2120	2030	1920	1870	1920	1840	1700	1540	1360	1100	24000
3	2240	2110	2020	1920	1870	1910	1840	1690	1540	1350	1160	24000
4	2240	2110	2020	1910	1870	1910	1830	1700	1550	1350	27250	23990
5	2240	2110	2020	1910	1870	1910	1830	1700	1550	1340	27340	23990
6	2240	2110	2010	1910	1880	1910	1820	1700	1580	1330	33760	23990
7	2240	2110	2010	1910	1880	1910	1810	1690	1570	1320	31760	23970
8	2220	2110	2000	1910	1890	1910	1800	1690	1550	1310	30480	23970
9	2220	2100	2000	1910	1880	1910	1800	1680	1540	1310	29180	23970
10	2220	2100	1990	1900	1880	1910	1790	1670	1530	1290	28210	23950
11	2200	2100	1990	1900	1880	1900	1780	1660	1530	1280	27590	23950
12	2190	2090	1990	1900	1910	1900	1780	1660	1530	1270	27130	23950
13	2180	2090	1990	1900	1910	1900	1770	1650	1520	1260	26710	23930
14	2180	2090	1990	1900	1910	1900	1770	1640	1510	1260	26480	23930
15	2170	2090	1980	1890	1910	1890	1770	1620	1500	1250	26240	23930
16	2170	2090	1980	1890	1920	1890	1760	1620	1500	1240	26060	23910
17	2170	2080	1970	1890	1930	1880	1760	1610	1490	1180	25900	23910
18	2160	2080	1970	1890	1920	1880	1770	1600	1480	1150	25760	23910
19	2150	2080	1970	1890	1920	1870	1770	1590	1470	1100	25560	23890
20	2150	2080	1960	1890	1920	1860	1770	1590	1460	1100	25460	23890
21	2140	2060	1950	1890	1920	1860	1770	1580	1450	1100	25300	23890
22	2150	2060	1940	1890	1920	1860	1760	1570	1440	1100	25260	23880
23	2150	2060	1940	1890	1920	1860	1760	1570	1430	1100	25180	23880
24	2150	2050	1940	1880	1930	1860	1740	1560	1420	1100	24950	23880
25	2150	2050	1940	1880	1920	1850	1720	1560	1410	1100	24800	23860
26	2150	2040	1940	1880	1920	1860	1710	1560	1400	1100	24690	23860
27	2150	2040	1930	1870	1920	1860	1700	1550	1390	1100	24570	24520
28	2150	2040	1930	1870	1920	1850	1680	1540	1380	1100	24420	24520
29	2150	2030	1930	1870	---	1840	1680	1540	1380	1100	24310	24520
30	2140	2030	1930	1870	---	1840	1680	1530	1370	1100	24190	24520
31	2140	---	1930	1870	---	1840	---	1530	---	1100	24060	---
MAX	2260	2120	2030	1920	1930	1920	1840	1700	1580	1360	33760	24520
MIN	2140	2030	1930	1870	1870	1840	1680	1530	1370	1100	1100	23860
(†)	1306.54	1306.21	1305.89	1305.71	1305.87	1305.61	1305.05	1304.52	1303.90	1303.27	1330.61	1330.85
(‡)	-140	-110	-100	-60	+50	-80	-160	-150	-160	-270	+22960	+460

CAL YR 1977 MAX 3430 MIN .00 † +1930
WTR YR 1978 MAX 33760 MIN 1100 ‡ +22240

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

BRAZOS RIVER BASIN

209

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CaCO_3)	HARDNESS, NONCARBONATE (MG/L CaCO_3)	CALCIUM DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)	SODIUM, DISSOLVED (MG/L AS Na)
DEC 13...	0915	796	8.1	6.0	270	74	59	30	56
APR 17...	1440	845	--	23.5	280	87	56	33	64
DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO_3)	CARBONATE (MG/L AS CO_3)	SULFATE DISSOLVED (MG/L AS SO_4)	CHLORIDE, DISSOLVED (MG/L AS Cl)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SiO_2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
DEC 13...	1.5	12	240	0	96	74	.3	2.7	448
APR 17...	1.7	13	230	0	100	86	.4	1.4	467

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 September 1975, October 1976 to current year.

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

211

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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 323 ft³/s (9.15 m³/s) June 6, gage height, 8.81 ft (2.685 m), no other peak above base of 300 ft³/s (8.50 m³/s); minimum, 0.02 ft³/s (0.001 m³/s) Aug. 28, 29.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.96	1.0	1.3	1.7	1.8	1.5	1.5	1.0	5.4	.49	.41	.04
2	.89	.96	1.2	1.8	1.7	1.5	1.5	1.5	2.9	.49	.41	.04
3	.85	1.0	1.3	1.8	1.7	1.5	1.4	1.5	2.5	.49	.41	.04
4	.92	1.0	1.4	1.8	1.7	1.5	1.5	1.3	2.2	.49	.41	.05
5	1.0	1.0	1.3	1.8	1.7	1.5	1.4	1.2	2.0	.48	.42	.04
6	1.0	1.0	1.3	1.8	1.7	1.5	1.4	1.1	80	.46	.44	.05
7	1.1	1.0	1.3	1.9	1.8	1.5	1.4	1.1	50	.48	.46	.06
8	1.4	1.1	1.4	1.8	1.8	1.4	1.4	1.1	5.4	.46	.45	.06
9	1.1	1.1	1.3	1.8	1.8	1.5	1.5	1.1	1.7	.46	.44	.06
10	1.1	1.0	1.3	1.7	1.7	1.5	1.5	1.1	1.1	.46	.43	.06
11	.93	1.1	1.4	1.8	1.7	1.6	1.4	1.1	.87	.45	.43	.06
12	.94	1.1	1.4	1.8	2.0	1.6	1.4	1.1	.81	.45	.42	.06
13	.99	1.1	1.4	1.8	1.8	1.6	1.4	1.1	.77	.46	.41	.06
14	1.0	1.1	1.5	1.8	1.7	1.5	1.4	1.0	.72	.45	.41	.06
15	.94	1.1	1.5	1.8	1.7	1.6	1.4	1.0	.68	.43	.40	.06
16	.93	1.2	1.5	1.9	1.7	1.5	1.4	1.1	.64	.38	.40	.06
17	.92	1.1	1.4	1.8	1.8	1.6	1.3	1.0	.62	.39	.40	.07
18	.92	1.2	1.5	1.9	1.7	1.6	1.3	1.0	.60	.40	.38	4.4
19	.93	1.2	1.5	1.8	1.6	1.6	1.3	1.0	.60	.40	.38	.73
20	.92	1.2	1.5	1.7	1.6	1.6	1.3	4.1	.59	.40	.41	.46
21	.92	1.2	1.5	1.7	1.5	1.5	1.3	40	.57	.39	.44	31
22	1.0	1.2	1.6	1.7	1.5	1.6	1.3	5.1	.56	.40	.44	3.1
23	1.0	1.2	1.6	1.7	1.5	1.6	1.2	2.1	.54	.47	.43	.91
24	1.0	1.2	1.6	1.7	1.5	1.6	1.1	1.5	.52	.50	.30	.56
25	.97	1.1	1.6	1.7	1.5	1.5	1.1	1.3	.52	.50	.03	.56
26	.96	1.1	1.7	1.7	1.5	1.5	1.1	1.2	.50	.48	.03	.92
27	.98	1.2	1.7	1.6	1.6	1.5	1.5	1.2	.46	.48	.03	.74
28	1.0	1.1	1.7	1.6	1.5	1.5	1.2	1.2	.49	.44	.03	.56
29	1.0	1.1	1.7	1.6	---	1.5	1.1	3.5	.48	.42	.03	.55
30	1.0	1.3	1.7	1.7	---	1.5	1.0	88	.49	.41	.03	.54
31	1.0	---	1.8	1.8	---	1.5	---	10	---	.40	.03	---
TOTAL	30.57	33.26	45.9	54.5	46.8	47.5	40.0	180.6	165.23	13.86	10.14	45.96
MEAN	.99	1.11	1.48	1.76	1.67	1.53	1.33	5.83	5.51	.45	.33	1.53
MAX	1.4	1.3	1.8	1.9	2.0	1.6	1.5	.88	.80	.50	.46	.31
MIN	.85	.96	1.2	1.6	1.5	1.4	1.0	1.0	.46	.38	.03	.04
CFSM	.004	.005	.006	.008	.007	.007	.006	.03	.02	.002	.001	.007
IN.	.00	.01	.01	.01	.01	.01	.01	.03	.03	.00	.00	.01
AC-FT	61	66	91	108	93	94	79	358	328	27	20	91
CAL YR 1977	TOTAL	1087.34	MEAN 2.98	MAX 156	MIN .85	CFSM .01	IN .18	AC-FT 2160				
WTR YR 1978	TOTAL	714.32	MEAN 1.96	MAX 88	MIN .03	CFSM .009	IN .12	AC-FT 1420				

BRAZOS RIVER BASIN

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records good. Lake Sweetwater, capacity 11,900 acre-ft (14.7 hm³), is located on a tributary upstream from gage.

AVERAGE DISCHARGE.--11 years, 46.9 ft³/s (1.328 m³/s), 33,980 acre-ft/yr (41.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,170 ft³/s (175 m³/s) Sept. 11, 1969, gage height, 19.31 ft (5.886 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.--Maximum discharge, 2,540 ft³/s (71.9 m³/s) Aug. 4, gage height, 14.64 ft (4.462 m), no other peak above base of 500 ft³/s (14.2 m³/s); no flow July 30, 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	5.8	7.1	8.3	9.5	9.8	10	3.8	60	3.2	.03	2.2
2	4.2	5.7	7.0	8.3	9.5	9.4	9.9	4.4	63	2.3	.02	3.1
3	4.2	5.7	6.9	8.3	9.5	9.7	8.6	5.0	22	3.0	428	2.9
4	4.2	5.6	7.0	8.3	9.6	10	7.1	5.1	13	3.9	2010	2.3
5	4.9	5.6	7.1	8.3	9.7	9.6	7.0	4.9	11	2.5	350	52
6	5.2	5.6	7.0	8.4	9.6	9.2	7.1	9.3	12	1.8	49	13
7	5.0	5.6	6.8	8.2	10	9.2	6.8	6.3	147	1.9	19	7.2
8	5.1	6.0	6.7	8.2	10	9.6	6.5	5.1	374	2.3	12	13
9	5.2	5.9	6.7	8.2	11	9.7	6.8	4.6	170	3.1	9.2	14
10	5.3	6.1	6.6	8.2	11	9.5	15	4.4	53	3.0	7.6	13
11	5.1	6.4	6.8	8.2	11	9.5	12	4.5	24	2.0	6.3	7.8
12	5.0	6.3	7.3	8.3	17	9.4	10	4.4	15	1.8	5.3	5.7
13	5.1	6.1	7.3	8.5	16	9.3	7.7	3.9	11	1.8	4.7	88
14	5.2	6.1	7.2	8.6	16	9.2	6.7	3.5	8.4	1.7	4.1	12
15	5.3	6.1	7.4	8.9	14	9.2	6.3	3.4	7.0	1.1	3.7	5.4
16	5.2	6.0	7.5	9.4	14	9.1	5.7	3.4	5.9	.82	3.3	3.7
17	5.0	6.0	7.3	9.3	13	9.0	5.7	3.1	5.4	.67	3.0	2.9
18	5.2	6.0	7.1	9.2	12	8.9	5.2	2.9	4.9	.53	2.8	2.7
19	5.3	6.3	7.1	9.2	12	8.7	5.0	2.9	4.7	.46	2.6	2.8
20	5.3	6.4	7.0	9.1	11	8.3	4.8	3.5	4.4	.50	2.5	3.4
21	5.1	6.6	7.0	9.0	11	8.1	4.8	7.5	4.2	.41	2.4	88
22	5.9	6.5	7.1	8.9	11	7.9	4.5	8.1	3.9	.29	2.3	254
23	6.9	6.6	7.2	8.9	11	8.2	4.2	16	3.3	.14	2.2	95
24	7.0	6.9	7.2	8.9	10	8.6	4.8	29	2.8	.00	2.2	28
25	5.9	6.9	7.2	9.1	10	8.2	4.7	12	2.6	.80	2.2	101
26	5.4	6.8	7.2	9.1	9.8	8.4	4.5	7.1	2.6	1.5	2.4	234
27	5.4	6.8	7.5	9.1	9.7	8.6	4.4	5.9	2.5	.35	3.0	71
28	5.4	6.7	7.5	9.0	9.8	8.7	3.8	5.0	2.6	.06	2.3	36
29	5.5	6.9	8.0	9.0	---	8.8	4.1	5.2	2.7	.03	2.3	22
30	5.5	7.0	8.2	8.9	---	9.2	3.9	87	3.0	.00	2.2	15
31	5.5	---	8.2	9.2	---	9.8	---	17	---	.00	2.2	---
TOTAL	162.6	187.0	223.2	270.5	317.7	280.8	197.6	288.2	1045.9	41.96	2948.85	1201.1
MEAN	5.25	6.23	7.20	8.73	11.3	9.06	6.59	9.30	34.9	1.35	95.1	40.0
MAX	7.0	7.0	8.2	9.4	17	10	15	87	374	3.9	2010	254
MIN	4.1	5.6	6.6	8.2	9.5	7.9	3.8	2.9	2.5	.00	.02	2.2
AC-FT	323	371	443	537	630	557	392	572	2070	83	5850	2380
CAL YR 1977	TOTAL	9553.70	MEAN 26.2	MAX 937	MIN 4.1	AC-FT 18950						
WTR YR 1978	TOTAL	7165.41	MEAN 19.6	MAX 2010	MIN .00	AC-FT 14210						

BRAZOS RIVER BASIN

213

08083240 CLEAR FORK BRAZOS RIVER AT HAWLEY, TX--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to current year.

WATER TEMPERATURES: October 1967 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1967-70, 1972-78): Maximum daily, 11,500 micromhos Oct. 5, 1969; minimum daily, 163 micromhos Sept. 11, 1969.

WATER TEMPERATURES (1967-69, 1972-78): Maximum daily, 30.5°C July 12-15, 1978; minimum daily, 0.0°C Dec. 16, 1967, Jan. 3, 4, 1974.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 7,210 micromhos May 28; minimum daily, 345 micromhos Aug. 4.

WATER TEMPERATURES: Maximum daily, 30.5°C July 12-15; minimum daily, 2.0°C Feb. 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 03...	1410	4.2	3350	7.8	26.0	1100	860	250	110	360
NOV 30...	1750	6.9	5350	8.0	13.5	1700	1600	420	170	650
FEB 28...	1730	9.8	5130	--	14.5	1700	1500	420	160	590
MAR 31...	1730	9.8	5060	8.0	18.0	1600	1400	370	160	530
APR 17...	1430	5.6	5210	8.1	22.5	1800	1600	390	190	600
MAY 31...	0945	18	1240	--	24.0	340	240	94	25	130
JUL 05...	1410	2.3	3010	--	28.0	990	770	240	94	310
AUG 05...	0755	377	353	--	22.0	130	34	40	7.9	14
SEP 30...	1350	14	1850	--	22.0	560	390	130	56	180

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
OCT 03...	4.8	7.2	270	0	950	470	.6	12	2290
NOV 30...	6.8	7.9	200	0	1700	850	--	14	3910
FEB 28...	6.2	6.7	230	0	1600	790	--	6.5	3690
MAR 31...	5.8	7.0	220	0	1400	750	--	2.0	3330
APR 17...	6.2	8.6	230	0	1700	870	--	4.7	3880
MAY 31...	3.1	6.9	120	0	290	150	.4	10	765
JUL 05...	4.3	8.0	260	0	830	430	.6	14	2050
AUG 05...	.5	6.5	120	0	48	23	.2	11	210
SEP 30...	3.3	9.4	200	0	420	260	.3	13	1170

BRAZOS RIVER BASIN

08083240 CLEAR FORK BRAZOS RIVER AT HAWLEY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	162.6	4240	3050	1340	660	289	1280	562	1390
NOV. 1977.....	186	5240	3810	1920	830	416	1630	825	1720
DEC. 1977.....	223.2	5350	3900	2350	840	509	1670	1010	1750
JAN. 1978.....	270.5	5430	3950	2890	860	625	1700	1240	1780
FEB. 1978.....	317.7	5190	3770	3240	820	702	1620	1390	1700
MAR. 1978.....	280.8	5170	3760	2850	810	617	1610	1220	1690
APR. 1978.....	197.6	5000	3670	1930	780	418	1550	825	1640
MAY 1978.....	288.2	3600	2570	2000	550	427	1050	818	1170
JUNE 1978.....	1045.9	1340	890	2500	170	479	290	825	430
JULY 1978.....	41.96	3200	2250	254	480	55	910	103	1040
AUG. 1978.....	2948.85	477	290	2280	45	356	74	588	150
SEPT 1978.....	1201.1	1150	720	2340	130	436	200	661	360
TOTAL	7165.4	**	**	25900	**	5330	**	10100	**
WTD.AVG.	19.63	1920	1300	**	270	**	520	**	620

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3290	5190	5450	5510	5410	5140	5100	5140	3000	2930	2700	3100
2	3310	5100	5440	5490	5430	5140	5130	4910	4410	3050	2430	3080
3	3290	5000	5450	5410	5440	5130	5100	4870	3070	3020	493	3090
4	3420	4910	5380	5480	5340	5110	5150	4850	2810	3000	345	3100
5	3620	4870	5390	5500	5440	5130	5190	4820	2760	3050	540	1800
6	3420	4880	5400	5470	5430	5080	5100	4760	2550	3270	900	2000
7	3620	4890	5230	5490	5200	5060	5050	4910	714	3250	1370	2500
8	3700	5100	5300	5500	5280	5190	5060	5460	592	3170	1680	2140
9	3690	5200	5380	5000	5290	5220	4980	5520	1130	3100	2430	1620
10	3670	5250	5350	5400	5430	5170	5050	5180	1080	3150	2130	2200
11	3610	5270	5150	5460	5400	5150	5070	5220	1020	3290	2430	3070
12	3800	5220	5250	5470	5340	5250	5050	5250	1140	3300	2380	3100
13	3990	5320	5280	5450	5300	5230	3970	5510	1410	3330	2540	559
14	4130	5220	5250	5440	5250	5210	4780	5460	1400	3310	2760	750
15	4210	5240	5270	5120	5200	5220	4570	5170	1550	3330	2770	1100
16	4290	5250	5260	5440	5150	5210	4900	5460	1660	3320	2780	1260
17	4470	5260	5250	5410	5200	5260	5180	5050	1970	3490	3020	1450
18	4500	5280	5430	5480	5150	5280	5280	5100	1900	3400	3040	1610
19	4560	5270	5450	5440	4770	5300	5240	5110	1870	3520	3000	1790
20	4500	5350	5250	5470	5020	5220	5270	5050	2000	3330	2940	2010
21	4470	5420	5470	5500	4950	5170	4780	4900	2150	3490	3020	1500
22	4510	5270	5450	5480	4920	5220	4820	4850	2700	3550	2930	1180
23	4880	5300	5430	5440	4890	5250	4780	4490	2550	3460	3140	873
24	4900	5360	5350	5410	4900	5130	5000	4000	2420	---	3120	1500
25	4910	5420	5280	5400	4920	5210	4930	4770	2600	3590	3140	1000
26	4890	5450	5430	5410	5100	5250	4970	5220	2750	3840	3070	735
27	4510	5460	5400	5430	5060	5150	5000	7160	2780	3470	3170	783
28	4960	5220	5360	5440	5130	5080	5100	7210	2840	3460	3070	1330
29	4910	5420	5380	5470	---	5060	5120	6920	2860	3830	3170	1650
30	4960	5460	5390	5450	---	5040	5060	1000	2900	---	3100	1850
31	4990	---	5420	5440	---	5020	---	1560	---	---	3170	---
MEAN	4190	5230	5350	5430	5190	5170	4990	5000	2150	3330	2480	1790

BRAZOS RIVER BASIN

215

08083240 CLEAR FORK BRAZOS RIVER AT HAWLEY, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

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

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 Clear Fork Brazos River.

DRAINAGE AREA.--205 mi² (531 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR 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 good. No known diversion above station.

AVERAGE DISCHARGE.--10 years (water years 1969-78), 10.1 ft³/s (0.286 m³/s), 0.67 in/yr (17 mm/yr), 7,320 acre-ft/yr (9.03 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft³/s (70.8 m³/s), July 21, 1975, gage height, 15.53 ft (4.734 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1932, about 16.0 ft (4.88 m) in 1957, 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)
Aug. 4	0830	*1,770 50.1	13.98 4.261	Sept. 25	1600	329 9.32	6.90 2.103

Minimum discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.04	.01	.01	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.04	.01	.01	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.04	.01	.01	126	.00	513	.00
4	.00	.00	.00	.00	.00	.04	.01	.01	59	.00	1330	.00
5	.00	.00	.00	.00	.00	.04	.01	.01	44	.00	76	80
6	.00	.00	.00	.00	.00	.04	.01	.01	169	.00	23	14
7	.00	.00	.00	.00	.00	.04	.01	.01	112	.00	12	5.2
8	.00	.00	.00	.00	.00	.04	.01	.01	52	.00	9.1	8.8
9	.00	.00	.00	.00	.00	.04	.01	.01	40	.00	7.5	6.2
10	.00	.00	.00	.00	.00	.04	.01	.01	34	.00	6.8	3.5
11	.00	.00	.00	.00	.00	.04	.01	.01	30	.00	6.2	2.5
12	.00	.00	.00	.00	.00	.04	.01	.01	25	.00	5.4	2.0
13	.00	.00	.00	.00	.01	.04	.01	.01	20	.00	4.4	1.5
14	.00	.00	.00	.00	.03	.04	.01	.01	17	.00	3.6	1.0
15	.00	.00	.00	.00	.03	.04	.01	.01	13	.00	2.7	.61
16	.00	.00	.00	.00	.03	.04	.01	.01	9.9	.00	2.0	.27
17	.00	.00	.00	.00	.03	.04	.01	.01	7.4	.00	1.2	.10
18	.00	.00	.00	.00	.03	.04	.01	.01	5.3	.00	.71	.03
19	.00	.00	.00	.00	.03	.03	.01	.01	3.6	.00	.37	.00
20	.00	.00	.00	.00	.04	.03	.01	.01	2.3	.00	.19	.00
21	.00	.00	.00	.00	.04	.03	.01	.00	1.3	.00	.09	.00
22	.00	.00	.00	.00	.04	.02	.01	.00	.56	.00	.04	4.5
23	.00	.00	.00	.00	.04	.02	.01	.00	.17	.00	.01	8.1
24	.00	.00	.00	.00	.04	.02	.01	.00	.03	.00	.00	5.3
25	.00	.00	.00	.00	.04	.02	.01	.00	.00	.00	.00	160
26	.00	.00	.00	.00	.04	.01	.01	.00	.00	.00	.00	23
27	.00	.00	.00	.00	.04	.01	.01	.00	.00	.00	.00	7.8
28	.00	.00	.00	.00	.04	.01	.01	.00	.00	.00	.00	3.7
29	.00	.00	.00	.00	---	.01	.01	.00	.00	.00	.00	1.9
30	.00	.00	.00	.00	---	.01	.01	.00	.00	.00	.00	.82
31	.00	---	.00	.00	---	.01	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.55	.95	.30	.20	771.56	.00	2004.31	340.83
MEAN	.000	.000	.000	.000	.020	.031	.010	.006	25.7	.000	64.7	11.4
MAX	.00	.00	.00	.00	.04	.04	.01	.01	169	.00	1330	160
MIN	.00	.00	.00	.00	.00	.01	.01	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.000	.000	.000	.000	.13	.000	.32	.06
IN.	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.36	.06
AC-FT	.00	.00	.00	.00	1.1	1.9	.6	.4	1530	.00	3980	676
CAL YR 1977	TOTAL	1789.02	MEAN 4.90	MAX 223	MIN .00	CFSM .02	IN .32	AC-FT 3550				
WTR YR 1978	TOTAL	3118.70	MEAN 8.54	MAX 1330	MIN .00	CFSM .04	IN .57	AC-FT 6190				

BRAZOS RIVER BASIN

217

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)	SODIUM, DIS- SOLVED (MG/L AS NA)
MAR 13...	1340	.04	963	8.1	20.5	280	120	60	32	90
APR 17...	1335	.01	836	--	22.5	170	100	21	28	94
AUG 22...	0830	.02	1410	--	25.0	410	230	84	48	130

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAR 13...	2.3	8.0	200	0	110	140	.4	1.4	540
APR 17...	3.2	9.8	66	6	110	150	.3	1.5	453
AUG 22...	2.8	9.3	220	0	260	190	.4	13	843

08083300 ELM CREEK NEAR ABILENE, TX

LOCATION.--Lat 32°21'08", long 99°48'27", Taylor County, Hydrologic Unit 12060102, on right bank at upstream side of bridge on Farm Road 707, 2.8 mi (4.5 km) southeast of Caps, 7.5 mi (12.1 km) southwest of Abilene, and 35.1 mi (56.5 km) upstream from mouth.

DRAINAGE AREA.--133 mi² (344 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,804.15 ft (549.90 m) National Geodetic Vertical Datum of 1929 (Texas Department of Highways and Public Transportation bridge plans).

REMARKS.--Records good. Since 1921, flow largely regulated by Lake Abilene, capacity 7,900 acre-ft (9.74 hm³), 12 mi (19 km) upstream. Rain gage at station prior to May 31, 1978. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 10.2 ft³/s (0.289 m³/s), 7,390 acre-ft/yr (9.11 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,570 ft³/s (129 m³/s) Sept. 18, 1974, gage height, 18.68 ft (5.694 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,830 ft³/s (51.8 m³/s) Aug. 3, gage height, 13.26 ft (4.042 m); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.22	.66	1.3	.44	.06	.00	.00	.00	.00	2.0
2	.60	.00	.26	.62	1.3	.49	.00	.44	.00	.00	.00	1.1
3	.55	.00	.26	.66	1.1	.44	.00	.70	.00	.00	1050	.04
4	.03	.00	.26	.74	1.1	.44	.00	.02	.00	51	177	.00
5	.00	.00	.26	.77	1.0	.50	.00	.00	.00	.30	1.9	.00
6	.00	.00	.26	.77	.96	.55	.00	.00	.49	.00	.10	.00
7	.00	.00	.19	.81	1.3	.62	.00	.00	1.0	.00	.00	.00
8	.00	.00	.26	.77	1.3	.56	.00	.00	.02	.00	.00	.00
9	.00	.00	.38	.73	1.6	.56	1.5	.00	.00	.00	.00	3.7
10	.00	.00	.38	.62	1.1	.56	1.3	.00	.00	.00	.00	2.2
11	.00	.00	.38	.67	.98	.49	.26	.00	.00	.00	.00	.33
12	.00	.00	.44	.81	3.1	.49	.06	.00	.00	.00	.00	.01
13	.00	.00	.56	.91	.92	.49	.00	.00	.00	.00	.00	.00
14	.00	.00	.49	.94	.38	.44	.00	.00	.00	.00	.00	.00
15	.00	.00	.38	.85	.33	.33	.00	.00	.00	.00	.00	.00
16	.00	.00	.56	1.0	.33	.29	.00	.00	.00	.00	.00	.00
17	.00	.00	.49	.98	.32	.26	.00	.00	.00	.00	.00	.00
18	.00	.00	.26	.94	.31	.26	.00	.00	.00	.00	.00	.00
19	.00	.00	.26	.91	.29	.19	.00	.00	.00	.00	.00	.00
20	.00	.00	.25	.85	.29	.16	.00	.00	.00	.00	.00	.21
21	.00	.00	.25	.93	.29	.16	.00	.00	.00	.00	.00	.49
22	.00	.00	.32	.94	.29	.12	.00	.00	.00	.00	4.6	.00
23	.00	.00	.49	.94	.29	.10	.00	.00	.00	.00	.35	.00
24	.00	.00	.49	1.0	.29	.14	.00	.00	.00	.00	.00	44
25	.00	.06	.44	.94	.29	.14	.00	.00	.00	.00	.00	66
26	.00	.10	.44	.91	.33	.14	.00	.00	.00	.00	.00	.98
27	.00	.22	.44	.85	.44	.12	.00	.00	.00	.00	.00	.33
28	.00	.33	.49	.85	.44	.03	.00	3.6	.00	.00	.00	.03
29	.00	.22	.74	.85	---	.06	.00	5.7	.00	.00	.00	.01
30	.00	.22	.85	.96	---	.06	.00	.06	.00	.00	.00	.00
31	.00	---	.83	1.2	---	.08	---	.00	---	.00	.00	---
TOTAL	1.18	1.15	12.58	26.38	21.97	9.71	3.18	10.52	1.51	51.30	1233.95	121.43
MEAN	.038	.038	.41	.85	.78	.31	.11	.34	.050	1.65	39.8	4.05
MAX	.60	.33	.85	1.2	3.1	.62	1.5	5.7	1.0	51	1050	.66
MIN	.00	.00	.19	.62	.29	.03	.00	.00	.00	.00	.00	.00
AC-FT	2.3	2.3	25	52	44	19	6.3	21	3.0	102	2450	241
CAL YR 1977	TOTAL	2181.82	MEAN	5.98	MAX	179	MIN	.00	AC-FT	4330		
WTR YR 1978	TOTAL	1494.86	MEAN	4.10	MAX	1050	MIN	.00	AC-FT	2970		

BRAZOS RIVER BASIN

219

08083400 LITTLE ELM CREEK NEAR ABILENE, TX

LOCATION.--Lat 32°23'29", long 99°51'08", Taylor County, Hydrologic Unit 12060102, on right bank at downstream side of bridge on Farm Road 707, 1.2 mi (1.9 km) north of Caps, 4.6 mi (7.4 km) southwest of intersection of U.S. Highways 277 and 83 in Abilene, and 10.3 mi (16.6 km) upstream from mouth.

DRAINAGE AREA.--39.1 mi² (101.3 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 1,786.12 ft (544.409 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No known diversion above station. Rain gage at station prior to May 31, 1978.

AVERAGE DISCHARGE.--15 years, 2.19 ft³/s (0.0620 m³/s), 0.76 in/yr (19 mm/yr), 1,590 acre-ft/yr (1.96 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,180 ft³/s (61.7 m³/s) Sept. 18, 1974, gage height, 11.52 ft (3.511 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1903, about 15 ft (4.6 m) in 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,340 ft³/s (37.9 m³/s) Aug. 3, gage height, 9.50 ft (2.896 m), no other peak above base of 100 ft³/s (2.83 m³/s); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	2.6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
25	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.8
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.67
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
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	.00
30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL	2.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	795.45	9.51
MEAN	.086	.000	.000	.000	.000	.000	.000	.000	.000	.000	25.7	.32
MAX	2.6	.00	.00	.00	.00	.00	.00	.00	.00	.00	698	8.8
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000	.66	.008
IN.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.76	.01
AC-FT	5.3	.00	.00	.00	.00	.00	.00	.00	.00	.00	1580	19

CAL YR 1977 TOTAL 542.72 MEAN 1.49 MAX 276 MIN .00 CFSM .04 IN .52 AC-FT 1080
WTR YR 1978 TOTAL 807.63 MEAN 2.21 MAX 698 MIN .00 CFSM .06 IN .77 AC-FT 1600

BRAZOS RIVER BASIN

08083420 CAT CLAW CREEK AT ABILENE, TX

LOCATION.--Lat 32°28'31", long 99°44'56", Taylor County, Hydrologic Unit 12060102, in Sears Park 320 ft (98 m) downstream from bridge on Ambler Street in Abilene and 1.8 mi (2.9 km) upstream from mouth.

DRAINAGE AREA.--13.0 mi² (33.7 km²).

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,682.32 ft (512.77 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--8 years, 2.52 ft³/s (0.0714 m³/s), 2.63 in/yr (67 mm/yr), 1,830 acre-ft/yr (2.26 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,310 ft³/s (37.1 m³/s) Aug. 3, 1978, gage height, 6.60 ft (2.012 m); no flow for many days each year.

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)
Aug. 3	1800	*1,310 37.1	6.60 2.012	Sept. 24	2300	363 10.3	4.36 1.329

No flow most of time.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.21	.00	.00	.00	.15	.00	.00	15
2	2.6	.00	.00	.00	.00	.00	.00	24	21	.00	.00	5.2
3	.04	.00	.00	.00	.00	.01	.00	1.7	6.4	27	431	.01
4	.00	.00	.00	.00	.00	.00	.00	.04	.01	7.6	115	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	3.4	.00	5.9	.00
6	.00	.00	.00	.00	.39	.00	.00	.00	52	.00	.43	.00
7	.00	.01	.00	.00	3.0	.00	.00	.00	1.6	.00	.00	.23
8	.00	6.2	.01	.00	.27	.00	.00	.00	.01	.00	.00	13
9	.00	.10	.00	.00	1.4	.00	23	.00	.00	.00	.74	.19
10	.00	.00	.00	.00	.05	.00	2.3	.00	.00	.00	.06	.00
11	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	26	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.25	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.33	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.23	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.11	.00	.00	4.5	.00	.00	.00	.00
21	.00	.00	.00	.00	.01	.00	.00	.93	.00	.00	.73	12
22	21	.00	.00	.00	.00	.00	.00	.20	.00	.02	.13	.08
23	.09	.00	.00	.00	.00	.87	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	22
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	21
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	11
27	4.3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.8
28	1.6	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.9	.29
29	.01	.00	.01	.00	---	.00	.00	4.0	.00	.00	.06	.00
30	.01	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.02	---	.00	.32	---	.00	---	.00	---	.00	.00	---
TOTAL	29.67	6.31	.02	.39	32.25	.90	25.31	35.37	84.57	34.62	555.95	105.80
MEAN	.96	.21	.001	.013	1.15	.029	.84	1.14	2.82	1.12	17.9	3.53
MAX	21	6.2	.01	.32	26	.87	23	24	52	27	431	22
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.07	.02	.000	.001	.09	.002	.07	.09	.22	.09	1.38	.27
IN.	.08	.02	.00	.00	.09	.00	.07	.10	.24	.10	1.59	.30
AC-FT	59	13	.04	.8	64	1.8	50	70	168	69	1100	210

CAL YR 1977	TOTAL 378.82	MEAN 1.04	MAX 98	MIN .00	CFSM .08	IN 1.08	AC-FT 751
WTR YR 1978	TOTAL 911.16	MEAN 2.50	MAX 431	MIN .00	CFSM .19	IN 2.61	AC-FT 1810

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 good except those for period of no gage-height record, which are fair. Flow is partly regulated by Lytle Lake, capacity 1,200 acre-ft (1.48 hm³), and Lake Kirby, capacity 7,620 acre-ft (9.40 hm³). Records furnished by the city of Abilene show that 2,020 acre-ft (2.49 hm³) was diverted from Lake Kirby during the current year. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years, 6.30 ft³/s (0.178 m³/s), 4,560 acre-ft/yr (5.62 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, 3,830 ft³/s (108 m³/s) Aug. 4, gage height, 11.93 ft (3.636 m); no flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	1.7	.43	.17	.21	.33	.15	.06	.10	.00	.76	12
2	2.9	.13	.43	.17	.04	.38	.16	16	15	.00	.94	4.1
3	.58	.12	.43	.35	.08	1.4	.17	2.5	13	25	931	.36
4	.37	.12	.42	.18	.05	.44	.17	.24	.17	18	882	1.5
5	.13	.16	.43	1.1	.05	.34	.36	.13	3.4	.40	55	2.3
6	.20	.19	.40	.31	.61	.37	.28	.14	38	.08	9.6	2.3
7	.89	.21	.52	.18	2.1	.41	.16	.10	3.9	.00	4.7	3.7
8	.14	6.5	.50	.15	.57	.30	1.3	.06	.15	.00	2.3	13
9	.18	.49	.56	.14	1.8	.30	18	.04	.12	.00	5.6	2.5
10	.96	.21	.43	.12	.33	.30	6.6	.07	.10	.00	1.3	.89
11	.12	.21	.47	.12	1.3	.31	.35	.10	.08	.13	1.1	.90
12	.15	.24	.57	.16	20	.26	.18	.05	.06	.00	1.7	1.7
13	.16	.27	.27	.17	.96	.26	.14	.02	.04	.00	1.2	1.7
14	.18	.29	.21	.15	.30	.26	.13	.03	.02	.00	2.0	1.5
15	.28	.32	.48	1.2	.51	.24	.13	.02	.01	.00	1.9	.18
16	.44	.30	.47	1.2	.25	.24	.13	.01	.01	.00	.62	.26
17	.27	.29	.37	.12	2.2	.23	.13	.00	.00	.00	.53	.22
18	.51	.26	.40	.13	.48	.22	.12	.00	.00	.00	.85	.23
19	.24	.31	.42	.05	.30	.24	.12	.00	.00	.00	.54	.22
20	.18	.27	.40	.04	.26	.25	.14	6.7	.00	.00	.32	.21
21	.18	.22	.37	.04	.35	.27	.15	6.7	.00	.00	2.2	5.1
22	19	.30	.60	.03	.43	.29	.14	1.9	.00	2.5	1.1	.38
23	.44	.31	.59	.01	.53	1.7	.13	.06	.00	.10	.22	.59
24	.17	.31	.43	.00	.48	.20	.12	.01	.00	.08	.21	7.8
25	.13	.32	.37	.07	.39	.15	.09	.00	.00	.00	.20	25
26	.11	.34	.37	.00	.37	.19	.10	.00	.00	.00	.28	8.5
27	3.6	.32	.37	.00	.44	.17	.08	.00	.00	.00	.30	5.8
28	2.4	.34	.49	.00	.39	.15	.07	.07	.00	.00	1.5	1.6
29	.21	.42	1.7	.00	---	.14	.08	6.6	.00	.00	.32	.78
30	1.5	.43	.22	.00	---	.17	.06	.21	.00	.00	.66	.52
31	.46	---	.21	1.8	---	.15	---	.14	---	.00	.64	---
TOTAL	37.10	15.90	14.33	8.16	35.78	10.66	29.94	41.96	74.16	46.29	1911.59	105.84
MEAN	1.20	.53	.46	.26	1.28	.34	1.00	1.35	2.47	1.49	61.7	3.53
MAX	19	6.5	1.7	1.8	20	1.7	18	16	38	25	931	25
MIN	.02	.12	.21	.00	.04	.14	.06	.00	.00	.00	.20	.18
AC-FT	74	32	28	16	71	21	59	83	147	92	3790	210

CAL YR 1977 TOTAL 535.05 MEAN 1.47 MAX 53 MIN .00 AC-FT 1060
WTR YR 1978 TOTAL 2331.71 MEAN 6.39 MAX 931 MIN .00 AC-FT 4620

NOTE.--No gage-height record June 3 to July 3.

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 ft (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 4,180 acre-ft (5.15 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 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, 50,990 acre-ft (62.9 hm³) Oct. 1, gage height, 48.6 ft (14.81 m); minimum, 26,590 acre-ft (32.8 hm³) Aug. 2, gage height, 38.8 ft (11.83 m).

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

38.0	25,070
43.0	35,630
47.0	46,160
49.0	52,230

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50990	48230	45870	43610	41980	41180	38850	35400	32640	30660	26780	47940
2	50680	48230	45870	43330	41980	41180	38850	35400	32640	30660	26590	47940
3	50370	47940	45870	43330	41980	41180	38850	35630	32640	30450	26780	47640
4	50680	47940	45590	43330	41980	41180	38590	35400	32640	30450	38590	47640
5	50370	47940	45590	43330	41720	40910	38590	35400	32640	30450	49130	47640
6	50370	47940	45590	43330	41720	40910	38340	35400	32640	30450	50370	47640
7	50370	47640	45590	43060	41720	40910	38340	35170	33080	30450	50370	47640
8	50060	47640	45310	43060	41720	40910	38080	35170	33300	30240	50370	47640
9	50060	47640	45310	43060	41720	40640	38080	35170	33770	30240	50370	47640
10	49750	47640	45030	43060	41720	40640	38080	34930	33770	30030	50370	47640
11	49750	47340	45030	42790	41720	40640	38080	34930	33540	29820	50060	47640
12	49440	47340	45030	42790	41720	40640	38080	34700	33540	29610	50060	47640
13	49440	47340	45030	42790	41980	40640	37830	34700	33300	29390	50060	47640
14	49440	47340	45030	42790	41980	40380	37830	34470	33300	29390	49750	47340
15	49130	47050	45030	42790	41720	40380	37590	34470	33300	29180	49750	47340
16	49130	47050	44740	42790	41720	40380	37590	34230	33080	29180	49750	47050
17	49130	47050	44740	42520	41720	40130	37590	34000	33080	28970	49440	47050
18	48830	47050	44460	42520	41720	40130	37350	33770	32860	28770	49440	46750
19	48830	46750	44460	42520	41720	40130	37100	33770	32640	28770	49440	46750
20	48830	46750	44460	42520	41720	40130	37100	33770	32640	28570	49130	46750
21	48530	46750	44180	42520	41720	39870	36860	33540	32410	28370	48830	46750
22	48530	46750	44180	42520	41450	39870	36860	33540	32190	28170	48830	46750
23	48530	46450	44180	42520	41450	39620	36610	33300	31970	28170	48830	46450
24	48530	46450	44180	42250	41450	39620	36610	33300	31970	27970	48530	46450
25	48530	46450	43890	42250	41450	39620	36370	33080	31750	27770	48530	46450
26	48530	46450	43890	42250	41450	39360	36120	33080	31530	27570	48530	47340
27	48530	46450	43890	42250	41450	39360	36120	32860	31300	27570	48230	47940
28	48530	46160	43610	42250	41180	39360	35880	32860	31080	27370	48230	47940
29	48530	46160	43610	41980	---	39100	35880	32640	30870	27370	48230	47940
30	48530	45870	43610	41980	---	39100	35630	32640	30870	27170	47940	47940
31	48530	---	43610	41980	---	39100	---	32640	---	26970	47940	---
MAX	50990	48230	45870	43610	41980	41180	38850	35630	33770	30660	50370	47940
MIN	48530	45870	43610	41980	41180	39100	35630	32640	30870	26970	26590	46450
(†)	47.8	46.9	46.1	45.5	45.2	44.4	43.0	41.7	40.9	39.0	47.6	47.6
(+)	-2460	-2660	-2260	-1630	-800	-2080	-3470	-2990	-1770	-3900	+20970	0
(††)	1700	1330	1420	1260	1280	1780	2340	2030	2340	2670	1570	1060
CAL YR 1977	MAX	69930	MIN	43610	†	-19910	††	22480				
WTR YR 1978	MAX	50990	MIN	26590	†	-3050	††	20780				

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

† Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use.

BRAZOS RIVER BASIN

223

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO
JUN 15...	0750	945	26.0	260	100	52	31	92	2.5
JUL 25...	1345	987	30.0	250	100	47	32	97	2.7

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	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)
JUN 15...	9.1	190	0	120	140	.4	1.5	540
JUL 25...	10	180	0	100	150	.5	.6	526

08084000 CLEAR FORK BRAZOS RIVER AT NUGENT, TX

LOCATION.--Lat 32°41'24", Long 99°40'09", Jones County, Hydrologic Unit 12060102, on right bank 33 ft (10 m) downstream from bridge on Farm Road 600 at Nugent, 2 mi (3 km) downstream from Elm Creek, 4 mi (6 km) upstream from Deadman Creek, and 167.8 mi (270.0 km) upstream from mouth.

DRAINAGE AREA.--2,199 mi² (5,695 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1924 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,531.91 ft (466.926 m) National Geodetic Vertical Datum of 1929 (levels by Brazos River Authority). Prior to Dec. 12, 1933, nonrecording gage at site 575 ft (175 m) downstream at same datum.

REMARKS.--Water-discharge records good. Flow affected by four reservoirs with a capacity of 103,600 acre-ft (128 hm³). Numerous diversions above station for municipal supply and oilfield operation materially affect low flow. See table below for records of diversions from river above station into Fort Phantom Hill Reservoir.

AVERAGE DISCHARGE.--14 years (water years 1925-38) prior to completion of Fort Phantom Hill Reservoir, 186 ft³/s (5.268 m³/s), 134,800 acre-ft/yr (166 hm³/yr); 40 years (water years 1939-78) partially regulated, 83.0 ft³/s (2.351 m³/s), 60,130 acre-ft/yr (74.1 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, 2,840 ft³/s (80.4 m³/s) Aug. 4, gage height, 9.97 ft (3.039 m); no flow July 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	9.4	12	12	15	14	12	5.0	12	.05	.01	2.7
2	7.3	9.2	12	9.1	14	14	12	4.8	63	.04	.02	2.6
3	7.3	8.7	12	9.8	14	13	11	5.6	69	.04	537	4.0
4	7.5	7.9	12	12	14	13	12	5.4	54	16	2370	10
5	8.4	8.1	11	12	13	14	12	4.3	12	2.6	1010	40
6	9.5	8.4	11	13	14	13	12	3.6	58	.84	145	50
7	10	8.4	10	13	14	13	12	5.9	95	.36	42	20
8	9.2	10	10	12	14	13	9.4	9.4	124	.14	20	15
9	8.8	9.0	10	12	15	13	7.3	7.6	25	.07	26	15
10	9.0	8.9	9.8	12	15	13	9.6	6.4	70	.07	26	20
11	8.3	9.1	10	12	15	13	17	6.3	30	.06	8.2	10
12	7.8	9.7	10	13	18	12	23	6.3	17	.04	6.8	9.0
13	7.9	10	11	12	23	12	21	6.1	12	.02	5.5	10
14	7.9	10	12	12	23	11	14	5.4	8.0	.02	5.7	100
15	7.3	11	12	12	23	12	11	4.1	5.6	.01	5.0	20
16	7.4	10	12	13	21	13	10	3.5	4.0	.01	4.7	10
17	7.8	10	11	14	21	12	9.1	3.5	3.5	.02	4.5	5.0
18	7.8	9.9	10	14	19	11	8.0	3.7	3.5	.02	4.6	4.0
19	7.8	10	10	14	17	11	8.1	3.1	2.6	.02	4.5	3.5
20	8.3	10	10	14	16	12	7.2	3.4	2.3	.02	4.0	3.6
21	7.6	11	9.8	14	15	12	6.3	4.5	1.2	.02	4.5	5.5
22	9.7	10	9.9	14	15	11	5.5	7.8	.25	.03	11	264
23	10	11	10	14	14	11	4.4	6.1	.06	.04	3.3	181
24	11	11	10	14	14	12	3.3	21	.04	.06	2.5	50
25	13	12	10	14	14	12	2.8	22	.79	.06	2.3	169
26	11	12	11	16	13	12	2.5	9.4	.74	.03	2.6	195
27	9.9	12	11	16	14	12	2.2	5.0	.24	.02	3.0	39
28	9.3	11	11	16	13	12	2.4	3.8	.10	.01	3.1	57
29	9.6	11	12	16	---	10	3.3	4.4	.07	.00	3.2	35
30	9.9	11	12	16	---	9.3	4.4	34	.06	.01	2.8	22
31	9.9	---	13	16	---	11	---	41	---	.01	2.7	---
TOTAL	273.5	299.7	337.5	412.9	450	376.3	274.8	262.4	674.05	20.74	4270.53	1371.9
MEAN	8.82	9.99	10.9	13.3	16.1	12.1	9.16	8.46	22.5	.67	138	45.7
MAX	13	12	13	16	23	14	23	41	124	16	2370	264
MIN	7.3	7.9	9.8	9.1	13	9.3	2.2	3.1	.04	.00	.01	2.6
AC-FT	542	594	669	819	893	746	545	520	1340	41	8470	2720
(††)	0	0	0	0	0	0	0	0	950	0	2720	512
CAL YR 1977	TOTAL	13687.50	MEAN	37.5	MAX	992	MIN	4.0	AC-FT	27150	††	0
WTR YR 1978	TOTAL	9024.32	MEAN	24.7	MAX	2370	MIN	.00	AC-FT	17900	††	4180

†† Diversions, in acre-feet, into Fort Phantom Hill Reservoir from river above station.

BRAZOS RIVER BASIN

225

08084000 CLEAR FORK BRAZOS RIVER AT NUGENT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1948 to September 1953. Chemical and biochemical analyses: February 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	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)
DATE	TIME			(UNITS)						
OCT 18...	1515	7.8	3110	7.7	17.5	8.2	89	1.0	1000	800
DEC 13...	1300	12	4570	7.8	10.5	10.4	97	.8	1600	1300
MAR 02...	1125	14	4390	7.8	11.0	9.9	94	.2	1500	1300
APR 13...	1520	16	4700	8.0	24.0	9.0	110	2.1	1700	1400
JUN 15...	1015	5.8	1260	7.4	26.5	5.7	72	2.2	390	240
AUG 17...	1130	4.5	1400	7.9	28.0	5.8	74	3.9	460	290
	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
DATE										
OCT 18...	250	100	340	4.6	7.0	290	0	870	480	.6
DEC 13...	380	160	570	6.2	7.7	330	0	1400	730	.6
MAR 02...	370	150	490	5.4	7.1	270	0	1300	690	.6
APR 13...	400	160	540	5.8	7.7	290	0	1500	710	.6
JUN 15...	95	36	120	2.7	7.7	180	0	260	160	.4
AUG 17...	110	44	140	2.9	7.2	200	0	210	260	.3
	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, 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)	
DATE										
OCT 18...	11	2200	.77	.05	.82	.06	.54	.60	.13	
DEC 13...	13	3420	3.0	.01	3.0	.10	.48	.58	.03	
MAR 02...	5.2	3150	1.1	.01	1.1	.01	.68	.69	.12	
APR 13...	4.6	3470	.30	.02	.32	.03	.79	.82	.08	
JUN 15...	14	782	.13	.02	.15	.03	1.5	1.5	.10	
AUG 17...	14	884	.03	.01	.04	.04	.96	1.0	.10	

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.

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	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)
DATE	TIME			(UNITS)						
OCT 18...	1400	21	1680	8.2	22.0	11.6	136	12	290	97
DEC 13...	1345	23	1650	8.2	12.0	12.9	124	44	280	120
MAR 02...	1045	15	1850	7.8	12.0	9.4	90	20	330	39
APR 13...	1400	1.5	2400	9.4	26.5	>20.0	>253	59	400	130
JUN 15...	0900	7.6	1940	7.4	25.0	2.4	30	12	330	100
AUG 17...	1010	6.4	2100	8.5	25.0	9.2	114	4.6	460	210
	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
DATE										
OCT 18...	50	41	240	6.1	20	240	0	230	260	1.0
DEC 13...	49	38	240	6.3	21	190	0	240	270	.9
MAR 02...	63	41	260	6.3	21	350	0	210	290	1.0
APR 13...	73	53	370	8.0	22	210	57	340	400	1.0
JUN 15...	63	42	280	6.7	21	280	0	240	340	.8
AUG 17...	110	45	270	5.5	12	280	10	230	400	.7
	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)	
DATE										
OCT 18...	12	972	2.0	.61	2.6	3.3	1.7	5.0	15	
DEC 13...	10	963	8.0	.32	8.3	1.7	5.6	7.3	10	
MAR 02...	11	1070	.21	.09	.30	13	8.0	21	12	
APR 13...	6.0	1430	2.0	.78	2.8	2.9	11	14	8.3	
JUN 15...	15	1140	.09	.14	.23	1.3	13	14	5.8	
AUG 17...	15	1230	.45	.09	.54	.06	1.8	1.9	2.0	

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, Nichols, and Endress, Consulting Engineers).

REMARKS.--The lake is formed by a rolled earthfill dam 3,600 ft (1,097 m) long. The dam was completed in March 1953, and deliberate impoundment began in June 1953. The emergency spillway is an uncontrolled natural channel located near right end of dam. The service spillway is an uncontrolled channel excavated through natural ground, 169 ft (52 m) wide, located 900 ft (270 m) to left of left end of dam. The service outlet is a controlled 24-inch-diameter (610 mm) concrete pipe that is used for low-flow releases. During the current year, the cities of Stamford and Hamlin diverted 1,840 acre-ft (2.27 hm³) for municipal use. The capacity table is based on sedimentation survey of 1966. Gage-height record was furnished by 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, 103,700 acre-ft (128 hm³) Aug. 5, gage height, 1,422.2 ft (433.49 m); minimum, 16,610 acre-ft (20.5 hm³) Aug. 3, gage height, 1,402.5 ft (427.48 m).

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

1,402.0	15,660	1,420.0	87,310
1,405.0	22,000	1,422.0	102,100
1,410.0	36,660	1,423.0	110,400
1,415.0	57,920		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27750	26630	25280	24230	23980	23980	22970	21530	20600	19050	16800	55460
2	27750	26360	25280	24230	23720	23980	22970	21290	20600	18840	16800	55460
3	27750	26360	25280	24230	23720	23980	22970	21530	20600	18840	16610	55460
4	27750	26360	25280	24230	23720	23980	22970	21530	20600	18840	75610	55460
5	27750	26360	25280	24230	23720	23980	22970	21530	20600	18840	102100	55460
6	27470	26360	25280	24230	23720	23980	22730	21530	20600	18630	94460	54970
7	27470	26080	25280	24230	23980	23980	22730	21530	20600	18630	86620	54970
8	27470	26080	25010	24230	23980	23720	22730	21530	20830	18630	80640	54970
9	27470	26080	25010	24230	23980	23720	22730	21530	20830	18420	75610	54970
10	27470	26080	25010	23980	23980	23720	22970	21530	20600	18420	72020	55460
11	27190	26080	25010	23980	23980	23720	22970	21530	20600	18420	69700	55460
12	27190	26080	25010	23980	23980	23720	22730	21530	20600	18210	66880	54970
13	27190	26080	25010	23980	23980	23720	22730	21290	20600	18000	64690	54970
14	26910	26080	25010	23980	23980	23720	22480	21290	20600	17800	64150	54970
15	26910	26080	25010	23980	23980	23720	22480	21060	20600	17800	63080	54970
16	26910	25810	25010	23980	23980	23470	22480	21060	20600	17800	62020	54970
17	26910	25810	24750	23980	23980	23470	22480	21060	20370	17800	61500	54970
18	26630	25810	24750	23980	24230	23470	22480	20830	20370	17590	60460	54970
19	26630	25810	24750	23980	24230	23470	22240	20830	20370	17590	58930	54970
20	26630	25810	24490	23980	24230	23470	22240	20830	20370	17590	58930	54490
21	26630	25810	24490	23980	24230	23220	22240	20830	19930	17390	58420	54970
22	26630	25810	24490	23980	24230	23220	22000	20830	19930	17390	58420	54970
23	26630	25810	24490	23980	24230	23220	22000	20830	19700	17390	57920	55940
24	26630	25540	24490	23980	24230	23220	22000	20830	19700	17190	57920	56430
25	26630	25540	24490	23720	24230	23220	22000	20830	19700	17190	57420	56920
26	26630	25540	24490	23720	23980	23220	22000	20600	19490	17190	56920	56920
27	26630	25540	24490	23720	23980	23220	22000	20600	19490	17000	56430	57420
28	26630	25540	24490	23720	23980	23220	21760	20830	19270	17000	56430	57420
29	26630	25540	24490	23720	---	22970	21530	20830	19270	17000	56430	56920
30	26630	25540	24490	23720	---	22970	21530	20830	19270	16800	55940	56920
31	26630	---	24230	23980	---	22970	---	20600	---	16800	55940	---
MAX	27750	26630	25280	24230	24230	23980	22970	21530	20830	19050	102100	57420
MIN	26630	25540	24230	23720	23720	22970	21530	20600	19270	16800	16610	54490
(†)	1406.8	1406.4	1405.9	1405.8	1405.8	1405.4	1404.8	1404.4	1403.8	1402.6	1414.6	1414.8
(‡)	-1410	-1090	-1310	-250	0	-1010	-1440	-930	-1330	-2470	+39140	+980
(††)	170	134	151	153	126	164	203	211	236	276	234	171

CAL YR 1977 MAX 39200 MIN 24230 ‡ -14970 †† 2050
WTR YR 1978 MAX 102100 MIN 16610 ‡ +28880 †† 2229

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

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use.

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
MAR 07...	0735	1660	8.0	9.0	430	250	70	63	200
DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAR 07...	4.2	20	220	0	260	330	.5	2.6	1050

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).

WATER-DISCHARGE RECORDS

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

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 good. Three small diversions above station.

AVERAGE DISCHARGE.--16 years, 28.4 ft³/s (0.804 m³/s), 0.81 in/yr (21 mm/yr), 20,580 acre-ft/yr (25.4 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, that of Aug. 4, 1978; 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 200 ft³/s (5.66 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 29	0300	1,300 36.8	16.80 5.121	Sept. 9	0730	228 6.46	9.88 3.011
Aug. 4	a0700	*40,000 1,130	b31.00 9.449	Sept. 23	1215	324 9.18	10.86 3.310

a Estimated.

b From floodmark.

Minimum daily discharge, 0.05 ft³/s (0.001 m³/s) Oct. 5, 9, 11-13, 17-19.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.07	.84	1.2	1.6	1.2	.53	.19	4.2	.27	.08	2.1
2	.06	.06	.94	.90	1.6	1.2	.47	.31	3.7	.27	.06	2.2
3	.06	.07	1.1	.90	1.7	1.2	.49	1.9	3.3	.27	895	2.2
4	.06	.08	.75	1.2	1.6	1.2	.44	.65	2.5	.27	20400	2.2
5	.05	.09	.75	1.3	1.6	1.2	.44	.46	2.0	.23	2280	11
6	.06	.11	.66	1.3	1.4	1.2	.69	.39	45	.23	78	3.5
7	.06	.13	.66	1.3	1.3	1.2	.56	6.7	70	.19	24	1.7
8	.06	.17	.75	1.2	1.2	1.2	.46	70	22	.16	9.9	16
9	.05	.13	.60	1.0	1.2	1.2	1.3	13	8.2	.13	7.5	135
10	.07	.13	.50	.90	1.2	1.2	3.2	3.4	5.2	.13	5.7	49
11	.05	.14	.58	.90	1.5	1.1	1.2	1.5	2.6	.09	4.6	12
12	.05	.18	.66	1.0	2.0	1.0	.95	.82	2.0	.09	4.1	6.4
13	.05	.25	.66	1.1	2.0	1.1	1.2	.56	1.7	.11	3.5	4.8
14	.06	.27	.58	1.2	1.7	1.0	.96	.27	1.3	.11	3.4	4.3
15	.06	.27	.66	1.3	1.5	.94	.87	.23	1.3	.10	3.4	3.4
16	.06	.26	.75	1.6	1.2	.94	.75	.20	1.0	.10	3.7	2.8
17	.05	.25	.66	1.4	1.0	.94	.65	.23	1.0	.09	3.5	2.5
18	.05	.25	.58	1.2	1.0	.94	.50	.23	.94	.06	3.3	2.3
19	.05	.27	.66	1.1	1.1	.88	.42	.23	.94	.07	3.1	2.2
20	.08	.38	.66	1.0	1.2	1.1	.44	.23	.75	.09	2.9	2.0
21	.08	.44	.58	1.0	1.2	.84	.44	.87	.75	.11	2.7	41
22	.13	.38	.51	1.2	1.2	.76	.50	.20	.66	.17	2.8	132
23	.11	.44	.51	1.4	1.4	.79	.43	.16	.66	.90	2.7	298
24	.09	.51	.58	1.6	1.3	.75	.40	.16	.58	.16	2.5	188
25	.08	.66	.58	1.4	1.3	.75	.32	.16	.51	.06	2.5	39
26	.08	.58	.51	1.4	1.2	.84	.30	.16	.44	.06	2.4	21
27	.10	.51	.58	1.3	1.4	.84	.23	.16	.44	4.7	2.4	30
28	.11	.58	.58	1.2	1.3	.90	.24	107	.44	1.4	2.3	28
29	.08	.58	.66	1.3	---	.94	.32	757	.32	.66	2.2	24
30	.08	.58	.94	1.4	---	1.0	.25	58	.32	.23	2.2	16
31	.07	---	1.2	1.6	---	.84	---	10	---	.13	2.1	---
TOTAL	2.16	8.82	21.23	37.80	38.9	31.19	19.95	1035.37	184.75	11.64	23762.54	1084.6
MEAN	.070	.29	.68	1.22	1.39	1.01	.67	33.4	6.16	.38	767	36.2
MAX	.13	.66	1.2	1.6	2.0	1.2	3.2	757	70	4.7	20400	298
MIN	.05	.06	.50	.90	1.0	.75	.23	.16	.32	.06	.06	1.7
CFSM	.000	.001	.001	.003	.003	.002	.001	.07	.01	.001	1.61	.08
IN.	.00	.00	.00	.00	.00	.00	.00	.08	.01	.00	1.85	.08
AC-FT	4.3	17	42	75	77	62	40	2050	366	23	47130	2150

CAL YR 1977	TOTAL	1857.51	MEAN	5.09	MAX	347	MIN	.03	CFSM	.01	IN	.14	AC-FT	3680
WTR YR 1978	TOTAL	26238.95	MEAN	71.9	MAX	20400	MIN	.05	CFSM	.15	IN	2.04	AC-FT	52040

BRAZOS RIVER BASIN

08084800 CALIFORNIA CREEK NEAR STAMFORD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1962 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1962 to current year.

WATER TEMPERATURES: October 1962 to current year.

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, 12,700 micromhos Nov. 27; minimum measured daily, 420 micromhos Sept. 23; minimum estimated daily, 180 micromhos Aug. 4.

WATER TEMPERATURES: Maximum daily, 32.0°C July 6, 20, Aug. 16, 23, 24; minimum daily, 1.0°C Feb. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
NOV 30...	0800	.58	11600	8.0	10.0	3200	3000	380	550	1700
DEC 12...	1425	.70	8580	7.7	11.0	3000	2700	400	490	1200
JAN 31...	0900	1.6	8040	7.7	2.0	2900	2600	350	480	1000
FEB 28...	0800	1.3	6980	--	9.0	2600	2400	380	390	850
MAR 06...	1415	1.2	7430	7.9	10.0	2500	2300	310	420	910
APR 30...	0800	.25	9190	--	22.0	3200	3000	460	500	1200
MAY 30...	1350	47	717	--	25.0	220	130	57	20	53
JUL 10...	1305	.14	6170	--	29.5	2100	1900	230	380	730
AUG 06...	1405	67	1260	--	26.0	360	240	78	40	120
SEP 30...	0800	16	3230	--	20.0	1100	940	170	170	360

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
NOV 30...	13	13	240	0	2700	2600	--	5.6	8070
DEC 12...	9.5	11	380	0	3000	1500	--	5.8	6790
JAN 31...	8.2	9.2	260	0	2800	1400	--	3.1	6170
FEB 28...	7.3	10	240	0	2200	1300	--	2.5	5250
MAR 06...	7.9	10	250	0	2500	1200	--	2.4	5480
APR 30...	9.2	15	280	0	3100	1700	--	5.2	7120
MAY 30...	1.5	6.7	120	0	120	84	.2	12	412
JUL 10...	6.9	6.8	300	0	1700	1300	.8	9.4	4500
AUG 06...	2.8	9.6	150	0	240	180	.2	13	755
SEP 30...	4.7	12	220	0	800	590	.2	11	2220

08084800 CALIFORNIA CREEK NEAR STAMFORD, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	2.16	5940	4340	25	1100	6	1720	10	1950
NOV. 1977.....	8.82	8820	6530	155	1790	43	2620	62	3040
DEC. 1977.....	21.23	9350	6960	399	1700	98	2780	159	3090
JAN. 1978.....	37.8	8670	6460	659	1570	160	2570	262	3030
FEB. 1978.....	38.9	7300	5420	569	1340	140	2140	225	2490
MAR. 1978.....	31.19	7730	5750	485	1410	119	2280	192	2660
APR. 1978.....	19.95	8340	6210	335	1510	82	2470	133	2900
MAY 1978.....	1035.37	828	490	1360	100	291	160	442	230
JUNE 1978.....	184.75	1490	920	459	200	102	320	160	420
JULY 1978.....	11.64	9390	6940	218	1960	62	2790	87	3090
AUG. 1978.....	23762.5	274	160	10100	32	2030	45	2900	76
SEPT 1978.....	1084.6	1260	810	2390	190	553	290	860	350
TOTAL	26238.91	**	**	17200	**	3690	**	5490	**
WTD.AVG.	71.89	397	240	**	52	**	77	**	110

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5990	6000	11100	9810	7940	7160	8440	9270	1410	6670	9670	9070
2	5950	5990	10400	9720	7960	7210	8430	9050	1650	6580	9410	9030
3	5930	5970	9720	9540	7980	7270	8420	10500	1920	6420	1230	8990
4	5910	5960	8980	9500	7890	7320	8430	9710	2110	6240	180	9030
5	5880	5950	8440	9370	7880	7370	8400	8480	2400	6270	449	6750
6	5900	5940	8180	9290	7890	7350	8550	8240	1070	6300	1030	6240
7	5890	5970	8050	9170	7750	7380	8640	9440	957	6250	2290	3810
8	5900	5820	7840	8970	7640	7410	8720	1310	1090	6190	3310	3520
9	5930	5850	7960	8500	7610	7430	8680	2220	1320	6150	4270	516
10	5920	5860	8190	8850	7690	7450	8510	2700	1490	6140	5110	1040
11	5930	5900	8440	8970	7500	7480	8440	2890	2140	6120	5830	1660
12	5950	5940	8580	8860	7090	7550	8230	3220	2580	6140	6200	2290
13	5980	5940	8720	8940	6750	7690	8170	3440	3370	6130	6570	3060
14	5990	5990	8980	8710	7240	7750	8070	3650	3800	6140	6940	3830
15	6000	5950	8900	8540	7150	7770	7980	3890	4630	6100	7230	4040
16	6010	6010	9460	8430	6810	7780	7920	4050	5410	6140	7410	4390
17	5990	6050	9860	8610	6960	7790	7790	4190	5960	6120	7720	4650
18	6010	6080	9950	8580	7000	7780	7650	4340	6070	6100	7920	5400
19	5990	6060	9860	8540	7030	7870	7590	4480	6410	6140	8040	5880
20	6020	6040	9720	8500	6840	7930	7710	4530	6460	6150	8170	6350
21	6000	6360	9860	8600	6890	8090	7820	4550	6610	6130	8240	4140
22	5920	7280	9630	8710	6930	8080	8100	4800	6690	6100	8440	535
23	5890	8800	9720	8470	6690	8060	8330	4840	6720	3000	8520	420
24	5860	9950	9590	8210	6840	8090	8510	4870	6800	1690	8660	493
25	5960	11400	9620	8080	6900	8120	8690	4830	6870	1980	8730	1050
26	5980	12500	9680	8090	6920	8190	8840	4810	6890	2770	8850	2410
27	5990	12700	9700	8140	7030	8280	8870	4840	6910	12600	8730	3360
28	5900	12300	9720	8240	6980	8350	8910	1510	6820	10600	8800	3170
29	5910	12000	9800	8040	---	8420	9110	520	6780	10900	8850	3060
30	5930	11500	9830	8160	---	8430	9190	594	6700	10700	8890	3200
31	5910	---	9860	8040	---	8450	---	1260	---	10300	8920	---
MEAN	5950	7470	9300	8720	7280	7780	8370	4740	4330	6490	6600	4050

BRAZOS RIVER BASIN

08084800 CALIFORNIA CREEK NEAR STAMFORD, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	19.0	8.0	6.0	5.0	10.0	20.0	25.0	25.0	26.0	29.0	25.0
2	19.0	17.0	9.0	4.0	3.0	16.0	22.0	18.0	24.0	25.0	28.0	26.0
3	21.0	19.0	10.0	5.0	5.0	4.0	20.0	13.0	21.0	26.0	22.0	24.0
4	19.0	19.0	9.0	6.0	6.0	6.0	22.0	11.0	23.0	27.0	---	25.0
5	19.0	18.0	10.0	8.0	---	4.0	22.0	19.0	28.0	29.0	20.0	25.0
6	18.0	17.0	6.0	10.0	7.0	11.0	23.0	21.0	19.0	32.0	23.0	24.0
7	20.0	19.0	6.0	8.0	5.0	8.0	22.0	26.0	20.0	30.0	28.0	25.0
8	18.0	17.0	10.0	8.0	3.0	6.0	19.0	24.0	24.0	28.0	24.0	22.0
9	17.0	15.0	6.0	4.0	1.0	8.0	19.0	18.0	22.0	27.0	25.0	20.0
10	18.0	17.0	4.0	2.0	2.0	10.0	16.0	22.0	23.0	30.0	27.0	25.0
11	17.0	20.0	6.0	2.0	3.0	14.0	15.0	19.0	30.0	25.0	27.0	27.0
12	12.0	13.0	13.0	2.0	5.0	8.0	22.0	26.0	31.0	29.0	26.0	26.0
13	20.0	12.0	10.0	5.0	6.0	12.0	23.0	20.0	29.0	31.0	28.0	25.0
14	17.0	15.0	10.0	4.0	4.0	10.0	24.0	20.0	25.0	30.0	26.0	30.0
15	19.0	16.0	12.0	5.0	2.0	9.0	23.0	19.0	24.0	28.0	27.0	26.0
16	15.0	14.0	13.0	4.0	4.0	8.0	19.0	26.0	25.0	26.0	32.0	28.0
17	20.0	12.0	10.0	2.0	2.0	9.0	24.0	25.0	27.0	24.0	25.0	26.0
18	14.0	11.0	9.0	3.0	3.0	8.0	20.0	---	26.0	29.0	24.0	28.0
19	19.0	16.0	10.0	2.0	5.0	14.0	17.0	28.0	27.0	30.0	---	27.0
20	22.0	16.0	9.0	3.0	3.0	19.0	15.0	24.0	27.0	32.0	23.0	26.0
21	21.0	12.0	5.0	2.0	9.0	19.0	18.0	23.0	26.0	28.0	25.0	18.0
22	19.0	11.0	7.0	5.0	4.0	20.0	20.0	25.0	25.0	26.0	30.0	16.0
23	17.0	15.0	7.0	4.0	9.0	16.0	19.0	26.0	26.0	26.0	32.0	29.0
24	19.0	12.0	11.0	4.0	16.0	12.0	22.0	26.0	25.0	30.0	32.0	20.0
25	19.0	10.0	7.0	2.0	9.0	9.0	23.0	25.0	28.0	28.0	27.0	21.0
26	21.0	8.0	6.0	5.0	9.0	12.0	18.0	27.0	31.0	26.0	26.0	21.0
27	19.0	12.0	5.0	4.0	10.0	11.0	17.0	28.0	27.0	25.0	25.0	19.0
28	19.0	11.0	9.0	3.0	9.0	15.0	22.0	24.0	28.0	25.0	27.0	21.0
29	19.0	9.0	---	3.0	---	15.0	20.0	23.0	26.0	26.0	28.0	23.0
30	19.0	10.0	8.0	4.0	---	14.0	22.0	22.0	25.0	26.0	23.0	20.0
31	20.0	---	9.0	2.0	---	15.0	---	21.0	---	25.0	24.0	---
MEAN	18.5	14.5	8.5	4.0	5.5	11.5	20.5	22.5	25.5	27.5	26.5	24.0

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records good. Diversions above station for irrigation, municipal supply and oilfield operations materially affect low flow. Gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years (water years 1925-78), 226 ft³/s (6.400 m³/s), 163,700 acre-ft/yr (202 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; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1876, that of Aug. 4, 1978. Flood in September 1900 reached a stage of 38.0 ft (11.58 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 149,000 ft³/s (4,220 m³/s) gage height, 38.88 ft (11.851 m), from floodmark, no other peak above base of 3,900 ft³/s (110 m³/s); no flow July 1 to Aug. 2.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	15	15	13	27	20	21	3.3	79	.00	.0	90
2	3.4	15	16	12	27	20	22	5.0	392	.00	.0	116
3	2.8	15	16	12	25	19	20	7.1	62	.00	988	86
4	2.5	15	16	12	26	19	17	6.9	47	.00	72800	81
5	2.4	15	18	13	27	20	14	5.9	82	.00	67900	81
6	2.4	14	20	13	28	24	13	5.2	438	.00	19800	71
7	2.2	12	21	13	29	24	11	4.3	111	.00	7430	69
8	2.1	12	22	13	30	24	8.9	3.8	111	.00	4090	97
9	1.8	12	22	12	32	24	7.9	2.8	135	.00	2880	120
10	1.7	12	21	12	34	24	9.1	2.0	118	.00	2240	139
11	1.7	12	21	12	36	22	7.6	1.6	78	.00	2240	157
12	1.5	12	20	14	39	22	7.4	1.3	44	.00	1440	128
13	1.3	12	21	15	42	22	7.4	3.2	54	.00	1110	104
14	1.2	12	21	15	43	22	6.8	4.5	45	.00	762	90
15	1.1	12	21	17	44	20	6.5	4.3	31	.00	730	79
16	.94	13	21	18	44	15	6.9	3.9	22	.00	601	74
17	.86	13	21	19	44	14	6.6	3.7	17	.00	484	92
18	.79	13	21	19	42	15	6.2	3.2	12	.00	395	71
19	2.0	13	21	19	39	16	5.9	2.9	10	.00	326	59
20	3.9	14	22	19	37	17	8.8	2.6	8.5	.00	272	53
21	6.3	13	22	19	36	18	9.1	2.3	6.0	.00	235	49
22	7.8	12	20	18	33	17	7.4	1.9	4.2	.00	206	47
23	9.1	12	20	17	31	17	6.4	1.5	2.7	.00	192	84
24	9.7	12	19	17	28	17	5.2	1.4	1.8	.00	177	440
25	10	12	18	17	26	16	4.7	1.2	.93	.00	166	392
26	10	12	17	17	24	15	4.3	1.1	.66	.00	154	240
27	10	12	17	25	23	18	3.8	3.0	.41	.00	140	299
28	10	12	16	26	22	18	3.3	3.7	.25	.00	124	284
29	13	13	15	27	---	18	2.8	121	.13	.00	109	185
30	15	13	14	27	---	20	2.4	651	.16	.00	101	162
31	15	---	13	26	---	19	---	165	---	.00	94	---
TOTAL	155.69	386	588	528	918	596	263.4	1030.6	1913.74	.00	188186.0	4039
MEAN	5.02	12.9	19.0	17.0	32.8	19.2	8.78	33.2	63.8	.000	6071	135
MAX	15	15	22	27	44	24	22	651	438	.00	72800	440
MIN	.79	12	13	12	22	14	2.4	1.1	.13	.00	.00	47
AC-FT	309	766	1170	1050	1820	1180	522	2040	3800	.00	373300	8010
CAL YR 1977	TOTAL	25284.05	MEAN	69.3	MAX	1590	MIN	.79	AC-FT	50150		
WTR YR 1978	TOTAL	198604.43	MEAN	544	MAX	72800	MIN	.00	AC-FT	393900		

BRAZOS RIVER BASIN

08085500 CLEAR FORK BRAZOS RIVER AT FORT GRIFFIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: November 1949 to September 1951, November 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1949 to September 1951, November 1967 to current year.

WATER TEMPERATURES: November 1949 to September 1951, November 1967 to current year.

SUSPENDED-SEDIMENT DISCHARGE: November 1949 to September 1951.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,680 micromhos May 11, 1972; minimum daily, 204 micromhos July 27, 1950.

WATER TEMPERATURES: Maximum daily, 34.0°C June 14, 1969, June 28, 1972; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	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)
NOV 30...	0805	14	3330	8.1	8.5	990	800	240	95	400
DEC 12...	1125	21	2250	8.0	6.0	630	380	150	61	290
FEB 28...	0725	24	3070	--	9.5	790	660	170	88	380
MAR 06...	1045	24	3170	7.5	9.0	840	710	180	94	400
APR 30...	0900	2.6	3690	--	22.0	980	810	210	110	480
JUN 30...	0805	.90	4000	--	26.0	1200	980	250	130	470
JUL 04...	0910	.53	4000	--	26.0	1100	910	230	120	510
AUG 06...	1730	16200	365	--	22.5	130	35	37	7.9	22

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 30...	5.5	12	230	0	820	610	.5	9.2	2300
DEC 12...	5.0	12	300	0	440	390	.6	9.7	1500
FEB 28...	5.9	14	160	0	740	530	.7	2.7	2000
MAR 06...	6.0	15	160	0	750	530	.6	1.3	2050
APR 30...	6.7	17	210	0	810	670	.7	6.4	2410
JUN 30...	6.0	14	220	0	1000	680	.5	4.1	2660
JUL 04...	6.8	14	190	0	1000	730	.5	10	2710
AUG 06...	.9	5.4	110	0	36	35	.2	8.3	206

BRAZOS RIVER BASIN

235

08085500 CLEAR FORK BRAZOS RIVER AT FORT GRIFFIN, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		3800	3280	2070	3030	3100	3410	3740	974			
2		3830	---	1520	3060	3100	3390	3720	1080			
3		3830	---	2680	3020	3120	3400	3670	945			
4		3790	---	1790	2960	3130	3400	3720	818			
5		3780	---	1830	2890	3150	3400	3770	653			
6		3790	2710	2440	2890	3190	3400	3790	945			
7		3790	2560	2060	2830	3230	3390	3830	2000			
8		3760	2510	2650	2760	3280	3400	3860	2800			
9		3780	2430	1960	2780	3330	3430	3870	1870			
10		3760	2350	2480	2800	3330	3410	3860	2080			
11		3720	2300	---	2780	3310	3400	3860	1800			
12		3680	2290	---	2780	3270	3400	3910	2510			
13		3640	2290	---	2760	3240	3430	3910	2650			
14		3600	2320	---	2770	3220	3440	3920	2760			
15		3550	2340	1480	2880	3200	3440	3950	3030			
16		3490	2370	2120	3060	3200	3440	3950	3280			
17		3420	2430	1900	3160	3190	3440	3970	3500			
18		3380	2460	2880	3240	3190	3470	3970	3630			
19		3310	2550	2880	3310	3230	3470	3970	3710			
20		3260	2590	3270	3350	3230	3470	4010	3790			
21		3240	2740	3320	3380	3260	3520	3970	3850			
22		3220	2740	3350	3310	3270	3570	4040	3710			
23		3200	2780	3390	3240	3280	3590	4050	3910			
24		3200	2790	3370	3200	3270	3610	4050	3940			
25		3200	2750	3330	3150	3280	3650	4070	3960			
26		3240	2770	3320	3090	3280	3650	4070	3990			
27		3310	2760	3270	3070	3280	3680	4080	3990			
28		3330	2760	3270	3070	3290	3710	4080	3980			
29		3360	2760	3270	---	3310	3690	4010	4000			
30		3400	2760	3270	---	3310	3690	5560	3970			
31		---	2760	3180	---	3310	---	5660	---			
MEAN		3520	2600	2680	3020	3240	3490	4030	2800			

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		19.0	8.5	4.5	3.5	8.5	21.0	26.0	25.5			
2		14.5	---	3.5	1.5	10.0	22.0	19.5	25.0			
3		14.0	---	5.5	3.0	7.0	21.0	17.0	22.0			
4		15.5	---	5.0	3.5	5.0	25.0	18.5	23.5			
5		13.5	---	6.5	4.5	7.0	20.0	18.5	24.0			
6		13.0	7.0	6.0	3.5	9.0	24.0	20.5	23.0			
7		13.5	6.5	7.0	4.0	7.0	21.0	19.5	23.0			
8		14.0	8.5	5.5	1.5	8.0	22.0	21.0	24.0			
9		12.0	4.5	4.0	.0	9.0	21.0	18.5	23.0			
10		13.0	1.5	3.0	.0	10.0	17.0	24.0	23.5			
11		13.0	5.5	---	.0	10.0	19.5	26.5	25.0			
12		10.5	6.5	---	3.5	11.0	18.5	31.0	29.0			
13		13.0	7.0	---	2.0	10.0	19.5	18.5	28.5			
14		14.0	8.5	---	2.0	11.5	18.5	19.5	28.0			
15		14.0	9.0	5.5	4.0	15.5	18.5	21.0	26.5			
16		12.0	9.0	5.0	3.5	11.0	24.0	25.0	26.5			
17		12.0	8.0	3.5	1.0	11.0	25.0	24.0	28.0			
18		11.5	8.5	3.5	.0	14.0	19.5	31.5	26.5			
19		14.0	10.0	.0	.5	18.5	16.5	26.5	28.0			
20		15.5	7.0	.0	1.5	15.5	15.5	23.0	32.0			
21		10.0	6.5	.0	1.0	15.0	18.5	26.5	30.5			
22		11.0	4.5	.5	1.5	21.0	24.0	24.0	26.5			
23		12.0	6.5	.0	6.5	18.5	19.5	24.0	26.5			
24		11.5	8.5	3.0	6.5	14.5	21.0	26.0	26.5			
25		10.0	7.0	4.5	6.5	13.0	18.5	25.5	26.5			
26		10.0	5.5	1.5	6.5	14.0	18.5	28.5	26.5			
27		11.0	5.5	1.5	9.0	13.5	19.5	25.5	25.5			
28		10.0	7.0	.0	9.5	15.5	21.0	25.5	25.5			
29		9.0	6.5	1.5	---	18.5	21.0	26.5	29.5			
30		8.5	7.0	1.5	---	16.5	22.0	25.0	26.0			
31		---	7.0	2.0	---	16.5	---	28.5	---			
MEAN		12.5	7.0	3.0	3.0	12.5	20.5	23.5	26.0			

BRAZOS RIVER BASIN

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 State Highway 6 (revised), 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 prior to Aug. 3 and fair thereafter. No diversion above station. Rain gage at station was discontinued May 23, 1978.

AVERAGE DISCHARGE.--15 years (water years 1964-78), 7.82 ft³/s (0.221 m³/s), 2.70 in/yr (69 mm/yr), 5,670 acre-ft/yr (6.99 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.--Maximum discharge, 103,000 ft³/s (2,920 m³/s) Aug. 4, gage height, 23.3 ft (7.10 m), from floodmarks, from rating curve extended as explained above, no other peak above base of 100 ft³/s (2.83 m³/s); no flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.10	.13	.17	.25	.17	.09	.04	.07	.00	.00	1.2
2	.06	.08	.13	.17	.21	.16	.07	.05	.08	.00	.00	1.6
3	.06	.07	.13	.18	.19	.15	.07	.07	.09	.00	6760	1.7
4	.07	.08	.12	.23	.19	.15	.07	.09	.08	.00	13100	1.7
5	.10	.09	.13	.24	.19	.16	.06	.10	.06	.00	67	1.6
6	.11	.10	.14	.24	.21	.15	.06	.10	.38	.00	31	1.5
7	.11	.11	.18	.22	.29	.15	.06	.10	.58	.00	15	1.5
8	.09	.18	.18	.18	.27	.15	.05	.07	.14	.00	7.4	2.2
9	.07	.11	.17	.19	.23	.15	.16	.06	.07	.00	6.6	2.5
10	.06	.09	.17	.16	.20	.14	.40	.05	.05	.00	5.6	2.0
11	.07	.09	.18	.17	.20	.12	.15	.06	.03	.00	8.3	1.7
12	.07	.10	.20	.19	.66	.12	.11	.05	.03	.00	6.2	1.5
13	.08	.09	.18	.20	.46	.11	.12	.04	.02	.00	4.1	1.2
14	.08	.10	.17	.19	.27	.12	.11	.04	.02	.00	3.1	1.2
15	.08	.10	.18	.18	.24	.10	.10	.04	.02	.00	2.2	1.1
16	.08	.09	.18	.19	.24	.10	.10	.04	.02	.00	1.9	.97
17	.07	.08	.16	.18	.27	.09	.09	.04	.01	.00	2.0	.89
18	.07	.08	.20	.18	.22	.09	.07	.06	.00	.00	1.9	.74
19	.07	.09	.22	.16	.21	.10	.10	.06	.00	.00	1.6	1.4
20	.07	.10	.21	.17	.17	.10	.12	.08	.00	.00	1.2	1.2
21	.07	.08	.17	.18	.18	.11	.12	.13	.00	.00	1.2	1.2
22	.10	.09	.14	.20	.19	.11	.11	.13	.00	.00	1.2	1.2
23	.10	.10	.13	.22	.19	.13	.10	.11	.00	.00	1.2	.97
24	.09	.10	.14	.21	.19	.12	.10	.09	.00	.00	1.2	.81
25	.09	.11	.14	.20	.14	.12	.10	.07	.00	.00	1.2	.89
26	.08	.11	.15	.20	.17	.12	.09	.06	.00	.00	1.1	.89
27	.08	.10	.16	.19	.18	.12	.08	.05	.00	.00	1.1	.89
28	.11	.10	.19	.19	.18	.12	.07	.07	.00	.00	1.1	.89
29	.12	.12	.24	.19	---	.11	.06	.18	.00	.00	.97	.89
30	.12	.13	.22	.19	---	.10	.05	.14	.00	.00	.97	.81
31	.13	---	.20	.25	---	.10	---	.10	---	.00	1.1	---
TOTAL	2.62	2.97	5.24	6.01	6.59	3.84	3.04	2.37	1.75	.00	20037.44	38.84
MEAN	.085	.099	.17	.19	.24	.12	.10	.076	.058	.000	.646	1.29
MAX	.13	.18	.24	.25	.66	.17	.40	.18	.58	.00	13100	2.5
MIN	.06	.07	.12	.16	.14	.09	.05	.04	.00	.00	.00	.74
CFSM	.002	.003	.004	.005	.006	.003	.003	.002	.001	.000	16.4	.03
IN.	.00	.00	.00	.01	.01	.00	.00	.00	.00	.00	18.97	.04
AC-FT	5.2	5.9	10	12	13	7.6	6.0	4.7	3.5	.00	39740	.77

CAL YR 1977 TOTAL 898.57 MEAN 2.46 MAX 290 MIN .06 CFSM .06 IN .85 AC-FT 1780
WTR YR 1978 TOTAL 20110.71 MEAN 55.1 MAX 13100 MIN .00 CFSM 1.40 IN 19.04 AC-FT 39890

NOTE.--No gage-height record Aug. 3, 4.

BRAZOS RIVER BASIN

237

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.

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, 5,800 micromhos Apr. 21; minimum measured daily, 1,360 micromhos Aug. 5; minimum estimated daily, 149 micromhos Aug. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	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 06...	1300	.12	5610	7.4	23.5	1300	1100	310	120	640
NOV 16...	1410	.09	5350	7.6	20.0	1200	1000	290	120	630
DEC 31...	1500	.20	4510	7.9	8.0	980	890	210	110	530
FEB 14...	1415	.24	5560	--	7.5	1300	1100	330	120	660
MAR 31...	0930	.10	5110	7.7	17.0	1100	950	250	110	580
MAY 23...	0950	.12	5570	--	26.0	1300	1100	310	120	720
AUG 05...	1420	49	1360	--	23.5	300	210	93	17	140
SEP 20...	1530	1.0	4790	--	30.0	1300	1100	340	100	570

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 06...	7.8	5.2	190	0	180	1600	--	13	2960
NOV 16...	7.9	4.8	210	0	190	1600	--	12	2950
DEC 31...	7.4	3.5	110	0	190	1300	.4	13	2410
FEB 14...	7.9	4.5	220	0	160	1700	--	6.4	3090
MAR 31...	7.7	4.2	150	0	170	1500	--	3.7	2690
MAY 23...	8.8	4.9	190	0	180	1700	--	11	3140
AUG 05...	3.5	5.3	110	0	39	350	.2	12	711
SEP 20...	7.0	7.3	200	0	160	1500	.3	14	2790

BRAZOS RIVER BASIN

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	2.62	5390	2930	20	1580	11	1660	12	1210
NOV. 1977.....	2.97	5320	2890	23	1560	12	1640	13	1200
DEC. 1977.....	5.24	5290	2870	41	1550	22	1630	23	1190
JAN. 1978.....	6	4820	2610	42	1410	23	1480	24	1080
FEB. 1978.....	6.59	5150	2800	50	1510	27	1590	28	1160
MAR. 1978.....	3.84	5110	2770	28	1500	16	1570	16	1150
APR. 1978.....	3.04	5500	2990	24	1620	14	1690	14	1240
MAY 1978.....	2.37	5480	2980	19	1610	10	1690	11	1240
JUNE 1978.....	1.75	5180	2810	13	1520	7.1	1600	7.6	1160
JULY 1978.....	0	*****	*****	0	*****	0	*****	0	****
AUG. 1978.....	20037.4	172	90	4880	29	1590	9	510	48
SEPT 1978.....	38.84	4650	2520	264	1350	142	1430	150	1030
TOTAL	20110.67	**	**	5400	**	1860	**	809	**
WTD.AVG.	55.1	189	99	**	34	**	14	**	52

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5690	5290	5480	4890	3450	5260	5120	5600	5360		---	4700
2	5670	5400	5500	5150	4100	5230	5070	5570	5420		---	4720
3	5640	5470	5390	5300	4770	5210	5140	5640	5400		155	4770
4	5560	5410	5330	5250	5150	5200	5480	5690	5470		149	4660
5	5500	5340	5250	5650	5140	5230	5400	5620	5540		1360	4620
6	5610	5260	5200	5500	4830	5190	5320	5520	5220		2050	4610
7	5560	5170	5360	5490	5250	5010	5350	5550	4910		3350	4550
8	5510	5350	5290	5450	5400	5070	5300	5500	5030		2940	4500
9	5480	5230	5500	5420	4780	5100	5370	5400	5250		3250	4530
10	5440	5350	5410	5110	3920	5090	5450	5350	5380		3300	4470
11	5470	5390	5320	4610	4750	5100	5500	5500	5560		3330	4400
12	5480	5270	5230	3010	5530	5080	5450	5430	5550		3490	4370
13	5460	5160	5500	4770	5670	5070	5380	5340	5580		3850	4340
14	5400	5210	5050	4490	5460	5110	5390	5360	5570		3760	4490
15	5340	5360	5240	4920	5450	5160	5450	5370	5550		3830	4480
16	5350	5350	5430	5390	5430	5190	5530	5410	5560		3750	4560
17	5340	5290	5570	5290	5520	4700	5610	5420	5610		3990	4620
18	5330	5300	5060	5140	4770	5400	5690	5400	---		4110	4660
19	5400	5320	4640	4910	5390	5220	5690	5510	---		4200	4720
20	5300	5330	5530	4660	5530	5050	5760	5490	---		4250	4790
21	5270	5280	5500	3840	5580	5190	5800	5450	---		4270	4820
22	5230	5300	5520	3690	5570	5040	5740	5500	---		4320	4850
23	5300	5340	5570	3520	5560	4890	5660	5570	---		4390	4870
24	5390	5350	5390	4400	5600	4970	5610	5560	---		4380	4890
25	5460	5370	5250	5270	5640	5050	5570	5580	---		4390	4790
26	5410	5320	5270	5200	4830	5170	5520	5550	---		4530	4830
27	5300	5280	5300	4910	4720	5260	5530	5520	---		4520	4900
28	5050	5350	5390	4590	5230	5230	5540	5510	---		4510	4970
29	5140	5410	5540	4720	---	4870	5550	5500	---		4590	4980
30	5230	5460	5030	4500	---	4710	5640	5220	---		4560	4960
31	5210	---	4510	4370	---	5150	---	5300	---		4680	---
MEAN	5400	5320	5310	4820	5110	5100	5490	5480	5410		3590	4680

BRAZOS RIVER BASIN

239

08086150 NORTH FORK HUBBARD CREEK NEAR ALBANY, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	16.0	---	---	6.0	15.0	---	---			---	27.0
2	25.0	---	11.0	---	---	14.0	20.0	17.0			---	30.0
3	23.0	17.0	12.0	---	6.0	---	21.0	---			24.0	31.0
4	24.0	---	---	8.0	8.0	---	22.0	23.0			---	29.0
5	21.0	---	9.0	9.0	7.0	---	---	18.0			---	30.0
6	---	---	7.0	10.0	5.0	7.0	23.0	20.0			---	30.0
7	23.0	17.0	10.0	10.0	4.0	12.0	21.0	---			27.0	28.0
8	---	15.0	11.0	---	6.0	---	22.0	18.0			28.0	27.0
9	---	11.0	6.0	6.0	4.0	12.0	---	25.0			26.0	29.0
10	22.0	12.0	---	6.0	1.0	---	---	21.0			30.0	---
11	18.0	13.0	7.0	2.0	---	15.0	20.0	22.0			29.0	---
12	---	---	13.0	1.0	6.0	---	---	---			30.0	30.0
13	18.0	15.0	17.0	7.0	4.0	14.0	21.0	25.0			31.0	30.0
14	19.0	15.0	13.0	4.0	5.0	---	23.0	---			30.0	30.0
15	17.0	16.0	13.0	---	---	---	23.0	---			31.0	31.0
16	---	18.0	12.0	7.0	5.0	12.0	---	---			31.0	---
17	---	13.0	---	5.0	3.0	15.0	---	---			31.0	---
18	19.0	---	10.0	5.0	2.0	16.0	21.0	---			30.0	28.0
19	18.0	---	10.0	---	3.0	---	20.0	---			---	29.0
20	22.0	19.0	9.0	2.0	5.0	16.0	---	---			31.0	28.0
21	22.0	12.0	10.0	4.0	7.0	18.0	22.0	---			28.0	---
22	---	---	9.0	---	---	---	23.0	---			29.0	22.0
23	---	16.0	11.0	4.0	11.0	18.0	---	---			28.0	28.0
24	---	15.0	---	---	---	---	---	---			---	27.0
25	22.0	13.0	10.0	5.0	7.0	17.0	---	---			30.0	26.0
26	---	12.0	---	7.0	10.0	---	18.0	---			29.0	23.0
27	19.0	12.0	8.0	---	9.0	22.0	---	---			---	---
28	22.0	---	8.0	1.0	16.0	18.0	21.0	---			30.0	26.0
29	---	10.0	9.0	2.0	---	20.0	23.0	24.0			29.0	26.0
30	17.0	14.0	---	---	---	20.0	23.0	26.0			27.0	26.0
31	20.0	---	8.0	4.0	---	17.0	---	28.0			28.0	---
MEAN	20.5	14.5	10.0	5.0	6.0	15.5	21.5	22.5			29.0	28.0

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) above National Geodetic Vertical Datum of 1929. Prior to June 12, 1968, water-stage recorder at site 2.1 mi (3.4 km) downstream at datum 7.63 ft (2.326 m) lower.

REMARKS.--Water-discharge records good except those for periods of no gage-height record, which are fair.

AVERAGE DISCHARGE.--12 years, 76.4 ft³/s (2.164 m³/s), 1.70 in/yr (43 mm/yr), 55,350 acre-ft/yr (68.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 330,000 ft³/s (9,350 m³/s) Aug. 4, 1978, gage height, 41.41 ft (12.622 m), from floodmark, from rating curve extended above 110 ft³/s (3.12 m³/s) on basis of step-backwater method and computation of flow-through culverts, contracted-openings, and flow-over-road determination of 330,000 ft³/s (9,350 m³/s) at site 4.5 mi (7.2 km) downstream; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 330,000 ft³/s (9,350 m³/s) Aug. 4, gage height, 41.41 ft (12.622 m), from floodmark, from rating curve extended above 110 ft³/s (3.12 m³/s) as explained above, 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 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.01	.04	4.5	.00	.0	3.9
2	.00	.00	.00	.00	.00	.00	.02	.10	3.8	.00	.0	3.8
3	.00	.00	.00	.00	.00	.00	.02	.22	3.4	.00	2150	3.6
4	.00	.00	.00	.00	.00	.00	.02	.11	4.3	.00	94700	3.5
5	.00	.00	.00	.00	.00	.00	.02	.07	5.1	.00	6400	3.4
6	.00	.00	.00	.00	.00	.00	.02	.04	4.0	.00	333	3.3
7	.00	.00	.00	.00	.00	.00	.02	.04	4.0	.00	175	3.3
8	.00	.00	.00	.00	.00	.00	.02	6.2	2.7	.00	98	3.2
9	.00	.00	.00	.00	.00	.00	12	1.5	1.7	.00	64	3.1
10	.00	.00	.00	.00	.00	.00	352	.44	1.0	.00	91	3.1
11	.00	.00	.00	.00	.00	.00	24	.06	.37	.00	64	3.0
12	.00	.00	.00	.00	.04	.00	7.9	.00	.18	.00	52	3.0
13	.00	.00	.00	.00	.02	.00	3.7	.00	.09	.00	36	3.0
14	.00	.00	.00	.00	.01	.00	2.3	.00	.05	.00	27	2.9
15	.00	.00	.00	.00	.01	.00	1.5	.00	.08	.00	20	2.9
16	.00	.00	.00	.00	.01	.00	1.1	.00	.20	.00	17	2.9
17	.00	.00	.00	.00	.02	.00	.83	.00	.08	.00	14	2.9
18	.00	.00	.00	.00	.02	.03	.63	.00	.00	.00	12	2.9
19	.00	.00	.00	.00	.02	.04	.51	.00	.00	.00	10	2.9
20	.00	.00	.00	.00	.02	.04	.39	2.3	.00	.00	8.5	2.9
21	.00	.00	.00	.00	.01	.02	.29	.27	.00	.00	7.2	2.9
22	.00	.00	.00	.00	.01	.04	.23	.01	.00	.00	6.6	2.9
23	.00	.00	.00	.00	.00	.07	.21	.00	.00	.00	6.1	2.9
24	.00	.00	.00	.00	.00	.08	.15	.00	.00	.00	5.7	2.9
25	.00	.00	.00	.00	.00	.04	.11	.00	.00	.00	5.3	2.9
26	.00	.00	.00	.00	.00	.04	.11	.00	.00	.00	5.0	2.9
27	.00	.00	.00	.00	.00	.04	.06	.00	.00	.00	4.8	2.9
28	.00	.00	.00	.00	.00	.05	.04	44	.00	.00	4.6	2.9
29	.00	.00	.00	.00	---	.02	.05	264	.00	.00	4.4	2.9
30	.00	.00	.00	.00	---	.02	.04	30	.00	.00	4.2	2.9
31	.00	---	.00	.00	---	.02	---	8.2	---	.00	4.0	---
TOTAL	.00	.00	.00	.00	.19	.55	408.30	357.60	35.55	.00	104329.4	92.5
MEAN	.000	.000	.000	.000	.007	.018	13.6	11.5	1.19	.000	3365	3.08
MAX	.00	.00	.00	.00	.04	.08	352	264	5.1	.00	94700	3.9
MIN	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	2.9
CFSM	.000	.000	.000	.000	.000	.000	.02	.02	.002	.000	5.49	.005
IN.	.00	.00	.00	.00	.00	.00	.02	.02	.00	.00	6.33	.01
AC-FT	.00	.00	.00	.00	.4	1.1	810	709	71	.00	206900	183

CAL YR 1977	TOTAL	3726.74	MEAN	10.2	MAX	765	MIN	.00	CFSM	.02	IN	.23	AC-FT	7390
WTR YR 1978	TOTAL	105224.09	MEAN	288	MAX	94700	MIN	.00	CFSM	.47	IN	6.39	AC-FT	208700

NOTE.--No gage-height record Aug. 4-10, Aug. 17 to Sept. 30.

BRAZOS RIVER BASIN

241

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to current year.

WATER TEMPERATURES: October 1966 to current year.

INSTRUMENTATION.--Specific conductance is recorded continuously at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1966-70, 1972-78): Maximum daily, 21,200 micromhos Feb. 15, 21, 1978; minimum measured daily, 253 micromhos Sept. 8, 1967; minimum estimated daily, 129 micromhos Aug. 4, 1978.

WATER TEMPERATURES (1966-77): 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, 21,200 micromhos Feb. 15, 21; minimum measured daily, 721 micromhos Apr. 12; minimum estimated daily, 129 micromhos Aug. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
FEB 14...	1300	.01	21100	11.0	3800	3700	1000	310	4000
MAR 28...	1525	.07	15600	27.0	2800	2800	690	270	2800
APR 25...	1020	.10	3850	20.0	650	560	180	48	550
MAY 31...	0945	9.9	979	24.0	220	130	70	12	90
JUN 10...	0900	.29	1060	28.0	210	120	60	14	120
AUG 29...	1540	4.4	3290	29.5	830	680	230	63	380
SEP 20...	1400	2.9	3940	29.0	920	790	240	79	420

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
FEB 14...	28	12	54	0	310	8400	.1	1.1	14100
MAR 28...	23	11	78	0	280	6000	.2	.6	10100
APR 25...	9.4	7.5	110	0	120	1200	.3	3.1	2160
MAY 31...	2.6	6.3	120	0	47	210	.2	7.2	502
JUN 10...	3.6	5.8	110	0	36	260	.2	7.2	557
AUG 29...	5.7	8.9	190	0	140	1000	.2	11	1930
SEP 20...	6.0	8.7	170	0	220	1100	.3	13	2160

BRAZOS RIVER BASIN
08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	0	*****	*****	0	*****	0	*****	0	****
NOV. 1977.....	0	*****	*****	0	*****	0	*****	0	****
DEC. 1977.....	0	*****	*****	0	*****	0	*****	0	****
JAN. 1978.....	0	*****	*****	0	*****	0	*****	0	****
FEB. 1978.....	0.19	20900	13900	7.4	8280	4	310	0.2	****
MAR. 1978.....	0.55	16000	10400	15	6180	9.2	280	0.4	****
APR. 1978.....	408.3	1330	730	799	340	370	66	72	310
MAY 1978.....	357.6	1100	590	573	250	242	48	46	270
JUNE 1978.....	35.55	1010	550	53	230	22	52	5.1	250
JULY 1978.....	0	*****	*****	0	*****	0	*****	0	****
AUG. 1978.....	104329.12	157	86	24100	19	5330	6	1740	53
SEPT 1978.....	92.5	3800	2070	516	1100	274	180	46	840
TOTAL	105223.68	**	**	26100	**	6250	**	1910	**
WTD.AVG.	288.28	168	92	**	22	**	6.5	**	57

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	---	16300	4300	1030		---	3400
2					---	---	17000	4270	804		---	3450
3					---	---	17200	4110	1020		340	3490
4					---	---	17400	4150	1010		129	3520
5					---	---	17500	4190	1030		324	3570
6					---	---	17700	4260	974		720	3610
7					---	---	17800	4320	1060		831	3660
8					---	---	18000	3610	1070		1150	3700
9					---	---	8000	3530	1060		1470	3620
10					---	---	1150	3650	1080		1780	3600
11					---	---	740	3800	1110		1800	3630
12					20500	---	721	---	1140		1810	3650
13					20900	---	907	---	1170		1800	3700
14					21100	---	1080	---	1210		1830	3720
15					21200	---	1060	---	1200		1850	3740
16					21100	---	1410	---	1100		1860	3800
17					20800	---	1450	---	1190		1960	3840
18					20700	17000	1560	---	---		2080	3870
19					20900	16800	1540	---	---		2190	3910
20					21000	17000	1640	3630	---		2310	3940
21					21200	17300	1860	3700	---		2400	3980
22					21100	16100	2120	3840	---		2510	4010
23					---	15500	2530	---	---		2630	4050
24					---	15400	3240	---	---		2750	4090
25					---	15700	3850	---	---		2850	4120
26					---	15800	3960	---	---		2960	4150
27					---	15700	4010	---	---		3050	4180
28					---	15600	4230	1600	---		3170	4220
29					---	15900	4170	890	---		3290	4200
30					---	16300	4250	1200	---		3320	4250
31					---	16400	---	1220	---		3350	---
MEAN					21000	16200	6480	3350	1070		2020	3820

BRAZOS RIVER BASIN

243

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	---	---		---	---
2							---	---	25.0		---	---
3							---	---	27.0		23.0	---
4							---	---	31.0		---	---
5							---	---	30.0		---	---
6							---	---	24.0		---	---
7							---	---	30.0		26.0	---
8							---	---	30.0		---	26.0
9							---	---	31.0		---	25.0
10							16.0	---	28.0		29.0	27.0
11							16.0	---	---		---	28.0
12							16.0	---	---		---	---
13							17.0	---	---		---	---
14							20.0	---	---		---	---
15							18.0	---	---		---	---
16							26.0	---	---		---	---
17							28.0	---	---		---	---
18							27.0	---	---		---	---
19							26.0	---	---		---	---
20							26.0	---	---		---	---
21							24.0	---	---		---	---
22							24.0	---	---		---	---
23							29.0	---	---		---	---
24							28.0	---	---		---	---
25							---	---	---		---	---
26							---	---	---		---	---
27							---	---	---		---	---
28							---	---	---		---	22.0
29							---	22.0	---		---	24.0
30							---	23.0	---		---	26.0
31							---	24.0	---		---	---
MEAN							22.5	23.0	28.5		26.0	25.5

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. 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.--16 years (water years 1963-78), 27.6 ft³/s (0.782 m³/s), 20,000 acre-ft/yr (24.7 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 Texas 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.--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)
Apr. 9	2400	2,290 64.9	13.16 4.011	Aug. 4	0700	*5,140 146	21.86 6.663

a From floodmark.

Minimum discharge, no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.38	.00	.00	.01
2	.00	.00	.00	.00	.00	.00	.00	.02	.09	.00	.55	.02
3	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	2710	.01
4	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	3290	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	334	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	1.5	.00	128	.00
7	.00	.00	.00	.00	.00	.03	.00	.00	.09	.00	40	.00
8	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	18	.00
9	.00	.00	.00	.00	.00	.00	314	.00	.00	.00	9.5	.00
10	.00	.00	.00	.00	.00	.00	507	.00	.00	.00	4.2	.00
11	.00	.00	.00	.00	.00	.00	8.1	.00	.00	.00	1.6	.00
12	.00	.00	.00	.00	.00	.00	.73	.00	.00	.00	.52	.00
13	.00	.00	.00	.00	.00	.00	.14	.00	54	.00	.21	.00
14	.00	.00	.00	.00	.00	.00	.03	.00	17	.00	.13	.00
15	.00	.00	.00	.00	.00	.00	.02	.00	.60	.00	.09	.00
16	.00	.00	.00	.00	.00	.00	.02	.00	.29	.00	.07	.00
17	.00	.00	.00	.00	.00	.00	.01	.00	.06	.00	.06	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.06	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.39	.04	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	43	.03	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	19	.03	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19	.03	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.03	.04
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.09
28	.00	.00	.00	.00	.00	.00	.00	25	.00	.00	.01	.06
29	.00	.00	.00	.00	---	.00	.00	141	.00	.00	.01	.03
30	.00	.00	.00	.00	---	.00	.00	13	.00	.00	.00	.01
31	.00	---	.00	.00	---	.00	---	1.0	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.04	830.05	180.05	74.02	62.59	6537.31	.27
MEAN	.000	.000	.000	.000	.000	.001	27.7	5.81	2.47	2.02	211	.009
MAX	.00	.00	.00	.00	.00	.03	507	141	54	43	3290	.09
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.000	.000	.10	.02	.009	.007	.75	.000
IN.	.00	.00	.00	.00	.00	.00	.11	.02	.01	.01	.87	.00
AC-FT	.00	.00	.00	.00	.00	.08	1650	357	147	124	12970	.5

CAL YR 1977 TOTAL 3065.23 MEAN 8.40 MAX 2050 MIN .00 CFSM .03 IN .41 AC-FT 6080
WTR YR 1978 TOTAL 7684.33 MEAN 21.1 MAX 3290 MIN .00 CFSM .08 IN 1.02 AC-FT 15240

NOTE.--No gage-height record Aug. 3-15.

BRAZOS RIVER BASIN

245

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.

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, 19,100 micromhos Mar. 8; minimum measured daily, 270 micromhos June 6; minimum estimated daily, 151 micromhos Aug. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
DATE	TIME								
MAR 08...	0940	.02	19100	6.0	3700	3600	1100	220	3400
APR 26...	1230	.01	5430	23.0	980	870	300	55	800
MAY 05...	1100	.13	11700	14.0	2200	2000	670	120	1900
JUN 17...	0700	.08	536	21.0	130	48	43	5.5	52
JUL 26...	1050	.01	373	30.0	100	28	34	3.6	29
AUG 04...	1240	3500	202	27.0	77	0	27	2.4	6.6
SEP 14...	0830	.01	13300	--	2600	2400	790	140	2200
DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAR 08...	24	13	78	0	730	7000	.1	2.3	12500
APR 26...	11	9.0	130	0	190	1700	--	4.8	3120
MAY 05...	18	11	150	0	430	3900	.2	4.7	7110
JUN 17...	2.0	4.4	100	0	24	94	.4	7.3	280
JUL 26...	1.3	4.8	88	0	17	55	.3	7.5	195
AUG 04...	.3	3.8	94	0	10	8.8	.1	7.7	113
SEP 14...	19	14	140	0	490	4700	.1	13	8420

BRAZOS RIVER BASIN

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	0	*****	*****	0	*****	0	*****	0	****
NOV. 1977.....	0	*****	*****	0	*****	0	*****	0	****
DEC. 1977.....	0	*****	*****	0	*****	0	*****	0	****
JAN. 1978.....	0	*****	*****	0	*****	0	*****	0	****
FEB. 1978.....	0	*****	*****	0	*****	0	*****	0	****
MAR. 1978.....	0.04	18600	12000	1.3	6780	0.7	720	0.08	****
APR. 1978.....	830.05	514	270	615	88	197	25	55	130
MAY 1978.....	180.05	2620	1430	694	750	363	120	58	480
JUNE 1978.....	74.02	924	490	98	210	41	43	8.6	190
JULY 1978.....	62.59	415	220	38	57	9.6	20	3.3	110
AUG. 1978.....	6537.27	202	110	1910	10	184	9	164	73
SEPT 1978.....	0.27	13500	8470	6.2	4710	3.5	480	0.3	****
TOTAL	7684.29	**	**	3360	**	799	**	289	**
WTD.AVG.	21.05	302	160	**	38	**	14	**	91

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	---	538	---	---	10400
2						---	---	9360	645	---	1400	10600
3						---	---	9190	---	---	240	11100
4						---	---	9580	---	---	151	---
5						---	---	---	---	---	284	---
6						---	---	---	270	---	278	---
7						18500	---	---	309	---	409	---
8						19100	---	---	---	---	537	---
9						---	712	---	---	---	658	---
10						---	392	---	---	---	707	---
11						---	460	---	---	---	703	---
12						---	744	---	---	---	983	---
13						---	978	---	1110	---	1070	---
14						---	1380	---	429	---	1920	---
15						---	1500	---	419	---	2350	---
16						---	1820	---	616	---	2720	---
17						---	2090	---	515	---	3530	---
18						---	---	---	555	---	4220	---
19						---	---	---	---	---	4420	---
20						---	---	---	---	---	5090	---
21						---	---	---	---	---	5700	---
22						---	---	---	---	1650	6250	---
23						---	---	---	---	443	6830	---
24						---	---	---	---	327	6870	---
25						---	---	---	---	368	7920	---
26						---	---	---	---	373	8080	14500
27						---	---	---	---	---	8730	13700
28						---	---	4900	---	---	8960	13900
29						---	---	2310	---	---	9540	14000
30						---	---	1720	---	---	---	14500
31						---	---	494	---	---	---	---
MEAN						18800	1120	5360	541	632	3590	12800

BRAZOS RIVER BASIN

247

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	---	27.0			
2							---	---	22.0			
3							---	11.0	---			
4							---	10.0	---			
5							---	---	---			
6							---	---	18.0			
7							---	---	28.0			
8							---	---	---			
9							---	---	---			
10							12.0	---	---			
11							10.0	---	---			
12							11.0	---	---			
13							12.0	---	---			
14							12.0	---	20.0			
15							15.0	---	23.0			
16							---	---	21.0			
17							---	---	21.0			
18							---	---	22.0			
19							---	---	---			
20							---	---	---			
21							---	---	---			
22							---	---	---			
23							---	---	---			
24							---	---	---			
25							---	---	---			
26							---	---	---			
27							---	---	---			
28							---	---	---			
29							---	17.0	---			
30							---	29.0	---			
31							---	24.0	---			
MEAN							12.0	18.0	22.5			

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 ft (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: 4,840 acre-ft (5.97 hm³) for municipal use, 4,050 acre-ft (4.99 hm³) for oil-field operation, and 1,510 acre-ft (1.86 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, 401,500 acre-ft (495 hm³) Aug. 5, elevation, 1,188.06 ft (362.121 m); minimum, 185,800 acre-ft (229 hm³) Aug. 3, elevation, 1,172.72 ft (357.445 m).

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

1,172.0	178,300	1,183.0	317,800
1,178.0	247,600	1,189.0	418,600

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223000	215000	210600	207300	206600	206100	203500	205400	203900	195400	186100	299400
2	222700	214900	210500	207200	206600	206000	203400	205200	203800	195100	185900	299400
3	222300	214800	210300	207200	206600	205900	203400	205000	203600	194900	196800	299000
4	222000	214700	210100	207100	206500	205900	203300	204900	203500	194700	399000	298700
5	221700	214300	210000	207100	206500	205900	203300	204800	203300	194300	389300	298700
6	221300	214200	209900	207100	206500	205900	203200	204700	203900	194000	371000	298400
7	220900	214100	209700	206900	206500	205900	203100	204400	203900	193600	355400	298000
8	220400	213800	209500	206900	206500	205900	203000	204200	203500	193400	339300	298000
9	220100	213700	209400	206900	206500	205900	206600	204100	203300	193000	323500	297800
10	219700	213600	209300	206900	206500	205900	209500	203900	202700	192400	311000	297700
11	219300	213500	209200	206900	206400	205900	209800	203600	202600	192100	305600	297500
12	218800	213300	209100	206900	206400	205800	209500	203400	202600	191600	305300	297500
13	218300	213100	209000	206900	206400	205700	209400	203300	202400	191200	304600	297200
14	218100	212900	208900	206800	206400	205600	209300	203200	201600	191100	304100	296800
15	217800	212800	208800	206800	206400	205500	209100	203000	201200	190600	304000	296500
16	217600	212700	208800	206800	206400	205400	209000	202700	200600	190200	303800	296200
17	217500	212400	208800	206800	206400	205200	208600	202600	200700	190000	303100	295800
18	217300	212200	208800	206800	206300	205200	208400	202500	200000	189700	302600	295500
19	217000	212100	208800	206800	206300	205100	208100	202300	199800	189300	301700	295200
20	216800	212000	208800	206800	206300	205000	207800	202200	199400	188900	302200	294800
21	216700	211800	208800	206700	206300	204900	207400	202100	198800	188600	301700	294300
22	216600	211700	208600	206700	206300	204800	207300	201900	198600	188200	301900	293900
23	216400	211600	208600	206700	206100	204700	207200	201600	198300	187600	301600	293500
24	216300	211500	208500	206700	206100	204600	206800	201300	197900	187300	301300	293200
25	216200	211400	208400	206700	206100	204400	206600	201000	197300	186900	301000	293000
26	216100	211300	208300	206700	206100	204300	206400	200800	196800	186800	300700	293000
27	215800	211000	208200	206700	206100	204200	206100	200500	196600	186700	300300	293000
28	215700	210900	208100	206600	206100	204100	206000	203200	196300	186600	299700	293000
29	215500	210800	207800	206600	---	203900	205800	204400	196100	186500	299100	292900
30	215400	210700	207600	206600	---	203800	205600	204300	195800	186400	298800	292600
31	215300	---	207500	206600	---	203600	---	203900	---	186200	298700	---
MAX	223000	215000	210600	207300	206600	206100	209800	205400	203900	195400	399000	299400
MIN	215300	210700	207500	206600	206100	203600	203000	200500	195800	186200	185900	292600
(†)	1175.36	1174.97	1174.69	1174.61	1174.57	1174.35	1174.52	1174.37	1173.64	1172.75	1181.72	1181.30
(‡)	-8700	-4600	-3200	-900	-500	-2500	+2000	-1700	-8100	-9600	+112500	-6100
CAL YR 1977	MAX	252800	MIN	207500	‡	-36300						
WTR YR 1978	MAX	399000	MIN	185900	‡	+68600						

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

BRAZOS RIVER BASIN

249

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1963 to current year.

324932098575101 - HUBBARD CR RES P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
JAN									
17...	1400	1.0	1460	8.2	5.5	1.40	11.4	93	330
17...	1402	10	1460	8.1	5.5	--	11.4	93	--
17...	1404	20	1460	8.1	5.5	--	11.4	93	--
17...	1405	30	1460	8.2	5.5	--	11.4	93	--
17...	1407	40	1460	8.1	5.5	--	11.4	93	--
17...	1408	50	1460	8.2	5.5	--	11.4	93	--
17...	1410	62	1460	8.2	5.5	--	11.4	93	330

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
JAN									
17...	220	88	27	150	3.6	11	130	0	63
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	220	87	27	160	3.8	11	130	0	62

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
JAN									
17...	370	.5	5.6	780	.01	.00	.02	10	0
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	.01	.01	.02	0	0
17...	--	--	--	--	--	--	--	--	--
17...	370	.5	5.6	788	.01	.01	.01	10	10

324712098575701 - HUBBARD CR RES P4

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JAN							
17...	1515	1.0	1460	8.1	3.0	12.0	92
17...	1520	9.0	1460	8.2	3.0	11.8	91

324843098582901 - HUBBARD CR RES P6

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JAN							
17...	1530	1.0	1460	8.2	5.5	11.6	95
17...	1531	10	1460	8.2	5.0	11.6	94
17...	1532	20	1460	8.2	5.0	11.4	92
17...	1533	30	1460	8.2	5.0	11.4	92
17...	1534	40	1460	8.2	5.0	11.5	93
17...	1535	59	1460	8.2	5.0	11.5	93

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324649099000501 - HUBBARD CR RES P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA,MG) (MG/L)	
JAN									
17...	1730	1.0	1460	8.2	4.5	11.8	94	340	
17...	1732	10	1460	8.2	4.0	11.8	93	--	
17...	1735	20	1460	8.2	4.0	11.8	93	--	
17...	1740	33	1460	8.2	3.5	11.9	92	340	
DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
JAN									
17...	230	90	27	150	3.6	11	130	0	63
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	230	88	28	150	3.6	11	130	0	62
DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	
JAN									
17...	350	5.5	761	.01	.00	.01	20	20	
17...	--	--	--	.01	.01	.01	10	10	
17...	--	--	--	--	--	--	--	--	
17...	370	5.4	778	.01	.00	.01	0	0	

324606099000201 - HUBBARD CR RES P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JAN							
17...	1830	1.0	1460	8.4	3.0	11.8	91
17...	1831	10	1460	8.4	3.0	11.8	91
17...	1832	20	1460	8.4	3.0	11.8	91
17...	1833	36	1460	8.4	3.0	11.9	92

BRAZOS RIVER BASIN

251

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324301099001701 - HUBBARD CR RES P12

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA,MG) (MG/L)	
DATE	TIME								
JAN									
17...	1800	1.0	1550	8.3	2.5	12.1	92	350	
17...	1805	16	1550	8.2	2.5	12.1	92	350	
		DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	
DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)							
JAN									
17...	240	93	29	160	3.7	11	140	0	
17...	240	94	29	160	3.7	11	140	0	
		DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
DATE									
JAN									
17...	390	4.0	822	.06	.02	.03	10	10	
17...	390	4.0	823	.00	.00	.02	10	20	

324653099032401 - HUBBARD CR RES P16

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA,MG) (MG/L)	
JAN										
17...	1655	1.0	1490	8.2	2.5	.60	10.8	82	330	
17...	1657	10	1490	8.3	2.5	--	11.5	82	--	
17...	1700	23	1490	8.4	2.5	--	11.8	89	330	
DATE	TIME	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
JAN										
17...	230	89	27	150	3.6	11	130	0	62	--
17...	--	--	--	--	--	--	--	--	--	--
17...	230	89	27	150	3.6	11	130	0	63	
DATE	TIME	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	
JAN										
17...	370	5.0	778	.04	.02	.03	0	0		
17...	--	--	--	--	--	--	--	--	--	
17...	370	5.0	779	.01	.01	.12	10	0		

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324608099042101 - HUBBARD CR RES P17

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JAN 17...	1645	1.0	1490	8.3	2.5	11.2	85
17...	1650	12	1490	8.3	2.5	11.2	85

324541099053601 - HUBBARD CR RES P18

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
JAN 17...	1630	1.0	1490	8.3	2.5	.50	11.1	84	340
17...	1635	8.0	1490	8.3	2.5	--	11.0	83	340

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
JAN 17...	230	90	28	160	3.8	11	130	0	63
17...	230	90	28	150	3.5	11	140	0	63

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
JAN 17...	380	4.6	801	.04	.01	.01	180	40
17...	360	4.6	776	.04	.01	.02	0	20

324932098575101 - HUBBARD CR RES P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
JAN 17...	1400	1.0	0	400	0	0	3
17...	1405	30	--	--	--	--	--
17...	1410	62	1	300	0	0	3

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
JAN 17...	10	0	0	.0	0	0	20
17...	0	--	0	--	--	--	--
17...	10	0	10	.0	0	0	20

BRAZOS RIVER BASIN

253

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324932098575101 HUBBARD CR RES P1
PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO JANUARY 1978

DATE	JAN 17, 78
TIME	1400
TOTAL CELLS/ML	3100
DIVERSITY: DIVISION	1.0
.CLASS	1.0
..ORDER	1.0
...FAMILY	1.5
....GENUS	2.1

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
.CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OOCYSTACEAE		
....ANKISTRODESMUS	95	3
....CHODATELLA	*	0
....DICTYOSPHAERIUM	24	1
....KIRCHNERIELLA	110	4
....OOCYSTIS	320	10
....TETRAEDRON	*	0
...SCENEDESMACEAE		
....CRUCIGENIA	450	15
....SCENEDESMUS	260	9
....TETRASTRUM	48	2
CHRYSOPHYTA		
.BACILLARIOPHYCEAE		
..PENNALES		
...FRAGILARIACEAE		
....SYNEDRA	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)		
.CYANOPHYCEAE		
..CHROCCOCCALES		
...CHROCCOCCAEAE		
....ANACYSTIS	1700#	56
EUGLENOPHYTA (EUGLENOIDS)		
.CRYPTOPHYCEAE		
..CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS	*	0

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 CR RES P18
 PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO JANUARY 1978

DATE	JAN 17, 78
TIME	1630
TOTAL CELLS/ML	2800
DIVERSITY: DIVISION	1.2
..CLASS	1.2
...ORDER	1.2
...FAMILY	1.8
....GENUS	2.2

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...CHARACIACEAE		
....SCHROEDERIA	170	6
...OOCYSTACEAE		
....ANKISTRODESMEUS	390	14
....KIRCHNERIELLA	79	3
...OOCYSTIS	210	8
...SCENEDESMACEAE		
....CRUCIGENIA	210	8
...SCENEDESMUS	44	2
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	*	0
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	18	1
..PENNALES		
...ACHNANTHACEAE		
....COCCONEIS	18	1
...FRAGILARIACEAE		
....SYNEDRA	*	0
...NITZSCHACEAE		
....NITZSCHIA	18	1
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCOCCALES		
...CHROCOCCACEAE		
....ANACYSTIS	1600#	57
EUGLENOPHYTA (EUGLENOIDS)		
..CRYPTOPHYCEAE		
...CRYPTOMONIDAE		
...CRYPTOCHRYSIDACEAE		
....CHROOMONAS	26	1

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

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

BRAZOS RIVER BASIN

255

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324932098575101 - HUBBARD CR RES P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS, DIS- SOLVED (MG/L AS CACO3)
JUN										
09...	0854	1.0	1510	8.1	25.0	1.60	7.0	90		350
09...	0856	10	1510	8.1	25.0	--	7.0	90		--
09...	0858	20	1510	8.1	25.0	--	6.9	88		--
09...	0900	30	1510	8.1	24.5	--	6.8	87		--
09...	0902	40	1510	7.3	22.5	--	1.9	23		--
09...	0904	50	1510	7.2	21.5	--	.7	8		--
09...	0907	60	1530	7.2	21.0	--	.2	2		360

DATE	TIME	HARD- NESS, NONCAR- BONATE, DIS- (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN										
09...	250	95	28	160	3.7	11	130	0		67
09...	--	--	--	--	--	--	--	--		--
09...	--	--	--	--	--	--	--	--		--
09...	--	--	--	--	--	--	--	--		--
09...	--	--	--	--	--	--	--	--		--
09...	--	--	--	--	--	--	--	--		--
09...	240	97	28	160	3.7	11	140	0		65

DATE	TIME	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIOS, 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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FF)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN										
09...	370	.5	5.7	802	.03	.00	.00	.00	60	20
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	.05	.01	.01	50	0
09...	--	--	--	--	--	.11	.01	.00	0	80
09...	--	--	--	--	--	--	--	--	--	--
09...	370	.5	6.7	809	.09	.08	.00	.00	160	850

324712098575701 - HUBBARD CR RES P4

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
09...	0935	1.0	1520	8.1	25.5	7.1	92
09...	0938	13	1520	8.1	25.0	7.0	90

324843098582901 - HUBBARD CR RES P6

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
09...	1215	1.0	1510	8.1	27.5	7.3	97
09...	1217	10	1510	8.1	26.5	7.4	97
09...	1219	20	1510	8.1	26.0	7.0	91
09...	1221	30	1510	7.9	25.0	6.1	78
09...	1224	40	1510	7.2	23.5	1.4	18
09...	1226	50	1510	7.2	22.5	.3	4
09...	1230	59	1510	7.2	22.0	.3	4

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324649099000501 - HUBBARD CR RES P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS, DIS- SOLVED (MG/L AS CACO3)
JUN									
09...	1243	1.0	1500	8.1	27.5	.90	7.3	97	350
09...	1245	10	1500	8.1	26.5	--	7.2	95	--
09...	1248	20	1500	8.1	26.5	--	6.9	91	--
09...	1250	30	1500	8.0	26.0	--	6.3	82	--
09...	1252	42	1500	7.4	25.5	--	3.0	39	350

DATE	HARD- NESS, NONCAR- BONATE, DIS. (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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN									
09...	240	95	27	160	3.7	11	130	0	66
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	230	97	26	150	3.5	11	140	0	63

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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN								
09...	370	5.6	799	.02	.01	.00	10	10
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	.02	.01	.00	20	20
09...	360	6.3	782	.07	.06	.00	20	140

324606099000201 - HUBBARD CR RES P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)
JUN							
09...	1308	1.0	1490	8.1	26.0	7.1	92
09...	1310	10	1490	8.0	25.5	6.6	86
09...	1312	20	1490	8.0	25.5	6.3	82
09...	1315	33	1490	7.8	25.5	5.2	68

324514099010201 - HUBBARD CR RES P11

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)
JUN							
09...	1326	1.0	1470	8.1	28.5	7.0	93
09...	1330	10	1470	8.0	26.5	6.5	86
09...	1333	23	1470	8.0	26.5	6.3	83

BRAZOS RIVER BASIN

257

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324301099001701 - HUBBARD CR RES P12

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUP- ATION)	HARD- NESS, DIS- SOLVED (MG/L AS CAC03)
JUN									
09...	1347	1.0	1160	8.1	27.5	.20	8.2	109	270
09...	1350	12	1210	7.7	26.5	--	5.6	74	280

DATE	TIME	HARD- NESS, NONCAR- BONATE, DIS. (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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
JUN										
09...	170	76	19	120	3.2	8.2	120	0	57	
09...	180	80	19	120	3.1	8.8	120	0	52	

DATE	TIME	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN									
09...	280	6.0	625	.05	.03	.27	0	10	
09...	290	6.0	635	.07	.04	.01	10	20	

32494909854301 - HUBBARD CR RES P13

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUP- ATION)
JUN							
09...	1000	1.0	1510	8.1	25.5	7.2	94
09...	1002	10	1510	8.1	25.0	7.0	90
09...	1004	20	1510	8.1	25.0	6.8	87
09...	1006	30	1510	8.0	24.5	6.2	79
09...	1008	40	1510	7.3	23.0	2.1	26
09...	1010	55	1510	7.2	22.0	1.1	13

324802099021601 - HUBBARD CR RES P15

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUP- ATION)
JUN							
09...	1026	1.0	1510	8.0	26.5	6.8	89
09...	1028	10	1510	8.0	26.0	6.4	83
09...	1030	20	1510	7.9	26.0	5.8	75
09...	1032	33	1510	7.5	25.5	3.3	43

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324653099032401 - HUBBARD CR RES P16

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CACO3)
JUN									
09...	1045	1.0	1510	8.1	26.5	.40	7.1	93	330
09...	1048	10	1510	8.0	25.5	--	6.4	83	--
09...	1050	22	1510	7.9	25.0	--	6.1	78	320

DATE	HARD- NESS, NONCAR- BONATE, DIS. (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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
JUN									
09...	230	92	25	160	3.8	10	130	0	67
09...	--	--	--	--	--	--	--	--	--
09...	220	88	25	160	3.9	10	130	0	66

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN								
09...	360	5.9	784	.01	.01	.00	0	10
09...	--	--	--	--	--	--	--	--
09...	360	5.8	779	.01	.01	.00	10	120

324608099042101 - HUBBARD CR RES P17

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
09...	1110	1.0	1180	8.1	27.5	7.1	93
09...	1112	10	1200	7.4	26.0	3.1	40
09...	1114	18	1310	7.2	26.0	.6	8

BRAZOS RIVER BASIN

259

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324541099053601 - HUBBARD CR RES P18

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	HARD- NESS, DIS- SOLVED (MG/L AS CACO3)
JUN									
09...	1130	1.0	978	7.7	26.0	.30	5.8	75	220
09...	1133	11	987	7.3	25.5	--	2.7	35	230

DATE	HARD- NESS, NONCAR- BONATE, DIS- (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN									
09...	140	64	15	100	2.9	5.8	95	0	76
09...	140	64	16	100	2.9	5.7	100	0	76

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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN								
09...	210	6.6	524	.01	.01	.01	0	80
09...	210	6.8	528	.01	.09	.02	0	220

324932098575101 - HUBBARD CR RES P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
JUN							
09...	0854	1.0	0	400	0	0	2
09...	0900	30	--	--	--	--	--
09...	0902	40	--	--	--	--	--
09...	0907	60	0	400	0	0	4

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)
JUN							
09...	60	5	20	.0	1	0	20
09...	50	--	0	--	--	--	--
09...	0	--	80	--	--	--	--
09...	160	5	850	.0	1	0	80

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324932098575101 HUBBARD CR RES P1
PHYTOPLANKTON ANALYSES, MAY 1978 TO JUNE 1978

DATE	JUN 9, 78
TIME	0855
TOTAL CELLS/ML	5300
DIVERSITY: DIVISION	0.5
.CLASS	0.5
..ORDER	0.6
...FAMILY	1.6
....GENUS	1.9

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
.CHLOROPHYCEAE		
..CHLOROCOCCALES		
...COELASTRACEAE		
....COELASTRUM	3400#	64
....OOCYSTACEAE		
.....ANKISTRODESMUS	*	0
.....DICTYOSPHAERIUM	220	4
.....OOCYSTIS	310	6
...SCENEDESMACEAE		
....CRUCIGENIA	450	8
....SCENEDESMUS	310	6
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	89	2
CRYPTOPHYTA (CRYPTOMONADS)		
.CRYPTOPHYCEAE		
..CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)		
.CYANOPHYCEAE		
..CHROCCOCCALES		
...CHROCCOCCAEAE		
....ANACYSTIS	420	8
PYRRHOPHYTA (FIRE ALGAE)		
.DINOPHYCEAE		
..PERIDINIALES		
...PERIDINIACEAE		
....PERIDINIUM	*	0

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

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

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324541099053601 HUBBARD CR RES P18
 PHYTOPLANKTON ANALYSES, MAY 1978 TO JUNE 1978

DATE JUN 9, 78
 TIME 1131

TOTAL CELLS/ML 19000

DIVERSITY: DIVISION 1.7
 .CLASS 1.7
 ..ORDER 2.2
 ...FAMILY 2.3
GENUS 2.8

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
.CHLOROPHYCEAE		
..CHLOROCOCCALES		
...MICRACTINIACEAE		
....GOLENKINIA	110	1
...OOCYSTACEAE		
....KIRCHNERIELLA	110	1
...SCENEDESMACEAE		
....CRUCIGENIA	420	2
...SCENEDESMUS	1800	10
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CARTERIA	6700#	36
...CHLAMYDOMONAS	1300	7
..ZYGNEMATALES		
...DESMIDIACEAE		
....COSMARIUM	110	1
CHRYSOPHYTA		
.BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	110	1
..PENNALES		
...FRAGILARIACEAE		
....SYNEDRA	110	1
...NITZSCHIACEAE		
....NITZSCHIA	210	1
CRYPTOPHYTA (CRYPTOMONADS)		
.CRYPTOPHYCEAE		
..CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS	420	2
CYANOPHYTA (BLUE-GREEN ALGAE)		
.CYANOPHYCEAE		
..HORMOGONALES		
...OSCILLATORIACEAE		
....OSCILLATORIA	4600#	25
....SPIRULINA	110	1
EUGLENOPHYTA (EUGLENOIDS)		
.EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
....EUGLENA	1500	8
....TRACHELOMONAS	530	3
PYRRHOPHYTA (FIRE ALGAE)		
.DINOPHYCEAE		
..PERIDINIALES		
...GLENODINIACEAE		
....GLENODINIUM	420	2

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

324932098575101 - HUBBARD CR RES P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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 CAC03)
------	------	--------------------------------	--	---------------	-----------------------------	---	-------------------------------------	--	--

AUG
29... 0840 1.0 894 8.0 27.0 .90 5.8 73 220
29... 0842 10 894 8.0 27.0 -- 5.2 66 --
29... 0844 20 894 7.9 26.5 -- 5.1 65 --
29... 0846 30 860 7.4 26.0 -- 2.0 38 --
29... 0848 40 700 7.3 24.5 -- 1.0 12 --
29... 0850 50 333 7.4 23.0 -- .5 6 --
29... 0852 60 333 7.3 23.0 -- .4 5 --
29... 0854 65 333 7.3 23.0 -- .3 4 96

DATE	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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
------	--	--	--	--	---	---	--	------------------------------------	---

AUG
29... 140 64 14 84 2.5 7.9 97 0 36
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... 30 31 4.5 25 1.1 4.3 81 0 10

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, 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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
------	---	--	---	---	--	--	---	--	--

AUG
29... 200 .3 7.0 461 .01 .01 .02 20 0
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... -- -- -- -- -- -- -- -- --
29... 54 .1 7.4 177 .08 .08 .06 100 220

324712098575701 - HUBBARD CR RES P4

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

AUG
29... 0935 1.0 894 8.4 28.0 6.7 86
29... 0937 10 894 8.2 27.5 6.3 81
29... 0939 20 894 7.6 26.0 3.2 40
29... 0941 25 840 7.5 26.0 2.7 34

324843098582901 - HUBBARD CR RES P6

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

AUG
29... 1300 1.0 890 8.3 28.0 6.5 83
29... 1302 10 880 8.3 28.0 6.2 79
29... 1304 20 850 8.1 27.5 5.9 76
29... 1306 30 820 7.8 27.0 5.1 65
29... 1308 40 730 7.4 25.0 1.9 23
29... 1310 50 390 7.4 24.0 .3 4
29... 1312 60 380 7.4 24.0 .3 4
29... 1314 67 370 7.3 24.0 .3 4

BRAZOS RIVER BASIN

263

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324649099000501 - HUBBARD CR RES P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
AUG									
29...	1340	1.0	831	8.3	28.5	.90	7.1	92	190
29...	1342	10	831	8.2	28.0	--	6.7	86	--
29...	1344	20	821	8.1	28.0	--	6.2	79	--
29...	1346	30	754	7.3	26.5	--	1.8	23	--
29...	1348	40	754	7.3	26.5	--	1.2	15	--
29...	1350	47	754	7.3	26.5	--	1.2	15	180

DATE	TIME	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
AUG										
29...	120	56	13	79	2.5	7.5	94	0	34	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	100	53	12	71	2.3	7.1	96	0	30	--

DATE	TIME	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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG									
29...	190	6.7	433	.01	.00	.02	50	20	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	.02	.01	.02	20	20
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	170	7.1	398	.06	.04	.04	50	380	--

324606099000201 - HUBBARD CR RES P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
29...	1405	1.0	793	8.1	27.5	6.5	83
29...	1407	10	780	8.0	27.0	6.0	76
29...	1409	20	740	7.7	27.0	5.1	65
29...	1411	30	740	7.6	27.0	4.2	53
29...	1413	41	740	7.3	27.0	1.9	24

324514099010201 - HUBBARD CR RES P11

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
29...	1430	1.0	750	7.9	28.0	6.1	78
29...	1432	10	739	7.7	27.5	5.3	68
29...	1434	20	725	7.4	27.5	3.3	42
29...	1436	32	720	7.3	27.5	1.8	23

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324301099001701 - HUBBARD CR RES P12

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)
AUG									
29...	1447	1.0	661	7.5	28.0	.50	4.6	59	170
29...	1449	10	640	7.3	27.0	--	3.2	41	--
29...	1451	21	625	7.0	26.5	--	.3	4	160

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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
AUG									
29...	84	50	10	57	1.9	6.1	100	0	26
29...	--	--	--	--	--	--	--	--	--
29...	71	49	9.4	53	1.8	6.1	110	0	19

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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG								
29...	140	7.2	346	.06	.02	.04	50	90
29...	--	--	--	--	--	--	--	--
29...	130	8.1	330	.01	.15	.05	500	720

32494908594301 - HUBBARD CR RES P13

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)
AUG								
29...	1005	1.0	890	8.3	28.0	6.6	85	
29...	1007	10	890	8.2	28.0	6.3	81	
29...	1009	20	886	8.1	27.5	5.8	74	
29...	1011	30	841	7.4	26.5	1.8	23	
29...	1013	40	635	7.3	25.0	.4	5	
29...	1015	50	350	7.3	26.0	.3	4	
29...	1017	58	280	7.4	26.5	.4	5	

324802099021601 - HUBBARD CR RES P15

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)
AUG								
29...	1035	1.0	870	8.1	28.0	6.0	77	
29...	1037	10	865	7.9	27.5	5.5	71	
29...	1039	20	856	7.7	27.5	4.6	59	
29...	1041	30	850	7.6	28.0	4.1	53	
29...	1043	36	845	7.4	28.0	3.4	44	

BRAZOS RIVER BASIN

265

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324653099032401 - HUBBARD CR RES P16

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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 CAC03)
AUG										
29...	1100	1.0	851	7.6	28.0	.40	5.0	64		210
29...	1102	10	845	7.6	27.5	--	4.5	58		--
29...	1104	20	840	7.5	27.5	--	4.1	53		--
29...	1106	31	793	7.2	27.5	--	.5	6		210

DATE	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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
AUG									
29...	120	61	13	79	2.4	7.1	110	0	35
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	110	61	13	75	2.3	6.8	120	0	30

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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG								
29...	190	7.5	447	.01	.04	.03	20	80
29...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
29...	170	8.7	424	.01	.08	.05	20	370

324608099042101 - HUBBARD CR RES P17

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
29...	1133	1.0	801	7.4	28.0	4.7	60
29...	1135	10	797	7.1	27.5	1.2	15
29...	1137	24	725	7.1	27.0	.4	5

BRAZOS RIVER BASIN

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324541099053601 - HUBBARD CR RES P18

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
AUG										
29...	1157	1.0	858	7.4	28.0	.60	3.9	50	250	
29...	1159	10	858	7.2	28.0	--	9.0	12	--	
29...	1201	22	804	7.1	26.5	--	.3	4	240	

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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
AUG									
29...	120	75	14	70	1.9	5.7	150	0	35
29...	--	--	--	--	--	--	--	--	--
29...	100	73	13	72	2.0	5.0	160	0	32

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG								
29...	170	11	455	.00	.01	.04	30	60
29...	--	--	--	--	--	--	--	--
29...	170	11	456	.00	.21	.04	460	990

324932098575101 - HUBBARD CR RES P1

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
AUG							
29...	0840	1.0	1	400	0	0	4
29...	0844	20	--	--	--	--	--
29...	0848	40	--	--	--	--	--
29...	0854	65	2	300	0	10	3

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)
AUG							
29...	20	0	0	.1	0	0	20
29...	20	--	10	--	--	--	--
29...	100	--	60	--	--	--	--
29...	100	0	220	.1	0	0	50

BRAZOS RIVER BASIN

267

HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324932098575101 HUBBARD CR RES P1
PHYTOPLANKTON ANALYSES, AUGUST 1978 TO AUGUST 1978

DATE	AUG 29, 78
TIME	0841
TOTAL CELLS/ML	55000
DIVERSITY: DIVISION	0.5
..CLASS	0.5
..ORDER	1.0
...FAMILY	1.6
....GENUS	1.8

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OOCYSTACEAE		
....ANKISTRODESMUS	*	0
....OOCYSTIS	1400	3
....SELENASTRUM	*	0
...SCENEDESMACEAE		
....CRUCIGENIA	460	1
....SCENEDESMUS	1400	3
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CARTERIA	*	0
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	340	1
...PENNALES		
...ACHNANTHACEAE		
....ACHNANTHES	570	1
...NITZSCHACEAE		
....NITZSCHIA	460	1
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCOCCALES		
...CHROCOCCACEAE		
....ANACYSTIS	5200	9
...HORMOGONALES		
...OSCILLATORIACEAE		
....LYNGBYA	1100	2
...OSCILLATORIA	36000#	66
...RIVULARIACEAE		
....RAPHIDIOPSIS	7200	13

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 CR RES P18
 PHYTOPLANKTON ANALYSES, AUGUST 1978 TO AUGUST 1978

DATE	AUG 29, 78
TIME	1158
TOTAL CELLS/ML	120000
DIVERSITY: DIVISION	0.7
..CLASS	0.7
...ORDER	1.6
...FAMILY	2.0
....GENUS	2.4

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...COELASTRACEAE		
....COELASTRUM	2700	2
...MICRACTINIACEAE		
....MICRACTINIUM	690	1
...OOCYSTACEAE		
....ANKISTRODESMUS	1200	1
....CHODATELLA	*	0
....DICTYOSPHAERIUM	*	0
....SELENASTRUM	*	0
....TETRAEDRON	*	0
...SCENEDESMACEAE		
...SCENEDESMUS	2100	2
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CARTERIA	850	1
..ZYGNEMATALES		
...DESMIDIACEAE		
....CLOSTERIUM	*	0
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	*	0
..PENNALES		
...NITZSCHACEAE		
....NITZSCHIA	680	1
..CHRYSTOPHYCEAE		
...CHRYSONOMADALES		
...MALLOMONADACEAE		
....MALLOMONAS	*	0
CRYPTOPHYTA (CRYPTOMONADS)		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS	1000	1
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCCOCCALES		
...CHROCCOCCACEAE		
....AGMENELLUM	19000#	17
....ANACYSTIS	17000	15
...HORMOGONALES		
...NOSTOCACEAE		
....CYLINDROSPERMUM	8700	7
...OSCILLATORIACEAE		
....OSCILLATORIA	57000#	49
EUGLENOPHYTA (EUGLENOIDS)		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
....EUGLENA	*	0
....PHACUS	*	0
....TRACHELOMONAS	1700	1

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

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

08086500 HUBBARD CREEK NEAR BRECKENRIDGE, TX

LOCATION.--Lat 32°50'13", Long 98°56'52", Stephens County, Hydrologic Unit 12060105, on downstream side of pier of bridge on U.S. Highway 183, 1.4 mi (2.3 km) downstream from Hubbard Creek Reservoir, 6.8 mi (10.9 km) northwest of Breckenridge, 8.2 mi (13.2 km) upstream from Gonzales Creek, and 11.2 mi (18.0 km) upstream from Clear Fork Brazos River.

DRAINAGE AREA.--1,089 mi² (2,821 km²), of which 1,085 mi² (2,810 km²) is above Hubbard Creek Dam.

PERIOD OF RECORD.--April 1955 to current year.

Water-quality records: Chemical analyses: April 1955 to September 1975. Water temperatures: April 1955 to September 1975.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,092.10 ft (332.872 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 below 100 ft³/s (2.83 m³/s) and fair above. 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); 16 years (water years 1963-78) regulated, 34.9 ft³/s (0.988 m³/s), 25,290 acre-ft/yr (31.2 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 Texas Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,600 ft³/s (413 m³/s) Aug. 5, gage height, 30.66 ft (9.345 m); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.65
2	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.97
3	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.40	.88
4	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	5740	.63
5	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	13800	.69
6	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	12000	.70
7	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	9950	.70
8	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	9250	.77
9	.00	.00	.00	.00	.00	.03	.56	.00	.00	.00	8760	.59
10	.00	.00	.00	.00	.00	.03	2.1	.00	.00	.00	7260	.53
11	.00	.00	.00	.00	.00	.03	.33	.00	.00	58	3690	.44
12	.00	.00	.00	.00	.01	.02	.16	.00	.00	57	121	.41
13	.00	.00	.00	.00	.01	.02	.11	.00	.00	.23	206	.35
14	.00	.00	.00	.00	.01	.01	.08	.00	.00	.04	89	.33
15	.00	.00	.00	.00	.01	.01	.06	.00	.00	.01	3.3	.31
16	.00	.00	.00	.00	.02	.01	.05	.00	.00	.00	2.3	.31
17	.00	.00	.00	.00	.04	.01	.04	.00	.00	.00	1.5	.23
18	37	.00	.00	.00	.03	.01	.02	.00	.00	.00	1.6	.20
19	76	.00	.00	.00	.03	.00	.01	.00	.00	.00	.77	.19
20	.10	.00	.00	.00	.03	.00	.01	.00	.00	.00	.91	.25
21	.01	.00	.00	.00	.02	.00	.00	.00	.00	.00	1.3	.25
22	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	1.3	.32
23	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.98	.34
24	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.89	.32
25	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	1.3	.37
26	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.83	.45
27	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.64	.51
28	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.92	.36
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.52	.29
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.35	.23
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.32	---
TOTAL	113.11	.00	.00	.00	.28	.33	3.53	.00	.00	115.28	70886.13	13.57
MEAN	3.65	.000	.000	.000	.010	.011	.12	.000	.000	3.72	2287	.45
MAX	76	.00	.00	.00	.04	.05	2.1	.00	.00	58	13800	.97
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19
AC-FT	224	.00	.00	.00	.6	.7	7.0	.00	.00	229	140600	27
CAL YR 1977	TOTAL	230.47	MEAN	.63	MAX	76	MIN	.00	AC-FT	457		
WTR YR 1978	TOTAL	71132.23	MEAN	195	MAX	13800	MIN	.00	AC-FT	141100		

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); 16 years (water years 1963-78) regulated, 257 ft³/s (7.278 m³/s), 186,200 acre-ft/yr (230 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1877, that of Aug. 5, 1978. 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 Texas Department of Highways and Public Transportation and local residents. Other floods are reported to have occurred in 1876, Apr. 27, 1890, 1932, 1941, and 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 68,000 ft³/s (1,930 m³/s) Aug. 5, gage height, 37.04 ft (11.290 m), no other peak above base of 6,000 ft³/s (170 m³/s); minimum, 0.01 ft³/s (0.0003 m³/s) July 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.47	.20	20	17	25	24	12	.56	179	.08	.1	120
2	.45	3.4	23	15	24	22	12	.35	92	.05	.1	141
3	.39	8.6	28	12	25	20	12	.38	409	.03	.1	148
4	.39	9.5	17	13	26	18	12	.34	120	.03	4180	126
5	.39	9.6	15	16	23	16	11	.21	50	.03	46000	107
6	.39	8.5	12	23	22	17	11	.19	89	.03	55200	98
7	.39	8.4	14	28	28	21	8.2	.21	453	.04	38100	92
8	.28	19	21	28	28	25	6.3	.20	147	.04	31300	87
9	.28	27	20	25	28	27	284	.14	108	.04	21900	92
10	.16	21	19	21	29	25	1710	.16	145	.05	13000	146
11	.13	11	17	17	27	24	79	.19	124	.05	9670	141
12	.28	7.9	17	16	33	22	28	.19	100	.05	3220	194
13	.10	7.7	17	18	34	19	14	.10	59	.05	1780	155
14	.08	9.8	21	24	38	18	8.5	.09	39	.04	1310	127
15	.06	11	21	23	39	16	7.0	.07	48	.05	885	108
16	.05	9.7	19	22	36	16	6.8	.09	37	.05	707	95
17	.06	11	20	20	42	16	5.4	.21	23	.04	590	82
18	.04	14	20	20	44	13	3.2	.66	15	.03	505	92
19	.04	18	20	19	39	10	2.3	.69	9.2	.03	441	86
20	.03	19	19	18	36	9.1	1.9	.68	6.3	.04	387	73
21	5.5	17	20	16	35	9.2	1.5	.67	4.2	.04	327	60
22	3.0	17	25	16	34	10	1.2	.49	2.6	.04	296	56
23	2.1	18	25	16	33	11	1.0	.22	1.6	.05	270	55
24	1.7	19	24	15	30	12	.96	.10	.84	.05	254	58
25	1.2	19	21	15	26	13	.85	.08	.55	.05	227	421
26	.74	16	20	15	25	13	.79	.06	.28	.05	217	395
27	.60	14	19	12	23	12	.86	.04	.19	.06	194	269
28	.46	18	19	12	23	11	1.0	.38	.16	.07	166	319
29	.37	20	22	13	---	9.7	1.0	379	.10	.07	152	319
30	.26	20	22	18	---	11	.83	116	.08	.07	145	224
31	.22	---	19	23	---	12	---	517	---	.08	129	---
TOTAL	20.61	412.30	616	566	855	502.0	2244.59	1057.37	2263.10	1.48	231552.3	4486
MEAN	.66	13.7	19.9	18.3	30.5	16.2	74.8	34.1	75.4	.048	7469	150
MAX	5.5	27	28	28	44	27	1710	517	453	.08	55200	421
MIN	.03	.20	12	12	22	9.1	.79	.04	.08	.03	.10	55
AC-FT	41	818	1220	1120	1700	996	4450	2100	4490	2.9	459300	8900
CAL YR 1977	TOTAL	37630.00	MEAN 103	MAX 4170	MIN .03	AC-FT 74640						
WTR YR 1978	TOTAL	244576.75	MEAN 670	MAX 55200	MIN .03	AC-FT 485100						

BRAZOS RIVER BASIN

271

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1961 to current year. Pesticide analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1961 to current year.

WATER TEMPERATURES: October 1961 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 7,400 micromhos Jan. 9, 1971; minimum daily, 227 micromhos Aug. 5, 1978.

WATER TEMPERATURES: Maximum daily, 38.0°C Aug. 6 1964; minimum daily, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,640 micromhos June 6; minimum daily, 227 micromhos Aug. 5.

WATER TEMPERATURES: Maximum daily, 30.0°C July 17-19; minimum daily, 1.5°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
NOV 18...	0717	13	4130	8.3	13.5	1100	960	250	120	530
JAN 31...	0729	21	3320	8.2	3.0	970	750	230	95	400
FEB 28...	0800	24	3010	--	9.0	810	570	190	82	360
MAR 31...	0705	12	3050	8.2	17.0	680	530	140	80	380
APR 24...	0708	.96	892	--	21.0	190	120	56	12	93
MAY 23...	0750	.28	996	--	26.5	190	130	50	17	110
JUL 05...	1200	.03	965	--	31.5	240	130	61	21	94
AUG 07...	1410	37000	334	--	25.0	110	29	35	5.2	22
SEP 26...	1200	397	2620	--	20.0	720	530	170	71	260

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
NOV 18...	6.9	14	190	0	890	890	.4	8.3	2800
JAN 31...	5.6	11	260	0	800	580	.6	8.2	2250
FEB 28...	5.5	16	290	0	570	540	.7	3.3	1910
MAR 31...	6.3	15	180	0	560	550	.7	.3	1810
APR 24...	2.9	4.7	80	0	59	200	.2	3.0	467
MAY 23...	3.4	5.8	76	0	60	220	.3	3.3	504
JUL 05...	2.6	6.2	130	0	140	150	.3	5.7	542
AUG 07...	.9	4.5	97	0	19	43	.2	8.6	185
SEP 26...	4.2	9.9	230	0	270	570	.3	11	1480

BRAZOS RIVER BASIN

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
MAR 01...	1545	.0	0	.00	.00	.0	.0	0	.00	.0
AUG 14...	1350	.0	0	.00	.00	.0	.0	0	.00	.0

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAR 01...	.00	.2	.00	.0	.02	.00	.0	.00	.00	.0
AUG 14...	.00	.0	.00	.0	.00	.00	.0	.00	.00	.0

DATE	ETHION, TOTAL (UG/L)	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)	METHYL PARA- THION, TOTAL (UG/L)
MAR 01...	.00	.00	.0	.00	.0	.00	.0	.00	.00
AUG 14...	.00	.00	.0	.00	.0	.00	.0	.00	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	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)
MAR 01...	.00	--	.00	0	0	.00	.01	.01	.00
AUG 14...	.00	.00	.00	0	0	.00	.00	.00	.00

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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)
OCT. 1977.....	20.61	3840	2600	144	760	43	780	44	1060
NOV. 1977.....	412.3	3970	2710	3020	780	873	820	907	1100
DEC. 1977.....	616	3790	2550	4250	750	1250	760	1270	1040
JAN. 1978.....	566	3810	2570	3920	760	1160	770	1170	1040
FEB. 1978.....	855	2940	1800	4150	620	1420	520	1200	770
MAR. 1978.....	501	3150	1990	2700	650	885	580	792	840
APR. 1978.....	2244.59	950	540	3260	170	1030	120	703	180
MAY 1978.....	1057.37	813	450	1290	140	390	87	248	160
JUNE 1978.....	2263.1	2300	1450	8950	450	2770	410	2500	570
JULY 1978.....	1.48	983	550	2.1	180	0.7	100	0.4	190
AUG. 1978.....	231552.16	407	230	142000	56	34800	43	27200	79
SEPT 1978.....	4486	2650	1570	19000	570	6880	440	5340	680
TOTAL	244576.48	**	**	193000	**	51500	**	41400	**
WTD. AVG.	670.07	510	290	**	78	**	62	**	-99

BRAZOS RIVER BASIN

273

08087300 CLEAR FORK BRAZOS RIVER AT ELIASVILLE, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3700	3880	3810	3650	3230	3070	3030	914	1000	952	1010	1940
2	3700	3870	3800	3680	3190	3110	3030	914	2720	956	1010	1990
3	3730	3910	3800	3690	3180	3190	3040	917	3350	961	1000	2050
4	3740	3910	3770	3660	3010	3240	3040	921	4200	969	600	2080
5	3750	3960	3750	3660	2920	3270	3070	921	5640	965	227	2080
6	3750	3980	3740	3660	2900	3290	3080	933	6640	969	274	2210
7	3750	4000	3740	3680	2900	3260	3100	937	2720	969	319	2310
8	3770	3270	3710	3710	2860	3310	3100	945	1110	960	468	2350
9	3770	4090	3670	3740	2860	3310	2000	949	996	961	548	2380
10	3780	4290	3630	3780	2890	3300	700	957	835	961	652	2330
11	3800	4320	3610	3860	2840	3260	524	961	716	961	755	2420
12	3750	4270	3620	3840	2800	3240	629	961	937	965	774	2540
13	3800	4260	3630	3930	2840	3200	715	974	925	965	737	2520
14	3800	4240	3660	3980	2890	3170	816	974	860	965	713	2550
15	3820	4190	3630	4000	2910	3140	876	987	874	969	796	2570
16	3830	4150	3630	4050	2910	3130	890	996	902	978	918	2620
17	3830	4190	3670	4120	2910	3120	893	987	884	982	966	2680
18	3860	4190	3740	4130	2960	3080	901	987	877	982	1040	2750
19	3860	4140	3820	4130	2910	3060	897	974	881	982	1090	2810
20	3860	3990	3920	4130	2910	3060	883	982	888	982	1160	2870
21	3880	3930	3970	4130	2910	3040	880	982	895	986	1220	2880
22	3880	4000	4050	4006	2920	3030	876	991	902	991	1290	2980
23	3800	3950	4070	3950	2920	3010	894	996	914	1000	1360	3070
24	3860	3900	3970	3880	2940	3020	894	987	917	1000	1430	3140
25	3880	3880	3970	3830	2970	3020	890	996	925	1000	1490	2800
26	3880	3870	3940	3830	2980	3000	880	1000	929	1000	1570	2780
27	3890	3830	3900	3620	3000	2990	887	1000	933	1000	1630	2760
28	3900	3820	3860	3470	3040	2970	897	970	941	1000	1680	3500
29	3900	3790	3780	3340	---	2980	897	918	945	1020	1750	3010
30	3920	3760	3710	3300	---	2990	904	911	949	1010	1810	2800
31	3920	---	3660	3320	---	2990	---	700	---	1020	1890	---
MEAN	3820	3990	3780	3800	2950	3120	1470	953	1570	980	1040	2590

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

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

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.--WDR 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. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years, 842 ft³/s (23.85 m³/s), 610,000 acre-ft/yr (752 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.

EXTREME OUTSIDE PERIOD OF RECORD.--Maximum stage since 1876, that of Aug. 6, 1978. Flood in 1886 reached a stage of 36.2 ft (11.03 m), from information by Texas Department of Highways and Public Transportation and Corps of Engineers. Flood of Sept. 24, 1900, reached a stage of 29.5 ft (8.99 m), and flood of June 16, 1930, reached a stage of 35.5 ft (10.82 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 78,100 ft³/s (2,210 m³/s) Aug. 6, gage height, 41.20 ft (12.557 m), no other peak above base of 11,000 ft³/s (312 m³/s); maximum gage height, 41.50 ft (12.649 m) Aug. 6, from floodmark; minimum discharge, 1.0 ft³/s (0.028 m³/s) Aug. 1, 2.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	4.3	12	18	37	52	35	8.8	339	11	1.2	206
2	11	3.9	13	18	36	49	33	7.9	202	9.4	1.2	203
3	10	4.3	12	17	37	47	32	10	329	7.4	3.2	193
4	9.8	4.9	15	17	38	46	33	10	411	6.1	1460	189
5	11	5.9	15	17	37	45	33	10	258	4.7	29500	193
6	12	6.6	16	17	36	42	30	9.9	381	3.9	74700	179
7	11	7.5	16	17	40	48	30	18	782	3.5	61000	167
8	9.7	13	15	17	39	52	28	39	1110	3.1	43000	154
9	8.8	15	18	16	37	52	243	29	683	2.8	29700	150
10	7.9	16	20	15	36	52	1680	22	674	2.6	18200	168
11	6.9	13	19	15	39	46	217	19	746	2.4	11200	188
12	6.3	11	19	15	53	46	96	15	715	2.2	4210	198
13	6.0	10	18	17	56	44	66	13	566	2.1	2600	294
14	5.6	9.0	18	20	59	40	50	11	379	2.1	2260	293
15	5.1	8.9	19	23	67	36	38	9.9	289	2.0	1780	224
16	5.0	9.1	19	23	74	36	32	8.6	238	2.0	1490	192
17	4.5	9.5	18	23	72	35	28	7.9	191	1.9	1290	172
18	4.2	9.4	18	22	60	34	25	6.3	182	1.5	1120	147
19	4.0	9.5	18	21	56	31	22	5.4	152	1.5	996	142
20	4.0	9.1	18	20	58	27	21	27	122	1.3	886	124
21	4.0	8.7	18	22	63	25	20	21	102	1.3	768	107
22	4.2	9.7	20	23	68	26	18	206	81	1.3	676	104
23	4.6	10	20	27	66	32	16	1110	67	1.7	582	514
24	5.0	10	19	27	63	500	15	845	56	1.6	524	1760
25	4.9	11	19	28	59	360	14	926	46	1.5	472	1630
26	4.5	11	19	28	58	145	14	649	38	1.5	450	1370
27	4.6	10	18	27	56	91	14	462	30	1.6	379	1400
28	4.6	10	18	26	53	66	12	465	24	1.4	295	1420
29	4.6	11	19	28	---	52	11	848	18	1.3	259	1150
30	4.7	12	19	28	---	44	9.9	324	14	1.3	235	865
31	4.8	---	20	33	---	39	---	548	---	1.2	223	---
TOTAL	205.3	283.3	545	665	1453	2240	2915.9	6691.7	9225	89.2	290260.6	14096
MEAN	6.62	9.44	17.6	21.5	51.9	72.3	97.2	216	308	2.88	9363	470
MAX	12	16	20	33	74	500	1680	1110	1110	11	74700	1760
MIN	4.0	3.9	12	15	36	25	9.9	5.4	14	1.2	1.2	104
AC-FT	407	562	1080	1320	2880	4440	5780	13270	18300	177	575700	27960
CAL YR 1977	TOTAL	89969.6	MEAN 246	MAX 4520	MIN 3.9	AC-FT 178500						
WTR YR 1978	TOTAL	328670.0	MEAN 900	MAX 74700	MIN 1.2	AC-FT 651900						

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1942 to September 1969. Chemical and biochemical analyses: November 1977 to September 1978. Pesticide analyses: March 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to September 1978.
WATER TEMPERATURES: November 1977 to September 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 13,500 micromhos Feb. 25; minimum daily, 350 micromhos Aug. 6.
WATER TEMPERATURES: Maximum daily, 35.0°C July 4, 5, 9, 14; minimum daily, 0.0°C Jan. 10, 11, 18, 21, Feb. 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	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)	
NOV 03...	1130	4.1	9460	7.9	16.5	20	9.9	108	3.1	640	8	
DEC 14...	1600	18	5740	8.2	13.0	20	12.5	125	6.2	40	33	
JAN 12...	1230	15	6450	8.0	2.5	9	12.8	99	3.0	80	5	
MAR 01...	1815	52	12200	8.2	9.0	6	12.0	112	.7	40	16	
09...	1315	52	9320	8.1	9.5	4	12.7	119	1.0	60	8	
APR 10...	1440	2020	2210	7.6	18.0	1300	3.9	43	14	--	17000	
MAY 08...	1555	38	11800	8.0	27.5	25	8.7	116	2.8	800	200	
JUN 05...	1410	231	7900	8.1	29.5	1700	8.0	108	4.5	34000	1600	
JUL 10...	1500	2.7	12200	7.6	36.0	50	8.5	129	2.0	310	52	
AUG 14...	1540	2450	2400	7.6	34.5	680	6.7	95	3.2	2500	770	
SEP 11...	1530	189	5060	8.0	28.5	20	8.2	109	2.5	--	K200	
DATE	TIME	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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV 03...	240	1600	1400	410	130	1600	18	14	140	0	1000	
DEC 14...	4	1300	1100	290	130	830	10	15	210	0	1000	
JAN 12...	110	1400	1100	310	140	850	10	13	260	0	790	
MAR 01...	10	1400	1300	360	130	2300	26	17	210	0	1200	
09...	8	1400	1200	350	120	1600	19	18	210	0	1000	
APR 10...	15000	370	290	110	24	290	6.5	11	100	0	430	
MAY 08...	96	1700	1600	440	140	2200	23	15	130	0	1400	
JUN 05...	1200	1200	1100	300	110	1300	16	16	140	0	990	
JUL 10...	21	1700	1600	450	140	2100	22	19	130	0	1400	
AUG 14...	880	350	260	98	25	360	8.4	7.9	110	0	220	
SEP 11...	K160	910	760	250	69	810	12	11	180	0	590	
DATE	TIME	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 CONSTITU- ENTS, 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)	
NOV 03...	2700	.4	5.5	3070	5930	.00	.03	.01	.06	.54		
DEC 14...	1400	.5	7.9	3670	3780	.07	.01	.08	.10	1.0		
JAN 12...	1500	.5	7.8	4230	3740	.01	.01	.02	.12	.78		
MAR 01...	3600	.6	2.3	9610	7710	.03	.01	.04	.02	.78		
09...	2600	.6	2.1	5680	5790	.00	.01	.01	.01	.69		
APR 10...	380	.5	4.4	1360	1300	.09	.02	.11	.06	1.8		
MAY 08...	3500	.6	4.2	7680	7760	.00	.02	.02	.09	3.8		
JUN 05...	2100	1.0	5.0	4980	4890	.08	.01	.09	.18	1.8		
JUL 10...	3500	.9	13	7820	7690	.00	.01	.01	.01	.74		
AUG 14...	610	.3	9.0	1440	1380	.31	.02	.33	.16	1.2		
SEP 11...	1300	.4	8.9	3050	3130	.04	.01	.05	.00	.80		

BRAZOS RIVER BASIN

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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- 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 03...	.60	.31	.06	.01	4.1	--	--	20	.22	98
DEC 14...	1.1	.93	.08	.01	9.4	--	--	45	2.2	91
JAN 12...	.90	.43	.04	.02	7.5	--	--	14	.57	92
MAR 01...	.80	.55	.23	.20	--	7.7	.5	--	--	--
MAR 09...	.70	.49	.34	.32	6.6	--	--	4	.56	97
APR 10...	1.9	.99	.36	.04	--	12	6.5	2380	13000	92
MAY 08...	3.9	1.9	.08	.01	7.6	--	--	50	5.1	97
JUN 05...	2.0	.44	.55	.01	17	--	--	1550	967	100
JUL 10...	.75	.68	.14	.02	--	4.8	.2	78	.57	100
AUG 14...	1.4	1.5	.83	.13	12	--	--	1070	7080	96
SEP 11...	.80	.64	.05	.01	--	5.3	1.8	39	20	91

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)
MAR 01...	1815	3	1	2	100	0	200	0	0	5
APR 10...	1440	9	7	2	1100	1100	0	2	1	1
JUL 10...	1500	3	0	3	100	0	100	2	1	1
SEP 11...	1530	2	--	2	100	0	100	1	0	1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDED RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
MAR 01...	10	0	10	1	1	0	5	4	1	300
APR 10...	60	60	0	18	18	0	70	68	2	120000
JUL 10...	50	40	10	3	1	2	7	3	4	1200
SEP 11...	10	10	0	0	0	0	5	1	4	470

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, TOTAL SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (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)
MAR 01...	--	0	7	3	4	130	30	100	.0	.0
APR 10...	--	20	73	72	1	2400	2400	0	.0	.0
JUL 10...	1200	20	6	4	2	340	80	260	.2	.2
SEP 11...	450	20	37	37	0	180	100	80	.2	.0

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL SOLVED (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)
MAR 01...	.0	2	0	2	0	0	0	30	10	20
APR 10...	.0	1	1	0	1	1	0	240	230	10
JUL 10...	.0	0	0	0	0	0	0	40	0	40
SEP 11...	.2	--	--	1	3	3	0	20	0	30

BRAZOS RIVER BASIN

277

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	ATRA- ZINE, TOTAL (UG/L)	ATRA- ZINE, 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)	
NOV 03...	1130	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	
MAR 01...	1815	--	--	--	ND	--	ND	--	ND	--	ND	
MAY 08...	1555	ND	--	--	ND	--	--	--	ND	--	ND	
JUL 10...	1500	.0	0	.00	.00	.0	--	--	.0	0	.00	
DATE		DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)
NOV 03...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
MAR 01...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 08...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
JUL 10...	.0	.00	.2	.00	.0	.00	--	.00	.0	.00	.00	.00
DATE		ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATT. (UG/KG)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATT. (UG/L)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL (UG/L)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 03...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR 01...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 08...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
JUL 10...	.0	.00	--	.00	.0	.00	.0	.00	.0	.00	.00	--
DATE		METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METHYL THI- ON, TOTAL (UG/L)	METHYL THI- ON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)
NOV 03...	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND
MAR 01...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 08...	ND	--	ND	--	ND	--	ND	--	ND	--	--	--
JUL 10...	--	--	.00	--	.00	--	.00	.00	--	--	--	--
DATE		TOX- APHENE, TOTAL (UG/L)	TOX- APHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- THION, TOTAL (UG/L)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	
NOV 03...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MAR 01...	ND	--	ND	--	ND	--	ND	--	ND	--	--	
MAY 08...	ND	--	ND	--	ND	--	ND	--	ND	--	--	
JUL 10...	0	0	.00	--	.00	--	.00	--	.00	--	--	

BRAZOS RIVER BASIN

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	NOV 3,77 1130	MAR 9,78 1315	MAY 8,78 1555	JUN 5,78 1410
TOTAL CELLS/ML	55000	19000	8300	1500
DIVERSITY: DIVISION	0.6	1.1	1.4	0.9
..CLASS	0.6	1.1	1.4	0.9
...ORDER	1.3	1.3	2.1	0.9
....FAMILY	1.7	1.3	2.3	1.5
.....GENUS	2.4	2.1	3.0	1.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....CHARACIACEAE								
....SCHROEDERIA	* 0		--	--	--	--	--	--
....OOCYSTACEAE								
.....ANKISTRODESMS	3900	7	480	3	64	1	73	5
.....DICTYOSPHAERIUM	--	--	1600	8	--	--	--	--
.....FRANCEIA	--	--	--	--	110	1	--	--
.....KIRCHNERIELLA	--	--	840	5	--	--	--	--
....OOCYSTIS	320	1	--	--	1900#	23	--	--
....QUADRIGULA	--	--	9700#	52	--	--	--	--
....SELENASTRUM	--	--	--	--	110	1	--	--
....TETRAEDRON	--	--	--	--	43	1	--	--
...SCENEDESMACEAE								
....CRUCIGENIA	--	--	--	--	--	--	--	--
....SCENEDESMUS	--	--	--	--	86	1	350#	24
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	* 0		--	--	43	1	--	--
....CHLAMYDOMONAS	--	--	--	--	210	3	--	--
...VOLVOCAEAE								
....PANDORINA	--	--	--	--	170	2	--	--
..ZYGNEMATALES								
...DESMIDIACEAE								
....COSMARIUM	--	--	--	--	--	--	--	--
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...PENNALES								
....NAVICULACEAE								
....ENTOMONEIS	--	--	--	--	* 0		--	--
...CENTRALES								
....COSCINODISCAEAE								
....CYCLOTELLA	--	--	--	--	--	--	--	--
...PENNALES								
....ACHNANTHACEAE								
....ACHNANTHES	--	--	--	--	* 0		--	--
....CYMBELLACEAE								
....AMPHORA	--	--	120	1	--	--	--	--
...FRAGILARIACEAE								
....FRAGILARIA	--	--	--	--	--	--	880#	60
....SYNEDRA	* 0		--	--	--	--	--	--
...NAVICULACEAE								
....GYROSIGMA	--	--	--	--	--	--	73	5
....NAVICULA	--	--	120	1	150	2	88	6
...NITZSCHIAEAE								
....NITZSCHIA	* 0		--	--	170	2	--	--
...SURIPELLACEAE								
....SURIPELLA	--	--	--	--	130	2	--	--
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONIDAE								
....CRYPTOMONODACEAE								
....CRYPTOMONAS	--	--	--	--	--	--	--	--
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROCOCCOCCALES								
....CHROCOCCOCCAEAE								
.....AGMENELLUM	--	--	--	--	1300#	16	--	--
....ANACYSTIS	13000#	23	1700	9	2200#	26	--	--
...HORMOGONALES								
....NOSTOCACEAE								
.....ANABAENA	19000#	35	3800#	21	--	--	--	--
.....ANABAENOPSIS	1800	3	--	--	--	--	--	--
....APHANIZOMENON	--	--	--	--	--	--	--	--
...CYLINDROSPERMUM	12000#	22	--	--	--	--	--	--
...OSCILLATORIACEAE								
....OSCILLATORIA	3800	7	--	--	1400#	17	--	--
...CHROCOCCOCCALES								
....CHROCOCCOCCAEAE								
....GOMPHOSPHERIA	--	--	--	--	--	--	--	--

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

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

BRAZOS RIVER BASIN

279

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	NOV 3,77 1130		MAR 9,78 1315		MAY 8,78 1555		JUN 5,78 1410	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	320	1	120	1	*	0	--	-
....PHACUS	--	-	--	-	--	-	--	-
....TRACHELOMONAS	400	1	120	1	64	1	--	-
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..GYMNODINIALES								
...GYMNODINIACEAE								
....GYMNODINIUM	--	-	--	-	--	-	--	-
..PERIDINIALES								
...PERIDINIACEAE								
....PERIDINIUM	*	0	--	-	130	2	--	-

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 1977 TO SEPTEMBER 1978

DATE TIME	JUL 10,78 1500	AUG 14,78 1540	SEP 11,78 1530
TOTAL CELLS/ML	110000	25000	48000
DIVERSITY: DIVISION	0.9	0.5	0.8
..CLASS	0.9	0.5	0.8
..ORDER	1.6	0.5	1.7
...FAMILY	1.9	0.5	1.9
....GENUS	2.6	0.6	2.4

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHARACIACEAE						
...SCHROEDERIA	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	3000	3	220	1	790	2
....DICTYOSPHAERIUM	--	-	--	-	1300	3
....FRANCEIA	--	-	--	-	*	0
....KIRCHNERIELLA	*	0	--	-	*	0
....OOCYSTIS	--	-	--	-	430	1
....QUADRIGULA	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	1800	2	--	-	290	1
....SCENEDESMUS	3000	3	--	-	2400	5
..VOLVOCEAE						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	220	1	--	-
....CHLAMYDOMONAS	1100	1	440	2	--	-
...VOLVOCEAE						
....PANDORINA	--	-	--	-	--	-
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	--	-	*	0
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...PENNALES						
...NAVICULACEAE						
...ENTOMONEIS	--	-	--	-	--	-
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	--	-	220	1	1100	2
...PENNALES						
....ACHNANTHACEAE	--	-	--	-	--	-
....ACHNANTHES	--	-	--	-	--	-
....CYMBELLACEAE	--	-	--	-	--	-
....AMPHORA	--	-	--	-	--	-
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	--	-
...NAVICULACEAE						
....GYROSIGMA	--	-	--	-	--	-
....NAVICULA	*	0	220	1	--	-
...NITZSCHACEAE						
....NITZSCHIA	1800	2	220	1	1300	3
...SURIPELLACEAE						
....SURIPELLA	11000	10	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONIDAE						
...CRYPTOMONODACEAE						
....CRYPTOMONAS	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCACEAE						
....CHROCOCCACEAE						
....AGMENELLUM	22000#	20	--	-	--	-
....ANACYSTIS	43000#	40	--	-	15000#	31
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	--	-
....ANABAENOPSIS	--	-	--	-	--	-
....APHANIZOMENON	15000	14	--	-	--	-
....CYLINDROSPERMUM	--	-	--	-	*	0
...OSCILLATORIA						
....OSCILLATORIA	6600	6	23000#	93	19000#	40
...CHROCOCCACEAE						
....CHROCOCCACEAE						
....GOMPHOSPHAERIA	--	-	--	-	5700	12

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

BRAZOS RIVER BASIN

281

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	JUL 10,78 1500		AUG 14,78 1540		SEP 11,78 1530	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....EUGLENA	--	-	--	-	*	0
.....PHACUS	--	-	220	1	--	-
.....TRACHELOMONAS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...GYMNODINIALES						
....GYMNODINIACEAE						
.....GYMNODINIUM	--	-	--	-	*	0
...PERIDINIALES						
....PERIDINIACEAE						
.....PERIDINIUM	--	-	--	-	--	-

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 WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	****	****	****	****	****	****	****	****	****
NOV. 1977.....	283.3	7320	4490	3430	1910	1460	970	742	1390
DEC. 1977.....	545	5690	3370	4460	1390	2050	840	1230	1120
JAN. 1978.....	665	6070	3640	6530	1490	2690	890	1600	1190
FEB. 1978.....	1453	8710	5450	21400	2340	9320	1050	4130	1450
MAR. 1978.....	2240	5520	3440	20800	1510	9140	660	4000	1080
APR. 1978.....	2915.9	2500	1470	11600	620	4870	360	2860	490
MAY 1978.....	6691.7	5630	3410	61600	1460	26400	750	13500	1100
JUNE 1978.....	9225	4240	2460	61200	1030	25800	630	15600	830
JULY 1978.....	89.2	9920	6280	1510	2780	669	1120	269	1500
AUG. 1978.....	29026.1	734	420	330000	180	140000	110	85800	140
SEPT 1978.....	14096	3830	2230	85100	940	35700	570	21500	750
TOTAL	328464.7	**	**	608000	**	258000	**	151000	**
WTD.AVG.	983	1180	640	**	290	**	170	**	230

BRAZOS RIVER BASIN

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		8830	6890	5570	6230	12300	5420	8840	3000	9630	7790	5840
2		9020	6860	5580	6300	12500	5570	9050	3170	9950	7650	5590
3		9230	7010	5680	6140	12000	5740	9230	2280	10100	9760	5820
4		9620	6850	5970	6090	11600	5790	10000	5710	10300	2090	5650
5		9710	6300	6130	6210	11600	5940	10700	6840	10600	486	6590
6		8000	6240	6280	6160	11700	5980	11300	4000	11000	350	6420
7		7450	6260	6170	6320	12100	5920	11000	4080	11300	579	6490
8		6800	6330	6060	6510	10700	6030	10100	3890	11600	639	6420
9		7230	6150	5940	6320	9620	4500	9270	3090	11800	856	6170
10		7340	6030	5970	6380	9480	1200	6250	5130	11900	922	5190
11		7390	5940	5940	6600	9650	801	6660	3530	12000	933	5040
12		7360	5840	6370	6780	9900	1160	8200	3960	11800	1360	4210
13		7310	5800	6570	6890	9950	2350	8580	3900	11100	1540	5700
14		7240	5710	6440	7340	9710	3750	8840	4790	10300	1810	7050
15		7270	5630	5900	7830	9400	4350	9500	4630	9630	2130	6360
16		7170	5360	5830	9260	8820	4890	10100	4140	9070	2170	6440
17		7090	5300	5750	8700	8600	5420	10600	4270	8410	2490	6250
18		6970	5300	5680	8100	8310	5950	11000	4440	8270	2880	5870
19		7070	5290	5700	8770	8050	6580	11300	4820	8170	3380	5360
20		7140	5310	5690	8990	8350	6820	4170	5450	8080	3470	5380
21		7320	5300	5710	8620	8670	6980	6030	5810	8020	3850	7170
22		6970	5290	5700	8880	8630	7150	8130	6120	7920	3710	3440
23		6830	5100	5840	10900	9140	7550	10200	5630	6730	3650	2460
24		6930	5140	5960	11400	2000	8110	6880	5990	8960	3730	2020
25		7020	5160	6080	13500	588	8440	5620	6750	9040	4070	4210
26		6970	5190	6210	13300	888	9000	4710	7590	8480	4160	3910
27		6970	5170	6330	12900	3740	9000	4390	8300	8170	4130	3420
28		7020	5160	6450	12800	4440	9360	2470	8840	8080	4670	2390
29		7090	5290	6700	---	5400	9100	3050	9110	7980	5220	2630
30		6850	5500	6680	---	5560	8840	3080	9400	7950	5550	2600
31		---	5560	6630	---	5270	---	2190	---	7920	5710	---
MEAN		7510	5750	6050	8370	8340	5920	7790	5290	9490	3280	5070

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		20.0	6.0	---	4.0	7.0	---	19.0	30.0	34.0	30.0	29.0
2		11.0	6.0	2.0	3.0	10.0	22.0	---	28.0	34.0	28.0	32.0
3		10.5	10.0	3.0	3.0	---	22.0	14.0	30.0	32.0	25.0	33.0
4		12.5	11.0	5.0	5.0	2.0	19.0	15.0	30.0	35.0	27.0	30.0
5		17.0	11.0	8.0	5.0	6.0	20.0	16.0	27.0	35.0	29.0	31.0
6		16.0	1.0	7.0	3.0	10.0	20.0	23.0	27.0	34.0	---	31.0
7		19.0	4.0	12.0	4.0	---	22.0	22.0	30.0	34.0	---	28.0
8		15.0	10.0	---	2.0	8.0	22.0	22.0	30.0	34.0	30.0	28.0
9		9.0	---	2.0	2.0	5.0	22.0	19.0	30.0	35.0	30.0	30.0
10		8.0	2.0	.0	2.0	9.0	17.0	21.0	30.0	34.0	30.0	32.0
11		9.0	6.0	.0	---	12.0	15.0	28.0	32.0	34.0	30.0	30.0
12		13.0	8.0	3.0	7.0	11.0	16.0	31.0	33.0	33.0	33.0	31.0
13		16.0	9.0	2.0	4.0	12.0	18.0	30.0	32.0	34.0	28.0	32.0
14		18.0	5.0	2.0	2.0	12.0	18.0	30.0	32.0	35.0	32.0	33.0
15		16.0	9.0	5.0	4.0	11.0	19.0	---	32.0	34.0	33.0	33.0
16		14.0	12.0	---	4.0	9.0	19.0	28.0	33.0	29.0	32.0	33.0
17		12.0	9.0	---	---	10.0	22.0	30.0	33.0	34.0	32.0	32.0
18		10.0	9.0	.0	.0	16.0	22.0	33.0	33.0	34.0	32.0	31.0
19		17.0	8.0	---	2.0	14.0	18.0	32.0	32.0	33.0	30.0	30.0
20		20.0	7.0	---	5.0	18.0	16.0	25.0	32.0	33.0	27.0	30.0
21		9.0	3.0	.0	2.0	16.0	16.0	29.0	33.0	32.0	30.0	24.0
22		12.0	3.0	---	3.0	18.0	22.0	33.0	33.0	32.0	32.0	22.0
23		12.0	8.0	---	6.0	19.0	22.0	32.0	34.0	28.0	32.0	25.0
24		13.0	14.0	---	9.0	9.0	22.0	29.0	34.0	32.0	33.0	27.0
25		10.0	4.0	---	9.0	11.0	22.0	30.0	---	33.0	33.0	25.0
26		11.0	7.0	---	7.0	13.0	17.0	31.0	34.0	33.0	32.0	23.0
27		12.0	4.0	---	7.0	15.0	18.0	31.0	34.0	33.0	29.0	23.0
28		10.0	6.0	---	7.0	16.0	19.0	23.0	33.0	34.0	32.0	26.0
29		8.0	9.0	2.0	---	17.0	---	30.0	33.0	34.0	31.0	27.0
30		8.0	10.0	4.0	---	17.0	26.0	32.0	34.0	29.0	29.0	27.0
31		---	12.0	4.0	---	18.0	---	31.0	---	30.0	30.0	---
MEAN		13.0	7.5	3.5	4.5	12.0	20.0	26.5	31.5	33.0	30.5	29.0

08088300 BRIAR CREEK NEAR GRAHAM, TX

LOCATION.--Lat 33°12'43", Long 98°37'06", Young County, Hydrologic Unit 12060201, near right bank on downstream side of bridge on Farm Road 1769, 3.7 mi (6.0 km) upstream from mouth, and 7.0 mi (11.3 km) northwest of Graham.

DRAINAGE AREA.--24.2 mi² (62.7 km²).

PERIOD OF RECORD.--April 1958 to current year. Prior to October 1965, published as Oak Creek near Graham.

REVISED RECORDS.--WSP 2122: 1962. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,090 ft (332 m), from topographic map.

REMARKS.--Records good. No diversion above station.

AVERAGE DISCHARGE.--20 years (water years 1959-78), 3.71 ft³/s (0.105 m³/s), 2.08 in/yr (53 mm/yr), 2,690 acre-ft/yr (3.32 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, 99 ft³/s (2.80 m³/s) Apr. 9, gage height, 2.77 ft (0.844 m), no peak above base of 200 ft³/s (5.66 m³/s); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.6	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.61	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	16	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	37	.00	.00	.00	1.4	.00
11	.00	.00	.00	.00	.00	.00	3.0	.00	.00	.00	1.1	.00
12	.00	.00	.00	.00	.00	.00	.65	.00	.00	.00	.02	.00
13	.00	.00	.00	.00	.00	.00	.11	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	23	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.3	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.46	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
23	.00	.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	.00	.00	.00	.00	.00	.00	56.77	.00	.00	.00	30.57	.00
MEAN	.000	.000	.000	.000	.000	.000	1.89	.000	.000	.000	.99	.000
MAX	.00	.00	.00	.00	.00	.00	37	.00	.00	.00	23	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.000	.000	.08	.000	.000	.000	.04	.000
IN.	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.05	.00
AC-FT	.00	.00	.00	.00	.00	.00	113	.00	.00	.00	61	.00
CAL YR 1977	TOTAL	1726.60	MEAN 4.73	MAX 387	MIN .00	CFSM .20	IN 2.65	AC-FT 3420				
WTR YR 1978	TOTAL	87.34	MEAN .24	MAX 37	MIN .00	CFSM .01	IN .13	AC-FT 173				

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.

Water-quality records: Chemical analyses: October 1969 to September 1976.

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, nonrecording 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, 30,780 acre-ft (38.0 hm³) Aug. 12, 1971, gage height, 1,065.10 ft (324.642 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 45,860 acre-ft (56.5 hm³) Oct. 1, gage height, 1,071.85 ft (326.700 m); minimum, 32,760 acre-ft (40.4 hm³) Sept. 30, gage height, 1,066.06 ft (324.935 m).

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

1,066.0	32,630	1,070.0	41,480
1,068.0	36,940	1,072.0	46,220

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45600	44370	43120	41970	41250	41110	40930	42090	40720	38060	35200	34570
2	45500	44300	43070	41970	41200	41070	40930	42060	40650	37990	35110	34480
3	45450	44200	43070	41950	41180	41070	40930	42040	40610	37930	35440	34380
4	45310	44110	43090	41920	41160	41000	40910	41970	40560	37840	35540	34290
5	45240	44010	43050	41920	41140	40950	40860	41920	40540	37810	36090	34210
6	45240	43960	42980	41880	41110	40950	40840	41920	40770	37660	36090	34140
7	45210	44060	42950	41850	41090	41000	40790	41900	40720	37520	36070	34060
8	45190	44080	42950	41760	41070	40970	40720	41880	40680	37460	36000	34010
9	45140	44010	42810	41710	41040	40930	42160	41850	40610	37320	35960	33990
10	45040	43940	42790	41690	41020	40910	43120	41780	40510	37230	35940	33950
11	44970	43890	42740	41670	41110	40910	43070	41760	40420	37120	35890	33860
12	44920	43840	42770	41670	41200	40910	43000	41670	40380	36940	35830	33820
13	44900	43820	42770	41670	41160	40930	42950	41620	40310	37790	35740	33780
14	44880	43730	42720	41600	41140	40880	42910	41570	40170	36720	35700	33690
15	44780	43680	42670	41570	41180	40910	42880	41550	39960	36700	35610	33630
16	44730	43660	42650	41530	41200	40860	42840	41500	39780	36590	35500	33590
17	44680	43560	42560	41530	41180	40840	42770	41410	39640	36460	35370	33540
18	44640	43540	42560	41500	41230	40740	42700	41370	39570	36350	35300	33390
19	44610	43520	42460	41460	41300	40770	42630	41320	39480	36180	35300	33310
20	44560	43490	42440	41430	41300	40770	42560	41320	39390	36090	35280	33270
21	44540	43470	42370	41410	41300	40740	42440	41320	39270	35980	35260	33200
22	44560	43400	42250	41390	41250	40810	42440	41300	39110	35920	35200	33050
23	44560	43330	42300	41370	41230	41020	42440	41200	39020	35920	35130	32970
24	44540	43330	42250	41340	41200	41140	42420	41090	38910	35850	35090	32950
25	44520	43280	42210	41320	41180	41160	42370	41020	38800	35780	35070	32950
26	44490	43260	42180	41300	41140	41140	42320	41000	38690	35720	35020	32950
27	44490	43230	42110	41300	41140	41110	42230	40910	38580	35630	34910	32930
28	44470	43230	42090	41270	41140	41090	42180	40880	38460	35540	34800	32880
29	44420	43210	42140	41250	---	41040	42140	40860	38310	35440	34760	32800
30	44400	43190	42110	41200	---	41040	42140	40790	38150	35390	34720	32760
31	44370	---	41990	41200	---	41000	---	40720	---	35280	34590	---
MAX	45600	44370	43120	41970	41300	41160	43120	42090	40770	38060	36090	34570
MIN	44370	43190	41990	41200	41020	40740	40720	40720	38150	35280	34590	32760
(†)	1071.23	1070.73	1070.22	1069.88	1069.85	1069.79	1070.28	1069.67	1068.54	1067.24	1066.92	1066.06
(+)	-1490	-1180	-1200	-790	-60	-140	+1140	-1420	-2570	-2870	-690	-1830
(††)	382	386	419	403	300	277	332	463	647	755	502	442
CAL YR 1977	MAX	56320	MIN	41990	+	-10000	††	5339				
WTR YR 1978	MAX	45600	MIN	32760	+	-13100	††	5308				

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

+ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by city of Graham and Texas Electric Service Co. powerplant.

BRAZOS RIVER BASIN

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE (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)	SODIUM ADSORPTION RATIO
JUL 05...	0940	730	29.0	180	65	54	11	65	2.1

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO_3)	CARBONATE (MG/L AS CO_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)
JUL 05...	9.4	140	0	24	140	.4	6.3	379

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.--13 years (water years 1966-78), 11.5 ft³/s (0.326 m³/s), 1.61 in/yr (41 mm/yr), 8,330 acre-ft/yr (10.3 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, 3,320 ft³/s (94.0 m³/s) Apr. 10, gage height, 14.94 ft (4.554 m), no other 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 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.07	.00	.00	.04
2	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.05
3	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.03
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.88	.04
6	.00	.00	.00	.00	.00	.00	.00	.00	13	.00	.81	.04
7	.00	.00	.00	.00	.00	.00	.00	.00	10	.00	.25	.04
8	.00	.00	.00	.00	.00	.00	.00	.00	1.7	.00	.10	.05
9	.00	.00	.00	.00	.00	.00	266	.00	.27	.00	.02	.04
10	.00	.00	.00	.00	.00	.00	589	.00	.06	.00	.02	.05
11	.00	.00	.00	.00	.00	.00	13	.00	.02	.00	.02	.05
12	.00	.00	.00	.00	.00	.00	3.2	.00	.01	.00	.02	.05
13	.00	.00	.00	.00	.00	.00	.80	.00	.00	.00	.02	.07
14	.00	.00	.00	.00	.00	.00	.22	.00	.00	.00	.03	.06
15	.00	.00	.00	.00	.00	.00	.17	.00	.00	.00	.02	.07
16	.00	.00	.00	.00	.00	.00	.12	.00	.00	.00	.01	.06
17	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.01	.06
18	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.01	.07
19	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.01	.07
20	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01	.08
21	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.04	.09
22	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.02	.08
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.06
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.03
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.02
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.03
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.04
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.03
29	.00	.00	.00	.00	---	.00	.00	32	.00	.00	.03	.02
30	.00	.00	.00	.00	---	.00	.00	3.6	.00	.00	.04	.02
31	.00	---	.00	.00	---	.00	---	.48	---	.00	.04	---
TOTAL	.00	.00	.00	.00	.00	.00	872.65	51.08	25.16	.00	2.50	1.48
MEAN	.000	.000	.000	.000	.000	.000	29.1	1.65	.84	.000	.081	.049
MAX	.00	.00	.00	.00	.00	.00	589	32	13	.00	.88	.09
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
CFSM	.000	.000	.000	.000	.000	.000	.30	.02	.009	.000	.001	.001
IN.	.00	.00	.00	.00	.00	.00	.33	.02	.01	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	1730	101	50	.00	5.0	2.9
CAL YR 1977	TOTAL	1925.46	MEAN 5.28	MAX 1530	MIN .00	CFSM .05	IN .74	AC-FT 3820				
WTR YR 1978	TOTAL	952.87	MEAN 2.61	MAX 589	MIN .00	CFSM .03	IN .37	AC-FT 1890				

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX
(Formerly Possum Kingdom Reservoir near Graham)

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 ft (305 m) gage height. Eleven major reservoirs, with a combined capacity of 607,800 acre-ft (749 hm³), largely regulate the inflow. The capacity curve is based on recomputation of survey made in 1974. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see Duck Creek near Girard (station 08080950). Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	1,024.0	
Design flood (top of gates).....	1,000.0	570,200
Crest of spillway.....	987.0	383,300
Invert of penstock.....	911.5	4,560
Lowest gated outlet (invert of 54-inch conduit).....	874.8	0

COOPERATION.--Capacity table 3-C furnished by the Brazos River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 743,700 acre-ft (917 hm³) Oct. 5, 1941, gage height, 1,001.0 ft (305.10 m); minimum observed, 273,000 acre-ft (337 hm³) Feb. 19 to Mar. 17, 1953, gage height, 967.0 ft (294.74 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 564,800 acre-ft (696 hm³) Aug. 12, gage height, 999.69 ft (304.706 m); minimum, 456,900 acre-ft (563 hm³) Feb. 10, gage height, 992.79 ft (302.602 m).

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

992.0	446,100	998.0	536,000
994.0	474,100	1,000.0	570,200
996.0	504,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	502200	488100	477300	466100	459400	459700	462300	474200	478800	481400	465900	555800
2	501600	486700	477600	466200	459000	459400	462400	474200	479100	479600	465800	555800
3	501100	486400	478300	465600	459000	459200	462800	474100	479300	479300	468600	555400
4	500800	486300	478000	465900	459300	458900	463100	474100	479600	479300	466200	554600
5	501000	485500	475300	466200	459200	458600	463100	474000	479900	479100	464900	554400
6	501000	485700	473400	466200	459300	458500	463000	474400	480400	478600	493800	553700
7	501000	485500	474100	466400	459300	458700	462800	474200	481100	478000	534700	552300
8	500000	486100	473400	465400	457500	459300	462500	474000	482300	477500	541400	552300
9	499400	484400	471900	465200	457500	459600	467500	473700	484100	476900	547600	552000
10	499400	483900	472200	463100	457300	460100	475300	473400	485200	476400	549600	551500
11	498400	483200	472100	463000	457600	459400	478200	473400	485200	475600	560400	551000
12	498400	482600	472500	463000	459200	459200	479200	472700	485500	475100	554700	550600
13	498400	482300	472200	463500	458700	459200	479200	472700	486600	474700	556100	549800
14	498000	481800	472500	463000	458300	459200	479100	472400	485800	473500	557200	549300
15	497300	481500	472800	463200	458600	458700	479100	471800	486000	473500	555400	548900
16	497000	481100	472700	462500	458700	458700	479100	470900	486700	472800	552800	548300
17	496700	480800	471400	462000	459200	459000	479100	470200	486900	472100	550300	547200
18	496200	480500	471500	461400	459000	458700	478300	469500	487000	471500	548300	546100
19	495500	480100	470900	460300	459300	460400	477700	468600	486700	470900	549300	545200
20	494900	479800	469400	459200	459400	460600	477700	467900	486400	470700	550500	545200
21	494500	478900	468200	458700	458900	460700	477300	467200	486300	470100	551000	543900
22	494400	478800	468900	458900	459900	460700	477300	466100	485800	469500	552500	544000
23	494100	478900	468900	459200	459900	460700	477500	465800	485400	469200	553400	545200
24	493800	478500	468900	459300	460300	460600	475800	467200	485100	469600	553900	547400
25	492600	478300	466900	459000	459000	460800	475300	468100	483900	469500	554600	551000
26	492100	478200	466800	458600	459600	461800	475000	469800	483200	469100	554700	552800
27	492000	478000	466900	458500	460100	462400	474800	470800	482700	468600	555400	553700
28	491200	478200	466900	458700	459900	462500	474700	473800	482400	467600	555300	553700
29	491200	477900	467200	458600	---	462300	474400	475700	482100	467500	555600	551500
30	490800	477700	466900	458700	---	462700	474400	477900	481700	467100	555600	549100
31	489000	---	467200	459200	---	462500	---	478500	---	466500	555300	---
MAX	502200	488100	478300	466400	460300	462700	479200	478500	487000	481400	560400	555800
MIN	489000	477700	466800	458500	457300	458500	462300	465800	478800	466500	464900	543900
(+)	995.01	994.25	993.52	992.95	993.00	993.19	994.02	994.30	994.52	993.47	999.14	998.78
(#)	-15500	-11300	-10500	-8000	+700	+2600	+11900	+4100	+3200	-15200	+88800	-6200
CAL YR 1977	MAX	558700	MIN	466800	#	-53800						
WTR YR 1978	MAX	560400	MIN	457300	#	+44600						

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

Change in contents, in acre-feet.

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1962 to current year.

32520809254201 - POSSUM KINGDOM LAKE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FER							
01...	1350	1.0	3780	8.1	6.5	10.2	86
01...	1352	10	3780	8.1	6.5	10.1	86
01...	1354	20	3780	8.1	6.5	10.1	86
01...	1356	30	3780	8.0	6.5	10.1	86
01...	1358	40	3780	8.0	6.5	10.1	86
01...	1400	50	3780	8.0	6.5	10.1	86
01...	1402	58	3780	8.0	6.5	10.1	86

32521809254101 - POSSUM KINGDOM LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
FER									
01...	1310	1.0	3780	8.1	6.0	2.50	10.2	86	630
01...	1312	10	3780	8.1	6.0	--	10.2	86	--
01...	1314	20	3780	8.1	6.0	--	10.2	86	--
01...	1316	30	3780	8.1	6.0	--	10.2	86	--
01...	1318	40	3780	8.1	6.0	--	10.2	86	--
01...	1320	50	3780	8.1	6.0	--	10.2	86	620
01...	1322	60	3780	8.1	6.0	--	10.2	86	--
01...	1324	70	3780	8.1	6.0	--	10.2	86	--
01...	1326	80	3780	8.1	6.0	--	10.2	86	--
01...	1328	90	3780	8.1	6.0	--	10.2	86	--
01...	1330	96	3780	8.1	6.0	--	10.2	86	630

DATE	NON- CAP- RONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
FER									
01...	530	170	50	600	10	9.1	120	0	470
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	170	47	570	10	9.2	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	530	170	50	540	10	9.0	120	0	460

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FF) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
FER									
01...	940	.4	5.6	2300	.05	.02	.02	10	10
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	.04	.02	.02	10	10
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	940	.4	5.7	2270	.18	.12	.02	10	10

BRAZOS RIVER BASIN

289

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325250098275301 - POSSUM KINGDOM LAKE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FEB							
01...	1250	1.0	3780	8.2	6.0	10.7	90
01...	1252	10	3780	8.2	6.0	10.6	89
01...	1254	20	3780	8.1	6.0	10.6	89
01...	1256	30	3780	8.1	6.0	10.6	89
01...	1258	42	3780	8.1	6.0	10.6	89

325256098275301 - POSSUM KINGDOM LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FEB							
01...	1220	1.0	3780	8.2	6.0	10.8	91
01...	1222	10	3780	8.2	6.0	10.8	91
01...	1224	20	3780	8.2	6.0	10.8	91
01...	1226	30	3780	8.2	6.0	10.8	91
01...	1228	40	3780	8.2	6.0	10.8	91
01...	1230	50	3780	8.1	6.0	10.8	91
01...	1232	60	3780	8.1	6.0	10.8	91
01...	1234	70	3780	8.1	5.5	10.5	87
01...	1236	80	3780	8.1	5.5	10.1	83
01...	1238	90	3780	8.1	5.0	10.0	82

325129098311801 - POSSUM KINGDOM LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FEB							
01...	1200	1.0	3840	8.2	5.0	11.0	90
01...	1202	10	3840	8.2	5.0	11.0	90
01...	1204	20	3840	8.2	5.0	11.0	90
01...	1206	30	3840	8.1	5.0	10.9	89
01...	1208	40	3840	8.1	5.0	10.8	89
01...	1210	50	3840	8.1	5.0	10.4	85
01...	1212	60	3840	8.1	5.0	10.4	85
01...	1214	72	3840	8.1	5.0	10.4	85

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325327098314001 - POSSUM KINGDOM LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG)
FEB									
01...	1045	1.0	3850	8.1	5.0	2.40	11.3	93	630
01...	1047	10	3850	8.1	5.0	--	11.3	93	--
01...	1049	20	3850	8.1	5.0	--	11.3	93	--
01...	1051	30	3850	8.0	5.0	--	11.2	92	630
01...	1053	40	3850	8.0	5.0	--	11.2	92	--
01...	1055	50	3850	8.0	5.0	--	11.0	90	--
01...	1057	60	3850	8.0	5.0	--	11.0	90	--
01...	1059	64	3850	8.0	5.0	--	11.0	90	620

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
FEB									
01...	530	170	50	610	11	9.4	120	0	480
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	170	50	600	10	9.5	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	520	170	48	610	11	9.4	120	0	480

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
FEB								
01...	960	5.5	2340	.03	.01	.01	10	0
01...	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--
01...	--	--	--	.01	.01	.02	10	10
01...	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--
01...	960	5.6	2340	.04	.03	.02	10	20

325347098265701 - POSSUM KINGDOM LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FEB							
01...	1450	1.0	3960	8.1	3.5	11.2	88
01...	1452	10	3960	8.1	3.0	11.2	87
01...	1454	20	3960	8.1	3.0	11.2	87
01...	1456	30	3960	8.1	3.0	10.9	84
01...	1458	40	3960	8.0	3.5	10.4	82
01...	1500	52	3960	8.0	3.5	10.4	82

325557098264401 - POSSUM KINGDOM LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FEB							
01...	1520	1.0	4000	8.1	3.0	11.5	89
01...	1522	10	4000	8.1	3.0	11.5	89
01...	1524	20	4000	8.1	3.0	11.4	88
01...	1526	30	4000	8.1	3.0	11.3	88
01...	1528	40	4000	8.1	3.0	11.5	89

BRAZOS RIVER BASIN

291

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325715098250501 - POSSUM KINGDOM LAKE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
FFP									
01...	1640	1.0	4030	8.0	2.5	1.90	11.2	86	660
01...	1642	10	4030	8.0	2.5	--	11.2	86	--
01...	1644	20	4240	7.9	3.0	--	10.8	84	--
01...	1646	30	4240	7.9	3.0	--	10.7	83	740

DATE	TIME	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
FFP										
01...	570	180	52	630	11	9.6	120	0	510	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	630	190	64	680	11	9.9	130	0	560	--

DATE	TIME	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FF) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
FFP									
01...	990	--	5.6	2440	.02	.01	.02	20	10
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
01...	1100	--	4.6	2670	.03	.03	.04	30	20

325047098291201 - POSSUM KINGDOM LAKE P3

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FFP							
01...	1415	1.0	3810	8.1	5.5	11.1	92
01...	1417	10	3810	8.1	5.5	11.1	92
01...	1419	20	3810	8.1	5.5	11.0	90
01...	1421	30	3810	8.1	5.5	10.9	90
01...	1423	40	3810	8.1	5.5	10.9	90
01...	1425	50	3810	8.1	5.5	10.9	90

325125098323701 - POSSUM KINGDOM LAKE P5

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FFP							
01...	1145	1.0	3840	8.1	4.5	11.5	93
01...	1147	10	3840	8.1	4.5	11.5	93
01...	1149	20	3840	8.1	4.5	11.5	93
01...	1151	30	3840	8.1	4.0	11.5	91

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325301098342901 - POSSUM KINGDOM LAKE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FEB							
01...	1125	1.0	3840	8.1	4.0	11.5	91
01...	1127	10	3840	8.1	4.0	11.5	91
01...	1129	20	3840	8.1	4.0	11.5	91
01...	1131	30	3840	8.1	4.0	11.5	91
01...	1133	40	3840	8.1	4.0	11.5	91
01...	1135	50	3840	8.1	4.0	11.5	91

325915098243001 - POSSUM KINGDOM LAKE P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
FEB							
01...	1610	1.0	4070	7.9	3.0	11.1	86
01...	1612	10	4070	7.9	3.0	10.8	84
01...	1614	20	4230	7.9	3.0	10.3	80
01...	1616	28	4230	7.8	3.0	10.3	80

325725098280301 - POSSUM KINGDOM LAKE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
FEB									
01...	1545	1.0	4190	8.1	2.5	1.30	11.8	91	680
01...	1547	10	4330	8.1	2.5	--	12.2	94	750

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
FEB									
01...	570	180	56	660	11	9.7	130	0	530
01...	640	190	66	680	11	10	130	0	590

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
FEB								
01...	1000	5.1	2510	.01	.01	.03	10	20
01...	1100	4.0	2700	.02	.01	.04	10	30

BRAZOS RIVER BASIN

293

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325218098254101 - POSSUM KINGDOM LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
FEB							
01...	1310	1.0	2	200	1	0	0
01...	1320	50	2	200	1	0	1
01...	1330	96	2	200	1	0	0

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
FEB							
01...	10	2	10	.0	1	0	30
01...	10	3	10	--	0	--	20
01...	10	2	10	.0	0	1	20

325327098314001 - POSSUM KINGDOM LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
FEB							
01...	1045	1.0	--	--	--	--	--
01...	1051	30	2	200	1	0	0
01...	1059	64	--	--	--	--	--

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
FEB						
01...	10	--	0	--	--	--
01...	10	1	10	1	1	30
01...	10	--	20	--	--	--

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325218098254101 POSSUM KINGDOM LAKE AC
PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO FEBRUARY 1978

DATE	FEB 1, 78
TIME	1310
TOTAL CELLS/ML	130000
DIVERSITY: DIVISION	0.8
..CLASS	0.8
..ORDER	1.1
...FAMILY	1.6
....GENUS	1.8

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
.CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OOCYSTACEAE		
....DICTYOSPHAERIUM	3500	3
....OOCYSTIS	72000#	57
...SCENEDESMACEAE		
....SCENEDESMUS	19000#	15
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	1700	1
CHRYSTOPHYTA		
.BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	5200	4
...STEPHANODISCUS	870	1
..PENNALES		
...ACHNANTHACEAE		
....COCCONEIS	24000#	19

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

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325725098280301 POSSUM KINGDOM LAKE P10
PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO FEBRUARY 1978

DATE FEB 1, 78
TIME 1545

TOTAL CELLS/ML 990

DIVERSITY: DIVISION 1.5
 ..CLASS 1.5
 ..ORDER 2.4
 ...FAMILY 2.8
 GENUS 2.9

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
....OOCYSTACEAE		
.....DICTYOSPHAERIUM	120	13
....OOCYSTIS	50	5
...SCENEDESMACEAE		
....SCENEDESMUS	170#	18
..TETRASPORALES		
...PALMELLACEAE		
....SPHAEROCYSTIS	100	10
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	150#	15
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...RHIZOSOLENIACEAE		
....RHIZOSOLENIA	25	3
..PENNALES		
...NITZSCHIACEAE		
....NITZSCHIA	37	4
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCCOCCALES		
...CHROCCOCCAEAE		
....ANACYSTIS	75	8
EUGLENOPHYTA (EUGLENOIDS)		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOCHRYSIDACEAE		
....CHROOMONAS	240#	25
..EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
....PHACUS	6	1

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

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

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

32520R098254201 - POSSUM KINGDOM LAKE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
13...	1520	1.0	3860	8.0	27.0	8.1	107
13...	1522	10	3860	8.0	26.5	8.3	109
13...	1524	20	3860	8.0	25.5	8.5	109
13...	1526	30	3860	7.9	23.0	8.3	102
13...	1528	40	3860	7.8	17.0	7.3	80
13...	1530	50	3860	7.5	14.5	6.5	68
13...	1532	60	3860	7.3	14.5	5.8	60

325216098254101 - POSSUM KINGDOM LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CACO3)
JUN									
13...	1445	1.0	3860	8.0	27.0	2.30	8.1	105	620
13...	1447	10	3860	8.0	26.5	--	8.2	108	--
13...	1449	20	3860	8.0	26.0	--	8.2	106	--
13...	1451	30	3860	8.0	23.5	--	8.3	104	--
13...	1453	40	3860	7.9	17.0	--	7.3	79	--
13...	1455	50	3860	7.6	17.0	--	6.5	71	--
13...	1457	60	3860	7.4	14.0	--	6.2	64	--
13...	1459	70	3860	7.2	12.5	--	5.1	51	--
13...	1501	80	3860	7.2	12.0	--	4.6	45	--
13...	1503	90	3860	7.2	12.0	--	4.2	42	--
13...	1505	100	3860	7.0	12.0	--	2.6	25	650

DATE	HARD- NESS, NONCAR- BONATE, DIS- (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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN									
13...	540	160	53	630	11	9.9	100	0	460
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	540	170	54	620	11	9.7	130	0	450

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, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (MG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN									
13...	970	.4	5.5	2340	.01	.00	.00	10	5
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	.02	.00	.00	250	5
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	.10	.00	.00	30	140
13...	--	--	--	--	--	--	--	--	--
13...	970	.4	6.6	2350	.02	.03	.02	--	310

BRAZOS RIVER BASIN

297

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325250098275301 - POSSUM KINGDOM LAKE RR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
13...	1425	1.0	3890	8.0	27.0	8.0	105
13...	1427	10	3890	8.0	27.0	8.0	105
13...	1429	20	3890	8.0	25.5	8.2	102
13...	1431	30	3890	7.9	22.5	7.7	94
13...	1433	40	3890	7.4	16.0	4.9	53
13...	1435	50	3890	7.2	14.0	4.0	41
13...	1437	60	3890	7.2	14.0	3.9	40
13...	1439	70	3890	7.2	14.0	3.7	38

325256098275301 - POSSUM KINGDOM LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
13...	1400	1.0	3890	8.0	27.0	8.0	105
13...	1402	10	3890	8.0	26.5	8.1	107
13...	1404	20	3890	8.0	25.0	8.1	104
13...	1406	30	3890	7.9	19.5	7.3	85
13...	1408	40	3890	7.5	16.0	5.2	56
13...	1410	50	3890	7.2	14.0	4.1	42
13...	1412	60	3890	7.2	14.0	4.1	42
13...	1414	70	3890	7.2	13.0	4.1	41
13...	1416	80	3890	7.2	13.0	3.8	38
13...	1418	91	3890	7.2	13.0	3.8	38

325129098311801 - POSSUM KINGDOM LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
13...	1317	1.0	4010	8.0	27.0	7.9	104
13...	1319	10	4010	8.0	26.5	7.9	104
13...	1321	20	4010	7.9	25.0	7.5	96
13...	1323	30	4010	7.5	20.0	5.3	62
13...	1325	40	4010	7.2	15.0	2.3	24
13...	1327	50	4010	7.1	14.0	2.0	21
13...	1329	60	4010	7.1	13.5	2.1	21
13...	1331	70	4010	7.1	13.0	2.1	21
13...	1333	78	4010	7.1	13.0	2.3	23

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325327098314001 - POSSUM KINGDOM LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS, DIS- SOLVED (MG/L AS CACO3)
------	------	--------------------------------	--	---------------	-----------------------------	---	-------------------------------------	-------------------------------------	---	---

DATE	TIME	HARD- NESS, NONCAR- BONATE, DIS- (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
------	------	---	--	--	--	---	---	--	------------------------------------	---

DATE	TIME	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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (MG/L AS FE)	MANGA- NESE, DIS- SOLVED (MG/L AS MN)
------	------	---	---	---	--	--	---	--	--

325347098265701 - POSSUM KINGDOM LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	-------------------------------------	---

325557098264401 - POSSUM KINGDOM LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	-------------------------------------	---

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325/15098250501 - POSSUM KINGDOM LAKE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	HARD- NESS, DIS- SOLVED (MG/L AS CACO3)
JUN									
13...	1722	1.0	4210	8.0	28.0	.70	8.0	104	700
13...	1724	10	4240	8.0	27.0	--	7.5	99	--
13...	1726	20	4240	7.7	26.5	--	6.0	79	--
13...	1728	34	4440	7.4	26.0	--	4.7	59	760

DATE	TIME	HARD- NESS, NONCAR- BONATE, DTS, (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)	BICAR- BONATE AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN										
13...	620	190	55	650	11	9.8	100	0	500	
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	660	210	58	690	11	10	120	0	530	

DATE	TIME	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN									
13...	1100	--	4.4	2570	.00	.00	.03	20	10
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	1100	--	5.1	2660	.02	.06	.08	10	70

325047098291201 - POSSUM KINGDOM LAKE P3

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)
JUN							
13...	1554	1.0	3890	8.0	28.0	8.0	107
13...	1556	10	3890	8.0	27.5	8.1	108
13...	1558	20	3890	8.0	24.0	8.2	102
13...	1600	30	3890	7.4	22.5	4.6	56
13...	1602	40	3890	7.2	17.5	3.0	33
13...	1604	50	3890	7.0	15.0	1.4	15
13...	1606	56	3890	7.0	15.0	1.2	13

325125098323701 - POSSUM KINGDOM LAKE P5

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)
JUN							
13...	1256	1.0	3940	8.0	27.5	7.7	103
13...	1258	10	3940	8.0	27.0	7.7	101
13...	1300	20	3940	7.8	26.5	7.2	95
13...	1302	30	3940	7.8	25.5	5.0	64
13...	1304	34	3940	7.7	25.5	6.1	72

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325301098342901 - POSSUM KINGDOM LAKE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
13...	1055	1.0	3930	8.0	27.5	7.6	101
13...	1057	10	3930	8.0	27.0	7.5	99
13...	1059	20	3930	7.8	26.0	7.4	96
13...	1101	30	3930	7.6	23.0	5.1	63
13...	1103	40	3930	7.0	23.0	1.7	21
13...	1105	50	3930	7.0	22.0	.9	11
13...	1107	60	3930	7.0	22.0	.9	11

325915098243001 - POSSUM KINGDOM LAKE P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
13...	1755	1.0	4240	8.1	28.0	9.1	121
13...	1757	10	4240	8.1	27.5	8.6	115
13...	1759	20	4290	7.2	26.5	3.3	43
13...	1801	30	4290	7.2	26.5	3.0	39

325725098280301 - POSSUM KINGDOM LAKE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CACO3)	
JUN										
13...	1812	1.0	4110	8.1	29.5	.40	9.8	131	660	
13...	1814	10	3960	7.9	28.0	--	8.3	111	--	
13...	1816	14	3960	7.9	28.0	--	7.8	101	660	
DATE	TIME	HARD- NESS, NONCAR- BONATE, DIS- (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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN										
13...	580	190	44	660	11	10	98	0	460	--
13...	--	--	--	--	--	--	--	--	--	--
13...	590	180	52	620	10	10	94	0	520	--

DATE	TIME	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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN									
13...	1100	--	6.9	2520	.22	.00	.04	30	0
13...	--	--	--	--	--	--	--	--	--
13...	980	--	5.3	2410	.02	.03	.07	20	20

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325218098254101 - POSSUM KINGDOM LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
JUN							
13...	1445	1.0	1	300	0	0	2
13...	1453	40	--	--	--	--	--
13...	1501	80	--	--	--	--	--
13...	1505	100	2	200	0	5	2

325218098254101 - POSSUM KINGDOM LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
JUN							
13...	10	6	5	.0	0	0	20
13...	250	--	5	--	--	--	--
13...	30	--	140	--	--	--	--
13...	--	6	310	.0	0	0	40

PHYTOPLANKTON ANALYSES, MAY 1978 TO JUNE 1978

DATE JUN 13, 78
TIME 1446

TOTAL CELLS/ML 8500

DIVERSITY: DIVISION 0.5
 .CLASS 0.5
 ..ORDER 0.5
 ...FAMILY 0.9
GENUS 1.5

ORGANISM CELLS PER-
/ML CENT

CHLOROPHYTA (GREEN ALGAE)

.CHLOROPHYCEAE
 ..CHLOROCOCCALES
 ...OOCYSTACEAE
CHODATELLA 450 5
DICTYOSPHAERIUM 520 6
OOCYSTIS 6100# 72
 ...SCENEDESMACEAE
SCENEDESMUS 560 7
 ..ZYGNEATALES
 ...DESMIDIACEAE
COSMARIUM * 0

CHRYSTOPHYTA

.BACILLARIOPHYCEAE
 ..PENNALES
 ...NITZSCHIAEAE
NITZSCHIA * 0

CYANOPHYTA (BLUE-GREEN ALGAE)

.CYANOPHYCEAE
 ...CHROCOCCALES
CHROCOCCACEAE
ANACYSTIS 800 9

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

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

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325208098254201 - POSSUM KINGDOM LAKE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
30...	1414	1.0	887	8.8	29.0	9.2	121
30...	1416	10	887	8.6	28.0	7.6	97
30...	1418	20	940	7.4	27.5	2.8	36
30...	1420	30	980	7.3	27.0	1.2	15
30...	1422	40	1170	7.2	26.0	.4	5
30...	1424	50	1620	7.2	25.5	.3	4
30...	1426	60	2140	7.2	26.0	.3	4
30...	1428	65	2440	7.3	26.0	.4	5

325218098254101 - POSSUM KINGDOM LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
AUG									
30...	1325	1.0	887	8.9	29.0	1.00	9.2	121	180
30...	1327	10	887	8.6	28.0	--	7.8	100	--
30...	1329	20	945	7.4	27.5	--	2.4	31	--
30...	1331	30	1000	7.3	27.0	--	1.1	14	--
30...	1333	40	1030	7.3	26.5	--	.5	6	--
30...	1335	50	1730	7.2	26.0	--	.2	2	--
30...	1337	60	2350	7.2	25.5	--	.2	2	--
30...	1339	70	3200	7.2	24.0	--	.2	2	--
30...	1341	80	3820	7.2	20.5	--	.2	2	--
30...	1343	90	3820	7.1	17.5	--	.2	2	--
30...	1345	102	3820	7.0	16.5	--	.3	3	660

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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
AUG									
30...	100	51	12	120	3.9	5.0	70	10	98
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	520	180	51	570	9.7	9.2	170	0	430

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, 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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG									
30...	190	.2	6.5	527	.00	.00	.03	20	10
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	.21	.01	.03	50	10
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	.15	.01	.02	20	100
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	980	.4	7.5	2310	.01	.30	.13	90	590

BRAZOS RIVER BASIN

303

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325250098275301 - POSSUM KINGDOM LAKE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
30...	1255	1.0	790	8.7	28.5	8.1	105
30...	1257	10	800	8.6	28.0	7.7	99
30...	1259	20	810	7.3	27.5	5.5	71
30...	1301	30	820	7.3	26.5	1.6	20
30...	1303	40	1070	7.3	26.0	.3	4
30...	1305	50	1710	7.2	25.5	.6	4
30...	1307	60	2250	7.2	25.5	.3	4
30...	1309	67	2910	7.2	25.5	.4	5

325256098275301 - POSSUM KINGDOM LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
30...	1220	1.0	790	8.6	28.0	7.6	97
30...	1222	10	800	8.4	28.0	6.0	77
30...	1224	20	800	8.2	27.5	6.0	77
30...	1226	30	820	7.3	27.0	1.8	23
30...	1228	40	1030	7.2	26.0	.2	2
30...	1230	50	1640	7.2	25.5	.3	4
30...	1232	60	1940	7.2	25.0	.3	4
30...	1234	70	3390	7.2	24.0	.3	4
30...	1236	80	3820	7.2	20.5	.3	3
30...	1238	90	3820	7.1	17.5	.3	3
30...	1240	96	3820	7.0	17.0	.8	9

325129098311801 - POSSUM KINGDOM LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
30...	1115	1.0	710	8.6	28.0	8.3	106
30...	1117	10	710	8.6	28.0	7.7	99
30...	1119	20	710	8.4	27.5	7.4	95
30...	1121	30	750	7.4	26.5	3.4	43
30...	1123	40	950	7.3	26.0	1.5	19
30...	1125	50	1770	7.2	25.5	.3	4
30...	1127	60	2970	7.1	25.5	.3	4
30...	1129	70	3680	7.1	24.5	.3	4
30...	1131	80	3800	7.0	21.0	.5	6

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325327098314001 - POSSUM KINGDOM LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
------	------	--------------------------------	--	---------------	-----------------------------	---	-------------------------------------	--	--

AUG									
30...	0940	1.0	732	8.4	27.5	.70	7.1	91	150
30...	0942	10	742	8.4	27.5	--	6.9	88	--
30...	0944	20	742	8.3	27.5	--	6.8	87	--
30...	0946	30	762	7.5	27.0	--	3.6	46	--
30...	0948	40	970	7.2	25.5	--	1.2	15	--
30...	0950	50	1740	7.2	25.5	--	.2	2	--
30...	0952	60	3180	7.1	25.5	--	.3	4	--
30...	0954	72	3440	7.0	24.5	--	.3	4	550

DATE	TIME	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
------	------	--	--	--	--	---	---	--	------------------------------------	---

AUG										
30...	71	46	9.6	83	2.9	5.4	94	4	62	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	460	150	43	520	9.6	8.9	110	0	420	--

DATE	TIME	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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
------	------	---	---	---	--	--	---	--	--

AUG									
30...	140	7.3	404	.02	.01	.04	10	0	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	.15	.03	.04	20	10	--
30...	--	--	--	.41	.01	.04	20	30	--
30...	--	--	--	--	--	--	--	--	--
30...	860	7.1	2060	.05	.19	.06	20	250	--

325347098265701 - POSSUM KINGDOM LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

AUG							
30...	1525	1.0	779	8.5	29.5	7.8	103
30...	1527	10	779	8.4	29.0	7.5	99
30...	1529	20	779	8.0	28.0	5.7	73
30...	1531	30	810	7.3	27.0	1.4	18
30...	1533	40	1020	7.2	26.5	.5	6
30...	1535	50	2170	7.2	26.0	.3	4
30...	1537	58	2430	7.2	26.0	.4	5

325557098264401 - POSSUM KINGDOM LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

AUG							
30...	1600	1.0	770	8.5	29.0	8.0	105
30...	1602	10	840	8.3	29.0	7.0	92
30...	1604	20	960	7.9	28.0	4.4	56
30...	1606	30	1410	7.2	27.0	.3	4
30...	1608	42	1570	7.2	27.0	.3	4

BRAZOS RIVER BASIN

305

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

32511509250501 - POSSUM KINGDOM LAKE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	S&P- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, SATUR- ATION	HARD- NESS (MG/L AS CACO3)
AUG									
30...	1624	1.0	1080	8.5	29.5	.50	8.1	107	210
30...	1626	10	1030	8.0	28.5	--	5.6	73	--
30...	1628	20	1030	7.8	28.0	--	4.5	58	--
30...	1630	30	1420	7.2	27.0	--	.3	4	--
30...	1632	40	1640	7.2	26.5	--	.3	4	270

DATE	TIME	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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
AUG										
30...	120	59	14	140	4.3	6.5	100	4	100	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	190	78	19	220	5.8	6.3	100	0	160	--

DATE	TIME	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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG									
30...	230	7.8	612	.00	.00	.05	40	20	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	370	7.4	910	.11	.03	.06	20	110	--

325047098291201 - POSSUM KINGDOM LAKE P3

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	S&P- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, SATUR- ATION
AUG							
30...	1150	1.0	760	8.9	29.0	9.9	130
30...	1152	10	760	8.9	28.5	9.1	118
30...	1154	20	760	8.7	28.0	8.3	106
30...	1156	30	801	7.4	27.0	2.4	30
30...	1158	40	965	7.3	26.0	1.0	12
30...	1200	50	1470	7.2	25.5	.3	4
30...	1202	59	1780	7.2	25.5	.4	5

325125098323701 - POSSUM KINGDOM LAKE P5

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	S&P- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, SATUR- ATION
AUG							
30...	1050	1.0	720	8.6	28.0	8.2	105
30...	1052	10	720	8.5	28.0	8.1	104
30...	1054	20	720	8.5	28.0	8.0	103
30...	1056	30	720	8.5	27.5	8.1	104
30...	1058	40	830	7.3	27.0	2.3	29

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325301098342901 - POSSUM KINGDOM LAKE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
30...	1021	1.0	770	8.6	28.0	7.6	97
30...	1023	10	770	8.6	28.0	7.2	92
30...	1025	20	770	8.4	27.0	6.6	84
30...	1027	30	870	7.2	27.0	1.0	13
30...	1029	40	1130	7.2	26.0	.3	4
30...	1031	54	770	7.2	26.0	.5	6

325725098280301 - POSSUM KINGDOM LAKE P10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
AUG									
30...	1710	1.0	1120	8.7	30.0	.40	8.7	116	210
30...	1712	10	1330	8.5	29.0	--	7.3	96	--
30...	1714	19	3350	7.8	29.0	--	4.8	63	520

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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
AUG									
30...	130	61	15	150	4.5	6.6	92	8	100
30...	--	--	--	--	--	--	--	--	--
30...	400	140	41	480	9.2	9.2	150	0	320

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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG								
30...	250	7.9	644	.00	.01	.05	10	10
30...	--	--	--	--	--	--	--	--
30...	790	9.4	1860	.00	.01	.08	10	80

325915098243001 - POSSUM KINGDOM LAKE P9

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
30...	1650	1.0	1300	7.9	29.0	5.8	76
30...	1652	10	1300	7.6	28.5	4.2	55
30...	1654	20	1480	7.2	27.5	.9	12
30...	1656	33	1480	7.2	27.5	.5	6

BRAZOS RIVER BASIN

307

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325218098254101 - POSSUM KINGDOM LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
AUG							
30...	1325	1.0	3	100	0	0	1
30...	1331	30	--	--	--	--	--
30...	1339	70	--	--	--	--	--
30...	1345	102	6	200	0	0	2

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)
AUG							
30...	20	0	10	.0	0	0	30
30...	50	--	10	--	--	--	--
30...	20	--	100	--	--	--	--
30...	90	0	590	.0	0	0	10

325218098254101 POSSUM KINGDOM LAKE AC
PHYTOPLANKTON ANALYSES, AUGUST 1978 TO AUGUST 1978

DATE TIME	AUG 30+78 1326
TOTAL CELLS/ML	520000
DIVERSITY: DIVISION	0.2
..CLASS	0.2
...ORDER	0.9
....FAMILY	1.1
.....GENUS	1.6

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
....COELASTRACEAE		
.....COELASTRUM	4400	1
.....OOCYSTACEAE		
.....ANKISTRODESMUS	*	0
.....OOCYSTIS	*	0
.....SELENASTRUM	*	0
...SCENEDESMACEAE		
....SCENEDESMUS	*	0
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	*	0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
....COSCIHODISCAEAE		
.....CYCLOTELLA	*	0
..CHRYSOPHYCEAE		
...CHRYSOMONADALES		
....OCHROMONADACEAE		
.....OCHROMONAS	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCOCCALES		
....CHROCOCCACEAE		
.....AGMENELLUM	27000	5
.....ANACYSTIS	75000	14
...HORMOGONALES		
....NOSTOCACEAE		
.....CYLINDROSPERMUM	5500	1
....OSCILLATORIAEAE		
.....LYNGBYA	30000	6
....OSCILLATORIA	360000	69
...RIVULARIAEAE		
....RAPIDIOPSIS	11000	2

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

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

BRAZOS RIVER BASIN

POSSUM KINGDOM RESERVOIR NEAR GRAFORD, TX--Continued

325725098280301 POSSUM KINGDOM LAKE P10
PHYTOPLANKTON ANALYSES, AUGUST 1978 TO AUGUST 1978

DATE AUG 30, 78
TIME 1711

TOTAL CELLS/ML 230000

DIVERSITY: DIVISION 0.4
..CLASS 0.4
...ORDER 1.1
...FAMILY 2.1
....GENUS 2.6

ORGANISM	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...COELASTRACEAE		
....COELASTRUM	3400	1
...MICRACTINIACEAE		
....GOLENKINIA	*	0
...OOCYSTACEAE		
....ANKISTRODESMUS	*	0
....DICTYOSPHAERIUM	1700	1
....SELENASTRUM	*	0
....TREUBARIA	*	0
...SCENEDESMACEAE		
....SCENEDESMUS	1700	1
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	3400	1
..PENNALES		
...NAVICULACEAE		
....DIPLONEIS	*	0
...NITZSCHACEAE		
....NITZSCHIA	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCOCCALES		
...CHROCOCCACEAE		
....AGMENELLUM	17000	7
....ANACYSTIS	24000	10
...HORMOGONALES		
...NOSTOCACEAE		
....ANABAENA	8900	4
....ANABAENOPSIS	3800	2
....CYLINDROSPERMUM	11000	5
...OSCILLATORIA		
....LYNGBYA	11000	5
....OSCILLATORIA	110000#	47
...RIVULARIACEAE		
....RAPHIIDIOPSIS	34000	15
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

309

08088600 BRAZOS RIVER AT POSSUM KINGDOM DAM NEAR GRAFORD, TX

LOCATION.--Lat 32°52'00", Long 98°26'00", Palo Pinto County, Hydrologic Unit 12060201, immediately below Possum Kingdom Dam, 2.6 mi (4.2 km) upstream from Loving Creek, 11.3 mi (18.2 km) southwest of Grafard, and 20 mi (32 km) upstream from gaging station near Palo Pinto.

DRAINAGE AREA.--23,596 mi² (61,114 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: January 1942 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1942 to current year.

WATER TEMPERATURES: October 1949 to September 1955, October 1965 to current year.

REMARKS.--Discharges are computed on the basis of releases from Possum Kingdom Reservoir.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,110 micromhos Feb. 20, 1961; minimum daily, 494 micromhos May 4, 1957.

WATER TEMPERATURES (1949-55, 1965-75): Maximum daily, 26.5°C on several days during September 1971; minimum daily, 7.0°C on several days in February 1951.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,970 micromhos July 17; minimum daily, 3,040 micromhos Aug. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 30...	0830	396	3620	8.3	15.5	600	490	160	49	550
DEC 29...	1600	20	3690	8.0	13.5	610	510	170	44	570
FEB 23...	1600	20	3820	--	9.5	640	540	180	46	590
MAR 30...	1600	20	3940	7.9	10.0	610	510	160	51	580
APR 19...	1600	20	3880	--	14.5	630	530	170	49	610
JUN 28...	1600	20	3850	--	19.0	620	520	170	48	600
JUL 31...	1600	20	3900	--	19.0	610	520	170	46	590
AUG 31...	1600	20	3020	--	16.0	500	400	140	36	470

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 30...	9.8	9.0	130	0	440	920	.4	6.4	2200
DEC 29...	10	8.8	120	0	460	930	.4	5.9	2250
FEB 23...	10	9.6	120	0	480	940	.5	5.6	2310
MAR 30...	10	9.2	120	0	420	970	.4	3.9	2250
APR 19...	11	11	120	0	430	970	.4	5.6	2310
JUN 28...	10	9.1	120	0	480	950	.5	5.7	2320
JUL 31...	10	9.0	120	0	490	970	.5	5.8	2340
AUG 31...	9.2	9.0	120	0	350	720	.3	6.7	1790

BRAZOS RIVER BASIN

08088600 BRAZOS RIVER AT POSSUM KINGDOM DAM NEAR GRAFORD, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	4329	3530	2080	24300	840	9790	430	5050	600
NOV. 1977.....	2513	3600	2130	14400	860	5860	440	3000	620
DEC. 1977.....	3498	3740	2200	20800	900	8480	460	4330	640
JAN. 1978.....	3648	3750	2210	21700	900	8880	460	4560	640
FEB. 1978.....	2153	3820	2250	13100	920	5350	470	2730	650
MAR. 1978.....	1136	3830	2260	6930	930	2850	470	1440	650
APR. 1978.....	600	3870	2280	3700	940	1520	480	778	660
MAY 1978.....	3332	3920	2310	20800	950	8550	490	4410	670
JUNE 1978.....	2022	3840	2260	12400	930	5080	480	2620	660
JULY 1978.....	2064	3920	2310	12900	950	5310	490	2710	670
AUG. 1978.....	40100	3440	2030	220000	820	88300	420	45300	590
SEPT 1978.....	16672	3400	2000	90100	800	36100	410	18600	580
TOTAL	82067	**	**	461000	**	186000	**	95500	**
WTD.AVG.	224.84	3530	2100	**	840	**	430	**	600

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3500	3590	3750	3740	3810	3820	3850	3920	3830	3890	3820	3080
2	3480	3590	3750	3730	3840	3830	3860	3930	3840	3900	3820	3090
3	3460	3590	3750	3730	3840	3830	3870	3930	3840	3900	3840	3110
4	3450	3590	3750	3700	3840	3830	3870	3920	3850	3920	3850	3140
5	3340	3590	3750	3750	3840	3830	3870	3920	3850	3940	3860	3150
6	3450	3590	3690	3750	3840	3830	3870	3920	3770	3950	3870	3170
7	3450	3590	3720	3750	3840	3810	3870	3910	3830	3950	3880	3180
8	3450	3590	3720	3750	3820	3830	3860	3910	3830	3940	3810	3200
9	3450	3590	3720	3740	3820	3830	3850	3930	3830	3940	3590	3210
10	3450	3590	3720	3740	3820	3820	3840	3930	3840	3930	3340	3220
11	3450	3590	3730	3780	3820	3820	3870	3930	3840	3930	3220	3250
12	3450	3590	3730	3740	3820	3810	3870	3920	3840	3920	3190	3260
13	3460	3590	3730	3770	3810	3810	3870	3920	3850	3940	3160	3270
14	3460	3590	3730	3770	3810	3830	3870	3920	3840	3910	3130	3300
15	3460	3600	3750	3770	3820	3830	3870	3920	3860	3940	3150	3320
16	3460	3600	3750	3770	3820	3830	3870	3910	3860	3960	3190	3340
17	3460	3610	3750	3770	3820	3830	3880	3910	3850	3970	3240	3360
18	3460	3620	3750	3770	3820	3830	3880	3910	3850	3940	3280	3370
19	3450	3620	3750	3720	3820	3840	3880	3920	3850	3950	3460	3390
20	3500	3630	3750	3720	3820	3840	3880	3920	3860	3930	3590	3410
21	3540	3630	3760	3720	3820	3840	3880	3920	3870	3930	3740	3420
22	3540	3640	3760	3730	3820	3830	3880	3930	3860	3930	3810	3430
23	3540	3640	3760	3730	3820	3830	3880	3930	3850	3930	3830	3450
24	3550	3640	3760	3730	3820	3820	3880	3930	3850	3930	3840	3470
25	3550	3640	3750	3730	3820	3820	3870	3920	3840	3910	3850	3500
26	3550	3640	3750	3780	3820	3810	3860	3910	3840	3910	3870	3510
27	3560	3640	3750	3780	3820	3810	3870	3910	3860	3930	3870	3530
28	3560	3640	3750	3790	3820	3830	3880	3920	3850	3930	3880	3550
29	3570	3640	3750	3790	---	3830	3890	3920	3860	3930	3610	3570
30	3580	3640	3740	3790	---	3830	3910	3930	3870	3930	3040	3580
31	3580	---	3740	3800	---	3840	---	3930	---	3930	3060	---
MEAN	3490	3610	3740	3750	3820	3830	3870	3920	3850	3930	3570	3330

BRAZOS RIVER BASIN

311

08088600 BRAZOS RIVER AT POSSUM KINGDOM DAM NEAR GRAFORD, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	15.0	---	7.0	9.0	---	13.5	14.5	---	---	---
2	---	---	---	---	7.0	---	---	14.0	14.5	---	15.0	---
3	---	---	---	10.5	---	---	13.5	14.5	---	---	---	---
4	21.5	---	---	10.0	---	---	14.0	14.5	---	---	---	---
5	18.0	---	15.0	9.5	---	---	13.5	---	15.0	---	---	---
6	---	---	15.0	---	8.0	---	12.0	---	17.0	17.0	---	---
7	---	---	15.5	---	8.0	8.5	13.5	---	19.0	---	15.0	---
8	---	---	15.5	---	8.0	8.5	---	18.0	16.5	---	14.0	---
9	---	---	---	10.0	8.5	8.5	---	18.0	---	---	17.0	---
10	---	---	---	9.5	8.0	---	14.0	14.5	---	18.0	19.0	---
11	---	---	---	8.5	---	---	14.0	18.5	---	18.5	---	---
12	---	---	13.5	8.0	---	---	19.5	---	14.5	17.0	---	---
13	---	---	14.0	8.5	8.0	9.0	14.0	---	14.0	18.5	---	---
14	---	---	13.0	---	8.5	9.0	---	---	14.0	17.0	21.0	---
15	---	---	13.5	---	8.0	9.0	---	18.5	15.5	---	---	---
16	---	---	---	8.5	---	9.5	---	18.0	---	---	---	---
17	---	---	---	7.0	---	---	14.0	---	---	17.0	---	---
18	21.5	---	---	9.0	---	---	14.5	---	---	19.0	---	---
19	21.5	---	13.5	7.0	---	---	14.5	---	21.0	19.0	---	---
20	---	---	13.5	6.5	---	9.5	---	---	19.5	---	---	---
21	21.5	---	14.0	---	8.0	9.5	---	---	19.5	---	---	---
22	---	---	13.5	---	8.0	---	---	19.0	---	---	---	---
23	---	---	---	---	9.5	10.0	---	---	---	---	---	---
24	21.0	---	---	---	---	---	14.5	19.0	---	19.0	---	---
25	20.0	---	---	8.5	---	---	14.5	20.0	---	18.5	---	---
26	---	---	---	8.0	---	---	14.5	21.5	---	19.0	---	---
27	---	---	14.0	---	9.0	9.5	---	---	---	19.0	---	---
28	---	---	14.0	---	8.5	9.5	---	---	19.0	---	16.0	---
29	---	---	13.5	---	---	9.5	---	---	---	---	16.0	---
30	---	15.5	---	---	---	10.0	---	16.5	16.5	---	15.5	---
31	---	---	---	---	---	---	---	21.0	---	19.0	16.0	---
MEAN	20.5	15.5	14.0	8.5	8.0	9.0	14.5	17.5	16.5	18.5	16.5	---

BRAZOS RIVER BASIN

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.--WDR TX-76-2: Drainage area. WSP 1512: 1924-25, 1929, 1932-34. WSP 1712: 1935-36, 1937-38(M), 1939, 1940(M).

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 Reservoir, 1,262 ft³/s (35.74 m³/s), 914,300 acre-ft/yr (1,130 hm³/yr); 38 years (water years 1941-78) regulated, 935 ft³/s (26.48 m³/s), 677,400 acre-ft/yr (835 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, 54,500 ft³/s (1,540 m³/s) Aug. 8, gage height, 22.93 ft (6.989 m); minimum daily, 7.8 ft³/s (0.22 m³/s) June 12, 22-25, July 21-24, 30, 31, Aug. 1, 2.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1070	774	246	22	51	32	53	15	16	14	7.8	71
2	929	112	79	264	82	31	53	14	14	14	7.8	270
3	110	329	44	107	48	30	53	30	14	508	54	340
4	54	114	31	171	34	244	54	50	12	106	62	535
5	40	53	27	72	30	351	60	26	12	46	2580	495
6	40	30	620	43	29	89	46	16	133	28	6280	453
7	37	23	318	32	29	66	40	14	95	18	34400	447
8	27	33	89	22	417	55	34	14	48	12	52800	425
9	22	137	54	32	689	42	296	14	24	159	46800	391
10	22	493	194	309	166	34	2320	12	19	83	30000	401
11	18	219	102	562	97	33	340	12	14	37	21700	373
12	16	212	55	331	65	33	125	12	7.8	22	12500	374
13	16	268	36	83	58	34	77	117	512	16	9340	396
14	16	74	30	44	46	34	57	73	93	14	2930	637
15	16	56	28	32	301	32	44	30	43	274	2970	742
16	16	50	123	30	89	26	37	270	27	80	3000	426
17	16	28	116	71	55	20	32	94	16	37	2530	412
18	16	24	161	401	46	19	25	36	10	19	2570	406
19	16	24	71	245	38	18	21	13	10	12	921	444
20	16	24	443	563	30	30	20	63	10	10	123	418
21	393	22	570	327	30	38	19	715	10	7.8	73	433
22	104	22	109	87	171	44	19	605	7.8	7.8	62	216
23	51	22	89	52	98	45	19	479	7.8	7.8	55	181
24	32	22	63	41	51	49	19	81	7.8	7.8	48	78
25	21	22	98	38	33	51	18	38	7.8	14	46	50
26	435	22	257	34	30	50	18	16	247	16	43	181
27	97	20	78	28	29	49	18	10	98	14	39	668
28	46	19	41	27	29	51	18	86	48	12	35	1390
29	361	21	32	27	---	53	18	190	30	12	34	2120
30	243	151	30	27	---	53	18	66	19	7.8	33	2110
31	97	---	29	31	---	52	---	33	---	7.8	32	---
TOTAL	4393	3420	4263	4155	2871	1788	3971	3244	1613.0	1623.8	232075.6	15883
MEAN	142	114	138	134	103	57.7	132	105	53.8	52.4	7486	529
MAX	1070	774	620	563	689	351	2320	715	512	508	52800	2120
MIN	16	19	27	22	29	18	18	10	7.8	7.8	7.8	50
AC-FT	8710	6780	8460	8240	5690	3550	7880	6430	3200	3220	460300	31500
CAL YR 1977	TOTAL	144290.8	MEAN	395	MAX	4940	MIN	5.0	AC-FT	286200		
WTR YR 1978	TOTAL	279300.4	MEAN	765	MAX	52800	MIN	7.8	AC-FT	554000		

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, Consulting Engineers, bench mark).

REMARKS.--The lake is formed by a rock-faced earthfill dam 1,300 ft (400 m) long with a 550 ft (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 in (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, 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, 21,780 acre-ft (26.9 hm³) Sept. 30, 1978, elevation, 856.79 ft (261.150 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 35,240 acre-ft (43.5 hm³) Oct. 1, elevation, 863.43 ft (263.173 m); minimum, 21,780 acre-ft (26.9 hm³) Sept. 30, elevation, 856.79 ft (261.150 m).

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

856.0	20,440	862.0	32,020
858.0	23,940	864.0	36,570
860.0	27,810		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35100	33060	32060	31540	30720	30440	29470	30320	30490	28290	25500	23630
2	34940	32970	32060	31580	30720	30400	29450	30400	30420	28230	25480	23560
3	34850	32920	32000	31370	30700	30380	29450	30320	30400	28150	25890	23480
4	34760	32900	31980	31390	30700	30400	29320	30290	30360	28010	25770	23430
5	34760	32880	31870	31390	30700	30400	29260	30210	30270	27890	25850	23340
6	34710	32860	31800	31480	30720	30400	29240	30270	30340	27770	25770	23250
7	34640	32900	31820	31500	30720	30400	29160	30210	30360	27620	25690	23180
8	34550	33030	31690	31370	30590	30380	29180	30120	30320	27520	25650	23140
9	34480	32900	31650	31280	30550	30440	29580	30060	30230	27420	25620	23050
10	34410	32880	31840	31320	30550	30440	29130	30000	30120	27300	25180	22960
11	34250	32830	31780	31370	30550	30340	29130	30000	30100	27220	25500	22940
12	34180	32830	31780	31260	30700	30340	29130	29930	30060	27080	25480	22870
13	34120	32830	31780	31220	30890	30290	29180	29890	29950	26980	25480	22820
14	34070	32790	31780	31240	30890	30230	29180	29830	29890	26900	25330	22750
15	33930	32790	31780	31260	30890	30150	29130	29830	29850	26770	25180	22660
16	33890	32720	31840	31200	30910	30120	29100	29770	29770	26730	25070	22590
17	33820	32630	31840	30850	30910	30100	29110	29770	29640	26610	24990	22480
18	33800	32610	31630	30740	30890	29980	29040	29660	29580	26490	24780	22430
19	33730	32550	31480	30870	30910	29910	29070	29620	29530	26390	24650	22300
20	33640	32520	31520	30870	30890	29870	29070	29660	29450	26250	24500	22270
21	33640	32460	31540	30850	30870	29810	29070	29580	29350	26160	24370	22130
22	33660	32460	31540	30850	30830	29790	29070	29600	29300	26100	24220	22060
23	33590	32390	31540	30850	30620	29790	29070	29510	29180	26080	24110	22010
24	33500	32410	31580	30890	30550	29910	29070	29470	29070	26200	24040	21970
25	33460	32330	31580	30890	30550	29910	29070	29390	28950	25980	23940	21920
26	33460	32300	31630	30890	30550	29790	29070	29370	28840	25920	23870	21920
27	33350	32220	31540	30890	30550	29770	29070	29300	28660	25870	23800	21900
28	33320	32130	31480	30760	30550	29720	29070	29380	29070	25780	23720	21870
29	33280	32150	31520	30720	---	29640	29070	29380	29070	25670	23650	21810
30	33350	32150	31520	30700	---	29680	29070	29380	29070	25620	23590	21780
31	33230	---	31540	30720	---	29580	---	29380	---	25540	23480	---
MAX	35100	33060	32060	31580	30910	30440	29470	30510	30490	28290	25890	23630
MIN	33230	32130	31480	30700	30550	29580	29160	29300	28390	25540	23480	21780
(†)	862.55	862.06	861.78	861.40	861.32	860.86	861.22	861.24	860.29	858.85	857.75	856.79
(±)	-2060	-1080	-610	-820	-170	-970	+760	+40	-1990	-2850	-2060	-1700
(††)	264	227	252	263	236	283	265	308	380	525	417	417
CAL YR 1977	MAX	50290	MIN	31480	+	-9890	††	3460				
WTR YR 1978	MAX	35100	MIN	21780	+	-13510	††	3840				

† Elevation, in feet, at end of month.

± Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by city of Mineral Wells.

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	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)
NOV 10...	0900	417	8.1	13.0	160	27	48	9.3	21

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
NOV 10...	.7	5.3	160	0	32	30	.3	8.1	233

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 (Texas Department of Highway 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). Many diversions above station for irrigation, municipal supply, and oilfield operations.

AVERAGE DISCHARGE.--10 years (water years 1969-78), 855 ft³/s (24.21 m³/s), 619,400 acre-ft/yr (764 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 Texas Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59,300 ft³/s (1,680 m³/s) Aug. 10, gage height, 25.86 ft (7.882 m), from floodmarks; minimum, 0.87 ft³/s (0.025 m³/s) Aug. 2.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	513	228	51	70	70	45	45	42	174	58	1.8	152
2	283	221	52	56	71	39	59	52	126	44	1.2	126
3	1070	507	55	49	67	35	46	175	112	35	2.6	116
4	678	348	193	44	65	34	49	108	61	26	3.4	162
5	334	256	155	87	63	32	55	66	27	89	14	354
6	214	317	111	138	79	31	59	63	41	172	553	496
7	144	212	89	139	95	114	50	53	47	102	5210	464
8	108	180	140	110	85	210	36	47	107	62	33600	430
9	83	144	353	78	83	139	72	48	169	42	52800	423
10	75	122	216	60	145	95	3710	46	206	31	51800	404
11	66	103	138	61	507	68	3660	41	115	23	33000	356
12	56	199	96	58	318	50	1250	39	75	16	20100	377
13	50	371	104	358	255	42	598	34	54	32	12300	353
14	44	263	136	396	203	37	379	30	42	42	8820	347
15	40	329	91	242	145	44	271	29	139	34	3040	390
16	37	264	68	157	108	43	203	27	194	25	2710	619
17	34	177	52	107	95	41	162	26	117	19	2570	565
18	32	126	44	81	195	38	137	52	76	32	2260	390
19	31	102	39	66	156	39	115	87	52	62	2120	353
20	30	90	54	41	107	37	100	109	39	41	1710	345
21	29	78	109	226	75	42	77	159	31	29	778	347
22	36	66	151	412	59	48	115	117	24	19	488	321
23	34	60	462	462	49	49	149	374	20	16	350	336
24	162	55	269	288	43	176	55	611	16	29	270	227
25	144	54	166	192	39	103	25	494	14	24	221	175
26	99	51	110	140	88	89	20	249	12	14	193	153
27	70	52	93	105	79	69	17	145	9.2	9.7	170	114
28	74	47	80	87	59	53	45	106	6.5	7.7	146	91
29	216	50	184	77	---	48	46	304	4.3	4.9	137	605
30	145	47	134	69	---	45	44	310	66	4.5	120	1520
31	116	---	93	69	---	44	---	186	---	2.4	108	---
TOTAL	5047	5119	4088	4525	3403	1979	11649	4229	2176.0	1147.2	235597.0	11111
MEAN	163	171	132	146	122	63.8	388	136	72.5	37.0	7600	370
MAX	1070	507	462	462	507	210	3710	611	206	172	52800	1520
MIN	29	47	39	41	39	31	17	26	4.3	2.4	1.2	91
AC-FT	10010	10150	8110	8980	6750	3930	23110	8390	4320	2280	467300	22040
CAL YR 1977	TOTAL	246859.0	MEAN	676	MAX	25600	MIN	13	AC-FT	489600		
WTR YR 1978	TOTAL	290070.2	MEAN	795	MAX	52800	MIN	1.2	AC-FT	575400		

BRAZOS RIVER BASIN

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.

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 Jan. 9, 1977, Jan. 11, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,770 micromhos July 21; minimum daily, 509 micromhos Apr. 10.

WATER TEMPERATURES: Maximum daily, 36.0°C July 16; minimum daily, 0.0°C Jan. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
OCT 06...	1150	217	3480	7.4	20.5	590	480	160	47	540
NOV 10...	1100	123	3370	7.7	12.5	560	450	150	45	520
DEC 31...	1800	83	3620	8.0	12.0	620	520	170	48	560
FEB 28...	1900	52	3400	--	15.0	570	470	160	41	530
MAR 31...	1930	42	2060	8.0	22.0	420	300	120	28	280
APR 30...	1845	43	1670	--	29.0	330	190	94	24	220
MAY 31...	2000	203	2020	--	29.5	340	230	93	25	270
JUN 02...	1240	123	2870	--	26.5	470	370	130	35	400
JUL 12...	1617	20	4480	--	33.0	680	600	180	56	700

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
OCT 06...	9.7	8.2	140	0	410	830	.4	5.5	2070
NOV 10...	9.6	8.2	140	0	300	880	.4	4.2	1980
DEC 31...	9.8	7.8	130	0	440	870	.4	1.8	2160
FEB 28...	9.7	8.6	120	0	380	830	.4	.5	2010
MAR 31...	6.0	6.5	140	0	250	440	.3	.1	1190
APR 30...	5.2	7.2	170	0	180	330	.3	3.2	942
MAY 31...	6.4	6.7	130	0	220	440	.3	3.0	1120
JUN 02...	8.0	8.1	120	0	320	680	.3	2.8	1640
JUL 12...	12	12	100	0	500	1200	.5	3.9	2700

BRAZOS RIVER BASIN

317

08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	5047	3440	2040	27800	870	11800	380	5110	540
NOV. 1977.....	5119	3490	2070	28600	880	12200	380	5250	590
DEC. 1977.....	4088	3600	2140	23600	920	10200	390	4330	610
JAN. 1978.....	4525	2810	1650	20200	680	8260	310	3740	490
FEB. 1978.....	3403	3100	1830	16800	760	6990	340	3110	540
MAR. 1978.....	1979	2700	1590	8470	650	3450	290	1540	480
APR. 1978.....	11649	762	430	13500	130	4070	83	2610	190
MAY 1978.....	4229	2590	1520	17300	620	7060	280	3220	460
JUNE 1978.....	2175	2670	1570	9190	620	3660	290	1710	470
JULY 1978.....	1147.2	4350	2600	8060	1160	3600	470	1460	720
AUG. 1978.....	235596.8	3290	1950	1240000	820	523000	360	229000	560
SEPT 1978.....	11111	3210	1900	56400	790	23700	350	10500	550
TOTAL	290070.08	**	**	1470000	**	618000	**	272000	**
WTD.AVG.	794.71	3170	1900	**	790	**	350	**	550

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3540	3390	3340	1910	2970	3470	1850	1710	2120	3810	4160	3120
2	3570	3520	3330	2790	3220	3450	1910	1780	2790	3900	4200	2720
3	3530	3640	3320	3300	3230	3360	1960	1180	2870	3980	4050	2740
4	3540	3590	3140	2940	3200	3390	1960	1270	2960	4090	3960	3200
5	3510	3530	3400	2140	3120	3390	1870	1250	2860	4170	3980	3200
6	3480	3600	3400	2630	3160	3380	1830	1020	2570	4330	3510	3360
7	3470	3510	3390	2640	2380	3170	1870	1170	2610	4420	2550	3280
8	3470	3320	3390	3010	3070	3500	1920	1370	2170	4480	3920	3540
9	3480	3480	3740	2930	3150	3380	1870	1560	1810	4500	4000	3430
10	3470	3370	3780	3550	3060	3480	509	1010	2810	4510	3500	3580
11	3490	3360	3740	1430	3250	3490	750	1620	2820	4500	2700	3480
12	3510	3270	3650	1190	3360	3500	700	1640	2900	4480	2460	3280
13	3490	3320	3580	1310	3360	3500	673	1710	2970	4500	2270	3180
14	3470	3440	3580	2030	3190	3470	700	1760	3050	4510	2070	3180
15	3450	3530	3620	1540	3230	3450	786	1730	3090	4500	2220	3180
16	3470	3540	3540	2380	2750	3480	885	1740	2740	4560	3040	3140
17	3420	3550	3500	2220	2280	3150	991	1760	2470	4590	3170	3110
18	3320	3530	3470	1950	2190	2780	1090	1740	2580	4620	3110	3150
19	3240	3510	3400	2990	3100	2410	1170	1770	2710	4620	3100	3180
20	3230	3510	3380	3270	3220	2320	1230	1900	2840	4670	3080	3180
21	3220	3530	3330	3380	3180	2290	1290	1900	2930	4770	3040	3200
22	3000	3510	3570	3550	3190	2120	1340	1320	2980	4700	2870	3140
23	3000	3490	3840	3700	3260	1960	1390	2330	3050	4630	3090	3140
24	2940	3460	3810	3660	3260	1060	1420	3850	3040	4240	3200	3150
25	3190	3450	3740	3640	3290	1470	1470	3500	3110	3930	3220	3140
26	3260	3470	3710	3240	3310	1020	1520	3880	3140	4130	3230	3140
27	3280	3450	3640	3460	3300	2310	1550	3790	3180	4060	3140	3120
28	3330	3450	3650	3460	3400	2360	1580	3690	3210	4020	3150	3120
29	3150	3380	3510	3460	---	2170	1640	2920	3230	4020	3140	3110
30	3310	3360	3660	3420	---	2300	1670	1410	3350	4090	3190	3120
31	3330	---	3620	3310	---	2040	---	2070	---	4180	3200	---
MEAN	3360	3470	3540	2790	3100	2790	1380	1990	2830	4340	3210	3190

BRAZOS RIVER BASIN
08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.0	21.0	10.0	6.0	4.0	11.0	25.5	25.0	29.0	32.5	27.5	27.0
2	27.0	14.0	14.0	5.0	4.0	13.0	24.0	18.0	28.5	33.0	27.0	30.0
3	26.0	14.0	16.0	6.0	8.0	7.0	22.0	14.5	---	---	26.0	30.0
4	22.0	18.0	15.0	10.0	6.0	10.0	25.0	20.0	31.0	---	25.0	32.0
5	20.0	12.0	12.0	12.0	9.0	11.0	19.0	26.0	32.0	33.0	25.0	27.0
6	20.0	21.0	---	12.0	8.0	---	26.0	24.0	28.0	34.5	25.0	27.0
7	24.0	20.0	11.0	9.0	3.5	9.5	26.5	30.0	25.0	29.0	26.0	27.0
8	22.0	15.0	10.0	8.0	2.0	10.0	20.0	26.0	30.0	29.0	23.0	26.0
9	23.0	13.0	7.0	5.0	2.0	13.5	25.0	28.0	30.0	33.5	25.0	25.5
10	19.0	14.0	5.0	1.0	2.0	15.0	17.0	24.0	30.0	28.5	25.0	28.0
11	22.0	15.0	6.0	.0	3.0	15.0	18.5	25.0	30.0	28.5	25.5	27.0
12	20.0	16.0	10.0	2.0	5.0	13.5	---	22.0	34.0	28.0	26.0	26.5
13	21.0	16.0	10.0	4.0	6.0	19.0	23.0	27.0	31.0	34.0	---	27.5
14	20.0	17.0	12.0	4.0	8.0	22.0	23.5	29.0	32.0	27.5	27.0	30.0
15	23.0	19.0	14.0	3.0	5.0	---	25.0	32.0	32.0	29.0	28.5	32.0
16	14.0	19.0	12.0	2.0	5.0	17.0	24.0	28.5	32.0	36.0	28.0	27.0
17	21.0	26.0	11.0	4.0	4.0	20.0	24.0	20.0	30.0	29.5	27.0	30.0
18	25.0	15.0	10.0	1.0	5.0	---	25.0	31.0	33.0	28.0	28.0	---
19	25.0	20.0	9.0	1.0	6.0	21.0	---	30.0	32.0	28.0	28.0	26.5
20	25.0	24.0	10.0	3.0	6.0	20.0	25.0	29.0	30.0	28.5	27.0	26.0
21	25.0	17.0	7.0	10.0	8.0	23.0	24.0	27.0	34.0	33.0	27.0	25.0
22	20.5	15.0	6.0	2.0	12.0	---	25.0	32.0	32.0	34.0	26.5	24.0
23	19.0	18.5	8.0	2.0	14.0	17.0	25.0	30.0	32.0	27.0	27.5	22.0
24	18.0	15.0	12.0	4.0	16.5	14.0	28.0	28.0	27.0	26.0	27.5	---
25	25.0	17.0	9.0	6.0	15.5	16.0	26.5	29.0	32.0	27.5	32.0	25.0
26	25.0	15.0	4.0	7.0	14.0	11.0	26.0	26.5	35.0	28.5	28.0	23.5
27	22.0	16.0	6.0	6.0	11.0	19.0	---	30.0	29.0	32.0	27.5	23.0
28	23.0	11.0	6.0	6.0	15.0	22.0	27.0	27.0	31.5	28.0	26.0	27.0
29	23.5	10.0	7.0	3.0	---	18.0	25.0	28.0	32.0	27.0	29.0	23.0
30	23.0	15.0	9.0	4.0	---	15.0	29.0	31.0	32.0	32.0	26.0	23.0
31	25.0	---	12.0	4.0	---	22.0	---	29.5	---	28.0	25.0	---
MEAN	22.5	16.5	9.5	5.0	7.5	15.5	24.0	26.5	31.0	30.0	26.5	26.5

08090900 LAKE GRANBURY NEAR GRANBURY, TX

LOCATION.--Lat 32°22'27", long 97°41'20", Hood County, Hydrologic Unit 12060201, at right end of spillway of DeCordova Bend Dam on Brazos River, 2.6 mi (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 ft (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 ft (11.0 by 10.7 m) tainter gates and two 7 by 8 ft (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 ft (1.2 by 1.4 m) sluice gates with invert at 625.8 ft (190.74 m). 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 62,020 acre-ft (76.5 hm³) for industrial uses. Records furnished by the city of Granbury show that 358 acre-ft (441,000 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, is 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, 152,400 acre-ft (188 hm³) Sept. 9, elevation, 692.87 ft (211.187 m); minimum, 97,600 acre-ft (120 hm³) Aug. 9, elevation, 685.28 ft (208.873 m).

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

685.0	96,000	691.0	136,900
687.0	108,200	693.0	153,500
689.0	121,900		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136000	132700	129600	127500	128700	128200	123300	137700	131400	112600	104900	149200
2	135900	132500	129200	127100	128300	128900	123200	138200	130500	112500	104700	149300
3	136600	132600	129100	126900	128200	128300	123500	137900	129200	112400	104400	149200
4	137500	132800	128900	126900	128000	127700	123000	137700	128000	112000	104300	149300
5	137700	132700	129100	127000	127800	127700	122800	136900	126700	111800	104400	149400
6	137700	132800	128600	127100	127500	127600	122800	137200	125500	111700	103500	150000
7	137700	133500	128500	127600	127700	128300	122400	137200	124400	111700	103200	150300
8	137600	134300	128600	127400	127600	128000	122300	136700	123300	111600	98500	151800
9	137300	133200	128400	127200	127500	127900	122300	136400	122000	111300	102300	152300
10	137200	133000	128400	126900	127100	127500	134300	135400	121000	111000	120800	150700
11	136600	132800	128300	127400	127700	127700	141200	136100	119600	110800	146100	149600
12	136100	132500	128300	127200	129600	127500	143200	136400	118800	110400	143500	149300
13	135800	132600	128100	127300	129000	127500	143000	136000	118500	110000	146000	149900
14	135400	132600	128100	127300	129000	127100	142900	135600	118100	109900	148200	150300
15	135000	132700	128000	127800	129200	126900	142700	135300	117700	109700	149300	150400
16	134600	133000	127800	128600	129000	126700	142800	134400	117600	109500	147800	150800
17	134200	132700	127500	128000	129500	126300	142800	134000	117400	109000	148100	150400
18	133900	132300	127300	128500	129500	125800	142500	134100	117300	108700	149400	149600
19	133600	132300	127200	128100	129700	125500	142000	133800	116900	108400	149700	150000
20	133100	132600	126900	127900	130100	125600	141500	134000	116400	108200	148900	150100
21	132900	131800	126300	128000	129600	125400	141100	133900	116000	108000	148800	150100
22	133300	131400	126200	128400	129400	125200	141100	133600	115600	107600	149100	149900
23	133000	131400	126700	129300	129200	125800	140700	133900	115100	107600	149400	149500
24	132800	131100	127200	129700	129100	125500	140300	134500	114600	107300	149500	149400
25	132700	130700	127100	129600	128900	125300	139800	135400	114000	107100	149400	149700
26	132600	130300	127200	129300	128600	125100	139200	135000	113500	106900	149200	149500
27	132500	130100	127100	129200	128600	124900	138700	134300	113400	106600	149100	149000
28	132300	129900	127000	129000	128600	124600	138200	133900	113200	106300	149000	148300
29	132300	129900	127200	128800	---	124500	137900	133300	113000	106000	149300	148300
30	132100	129800	127200	128700	---	124200	137500	132900	112600	105600	149000	149000
31	132000	---	127800	128600	---	123800	---	132000	---	105200	148900	---
MAX	137700	134300	129600	129700	130100	128900	143200	138200	131400	112600	149700	152300
MIN	132000	129800	126200	126900	127100	123800	122300	132000	112600	105200	98500	148300
(†)	690.36	690.08	689.81	689.92	689.92	689.27	691.08	690.37	687.67	686.53	692.47	692.48
(‡)	-3000	-2200	-2000	+800	0	-4800	+13700	-5500	-19400	-7400	+43700	+100
(††)	6740	6270	5200	3890	5310	5870	7120	5270	3730	4850	7510	6200

CAL YR 1977 MAX 152900 MIN 126200 ‡ -17100 †† 71800
WTR YR 1978 MAX 152300 MIN 98500 ‡ +14000 †† 67960

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for irrigation, municipal, and industrial uses.

BRAZOS RIVER BASIN
LAKE GRANBURY NEAR GRANBURY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1970 to current year.

322227097412101 - LAKE GRANBURY AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA+MG) (MG/L)
DATE	TIME								
MAR									
21...	0950	1.0	2910	8.1	13.0	1.80	9.7	96	470
21...	0952	10	2910	8.0	12.5	--	9.6	94	--
21...	0954	20	2910	7.9	12.0	--	9.5	92	--
21...	0956	30	2910	7.9	12.0	--	9.5	92	--
21...	0959	40	2910	7.9	11.0	--	9.2	87	--
21...	1001	50	2910	7.8	10.0	--	8.5	79	--
21...	1004	60	2910	7.7	10.0	--	8.3	77	470
	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
DATE									
MAR									
21...	360	130	36	440	8.8	7.8	140	0	340
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	360	130	36	440	8.8	7.8	140	0	350
	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- TUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
DATE									
MAR									
21...	640	.3	3.7	1710	.03	.01	.02	0	0
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	.02	.01	.02	0	10
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	650	.4	3.9	1690	.05	.10	.04	10	50

322231097412001 - LAKE GRANBURY AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	1030	1.0	2910	8.2	13.0	9.6	95
21...	1032	10	2910	8.2	12.5	9.6	94
21...	1035	20	2910	8.1	12.5	9.6	94
21...	1037	30	2910	8.1	12.0	9.5	92
21...	1040	40	2910	8.0	11.0	8.9	84

322345097421901 - LAKE GRANBURY BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	0905	1.0	2910	8.0	13.5	9.6	96
21...	0907	10	2910	8.0	13.0	9.6	95
21...	0910	21	2910	8.0	13.0	9.3	92

BRAZOS RIVER BASIN

321

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322341097420601 - LAKE GRANBURY BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	0915	1.0	2910	8.0	13.5	9.6	96
21...	0917	10	2910	8.0	13.0	9.6	95
21...	0920	20	2910	8.0	13.0	9.6	95
21...	0922	30	2910	8.0	12.5	9.5	93
21...	0925	40	2910	7.9	11.0	8.6	81
21...	0927	50	2910	7.8	10.0	8.1	75
21...	0930	60	2910	7.8	10.0	8.0	74

322337097415401 - LAKE GRANBURY BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	0935	1.0	2910	8.2	13.5	9.6	96
21...	0937	10	2910	8.0	13.0	9.6	95
21...	0940	21	2910	8.0	13.0	9.4	93

322537097414501 - LAKE GRANBURY CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	1100	1.0	2910	8.2	17.0	8.7	94
21...	1102	6.0	2910	8.2	15.5	8.9	93

322422097423901 - LAKE GRANBURY DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	0835	1.0	2950	8.0	13.5	9.6	96
21...	0837	10	2950	8.0	13.5	9.6	96
21...	0839	20	2950	8.0	13.0	9.6	95
21...	0841	30	2950	8.0	12.5	9.5	93
21...	0843	40	2950	8.0	11.5	8.9	86
21...	0845	54	2950	7.7	10.5	7.3	68

322437097423901 - LAKE GRANBURY DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	0850	1.0	2950	8.0	13.5	9.6	96
21...	0852	10	2950	8.0	13.5	9.6	96
21...	0854	20	2950	8.0	13.5	9.5	95

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322458097443101 - LAKE GRANBURY EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	0815	1.0	2990	8.1	14.0	9.4	95
21...	0817	10	2990	8.1	13.5	9.4	94
21...	0819	20	2990	8.0	13.0	9.4	93
21...	0821	30	2990	7.9	11.5	8.5	82
21...	0823	40	2990	7.8	11.0	8.1	76
21...	0825	50	2990	7.8	11.0	7.3	69

322619097463301 - LAKE GRANBURY FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA+MG) (MG/L)
MAR									
21...	1125	1.0	3050	8.2	15.0	.90	9.9	102	510
21...	1128	10	3050	8.1	14.0	--	9.5	96	--
21...	1130	20	3050	8.1	13.5	--	9.3	93	--
21...	1132	30	3090	8.0	13.5	--	8.6	86	--
21...	1135	39	3110	7.8	12.5	--	7.2	71	550

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
21...	380	140	38	460	8.9	7.8	150	0	350
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	420	150	42	470	8.7	7.7	150	0	320

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED (SUM OF TUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
21...	710	3.0	1780	.03	.01	.08	0	0
21...	--	--	--	--	--	--	--	--
21...	--	--	--	.02	.01	.04	0	10
21...	--	--	--	--	--	--	--	--
21...	840	3.2	1910	.02	.10	.12	0	90

322703097451401 - LAKE GRANBURY GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	1150	1.0	3120	8.1	17.5	8.9	97
21...	1152	10	3120	8.1	14.5	8.7	89
21...	1154	20	3120	7.8	14.0	6.7	64

BRAZOS RIVER BASIN

323

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322834097470801 - LAKE GRANBURY HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)
MAR							
21...	1210	1.0	3200	8.2	16.0	.90	8.7
21...	1212	10	3200	8.2	16.0	--	8.7
21...	1214	20	3200	8.2	15.5	--	8.5
21...	1216	29	3200	7.9	13.5	--	7.1

DATE	PER- CENT SATUR- ATION	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FF) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR						
21...	92	.01	.01	.03	10	0
21...	92	--	--	--	--	--
21...	89	--	--	--	--	--
21...	71	.01	.06	.05	10	60

322819097483201 - LAKE GRANBURY IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	1225	1.0	3200	8.2	17.0	8.9	96
21...	1227	10	3200	8.1	15.5	8.3	86
21...	1230	18	3200	7.7	14.0	6.6	67

323318097480101 - LAKE GRANBURY JC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
21...	1245	1.0	3210	8.3	18.0	8.7	96
21...	1247	10	3210	8.3	17.0	8.5	91
21...	1250	18	3210	8.1	16.5	7.4	79

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

323435097492001 - LAKE GRANBURY KC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
MAR									
21...	1305	1.0	3340	8.2	19.5	.80	9.1	103	570
21...	1308	9.0	3340	8.0	17.5	--	7.2	78	590

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
21...	450	160	42	500	9.1	7.8	150	0	360
21...	470	160	46	510	9.1	7.8	150	0	370

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
21...	880	.9	2020	.00	.00	.03	0	20
21...	880	.9	2050	.00	.00	.05	110	60

32227097412101 - LAKE GRANBURY AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
MAR							
21...	0950	1.0	1	100	0	0	3
21...	0956	30	--	--	--	--	--
21...	1004	60	1	100	0	0	4

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
MAR							
21...	0	0	0	.0	0	0	10
21...	0	--	10	--	--	--	--
21...	10	0	50	.0	0	0	20

BRAZOS RIVER BASIN

325

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 LAKE GRANBURY AC
PHYTOPLANKTON ANALYSES, MARCH 1978 TO MARCH 1978

DATE	MAR 21, 78
TIME	0951
TOTAL CELLS/ML	7100
DIVERSITY: DIVISION	0.6
..CLASS	0.6
..ORDER	1.0
...FAMILY	1.1
....GENUS	0.0

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OOCYSTACEAE		
....DICTYOSPHAERIUM	160	2
....OOCYSTIS	*	0
....SELENASTRUM	60	1
...SCENEDESMACEAE		
....CRUCIGENIA	80	1
....SCENEDESMUS	240	3
...VOLVOCALES		
...CHLAMYDOMONADACEAE	*	0
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	*	0
...RHIZOSOLENIACEAE		
....RHIZOSOLENIA	40	1
..PENNALES		
...NAVICULACEAE		
....NAVICULA	40	1
...NITZSCHIA		
....NITZSCHIA	60	1
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCOCCALES		
...CHROCOCCACEAE		
....ANACYSTIS	5800#	81
...HORMOGONALES		
...OSCILLATORIACEAE		
....LYNGBYA	600	8

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 KC
PHYTOPLANKTON ANALYSES, MARCH 1978 TO MARCH 1978

DATE	MAR 21, 78
TIME	1306
TOTAL CELLS/ML	19000
DIVERSITY: DIVISION	1.1
..CLASS	1.1
..ORDER	1.9
...FAMILY	2.2
....GENUS	0.0

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OOCYSTACEAE	*	0
....ANKISTRODESMUS	1000	5
....DICTYOSPHAERIUM	2800	15
....OOCYSTIS	3300#	18
....SELENASTRUM	130	1
...SCENEDESMACEAE		
....CRUCIGENIA	250	1
....SCENEDESMUS	630	3
....TETRASTRUM	250	1
...TETRASPORALES		
...COCCOMYXACEAE		
....ELAKATOTHRIX	*	0
...PALMELLACEAE		
...SPHAEROCYSTIS	2900#	15
...VOLVOCALES		
...CHLAMYDOMONADACEAE	*	0
...POLYBLEPHARIDACEAE		
...SPERMATOOZOPSIS	*	0
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
...PENNALES		
...NAVICULACEAE		
...NAVICULA	*	0
...NITZSCHIA		
...NITZSCHIA	130	1
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCOCCALES		
...CHROCOCCACEAE		
....AGMENELLUM	510	3
....ANACYSTIS	4700#	25
...HORMOGONALES		
...OSCILLATORIACEAE		
....LYNGBYA	630	3
...OSCILLATORIA	1100	6
EUGLENOPHYTA (EUGLENOIDS)		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
....EUGLENA	130	1

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

BRAZOS RIVER BASIN

327

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 - LAKE GRANBURY AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
JUN									
15...	1255	1.0	2930	7.9	29.0	1.40	7.5	101	460
15...	1257	10	2930	7.9	28.5	--	7.5	101	--
15...	1259	20	2930	7.4	27.0	--	4.1	54	--
15...	1301	30	2930	7.0	25.0	--	.3	4	--
15...	1303	40	3070	7.0	21.5	--	.2	2	--
15...	1305	50	3070	7.0	20.0	--	.2	2	--
15...	1307	62	3070	6.9	18.0	--	.2	2	510

DATE	TIME	HARD- NESS, NONCAR- BONATE (MG/L AS 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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN										
15...	360	120	3H	430	8.8	8.3	120	0	290	--
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
15...	370	140	39	420	8.1	8.4	170	0	290	--

DATE	TIME	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN										
15...	690	.3	3.6	1640	.05	.00	.01	20	5	--
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	.08	.00	.01	20	30	--
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	.01	.00	.01	50	510	--
15...	--	--	--	--	--	--	--	--	--	--
15...	710	.4	7.5	1700	.06	.20	.10	980	1700	--

322331097412001 - LAKE GRANBURY AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1330	1.0	2930	7.9	28.5	7.4	100
15...	1332	10	2930	7.9	28.5	7.5	101
15...	1334	20	2930	7.4	27.5	3.9	52
15...	1336	32	2930	7.0	25.5	.3	4

322345097421901 - LAKE GRANBURY BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1200	1.0	2860	8.0	29.0	7.7	104
15...	1202	10	2860	8.0	29.0	7.7	104
15...	1204	20	2860	7.5	27.5	5.0	67
15...	1206	30	2860	7.0	25.0	.2	3
15...	1208	40	2860	6.9	23.0	.2	2

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322341097420601 - LAKE GRANBURY BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1143	1.0	2860	8.0	29.5	7.7	104
15...	1145	10	2860	8.0	29.0	7.8	105
15...	1147	20	2860	7.5	27.5	4.8	64
15...	1149	30	2860	7.0	26.0	.2	3
15...	1151	40	2860	7.0	22.0	.2	2
15...	1153	50	2520	6.9	20.0	.2	2
15...	1155	60	2550	6.9	19.5	.2	2

322337097415401 - LAKE GRANBURY BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1215	1.0	2860	8.0	29.0	7.6	103
15...	1217	10	2860	8.0	29.0	7.6	103
15...	1219	20	2860	7.8	28.0	6.6	88
15...	1221	30	2860	6.9	25.0	.2	3
15...	1223	37	2860	6.9	24.0	.3	4

322537097414501 - LAKE GRANBURY CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1121	1.0	2830	7.9	30.0	7.1	96
15...	1123	10	2830	7.9	30.0	7.3	99
15...	1125	15	2830	7.9	30.0	6.9	93

322422097423901 - LAKE GRANBURY DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1032	1.0	2720	7.8	30.0	7.2	97
15...	1034	10	2720	7.7	28.5	5.6	76
15...	1036	20	2720	7.3	27.0	3.1	41
15...	1038	30	2720	6.9	25.0	.2	3
15...	1040	40	2720	6.9	25.0	.3	4
15...	1042	50	3000	6.9	20.0	.2	2
15...	1044	54	3070	6.9	21.0	.4	5

322437097423501 - LAKE GRANBURY DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1055	1.0	2720	7.9	29.0	7.3	99
15...	1057	10	2720	7.8	28.5	6.8	92
15...	1059	20	2720	7.3	27.0	3.5	46
15...	1101	30	2720	6.9	26.5	.3	4

BRAZOS RIVER BASIN

329

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322458097443101 - LAKE GRANBURY EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1001	1.0	2700	7.9	30.0	7.3	99
15...	1003	10	2700	7.9	29.5	7.3	99
15...	1005	20	2700	7.6	28.5	5.9	80
15...	1007	30	2700	6.9	24.5	.2	3
15...	1009	40	2700	6.8	22.0	.2	2
15...	1011	48	2830	6.8	21.0	.2	2

322619097463301 - LAKE GRANBURY FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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 CAC03)
JUN									
15...	1413	1.0	2310	8.0	30.0	.90	8.4	114	400
15...	1415	10	2310	8.0	29.0	--	8.4	114	--
15...	1417	20	2310	7.3	27.5	--	3.2	43	--
15...	1419	30	2310	7.0	27.0	--	.7	9	--
15...	1421	40	2660	6.9	22.5	--	.3	4	490

DATE	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 AL- SOHP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
JUN									
15...	300	110	31	330	7.2	7.0	120	0	250
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	350	140	35	370	7.2	7.1	180	0	260

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN								
15...	520	2.3	1310	.01	.00	.02	10	0
15...	--	--	--	--	--	--	--	--
15...	--	--	--	.02	.00	.04	20	10
15...	--	--	--	.04	.01	.03	20	170
15...	610	5.7	1520	.02	.44	.08	680	2300

322703097451401 - LAKE GRANBURY GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1444	1.0	1920	8.1	30.5	8.9	122
15...	1446	10	1920	7.9	29.0	7.5	101
15...	1448	22	1920	7.2	28.5	1.9	26

BRAZOS RIVER BASIN
LAKE GRANBURY NEAR GRANBURY, TX--Continued

322834097470801 - LAKE GRANBURY HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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 CAC03)
JUN									
15...	1515	1.0	1970	8.1	30.0	.50	8.7	118	340
15...	1517	10	1970	7.6	28.0	--	5.5	73	--
15...	1519	20	2160	7.1	28.0	--	2.2	29	--
15...	1521	28	2160	7.0	27.5	--	.2	3	360

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CA03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
JUN									
15...	230	94	25	280	6.6	7.2	130	0	200
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	240	96	28	300	6.9	6.9	140	0	230

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN								
15...	430	3.8	1100	.02	.00	.04	10	20
15...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
15...	460	3.7	1190	.02	.09	.07	50	700

322819097483201 - LAKE GRANBURY IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1700	1.0	1980	7.8	29.0	7.2	97
15...	1702	10	1980	7.4	28.0	4.2	56
15...	1704	17	1980	7.2	28.5	3.0	40

323318097480101 - LAKE GRANBURY JC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
15...	1556	1.0	2270	7.9	30.0	8.3	112
15...	1558	10	2310	7.6	29.0	6.5	88
15...	1600	17	2380	7.0	29.0	2.5	34

BRAZOS RIVER BASIN

331

LAKE GRANBURY NEAR GRANBURY, TX--Continued

323435097492001 - LAKE GRANBURY KC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
JUN										
15...	1620	1.0	2510	8.0	31.0	.60	9.0	125		410
15...	1622	8.0	2580	7.7	31.0	--	7.3	101		440

DATE	TIME	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN										
15...	300	110	32	370	8.0	8.2	130	0		270
15...	330	120	33	370	7.7	8.3	130	0		270

DATE	TIME	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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN									
15...	570	2.6	1430	.00	.00	.05	10	40	
15...	610	2.7	1480	.02	.00	.04	10	110	

322227097412101 - LAKE GRANBURY AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
JUN							
15...	1255	1.0	1	300	0	0	1
15...	1259	20	--	--	--	--	--
15...	1303	40	--	--	--	--	--
15...	1307	62	5	300	0	5	0

DATE	TIME	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)
JUN								
15...	20	5	5	.0	0	0	10	
15...	20	--	30	--	--	--	--	
15...	50	--	510	--	--	--	--	
15...	980	6	1700	.0	0	0	10	

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 LAKE GRANBURY AC
PHYTOPLANKTON ANALYSES, MAY 1978 TO JUNE 1978

DATE JUN 15, 78
TIME 1256

TOTAL CELLS/ML 9300

DIVERSITY: DIVISION 1.1
 .CLASS 1.1
 ..ORDER 1.2
 ...FAMILY 1.9
 GENUS 2.4

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
.CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OOCYSTACEAE		
....CHODATELLA	220	2
....KIRCHNERIELLA	*	0
....OOCYSTIS	3100#	33
...SCENEDESMACEAE		
....CRUCIGENIA	700	8
....SCENEDESMUS	2800#	30
..ZYGNEMATALES		
...DESMIDIACEAE		
....COSMARUM	*	0
CHRYSOPHYTA		
.BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	130	1
..PENNALES		
...NITZSCHIACEAE		
....NITZSCHIA	1100	12
CYANOPHYTA (BLUE-GREEN ALGAE)		
.CYANOPHYCEAE		
..CHROCOCCOCCALES		
...CHROCOCCOCCAEAE		
....ANACYSTIS	1200	13

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

LAKE GRANBURY NEAR GRANBURY, TX--Continued

323435097492001 LAKE GRANBURY KC
PHYTOPLANKTON ANALYSES, MAY 1978 TO JUNE 1978

DATE JUN 15, 78
TIME 1621

TOTAL CELLS/ML 140000

DIVERSITY: DIVISION 0.4
 .CLASS 0.4
 ..ORDER 1.0
 ...FAMILY 1.1
 GENUS 1.7

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
.CHLOROPHYCEAE		
..CHLOROCOCCALES		
...MICRACTINIACEAE		
....MICRACTINIUM	1500	1
...OOCYSTACEAE		
....ANKISTRODESMUS	760	1
....CHODATELLA	*	0
...OOCYSTIS	2500	2
...SCENEDESMACEAE		
....SCENEDESMUS	940	1
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	*	0
CHRYSOPHYTA		
.BACILLARIOPHYCEAE		
..PENNALES		
...NAVICULACEAE		
....NAVICULA	*	0
...NITZSCHACEAE		
....NITZSCHIA	760	1
CYANOPHYTA (BLUE-GREEN ALGAE)		
.CYANOPHYCEAE		
..CHROCCOCCALES		
...CHROCCOCCACEAE		
....AGMENELLUM	26000#	19
....ANACYSTIS	84000#	61
..HORMOGONALES		
...NOSTOCACEAE		
....ANABAENA	940	1
...OSCILLATORIACEAE		
....OSCILLATORIA	18000	13
....SPIRULINA	*	0
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 GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 - LAKE GRANBURY AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
------	------	--------------------------------	--	---------------	-----------------------------	---	-------------------------------------	--	--

AUG									
31...	1255	1.0	2630	8.6	29.0	1.00	8.6	113	410
31...	1257	10	2630	8.6	28.5	--	8.3	109	--
31...	1259	20	2640	8.5	28.5	--	7.6	100	--
31...	1301	30	2690	7.7	28.0	--	4.0	52	--
31...	1303	40	2860	7.2	27.0	--	.2	3	--
31...	1305	50	3020	7.2	26.5	--	.2	3	--
31...	1307	60	3400	7.2	25.0	--	.2	2	--
31...	1309	66	3460	7.2	25.0	--	.3	4	560

DATE	TIME	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
------	------	--	--	--	--	---	---	--	------------------------------------	---

AUG										
31...	320	110	32	390	8.4	7.8	92	5	310	
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	450	150	45	510	9.4	9.1	140	0	380	

DATE	TIME	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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
------	------	---	--	---	---	--	--	---	--	--

AUG										
31...	640	.4	6.0	1550	.00	.00	.02	170	0	
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	.01	.01	.02	20	0	
31...	--	--	--	--	1.9	.01	.02	20	90	
31...	--	--	--	--	--	--	--	--	--	--
31...	870	.4	8.9	2040	.01	1.1	.17	70	1700	

322231097412001 - LAKE GRANBURY AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

AUG							
31...	1330	1.0	2630	8.6	29.0	8.8	116
31...	1332	10	2630	8.6	28.5	8.3	109
31...	1334	20	2630	8.5	28.5	7.8	103
31...	1336	30	2690	7.7	28.0	3.6	47
31...	1338	39	2790	7.3	28.0	1.2	16

322345097421901 - LAKE GRANBURY BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

AUG							
31...	1220	1.0	2570	8.3	28.0	6.8	88
31...	1222	10	2570	8.2	28.0	6.3	82
31...	1224	20	2580	8.0	28.0	5.2	68
31...	1226	30	2610	7.5	28.0	2.7	35
31...	1228	40	2670	7.3	28.0	1.2	15

BRAZOS RIVER BASIN

335

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322341097420601 - LAKE GRANBURY BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
31...	1200	1.0	2570	8.3	28.0	6.8	88
31...	1202	10	2570	8.2	28.0	6.4	83
31...	1204	20	2580	8.0	28.0	5.2	68
31...	1206	30	2630	7.4	27.5	2.6	34
31...	1208	40	2690	7.2	27.0	.3	4
31...	1210	50	2930	7.2	26.5	.3	4
31...	1212	63	3300	7.2	25.5	.4	5

322337097415401 - LAKE GRANBURY BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
31...	1235	1.0	2570	8.3	28.0	6.9	90
31...	1237	10	2570	8.1	28.0	6.1	79
31...	1239	20	2590	8.1	28.0	5.8	75
31...	1241	30	2610	7.8	28.0	4.2	55
31...	1243	42	2700	7.3	27.5	.4	5

322537097414501 - LAKE GRANBURY CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
31...	1140	1.0	2540	8.3	28.0	7.0	91
31...	1142	10	2540	8.2	27.5	6.5	84
31...	1144	20	2540	8.2	27.5	6.3	82

322422097423901 - LAKE GRANBURY DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
31...	1106	1.0	2590	8.0	29.5	5.8	77
31...	1108	10	2580	7.8	29.0	5.0	66
31...	1110	20	2540	7.3	28.0	1.6	21
31...	1112	30	2540	7.2	27.5	.3	4
31...	1114	40	2590	7.2	26.5	.3	4
31...	1116	50	2930	7.2	26.0	.3	4
31...	1118	57	3040	7.2	26.0	.6	8

322437097423901 - LAKE GRANBURY DL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
31...	1051	1.0	2590	8.0	29.5	5.8	77
31...	1053	10	2590	8.0	29.0	5.9	78
31...	1055	20	2540	7.3	28.0	1.2	16
31...	1057	31	2540	7.2	27.5	.6	8

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322458097443101 - LAKE GRANBURY EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
31...	1023	1.0	2540	8.2	28.5	6.4	84
31...	1025	10	2540	8.2	28.5	6.2	82
31...	1027	20	2550	8.1	28.5	5.9	78
31...	1029	30	2560	7.9	28.0	5.7	74
31...	1031	40	2660	7.2	27.0	.2	3
31...	1033	51	2830	7.2	26.0	.3	4

322619097463301 - LAKE GRANBURY FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
AUG									
31...	1420	1.0	2510	8.4	29.5	.60	7.2	96	400
31...	1422	10	2510	8.3	29.0	--	6.5	86	--
31...	1424	20	2510	8.1	29.0	--	5.7	75	--
31...	1426	30	2750	7.3	28.5	--	.3	4	--
31...	1428	43	2780	7.3	27.5	--	.3	4	470

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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS C03)	SULFATE, DIS- SOLVED (MG/L AS SO4)
AUG									
31...	310	110	31	360	7.8	7.5	110	0	300
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	350	130	35	400	8.0	7.7	140	0	310

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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG								
31...	590	6.5	1460	.00	.00	.03	20	0
31...	--	--	--	.00	.00	.03	20	10
31...	--	--	--	.00	.00	.03	20	50
31...	--	--	--	--	--	--	--	--
31...	670	8.3	1630	.00	.31	.06	470	1500

322703097451401 - LAKE GRANBURY GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
31...	1500	1.0	2420	8.3	28.5	6.8	89
31...	1502	10	2440	8.1	28.5	5.7	75
31...	1504	20	2440	8.0	28.0	5.0	65
31...	1506	25	2440	7.9	28.0	4.1	53

BRAZOS RIVER BASIN

337

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322834097470801 - LAKE GRANBURY HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
AUG									
31...	1540	1.0	2510	8.2	28.5	.50	6.8	89	420
31...	1542	10	2570	8.0	28.0	--	5.3	69	--
31...	1544	20	2700	7.9	28.0	--	4.8	62	--
31...	1546	33	2710	7.7	28.0	--	3.8	49	440

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
AUG									
31...	330	120	30	360	7.6	7.5	110	0	290
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	340	120	34	390	8.1	7.7	120	0	310

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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG								
31...	600	6.4	1470	.01	.01	.03	30	10
31...	--	--	--	.00	.00	.03	20	0
31...	--	--	--	--	--	--	--	--
31...	640	6.9	1570	.00	.02	.04	20	110

322819097483201 - LAKE GRANBURY IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
31...	1601	1.0	2560	8.6	29.0	8.6	113
31...	1603	10	2590	7.6	28.0	3.3	43
31...	1605	22	2640	7.5	28.0	2.0	26

BRAZOS RIVER BASIN

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 - LAKE GRANBURY AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
AUG							
31...	1255	1.0	2	100	0	0	3
31...	1301	30	--	--	--	--	--
31...	1303	40	--	--	--	--	--
31...	1309	66	5	200	0	10	0

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
AUG							
31...	170	0	0	.0	0	0	0
31...	20	--	0	--	--	--	--
31...	20	--	90	--	--	--	--
31...	70	0	1700	.0	1	0	10

BRAZOS RIVER BASIN

339

LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 LAKE GRANBURY AC
 PHYTOPLANKTON ANALYSES, AUGUST 1978 TO AUGUST 1978

DATE	AUG 31, 78
TIME	1256
TOTAL CELLS/ML	410000
DIVERSITY: DIVISION	0.3
.CLASS	0.3
...ORDER	1.2
...FAMILY	1.3
....GENUS	2.1

ORGANISM	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OOCYSTACEAE		
....OOCYSTIS	*	0
....SELENASTRUM	2200	1
....TETRAEDRON	*	0
...SCENEDESMACEAE		
....CRUCIGENIA	2200	1
....SCENEDESMUS	3300	1
..VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CARTERIA	*	0
....CHLAMYDOMONAS	*	0
..ZYGNEMATALES		
...DESMIDIACEAE		
....COSMARIMUM	*	0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...CHAETOCERACEAE		
....CHAETOCEROS	*	0
...COSCINODISCACEAE		
....CYCLOTELLA	*	0
..PENNALES		
...NAVICULACEAE		
....DIPLONEIS	*	0
...NITZSCHIA		
....NITZSCHIA	*	0
..XANTHOPHYCEAE		
...HETEROCOCCALES		
...CHLOROTHECIACEAE		
....OPHIOCYTIUM	*	0
CRYPTOPHYTA (CRYPTOMONADS)		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)		
..CYANOPHYCEAE		
...CHROCOCCALES		
...CHROCOCCACEAE		
....AGMENELLUM	16000	4
....ANACYSTIS	100000#	25
...HORMOGONALES		
...NOSTOCACEAE		
....CYLINDROSPERMUM	4400	1
...OSCILLATORIA		
....LYNGBYA	94000#	23
....OSCILLATORIA	180000#	43

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

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

08091000 BRAZOS RIVER NEAR GLEN ROSS, TX

LOCATION.--Lat 32°16'18", Long 97°39'48", Somervell County, Hydrologic Unit 12060201, at downstream side of bridge on U.S. Highway 67, 600 ft (180 m) downstream from Georges Creek, 4.1 mi (6.6 km) upstream from Paluxy River, 6 mi (10 km) northeast of Glen Rose, and at mile 511.2 (822.5 km).

DRAINAGE AREA.--25,818 mi² (66,869 km²), of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--October 1923 to current year.

REVISED RECORDS.--WSP 1058: 1932. WSP 1512: 1946-47, 1949. WSP 1712: 1928(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 567.82 ft (173.072 m) National Geodetic Vertical Datum of 1929. Prior to May 7, 1931, nonrecording gage at site 2.5 mi (4.0 km) downstream at same datum. May 7, 1931, to Sept. 30, 1957, water-stage recorder at site 2.4 mi (3.9 km) downstream at same datum, used as supplementary gage Oct. 1, 1957, to Apr. 1, 1959. Apr. 27, 1950, to Sept. 30, 1957, water-stage recorder, present gage, used as supplementary gage.

REMARKS.--Records good. Flow is largely regulated since September 1969 by Lake Granbury (station 08090900) 31 mi (50 km) upstream. Many diversions above station for irrigation, municipal supply, and oilfield operation. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years (water years 1924-69) prior to regulation by Lake Granbury, 1,567 ft³/s (44.38 m³/s), 1,135,000 acre-ft/yr (1.40 km³/yr); 9 years (water years 1970-78) regulated, 835 ft³/s (23.65 m³/s), 605,000 acre-ft/yr (0.746 km³/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 Possum Kingdom Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1876, that of May 27, 1957. 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, 41,200 ft³/s (1,170 m³/s) Aug. 11, gage height, 24.70 ft (7.529 m); minimum, 6.3 ft³/s (0.18 m³/s) July 3-8.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	49	75	53	80	73	74	68	483	16	9.9	94
2	49	50	71	66	75	77	83	74	504	9.7	9.8	144
3	50	55	89	69	72	73	74	91	598	7.1	11	133
4	54	56	79	50	69	68	73	87	696	7.6	18	109
5	59	56	73	71	72	77	81	62	692	7.2	31	124
6	60	54	67	85	63	80	82	83	689	7.2	32	148
7	60	62	62	92	70	108	67	65	688	7.2	549	195
8	57	70	70	78	94	91	50	81	687	7.0	14600	152
9	57	67	67	66	90	79	89	54	685	9.0	37200	113
10	56	64	61	74	77	71	84	88	679	9.1	38900	347
11	62	62	74	74	75	82	85	82	628	12	35300	1000
12	52	56	70	77	93	83	216	259	644	9.0	22100	984
13	58	53	73	72	102	80	461	110	468	7.9	15500	385
14	74	49	68	70	86	81	448	67	159	12	14100	162
15	60	47	73	71	78	77	309	69	133	15	6400	98
16	61	58	75	58	76	70	104	63	129	16	4000	284
17	56	56	72	61	85	74	80	64	126	16	4180	189
18	53	53	70	68	92	72	88	63	127	18	2480	860
19	47	61	67	67	82	68	79	66	125	12	2480	681
20	49	62	61	63	75	72	47	68	121	11	3110	290
21	53	56	44	74	73	72	74	68	126	12	2340	236
22	57	52	60	68	71	70	65	71	126	12	772	483
23	66	51	68	70	73	78	56	68	125	14	225	681
24	66	48	71	67	74	83	62	62	127	16	168	696
25	62	48	78	66	74	105	62	70	126	17	138	587
26	57	49	63	64	73	86	77	69	121	17	110	269
27	52	51	63	66	74	70	51	186	122	18	92	176
28	50	52	59	68	75	75	77	472	88	16	109	708
29	51	69	72	66	---	70	45	496	46	14	107	803
30	50	79	68	65	---	70	79	459	29	13	93	443
31	52	---	58	75	---	85	---	450	---	11	79	---
TOTAL	1735	1695	2121	2134	2193	2420	3343	4135	10097	376.0	205243.7	11574
MEAN	56.0	56.5	68.4	68.8	78.3	78.1	111	133	337	12.1	6621	386
MAX	74	79	89	92	102	108	461	496	696	18	38900	1000
MIN	45	47	44	50	63	68	45	54	29	7.0	9.8	94
AC-FT	3440	3360	4210	4230	4350	4800	6630	8200	20030	746	407100	22960
CAL YR 1977	TOTAL	229983.3	MEAN 630	MAX 40000	MIN 9.4	AC-FT 456200						
WTR YR 1978	TOTAL	247066.7	MEAN 677	MAX 38900	MIN 7.0	AC-FT 490100						

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. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--32 years (water years 1925, 1948-78), 67.4 ft³/s (1,909 m³/s), 2.23 in/yr (57 mm/yr), 48,830 acre-ft/yr (60.2 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 same stage as that of May 21, 1922, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,520 ft³/s (99.7 m³/s) May 11, gage height, 7.89 ft (2.405 m), no peak above base of 4,000 ft³/s (113 m³/s); no flow June 26 to Aug. 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	3.0	9.0	9.7	13	13	9.7	7.1	8.7	.00	.00	3.4
2	.15	2.7	8.7	9.5	13	13	9.7	8.3	7.0	.00	.00	28
3	.14	2.8	8.0	9.0	13	13	9.8	12	6.2	.00	.00	14
4	.11	5.1	7.8	9.1	12	13	9.9	11	5.5	.00	.00	14
5	.13	4.4	7.6	9.9	12	13	10	11	4.7	.00	.00	17
6	.23	4.1	7.5	10	12	13	10	10	4.8	.00	.00	2.9
7	.39	4.0	7.4	10	14	14	9.9	9.2	4.7	.00	.00	2.1
8	.68	8.6	7.5	9.6	14	14	9.7	8.2	3.8	.00	.00	4.1
9	.63	7.5	6.9	9.1	14	13	9.6	7.4	3.7	.00	.00	3.3
10	.69	8.0	6.8	9.0	14	12	15	6.9	3.1	.00	.00	2.0
11	.81	6.2	6.8	11	14	12	17	440	2.5	.00	.00	1.5
12	.78	5.3	7.3	11	20	12	18	406	2.0	.00	.00	1.2
13	.89	5.0	7.5	12	21	12	14	40	1.8	.00	.00	1.0
14	.78	5.0	7.3	12	19	11	12	21	1.5	.00	.00	.85
15	.82	4.7	7.3	12	18	11	11	15	1.3	.00	.00	.63
16	.73	5.0	7.3	11	16	11	10	12	.73	.00	.00	.45
17	.76	5.2	7.2	11	18	11	9.7	9.1	.41	.00	.00	.32
18	.75	4.9	7.1	11	16	10	9.1	7.9	.36	.00	.00	.16
19	.80	5.3	6.8	11	15	10	8.7	7.0	.40	.00	.00	.11
20	.81	5.6	7.3	10	14	10	8.6	6.3	.32	.00	.00	.07
21	.79	6.9	7.2	11	13	11	8.3	9.0	.23	.00	.00	.03
22	2.6	6.8	7.1	11	13	10	8.4	20	.12	.00	.00	.02
23	2.9	6.0	7.2	11	12	12	8.5	10	.07	.00	.00	.02
24	3.3	6.4	8.2	12	13	13	11	7.9	.03	.00	.00	.02
25	2.8	6.8	8.2	12	13	13	9.2	7.2	.01	.00	.00	.02
26	2.5	6.8	8.2	11	13	12	8.2	5.9	.00	.00	.00	.01
27	2.4	6.5	8.2	11	12	11	7.7	5.0	.00	.00	.00	.02
28	2.4	6.6	9.1	11	13	11	7.5	6.1	.00	.00	.00	.08
29	2.5	8.8	10	10	---	10	7.3	18	.00	.00	.00	.06
30	2.8	9.4	10	11	---	10	7.2	25	.00	.00	.00	.02
31	3.0	---	10	12	---	9.9	---	12	---	.00	.00	---
TOTAL	39.23	173.4	242.5	329.9	404	363.9	304.7	1181.5	63.98	.00	.00	97.39
MEAN	1.27	5.78	7.82	10.6	14.4	11.7	10.2	38.1	2.13	.000	.000	3.25
MAX	3.3	9.4	10	12	21	14	18	440	8.7	.00	.00	28
MIN	.11	2.7	6.8	9.0	12	9.9	7.2	5.0	.00	.00	.00	.01
CFSM	.003	.01	.02	.03	.04	.03	.03	.09	.005	.000	.000	.008
IN.	.00	.02	.02	.03	.04	.03	.03	.11	.01	.00	.00	.01
AC-FT	78	344	481	654	801	722	604	2340	127	.00	.00	193
CAL YR 1977 TOTAL	32131.29			MEAN 88.0	MAX 9650	MIN .11	CFSM .22	IN 2.92	AC-FT 63730			
WTR YR 1978 TOTAL	3200.50			MEAN 8.77	MAX 440	MIN .00	CFSM .02	IN .29	AC-FT 6350			

BRAZOS RIVER BASIN

08091730 SQUAW CREEK RESERVOIR NEAR GLEN ROSE, TX

LOCATION.--Lat 32°17'28", long 97°45'49", Somervell County, Hydrologic Unit 12060202, on downstream side of outlet tower at dam, 3.9 mi (6.3 km) north of Glen Rose, and 4.3 mi (6.9 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 ft (1 by 2 m) slide gates and a 6 by 6 ft (2 by 2 m) slide gate, which feed into a 6 ft (2 m) inside diameter concrete conduit that extends through the dam. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	796.0	228,100
Crest of spillway.....	783.0	178,100
Crest of spillway (normal operating level).....	775.0	151,100
Invert of slide gate (No. 1).....	764.0	117,300
Invert of slide gate (No. 2).....	715.0	24,670
Invert of slide gate (No. 3).....	666.5	380
Lowest gated outlet (invert).....	653.0	0

COOPERATION.--The capacity table, furnished by Texas Utilities Services Inc., was prepared by Freese and Nichols Inc., Consulting Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 98,770 acre-ft (122 hm³) Sept. 30, 1978, elevation, 757.16 ft (230.782 m); minimum contents observed, 434 acre-ft (535,000 m³) Feb. 17, 1977, elevation, 667.2 ft (203.362 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 98,770 acre-ft (122 hm³) Sept. 30, elevation, 757.16 ft (230.782 m); minimum, 47,600 acre-ft (58.7 hm³) Oct. 1, elevation 732.54 ft (223.278 m).

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

732.0	46,730	748.0	77,020
736.0	53,400	752.0	86,100
740.0	60,670	756.0	95,820
744.0	68,550	758.0	100,900

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47770	53210	58430	62590	66090	71120	76560	81980	87350	88300	89290	94050
2	47890	53290	58560	62700	66270	71330	76800	82300	87420	88370	89330	94230
3	48020	53450	58690	62760	66450	71490	77000	82440	87470	88420	89410	94400
4	48160	53640	58810	62760	66670	71560	77180	82600	87490	88470	89450	94720
5	48310	53820	58950	62780	66850	71520	77350	82720	87570	88510	89570	94870
6	48490	54010	59020	62780	67090	71750	77550	82950	87710	88540	89620	95000
7	48670	54220	59150	62760	67340	71980	77730	83150	87760	88560	89700	95150
8	48830	54660	59270	62680	67540	72120	77930	83330	87780	88610	89790	95350
9	49000	54810	59420	62630	67760	72290	78170	83490	87800	88630	89960	95520
10	49210	54980	59570	62660	67920	72520	78460	83700	87800	88710	90150	95670
11	49330	55180	59750	62880	68130	72690	78570	84510	87830	88710	90370	95850
12	49460	55360	59960	63050	68530	72880	78720	84700	87870	88730	90560	96020
13	49640	55540	60130	63250	68670	73100	78920	84860	87920	88780	90710	96180
14	49790	55730	60350	63370	68860	73250	79080	85050	87940	88800	90880	96330
15	49940	55900	60500	63560	69070	73440	79250	85190	87970	88950	91020	96480
16	50090	56090	60630	63760	69270	73590	79410	85380	87990	89000	91190	96660
17	50250	56260	60770	63780	69560	73800	79610	85560	88020	88970	91340	96790
18	50470	56420	60960	63990	69580	73970	79770	85720	88060	89000	91490	96890
19	50640	56620	61070	64050	69560	74140	79910	85910	88090	88970	91660	97010
20	50810	56830	61250	64030	69560	74360	80040	86100	88110	89020	91830	97170
21	51000	57010	61400	64050	69620	74530	80200	86220	88110	89020	92030	97320
22	51280	57200	61590	64050	69830	74720	80380	86480	88110	89040	92200	97420
23	51470	57380	61800	64090	69990	75040	80540	86570	88130	89070	92370	97570
24	51640	57580	61990	64320	70200	75200	80830	86620	88160	89090	92520	97750
25	51840	57770	62090	64620	70370	75370	80960	86670	88130	89140	92670	97900
26	52030	57910	62070	64780	70530	75520	81100	86710	88160	89160	92810	98080
27	52220	58080	62130	64970	70760	75720	81260	86760	88180	89210	92960	98260
28	52410	58260	62300	65170	70930	75870	81390	87070	88230	89240	93180	98410
29	52600	58430	62510	65390	---	76090	81620	87160	88250	89260	93350	98570
30	52790	58430	62590	65610	---	76260	81780	87260	88250	89290	93500	98770
31	53000	---	62610	65870	---	76430	---	87310	---	89260	93650	---
MAX	53000	58430	62610	65870	70930	76430	81780	87310	88250	89290	93650	98770
MIN	47770	53210	58430	62590	66090	71120	76560	81980	87350	88300	89290	94050
(†)	735.77	738.80	741.01	742.67	745.15	747.73	750.13	752.51	752.91	753.33	755.13	757.16
(#)	+5400	+5430	+4180	+3260	+5060	+5500	+5350	+5530	+940	+1010	+4390	+5120

CAL YR 1977 MAX MIN

WTR YR 1978 MAX MIN

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

08091750 SQUAW CREEK NEAR GLEN ROSE, TX

LOCATION.--Lat 32°16'12", long 97°43'56", Somervell County, Hydrologic Unit 12060202, on left bank at downstream side of bridge on State Highway 144, 2.1 mi (3.4 km) upstream from mouth, 2.5 mi (4.0 km) downstream from Squaw Creek Dam, and 2.8 mi (4.5 km) northeast of Glen Rose.

DRAINAGE AREA.--70.3 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), corrected, 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.--5 years, 7.16 ft³/s (0.203 m³/s), 5,190 acre-ft/yr (6.40 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 (28.3 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 Texas Department of Highways and Public Transportation (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 108 ft³/s (3.06 m³/s) May 11, gage height, 3.90 ft (1.189 m); minimum, 0.79 ft³/s (0.022 m³/s) July 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	4.2	1.8	2.8	4.0	1.5	1.8	1.5	1.8	1.3	1.6	4.5
2	1.5	4.6	1.5	2.7	3.6	1.5	1.8	2.2	1.6	1.9	1.6	2.7
3	1.5	4.6	1.9	2.7	3.4	1.5	1.7	3.4	1.5	2.1	1.6	1.7
4	1.6	4.6	2.5	2.3	3.4	1.5	1.7	2.1	1.5	2.2	1.6	4.7
5	1.7	4.6	2.5	2.1	3.4	1.5	1.7	1.9	1.5	2.2	1.8	6.2
6	1.8	4.6	2.3	1.9	3.4	1.6	1.7	1.9	1.5	1.6	1.9	1.7
7	2.1	4.6	2.4	1.7	3.4	2.2	1.7	1.9	1.5	1.4	1.8	1.6
8	2.1	7.5	2.4	1.7	3.2	1.6	1.7	1.8	1.7	1.4	1.7	1.8
9	2.1	4.8	2.5	1.7	2.7	1.4	1.7	1.7	1.6	1.4	1.7	1.9
10	2.2	4.3	2.5	1.7	2.7	1.4	2.6	1.7	1.5	1.3	1.7	1.9
11	2.3	4.3	2.3	1.7	2.7	1.6	2.1	14	1.4	1.3	1.7	1.9
12	2.3	4.0	2.3	1.9	4.5	1.6	1.9	4.9	1.3	1.4	1.7	1.9
13	2.3	4.0	2.2	2.9	2.9	1.6	1.7	1.7	1.4	1.5	1.5	1.9
14	2.3	4.0	2.1	3.2	2.2	1.7	1.7	1.4	1.4	1.5	1.5	1.9
15	2.3	3.7	2.1	3.2	1.9	1.6	1.7	1.4	1.1	1.5	1.5	1.9
16	2.3	3.7	2.1	3.4	1.9	1.6	1.7	1.4	1.0	1.8	1.5	1.9
17	2.3	3.4	2.2	3.4	2.1	1.6	1.7	1.4	1.2	1.7	1.5	1.9
18	2.3	3.2	2.3	2.7	2.0	1.6	1.8	1.4	1.3	1.5	1.5	1.7
19	2.3	3.3	2.3	2.9	1.5	1.4	1.9	1.4	1.3	1.5	1.4	1.5
20	2.3	3.2	2.3	2.2	1.4	1.4	1.9	1.6	1.1	1.5	1.4	1.5
21	2.3	3.3	2.5	1.9	1.6	1.4	1.9	1.7	1.1	1.5	1.6	1.5
22	3.1	3.4	2.5	1.7	1.6	1.6	1.9	1.9	.96	1.5	1.7	1.5
23	3.2	3.2	2.5	1.7	1.6	1.7	1.9	1.9	.89	1.7	1.7	1.7
24	3.0	3.2	2.5	1.6	1.7	1.9	1.7	1.9	.97	1.7	1.6	1.8
25	3.2	2.9	2.5	2.3	1.6	1.7	1.7	1.9	.89	1.7	1.5	1.9
26	3.3	3.0	2.5	3.3	1.5	1.7	1.7	1.9	.96	1.7	1.5	1.9
27	3.4	3.2	2.5	3.6	1.5	1.7	1.7	1.9	1.3	1.7	1.5	2.2
28	3.3	2.9	2.5	3.7	1.6	1.7	1.7	2.7	1.1	1.5	1.7	2.3
29	3.2	3.7	2.9	3.7	---	1.7	1.7	4.3	1.0	1.5	2.2	2.3
30	3.2	2.9	2.9	3.4	---	1.7	1.5	1.7	.89	1.5	1.5	2.2
31	3.2	---	2.9	3.7	---	1.7	---	1.7	---	1.4	1.4	---
TOTAL	75.5	116.9	73.2	79.4	69.0	49.9	53.4	74.2	38.26	49.4	50.1	66.0
MEAN	2.44	3.90	2.36	2.56	2.46	1.61	1.78	2.39	1.28	1.59	1.62	2.20
MAX	3.4	7.5	2.9	3.7	4.5	2.2	2.6	14	1.8	2.2	2.2	6.2
MIN	1.5	2.9	1.5	1.6	1.4	1.4	1.5	1.4	.89	1.3	1.4	1.5
AC-FT	150	232	145	157	137	99	106	147	76	98	99	131

CAL YR 1977 TOTAL 1473.90 MEAN 4.04 MAX 191 MIN .30 AC-FT 2920
WTR YR 1978 TOTAL 795.26 MEAN 2.18 MAX 14 MIN .89 AC-FT 1580

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 44 acre-ft (54,250 m³) 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, 37,200 acre-ft (45.9 hm³) May 13, 1968, elevation, 740.10 ft (225.582 m); minimum, 15,270 acre-ft (18.8 hm³) Sept. 30, 1978, elevation, 725.58 ft (221.157 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 21,890 acre-ft (27.0 hm³) Oct. 1, elevation, 730.99 ft (222.806 m); minimum, 15,270 acre-ft (18.8 hm³) Sept. 30, elevation, 725.58 ft (221.157 m).

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

725.0	14,660	729.0	19,270
727.0	16,850	731.0	21,900

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21880	21060	20580	19980	19770	19910	19500	19290	19540	18380	17000	16040
2	21810	20980	20540	19950	19750	19900	19520	19370	19520	18340	16970	16000
3	21750	20930	20530	19930	19740	19900	19500	19370	19490	18290	16920	15990
4	21700	20900	20530	19920	19730	19870	19490	19330	19460	18250	16890	15980
5	21630	20890	20500	19920	19720	19840	19470	19310	19450	18200	16940	15940
6	21600	20870	20440	19910	19720	19870	19490	19310	19420	18140	16910	15890
7	21560	20850	20410	19910	19780	19910	19460	19310	19400	18100	16880	15870
8	21530	21010	20430	19860	19780	19880	19450	19280	19360	18050	16630	15850
9	21490	20990	20360	19830	19780	19860	19430	19240	19320	18000	16810	15840
10	21480	20950	20350	19810	19770	19830	19540	19230	19270	17950	16770	15790
11	21410	20940	20320	19840	19770	19830	19510	19500	19230	17900	16740	15780
12	21370	20910	20310	19840	19980	19830	19490	19820	19210	17850	16690	15760
13	21330	20900	20310	19840	19970	19820	19460	19810	19170	17810	16660	15730
14	21290	20890	20300	19820	19960	19810	19430	19780	19130	17760	16610	15710
15	21250	20870	20260	19790	19960	19780	19410	19770	19090	17750	16560	15670
16	21220	20870	20260	19840	19970	19770	19380	19740	19040	17700	16510	15620
17	21180	20830	20230	19790	20040	19740	19370	19720	19010	17640	16470	15570
18	21170	20810	20220	19830	20040	19700	19340	19690	18970	17590	16420	15540
19	21150	20810	20210	19810	20020	19690	19290	19680	18920	17530	16390	15510
20	21110	20810	20170	19770	20040	19700	19260	19690	18880	17490	16360	15480
21	21090	20750	20130	19780	20000	19700	19210	19690	18830	17440	16360	15490
22	21150	20710	20090	19770	19980	19680	19340	19660	18790	17400	16340	15460
23	21150	20710	20090	19770	19970	19740	19450	19650	18760	17400	16310	15430
24	21130	20710	20080	19790	19970	19720	19460	19600	18700	17380	16260	15410
25	21110	20670	20040	19770	19960	19660	19430	19590	18650	17320	16230	15380
26	21090	20610	20020	19750	19930	19650	19410	19550	18580	17270	16190	15360
27	21070	20610	20000	19740	19920	19640	19380	19520	18530	17250	16150	15350
28	21060	20560	20000	19730	19930	19600	19330	19650	18510	17190	16130	15330
29	21030	20570	20000	19720	---	19590	19290	19630	18460	17140	16090	15290
30	21020	20580	19980	19720	---	19580	19310	19590	18420	17100	16070	15270
31	21020	---	19980	19750	---	19540	---	19580	---	17050	16050	---
MAX	21880	21060	20580	19980	20040	19910	19540	19820	19540	18380	17000	16040
MIN	21020	20560	19980	19720	19720	19540	19210	19230	18420	17050	16050	15270
(+)	730.35	730.02	729.56	729.38	729.52	729.21	729.03	729.24	728.32	727.17	726.29	725.58
(+)	-870	-440	-600	-230	+180	-390	-230	+270	-1160	-1370	-1000	-780
(+)	290	239	233	224	193	241	246	265	319	430	383	340
CAL YR 1977	MAX	33650	MIN	19980	+	-5890	++	3170				
WTR YR 1978	MAX	21880	MIN	15270	+	-6620	++	3400				

† 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

345

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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
DEC 14...	0945	263	9.0	110	7	35	4.4	10	.4

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
DEC 14...	3.6	120	0	12	11	.2	7.9	143

BRAZOS RIVER BASIN

08092000 NOLAN RIVER AT BLUM, TX

LOCATION.--Lat 32°09'02", long 97°24'10", 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.

AVERAGE DISCHARGE.--17 years (water years 1925, 1949-64) prior to regulation by Lake Pat Cleburne, 66.1 ft³/s (1.872 m³/s), 47,890 acre-ft/yr (59.0 hm³/yr); 14 years (water years 1965-78) regulated, 98.7 ft³/s (2.795 m³/s), 71,510 acre-ft/yr (88.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,200 ft³/s (1,760 m³/s) May 7, 1969, gage height, 31.23 ft (9.519 m), from rating curve extended above 22,200 ft³/s (629 m³/s) on basis of contracted-opening measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, 35.0 ft (10.67 m) May 8, 1922, present site and datum, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,250 ft³/s (63.7 m³/s) Apr. 22, gage height, 6.25 ft (1.905 m), no peak above base of 5,000 ft³/s (142 m³/s); minimum, 0.24 ft³/s (0.007 m³/s) July 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	6.9	10	3.7	6.5	7.6	8.5	7.6	7.2	.66	.43	2.0
2	1.3	6.7	7.3	3.3	5.6	7.3	7.8	16	7.4	.56	.74	2.0
3	.96	7.8	6.1	3.2	3.6	6.7	7.3	60	16	.39	.66	1.6
4	1.1	9.8	5.6	2.8	2.5	7.3	7.6	17	9.7	.72	.74	1.7
5	1.4	9.1	5.3	2.9	3.3	8.5	8.5	11	7.6	1.0	1.9	1.7
6	1.5	9.1	4.6	3.1	3.7	8.2	7.8	9.8	7.2	.97	1.7	1.5
7	1.4	8.9	4.8	3.3	4.4	10	8.8	8.8	6.7	.64	2.5	2.2
8	.91	13	4.8	3.0	9.4	14	9.1	7.6	5.3	.54	2.2	2.2
9	1.1	22	4.6	2.3	6.7	8.8	7.8	6.7	4.5	.37	1.4	1.6
10	.99	11	4.3	2.0	6.1	7.6	15	6.1	3.8	.30	.99	2.1
11	1.9	8.8	4.3	2.4	5.6	7.6	16	16	4.5	.69	.92	2.3
12	2.0	8.5	4.8	2.7	24	7.6	9.8	156	4.2	.63	.70	2.4
13	1.9	8.0	5.3	4.9	40	7.3	8.5	21	3.6	.38	.53	2.2
14	2.3	7.6	4.8	3.0	9.8	7.3	7.6	13	2.9	.29	.90	2.2
15	2.1	7.1	4.0	1.9	8.2	6.7	7.6	9.4	2.9	.31	.94	1.7
16	2.2	7.0	4.2	2.3	7.6	6.7	7.3	7.8	2.6	.42	.90	1.1
17	2.5	6.9	4.0	2.2	9.1	6.7	6.4	7.3	1.8	.31	.75	1.2
18	3.0	6.4	3.8	2.0	11	6.7	6.1	7.6	2.6	.64	.82	.94
19	3.1	6.7	4.0	2.2	10	7.0	5.6	6.9	2.4	.38	.60	1.4
20	3.3	7.0	4.1	2.0	9.1	7.3	5.0	6.9	2.3	.29	.57	1.4
21	4.3	6.7	3.1	2.3	8.5	7.8	4.8	11	2.1	.27	.86	1.8
22	5.3	5.8	2.8	2.2	7.6	8.8	163	12	1.4	.26	5.0	5.9
23	6.2	6.1	2.6	2.0	6.1	9.8	319	10	1.1	.86	7.3	17
24	6.3	5.8	3.1	2.2	7.0	17	20	9.0	.96	1.1	4.7	7.4
25	6.2	5.6	3.1	2.4	6.7	13	20	7.4	.89	.83	1.8	4.1
26	5.6	5.8	3.4	2.1	7.0	9.4	15	7.2	1.1	.88	1.5	2.8
27	5.5	5.6	3.4	2.3	7.6	8.5	10	6.7	1.1	.89	1.3	2.6
28	5.3	5.6	3.2	2.2	7.6	8.2	9.1	7.1	1.0	.74	1.3	2.5
29	5.1	6.4	3.1	2.2	---	8.2	8.2	15	.79	.42	1.3	2.4
30	5.6	9.4	3.7	2.2	---	7.8	7.8	14	.66	.35	1.4	2.3
31	6.2	---	3.9	2.8	---	8.2	---	9.3	---	.28	1.3	---
TOTAL	97.96	241.1	136.1	80.1	244.3	263.6	745.0	511.2	116.30	17.37	48.65	84.24
MEAN	3.16	8.04	4.39	2.58	8.73	8.50	24.8	16.5	3.88	.56	1.57	2.81
MAX	6.3	22	10	4.9	40	17	319	156	16	1.1	7.3	17
MIN	.91	5.6	2.6	1.9	2.5	6.7	4.8	6.1	.66	.26	.43	.94
AC-FT	194	478	270	159	485	523	1480	1010	231	34	96	167
CAL YR 1977	TOTAL	63459.66	MEAN	174	MAX	16100	MIN	.91	AC-FT	125900		
WTR YR 1978	TOTAL	2585.92	MEAN	7.08	MAX	319	MIN	.26	AC-FT	5130		

BRAZOS RIVER BASIN

347

08092000 NOLAN RIVER AT BLUM, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	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)
DATE	TIME			(UNITS)						
NOV 10...	1105	10	637	8.0	11.5	11.0	104	.6	120	0
JAN 26...	1230	2.1	717	8.2	6.0	12.5	103	8.0	140	0
MAR 20...	1515	7.3	596	9.6	23.5	>20.0	>241	7.3	160	0
MAY 10...	0815	6.1	478	7.5	20.0	6.0	70	1.8	150	0
JUL 13...	1550	.30	722	9.3	35.0	12.9	190	.8	110	0
SEP 07...	1055	1.9	790	8.1	26.0	6.2	79	1.7	68	0
	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
DATE										
NOV 10...	39	5.2	90	3.6	8.1	210	0	71	49	.6
JAN 26...	46	5.8	94	3.5	8.4	220	0	86	50	.6
MAR 20...	56	5.5	75	2.6	7.6	100	55	72	50	.6
MAY 10...	51	4.4	38	1.4	5.2	200	0	35	23	.4
JUL 13...	36	4.8	110	4.6	7.4	180	33	57	67	.8
SEP 07...	21	3.8	140	7.4	8.9	240	0	99	70	.9
	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, 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)	
DATE										
NOV 10...	9.0	375	.93	.02	.95	.03	4.4	4.4	7.8	
JAN 26...	4.6	404	.98	.02	1.0	.24	2.0	2.2	4.7	
MAR 20...	2.0	373	.17	.02	.19	.01	.96	.97	.31	
MAY 10...	8.3	264	.38	.02	.40	.01	.88	.89	.02	
JUL 13...	9.3	414	.04	.01	.05	.01	1.3	1.3	1.2	
SEP 07...	7.6	470	.01	.00	.01	.01	1.3	1.3	5.8	

08092500 WHITNEY LAKE 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.

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. 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, 639,500 acre-ft (788 hm³) Aug. 22, elevation, 533.52 ft (162.617 m); minimum, 383,100 acre-ft (472 hm³) Aug. 8, elevation, 520.25 ft (158.572 m).

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

520.0	379,100	530.0	559,200
525.0	461,000	535.0	675,500

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	447700	427100	422800	418400	416900	422100	421700	424300	423800	398400	385400	617500
2	447000	425100	422600	417700	416900	422300	421200	425400	423100	398200	384800	616800
3	446000	424400	422300	417200	416600	422500	421200	425600	423000	397600	384600	615400
4	445500	424300	422800	417100	416600	422000	421200	424900	422300	397100	384600	614000
5	445100	423900	423100	417400	416600	421300	421200	424400	422100	396700	385700	612400
6	445000	423600	421700	417100	416600	422300	421300	424800	421700	396100	385600	611000
7	444600	423300	421300	417100	417400	423900	421000	424900	422100	395600	383100	609600
8	444600	424900	421500	417100	417400	423300	421200	424800	422300	395200	391200	608700
9	444000	424900	421300	416800	418100	423300	421200	424600	421500	394800	445800	607300
10	444000	424400	420800	416400	417600	422100	423000	424300	421000	394500	501300	605500
11	443100	424400	420500	417100	417700	423000	422500	427900	420700	393900	558100	604800
12	442000	424100	420300	417100	421200	423000	422300	430700	420200	393400	585300	604800
13	439000	423900	420700	417100	421300	423000	422300	430700	420800	393100	613800	604600
14	438000	423900	420500	416400	421200	423000	423000	430400	420500	392800	626600	602500
15	437000	423900	419700	416300	421500	423000	423500	430500	418900	392100	633700	601400
16	435800	423900	420700	418200	421500	422500	423500	430200	417200	392600	631300	600000
17	434800	423800	419900	416400	423300	422100	423600	430200	415600	391600	633700	597900
18	434000	423000	419500	418100	422300	422000	423600	430000	414300	391200	633200	597300
19	433200	423000	420200	417200	422300	421300	423100	429900	412400	390500	634200	597500
20	432700	424600	419900	416400	423000	421700	422800	431200	411100	390200	635900	596800
21	432300	423300	419000	416400	422300	422100	422300	431700	409800	389700	638700	599300
22	432700	423300	418400	416100	422300	421800	423600	431400	407500	389400	638200	599100
23	432000	423000	418200	416300	422100	422600	424400	431200	406100	389100	637500	598800
24	429900	423100	418500	416600	421800	423100	425100	430900	404000	388800	633000	599300
25	429700	422600	418200	416300	422300	422500	424800	430700	402000	388300	630400	598800
26	429200	422300	418100	416100	422100	422500	424400	429000	400100	388000	628000	598800
27	428500	422300	417600	416100	422100	422300	423900	427400	399300	387700	625400	598600
28	427900	422600	417700	416300	422800	422000	423000	427100	399300	387300	623300	596600
29	426900	423300	418100	415900	---	422000	422300	425800	398800	386700	621200	596800
30	425900	423000	418100	416100	---	422000	423500	424800	398700	386400	619100	596800
31	424800	---	418100	416600	---	421500	---	423900	---	385900	617500	---
MAX	447700	427100	423100	418400	423300	423900	425100	431700	423800	398400	638700	617500
MIN	424800	422300	417600	415900	416600	421300	421000	423900	385900	383100	596600	
(†)	522.84	522.73	522.43	522.34	522.72	522.64	522.76	522.79	521.23	520.43	532.59	531.69
(‡)	-24700	-1800	-4900	-1500	+6200	-1300	+2000	+400	-25200	-12800	+231600	-20700
CAL YR 1977	MAX	799000	MIN	417600	‡	-189900						
WTR YR 1978	MAX	638700	MIN	383100	‡	+147300						

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

BRAZOS RIVER BASIN

349

WHITNEY LAKE NEAR WHITNEY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1961 to current year.

315203097222601 - WHITNEY LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA+MG) (MG/L)
MAR									
15...	0945	1.0	1330	8.3	10.0	1.80	10.8	99	280
15...	0947	10	1330	8.3	10.0	--	10.8	99	--
15...	0949	20	1330	8.3	10.0	--	10.8	99	--
15...	0951	30	1330	8.3	10.0	--	10.8	99	--
15...	0953	40	1330	8.3	9.0	--	10.8	96	--
15...	0955	50	1330	8.2	8.5	--	10.5	93	--
15...	0957	60	1330	8.2	8.5	--	10.5	93	--
15...	0959	70	1330	8.1	8.0	--	10.4	90	--
15...	1002	80	1330	8.1	8.0	--	10.2	89	--
15...	1004	92	1330	8.0	8.0	--	9.7	84	280

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
15...	160	82	19	170	4.4	5.3	150	0	130
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	160	82	18	170	4.4	5.2	150	0	130

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR									
15...	280	.3	5.9	766	.07	.01	.06	0	0
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	.03	.01	.08	10	0
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	280	.3	5.9	765	.08	.10	.06	10	10

315308097222801 - WHITNEY LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
15...	1045	1.0	1330	8.2	10.5	10.8	100
15...	1049	20	1330	8.2	10.5	10.8	100
15...	1051	30	1330	8.2	10.0	10.6	97
15...	1053	40	1330	8.2	9.5	10.6	95
15...	1055	50	1330	8.2	9.0	10.4	93
15...	1057	60	1330	8.1	8.5	10.2	90
15...	1059	70	1330	8.1	8.5	10.0	88
15...	1102	80	1330	8.1	8.5	10.0	88
15...	1105	90	1330	8.0	8.5	9.0	80

BRAZOS RIVER BASIN
WHITNEY LAKE NEAR WHITNEY, TX--Continued

315722097240201 - WHITNEY LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
MAR									
15...	1200	1.0	1330	8.2	11.0	1.50	10.3	96	280
15...	1202	10	1330	8.2	11.0	--	10.3	96	--
15...	1204	20	1330	8.2	10.5	--	10.3	95	--
15...	1206	30	1330	8.2	10.5	--	10.3	95	--
15...	1208	40	1330	8.1	10.0	--	9.9	91	--
15...	1210	50	1330	8.1	9.0	--	9.8	88	--
15...	1215	68	1330	8.1	9.0	--	9.5	85	270

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
15...	160	80	19	170	4.4	5.3	140	0	140
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	150	77	19	170	4.5	5.2	150	0	140

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
15...	270	5.7	759	.07	.01	.08	10	0
15...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
15...	--	--	--	.05	.01	.06	10	0
15...	--	--	--	--	--	--	--	--
15...	260	5.8	751	.07	.06	.08	10	20

BRAZOS RIVER BASIN

351

WHITNEY LAKE NEAR WHITNEY, TX--Continued

320122097260901 - WHITNEY LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA,MG) (MG/L)
MAR									
15...	1330	1.0	1440	8.3	13.0	.60	9.6	94	320
15...	1332	10	1440	8.3	13.0	--	9.6	94	--
15...	1335	20	1490	8.2	11.5	--	9.5	90	--
15...	1337	30	1490	8.1	11.0	--	9.2	86	--
15...	1340	42	1570	8.0	10.5	--	7.5	69	330

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
15...	190	92	21	190	4.7	5.5	160	0	150
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	190	95	23	210	5.0	5.5	170	0	160

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
15...	340	4.9	882	.08	.05	.08	40	10
15...	--	--	--	--	--	--	--	--
15...	--	--	--	.05	.08	.09	10	20
15...	--	--	--	--	--	--	--	--
15...	360	5.0	942	.05	.18	.08	20	90

BRAZOS RIVER BASIN
WHITNEY LAKE NEAR WHITNEY, TX--Continued

320509097275901 - WHITNEY LAKE P12

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA+MG) (MG/L)
MAR									
15...	1435	1.0	1970	8.5	14.0	.30	9.5	96	400
15...	1437	10	1970	8.5	14.0	--	9.6	96	--
15...	1439	17	1970	8.4	14.0	--	9.3	94	390

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
15...	250	110	30	270	5.9	6.3	180	0	220
15...	--	--	--	--	--	--	--	--	--
15...	250	110	29	260	5.7	6.3	180	0	210

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
15...	440	3.1	1170	.11	.13	.12	30	40
15...	--	--	--	--	--	--	--	--
15...	440	3.2	1150	.12	.13	.13	150	50

320721097293301 - WHITNEY LAKE P14

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA+MG) (MG/L)
MAR									
15...	1515	1.0	2110	8.2	13.5	.30	9.1	91	410
15...	1520	18	2110	8.2	13.5	--	8.9	89	380

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
15...	260	110	32	270	5.8	6.0	180	0	250
15...	230	100	32	290	6.5	5.9	180	0	230

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
15...	450	2.5	1210	.04	.09	.09	10	20
15...	450	2.5	1200	.05	.11	.09	10	20

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315203097222401 - WHITNEY LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)
JUN									
23...	0752	1.0	1410	8.1	26.5	3.5	6.8	88	280
23...	0755	10	1410	8.1	26.5	--	6.7	87	--
23...	0758	20	1410	8.0	26.5	--	5.4	70	--
23...	0801	30	1410	7.6	25.5	--	2.4	31	--
23...	0804	40	1410	7.4	23.0	--	.2	2	--
23...	0807	50	1400	7.4	20.5	--	.2	2	--
23...	0810	60	1400	7.4	19.5	--	.2	2	--
23...	0813	70	1390	7.4	18.5	--	.2	2	--
23...	0816	80	1380	7.4	17.5	--	.2	2	--
23...	0819	89	1370	7.4	16.5	--	.2	2	280

DATE	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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
JUN									
23...	150	78	20	180	4.7	5.2	150	0	140
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	140	79	19	170	4.5	4.9	170	0	120

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUC- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FF)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN									
23...	290	.3	6.7	794	.02	.00	.00	60	0
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	.05	.03	.01	40	10
23...	--	--	--	--	.06	.01	.01	40	40
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
23...	270	.3	9.5	758	.04	.27	.16	50	1400

315214097222001 - WHITNEY LAKE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN								
23...	0740	1.0	1410	8.0	26.5	6.3	82	
23...	0742	10	1410	8.0	26.5	6.3	82	
23...	0744	20	1410	8.0	26.5	5.9	77	
23...	0746	34	1410	7.4	25.0	1.0	13	

BRAZOS RIVER BASIN

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315308097222801 - WHITNEY LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
23...	0826	1.0	1450	8.2	27.5	6.8	89
23...	0828	10	1450	8.3	27.0	6.8	89
23...	0830	20	1480	8.0	27.0	5.2	68
23...	0833	30	1460	7.9	26.5	4.5	58
23...	0835	40	1410	7.4	23.0	.2	2
23...	0837	50	1400	7.4	21.0	.2	2
23...	0840	60	1390	7.4	20.0	.2	2
23...	0843	70	1390	7.4	19.0	.2	2
23...	0845	80	1380	7.4	18.5	.2	2
23...	0848	85	1370	7.4	17.5	.2	2

315432097234601 - WHITNEY LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
23...	0858	1.0	1460	8.2	28.0	6.8	91
23...	0900	10	1460	8.3	28.0	6.8	91
23...	0902	20	1460	8.2	28.0	6.7	88
23...	0905	30	1460	8.2	27.5	6.6	87
23...	0907	35	1570	7.5	26.0	1.9	24
23...	0910	40	1520	7.5	25.0	1.3	17
23...	0912	50	1390	7.4	21.5	.2	2
23...	0915	60	1380	7.4	20.0	.2	2
23...	0917	70	1370	7.4	19.0	.2	2
23...	0920	78	1360	7.4	19.0	.2	2

BRAZOS RIVER BASIN

355

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315722097240201 - WHITNEY LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)
JUN								
23...	0937	1.0	1470	8.2	28.5	6.8	88	280
23...	0942	10	1470	8.3	28.5	6.8	88	--
23...	0945	20	1480	8.3	28.5	6.7	87	--
23...	0948	30	1510	8.2	28.5	6.3	84	--
23...	0951	40	1660	7.6	27.5	2.8	37	--
23...	0954	50	1500	7.4	22.5	.1	1	--
23...	0957	60	1440	7.4	21.0	.1	1	--
23...	1000	66	1430	7.4	21.0	.1	1	280
HARD- NESS, NONCAR- BONATE (MG/L CACO3)								
CALCIUM DIS- SOLVED (MG/L AS CA)								
MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)								
SODIUM, DIS- SOLVED (MG/L AS NA)								
SODIUM AD- SORP- TION RATIO								
POTAS- SIUM, DIS- SOLVED (MG/L AS K)								
BICAR- BONATE (MG/L AS HCO3)								
CAR- BONATE (MG/L AS CO3)								
SULFATE DIS- SOLVED (MG/L AS SO4)								
JUN								
23...	160	77	21	190	5.0	5.3	140	0
23...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
23...	140	80	20	180	4.7	5.0	170	0
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, AMMONIA TOTAL (MG/L AS N)								
PHOS- PHORUS, TOTAL (MG/L AS P)								
IRON, DIS- SOLVED (UG/L AS FE)								
MANGA- NESE, DIS- SOLVED (UG/L AS MN)								
JUN								
23...	300	6.6	809	.01	.01	.00	30	0
23...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
23...	--	--	--	.01	.01	.01	40	140
23...	--	--	--	.01	.08	.02	70	540
23...	--	--	--	--	--	--	--	--
23...	280	8.8	789	.01	.16	.06	140	1300

315943097244101 - WHITNEY LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
23...	1022	1.0	1510	8.1	29.0	6.7	91
23...	1025	10	1510	8.2	29.0	6.7	91
23...	1027	20	1510	8.2	29.0	6.7	91
23...	1030	30	1510	8.2	29.0	6.7	91
23...	1032	40	1540	8.1	28.0	5.9	79
23...	1035	45	1740	7.6	28.0	2.6	35
23...	1037	50	1470	7.4	23.5	.2	2
23...	1040	54	1450	7.4	22.5	.2	2

BRAZOS RIVER BASIN
WHITNEY LAKE NEAR WHITNEY, TX--Continued

320122097260901 - WHITNEY LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
------	------	--------------------------------	--	---------------	-----------------------------	---	-------------------------------------	--	--

JUN									
23...	1129	1.0	1510	8.2	29.5	1.20	6.9	93	280
23...	1132	10	1510	8.2	29.5	--	6.9	93	--
23...	1135	20	1510	8.2	29.0	--	6.8	92	--
23...	1138	30	1510	8.2	29.0	--	6.7	91	--
23...	1141	40	1510	8.2	28.5	--	6.7	89	--
23...	1144	46	1510	8.2	28.5	--	6.4	85	280

DATE	TIME	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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
------	------	---	--	--	--	---	---	--	------------------------------------	---

JUN										
23...	170	78	21	200	5.2	5.4	140	0	150	
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	170	79	21	200	5.2	5.5	140	0	150	

DATE	TIME	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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
------	------	---	--	---	--	--	--	---	--	--

JUN										
23...	310	--	.3	6.4	840	.03	.03	.01	30	0
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	.00	.00	.02	30	0
23...	--	--	--	--	--	--	--	--	--	--
23...	310	--	--	6.6	841	.03	.01	--	40	30

320124097251101 - WHITNEY LAKE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

JUN							
23...	1205	1.0	1580	8.2	29.0	6.6	89
23...	1207	10	1610	8.0	29.0	5.4	73
23...	1209	20	1640	8.0	28.5	5.3	71
23...	1211	30	1730	7.8	28.5	4.2	56
23...	1213	41	2000	7.4	28.5	1.6	21

315729097253701 - WHITNEY LAKE P5

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
------	------	--------------------------------	--	---------------	-----------------------------	-------------------------------------	--

JUN							
23...	1442	1.0	1450	8.4	29.5	7.2	97
23...	1444	10	1450	8.3	29.5	7.2	97
23...	1447	16	1450	8.2	29.0	5.7	77

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315907097222801 - WHITNEY LAKE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
23...	1415	1.0	1480	8.3	30.0	7.1	96
23...	1417	10	1480	8.3	29.5	6.9	93
23...	1420	20	1480	8.2	29.5	6.7	91
23...	1422	30	1480	7.9	29.0	4.2	57
23...	1425	36	1480	7.5	28.5	1.3	17

320011097262201 - WHITNEY LAKE P8

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
23...	1105	1.0	1510	8.2	29.0	6.9	93
23...	1107	10	1510	8.3	29.0	6.9	93
23...	1109	20	1510	8.2	29.0	6.8	92
23...	1111	30	1510	8.2	28.5	6.4	85

320509097275901 - WHITNEY LAKE P12

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
JUN									
23...	1321	1.0	2490	8.4	31.0	.6	8.4	115	410
23...	1324	10	2480	8.1	29.5	--	5.6	76	--
23...	1327	16	2430	7.7	29.5	--	3.7	50	380

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN									
23...	300	110	33	350	7.5	7.4	130	0	270
23...	--	--	--	--	--	--	--	--	--
23...	270	100	32	340	7.6	7.3	130	0	270

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, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN								
23...	560	5.4	1400	.03	.03	.05	40	0
23...	--	--	--	--	--	--	--	--
23...	550	6.0	1370	.00	.01	.13	80	120

BRAZOS RIVER BASIN

WHITNEY LAKE NEAR WHITNEY, TX--Continued

320721097293301 - WHITNEY LAKE P14

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
------	------	--------------------------------	--	---------------	-----------------------------	---	-------------------------------------	---	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
------	--	--	--	--	---	---	--	------------------------------------	---

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA 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)
------	---	---	--	--	--	---	--	--

BRAZOS RIVER BASIN

359

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315203097222601 - WHITNEY LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
SEP									
05...	1450	1.0	2240	8.3	30.0	1.60	7.8	105	370
05...	1452	10	2240	8.3	29.0	--	7.8	103	--
05...	1454	20	2240	8.2	29.0	--	7.4	97	--
05...	1456	30	2290	7.6	28.0	--	4.0	53	--
05...	1458	40	2950	7.2	28.0	--	.3	4	--
05...	1500	50	3490	7.1	26.5	--	.3	4	--
05...	1502	60	3500	7.1	25.5	--	.3	4	--
05...	1504	70	3320	7.1	25.5	--	.3	4	--
05...	1505	80	3060	7.1	24.0	--	.4	5	--
05...	1508	90	2360	7.1	21.0	--	.4	5	--
05...	1510	101	2240	7.1	20.0	--	.6	7	390

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
SEP									
05...	270	99	29	310	7.0	7.1	120	0	260
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	240	110	28	300	6.6	6.6	180	0	240

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, 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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
SEP									
05...	490	.3	6.0	1260	.01	.01	.02	20	0
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	.01	.03	.02	20	0
05...	--	--	--	--	.01	.05	.02	170	200
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	480	--	8.8	1260	.01	1.1	.22	90	1600

315214097222001 - WHITNEY LAKE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
05...	1548	1.0	2240	8.3	30.0	7.9	105
05...	1550	10	2240	8.3	29.5	7.9	105
05...	1552	20	2240	8.2	29.0	7.3	96
05...	1554	30	2240	7.8	28.0	5.3	69
05...	1556	42	3130	7.2	28.0	.5	6

BRAZOS RIVER BASIN

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315308097222801 - WHITNEY LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
05...	1608	1.0	2220	8.3	29.5	7.8	100
05...	1610	10	2220	8.3	29.0	7.6	100
05...	1612	20	2220	8.2	28.5	6.7	87
05...	1614	30	2270	7.7	28.0	4.4	57
05...	1616	40	3210	7.2	27.5	.2	3
05...	1618	50	3520	7.1	26.5	.2	3
05...	1620	60	3600	7.1	26.0	.3	4
05...	1622	70	3500	7.1	25.5	.3	4
05...	1624	80	3190	7.1	24.0	.3	4
05...	1626	90	2640	7.1	21.5	.4	5
05...	1628	96	2470	7.1	21.0	.5	6

315432097234601 - WHITNEY LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
05...	1640	1.0	2200	8.3	29.5	7.7	101
05...	1642	10	2200	8.3	28.5	7.2	94
05...	1644	20	2200	8.1	28.5	6.2	81
05...	1646	30	2260	7.8	28.0	4.9	63
05...	1648	40	3240	7.2	27.5	.2	3
05...	1650	50	3560	7.1	26.5	.3	4
05...	1652	60	3580	7.1	26.0	.3	4
05...	1654	70	3520	7.1	25.5	.3	4
05...	1656	80	3300	7.1	24.5	.3	4
05...	1658	90	3000	7.1	22.5	.5	6

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315722097240201 - WHITNEY LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)
SEP									
05...	1805	1.0	2180	8.4	29.5	1.20	7.9	107	370
05...	1807	10	2210	8.2	28.5	--	6.4	86	--
05...	1809	20	2280	7.6	28.0	--	3.6	48	--
05...	1811	30	2930	7.2	28.0	--	.2	3	--
05...	1813	40	3510	7.2	27.0	--	.3	4	--
05...	1815	50	3670	7.1	26.5	--	.3	4	--
05...	1817	60	3720	7.1	26.0	--	.3	4	--
05...	1819	70	3680	7.1	25.5	--	.3	4	--
05...	1821	76	3660	7.1	25.5	--	.4	5	580

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
SEP									
05...	280	97	30	310	7.1	7.1	93	5	260
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	470	160	44	560	10	9.4	140	0	410

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, AMMONIA 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)
SEP								
05...	490	6.1	1250	.01	.01	.02	170	20
05...	--	--	--	--	--	--	--	--
05...	--	--	--	.01	.03	.02	20	30
05...	--	--	--	.01	.06	.03	110	420
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--
05...	890	7.6	2150	.02	.96	.14	50	760

315943097244101 - WHITNEY LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
05...	1910	1.0	2210	8.3	29.0	7.5	99
05...	1912	10	2220	8.1	28.5	6.5	86
05...	1914	20	2230	7.9	28.5	5.2	69
05...	1916	30	3290	7.2	28.0	.2	3
05...	1918	40	3590	7.1	27.0	.2	3
05...	1920	50	3680	7.1	26.5	.2	3
05...	1922	60	3680	7.1	26.0	.3	4
05...	1924	67	3680	7.1	26.0	.5	6

BRAZOS RIVER BASIN
WHITNEY LAKE NEAR WHITNEY, TX--Continued

320122097260901 - WHITNEY LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)
SFP									
06...	1000	1.0	2220	8.2	29.5	1.50	6.7	91	360
06...	1002	10	2240	7.9	29.0	--	5.5	72	--
06...	1004	20	2360	7.3	28.5	--	2.5	34	--
06...	1006	30	2640	7.1	28.0	--	.2	3	--
06...	1008	40	3540	7.1	27.0	--	.2	3	--
06...	1010	55	3650	7.0	26.5	--	.3	4	580

DATE	TIME	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
SFP										
06...	260	97	28	310	7.1	7.3	120	0	260	
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	470	160	44	530	9.6	9.6	140	0	430	

DATE	TIME	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, AMMONIA 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)
SFP									
06...	500	6.3	1270	.02	.01	.02	20	30	
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	.01	.03	.03	30	60	
06...	--	--	--	.01	.05	.03	60	250	
06...	--	--	--	--	--	--	--	--	--
06...	860	7.8	2110	.02	.93	.10	340	620	

320124097291101 - WHITNEY LAKE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)
SFP							
06...	1030	1.0	2290	7.8	29.0	6.0	79
06...	1032	10	2320	7.7	29.0	5.6	74
06...	1034	20	2480	7.2	28.5	1.7	22
06...	1036	30	2870	7.1	28.5	.2	3
06...	1038	40	3490	7.1	27.5	.2	3
06...	1040	50	3660	7.0	27.5	.4	5

315729097253701 - WHITNEY LAKE P5

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)
SFP							
05...	1745	1.0	2120	8.0	29.5	7.0	92
05...	1747	10	2240	7.8	28.5	5.3	69
05...	1749	20	2280	7.6	28.5	4.0	52
05...	1751	27	2360	7.2	28.5	.8	10

WHITNEY LAKE NEAR WHITNEY, TX--Continued

315907097222801 - WHITNEY LAKE P7

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
05...	1845	1.0	2200	8.3	29.5	7.7	105
05...	1847	10	2210	7.8	28.5	4.8	64
05...	1849	20	2270	7.4	28.0	2.9	39
05...	1851	30	3260	7.2	28.0	.2	3
05...	1853	40	3480	7.1	27.0	.3	4
05...	1855	49	3620	7.1	27.0	.4	5

320011097262201 - WHITNEY LAKE P8

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
SEP							
06...	0934	1.0	2200	8.2	29.0	7.2	95
06...	0936	10	2200	8.1	28.5	6.8	87
06...	0938	20	2210	7.4	28.0	2.8	37
06...	0940	30	3050	7.1	28.0	.4	5
06...	0942	42	3470	7.0	27.0	.5	6

320509097275901 - WHITNEY LAKE P12

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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 CAC03)
SEP									
06...	1100	1.0	2740	7.8	30.0	1.20	6.1	82	460
06...	1102	10	2740	7.6	29.5	--	4.5	61	--
06...	1104	20	2980	7.1	29.0	--	.2	3	--
06...	1106	27	3050	7.0	29.0	--	.3	4	510

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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
SEP									
06...	350	130	33	390	7.9	8.8	130	0	300
06...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
06...	390	140	38	400	9.3	10	140	0	350

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, AMMONIA 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)
SEP								
06...	640	7.6	1570	.01	.00	.04	20	30
06...	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--
06...	730	7.9	1830	.02	.04	.12	70	170

BRAZOS RIVER BASIN

WHITNEY LAKE NEAR WHITNEY, TX--Continued

320721097293301 - WHITNEY LAKE P14

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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 CAC03)	
SEP										
06...	1124	1.0	3030	7.9	29.5	1.20	6.6	89	470	
06...	1126	10	3030	7.6	29.0	--	4.8	63	--	
06...	1128	20	3040	7.1	28.5	--	.2	3	--	
06...	1130	27	3050	7.1	28.5	--	.2	3	500	
DATE		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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
SEP										
06...	370	130	36	420	8.4	8.8	130	0	350	
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	390	140	36	430	8.4	9.2	130	0	350	
DATE		CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	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)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	
SEP										
06...	700	6.9	1720	.01	.01	.03	30	10		
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
06...	730	6.8	1770	.01	.01	.03	20	180		

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX

LOCATION.--Lat 31°52'00", long 97°22'00", Hill County, Hydrologic Unit 12060202, immediately below Whitney Dam, 3.4 mi (5.5) km upstream from gaging station near Whitney, 4.0 mi (6.4 km) upstream from Iron Creek, and 7.4 mi (11.9 km) southwest of Whitney.

DRAINAGE AREA.--26,190 mi² (67,830 km²), of which 9,240 mi² (23,930 km²) probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: October 1947 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1947 to current year.

WATER TEMPERATURES: October 1947 to current year.

REMARKS.--Records of discharge are given for gaging station 08093100. No appreciable inflow between dam and gaging station except during periods of heavy local rains.

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, 3,620 micromhos Aug. 24; minimum daily, 1,230 micromhos on several days during October.

WATER TEMPERATURES: Maximum daily, 28.0°C Aug. 10, 11, 14; minimum daily, 4.0°C on several days during February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	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)
NOV 30...	0850	137	1290	8.1	16.5	260	140	74	18	160
DEC 31...	0815	147	1300	8.1	11.0	260	140	78	17	160
MAR 31...	0815	92	1350	8.2	13.0	260	130	73	18	170
APR 30...	0800	97	1350	--	18.5	270	140	78	19	170
MAY 31...	0815	907	1360	--	20.5	270	150	78	18	170
JUN 30...	0825	34	1390	--	23.0	230	110	66	17	180
JUL 31...	0725	29	1410	--	24.0	240	110	68	18	180
AUG 30...	0725	681	3530	--	25.5	580	480	160	43	540
SEP 23...	0815	23	2610	--	27.0	440	340	120	34	400

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 30...	4.3	5.1	150	0	120	250	.2	6.4	708
DEC 31...	4.3	5.2	150	0	130	260	.3	6.3	731
MAR 31...	4.6	5.0	160	0	140	270	.2	4.9	760
APR 30...	4.5	6.0	160	0	120	270	.3	6.0	748
MAY 31...	4.5	4.8	150	0	140	260	.3	6.1	751
JUN 30...	5.1	4.6	150	0	140	270	.3	6.4	758
JUL 31...	5.0	4.7	160	0	110	280	.2	6.8	747
AUG 30...	9.8	9.5	120	0	460	870	.3	5.8	2150
SEP 23...	8.3	9.0	120	0	320	620	.3	.5	1560

BRAZOS RIVER BASIN

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	9395	1250	690	17400	240	6140	120	3040	250
NOV. 1977.....	4766	1290	710	9140	250	3220	120	1540	250
DEC. 1977.....	3954	1300	720	7670	260	2750	120	1330	250
JAN. 1978.....	4108	1310	720	8000	260	2880	130	1440	250
FEB. 1978.....	3216	1320	730	6320	260	2250	130	1120	250
MAR. 1978.....	3263	1330	730	6460	260	2320	130	1150	260
APR. 1978.....	2733	1350	750	5520	270	1990	130	959	260
MAY 1978.....	8425	1380	760	17300	280	6350	130	2960	260
JUNE 1978.....	19065	1390	760	39200	280	14200	130	6690	260
JULY 1978.....	496	1400	770	1850	280	671	130	320	260
AUG. 1978.....	47139	2370	1400	178000	520	66800	290	37200	390
SEPT 1978.....	11869	3340	2050	65800	770	24700	480	15400	580
TOTAL	118414	**	**	303000	**	134000	**	73100	**
MTD. AVG.	325.53	1450	1100	**	420	**	230	**	330

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	1240	1290	1310	1320	1330	1340	1370	1370	1400	1430	3460
2	1230	1290	1290	1300	1320	1330	1340	1370	1370	1400	1440	3460
3	1230	1290	1290	1310	1320	1330	1350	1370	1380	1400	1440	3460
4	1230	1290	1290	1310	1310	1340	1350	1380	1360	1390	1450	3450
5	1230	1290	1290	1310	1320	1330	1350	1380	1370	1400	1470	3410
6	1230	1290	1300	1310	1320	1330	1340	1380	1370	1390	1500	3440
7	1230	1290	1300	1310	1280	1330	1340	1370	1370	1400	1470	3440
8	1240	1290	1300	1310	1320	1330	1340	1370	1370	1400	1490	3430
9	1240	1290	1300	1310	1320	1330	1340	1380	1380	1370	1500	3440
10	1230	1290	1300	1310	1330	1330	1350	1370	1380	1400	1510	3440
11	1240	1290	1290	1310	1330	1330	1350	1390	1380	1400	1510	3440
12	1240	1290	1300	1310	1320	1330	1350	1380	1370	1400	1510	3430
13	1240	1290	1300	1310	1320	1330	1350	1380	1380	1400	1760	3430
14	1240	1290	1310	1310	1320	1330	1350	1380	1380	1410	2020	3430
15	1240	1290	1310	1310	1320	1330	1350	1380	1380	1410	2700	3390
16	1240	1290	1310	1310	1320	1340	1350	1380	1370	1420	2820	3410
17	1240	1290	1310	1310	1280	1340	1350	1380	1380	1400	3170	3410
18	1250	1290	1310	1310	1320	1330	1350	1380	1380	1400	3240	3420
19	1250	1290	1310	1310	1320	1330	1350	1380	1380	1400	3200	3410
20	1250	1290	1310	1320	1320	1330	1350	1370	1380	1400	3280	3410
21	1250	1290	1300	1320	1320	1330	1350	1380	1380	1400	3280	3180
22	1260	1290	1300	1310	1320	1330	1350	1380	1380	1400	3330	2600
23	1250	1290	1300	1310	1320	1330	1350	1380	1390	1410	3480	2580
24	1250	1290	1310	1310	1320	1330	1350	1380	1390	1420	3620	2580
25	1250	1290	1310	1310	1320	1340	1360	1380	1380	1420	3490	2930
26	1250	1290	1310	1310	1320	1340	1360	1380	1380	1400	2220	2990
27	1250	1290	1310	1310	1320	1340	1350	1380	1390	1410	2180	2630
28	1260	1290	1310	1310	1320	1340	1350	1380	1390	1410	3580	2630
29	1250	1280	1310	1320	---	1340	1350	1380	1390	1410	3600	2660
30	1260	1290	1320	1320	---	1340	1350	1380	1390	1410	3600	2760
31	1260	---	1320	1320	---	1340	---	1380	---	1410	3580	---
MEAN	1240	1290	1300	1310	1320	1330	1350	1380	1380	1400	2450	3210

BRAZOS RIVER BASIN

367

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.0	18.5	16.0	11.0	5.0	5.5	13.0	18.5	20.5	23.0	24.0	25.5
2	27.0	18.5	15.5	10.5	5.0	5.5	13.0	19.5	19.5	23.0	24.0	25.5
3	27.0	16.5	15.5	10.5	5.0	5.5	13.0	19.5	19.5	23.5	24.0	25.5
4	27.0	16.5	15.5	8.5	4.5	6.5	13.0	18.5	19.5	23.5	24.0	25.5
5	27.0	18.0	15.5	8.5	4.5	6.5	13.5	18.5	20.0	24.0	24.5	25.5
6	27.0	16.5	15.5	8.5	5.0	9.0	13.0	18.5	20.0	24.0	24.5	26.5
7	26.5	18.0	15.5	8.5	5.0	6.5	14.0	18.5	20.0	24.0	24.0	26.5
8	26.5	18.0	15.5	8.5	4.5	6.5	14.0	18.5	20.5	24.0	24.0	26.5
9	25.5	18.0	14.5	8.5	4.5	6.5	14.0	18.5	20.5	24.0	24.0	26.5
10	25.5	16.5	13.5	8.5	4.5	6.5	16.0	19.5	20.5	24.0	24.0	26.5
11	26.5	16.5	13.5	8.5	4.0	6.5	16.0	19.5	20.5	24.0	24.0	26.5
12	26.5	16.5	15.0	8.5	4.0	6.5	16.0	19.5	20.5	23.5	25.5	26.5
13	26.5	16.5	12.0	8.5	4.0	6.5	16.0	19.5	20.5	24.0	25.5	26.5
14	24.5	16.5	12.0	8.5	4.0	6.5	16.5	19.5	21.0	23.5	24.0	26.5
15	24.5	16.5	12.0	8.5	4.0	7.0	16.5	19.5	21.0	23.5	25.5	26.5
16	24.5	16.5	12.0	8.0	4.0	7.0	16.5	20.0	21.0	23.5	25.5	26.0
17	24.5	17.0	12.0	8.0	4.5	---	15.5	20.0	21.0	24.0	25.5	26.0
18	21.0	17.0	12.0	8.0	4.5	---	16.5	19.5	21.0	24.0	25.5	25.5
19	21.0	16.5	12.0	6.5	4.5	---	16.5	19.5	21.0	24.0	25.5	25.5
20	21.0	16.5	13.0	6.5	4.5	---	19.5	19.5	21.0	24.0	25.5	25.5
21	21.0	16.5	13.0	6.5	4.5	---	19.5	19.5	21.5	24.0	25.5	25.5
22	20.0	16.5	11.5	6.5	4.5	---	19.0	19.5	21.5	24.0	25.5	25.5
23	20.0	16.5	11.0	5.5	4.5	---	19.0	19.5	22.0	24.0	25.5	27.0
24	20.0	16.5	11.5	5.5	4.0	---	19.0	20.0	22.0	24.0	25.5	27.0
25	21.0	16.5	11.5	5.5	4.5	9.0	18.5	20.0	22.0	24.0	25.5	27.0
26	21.0	16.5	11.5	5.5	4.5	9.0	19.5	20.0	22.0	24.0	26.0	27.0
27	21.0	16.5	11.5	5.5	4.5	10.0	18.5	---	22.0	24.0	26.0	27.0
28	20.5	16.5	12.0	5.5	5.5	11.5	18.5	---	23.5	24.0	25.5	26.5
29	20.5	16.5	11.0	5.5	---	11.5	18.5	---	23.5	24.0	25.5	26.0
30	20.5	16.5	11.0	5.5	---	12.0	18.5	---	23.0	24.0	25.5	26.0
31	20.5	---	11.0	5.5	---	13.0	---	20.5	---	24.0	25.5	---
MEAN	23.5	17.0	13.0	7.5	4.5	8.0	16.5	19.5	21.0	24.0	25.5	26.0

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 Aquilla, 9.0 mi (14.5 km) downstream from Whitney Dam, and at mile 434.0 (698.3 km).

DRAINAGE AREA.--27,244 mi² (70,560 km²), of which 9,570 mi² (24,790 km²) probably is noncontributing.

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1974, published as Brazos River near Whitney.

REVISED RECORDS.--WRD TX-76-2: Drainage area.

GAGE.--Water-stage recorder. 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 Whitney lake (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 Whitney Lake, 1,802 ft³/s (51.03 m³/s), 1,306,000 acre-ft/yr (1.61 km³/yr); 27 years (water-years 1952-78) regulated, unadjusted, 1,433 ft³/s (40.58 m³/s), 1,038,00 acre-ft/yr (1.28 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, 4,270 ft³/s (121 m³/s) Aug. 10, gage height, 12.81 ft (3.904 m); minimum daily, 22 ft³/s (0.62 m³/s) Sept. 24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	330	130	120	122	102	91	101	870	31	29	404
2	600	274	140	123	120	105	90	100	1090	29	29	302
3	200	147	120	121	121	99	87	142	781	30	28	529
4	100	185	142	156	118	95	93	104	883	29	28	412
5	89	170	147	165	119	100	84	102	707	28	40	549
6	107	233	123	174	116	106	85	105	731	28	41	491
7	130	206	130	184	118	125	86	103	539	28	569	569
8	184	167	133	131	121	89	82	107	623	27	1260	496
9	118	129	131	130	110	116	83	107	638	26	1060	491
10	135	125	119	130	104	137	101	109	689	26	4210	505
11	350	130	113	123	102	127	85	131	655	26	4160	514
12	452	132	119	123	157	107	86	151	1050	27	4010	559
13	562	135	122	139	112	111	89	118	208	29	3980	519
14	154	133	127	140	101	105	89	109	144	29	3960	983
15	268	138	116	141	110	107	88	109	638	33	3940	644
16	180	140	127	135	106	102	86	97	725	33	3830	396
17	178	138	118	128	120	115	93	107	678	29	1920	400
18	296	156	126	120	114	128	88	117	743	27	1960	491
19	343	140	130	121	103	94	86	116	707	27	1180	486
20	324	131	118	137	129	121	89	80	674	27	834	482
21	484	134	115	135	114	104	89	128	606	28	1030	283
22	529	140	117	138	144	105	94	211	715	29	1010	30
23	459	211	136	126	105	103	120	126	781	29	1050	23
24	632	139	144	128	108	93	97	115	830	30	1060	22
25	201	132	117	125	108	93	95	122	726	28	1090	55
26	187	131	115	118	104	95	94	589	950	27	920	298
27	363	140	120	120	103	99	93	1030	435	29	874	28
28	389	128	117	120	107	99	98	932	135	30	828	294
29	470	135	149	116	---	95	95	1030	80	29	815	446
30	441	137	146	118	---	94	97	1020	34	29	681	168
31	365	---	147	123	---	92	---	907	---	29	713	---
TOTAL	9395	4766	3954	4108	3216	3263	2733	8425	19065	886	47139	11869
MEAN	303	159	128	133	115	105	91.1	272	636	28.6	1521	396
MAX	632	330	149	184	157	137	120	1030	1090	33	4210	983
MIN	89	125	113	116	101	89	82	80	34	26	28	22
AC-FT	18630	9450	7840	8150	6380	6470	5420	16710	37820	1760	93500	23540
CAL YR 1977	TOTAL	516165	MEAN	1414	MAX	22500	MIN	45	AC-FT	1024000		
WTR YR 1978	TOTAL	118819	MEAN	326	MAX	4210	MIN	22	AC-FT	235700		

08093400 COBB CREEK NEAR ABBOTT, TX

LOCATION.--Lat 31°55'11", Long 97°05'57", Hill County, Hydrologic Unit 12060202, at downstream side of bridge on service road on downstream side of Interstate Highway 35, 1.5 mi (2.4 km) downstream from Missouri, Kansas, and Texas Railroad Co. bridge, 2.8 mi (4.5 km) northwest of Abbott, and 9.0 mi (14.5 km) upstream from mouth.

DRAINAGE AREA.--12.4 mi² (32.1 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder with low-water concrete control since Aug. 1, 1975. Datum of gage is 575.00 ft (175.260 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. No known diversion or regulation above station. Recording rain gage located at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years (water years 1968-78), 7.41 ft³/s (0.210 m³/s), 8.12 in/yr (206 mm/yr), 5,370 acre-ft/yr (6.62 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,840 ft³/s (80.4 m³/s) June 24, 1976, gage height, 9.56 ft (2.914 m); maximum gage height, 10.50 ft (3.200 m) May 9, 1968; no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1932, 11.1 ft (3.38 m), date unknown, from information by Texas Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 179 ft³/s (5.07 m³/s) May 11, gage height, 4.08 ft (1.244 m), no peak above base of 600 ft³/s (17.0 m³/s); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.02	1.2	1.7	.86	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	1.3	1.7	.72	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	1.3	1.7	5.2	.01	.00	.00	.00
4	.00	.00	.00	.00	.00	1.1	1.5	1.7	.02	.00	.00	.00
5	.00	.00	.00	.00	.00	1.2	1.6	1.1	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	11	1.7	.96	.00	.00	.00	.00
7	.00	.00	.00	.00	.27	21	1.5	1.0	.00	.00	.00	.00
8	.00	.08	.00	.00	.02	9.1	1.5	.28	.00	.00	.00	.00
9	.00	.00	.00	.00	.09	7.9	1.6	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.05	6.6	11	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.12	5.6	3.3	25	.00	.00	.00	.00
12	.00	.00	.00	.00	22	4.6	2.3	27	.00	.00	.00	.00
13	.00	.00	.00	.00	5.5	4.8	1.8	7.8	.00	.00	.00	.00
14	.00	.00	.00	.00	1.7	4.1	1.6	4.4	.00	.00	.00	.00
15	.00	.00	.00	.00	1.6	3.5	1.6	1.9	.00	.00	.00	.00
16	.00	.00	.00	.00	1.4	2.9	1.6	1.2	.00	.00	.00	.00
17	.00	.00	.00	.00	3.7	3.0	1.6	1.0	.00	.00	.00	.00
18	.00	.00	.00	.00	2.6	2.9	1.4	.65	.00	.00	.00	.00
19	.00	.00	.00	.00	2.1	2.9	1.3	.20	.00	.00	.00	.00
20	.00	.00	.00	.00	1.9	2.8	1.2	.82	.00	.00	.00	.00
21	.00	.00	.00	.00	1.6	2.8	1.3	15	.00	.00	.00	.00
22	.00	.00	.00	.00	1.6	2.6	1.4	5.8	.00	.00	.00	.00
23	.00	.00	.00	.00	1.7	3.0	1.8	3.6	.00	.00	.00	.00
24	.00	.00	.00	.00	1.9	3.7	1.4	1.7	.00	.00	.00	.00
25	.00	.00	.00	.00	1.5	2.6	1.1	.25	.00	.00	.00	.00
26	.00	.00	.00	.00	1.4	2.4	.90	.14	.00	.00	.00	.00
27	.00	.00	.00	.00	1.5	2.4	.85	.09	.00	.00	.00	.00
28	.00	.00	.00	.00	1.4	2.2	.28	.02	.00	.00	.00	.00
29	.00	.01	.00	.00	---	2.0	.40	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	1.9	.27	.00	.00	.00	.00	.00
31	.00	---	.00	.10	---	1.9	---	.00	---	.00	.00	---
TOTAL	.00	.09	.00	.10	55.67	126.3	52.90	108.39	.03	.00	.00	.00
MEAN	.000	.003	.000	.003	1.99	4.07	1.76	3.50	.001	.000	.000	.000
MAX	.00	.08	.00	.10	22	21	11	27	.02	.00	.00	.00
MIN	.00	.00	.00	.00	.00	1.1	.27	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.16	.33	.14	.28	.000	.000	.000	.000
IN.	.00	.00	.00	.00	.17	.38	.16	.33	.00	.00	.00	.00
AC-FT	.00	.2	.00	.2	110	251	105	215	.06	.00	.00	.00
(††)	.59	2.24	.06	1.09	3.16	1.60	1.34	3.82	.30	.00	.10	.35

CAL YR 1977 TOTAL 1909.43 MEAN 5.23 MAX 402 MIN .00 CFSM .42 IN 5.73 AC-FT 3790 †† 22.43
WTR YR 1978 TOTAL 343.48 MEAN .94 MAX 27 MIN .00 CFSM .08 IN 1.03 AC-FT 681 †† 14.65

†† Rainfall, in inches.

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 fair. Records furnished by the city of Hillsboro show that 1,030 acre-ft (1.27 hm³) of sewage effluent was discharged into a tributary above gage during year.

AVERAGE DISCHARGE.--39 years (water years 1940-78), 121 ft³/s (3.427 m³/s), 5.34 in/yr (136 mm/yr), 87,660 acre-ft/yr (108 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft³/s (1,140 m³/s) May 10, 1968 gage height, 30.32 ft (9.242 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.--Maximum discharge, 2,740 ft³/s (77.6 m³/s) May 12, gage height, 18.97 ft (5.782 m), no peak above base of 4,500 ft³/s (127 m³/s); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.16	.93	1.6	.85	1.8	1.0	5.0	4.1	1.2	.07	.09	.00		
2	.09	.82	1.4	.92	1.6	.92	4.8	10	1.1	.07	.04	.00		
3	.11	.94	1.4	.92	1.5	1.0	4.3	151	2.5	.07	.04	.00		
4	.12	.92	1.0	.92	1.5	1.1	4.3	50	1.1	.07	.03	.00		
5	.08	.85	1.7	.92	1.4	1.0	4.0	3.6	1.0	.07	.18	.00		
6	.05	.85	1.8	.85	1.5	48	3.8	3.4	.85	.07	.04	.00		
7	.04	.85	1.8	.85	4.2	303	3.7	3.1	.78	.05	.00	.00		
8	.04	1.1	1.6	.78	5.5	38	3.5	3.1	.72	.05	.00	.00		
9	.03	3.2	1.6	.78	15	6.6	3.4	3.0	.66	.05	.00	.00		
10	.10	2.0	1.4	.78	2.0	3.6	15	3.4	.60	.03	.00	.00		
11	.10	1.1	1.4	.74	1.6	2.5	7.2	75	.60	.02	.00	.00		
12	.10	1.1	1.2	.91	42	2.5	2.9	1720	.60	.01	.00	.00		
13	.09	1.6	1.2	.92	495	2.4	2.5	85	.54	.00	.00	.00		
14	.09	1.6	1.1	.92	16	2.2	2.2	6.5	.49	.00	.00	.00		
15	.10	1.5	1.1	1.0	5.5	2.1	2.1	2.3	.44	.00	.00	.00		
16	.10	1.3	1.0	1.1	3.3	2.1	2.6	2.2	.39	.00	.00	.00		
17	.09	1.6	.92	1.1	3.4	2.2	2.0	3.1	.33	.00	.00	.00		
18	.09	1.8	.85	1.2	22	2.5	1.5	4.7	.57	.00	.00	.00		
19	.09	1.8	.78	1.2	8.9	2.6	1.5	5.6	.44	.00	.00	.00		
20	.07	1.3	.72	1.2	4.5	2.5	1.6	8.1	.43	.00	.00	.00		
21	.05	1.4	.66	1.2	3.9	2.5	1.6	43	.35	.00	.00	.00		
22	.14	1.4	.66	1.2	3.4	2.7	1.5	106	.28	.00	.00	.00		
23	1.2	1.4	.66	1.2	2.4	4.6	434	4.3	.21	.00	.00	.00		
24	1.1	1.2	.66	1.1	1.2	5.3	26	3.5	.16	.00	.00	.00		
25	.66	1.5	.66	1.1	1.2	4.4	6.8	3.0	.04	.00	.00	.00		
26	.46	1.5	.66	1.1	1.4	4.4	5.1	3.0	.05	.00	.00	.00		
27	.44	1.5	.66	1.1	1.4	4.4	4.6	2.0	.08	.00	.00	.00		
28	1.8	1.5	.72	1.1	2.7	4.2	3.6	1.8	.09	2.1	.00	.00		
29	1.0	1.3	.85	1.1	---	4.2	4.2	1.6	.10	1.4	.00	.00		
30	.85	1.4	.85	1.2	---	4.2	4.2	1.7	.09	.45	.00	.00		
31	.76	---	.85	1.2	---	4.2	---	1.4	---	.16	.00	---		
TOTAL	10.20	41.26	33.46	31.46	655.8	472.92	569.5	2318.5	16.79	4.74	.42	.00		
MEAN	.33	1.38	1.08	1.01	23.4	15.3	19.0	74.8	.56	.15	.014	.000		
MAX	1.8	3.2	1.8	1.2	495	303	434	1720	2.5	2.1	.18	.00		
MIN	.03	.82	.66	.74	1.2	.92	1.5	1.4	.04	.00	.00	.00		
CFSM	.001	.004	.004	.003	.08	.05	.06	.24	.002	.000	.000	.000		
IN.	.00	.00	.00	.00	.08	.06	.07	.28	.00	.00	.00	.00		
AC-FT	20	82	66	62	1300	938	1130	4600	33	9.4	.8	.00		
CAL YR 1977	TOTAL	64666.74	MEAN	177	MAX	7370	MIN	.00	CFSM	.58	IN	7.81	AC-FT	128300
WTR YR 1978	TOTAL	4155.05	MEAN	11.4	MAX	1720	MIN	.00	CFSM	.04	IN	.50	AC-FT	8240

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.

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, 30.0°C on several days during summer months; minimum daily, 0.0°C Jan. 8, 1976, Jan. 10, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,930 micromhos Jan. 2-5; minimum daily, 350 micromhos Apr. 23.

WATER TEMPERATURES: Minimum daily, 3.0°C Jan. 19-20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)	
NOV 10...	0945	2.0	1480	7.9	11.0	6.3	59	2.3	300	0	
DEC 22...	0900	.66	1590	8.2	11.0	--	--	--	290	0	
JAN 26...	1035	1.0	1610	7.8	4.0	12.3	97	8.5	370	1	
FEB 23...	1151	3.3	756	--	6.5	--	--	--	250	98	
MAR 30...	0820	4.2	984	7.9	15.5	6.6	68	3.9	250	6	
MAY 10...	1040	3.4	640	7.8	22.0	5.4	65	3.7	190	24	
JUL 03...	0830	.07	1070	--	29.0	--	--	--	180	0	
DATE		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV 10...	100	11	240	6.1	5.8	520	0	300	76	.9	
DEC 22...	98	10	260	6.7	6.5	580	0	270	84	.9	
JAN 26...	130	11	230	5.2	6.7	450	0	380	75	1.1	
FEB 23...	92	5.8	56	1.5	4.0	190	0	150	31	.6	
MAR 30...	91	6.0	120	3.3	4.7	300	0	180	44	.8	
MAY 10...	69	3.9	53	1.7	3.9	200	0	110	22	.8	
JUL 03...	60	7.2	160	5.2	4.8	250	0	210	68	.9	
DATE		SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	
NOV 10...	10	1000	.28	.01	.29	.05	1.1	1.1	.18		
DEC 22...	10	1030	--	--	--	--	--	--	--		
JAN 26...	7.0	1060	.09	.01	.10	.01	1.1	1.1	.41		
FEB 23...	10	443	--	--	--	--	--	--	--		
MAR 30...	3.0	597	.51	.03	.54	.08	.81	.89	.13		
MAY 10...	11	372	1.2	.05	1.2	.10	.79	.89	.21		
JUL 03...	7.6	642	--	--	--	--	--	--	--		

BRAZOS RIVER BASIN

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	10.2	961	590	16	46	1.2	190	5.3	240
NOV. 1977.....	41.26	1520	1030	114	41	8.9	320	35	340
DEC. 1977.....	33.46	1630	1120	101	88	8.2	340	31	360
JAN. 1978.....	31.46	1690	1150	99	92	8.3	350	30	370
FEB. 1978.....	655.8	635	400	703	25	44	110	201	190
MAR. 1978.....	472.92	662	400	513	27	34	120	153	190
APR. 1978.....	569.5	452	270	419	14	22	71	108	160
MAY 1978.....	2318.5	641	340	2400	25	154	110	694	190
JUNE 1978.....	16.79	836	510	23	38	1.7	140	7.2	220
JULY 1978.....	4.74	841	510	6.5	34	0.5	160	2.1	220
AUG. 1978.....	0.42	1040	640	0.7	51	0.05	200	0.2	260
SEPT 1978.....	0	*****	*****	0	*****	0	*****	0	****
TOTAL	4155.04	**	**	4400	**	287	**	1270	**
WTD. AVG.	11.38	643	340	**	25	**	110	**	190

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	748	1050	1640	1900	1570	1130	1000	652	750	1100	1000	
2	745	1000	1670	1930	1560	1120	990	677	886	1090	1040	
3	742	1100	1660	1930	1580	1120	970	400	537	1090	1060	
4	777	1090	1670	1930	1610	1210	1020	450	650	1070	1120	
5	790	1130	1640	1930	1630	1220	965	468	711	1090	1030	
6	792	1200	1650	1870	1620	1000	1050	465	757	1110	1070	
7	771	1240	1610	1850	1700	573	1090	470	775	1290	---	
8	834	1310	1610	1860	1740	570	1120	473	839	1120	---	
9	850	1440	1600	1850	1900	656	1150	631	918	1130	---	
10	938	1520	1610	1800	1720	665	937	641	1060	1120	---	
11	850	1550	1620	1770	1510	686	945	634	907	1140	---	
12	766	1600	1610	1730	1300	700	838	685	920	1110	---	
13	840	1580	1600	1680	496	738	845	622	950	---	---	
14	735	1570	1600	1690	613	731	907	650	940	---	---	
15	800	1600	1590	1650	631	726	868	678	1010	---	---	
16	850	1590	1570	1630	635	804	900	646	1070	---	---	
17	904	1630	1580	1610	700	809	920	671	1110	---	---	
18	926	1620	1590	1590	500	733	937	720	970	---	---	
19	935	1630	1580	1580	550	730	925	784	1040	---	---	
20	942	1620	1610	1580	620	726	900	779	907	---	---	
21	893	1610	1600	1590	691	750	868	514	1130	---	---	
22	926	1640	1610	1590	715	775	878	450	1120	---	---	
23	850	1690	1590	1580	749	850	350	417	1090	---	---	
24	869	1630	1580	1590	787	918	450	460	1120	---	---	
25	831	1640	1600	1590	889	934	446	558	1090	---	---	
26	911	1680	1610	1590	950	850	527	600	1060	---	---	
27	900	1670	1620	1590	1050	781	541	693	1110	---	---	
28	1000	1660	1630	1590	889	717	563	600	1090	750	---	
29	1210	1640	1750	1590	---	950	628	579	1070	820	---	
30	1170	1560	1870	1590	---	1020	635	521	1110	900	---	
31	1120	---	1860	1580	---	1030	---	659	---	960	---	
MEAN	878	1480	1630	1700	1100	846	839	589	957	1060	1050	

BRAZOS RIVER BASIN

373

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	---	11.0	---	4.0	8.0	---	---	---	28.0	---	---
2	---	16.0	11.0	4.0	5.0	9.0	---	---	---	28.0	---	---
3	21.0	---	12.0	5.0	---	7.0	16.0	---	---	29.0	---	---
4	21.0	---	---	6.0	---	6.0	18.0	---	---	29.0	---	---
5	22.0	---	---	7.0	---	---	18.0	---	---	---	---	---
6	23.0	---	9.0	9.0	---	10.0	---	---	---	28.0	---	---
7	23.0	---	10.0	9.0	---	8.0	---	---	---	28.0	---	---
8	23.0	18.0	10.0	---	---	9.0	---	---	---	28.0	---	---
9	---	14.0	12.0	4.0	---	10.0	---	---	---	---	---	---
10	22.0	12.0	13.0	4.0	5.0	10.0	---	---	---	29.0	---	---
11	20.0	13.0	---	5.0	6.0	10.0	---	---	---	29.0	---	---
12	14.0	14.0	13.0	5.0	6.0	---	---	---	---	28.0	---	---
13	14.0	---	14.0	6.0	7.0	10.0	---	---	---	---	---	---
14	15.0	14.0	14.0	5.0	7.0	12.0	---	---	---	---	---	---
15	17.0	15.0	13.0	4.0	7.0	13.0	---	---	---	---	---	---
16	---	15.0	13.0	4.0	7.0	13.0	---	---	---	---	---	---
17	22.0	16.0	13.0	5.0	5.0	13.0	---	---	---	---	---	---
18	20.0	16.0	---	5.0	4.0	14.0	---	---	---	---	---	---
19	20.0	17.0	12.0	3.0	---	---	---	---	---	---	---	---
20	19.0	---	10.0	3.0	5.0	16.0	---	---	---	---	---	---
21	20.0	15.0	10.0	4.0	5.0	---	---	---	---	---	---	---
22	21.0	15.0	11.0	---	6.0	---	---	---	26.0	---	---	---
23	---	14.0	10.0	4.0	7.0	---	---	---	27.0	---	---	---
24	20.0	13.0	10.0	4.0	9.0	17.0	---	---	28.0	---	---	---
25	20.0	13.0	---	4.0	9.0	17.0	---	---	27.0	---	---	---
26	20.0	13.0	8.0	4.0	---	---	---	---	27.0	---	---	---
27	19.0	---	8.0	5.0	8.0	17.0	---	---	27.0	---	---	---
28	20.0	12.0	8.0	4.0	9.0	17.0	---	---	28.0	---	---	---
29	20.0	12.0	9.0	---	---	17.0	---	---	28.0	---	---	---
30	---	11.0	9.0	4.0	---	17.0	---	---	28.0	---	---	---
31	21.0	---	10.0	4.0	---	17.0	---	---	---	---	---	---
MEAN	20.0	14.0	11.0	5.0	6.5	12.5	17.5	---	27.5	28.5	---	---

08093700 NORTH BOSQUE RIVER AT STEPHENVILLE, TX

LOCATION.--Lat 32°12'56", long 98°11'55", Erath County, Hydrologic Unit 12060204, in center of stream at downstream side of bridge on State Highway 108 (Graham Street) at Stephenville, 0.5 mi (0.8 km) southeast of Erath County Courthouse, 1.5 mi (2.4 km) downstream from Gulf, Colorado, and Santa Fe Railway bridge, and 120.7 mi (194.2 km) upstream from mouth.

DRAINAGE AREA.--95.9 mi² (248.4 km²).

PERIOD OF RECORD.--March 1958 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,223.60 ft (372.953 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. At end of year, flow from 59.8 mi² (154.9 km²) above this station was affected at times by discharge from the flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 25,250 acre-ft (31.1 hm³). No diversion above station. Recording rain gage located at station was discontinued July 11, 1978.

AVERAGE DISCHARGE.--20 years (water years 1959-78), 14.2 ft³/s (0.402 m³/s), 10,290 acre-ft/yr (12.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,100 ft³/s (343 m³/s) Oct. 4, 1959, gage height, 19.90 ft (6.066 m), from floodmark, from rating curve extended above 4,250 ft³/s (120 m³/s) on basis of contracted-opening measurements of 40,000 and 49,000 ft³/s (1,130 and 1,390 m³/s); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, 23.5 ft (7.16 m) May 19, 1955, from floodmarks, discharge, 49,000 ft³/s (1,390 m³/s), by contracted-opening measurement of peak flow. The flood of May 23, 1952, reached a stage of 22.2 ft (6.77 m), from floodmarks, discharge 40,000 ft³/s (1,130 m³/s), by contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 299 ft³/s (8.47 m³/s) Sept. 1, gage height, 7.53 ft (2.295 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 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.02	.03	.03	.00	.07	.00	.00	40
2	.00	.00	.00	.00	.09	.03	.02	.16	.04	.00	.03	13
3	.00	.00	.00	.00	.06	.03	.01	1.4	.02	.00	15	1.5
4	.00	.00	.00	.00	.04	.04	.01	.10	.00	.00	5.4	.10
5	.00	.00	.00	.00	.03	.07	.00	.04	.00	.00	1.2	.02
6	.00	.00	.00	.00	.01	.06	.00	.02	.59	.00	.58	.00
7	.00	.00	.00	.00	.24	.16	.00	.01	.41	.00	.01	.00
8	.00	.25	.00	.00	.26	.16	.00	.00	.07	.00	.00	.08
9	.00	.27	.00	.00	.11	.08	.03	.00	.02	.00	.00	.01
10	.00	.03	.00	.00	.06	.06	3.4	.00	.00	.00	.00	.05
11	.00	.00	.00	.00	.05	.06	.16	5.8	.00	.00	.00	.02
12	.00	.00	.00	.00	3.9	.05	.06	2.7	.00	.00	.00	.00
13	.00	.00	.00	.00	.45	.04	.05	.15	.00	.00	.00	.00
14	.00	.00	.00	.00	.09	.03	.04	.03	.00	.00	.00	.00
15	.00	.00	.00	.00	.14	.02	.03	.01	.00	.00	.00	.00
16	.00	.00	.00	.00	.22	.01	.02	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.42	.01	.01	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.59	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.21	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.07	.00	.00	1.4	.00	.00	.00	.00
21	.00	.00	.00	.00	.04	.00	.00	6.5	.00	.00	.00	.00
22	.00	.00	.00	.00	.03	.00	.00	1.5	.00	.00	.00	.00
23	.00	.00	.00	.00	.03	1.7	.00	.14	.00	.00	.00	.00
24	.00	.00	.00	.00	.02	1.8	.00	.03	.00	.00	.00	.00
25	.00	.00	.00	.00	.02	.36	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.01	.10	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.02	.06	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.03	.05	.00	2.6	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.04	.00	14	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.04	.00	2.2	.00	.00	.00	.00
31	.00	---	.00	.00	---	.03	---	.26	---	.00	.00	---
TOTAL	.00	.55	.00	.00	7.26	5.12	3.87	39.05	1.22	.00	22.22	54.78
MEAN	.000	.018	.000	.000	.26	.17	.13	1.26	.041	.000	.72	1.83
MAX	.00	.27	.00	.00	3.9	1.8	3.4	14	.59	.00	15	40
MIN	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	1.1	.00	.00	14	10	7.7	77	2.4	.00	44	109
CAL YR 1977	TOTAL	7563.86	MEAN	20.7	MAX	1840	MIN	.00	AC-FT	15000		
WTR YR 1978	TOTAL	134.07	MEAN	.37	MAX	40	MIN	.00	AC-FT	266		

BRAZOS RIVER BASIN

375

08094800 NORTH BOSQUE RIVER AT HICO, TX

LOCATION (revised).--Lat 31°58'41", long 98°02'04", Hamilton County, Hydrologic 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) downstr 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 and Green Creek drainage basin. Records furnished by the city of Stephenville show that during the year 1,190 acre-ft (1.47 hm³) of sewage effluent was discharged into river above station.

AVERAGE DISCHARGE.--16 years (water years 1963-78), 46.1 ft³/s (1.306 m³/s), 3,400 acre-ft/yr (41.2 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 27.6 ft (8.41 m) May 23, 1952, from floodmarks, discharge 87,800 ft³/s (2,490 m³) by contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft³/s (29.5 m³/s), May 21, gage height, 5.46 ft (1.664 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 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	2.9	5.8	4.0	4.1	2.8	3.9	1.3	43	.00	.00	.00
2	.29	2.9	5.2	4.1	4.4	2.8	3.7	2.5	43	.00	.00	9.2
3	.43	3.0	5.2	4.0	4.9	2.6	3.7	3.2	32	.00	.00	28
4	.53	3.0	5.2	3.9	4.5	2.6	3.7	3.4	28	.00	.00	14
5	.53	3.2	5.5	3.7	4.4	2.6	3.4	3.5	25	.00	.00	9.1
6	.51	2.8	5.5	3.7	4.0	2.6	3.4	3.2	22	.00	.00	8.2
7	.50	2.5	5.1	3.5	4.5	2.8	3.4	2.8	20	.00	.00	4.5
8	.48	8.0	4.5	3.4	4.7	3.0	3.2	2.5	18	.00	.00	3.2
9	.69	7.7	4.4	3.9	4.5	3.2	3.2	2.3	16	.00	.00	2.3
10	.88	8.7	4.4	3.9	4.4	3.2	4.7	2.3	15	.00	.00	1.6
11	1.0	5.5	4.6	3.7	4.4	3.4	6.4	124	13	.00	.00	1.1
12	.67	4.6	4.9	3.7	5.6	3.1	6.8	151	11	.00	.00	.78
13	.62	4.0	4.9	4.1	12	2.7	4.9	12	9.5	.00	.00	.38
14	.62	3.5	4.9	4.1	7.5	2.6	3.9	5.2	8.6	.00	.00	.12
15	.68	3.6	4.6	4.1	4.5	2.6	3.4	3.9	7.7	.00	.00	.02
16	.99	3.5	4.8	4.1	4.0	2.6	2.8	3.5	5.5	.00	.00	.00
17	1.3	3.4	4.7	3.9	3.8	2.4	2.6	2.9	3.6	.00	.00	.00
18	1.6	3.2	4.1	3.7	3.9	2.4	1.9	2.6	2.8	.00	.00	.00
19	1.9	3.3	4.1	3.7	3.7	2.6	1.6	2.2	2.6	.00	.00	.00
20	2.2	3.6	3.7	3.7	3.7	3.0	1.5	1.9	2.3	.00	.00	.00
21	1.9	5.0	3.7	3.7	3.5	2.9	1.4	172	1.8	.00	.00	.00
22	2.3	2.6	3.7	3.7	3.3	3.1	1.4	218	1.4	.00	.00	.00
23	2.7	3.0	3.4	3.4	3.0	4.0	1.4	65	1.1	.00	.00	.00
24	2.3	3.3	3.4	3.4	2.8	4.9	1.3	48	.70	.00	.00	.00
25	2.3	3.5	3.7	3.6	2.7	9.1	1.9	40	.40	.00	.00	.00
26	2.4	3.7	3.7	3.6	2.6	6.0	1.9	35	.17	.00	.00	.00
27	2.4	3.7	3.5	3.4	2.6	4.6	1.4	32	.07	.00	.00	.00
28	2.3	3.7	3.6	3.4	3.0	4.1	1.2	27	.02	.00	.00	.00
29	2.4	4.1	3.7	3.4	---	4.1	1.3	67	.00	.00	.00	.00
30	2.3	4.9	3.5	3.4	---	3.9	1.3	53	.00	.00	.00	.00
31	2.3	---	3.7	3.6	---	3.9	---	37	---	.00	.00	---
TOTAL	42.24	120.4	135.7	115.5	121.0	106.2	86.6	1130.2	334.26	.00	.00	82.50
MEAN	1.36	4.01	4.38	3.73	4.32	3.43	2.89	36.5	11.1	.000	.000	2.75
MAX	2.7	8.7	5.8	4.1	12	9.1	6.8	218	43	.00	.00	28
MIN	.22	2.5	3.4	3.4	2.6	2.4	1.2	1.3	.00	.00	.00	.00
AC-FT	84	239	269	229	240	211	172	2240	663	.00	.00	164
CAL YR 1977 TOTAL	36651.01			100		6550		72700				
WTR YR 1978 TOTAL	2274.60			6.23		218		4510				

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.

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. 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 79.4 acre-ft (97,900 m³) from the river above the station for municipal use and returned 439 acre-ft (541,000 m³) of sewage effluent below station. The city of Meridian discharged 63.1 acre-ft (77,800 m³) of sewage effluent into the river at about mile 56 (90 km). Flow regulated at times by Soil Conservation Service reservoirs above North Bosque River near Hico (station 08094800). Recording rain gage located at station.

AVERAGE DISCHARGE.--44 years (water years 1924-67) unregulated, 195 ft³/s (5.522 m³/s), 141,300 acre-ft/yr (174 hm³/yr); 11 years (water years 1968-78) regulated, 205 ft³/s (5.806 m³/s), 148,500 acre-ft/yr (183 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Oct. 4, 1959. Flood May 9, 1922, reached at stage of about 32 ft (9.8 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,250 ft³/s (35.4 m³/s) May 12, gage height, 5.89 ft (1.795 m), no peak above base of
8,300 ft³/s (235 m³/s) minimum daily, 0.52 ft³/s (0.015 m³/s) Sept. 20.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	11	11	12	12	15	14	11	130	1.8	.74	.95
2	9.5	10	11	12	12	15	12	43	244	1.7	.77	.90
3	9.6	8.7	12	12	12	15	12	127	51	2.0	.79	.85
4	9.5	8.3	12	12	12	14	12	22	18	1.9	.79	.90
5	9.2	8.1	11	12	12	13	11	15	11	1.9	1.3	.95
6	9.5	8.1	11	12	12	14	11	11	8.7	1.8	1.1	.90
7	9.7	8.1	12	12	12	16	11	9.3	7.9	1.7	.91	.95
8	10	13	12	12	12	15	11	8.3	7.5	1.5	.76	1.0
9	11	12	12	14	12	14	11	7.4	6.2	1.4	.88	.95
10	12	10	12	13	12	13	19	7.4	5.3	1.3	.94	.85
11	13	9.8	12	13	11	13	17	22	4.7	1.2	1.0	.85
12	11	9.6	12	13	29	12	15	648	4.1	1.2	1.1	.84
13	11	9.6	12	13	43	12	15	214	4.1	1.0	1.0	.74
14	10	9.5	12	13	34	12	14	77	4.0	.94	1.0	.68
15	10	11	11	13	29	13	14	46	3.8	.91	1.0	.64
16	9.8	11	12	14	26	13	14	33	3.4	.94	1.0	.62
17	8.8	10	13	13	29	13	14	26	3.1	1.0	1.0	.59
18	8.7	9.9	11	13	28	13	14	22	2.8	.99	1.0	.55
19	8.3	9.3	11	13	26	12	14	19	2.8	.98	.90	.54
20	7.8	8.5	11	12	24	12	13	19	2.4	.92	.96	.52
21	7.5	9.0	11	12	21	11	13	22	2.2	.90	1.0	.86
22	9.0	8.4	11	12	19	11	14	243	2.1	.90	1.3	.61
23	8.6	8.6	11	12	18	11	24	260	2.0	.96	.90	.59
24	7.8	8.8	11	12	17	13	24	111	2.1	1.0	.87	.59
25	7.9	8.4	11	12	17	13	16	66	2.1	.96	.85	.55
26	8.3	8.4	9.6	11	15	12	13	52	1.9	.81	.84	.55
27	8.8	9.3	9.6	11	15	12	15	44	2.1	.75	.76	.65
28	8.9	9.8	8.9	11	15	13	14	39	2.1	.81	.82	.72
29	8.8	12	9.3	11	---	13	12	40	2.0	.73	.90	.74
30	8.6	12	12	11	---	14	11	47	2.0	.65	.97	.72
31	8.3	---	12	11	---	14	---	76	---	.67	.92	---
TOTAL	289.7	290.2	349.4	379	536	406	424	2387.4	545.4	36.22	29.07	22.35
MEAN	9.35	9.67	11.3	12.2	19.1	13.1	14.1	77.0	18.2	1.17	.94	.75
MAX	13	13	13	14	43	16	24	648	244	2.0	1.3	1.0
MIN	7.5	8.1	8.9	11	11	11	11	7.4	1.9	.65	.74	.52
AC-FT	575	576	693	752	1060	805	841	4740	1080	72	58	44
CAL YR 1977	TOTAL	143588.60	MEAN	393	MAX	19800	MIN	7.5	AC-FT	284800		
WTR YR 1978	TOTAL	5694.74	MEAN	15.6	MAX	648	MIN	.52	AC-FT	11300		

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX

LOCATION.--Lat 31°40'10", long 97°28'09", Bosque County, Hydrologic Unit 12060204, on right bank at downstream side of bridge on Farm Road 56, about 0.8 mi (1.3 km) downstream from Thompson Hollow, 0.8 mi (1.3 km) north of intersection of State Highway 6 and Farm Road 56 in Valley Mills, and 28.0 mi (45.1 km) upstream from mouth.

DRAINAGE AREA.--1,146 mi² (2,968 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 524.55 ft (159.883 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 29, 1959, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flow regulated at times by Soil Conservation Service reservoirs above North Bosque River at Hico (station 08094800). Small diversions above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years (water years 1960-67) unregulated, 263 ft³/s (7.448 m³/s), 3.12 in/yr (79 mm/yr), 190,500 acre-ft/yr (235 hm³/yr); 11 years (water years 1968-78) regulated, 249 ft³/s (7.052 m³/s), 180,400 acre-ft/yr (222 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft³/s (3,030 m³/s) Oct. 4, 1959, gage height, 40.22 ft (12.259 m), from floodmark, from rating curve extended above 28,200 ft³/s (799 m³/s) on basis of slope-area measurement of 107,000 ft³/s (3,030 m³/s); no flow Oct. 5-12, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1868, 43 ft (13.1 m) in May 1908. Floods in September 1936 and April 1945 reached a stage of about 38 ft (11.6 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,000 ft³/s (56.6 m³/s) May 3, gage height, 9.00 ft (2.743 m), no peak above base of 8,500 ft³/s (241 m³/s); minimum, 0.54 ft³/s (0.015 m³/s) Aug. 19, 20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	18	24	20	19	21	19	14	57	2.2	1.9	2.7
2	15	29	23	20	20	20	17	145	298	2.5	1.9	2.4
3	15	23	22	20	20	18	17	532	115	2.2	1.6	2.1
4	14	21	22	20	20	18	16	74	61	1.6	1.4	1.6
5	14	19	20	20	20	18	15	42	39	1.6	2.8	1.6
6	14	18	19	18	20	20	15	33	30	1.6	3.0	1.4
7	14	19	18	18	20	25	14	26	26	1.6	1.2	1.0
8	14	24	20	18	21	24	14	20	23	1.6	1.1	1.4
9	14	31	19	18	22	22	14	16	19	1.4	1.1	1.4
10	16	25	19	18	22	20	28	14	15	1.6	1.1	1.9
11	18	23	19	18	22	19	28	16	14	2.2	1.0	1.6
12	16	23	19	18	44	18	20	545	12	2.2	.89	1.9
13	16	22	19	18	72	18	17	278	11	1.9	1.0	1.9
14	16	22	19	18	52	17	16	91	9.6	1.6	1.0	1.9
15	16	22	19	18	43	17	16	52	8.8	1.2	1.0	1.6
16	16	22	19	19	38	17	15	36	8.5	1.6	.79	1.4
17	16	23	19	20	38	16	15	27	7.9	2.5	.70	1.1
18	16	23	20	20	43	16	14	22	7.1	2.5	.61	1.1
19	16	22	20	20	39	16	14	18	6.9	1.1	.79	.89
20	16	22	19	20	35	16	13	16	6.1	.70	.70	.89
21	16	22	19	20	31	16	12	18	4.9	.70	.79	1.4
22	22	22	18	20	28	16	12	89	4.5	.70	1.1	2.5
23	24	21	18	20	25	15	28	258	3.7	1.4	1.1	2.9
24	19	20	18	20	24	18	24	117	3.5	2.2	1.0	1.9
25	17	19	18	20	23	19	38	68	3.4	1.9	1.4	1.0
26	17	17	18	20	22	19	20	51	3.2	1.9	2.2	.70
27	18	18	18	20	21	17	17	43	2.7	1.6	2.0	.61
28	18	18	18	19	21	16	18	38	2.6	1.6	1.7	.79
29	18	21	18	19	---	17	16	35	2.2	1.4	2.1	.89
30	18	26	19	19	---	18	14	38	1.9	1.4	2.6	.89
31	18	---	19	19	---	19	---	55	---	1.6	2.8	---
TOTAL	512	655	599	595	825	566	536	2827	807.5	51.80	44.37	45.36
MEAN	16.5	21.8	19.3	19.2	29.5	18.3	17.9	91.2	26.9	1.67	1.43	1.51
MAX	24	31	24	20	72	25	38	545	298	2.5	3.0	2.9
MIN	14	17	18	18	19	15	12	14	1.9	.70	.61	.61
AC-FT	1020	1300	1190	1180	1640	1120	1060	5610	1600	103	88	90
CAL YR 1977	TOTAL	188546.00	MEAN	517	MAX	23400	MIN	14	AC-FT	374000		
WTR YR 1978	TOTAL	8064.03	MEAN	22.1	MAX	545	MIN	.61	AC-FT	15990		

08095300 MIDDLE BOSQUE RIVER NEAR MCGREGOR, TX

LOCATION.--Lat 31°31'33", Long 97°21'56", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on county road, 1,100 ft (335 m) downstream from Pecan Creek, 5.2 mi (8.4 km) northeast of McGregor, and 7.4 mi (11.9 km) upstream from mouth.

DRAINAGE AREA.--182 mi² (471 km²).

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 530.51 ft (161.699 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records good except those for period of no gage-height record, which are fair. No diversion above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 88.2 ft³/s (2.498 m³/s), 63,900 acre-ft/yr (78.8 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Historical flood information begins with flood in 1889, which reached a stage of 28.5 ft (8.69 m). 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 (8.53 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 77 ft³/s (2.18 m³/s) Mar. 7, gage height, 3.12 ft (0.951 m), no peak above base of 8,000 ft³/s (227 m³/s); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.11	.16	.08	.11	1.1	4.2	4.6	2.1	.00	.00	.00
2	.08	.10	.11	.08	.11	1.1	4.2	20	1.7	.00	.00	.00
3	.06	.08	.11	.08	.11	1.1	4.2	25	1.3	.00	.00	.00
4	.06	.08	.11	.07	.11	1.1	4.2	14	1.2	.00	.00	.00
5	.06	.08	.11	.06	.11	1.1	4.2	5.4	1.2	.00	.05	.00
6	.06	.08	.11	.08	.08	.99	4.2	5.4	1.1	.00	.08	.00
7	.06	.08	.08	.08	.16	45	4.2	5.4	1.2	.00	.06	.00
8	.06	.24	.08	.02	.16	21	4.2	4.8	1.2	.00	.06	.00
9	.06	.29	.08	.00	.22	10	4.2	4.1	.94	.00	.06	.00
10	.06	.23	.11	.00	.22	8.7	10	4.0	.80	.00	.05	.00
11	.06	.17	.11	.03	.22	8.1	6.0	6.6	.56	.00	.02	.00
12	.06	.16	.11	.03	2.2	7.3	5.2	4.5	.56	.00	.00	.00
13	.06	.16	.10	.03	3.5	6.7	5.0	4.4	.44	.00	.00	.00
14	.06	.14	.08	.03	3.6	6.6	5.0	3.7	.29	.00	.00	.00
15	.06	.11	.08	.03	2.3	5.9	5.0	3.4	.71	.00	.00	.00
16	.06	.11	.08	.11	1.8	5.4	5.0	3.1	.92	.00	.00	.00
17	.06	.11	.08	.11	1.7	5.1	5.0	2.7	.65	.00	.00	.00
18	.06	.11	.08	.11	1.5	5.1	5.0	2.4	.47	.00	.00	.00
19	.06	.11	.08	.16	1.4	5.1	4.6	2.8	.31	.00	.00	.00
20	.06	.11	.08	.16	1.3	5.1	4.7	2.1	.16	.00	.00	.00
21	.06	.11	.06	.11	1.2	5.1	4.8	4.0	.16	.00	.00	.00
22	.36	.11	.06	.11	1.1	5.1	5.2	5.4	.15	.00	.00	.00
23	.39	.11	.06	.11	1.1	5.1	6.0	4.0	.11	.00	.00	.00
24	.23	.11	.06	.11	1.1	5.1	5.4	2.6	.11	.00	.00	.00
25	.16	.11	.06	.11	1.1	4.8	5.8	2.0	.11	.00	.00	.00
26	.12	.11	.06	.11	1.1	4.5	5.0	1.8	.11	.02	.00	.00
27	.11	.10	.06	.11	1.1	4.5	5.4	1.8	.11	.03	.00	.00
28	.11	.08	.08	.11	1.1	4.5	5.4	1.5	.04	.03	.00	.00
29	.11	.10	.08	.11	---	4.5	5.4	1.4	.03	.03	.00	.00
30	.11	.14	.08	.11	---	4.2	4.8	1.4	.00	.03	.00	.00
31	.11	---	.08	.11	---	4.2	---	1.3	---	.02	.00	---
TOTAL	3.11	3.74	2.68	2.56	29.81	203.19	151.5	155.6	18.74	.16	.38	.00
MEAN	.10	.12	.086	.083	1.06	6.55	5.05	5.02	.62	.005	.012	.000
MAX	.39	.29	.16	.16	3.6	45	10	25	2.1	.03	.08	.00
MIN	.06	.08	.06	.00	.08	.99	4.2	1.3	.00	.00	.00	.00
AC-FT	6.2	7.4	5.3	5.1	59	403	301	309	37	.3	.8	.00

CAL YR 1977 TOTAL 37165.28 MEAN 102 MAX 3730 MIN .06 AC-FT 73720
WTR YR 1978 TOTAL 571.47 MEAN 1.57 MAX 45 MIN .00 AC-FT 1130

NOTE.--No gage-height record Mar. 30 to May 11.

BRAZOS RIVER BASIN

379

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 one floodwater-retarding structure with detention capacity of 6,900 acre-ft (8.51 km³). This structure controls runoff from 29.3 mi² (75.9 km²) in the Hog Creek drainage basin. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 37.6 ft³/s (1.065 m³/s), 6.53 in/yr (166 mm/yr), 27,240 acre-ft/yr (33.6 km³/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.

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, 163 ft³/s (4.62 m³/s) May 2, gage height, 3.10 ft (0.945 m), no peak above base of 3,000 ft³/s (85.0 m³/s); no flow Sept. 18-30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.25	.29	.21	.26	.39	1.2	.95	.77	.12	.06	.04
2	.09	.20	.31	.21	.21	.38	1.1	15	.83	.12	.06	.03
3	.09	.16	.32	.21	.21	.35	1.1	18	.72	.12	.05	.03
4	.10	.18	.31	.21	.21	.35	1.2	1.7	.68	.12	.05	.03
5	.09	.17	.26	.21	.21	.39	1.2	1.2	.57	.12	.08	.03
6	.10	.24	.21	.21	.26	12	1.2	1.2	.60	.11	.08	.02
7	.10	.21	.26	.21	.33	12	1.2	1.2	.75	.10	.07	.03
8	.09	.54	.26	.16	.26	3.6	1.2	1.0	.65	.10	.06	.03
9	.09	.21	.21	.21	.26	3.0	1.3	.84	.61	.09	.05	.03
10	.11	.20	.21	.26	.26	2.7	2.9	.82	.55	.09	.05	.03
11	.11	.21	.21	.33	.26	2.2	1.6	.92	.47	.09	.05	.03
12	.09	.20	.26	.26	3.8	1.8	1.2	1.2	.43	.09	.05	.03
13	.11	.18	.26	.26	1.1	1.6	1.2	.87	.39	.09	.04	.02
14	.17	.18	.33	.26	.55	1.4	1.1	.70	.33	.09	.04	.02
15	.14	.19	.26	.26	.50	1.2	1.1	.67	.31	.09	.04	.02
16	.11	.16	.26	.33	.43	1.2	1.1	.66	.29	.09	.04	.02
17	.13	.19	.26	.21	.52	1.2	1.1	.67	.26	.09	.03	.01
18	.13	.19	.33	.21	.38	1.2	1.1	.62	.26	.08	.03	.00
19	.15	.21	.33	.21	.36	1.2	.95	.57	.26	.08	.03	.00
20	.13	.20	.40	.21	.37	1.2	.96	1.8	.24	.08	.03	.00
21	.13	.21	.33	.21	.40	1.1	.97	9.2	.21	.08	.03	.00
22	.31	.24	.21	.21	.39	1.1	1.1	3.8	.21	.07	.05	.00
23	.15	.24	.26	.21	.38	1.3	1.3	1.1	.19	.11	.04	.00
24	.15	.24	.21	.21	.40	1.4	1.1	.91	.19	.08	.03	.00
25	.14	.26	.21	.21	.37	1.3	1.2	.79	.16	.07	.03	.00
26	.12	.26	.26	.21	.35	1.2	1.0	.75	.16	.07	.03	.00
27	.12	.26	.26	.21	.39	1.2	1.1	.70	.15	.06	.03	.00
28	.13	.19	.16	.21	.39	1.2	1.1	.69	.14	.06	.03	.00
29	.12	.47	.21	.21	---	1.2	1.1	.78	.13	.06	.03	.00
30	.12	.24	.21	.21	---	1.2	1.0	.68	.12	.06	.04	.00
31	.11	---	.21	.26	---	1.2	---	.60	---	.06	.04	---
TOTAL	3.82	6.88	8.07	7.00	13.81	62.76	35.98	70.59	11.63	2.74	1.37	.45
MEAN	.12	.23	.26	.23	.49	2.02	1.20	2.28	.39	.088	.044	.015
MAX	.31	.54	.40	.33	3.8	12	2.9	18	.83	.12	.08	.04
MIN	.09	.16	.16	.16	.21	.35	.95	.57	.12	.06	.03	.00
CFSM	.002	.003	.003	.003	.006	.03	.02	.03	.005	.001	.001	.000
IN.	.00	.00	.00	.00	.01	.03	.02	.03	.01	.00	.00	.00
AC-FT	7.6	14	16	14	27	124	71	140	23	5.4	2.7	.9
CAL YR 1977 TOTAL	19693.84			54.0				.69	9.37		39060	
WTR YR 1978 TOTAL	225.10			.62		3450	.09	.008	.11		446	

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 ft (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 in (1,370 mm) concrete pipes. Low-flow releases are made through two 54 in (1,370 mm) butterfly valves. Flow into two wet wells is controlled by four 5.0 by 6.0 ft (1.5 by 1.8 m) slide gates that are used to release water downstream for the city of Waco municipal water supply. The capacity table No. 2C is based on a sedimentation survey completed in December 1970. Flow is affected at times by discharge from flood-detention pools of 41 floodwater-retarding structures with combined detention capacity of 72,620 acre-ft (89.5 hm³). These structures control runoff from 232 mi² (601 km²) in the Bosque 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.....	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, 100,800 acre-ft (125 hm³) Sept. 30, 1978, elevation, 447.68 ft (136.453 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 127,700 acre-ft (157 hm³) June 8, elevation, 451.94 ft (137.751 m); minimum, 100,800 acre-ft (124 hm³) Sept. 30, elevation, 1,447.68 ft (136.453 m).

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

447.0	96,940	450.0	114,900
448.0	102,700	451.0	121,400
449.0	108,600	452.0	128,100

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125500	121800	119900	117200	116500	119100	121700	121400	126400	121900	112700	105900
2	125100	121500	119800	117100	116400	119000	121700	122400	126800	121500	112500	105700
3	124900	121300	119700	117100	116400	118900	121700	123800	127000	121200	112300	105500
4	124600	121200	119700	117000	116400	118900	121600	124100	127100	120900	112400	105300
5	124400	121200	119600	117000	116400	118800	121600	124200	127100	120600	112500	105100
6	124200	121100	119400	117000	116400	120500	121600	124200	127600	120300	112400	104900
7	124000	121000	119300	117000	116500	121600	121600	124200	127700	119900	112200	104800
8	123800	121600	119200	116800	116800	121700	121500	124200	127600	119600	112000	104700
9	123600	121400	119000	116700	116800	121800	121500	124000	127600	119300	111700	104600
10	123400	121300	118900	116500	116800	121800	122300	124000	127200	119000	111500	104400
11	123200	121200	118900	116800	116800	121900	122200	124200	127100	118700	111300	104200
12	123000	121000	118800	116800	118500	122000	122200	124600	126900	118400	111000	104200
13	122800	121000	118700	116700	118500	122100	122100	125300	126800	118000	110700	104000
14	122600	120900	118700	116700	118700	122100	122000	125500	126500	117700	110500	103800
15	122400	120800	118600	116600	118700	122100	121800	125400	126300	117400	110200	103700
16	122200	120800	118500	116900	118700	122000	121800	125400	126100	117100	109900	103400
17	122000	120700	118400	116700	119100	122000	121800	125300	125800	116700	109600	103200
18	121900	120600	118400	116800	119100	121900	121600	125300	125700	116400	109300	103000
19	121800	120600	118300	116700	119100	121900	121400	125100	125400	116000	109000	102800
20	121600	120500	118200	116600	119100	121900	121300	125700	125200	115800	108800	102600
21	121700	120400	118000	116600	119100	122000	121100	126100	124900	115400	108500	102400
22	122200	120300	117800	116500	119100	122000	121600	126100	124500	115100	108300	102200
23	122100	120200	117700	116600	119000	122400	121600	126400	124200	115100	108000	102000
24	122000	120100	117700	116600	119000	122200	121800	126600	123900	114900	107800	101800
25	122000	120100	117600	116600	119100	122200	121900	126700	123600	114600	107500	101600
26	121800	119900	117400	116500	119100	122100	121900	126800	123300	114200	107200	101400
27	121800	119900	117300	116400	119100	122000	121800	126700	123000	114000	107000	101300
28	121700	119700	117200	116400	119100	122000	121600	126600	122700	113800	106700	101200
29	121600	119900	117300	116300	---	121900	121500	126500	122400	113400	106500	101000
30	121600	119900	117300	116300	---	121900	121500	126400	122100	113200	106300	100800
31	121500	---	117200	116500	---	121800	---	126300	---	112900	106100	---
MAX	125500	121800	119900	117200	119100	122400	122300	126800	127700	121900	112700	105900
MIN	121500	119700	117200	116300	119100	118800	121100	121400	122100	112900	106100	100800
(†)	451.02	450.78	450.37	450.25	450.65	451.07	451.02	451.73	451.11	449.69	448.57	447.68
(+)	-4200	-1600	-2700	-700	+2600	+2700	-300	+4900	-4200	-9200	-6800	-5300
(††)	2450	1860	1890	1920	1750	1990	2210	2420	2830	3950	3300	2640

CAL YR 1977 MAX 269800 MIN 117200 † -31800 †† 27290

WTR YR 1978 MAX 127700 MIN 100800 † -24900 †† 29210

† 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

381

08095550 WACO LAKE NEAR WACO, TX--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
DEC 01...	0825	333	7.9	4.0	130	14	43	5.2	15
DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
DEC 01...	.6	3.1	140	0	27	20	.4	8.7	191

BRAZOS RIVER BASIN

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).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 365.44 ft (111.386 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 21, 1960, nonrecording gage, and from Jan. 21 to Aug. 20, 1960, nonrecording gage below 11.38 ft (3.469 m) and water-stage recorder above. All gages at same site and datum. Dec. 30, 1959, to Aug. 29, 1967, auxiliary water-stage recorder 2.7 mi (4.3 km) downstream at datum 4.66 ft (1.420 m) lower. Since Aug. 30, 1967, auxiliary water-stage recorder 0.7 mi (1.1 km) downstream at datum 4.66 ft (1.420 m) lower.

REMARKS.--Records poor. Backwater from the Brazos River. Discharge 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 29,230 acre-ft (36.0 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.--19 years, 442 ft³/s (12.52 m³/s), 320,200 acre-ft/yr (395 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 1972-74.

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.--No flow during the year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.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	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.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	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CAL YR 1977 TOTAL	249596.00		MEAN	684		MAX 9880	MIN .00	AC-FT 495100				
WTR YR 1978 TOTAL	0.00		MEAN	.000		MAX .00	MIN .00	AC-FT 0				

BRAZOS RIVER BASIN

383

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.--Water-discharge records good. 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 29,230 acre-ft (36.0 hm³) for municipal use above station; records furnished by the Brazos River Authority show that during year they returned 17,590 acre-ft (21.7 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. National Weather Service gage-height telemeter at station.

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); 38 years (water years 1940-78) regulated, 2,282 ft³/s (64.63 m³/s), 1,653,000 acre-ft/yr (2.04 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1847, that of Sept. 27, 1936; maximum stage 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, 4,210 ft³/s (119 m³/s) Aug. 11, gage height, 9.36 ft (2.853 m); minimum daily, 27 ft³/s (0.76 m³/s) July 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188	583	128	119	157	116	137	138	746	99	39	887
2	1300	236	122	105	147	144	144	176	864	80	38	432
3	297	484	127	118	141	104	144	375	907	80	32	462
4	202	241	124	122	148	114	142	321	887	77	34	665
5	195	177	127	125	131	117	147	199	857	65	95	586
6	188	187	108	127	137	721	148	158	864	59	101	625
7	181	203	124	132	216	2480	143	154	805	57	61	597
8	202	384	142	114	178	659	136	147	671	48	759	578
9	198	181	105	117	187	291	125	128	671	46	1070	571
10	179	135	119	121	170	250	288	132	664	35	2710	590
11	174	133	120	202	152	246	246	136	668	27	4200	586
12	306	125	124	146	976	201	169	1590	661	36	4090	602
13	413	124	135	135	877	194	142	782	802	45	4000	632
14	1190	129	120	159	324	172	137	197	312	43	3990	612
15	513	132	127	169	180	166	137	153	250	46	3980	1210
16	503	130	132	216	159	149	135	139	688	41	3980	550
17	464	127	111	98	233	150	130	144	741	37	2580	432
18	446	125	115	159	164	153	144	140	745	34	2190	511
19	420	135	123	146	174	169	137	129	767	30	2130	549
20	417	135	113	139	146	148	120	186	779	29	1230	543
21	403	115	109	112	136	172	121	401	759	29	1130	543
22	809	116	108	135	131	150	142	305	710	34	1210	340
23	510	129	122	145	126	149	345	296	764	37	1140	127
24	484	165	119	155	125	213	487	169	774	77	1200	91
25	1110	123	117	141	131	157	176	144	774	83	1140	80
26	224	118	119	118	121	149	171	140	794	55	1140	147
27	302	125	115	133	123	140	142	526	877	42	920	327
28	361	121	125	142	135	145	137	841	325	39	1020	115
29	429	176	132	137	---	144	138	851	181	37	886	575
30	501	149	128	133	---	139	138	875	151	37	905	330
31	491	---	120	162	---	140	---	1050	---	41	887	---
TOTAL	13600	5443	3760	4282	6025	8442	5048	11122	20458	1525	48887	14895
MEAN	439	181	121	138	215	272	168	359	682	49.2	1577	497
MAX	1300	583	142	216	976	2480	487	1590	907	99	4200	1210
MIN	174	115	105	98	121	104	120	128	151	27	32	80
AC-FT	26980	10800	7460	8490	11950	16740	10010	22060	40580	3020	96970	29540
CAL YR 1977 TOTAL	938502	MEAN	2571	MAX	26000	MIN	105	AC-FT	1862000			
WTR YR 1978 TOTAL	143487	MEAN	393	MAX	4200	MIN	27	AC-FT	284600			

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 5,940 acre-ft (7.32 km³) to Tradinghouse Reservoir above this station. Flow is affected at times by discharge from flood-detention pools of 59 floodwater-retarding structures with combined detention capacity of 75,750 acre-ft (93.4 km³). These structures control runoff from 210 mi² (54.4 km²) in the Tehuacana Creek, Castleman Creek, and Cow Bayou drainage basins. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years, 2,630 ft³/s (74.48 m³/s), 1,905,000 acre-ft/yr (2.35 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, 15,400 ft³/s (436 m³/s) Mar. 8, gage height, 11.14 ft (3.395 m); minimum daily, 41 ft³/s (1.16 m³/s) July 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	599	616	252	192	217	153	189	121	970	267	62	868
2	301	726	214	184	242	159	174	147	824	211	58	837
3	1160	585	188	180	228	165	165	434	1630	162	52	671
4	610	431	184	165	200	158	161	509	1070	135	51	458
5	293	537	184	171	180	151	161	563	913	116	51	499
6	226	344	174	181	179	142	179	388	1850	97	51	614
7	208	280	165	187	196	5200	193	258	2130	89	60	596
8	193	390	153	182	227	9750	184	189	1140	85	103	597
9	178	495	153	165	319	5630	165	138	923	72	110	609
10	245	402	172	174	284	2900	208	114	980	69	806	583
11	263	292	147	179	273	1210	224	114	859	53	2010	588
12	210	248	148	223	386	728	373	138	781	41	4010	624
13	226	229	178	288	1780	568	318	1180	764	54	4030	584
14	383	213	179	215	1960	451	235	1070	859	68	3930	588
15	1200	213	192	187	1160	381	179	512	721	65	3930	635
16	698	213	166	289	515	308	156	350	337	69	4010	919
17	621	205	170	359	347	278	147	272	420	62	4030	747
18	594	200	173	319	316	223	147	230	721	55	3250	515
19	567	198	167	235	351	194	136	207	747	51	2020	427
20	543	198	158	257	331	190	128	207	746	45	1990	527
21	528	212	166	240	303	199	128	283	767	44	1240	537
22	528	208	159	225	246	190	118	462	756	43	1030	532
23	971	190	155	190	212	182	118	564	728	51	1130	514
24	761	179	143	207	195	173	170	490	724	56	1100	288
25	639	184	164	230	176	194	419	388	774	116	1090	178
26	1320	214	167	228	168	229	427	272	781	125	1070	143
27	645	188	164	221	165	230	230	218	786	82	1060	124
28	346	177	166	180	156	203	174	212	865	63	817	182
29	438	198	185	192	---	193	139	755	700	58	920	264
30	485	218	180	204	---	189	121	850	345	56	837	182
31	584	---	189	211	---	203	---	877	---	55	867	---
TOTAL	16563	8983	5355	6660	11312	31124	5866	12512	26611	2615	45775	15430
MEAN	534	299	173	215	404	1004	196	404	887	84.4	1477	514
MAX	1320	726	252	359	1960	9750	427	1180	2130	267	4030	919
MIN	178	177	143	165	156	142	118	114	337	41	51	124
AC-FT	32850	17820	10620	13210	22440	61730	11640	24820	52780	5190	90790	30610
CAL YR 1977 TOTAL	1158012			3173		37800	MIN 143	AC-FT	2297000			
WTR YR 1978 TOTAL	188806			517		9750	MIN 41	AC-FT	374500			

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1967 to current year.

WATER TEMPERATURES: November 1967 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,000 micromhos Aug. 24, 1978; minimum daily, 267 micromhos July 31, 1971, May 25, 1975, and Apr. 29, 1976.

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, 3,000 micromhos Aug. 24; minimum daily, 300 micromhos June 7.

WATER TEMPERATURES: Maximum daily, 35.5°C July 15, 16; minimum daily, 3.0°C Jan. 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	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)
DATE	TIME										
OCT 12...	1020	208	1160	8.4	16.0	15	9.7	101	4.2	35000	69
NOV 09...	1420	582	1170	8.5	16.0	15	12.1	126	1.8	8000	1600
DEC 13...	1530	189	1150	8.5	16.0	7	15.9	166	3.4	5500	25
JAN 25...	1710	224	1110	8.0	7.5	10	12.5	108	3.6	350	4
FEB 23...	1600	203	1040	8.1	13.0	30	12.3	121	4.3	270	2
MAR 29...	1455	193	780	8.9	19.5	20	19.7	221	12	3100	32
APR 25...	1522	467	1100	8.8	26.0	30	11.3	143	8.9	16000	300
MAY 09...	1113	158	1030	8.4	25.5	30	8.2	104	2.6	1700	450
JUN 07...	1230	1530	270	8.1	23.5	900	5.6	68	4.2	140000	K8800
JUL 13...	0855	56	1400	7.7	28.5	5	5.7	75	.6	K52	37
AUG 09...	0945	100	1040	8.4	28.5	9	6.8	89	1.1	K360	K9
SEP 06...	1456	543	2650	8.2	30.0	7	8.5	115	.5	--	18
	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)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
OCT 12...	280	280	98	77	21	120	3.1	4.6	220	0	100
NOV 09...	370	270	110	77	20	130	3.4	4.7	180	10	110
DEC 13...	440	310	85	88	21	120	3.0	5.0	270	0	120
JAN 25...	60	300	90	87	19	120	3.0	4.7	250	0	120
FEB 23...	190	280	88	86	17	100	2.6	4.8	240	0	100
MAR 29...	130	220	65	65	14	83	2.4	5.2	160	14	100
APR 25...	210	280	75	79	19	110	2.9	5.1	220	12	110
MAY 09...	47	230	68	67	15	110	3.2	5.8	190	3	100
JUN 07...	27000	78	20	25	3.8	20	1.0	3.1	71	0	21
JUL 13...	KP	290	110	73	25	170	4.4	5.6	210	0	130
AUG 09...	36	210	36	48	21	130	3.9	6.2	200	4	110
SEP 06...	K3	440	330	120	33	370	7.7	7.6	130	0	300

BRAZOS RIVER BASIN

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	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)
OCT 12...	190	.3	5.0	661	626	.00	.04	.02	.08	.76
NOV 09...	200	.3	4.6	672	645	.17	.01	.18	.00	.60
DEC 13...	170	.5	3.8	642	661	.82	.09	.91	.09	.63
JAN 25...	170	.4	3.8	641	648	.43	.04	.47	.56	1.0
FEB 23...	140	.4	5.8	588	573	.85	.06	.91	.45	.65
MAR 29...	98	.4	.0	437	458	.00	.01	.01	.01	1.5
APR 25...	150	.5	2.4	613	596	.00	.01	.00	.01	1.1
MAY 09...	150	.5	6.2	562	551	.10	.05	.15	.01	.89
JUN 07...	27	.2	2.9	139	138	.49	.05	.54	.24	2.1
JUL 13...	240	.5	9.9	764	758	.04	.01	.05	.04	.71
AUG 09...	150	.7	11	572	580	.03	.01	.04	.02	.83
SEP 06...	600	.4	6.1	1580	1500	.10	.01	.11	.03	.77
DATE	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 12...	.84	.27	.09	.11	4.9	--	--	22	12	92
NOV 09...	.60	.33	.13	.10	3.9	--	--	31	49	90
DEC 13...	.72	.67	.25	.06	4.4	--	--	28	14	94
JAN 25...	1.6	1.1	.24	.07	4.0	--	--	11	6.7	94
FEB 23...	1.1	1.0	.28	.13	--	4.5	1.2	319	175	100
MAR 29...	1.5	.61	.05	.02	9.2	--	--	61	32	81
APR 25...	1.1	.97	.37	.05	7.1	--	--	42	53	95
MAY 09...	.90	.35	.40	.23	6.7	--	--	51	22	99
JUN 07...	2.3	.47	.33	.07	--	5.2	19	1330	5490	98
JUL 13...	.75	.79	.10	.08	4.9	--	--	6	.91	86
AUG 09...	.85	.86	.19	.23	--	7.0	.5	11	3.0	78
SEP 06...	.80	.61	.22	.26	4.7	--	--	6	8.8	90

BRAZOS RIVER BASIN

387

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC		ARSENIC		BARIUM,		BARIUM,		CADMIUM		CADMIUM
		TOTAL (UG/L AS AS)	SUS- PENDE TOTAL (UG/L AS AS)	DIS- SOLVE TOTAL (UG/L AS AS)	TOTAL RECOV- ERABLE (UG/L AS BA)	SUS- PENDE RECOV- ERABLE (UG/L AS BA)	DIS- SOLVE (UG/L AS BA)	TOTAL RECOV- ERABLE (UG/L AS CD)	SUS- PENDE RECOV- ERABLE (UG/L AS CD)	DIS- SOLVE (UG/L AS CD)		
OCT 12...	1020	2	1	1	500	500	0	<10	<10		0	
FEB 23...	1600	3	1	2	200	100	100	2	0		3	
JUN 07...	1230	9	7	2	300	300	50	1	1		0	
AUG 09...	0945	9	0	4	200	100	100	0	0		<1	
DATE	TIME	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVE TOTAL (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	
OCT 12...	10	10		0	<50	<50	0	<10	<9	1	240	
FEB 23...	20	10		10	2	2	0	5	3	2	990	
JUN 07...	15	5		10	4	4	0	25	25	0	17000	
AUG 09...	10	10		0	1	0	<1	6	5	1	150	
DATE	TIME	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVE TOTAL (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVE TOTAL (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVE TOTAL (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	
OCT 12...	--	10		<100	<100	0	150	150	0	.0	.0	
FEB 23...	--	0		6	2	4	120	60	60	.0	.0	
JUN 07...	--	30		26	24	2	580	580	0	.1	.1	
AUG 09...	140	<10		3	1	2	80	60	20	.0	.0	
DATE	TIME	MERCURY DIS- SOLVE TOTAL (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVE TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVE TOTAL (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVE TOTAL (UG/L AS ZN)	
OCT 12...	.0	1		1	0	<10	<10	0	6	0	10	
FEB 23...	.0	1		0	1	0	0	0	10	0	10	
JUN 07...	.0	1		1	0	0	0	0	70	70	5	
AUG 09...	.0	1		0	1	2	2	0	10	7	3	

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

PERIPHYTON

DATE	LENGTH OF EXPOSURE (DAYS)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	SAMPLING METHOD
NOV 09...	28	1.42	1.65	1.05	.570	POLYETHYLENE STRIP
DEC 13...	34	6.06	10.5	19.2	2.32	POLYETHYLENE STRIP
JUN 07...	29	1.02	1.89	13.3	4.51	POLYETHYLENE STRIP
SEP 06...	28	.157	.315	.980	.380	POLYETHYLENE STRIP

BRAZOS RIVER BASIN

08098290 BRAZOS RIVER NEAR Highbank, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	MAR 29,78 1455	MAY 9,78 1113	JUN 7,78 1230	JUL 13,78 0855	SEP 6,78 1456
TOTAL CELLS/ML	100000	61000	88	1000	1700
DIVERSITY: DIVISION	1.4	1.1	0.9	0.0	1.0
..CLASS	1.4	1.1	0.9	0.0	1.0
..ORDER	1.6	1.8	0.9	0.2	1.3
...FAMILY	2.5	2.4	0.9	0.6	1.6
....GENUS	2.9	2.9	0.9	0.6	1.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....COELASTRACEAE										
.....COELASTRUM	4800	5	* 0		--	-	--	-	110	6
.....MICRACTINIACEAE										
.....GOLFINKINIA	1100	1	--	-	--	-	--	-	--	-
.....MICRACTINIUM	26000#	25	890	1	--	-	--	-	--	-
....OOCYSTACEAE										
.....ANKYSTRODESMUS	4500	4	2100	3	--	-	--	-	--	-
....CHODATELLA	--	-	* 0		--	-	--	-	--	-
.....DICTYOSPHAERIUM	1100	1	8900	15	--	-	--	-	--	-
.....KIRCHNERIELLA	2000	2	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	1200	2	--	-	--	-	--	-
.....SELENASTRUM	--	-	890	1	--	-	--	-	--	-
.....TREUBARIA	*	0	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
.....ACTINASTRUM	2300	2	--	-	--	-	--	-	--	-
....SCENEDESMUS	9700	9	23000#	37	59#	67	--	-	--	-
.....TETRASTRUM	1100	1	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	2600	2	7100	12	--	-	--	-	14	1
...POLYRLEPHARIDACEAE										
....SPERMATOZOOPSIS	--	-	--	-	--	-	--	-	1100#	63
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCEACEAE										
.....CYCLOTELLA	6800	7	5700	9	--	-	22	2	--	-
....MELOSIRA	--	-	1800	3	--	-	--	-	--	-
..PENNACEAE										
...CYMBELLACEAE										
....AMPHORA	--	-	--	-	--	-	22	2	14	1
...NAVICULACEAE										
.....NAVICULA	*	0	* 0		29#	33	930#	91	370#	21
...NITZSCHACEAE										
.....NITZSCHIA	1700	2	5400	9	--	-	44	4	82	5
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCOCCALES										
....CHROCOCCOCCACEAE										
.....ANACYSTIS	36000#	35	4200	7	--	-	--	-	--	-
...HORMOGONALES										
....OSCILLATORIACEAE										
.....OSCILLATORIA	--	-	--	-	--	-	--	-	55	3
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENAEACEAE										
.....EUGLENA	1100	1	--	-	--	-	--	-	--	-
....TRACHELOMONAS	850	1	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 1%

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

BRAZOS RIVER BASIN

389

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	16563	1190	660	29400	190	8580	120	5440	260
NOV. 1977.....	8983	1130	620	15100	170	4230	120	2830	250
DEC. 1977.....	5355	1160	640	9230	180	2630	120	1710	260
JAN. 1978.....	6660	1130	620	11200	170	3140	120	2100	250
FEB. 1978.....	11312	876	480	14800	120	3560	91	2780	230
MAR. 1978.....	31124	461	250	21400	46	3860	49	4110	160
APR. 1978.....	5866	988	540	8610	140	2200	100	1620	250
MAY 1978.....	12512	846	470	15800	110	3650	89	3000	230
JUNE 1978.....	26611	1160	640	46000	190	13600	120	8690	260
JULY 1978.....	2615	1330	740	5210	230	1620	140	974	280
AUG. 1978.....	45775	2090	1170	145000	440	54500	230	28100	380
SEPT 1978.....	15430	2730	1540	64100	620	25700	300	12600	460
TOTAL	188806	**	**	386000	**	127000	**	74000	**
WTD.AVG.	517.28	1360	760	**	250	**	150	**	280

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1180	1190	1150	1160	1200	996	845	1130	1000	1380	1100	2720
2	1170	1150	1020	1160	1150	996	861	1130	1210	1390	1090	2670
3	1230	1220	1150	1160	1130	957	867	803	1230	1390	1100	2780
4	1210	1120	1160	1160	1140	967	828	862	1220	1370	1100	2770
5	1230	1160	1170	1150	1140	978	892	910	1210	1380	1090	2710
6	1240	1160	1180	1160	1150	945	902	960	1300	1400	1170	2650
7	1230	1220	1080	1150	1090	381	920	1010	300	1390	1080	2680
8	1280	1170	1120	1170	1130	343	941	1000	1000	1380	1010	2680
9	1270	1170	1190	1180	1070	386	961	1040	1060	1370	1010	2700
10	1230	1090	1170	1160	1080	487	929	1060	1030	1360	1000	2670
11	1170	1040	1070	1170	1100	525	957	1060	1150	1350	1250	2670
12	1180	1000	1170	1150	1110	560	903	1040	1230	1360	1450	2510
13	1150	960	1190	1180	697	599	953	1020	1250	1360	1470	2680
14	1270	914	1140	1170	728	640	961	920	965	1340	1470	2700
15	1170	1030	1120	1170	662	687	1010	900	1270	1340	1530	2570
16	1210	1140	1150	1150	627	700	978	933	1260	1370	1820	2730
17	1210	1100	1170	1130	802	720	1010	933	1300	1360	2310	2740
18	1160	1060	1170	1040	897	739	1010	930	1280	1360	2690	2830
19	1210	1130	1150	1090	947	716	1030	928	1310	1370	2660	2820
20	1000	1120	1160	1070	955	739	1040	926	1330	1360	2760	2850
21	1230	1090	1170	1080	1010	759	1060	858	1330	1360	2900	2920
22	1250	1130	1200	1090	1040	759	1070	800	1330	1350	2910	2960
23	1170	1090	1190	1100	1040	794	1060	675	1340	1320	2970	2940
24	1160	1140	1210	1090	1010	800	1060	646	1340	1210	3000	2860
25	1200	1070	1190	1120	1020	795	1080	614	1340	1230	2900	2800
26	1200	1170	1190	1130	1020	794	1080	615	1350	1190	2750	2770
27	1200	1170	1160	1130	1010	772	1090	616	1350	1170	2740	2740
28	1190	1130	1190	1130	1000	789	1110	617	1370	1160	2760	2700
29	1200	1150	1150	1140	---	794	1130	675	1370	1160	2750	2550
30	1210	1140	1170	1120	---	818	1130	689	1380	1160	2790	2430
31	1100	---	1170	1160	---	842	---	827	---	1150	2780	---
MEAN	1200	1110	1160	1140	998	735	989	875	1210	1320	1980	2730

BRAZOS RIVER BASIN

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.5	22.0	---	8.5	6.5	8.0	23.0	27.0	29.5	34.0	27.5	28.0
2	26.0	19.0	---	5.5	6.0	9.0	23.0	22.5	28.5	31.0	29.5	27.0
3	24.5	17.0	---	6.5	7.0	4.0	22.5	18.0	25.0	34.5	30.0	27.5
4	24.5	22.0	---	8.5	6.5	---	26.5	20.5	---	33.5	31.5	31.5
5	24.0	10.5	---	15.0	6.0	13.5	22.5	---	31.0	34.0	30.0	31.5
6	25.0	22.0	---	15.5	7.0	13.5	25.0	---	29.0	35.0	31.0	30.5
7	22.0	20.0	---	19.0	4.5	13.0	---	27.5	30.5	---	32.5	28.0
8	27.0	21.5	---	11.0	4.0	9.0	23.5	30.0	30.0	33.5	32.5	29.0
9	25.5	20.5	10.0	4.0	---	10.5	21.0	30.0	30.5	35.0	33.0	28.5
10	21.5	19.0	8.0	6.0	---	14.5	19.0	29.0	31.0	35.0	32.0	29.0
11	21.0	---	9.5	---	7.5	17.0	21.0	27.0	32.0	34.0	---	30.0
12	24.0	---	11.0	6.0	9.5	---	22.0	---	33.0	33.0	29.0	30.0
13	23.0	---	13.0	10.0	---	18.0	24.5	22.0	32.0	33.0	28.5	27.0
14	23.0	23.0	14.0	8.5	10.5	19.0	24.5	---	31.5	35.0	30.5	30.0
15	21.5	---	9.0	7.0	12.5	17.0	21.0	29.0	31.0	35.5	30.5	29.5
16	24.5	22.5	18.0	---	11.0	17.0	21.5	31.5	29.0	35.5	31.0	31.0
17	26.0	21.5	13.0	6.5	7.0	---	25.0	30.0	29.5	33.0	30.0	27.5
18	24.0	20.5	9.5	5.0	8.0	19.0	27.0	30.0	32.0	35.0	30.0	28.0
19	25.0	18.5	11.0	3.0	8.5	18.0	---	31.0	32.5	33.0	32.0	30.0
20	26.5	22.0	10.0	4.5	9.5	19.0	25.0	27.0	32.5	34.0	30.5	31.5
21	25.0	21.0	8.5	4.0	9.0	21.0	23.0	28.0	33.0	---	31.5	27.0
22	23.0	23.0	12.0	5.0	13.0	20.5	21.5	28.0	---	33.0	32.0	31.0
23	20.5	22.5	12.5	5.5	14.5	22.0	27.0	28.5	33.0	30.0	32.0	27.5
24	25.0	21.0	10.5	6.0	15.5	---	26.5	31.0	33.0	34.0	32.5	28.0
25	28.0	20.0	9.5	7.0	14.0	---	25.0	31.0	30.0	33.0	---	27.5
26	26.5	17.0	10.5	7.0	10.0	16.5	26.5	---	33.0	33.0	34.0	26.0
27	27.0	16.5	11.0	6.0	11.0	19.5	25.0	---	32.5	31.0	30.5	---
28	25.5	15.5	8.5	5.0	---	22.0	---	31.0	33.5	33.5	31.5	26.5
29	---	17.0	10.0	4.5	---	22.0	22.0	31.5	32.0	33.5	29.5	28.0
30	24.0	14.0	12.0	6.0	---	22.5	28.0	31.0	---	34.0	29.0	28.5
31	26.0	---	11.0	---	---	19.5	---	31.0	---	28.5	28.0	---
MFAN	24.5	20.0	11.0	7.5	9.0	16.5	24.0	28.0	31.0	33.5	31.0	29.0

BRAZOS RIVER BASIN

391

08098300 LITTLE POND CREEK AT BURLINGTON, TX

LOCATION.--Lat 31°01'35", long 96°59'17", Milam County, Hydrologic Unit 12070101, on left bank downstream from bridge on U.S. Highway 77, 1.0 mi (1.6 km) north of Burlington, 2.5 mi (4.0 km) downstream from Keys Creek, and 12.6 mi (20.3 km) upstream from mouth.

DRAINAGE AREA.--23.0 mi² (59.6 km²).

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

Water-quality records: Sediment records: January 1966 to September 1975.

REVISED RECORDS.--WSP 2122: 1965. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 388.51 ft (118.418 m) National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--16 years, 13.2 ft³/s (0.374 m³/s), 7.79 in/yr (198 mm/yr), 9,560 acre-ft/yr (11.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,570 ft³/s (243 m³/s) May 24, 1975, gage height, 16.90 ft (5.151 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1938, 17.5 ft (5.33 m) in 1950, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 424 ft³/s (12.0 m³/s) June 4, gage height, 7.55 ft (2.301 m), no peak above base of 700 ft³/s (19.8 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
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	1.3	.10	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	32	64	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	1.1	120	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.24	1.7	.00	.00	.00
6	.00	.00	.00	.00	.00	.01	.00	.03	26	.00	.00	.00
7	.00	.00	.00	.00	.00	106	.00	.02	163	.00	.00	.00
8	.00	.00	.00	.00	.00	6.5	.00	.02	6.1	.00	.00	.00
9	.00	.00	.00	.00	.00	1.6	.00	.00	1.1	.00	.00	.00
10	.00	.00	.00	.00	.00	.59	.03	.00	.30	.00	.00	.00
11	.00	.00	.00	.00	.00	.31	.00	.00	.10	.00	.00	.00
12	.00	.00	.00	.00	.02	.17	.00	.49	.02	.00	.00	.00
13	.00	.00	.00	.00	3.8	.15	.00	2.2	.92	.00	.00	.00
14	.00	.00	.00	.00	.46	.07	.00	.21	4.1	.00	.00	.00
15	.00	.00	.00	.00	.16	.04	.00	.02	.44	.00	.00	.00
16	.00	.00	.00	.00	.07	.01	.00	.00	.12	.00	.00	.00
17	.00	.00	.00	.00	.11	.00	.00	.00	.05	.00	.00	.00
18	.00	.00	.00	.00	.72	.00	.00	.00	.01	.00	.00	.00
19	.00	.00	.00	.00	.28	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.13	.00	.00	3.8	.00	.00	.00	.00
21	.00	.00	.00	.00	.05	.00	.00	7.4	.00	.00	.00	.00
22	.00	.00	.00	.00	.02	.00	.00	2.7	.00	.00	.00	.00
23	.00	.00	.00	.00	.01	.00	.00	.23	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.01	.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	.00	.00	.00	.00	5.83	115.45	.03	51.83	388.06	.00	.00	.00
MEAN	.000	.000	.000	.000	.21	3.72	.001	1.67	12.9	.000	.000	.000
MAX	.00	.00	.00	.00	3.8	106	.03	32	163	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.009	.16	.000	.07	.56	.000	.000	.000
IN.	.00	.00	.00	.00	.01	.19	.00	.08	.63	.00	.00	.00
AC-FT	.00	.00	.00	.00	12	229	.06	103	770	.00	.00	.00
CAL YR 1977	TOTAL	5186.53	MEAN	14.2	MAX	1660	MIN	.00	CFSM	.62	IN	8.39
WTR YR 1978	TOTAL	561.20	MEAN	1.54	MAX	163	MIN	.00	CFSM	.07	IN	.91
									AC-FT	10290	AC-FT	1110

BRAZOS RIVER BASIN

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).

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, 22,310 acre-ft (27.5 hm³) Oct. 1, 2, elevation, 1,371.6 ft (418.06 m); minimum, 16,850 acre-ft (20.8 hm³) Aug. 1, 2, elevation, 1,367.1 ft (416.69 m).

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

1,367.0	16,740
1,369.0	19,030
1,772.0	22,850

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 1000

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22310	21380	21000	20370	20240	20000	20000	19510	19030	18330	16850	19150
2	22310	21380	21000	20370	20240	20000	20000	19510	19030	18330	16850	19270
3	22180	21380	21000	20240	20240	20000	20000	19390	19030	18330	17300	19390
4	22180	21380	21000	20240	20120	20000	20000	19390	19030	18210	18210	19390
5	22180	21380	20880	20240	20120	20000	19880	19390	19030	18210	19880	19390
6	22180	21380	20880	20240	20120	20000	19880	19390	19030	17750	20000	19390
7	22050	21260	20880	20240	20120	20000	19880	19390	18910	17750	20000	19390
8	22050	21260	20880	20240	20120	20000	19880	19390	18910	17750	20000	19510
9	22050	21260	20880	20120	20120	20000	19880	19270	18910	17640	19880	19510
10	22050	21260	20750	20120	20120	20000	19880	19270	18800	17640	19880	19510
11	21910	21260	20750	20120	20120	20000	19880	19270	18800	17640	19880	19510
12	21910	21260	20750	20120	20120	20120	19880	19270	18800	17640	19880	19390
13	21910	21260	20750	20120	20120	20120	19880	19150	18800	17520	19760	19390
14	21910	21260	20750	20000	20120	20120	19880	19150	18680	17520	19760	19390
15	21780	21130	20750	20000	20120	20120	19880	19150	18680	17520	19760	19390
16	21780	21130	20750	20000	20120	20120	19880	19150	18680	17410	19640	19390
17	21780	21130	20750	20000	20120	20120	19880	19030	18680	17410	19640	19390
18	21780	21130	20620	20000	20120	20120	19760	19030	18680	17410	19640	19270
19	21640	21130	20620	20240	20120	20120	19760	19030	18680	17410	19510	19270
20	21640	21130	20620	20240	20120	20120	19760	19030	18680	17410	19510	19270
21	21640	21000	20620	20240	20120	20120	19760	19030	18560	17300	19510	19270
22	21640	21000	20620	20240	20120	20000	19760	19030	18560	17300	19510	19270
23	21640	21000	20620	20240	20000	20000	19760	19030	18560	17300	19390	19270
24	21640	21000	20490	20240	20000	20000	19640	18910	18450	17190	19390	19150
25	21510	21000	20490	20240	20000	20000	19640	18910	18450	17190	19390	19150
26	21510	21000	20490	20240	20000	20000	19640	18910	18450	17080	19390	19150
27	21510	21000	20490	20240	20000	20000	19640	18910	18450	17080	19270	19150
28	21510	21000	20370	20240	20000	20000	19510	18910	18330	17080	19270	19030
29	21510	21000	20370	20240	---	20000	19510	18910	18330	16960	19270	19030
30	21510	21000	20370	20240	---	20000	19510	19030	18330	16960	19270	19030
31	21380	---	20370	20240	---	20000	---	19030	---	16960	19150	---
MAX	22310	21380	21000	20370	20240	20120	20000	19510	19030	18330	20000	19510
MIN	21380	21000	20370	20000	20000	20000	19510	18910	18330	16960	16850	19030
(†)	1370.9	1370.6	1370.1	1370.0	1369.8	1369.8	1369.4	1369.0	1368.4	1367.2	1369.1	1369.0
(‡)	-930	-380	-630	-130	-240	0	-490	-480	-700	-1370	+2190	-120
(††)	192	162	168	169	147	171	198	235	259	290	213	170
CAL YR 1977	MAX	28430	MIN	20370	†	-510	††	2280				
WTR YR 1978	MAX	22310	MIN	16850	†	-3280	††	2370				

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by Ranger, Olden, and Eastland.

BRAZOS RIVER BASIN

393

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).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,209.93 ft (368.787 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow partly regulated by Leon Reservoir (station 08099000). Numerous diversions above station for municipal, steam powerplant operation, and other uses. Recording rain gage at station was discontinued May 31, 1978. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 46.8 ft³/s (1.325 m³/s), 33,910 acre-ft/yr (41.8 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 gage site and is the highest since that time, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 120 ft³/s (3.40 m³/s) Apr. 10, gage height, 3.6 ft (1.10 m), from floodmark; no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	5.0	.00	.00	.49	.00
4	.00	.00	.00	.00	.00	.00	.00	.30	.00	.00	14	.00
5	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	1.8	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.39	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	29	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	1.3	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.03	.00	.44	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.03	.00	2.1	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.02	.00	.01	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.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	.05	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	17	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	1.3	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.03	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	30.47	23.71	2.95	.00	16.29	.00
MEAN	.000	.000	.000	.000	.000	.000	1.02	.76	.098	.000	.53	.000
MAX	.00	.00	.00	.00	.00	.00	.29	.17	2.1	.00	.14	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.60	.47	5.9	.00	.32	.00
CAL YR 1977 TOTAL	10756.46			MEAN 29.5	MAX 4060	MIN .00	AC-FT 21340					
WTR YR 1978 TOTAL	73.42			MEAN .20	MAX 29	MIN .00	AC-FT 146					

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 Texas 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. Recording rain gage at station was discontinued May 30, 1978. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 32.4 ft³/s (0.918 m³/s), 1.67 in/yr (42 mm/yr), 23,470 acre-ft/yr (28.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s (306 m³/s) June 12, 1967, gage height, 22.05 ft (6.721 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 24 ft (7.3 m) in May 1908, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 617 ft³/s (17.5 m³/s) Aug. 4, gage height, 8.80 ft (2.682 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 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.02	1.1	1.2	.45	.32	.02	.00	.00	.00	.00
2	.00	.00	.02	.61	.97	.40	.32	.62	.00	.00	.00	5.3
3	.00	.00	.02	.49	.55	.60	.67	6.1	.00	.00	.00	7.3
4	.00	.00	.02	.49	.40	.71	.40	1.0	.00	.00	333	18
5	.00	.00	.01	.59	.77	1.2	.26	.51	.00	.00	36	12
6	.00	.00	.01	.60	.59	.60	.32	.32	.00	.00	9.1	.63
7	.00	.00	.01	.60	.45	.49	.32	.37	.00	.00	2.2	1.2
8	.00	.00	.01	.60	.60	.40	.32	.19	.00	.00	.19	39
9	.00	.00	.01	.60	.60	.40	.33	.11	.00	.00	.00	9.6
10	.00	.00	.01	.60	.50	.36	4.7	.02	.00	.00	.00	1.7
11	.00	.00	.01	1.2	.26	.40	1.1	.07	.00	.00	.00	.38
12	.00	.00	.01	1.5	1.6	.62	.39	.22	.00	.00	.00	.19
13	.00	.00	.01	1.5	2.1	.54	.32	.06	.00	.00	.00	.05
14	.00	.00	.01	1.4	.49	.33	.32	.00	.00	.00	.00	.00
15	.00	.00	.01	1.3	.26	.39	.40	.00	.00	.00	.00	.00
16	.00	.00	.02	1.3	.37	.08	.35	.00	.00	.00	.00	.00
17	.00	.00	.03	1.5	.49	.10	.26	.00	.00	.00	.00	.00
18	.00	.00	.02	1.5	.57	.36	.24	.00	.00	.00	.00	.00
19	.00	.00	.08	1.3	.50	.29	.17	.00	.00	.00	.00	.00
20	.00	.00	.18	1.2	1.4	.26	.11	.00	.00	.00	.00	.00
21	.00	.00	.18	1.5	1.0	.26	.13	.00	.00	.00	.00	.00
22	.00	.00	.27	1.7	.61	.26	.15	.00	.00	.00	15	.00
23	.00	.00	.26	3.3	.49	.52	.11	.00	.00	.00	4.8	.00
24	.00	.00	.32	1.5	.49	2.0	.13	.00	.00	.00	.31	.00
25	.00	.00	.32	.82	.67	.54	.13	.00	.00	.00	.00	.00
26	.00	.00	.35	1.2	1.1	.35	.08	.00	.00	.00	.00	.00
27	.00	.00	.57	1.2	.82	.26	.06	.00	.00	.00	.00	.00
28	.00	.00	.49	.98	.63	.26	.03	.00	.00	.00	.00	.00
29	.00	.01	.73	1.0	---	.26	.03	.00	.00	.00	.00	.00
30	.00	.02	.98	.98	---	.32	.02	.03	.00	.00	.00	.00
31	.00	---	1.5	1.1	---	.33	---	.00	---	.00	.00	---
TOTAL	.00	.03	6.49	35.26	20.48	14.34	12.49	9.64	.00	.00	400.60	95.35
MEAN	.000	.001	.21	1.14	.73	.46	.42	.31	.000	.000	12.9	3.18
MAX	.00	.02	1.5	3.3	2.1	2.0	4.7	6.1	.00	.00	333	39
MIN	.00	.00	.01	.49	.26	.08	.02	.00	.00	.00	.00	.00
CFSM	.000	.000	.001	.004	.003	.002	.002	.001	.000	.000	.05	.01
IN.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.01
AC-FT	.00	.06	13	70	41	28	25	19	.00	.00	795	189
CAL YR 1977 TOTAL	7982.15			21.9		4630		.08	1.12		15830	
WTR YR 1978 TOTAL	594.68			1.63		333		.006	.08		1180	

BRAZOS RIVER BASIN

395

08099400 PROCTOR LAKE NEAR PROCTOR, TX

LOCATION.--Lat 31°58'07", Long 98°29'09", Comanche County, Hydrologic Unit 12070201, in intake structure at Proctor Lake on Leon River, 2.0 mi (3.2 km) upstream from U.S. Highways 67 and 377, 3.5 mi (5.6 km) west of Proctor, and 228.1 mi (367.0 km) upstream from mouth.

DRAINAGE AREA.--1,259 mi² (3,261 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1963 to current year. Prior to October 1970, published as Proctor Reservoir.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 28, 1963, nonrecording gage at same site and datum. Corps of Engineers gage-height telemeter at station.

REMARKS.--The lake is formed by a reinforced concrete gated structure and rolled earthfill section, total length 13,460 ft (4,103 m). The lake was operated as a detention basin from Jan. 30 to July 5, 1963. The gates were closed July 6, 1963, but lake was operated to elevation 1,156.0 ft (352.35 m) until construction was completed. Deliberate impoundment began Sept. 30, 1963. The spillway is a gated concrete gravity structure located on the left bank, with an ogee weir section and stilling basin. The spillway is controlled by eleven 40.0 by 35.0 ft (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 21 floodwater-retarding structures with combined detention capacity of 32,950 acre-ft (40.6 hm³). These structures control runoff from 131 mi² (339 km²) in the Leon River and Rush Creek watersheds. The capacity table is based on a survey made in 1946. Borrow is not included in capacity totals. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,206.0	-
Design flood.....	1,201.0	433,000
Top of gates.....	1,197.0	374,200
Crest of spillway (top of conservation pool).....	1,162.0	59,400
Lowest gated outlet (invert).....	1,128.0	68

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,500 acre-ft (170 hm³) Jan. 26, 1968, elevation, 1,174.84 ft (358.091 m); minimum since first filling of lake, 25,650 acre-ft (31.6 hm³) Sept. 30, 1978, elevation, 1,152.44 ft (351.264 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 45,740 acre-ft (56.4 hm³) Oct. 1, elevation, 1,158.78 ft (353.196 m); minimum, 25,650 acre-ft (31.6 hm³) Sept. 30, elevation, 1,152.44 ft (351.264 m).

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

1,152.0	24,570	1,158.0	42,790
1,154.0	29,790	1,160.0	50,620
1,156.0	35,840		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45700	43680	42720	41480	41120	41260	40440	38860	40620	37870	30960	28170
2	45550	43570	42680	41400	41080	41300	40370	38970	40620	37730	30850	27820
3	45280	43500	42640	41300	41080	41330	40330	39000	40580	37600	31340	27690
4	45050	43460	42610	41260	41080	41220	40330	38830	40510	37330	31170	27610
5	44970	43390	42640	41260	41080	41080	40260	38650	40470	37130	31170	27500
6	44890	43350	42460	41260	41010	41190	40260	38650	40830	36730	31170	27450
7	44780	43500	42390	41260	41040	41440	40150	38690	40870	36530	31170	27450
8	44820	43720	42350	41220	41080	41330	40080	38650	40830	36370	31110	27560
9	44630	43650	42350	41120	41150	41220	40260	38550	40760	36140	31050	27420
10	44670	43570	42240	41120	41080	41120	40510	38410	40580	36010	30990	27370
11	44510	43570	42200	41190	41120	41220	40330	38860	40470	35780	30880	27290
12	44400	43500	42280	41220	41330	41080	40260	40540	40440	35550	30700	27270
13	44290	43460	42310	41220	41440	41150	40150	40510	40400	35360	30500	27240
14	44170	43460	42240	41190	41330	41120	40050	40400	40300	35100	30300	27160
15	44210	43460	42170	41150	41330	41150	39980	40300	40190	34850	30050	27140
16	44020	43420	42240	41260	41400	41040	39940	40190	40080	34660	29850	27030
17	43950	43420	42170	41190	41660	40940	39910	40050	39940	34370	29600	26900
18	43910	43390	42060	41120	41590	40790	39870	40010	39910	34120	29430	26690
19	43870	43350	42090	41150	41510	40720	39840	39940	39770	33900	29290	26590
20	43800	43350	42090	41080	41620	40720	39660	39980	39630	33720	29210	26490
21	43870	43310	42020	41080	41510	40760	39490	40080	39490	33410	29070	26340
22	43980	43270	41730	41080	41440	40650	39450	40150	39350	33100	28960	26230
23	43950	43200	41730	41080	41400	40870	39450	40080	39280	32920	28850	26160
24	43910	43160	41730	41120	41400	41040	39420	40010	39140	32710	28710	26060
25	43870	43050	41690	41120	41400	40900	39350	39910	38930	32500	28550	25980
26	43830	42980	41620	41080	41370	40870	39240	39840	38720	32290	28410	25900
27	43800	42900	41590	41040	41300	40760	39030	39770	38550	32110	28220	25880
28	43800	42870	41550	41040	41300	40690	38930	40050	38350	31900	28060	25850
29	43720	42830	41510	40970	---	40650	38860	40690	38110	31640	28010	25680
30	43680	42790	41480	41040	---	40620	38860	40760	37970	31460	27880	25650
31	43720	---	41480	41120	---	40540	---	40720	---	31230	27720	---
MAX	45700	43720	42720	41480	41660	41440	40510	40760	40870	37870	31340	28170
MIN	43680	42790	41480	40970	41010	40540	38860	38410	37970	31230	27720	25650
(+)	1158.25	1158.00	1157.64	1157.54	1157.59	1157.38	1156.90	1157.43	1156.64	1154.50	1153.24	1152.44
(#)	-2020	-930	-1310	-360	+180	-760	-1680	+1860	-2750	-6740	-3510	-2070

CAL YR 1977 MAX 93400 MIN 41480 # -9430
WTR YR 1978 MAX 45700 MIN 25650 # -20090

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

BRAZOS RIVER BASIN

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CAC03)	HARDNESS, NONCARBONATE (MG/L CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
MAY 31...	1000	896	27.0	250	130	62	23	85	2.3

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HC03)	CARBONATE (MG/L AS C03)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
MAY 31...	8.9	150	0	52	190	.3	1.5	497

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).

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

REVISED RECORDS.--WSP 1342: 1952. WSP 1392: 1952. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,115.01 ft (339.855 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Proctor Lake (station 08099400) since October 1963. Numerous diversions above station for municipal, steam powerplant operation, and other uses. National Weather Service rain gage and gage-height telemeters at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years (water years 1940-63) prior to completion of Proctor Lake, 151 ft³/s (4.276 m³/s), 109,400 acre-ft/yr (135 hm³/yr); 15 years (water years 1964-78) regulated, 103 ft³/s (2.917 m³/s), 74,620 acre-ft/yr (92.0 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, 805 ft³/s (22.8 m³/s) May 11, gage height, 7.65 ft (2.332 m); no flow June 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	2.9	2.2	2.0	1.2	1.4	1.2	.15	2.2	20	55	45
2	31	3.9	2.1	2.0	.94	1.7	1.7	.32	2.3	21	56	41
3	26	4.9	2.1	1.7	.87	1.3	2.2	3.8	2.4	21	40	40
4	17	6.0	2.0	1.8	.82	1.5	2.1	3.9	2.0	69	11	38
5	14	4.0	1.9	1.9	.80	1.5	2.1	3.6	1.6	27	12	24
6	8.1	1.6	2.0	1.6	.94	1.4	2.6	3.1	6.5	135	11	1.1
7	7.3	2.0	2.1	1.7	1.2	1.9	1.7	3.1	4.5	38	9.8	2.7
8	6.2	8.0	1.8	1.7	1.1	1.6	1.3	1.8	3.4	36	9.6	4.9
9	6.4	7.2	1.6	1.8	1.1	1.4	1.0	.99	2.7	36	8.5	4.2
10	6.7	6.6	1.8	1.7	1.1	1.3	2.4	.66	1.9	37	8.7	3.3
11	6.1	6.8	1.9	2.3	1.1	1.4	3.4	136	1.8	35	22	3.1
12	7.3	6.8	2.0	2.1	2.9	1.3	4.5	21	1.5	40	45	3.2
13	6.7	7.7	2.1	2.0	1.9	1.4	4.4	4.2	.95	61	54	2.8
14	6.6	8.9	2.0	1.8	1.1	1.1	4.2	2.8	1.6	72	52	2.6
15	6.4	8.4	2.1	1.7	1.6	1.0	3.9	2.0	1.0	62	52	2.5
16	6.9	7.8	2.0	1.8	1.7	1.4	3.6	1.9	.76	59	52	17
17	6.8	7.9	1.9	1.3	2.3	1.4	3.2	1.8	.72	54	50	36
18	6.4	11	1.7	1.2	1.8	1.2	1.4	1.6	.51	47	45	35
19	6.2	9.9	1.6	1.2	1.3	1.1	1.0	1.1	.43	45	41	34
20	6.1	8.5	1.6	1.1	1.1	1.1	1.2	.53	.17	46	39	32
21	6.7	9.0	1.9	.72	1.0	1.3	1.0	1.4	.06	120	39	31
22	8.2	8.8	1.9	.84	1.2	1.4	1.2	2.2	2.8	62	31	30
23	7.8	9.2	2.0	.88	1.2	1.6	.96	1.7	1.8	61	20	28
24	6.9	9.3	1.9	1.0	1.3	1.9	.71	1.2	2.2	61	30	27
25	2.3	23	1.7	.81	1.4	1.1	.50	1.3	1.9	60	43	26
26	1.8	37	2.0	.85	1.3	.90	.55	1.0	19	60	48	26
27	4.0	3.1	1.8	.97	1.3	.72	.54	.86	53	57	47	17
28	7.0	11	11	.91	1.5	.83	.46	1.2	61	54	47	4.1
29	8.2	26	67	.81	---	.99	.60	5.8	70	55	48	72
30	7.6	2.8	4.1	.74	---	.74	.39	2.6	35	54	47	5.4
31	5.0	---	2.3	1.0	---	.85	---	2.3	---	54	47	---
TOTAL	283.7	270.0	136.1	43.93	37.07	39.73	56.01	215.91	285.70	1659	1120.6	638.9
MEAN	9.15	9.00	4.39	1.42	1.32	1.28	1.87	6.96	9.52	53.5	36.1	21.3
MAX	31	37	67	2.3	2.9	1.9	4.5	136	70	135	56	72
MIN	1.8	1.6	1.6	.72	.80	.72	.39	.15	.06	20	8.5	1.1
AC-FT	563	536	270	87	74	79	111	428	567	3290	2220	1270
CAL YR 1977	TOTAL	31516.70	MEAN	86.3	MAX	684	MIN	1.1	AC-FT	62510		
WTR YR 1978	TOTAL	4786.65	MEAN	13.1	MAX	136	MIN	.06	AC-FT	9490		

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 5.00-foot-higher (1.524 m) datum. Nov. 22, 1960, to Sept. 30, 1972, recording gage at same site and 5.00-foot-higher (1.524 m) datum.

REMARKS.--Records good. Since 1960, at least 10 percent of drainage area is regulated by Proctor Lake (station 08099400) and other smaller reservoirs. Numerous diversions above station for irrigation, municipal supply, and industrial uses. Flow is affected at times by discharge from flood-detention pools of 14 floodwater-retarding structures with 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) regulated, 130 ft³/s (3.682 m³/s), 94,180 acre-ft/yr (116 hm³/yr); 18 years (water years 1961-78) regulated, 158 ft³/s (4.475 m³/s), 114,500 acre-ft/yr (141 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, 382 ft³/s (10.8 m³/s) May 13, gage height, 8.95 ft (2.728 m); no flow Oct. 19-21, June 23-30, Sept. 19-23.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	1.1	9.0	28	3.3	3.8	3.3	.51	3.0	5.3	32	6.6
2	4.2	.76	16	8.2	3.1	4.0	3.3	1.1	2.4	15	38	6.8
3	6.2	.95	5.8	6.0	3.2	4.0	3.1	2.6	2.0	4.4	42	11
4	7.3	.99	3.6	5.1	3.3	3.8	3.0	2.5	1.6	1.0	44	13
5	6.1	.88	2.8	4.7	3.5	3.8	2.6	2.5	1.2	.21	98	13
6	6.3	.80	2.3	4.3	3.6	3.9	2.5	1.6	1.2	.06	54	9.6
7	4.6	.59	2.3	4.0	4.1	4.0	2.4	.95	63	.01	9.3	7.6
8	3.0	.89	2.3	3.8	4.2	3.8	2.1	.66	20	48	6.8	6.3
9	2.6	.94	2.3	3.5	4.0	3.8	2.0	.52	11	36	5.8	3.8
10	2.0	.99	2.1	3.3	4.0	3.8	2.0	.46	9.1	11	4.9	3.6
11	1.4	1.0	2.2	3.3	4.1	3.6	1.8	.72	8.0	4.2	4.2	1.5
12	.77	1.1	2.5	3.1	4.9	3.6	1.6	.96	5.4	1.7	3.6	.92
13	.45	1.2	2.4	3.1	5.3	3.6	2.1	229	10	.74	2.8	.45
14	.28	1.5	2.4	2.9	5.1	3.6	2.8	69	6.0	.40	1.6	.08
15	.23	1.4	2.4	3.2	5.1	3.5	2.7	24	3.3	.32	3.3	.02
16	.09	1.4	2.5	3.2	5.2	3.5	2.9	12	2.8	.40	7.6	.01
17	.06	1.6	2.5	3.5	5.7	3.5	3.0	9.5	2.5	.40	6.1	.01
18	.02	1.5	2.5	3.5	6.0	3.5	3.1	7.9	2.0	.40	3.1	.01
19	.00	1.3	2.3	3.3	5.8	3.3	2.7	6.3	1.5	.40	1.5	.00
20	.00	1.3	2.3	3.2	5.5	3.4	2.3	5.4	.83	.40	.40	.00
21	.00	1.2	2.3	2.9	5.1	3.5	2.0	27	.21	.40	36	.00
22	.15	1.1	2.2	3.1	4.9	3.1	1.7	8.9	.03	.40	7.9	.00
23	.02	1.1	2.2	3.1	4.7	3.3	1.6	3.8	.00	6.1	1.9	.00
24	.02	1.1	2.1	2.9	4.5	3.5	1.7	2.7	.00	46	2.1	1.7
25	.01	1.2	2.5	2.9	4.4	3.5	1.6	2.1	.00	36	3.3	2.7
26	2.4	1.3	2.1	2.8	4.4	3.6	1.4	1.6	.00	34	2.1	2.2
27	3.0	1.3	1.8	2.8	4.0	4.8	1.1	1.3	.00	30	.59	1.9
28	2.9	24	1.7	2.6	3.8	4.6	1.1	1.1	.00	29	.15	2.0
29	2.5	28	1.9	2.9	---	4.4	.86	1.7	.00	30	23	2.7
30	2.1	8.2	2.3	3.2	---	3.8	.66	6.7	.00	29	7.1	2.8
31	1.3	---	52	3.2	---	3.5	---	4.4	---	28	5.1	---
TOTAL	62.70	90.69	145.6	135.6	124.8	115.4	65.02	439.48	157.07	399.24	458.24	100.30
MEAN	2.02	3.02	4.70	4.37	4.46	3.72	2.17	14.2	5.24	12.9	14.8	3.34
MAX	7.3	28	52	28	6.0	4.8	3.3	229	63	48	98	13
MIN	.00	.59	1.7	2.6	3.1	3.1	.66	.46	.00	.01	.15	.00
AC-FT	124	180	289	269	248	229	129	872	312	792	909	199

CAL YR 1977 TOTAL 69294.49 MEAN 190 MAX 4320 MIN .00 AC-FT 137400
WTR YR 1978 TOTAL 2294.14 MEAN 6.29 MAX 229 MIN .00 AC-FT 4550

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 fair. Some upstream regulation by Lake Proctor (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 586 acre-ft (723,000 m³) was diverted above station during the water year for municipal use and 317 acre-ft (391,000 m³) was returned to the Leon River as sewage effluent. The city of Gatesville reported that 499 acre-ft (615,000 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.--28 years, 257 ft³/s (7.278 m³/s), 186,200 acre-ft/yr (230 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, and 1971.

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, 158 ft³/s (4.47 m³/s) June 3, gage height, 3.72 ft (1.134 m); no flow July 18-22, 30, 31, Aug. 17-20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	2.7	6.3	4.8	11	11	8.2	4.5	2.1	.14	.07	.59
2	2.2	2.7	14	4.9	11	11	8.2	7.3	1.9	.12	.28	.67
3	2.0	2.7	19	41	11	11	11	7.2	21	.12	.14	.69
4	2.1	2.7	12	52	11	11	11	5.6	3.6	.22	.14	.63
5	2.0	2.7	8.8	37	11	11	11	4.8	2.0	.19	.34	.65
6	2.0	2.8	11	26	11	11	9.7	4.6	2.0	.20	.28	.66
7	2.0	2.9	10	20	14	12	8.8	4.6	3.0	.19	.21	.79
8	2.1	3.9	7.9	16	14	12	8.2	4.6	2.3	.21	.14	.84
9	2.2	4.1	6.4	13	14	12	7.8	4.1	1.9	.21	.18	.54
10	2.3	3.8	5.7	12	14	11	24	3.9	2.0	.21	.25	.39
11	2.4	3.6	5.3	12	14	14	14	4.0	1.8	.19	.27	.45
12	2.2	3.5	5.1	11	39	13	9.4	3.9	1.5	.22	.28	.47
13	2.2	3.5	4.8	10	27	13	8.1	3.6	3.6	.19	.17	.35
14	2.1	3.6	4.7	10	20	12	7.3	3.4	3.3	.19	.11	.27
15	2.2	3.7	4.6	9.8	18	11	7.2	58	2.7	.21	.07	.23
16	2.3	3.8	4.5	10	22	11	7.0	81	2.1	.17	.05	.11
17	2.6	3.8	4.4	10	22	9.8	6.9	39	1.9	.07	.00	.20
18	2.5	3.8	4.4	11	20	9.7	6.5	16	1.6	.00	.00	.21
19	2.4	3.9	4.2	11	18	9.7	6.1	8.6	1.5	.00	.00	.25
20	2.3	4.0	4.0	10	16	9.3	5.7	6.0	1.2	.00	.00	.25
21	2.4	4.2	3.9	10	16	10	5.3	5.3	.89	.00	.09	.64
22	3.2	4.3	3.9	10	17	10	5.0	4.6	.76	.00	.40	.57
23	3.1	4.4	4.0	11	15	11	5.1	3.8	.62	.07	.34	.39
24	3.0	4.4	4.2	12	13	11	5.3	3.3	.41	.21	.34	.35
25	2.8	4.6	4.3	12	12	11	5.1	3.1	.21	.21	.32	.51
26	2.7	5.1	4.3	12	12	11	4.9	3.1	.21	.21	.26	.55
27	2.7	5.3	4.3	11	11	10	4.8	3.9	.21	.96	.21	.63
28	2.7	5.1	4.3	11	11	11	4.6	3.1	.19	.41	.21	.69
29	2.7	7.9	4.8	11	---	11	4.6	2.8	.09	.07	.21	.62
30	2.7	8.7	4.8	11	---	9.3	4.5	2.6	.09	.00	.42	.62
31	2.7	---	4.8	11	---	8.6	---	2.3	---	.00	.51	---
TOTAL	75.3	122.2	194.7	453.5	445	339.4	235.3	312.6	66.68	5.19	6.29	14.81
MEAN	2.43	4.07	6.28	14.6	15.9	10.9	7.84	10.1	2.22	.17	.20	.49
MAX	3.2	8.7	19	52	39	14	24	81	21	.96	.51	.84
MIN	2.0	2.7	3.9	4.8	11	8.6	4.5	2.3	.09	.00	.00	.11
AC-FT	149	242	386	900	883	673	467	620	132	10	12	29
CAL YR 1977	TOTAL	112913.00	MEAN	309	MAX	5680	MIN	2.0	AC-FT	224000		
WTR YR 1978	TOTAL	2270.97	MEAN	6.22	MAX	81	MIN	.00	AC-FT	4500		

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.--28 years, 91.3 ft³/s (2.586 m³/s), 2.72 in/yr (69 mm/yr), 66,150 acre-ft/yr (81.6 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1882, that of Oct. 4, 1959, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70 ft³/s (1.98 m³/s) Apr. 10, gage height, 3.35 ft (1.021 m), no peak above base of 3,500 ft³/s (99.1 m³/s); no flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.15	.35	3.1	1.8	1.6	1.6	1.0	.34	.07	.00	.02	.03		
2	.13	.40	2.8	1.8	1.6	1.5	.97	.84	.07	.00	.02	.06		
3	.12	.29	2.5	1.7	1.6	1.5	.95	6.7	.12	.00	.02	.04		
4	.10	.26	2.3	1.7	1.5	1.4	.90	5.7	5.9	.00	.01	.03		
5	.10	.26	2.1	1.7	1.5	1.4	.89	1.9	.55	.00	.02	.03		
6	.12	.32	1.9	1.7	1.5	2.0	.91	1.3	.32	.00	.02	.02		
7	.13	.33	1.7	1.6	2.2	4.5	.79	1.1	.48	.00	.01	.01		
8	.12	2.3	1.7	1.5	2.5	14	.73	.71	.60	.00	.00	.04		
9	.09	2.9	1.7	1.4	3.1	8.3	.69	.51	.22	.00	.00	.04		
10	.09	2.6	1.5	1.4	2.6	4.3	37	.38	.13	.00	.00	.03		
11	.10	2.1	1.4	1.5	3.1	3.1	9.9	.58	.09	.00	.00	.05		
12	.09	1.9	1.7	1.6	14	2.4	3.5	.40	.07	.00	.00	.07		
13	.09	1.7	1.7	1.7	8.7	2.0	2.3	.27	.07	.00	.00	.05		
14	.08	1.5	1.7	1.6	6.6	1.7	1.6	.21	.06	.00	.00	.04		
15	.09	1.4	1.7	1.6	5.7	1.5	1.3	.16	.06	.00	.00	.03		
16	.08	1.3	1.7	1.8	4.2	1.3	1.1	.13	.05	.00	.00	.02		
17	.07	1.1	1.7	1.7	4.4	1.2	.94	.11	.04	.00	.00	.02		
18	.07	1.0	1.6	1.5	3.7	1.2	.81	.10	.04	.00	.00	.01		
19	.07	1.0	1.6	1.6	3.1	1.1	.63	.10	.03	.00	.00	.00		
20	.07	1.1	1.4	1.5	3.0	1.1	.52	.43	.03	.00	.00	.00		
21	.07	1.0	1.4	1.4	2.6	1.1	.43	.58	.02	.00	.00	.01		
22	.48	.79	1.4	1.5	2.4	1.0	.44	.23	.02	.00	.00	.01		
23	.18	.82	1.4	1.6	2.3	1.0	.50	.16	.02	.00	.00	.01		
24	.52	1.0	1.4	1.6	2.1	1.3	.48	.13	.01	11	.00	.00		
25	.50	1.2	1.5	1.5	2.0	1.3	.41	.11	.01	2.5	.00	.00		
26	.42	1.1	1.4	1.5	1.8	1.4	.33	.09	.00	.34	.00	.00		
27	.37	1.2	1.4	1.4	1.6	1.9	.26	.09	.00	.26	.00	.00		
28	.36	1.3	1.5	1.4	1.7	1.6	.21	.08	.00	.13	.00	.00		
29	.33	3.7	1.7	1.5	---	1.3	.21	.08	.00	.07	.15	.00		
30	.29	3.5	1.8	1.5	---	1.2	.22	.08	.00	.05	.13	.00		
31	.30	---	1.8	1.7	---	1.1	---	.07	---	.03	.04	---		
TOTAL	5.78	39.72	54.2	49.0	92.7	71.3	70.92	23.67	9.08	14.38	.44	.65		
MEAN	.19	1.32	1.75	1.58	3.31	2.30	2.36	.76	.30	.46	.014	.022		
MAX	.52	3.7	3.1	1.8	14	14	37	6.7	5.9	11	.15	.07		
MIN	.07	.26	1.4	1.4	1.5	1.0	.21	.07	.00	.00	.00	.00		
CFSM	.000	.003	.004	.003	.007	.005	.005	.002	.001	.001	.000	.000		
IN.	.00	.00	.00	.00	.01	.01	.01	.00	.00	.00	.00	.00		
AC-FT	11	79	108	97	184	141	141	47	18	29	.9	1.3		
CAL YR 1977	TOTAL	49937.07	MEAN	137	MAX	4400	MIN	.07	CFSM	.30	IN	4.08	AC-FT	99050
WTR YR 1978	TOTAL	431.84	MEAN	1.18	MAX	37	MIN	.00	CFSM	.003	IN	.04	AC-FT	857

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 ft (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 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 ft (2.1 by 6.7 m) broome-type gates. The service outlet consists of one 36 by 36 in (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 Leon River near Hamilton (station 08100000). 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, 421,500 acre-ft (520 hm³) Oct. 1, elevation, 592.32 ft (180.539 m); minimum, 324,500 acre-ft (400 hm³) Sept. 30, elevation, 583.57 ft (177.872 m).

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

583.0	318,700	589.0	382,800
585.0	339,300	591.0	405,800
587.0	360,700	593.0	429,700

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	421300	415700	410900	405900	403700	408300	409700	408200	405300	383200	338600	328500
2	420700	415300	410800	405600	403600	408300	409500	409500	405200	381100	338100	328300
3	420100	415100	410500	405100	403500	408400	409500	409500	406300	379200	337800	328200
4	420000	414800	410900	405300	403400	408500	409600	409200	406300	377000	337800	328400
5	419400	414700	410800	405300	403400	407900	409600	409200	405900	375100	337400	328400
6	419100	414300	410000	405300	403400	410000	409500	409100	405900	372800	336900	328100
7	418600	413900	409500	405300	403500	411700	409300	408900	405500	370300	336700	328300
8	418600	415000	409500	404900	404100	411600	409300	408700	405100	368400	336700	328500
9	418200	415100	409300	404600	404300	411600	409300	408600	404100	365800	336600	328300
10	418200	414400	409100	404900	404300	411600	410200	408500	402900	363600	336300	328200
11	417600	414300	408900	404900	404900	411700	410500	408500	401700	361500	335900	328200
12	417200	414200	408900	404600	408400	411500	410400	408400	401100	359200	335500	327900
13	416900	413800	409000	404800	408500	411600	410200	407900	400800	357200	335300	327900
14	416400	413600	408600	404600	408600	411700	410000	407200	400700	356000	334600	327700
15	416200	413500	408000	404400	408600	411500	409900	407300	400300	354300	334000	327400
16	415600	413400	408300	405000	408700	411200	409700	407100	399700	353300	333600	327200
17	415300	413200	408000	404800	409600	411100	409800	407000	399400	351500	333200	326800
18	415100	412900	407800	405100	409100	411000	409900	406900	398800	350300	332900	326600
19	415000	412800	407800	404300	409000	410500	409000	406800	398400	348600	332600	326300
20	414700	412800	407800	404500	409100	410800	409000	407300	397900	347500	332200	326300
21	414800	412600	406900	404500	408700	410800	408900	407200	397400	346300	332400	326800
22	417300	412200	406800	404100	408600	410400	408900	407000	397000	345100	331800	326400
23	417200	412100	406500	404100	408500	411100	408300	406900	396000	344800	331500	326200
24	417000	412100	406600	404300	408400	411500	409100	406900	394500	343900	331200	325900
25	416900	411900	406400	403900	408300	411300	409100	406500	392500	342800	330800	325700
26	416700	411800	406000	403700	408200	410400	408700	406300	391100	342000	330400	325500
27	416400	411300	405800	403600	408500	410400	408600	405800	389600	341500	330200	325200
28	416300	411000	405600	403400	408600	410300	408500	406000	388300	340700	330000	325000
29	416200	411100	405900	403500	---	410300	408400	405800	386900	340000	329200	324700
30	416000	411100	405900	403500	---	410200	408000	405500	385300	339300	328100	324500
31	415800	---	405900	403600	---	409900	---	405000	---	338600	328800	---
MAX	421300	415700	410900	405900	409600	411700	410500	409500	406300	383200	338600	328500
MIN	414700	411000	405600	403400	403400	407900	408000	405000	385300	338600	328100	324500
(†)	591.85	591.45	591.01	590.81	591.24	591.35	591.19	590.93	589.22	584.93	583.99	583.57
(‡)	-5700	-4700	-5200	-2300	+5000	+1300	-1900	-3000	-19700	-46700	-9800	-4300
(††)	2520	2020	2010	2030	1780	2100	2450	2610	2840	3470	3170	2340
CAL YR 1977	MAX	617000	MIN	405600	†	-36100	††	22740				
WTR YR 1978	MAX	421300	MIN	324500	†	-97000	††	29300				

† 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
BELTON LAKE NEAR BELTON, TX--Continued
WATER-QUALITY RECORDS

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

310640097283701 - BELTON LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
MAR									
10...	1055	1.0	427	8.4	9.5	2.50	10.8	97	170
10...	1059	10	427	8.4	9.0	--	10.8	96	--
10...	1102	20	427	8.3	9.0	--	10.8	96	--
10...	1106	30	427	8.3	9.0	--	10.8	96	--
10...	1110	40	427	8.3	9.0	--	10.8	96	--
10...	1114	50	427	8.3	8.5	--	10.7	95	--
10...	1118	60	427	8.3	8.5	--	10.7	95	--
10...	1121	70	427	8.3	8.5	--	10.7	95	--
10...	1124	80	427	8.3	8.0	--	10.7	93	--
10...	1127	90	427	8.3	8.0	--	10.7	93	--
10...	1130	100	427	8.4	8.0	--	10.5	91	--
10...	1135	108	427	8.4	8.0	--	10.2	89	170

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
10...	18	50	10	20	.7	3.4	180	0	26
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	18	50	9.8	20	.7	3.5	180	0	26

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR									
10...	28	.2	7.7	234	.14	.01	.06	70	10
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	.13	.01	.06	10	0
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	30	.3	7.8	236	.18	.04	.06	10	20

310646097283301 - BELTON LAKE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
10...	0958	1.0	427	8.3	9.5	10.8	97
10...	1001	10	427	8.3	9.0	10.8	96
10...	1003	20	427	8.3	9.0	10.8	96
10...	1006	30	427	8.3	8.5	10.7	95
10...	1008	40	427	8.3	8.5	10.7	95
10...	1011	50	427	8.2	8.5	10.7	95
10...	1013	60	427	8.2	8.0	10.7	93
10...	1016	70	427	8.2	8.0	10.7	93
10...	1018	80	427	8.2	8.0	10.7	93
10...	1021	90	427	8.3	8.0	10.7	93
10...	1024	100	427	8.3	8.0	10.6	92

BRAZOS RIVER BASIN

403

BELTON LAKE NEAR BELTON, TX--Continued

310711097302201 - BELTON LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
10...	1210	1.0	427	8.2	9.0	10.7	96
10...	1212	10	427	8.2	9.0	10.7	96
10...	1214	20	427	8.2	9.0	10.7	96
10...	1216	30	427	8.2	8.5	10.7	95
10...	1218	40	427	8.2	8.5	10.6	94
10...	1220	50	427	8.3	8.5	10.6	94
10...	1222	60	427	8.3	8.0	10.6	92
10...	1224	70	427	8.2	8.0	10.5	91
10...	1226	80	427	8.2	8.0	10.5	91
10...	1228	90	427	8.2	8.0	10.5	91
10...	1230	103	427	8.2	7.5	10.3	89

310732097300001 - BELTON LAKE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
10...	1145	1.0	427	8.3	9.0	10.8	96
10...	1147	10	427	8.3	9.0	10.8	96
10...	1149	20	427	8.3	9.0	10.7	96
10...	1151	30	427	8.3	9.0	10.7	96
10...	1153	38	427	8.2	9.0	10.7	96

310829097312201 - BELTON LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
10...	1330	1.0	427	8.3	9.5	10.5	95
10...	1332	10	427	8.3	9.5	10.6	95
10...	1334	20	427	8.3	9.0	10.6	95
10...	1336	30	427	8.3	9.0	10.6	95
10...	1338	40	427	8.2	9.0	10.6	95
10...	1340	50	427	8.2	8.5	10.5	93
10...	1342	60	427	8.2	8.5	10.4	92
10...	1344	70	427	8.2	8.5	10.4	92
10...	1346	78	427	8.2	8.5	9.9	88

BRAZOS RIVER BASIN
BELTON LAKE NEAR BELTON, TX--Continued

310923097332601 - BELTON LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
MAR									
10...	1252	1.0	415	8.4	9.5	1.50	10.6	95	170
10...	1256	10	415	8.4	9.5	--	10.6	95	--
10...	1300	20	415	8.4	9.5	--	10.6	95	--
10...	1305	33	410	8.4	9.5	--	10.0	90	160

DATE	TIME	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION (NA) RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR										
10...	26	50	--	9.8	20	.7	3.3	170	0	26
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	21	48	--	9.8	20	.7	3.3	170	0	26

DATE	TIME	DIS- SOLVED CHLD- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR									
10...	28	5.6	--	227	.06	.01	.07	10	0
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	.07	.01	.07	0	10
10...	28	5.6	--	225	.05	.01	.07	10	0

310829097294301 - BELTON LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
10...	1404	1.0	427	8.3	9.5	10.5	95
10...	1406	10	427	8.3	9.5	10.5	95
10...	1407	20	427	8.3	9.5	10.5	95
10...	1409	30	427	8.3	9.0	10.6	95
10...	1410	40	427	8.3	9.0	10.6	95
10...	1412	50	427	8.2	9.0	10.5	95
10...	1413	60	427	8.2	8.5	10.3	91
10...	1415	70	427	8.2	8.5	10.1	89
10...	1417	80	427	8.1	8.0	9.6	83
10...	1419	90	427	8.0	8.0	8.9	77
10...	1421	100	427	8.0	8.0	8.6	75

310938097300201 - BELTON LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
10...	1437	1.0	427	8.2	9.0	10.4	93
10...	1439	10	427	8.2	9.0	10.4	93
10...	1440	20	427	8.2	9.0	10.4	93
10...	1442	30	427	8.2	9.0	10.4	93
10...	1443	40	427	8.2	9.0	10.4	93
10...	1445	50	427	8.1	8.5	10.2	90
10...	1446	60	427	8.1	8.5	10.2	90
10...	1448	70	427	8.1	8.5	10.1	89
10...	1450	80	427	8.1	8.5	9.8	87

BRAZOS RIVER BASIN

405

BELTON LAKE NEAR BELTON, TX--Continued

311004097275601 - BELTON LAKE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
10...	1502	1.0	438	8.2	9.5	10.4	94
10...	1505	10	438	8.2	9.5	10.4	94
10...	1508	20	438	8.2	9.5	10.4	94
10...	1510	30	438	8.2	9.0	10.4	93
10...	1513	40	438	8.1	9.0	10.4	93
10...	1515	50	438	8.1	9.0	10.4	93
10...	1518	58	438	8.1	9.0	10.2	91

311042097300701 - BELTON LAKE HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
MAR									
10...	1538	1.0	447	8.2	9.5	1.00	10.6	95	170
10...	1543	10	447	8.2	9.5	--	10.6	95	--
10...	1548	20	447	8.2	9.5	--	10.5	95	--
10...	1553	30	447	8.2	9.5	--	10.4	94	--
10...	1558	40	447	8.1	9.5	--	10.4	94	170

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
10...	23	52	10	23	.8	3.4	180	0	30
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	21	51	10	23	.8	3.4	180	0	29

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
10...	33	7.1	247	.12	.02	.07	0	0
10...	--	--	--	--	--	--	--	--
10...	--	--	--	.06	.01	.07	10	0
10...	--	--	--	--	--	--	--	--
10...	33	7.1	245	.09	.01	.07	10	20

BRAZOS RIVER BASIN
BELTON LAKE NEAR BELTON, TX--Continued

311254097291301 - BELTON LAKE IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
MAR									
10...	1625	1.0	472	8.2	10.0	.60	10.4	95	180
10...	1631	10	472	8.2	10.0	--	10.4	95	--
10...	1637	20	472	8.2	10.0	--	10.4	95	--
10...	1643	29	472	8.2	10.0	--	9.8	90	180

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
10...	19	52	11	26	.9	3.4	190	0	32
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	22	53	11	26	.8	3.5	190	0	32

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
10...	36	6.2	260	.06	.01	.08	10	10
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
10...	35	6.3	260	.18	.01	.08	10	10

BRAZOS RIVER BASIN

407

BELTON LAKE NEAR BELTON, TX--Continued

310640097283701 - BELTON LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CACO3)
JUL									
17...	1120	1.0	388	8.1	31.0	2.90	7.8	107	140
17...	1122	10	388	8.1	30.5	--	7.1	109	--
17...	1124	20	388	8.0	30.0	--	7.7	104	--
17...	1126	30	408	7.4	27.5	--	3.3	43	--
17...	1129	40	424	7.3	24.5	--	.8	10	--
17...	1132	50	447	7.3	19.5	--	.8	9	--
17...	1134	60	447	7.3	18.0	--	1.4	16	--
17...	1136	70	447	7.2	16.5	--	.3	3	--
17...	1138	80	447	7.2	16.0	--	.3	3	--
17...	1140	90	447	7.1	15.5	--	.3	3	--
17...	1143	100	447	7.1	15.0	--	.3	3	180

DATE	HARD- NESS, NONCAR- BONATE, DIS- (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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL									
17...	26	40	10	23	.8	3.6	140	0	24
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	23	55	10	21	.7	3.4	190	0	21

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, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA 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)
JUL									
17...	37	.2	5.1	212	.00	.00	.00	20	10
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	.01	.00	.00	40	0
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	.03	.00	.00	10	10
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	.28	.00	.00	50	30
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	36	.2	10	251	.08	.00	.04	110	520

310646097283301 - BELTON LAKE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
17...	1200	1.0	388	8.1	31.0	7.9	108
17...	1202	10	388	8.1	30.5	7.9	107
17...	1205	20	388	8.0	29.5	7.6	103
17...	1207	30	408	7.4	27.0	3.2	42
17...	1209	40	424	7.3	25.0	.9	11
17...	1212	50	447	7.3	20.5	1.1	13
17...	1214	60	447	7.3	19.0	.9	10
17...	1216	70	447	7.2	18.0	1.4	16
17...	1218	80	447	7.2	17.0	.5	5
17...	1220	92	447	7.2	17.0	.7	8

BRAZOS RIVER BASIN

BELTON LAKE NEAR BELTON, TX--Continued

310711097302201 - BELTON LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
17...	1250	1.0	388	8.1	32.0	7.2	100
17...	1252	10	388	8.1	31.5	7.5	103
17...	1254	20	388	8.1	30.5	7.5	101
17...	1256	30	411	7.5	28.0	2.7	36
17...	1258	40	432	7.3	23.5	.3	4
17...	1300	50	447	7.2	21.0	.4	5
17...	1302	60	447	7.2	18.5	.5	6
17...	1305	70	447	7.2	18.5	.4	4
17...	1307	80	447	7.2	17.0	.4	4
17...	1310	95	447	7.2	18.5	.3	3

310732097300001 - BELTON LAKE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
17...	1328	1.0	388	8.1	31.5	7.3	100
17...	1330	10	388	8.1	31.0	7.4	101
17...	1332	20	388	8.1	30.5	7.5	101
17...	1334	30	409	7.4	28.0	2.4	32
17...	1336	40	426	7.2	23.5	.3	4
17...	1338	48	431	7.2	21.5	.3	4

310829097312201 - BELTON LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
17...	1350	1.0	388	8.1	31.5	7.2	99
17...	1352	10	388	8.1	31.5	7.2	99
17...	1354	20	388	8.1	30.5	7.3	99
17...	1356	30	406	7.4	28.5	2.8	37
17...	1358	40	433	7.2	22.5	.3	4
17...	1400	50	433	7.2	22.5	.3	4
17...	1402	60	447	7.1	20.0	.3	3
17...	1404	78	447	7.1	16.5	.3	3

BRAZOS RIVER BASIN
BELTON LAKE NEAR BELTON, TX--Continued

409

310923097332601 - BELTON LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CAC03)
JUL									
17...	1420	1.0	389	8.1	32.5	1.60	7.1	99	140
17...	1422	10	389	8.1	32.0	--	7.1	99	--
17...	1424	20	389	8.0	31.5	--	6.6	90	--
17...	1426	30	415	7.2	28.5	--	.2	3	--
17...	1428	42	443	7.0	23.0	--	.3	4	170

DATE	HARD- NESS, NONCAR- BONATE, DIS. (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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
JUL									
17...	26	40	10	22	.8	3.7	140	0	24
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	13	51	10	21	.7	3.5	190	0	16

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA 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)
JUL								
17...	37	5.5	211	.01	.00	.01	70	10
17...	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--
17...	--	--	--	.00	.00	.00	150	170
17...	35	8.7	240	.00	.09	.00	870	420

310829097294301 - BELTON LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
17...	1515	1.0	388	8.1	31.5	7.3	100
17...	1518	10	388	8.1	31.5	7.5	103
17...	1520	20	388	8.1	30.5	7.0	95
17...	1522	30	416	7.5	28.5	3.2	43
17...	1525	40	436	7.2	22.5	.2	2
17...	1527	50	447	7.2	19.0	.2	2
17...	1530	60	447	7.2	17.0	.3	3
17...	1532	70	447	7.2	16.0	.3	3
17...	1535	80	447	7.1	15.5	.3	3
17...	1537	92	447	7.1	15.5	.4	4

BRAZOS RIVER BASIN
BELTON LAKE NEAR BELTON, TX--Continued

310938097300701 - BELTON LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
17...	1545	1.0	397	8.1	32.0	7.4	103
17...	1547	10	397	8.1	31.5	7.5	103
17...	1550	20	410	7.6	30.0	4.2	57
17...	1552	30	420	7.2	28.5	.4	5
17...	1554	40	434	7.2	23.0	.3	4
17...	1556	50	447	7.1	19.0	.4	5
17...	1558	60	447	7.1	18.5	.3	3
17...	1600	72	447	7.1	17.5	.4	4

311004097275601 - BELTON LAKE GC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
17...	1620	1.0	397	8.1	31.0	7.2	99
17...	1622	10	397	8.1	31.0	7.1	97
17...	1624	20	397	7.8	30.5	5.3	72
17...	1626	30	419	7.2	28.5	.4	5
17...	1628	40	447	7.1	24.0	.4	5
17...	1630	54	456	7.0	21.0	.4	5

311042097300701 - BELTON LAKE HC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CACO3)	
DATE	TIME									
JUL										
17...	1640	1.0	400	8.2	31.5	1.60	7.9	108	150	
17...	1642	10	400	8.2	31.5	--	7.8	107	--	
17...	1645	20	407	7.8	31.0	--	5.9	81	--	
17...	1647	35	456	7.0	27.0	--	.4	5	160	
DATE	TIME	HARD- NESS, NONCAR- BONATE, DIS, (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL										
17...	30	41	11	24	.9	3.8	140	2	26	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	0	46	11	25	.9	3.9	200	0	14	--

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, AMMONIA 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)
JUL								
17...	37	5.9	220	.00	.00	.00	40	0
17...	--	--	--	--	--	--	--	--
17...	--	--	--	.01	.00	.00	20	20
17...	36	9.9	245	.00	.17	.05	270	700

BRAZOS RIVER BASIN
BELTON LAKE NEAR BELTON, TX--Continued

411

311254097291301 - BELTON LAKE IC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS, DIS- SOLVED (MG/L AS CAC03)
JUL										
17...	1715	1.0	407	8.2	32.0	.60	7.8	108	140	
17...	1717	10	412	7.9	31.5	--	5.0	68	--	
17...	1720	22	423	7.3	31.0	--	2.1	29	150	

DATE	HARD- NESS, NONCAR- BONATE, DIS. (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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL									
17...	26	39	11	27	1.0	4.0	140	1	26
17...	--	--	--	--	--	--	--	--	--
17...	27	42	11	28	1.0	4.1	150	0	25

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, AMMONIA 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)
JUL								
17...	42	6.7	226	.01	.00	.01	40	10
17...	--	--	--	.01	.00	.02	70	0
17...	43	7.5	235	.01	.01	.02	80	80

BRAZOS RIVER BASIN

08102500 LEON RIVER NEAR BELTON, TX

LOCATION.--Lat 31°04'12", long 97°26'28", Bell County, Hydrologic Unit 12070201, on left bank 1,400 ft (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 7,740 acre-ft (9.54 hm³) was diverted from pool at gage for municipal use and 2,120 acre-ft (2.61 hm³) of treated sewage effluent was returned to Little Elm Creek. The Brazos River Authority reported that 3,470 acre-ft (4.28 hm³) of treated sewage effluent was returned to the Leon River below station from their Temple-Belton plant. Flow regulated by Belton Lake (station 08102000) since Mar. 8, 1954. Corps of Engineers satellite 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); 25 years (water years 1954-78) regulated, 558 ft³/s (15.80 m³/s), 404,300 acre-ft/yr (499 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, 1,070 ft³/s (30.3 m³/s) July 7, gage height, 5.10 ft (1.554 m); no flow Oct. 1-3.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	14	11	10	10	19	12	9.0	5.7	886	141	5.4
2	.00	16	13	11	10	19	10	9.7	7.9	909	139	15
3	.00	17	14	9.5	9.7	21	12	14	9.4	910	139	17
4	.15	15	13	8.8	10	22	12	11	12	908	141	18
5	4.2	16	14	8.6	10	21	8.8	11	107	976	118	24
6	9.5	18	13	8.6	10	36	11	10	385	1060	62	21
7	11	18	13	7.4	12	27	10	11	402	1060	36	28
8	13	21	14	7.4	11	13	11	9.4	413	1060	31	28
9	12	20	13	7.8	12	10	12	6.8	413	1060	26	23
10	16	17	13	6.8	10	11	12	7.5	412	1060	34	27
11	17	18	13	8.6	9.7	12	17	7.3	402	1050	32	26
12	19	10	15	8.1	21	12	23	8.5	332	1050	29	22
13	20	11	13	8.1	12	13	21	7.0	114	786	29	19
14	23	12	14	8.1	9.2	13	19	5.8	87	655	29	16
15	23	11	16	7.6	10	14	19	5.7	88	648	25	17
16	18	9.7	16	11	10	12	17	4.5	87	572	22	17
17	21	10	14	7.2	12	13	19	4.7	99	566	24	14
18	18	14	14	7.6	10	14	18	4.8	103	564	22	15
19	18	14	14	7.6	11	15	16	4.4	97	565	22	13
20	16	15	13	7.2	12	16	15	4.7	76	430	23	12
21	10	11	12	7.6	10	17	16	9.0	107	334	25	15
22	21	8.2	10	7.6	10	15	17	9.7	106	338	32	15
23	23	7.7	12	8.1	10	14	21	8.9	346	350	31	17
24	30	7.5	9.9	7.6	10	16	17	7.6	614	350	28	15
25	29	9.3	11	9.7	10	17	22	7.1	617	349	26	17
26	31	8.4	12	9.7	13	18	23	6.4	616	351	24	19
27	36	8.2	11	9.7	16	18	23	5.8	574	302	22	18
28	33	7.9	12	10	18	15	23	6.2	563	217	20	21
29	30	8.3	12	10	---	13	14	6.3	577	163	25	20
30	16	9.5	11	11	---	17	10	6.8	738	145	29	18
31	15	---	11	10	---	12	---	4.9	---	138	21	---
TOTAL	532.85	382.7	396.9	268.0	318.6	505	480.8	235.5	8510.0	19812	1407	552.4
MEAN	17.2	12.8	12.8	8.65	11.4	16.3	16.0	7.60	284	639	45.4	18.4
MAX	36	21	16	11	21	36	23	14	738	1060	141	28
MIN	.00	7.5	9.9	6.8	9.2	10	8.8	4.4	5.7	138	20	5.4
AC-FT	1060	759	787	532	632	1000	954	467	16880	39300	2790	1100
CAL YR 1977	TOTAL	288390.80	MEAN	790	MAX	4080	MIN	.00	AC-FT	572000		
WTR YR 1978	TOTAL	33401.75	MEAN	91.5	MAX	1060	MIN	.00	AC-FT	66250		

BRAZOS RIVER BASIN

413

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 north-bound 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), revised, 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. At end of year, flow from 47.4 mi² (122.8 km²) above this station was partly controlled by 13 floodwater-retarding structures with a combined detention capacity of 15,430 acre-ft (19.0 hm³). Several observations of water temperature were made during the year.

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 stages 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, 2,090 ft³/s (59.2 m³/s) Feb. 12, gage height, 11.10 ft (3.383 m); minimum daily, 8.9 ft³/s (0.25 m³/s) Nov. 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	11	17	14	19	22	23	23	20	14	25	29
2	16	11	15	13	17	21	23	34	22	13	31	19
3	13	10	14	16	16	21	23	109	49	11	18	14
4	10	10	15	14	15	21	23	29	60	12	16	12
5	10	9.6	14	14	14	21	22	23	20	12	17	27
6	10	9.9	13	14	15	145	22	22	24	13	19	14
7	11	8.9	12	14	48	163	21	22	85	12	19	16
8	12	96	16	12	53	56	20	21	48	13	20	30
9	10	33	15	11	62	39	21	19	27	11	16	54
10	10	15	15	12	56	33	85	17	19	12	16	18
11	14	12	15	14	39	30	37	33	17	13	17	27
12	9.3	12	17	24	370	27	26	24	17	13	16	35
13	12	12	17	16	110	27	24	18	20	13	16	23
14	11	12	15	15	53	26	23	17	19	11	16	19
15	11	11	14	13	39	26	22	17	19	11	17	21
16	10	12	14	46	35	24	21	18	19	11	17	16
17	12	11	15	33	73	23	22	18	18	11	17	15
18	14	12	14	19	48	23	22	20	18	10	18	15
19	17	12	14	17	31	23	21	20	18	9.8	19	15
20	19	12	13	16	29	24	20	23	18	11	19	14
21	15	13	12	16	27	24	20	47	18	11	25	119
22	173	12	12	16	24	23	21	27	18	12	107	63
23	34	12	12	17	24	25	22	22	18	16	18	20
24	12	13	12	16	23	26	23	20	18	29	13	18
25	11	12	11	16	24	24	24	20	17	15	12	16
26	9.9	12	9.9	15	22	23	21	20	15	13	12	15
27	9.4	13	13	15	22	22	21	19	16	13	10	16
28	9.2	13	13	14	23	24	22	22	15	29	11	17
29	10	16	21	15	---	23	21	19	15	15	11	18
30	12	35	24	16	---	24	23	32	15	13	14	17
31	9.9	---	15	15	---	24	---	22	---	14	14	---
TOTAL	552.7	483.4	448.9	518	1331	1057	739	797	722	416.8	616	752
MEAN	17.8	16.1	14.5	16.7	47.5	34.1	24.6	25.7	24.1	13.4	19.9	25.1
MAX	173	96	24	46	370	163	85	109	85	29	107	119
MIN	9.2	8.9	9.9	11	14	21	20	17	15	9.8	10	12
AC-FT	1100	959	890	1030	2640	2100	1470	1580	1430	827	1220	1490
CAL YR 1977	TOTAL	32307.0	MEAN 88.5	MAX 5480	MIN 8.9	AC-FT 64080						
WTR YR 1978	TOTAL	8433.8	MEAN 23.1	MAX 370	MIN 8.9	AC-FT 16730						

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).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 828.38 ft (252.490 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 4, 1967, at site 800 ft (240 m) downstream.

REMARKS.--Records good. At times, flow is affected by discharge from the flood-detention pools of 13 floodwater-retarding structures with a combined detention capacity of 38,570 acre-ft (47.6 hm³). These structures control runoff from 131 mi² (339 km²) in the Sulphur and Bennett Creeks drainage basins. There are many small diversions above station for irrigation and municipal supply. Records furnished by the city of Lampasas show that 472 acre-ft (0.582 hm³) of sewage effluent was returned to Sulphur Creek above this station.

AVERAGE DISCHARGE.--16 years, 143 ft³/s (4.050 m³/s), 103,600 acre-ft/yr (128 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 unknown). Flood of May 13, 1957, reached a stage of 37 ft (11.3 m), and flood of Oct. 4, 1959, reached a stage of 34 ft (10.4 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,740 ft³/s (77.6 m³/s) June 3, gage height, 7.47 ft (2.277 m), no peak above base of 4,000 ft³/s (113 m³/s); minimum daily, 3.3 ft³/s (0.093 m³/s) July 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	21	35	34	22	19	17	12	14	7.7	10	9.9
2	18	22	34	32	22	17	17	15	11	6.8	11	10
3	18	22	34	32	22	18	17	23	357	6.4	11	10
4	18	22	32	32	22	18	16	16	92	7.0	10	9.4
5	18	21	32	31	22	18	16	14	31	6.2	11	10
6	19	21	32	31	22	18	16	13	20	6.1	12	10
7	19	21	29	31	26	26	15	13	19	8.9	14	9.9
8	18	32	29	29	27	20	14	13	18	6.5	11	23
9	18	26	29	29	29	19	14	12	18	6.2	9.7	17
10	18	21	29	27	31	20	58	11	19	6.7	11	11
11	19	19	29	27	32	19	27	11	11	5.2	11	11
12	18	18	31	27	86	18	19	12	12	3.3	12	11
13	18	19	32	27	76	18	17	12	17	5.0	12	12
14	18	19	32	27	46	19	16	12	12	5.5	10	11
15	18	21	31	27	35	19	15	13	12	6.1	11	11
16	18	22	31	31	34	19	14	14	11	5.6	7.8	11
17	18	22	31	31	32	18	14	16	11	5.6	8.4	9.5
18	18	21	32	29	31	18	14	13	14	5.9	8.0	9.6
19	21	21	34	29	27	18	13	14	13	5.2	8.2	9.3
20	21	21	32	27	22	18	12	12	10	5.5	8.6	9.1
21	22	21	32	26	19	18	12	13	6.3	5.1	8.5	10
22	38	21	31	26	18	17	14	14	7.0	5.4	9.4	18
23	32	21	31	26	18	17	14	13	7.7	5.7	8.5	13
24	21	23	32	26	18	17	13	12	7.7	6.9	9.4	12
25	19	24	32	26	20	18	12	12	7.7	7.5	8.8	11
26	19	23	31	26	18	16	12	9.6	7.6	6.2	8.2	11
27	19	22	31	26	18	16	11	9.5	7.8	7.0	7.8	11
28	21	22	31	26	19	16	11	9.0	7.4	7.0	8.2	13
29	21	32	32	26	---	16	11	14	7.4	7.3	10	14
30	21	39	34	26	---	16	12	45	7.5	7.6	18	13
31	21	---	34	26	---	17	---	25	---	7.5	11	---
TOTAL	621	680	981	876	814	561	483	447.1	796.1	194.6	315.5	350.7
MEAN	20.0	22.7	31.6	28.3	29.1	18.1	16.1	14.4	26.5	6.28	10.2	11.7
MAX	38	39	35	34	86	26	58	45	357	8.9	18	23
MIN	16	18	29	26	18	16	11	9.0	6.3	3.3	7.8	9.1
AC-FT	1230	1350	1950	1740	1610	1110	958	887	1580	386	626	696
CAL YR 1977	TOTAL	72423.0	MEAN	198	MAX	5840	MIN	15	AC-FT	143700		
WTR YR 1978	TOTAL	7120.0	MEAN	19.5	MAX	357	MIN	3.3	AC-FT	14120		

BRAZOS RIVER BASIN

415

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).

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

REVISED RECORDS.--WDR TX-74-1: 1972-73(P). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. 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.--15 years, 11.9 ft³/s (0.337 m³/s), 4.85 in/yr (123 mm/yr), 8,620 acre-ft/yr (10.6 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 1976-78.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1904, 22.70 ft (6.919 m) on June 19, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13.5 ft³/s (0.38 m³/s) Mar. 6, gage height, 1.73 ft (0.527 m), no peak above base of 1,000 ft³/s (28.3 m³/s); no flow most of year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.61	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	2.7	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.32	.00	.00	.00
6	.00	.00	.00	.00	.00	.63	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	2.6	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.77	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.46	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.18	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.36	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	1.5	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.58	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.36	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.52	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.41	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.16	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.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	.00	.00	.00	.00	4.89	4.64	.00	.00	3.63	.00	.00	.00
MEAN	.000	.000	.000	.000	.17	.15	.000	.000	.12	.000	.000	.000
MAX	.00	.00	.00	.00	1.5	2.6	.00	.00	2.7	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.005	.005	.000	.000	.004	.000	.000	.000
IN.	.00	.00	.00	.00	.01	.01	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	9.7	9.2	.00	.00	7.2	.00	.00	.00
CAL YR 1977 TOTAL	5057.31			MEAN 13.9								
WTR YR 1978 TOTAL	13.16			MEAN .036								
				MAX 748		MIN .00	CFSM .42	IN 5.65	AC-FT 10030			
				MAX 2.7		MIN .00	CFSM .001	IN .01	AC-FT 26			

08104000 LAMPASAS RIVER AT YOUNGSPORT, TX

LOCATION.--Lat 30°57'26", long 97°42'30", Bell County, Hydrologic Unit 12070203, on left bank 600 ft (180 m) downstream from county road low-water crossing, 2,000 ft (610 m) downstream from bridge on county road, 0.7 mi (1.1 km) east of Youngsport, 4.5 mi (7.2 km) downstream from Rocky Creek, and 40.8 mi (65.6 km) above mouth.

DRAINAGE AREA.--1,240 mi² (3,212 km²).

PERIOD OF RECORD.--February 1924 to current year.

REVISED RECORDS.--WSP 788: 1926, 1928, 1931. WSP 1632: 1957. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 630.88 ft (192.29 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Mar. 14, 1931, nonrecording gage, and Mar. 14, 1931, to Mar. 11, 1965, water-stage recorder at site 1,000 ft (305 m) upstream at datum 2.58 ft (0.786 m) higher.

REMARKS.--Records good. Many small diversions above station for irrigation and municipal supply. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08103800. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--54 years, 278 ft³/s (7.873 m³/s), 201,400 acre-ft/yr (248 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,900 ft³/s (2,490 m³/s) May 17, 1965, gage height, 37.7 ft (11.49 m), from floodmarks, from rating curve extended above 40,000 ft³/s (1,130 m³/s) on basis of maximum discharge of May 13, 1957, measured at highway bridge 22 mi (35 km) downstream; no flow at times in 1925, 1934, 1950-52, 1954, 1956, 1963-67, 1971, and 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1873, 45.2 ft (13.78 m) Sept. 8, 1873, from information by local residents at time the former gage was established 1,000 ft (305 m) upstream, adjusted to present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,760 ft³/s (49.8 m³/s) June 3, gage height, 6.01 ft (1.832 m), no peak above base of 5,800 ft³/s (164 m³/s); no flow July 12-27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	27	34	25	22	27	27	15	40	1.8	2.6	33
2	20	28	34	25	22	27	27	16	30	2.0	3.5	27
3	20	25	31	26	22	27	27	25	480	1.7	5.9	10
4	21	24	30	26	22	26	27	31	563	.98	10	7.8
5	23	24	30	26	22	26	27	27	116	1.2	10	7.1
6	23	24	27	26	22	30	27	22	62	1.6	9.1	6.2
7	22	24	25	25	23	48	27	21	103	1.3	9.1	6.1
8	22	33	25	23	26	53	25	18	52	.80	9.5	11
9	21	33	25	23	29	44	25	17	45	.38	8.6	15
10	20	37	25	23	30	36	40	15	30	.24	7.8	20
11	21	29	24	23	30	35	54	16	28	.07	7.0	20
12	20	26	25	24	62	34	58	15	25	.00	5.9	20
13	21	25	26	25	82	33	41	13	21	.00	4.4	16
14	21	25	26	24	72	30	33	11	22	.00	3.9	13
15	21	25	26	23	52	28	29	10	21	.00	3.7	11
16	21	25	25	27	44	28	28	9.5	17	.00	3.2	9.5
17	21	25	25	26	42	28	26	9.1	14	.00	1.7	8.6
18	21	25	24	25	41	29	24	10	14	.00	.98	8.5
19	21	24	24	25	39	29	23	9.1	12	.00	.64	7.6
20	20	24	24	23	36	31	21	7.8	11	.00	.50	6.3
21	20	24	23	23	32	31	19	10	11	.00	.33	8.9
22	32	24	23	23	30	30	18	13	11	.00	.80	13
23	41	24	23	23	29	29	19	14	8.6	.00	9.5	12
24	49	24	23	23	28	30	21	14	6.3	.00	4.2	10
25	34	25	23	22	28	30	24	13	3.9	.00	1.8	12
26	27	25	23	22	27	28	17	9.5	1.6	.00	1.2	10
27	25	26	23	22	27	28	16	9.1	1.8	.00	1.3	8.3
28	25	26	23	21	27	28	15	8.2	1.8	.10	.80	8.2
29	25	26	24	20	---	28	15	7.4	1.2	.10	.50	8.2
30	25	32	25	21	---	27	15	7.0	.64	.89	.57	8.2
31	26	---	25	21	---	27	---	15	---	2.2	1.3	---
TOTAL	749	788	793	734	968	965	795	437.7	1753.84	15.36	130.32	362.5
MEAN	24.2	26.3	25.6	23.7	34.6	31.1	26.5	14.1	58.5	.50	4.20	12.1
MAX	49	37	34	27	82	53	58	31	563	2.2	10	33
MIN	20	24	23	20	22	26	15	7.0	.64	.00	.33	6.1
AC-FT	1490	1560	1570	1460	1920	1910	1580	868	3480	30	258	719
CAL YR 1977	TOTAL	131665.00	MEAN	361	MAX	12900	MIN	20	AC-FT	261200		
WTR YR 1978	TOTAL	8491.72	MEAN	23.3	MAX	563	MIN	.00	AC-FT	16840		

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 ft (503 m) spillway and 5,894 ft (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 ft (1.7 by 3.7 m) slide gates at an invert elevation of 515.0 ft (156.97 m). The capacity curve is based on maps prepared by Brazos River Authority in 1937 and supplemented by contour maps prepared by the Corps of Engineers in 1958. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08103800. Corps of Engineers gage-height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	698.0	-
Design flood.....	693.2	1,013,300
Crest of spillway.....	666.0	630,400
Top of conservation pool.....	622.0	235,700
Lowest gated outlet (invert).....	515.0	775

COOPERATION.--Records furnished by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 347,100 acre-ft (428 hm³) May 2, 3, 1977, elevation, 637.26 ft (194.237 m); minimum since conservation storage was reached on Apr. 12, 1969, 188,200 acre-ft (232 hm³) Aug. 31, 1978, elevation, 614.03 ft (187.156 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 232,000 acre-ft (286 hm³) Apr. 10, elevation, 621.42 ft (189.409 m); minimum, 188,200 acre-ft (232 hm³) Aug. 31, elevation, 614.03 ft (187.156 m).

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

614.0	188,000	620.0	223,100
616.0	199,200	622.0	235,700
618.0	210,900		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230200	228400	227200	226200	226500	229900	230800	230700	224300	210400	194400	188800
2	230000	228000	227100	226100	227100	229900	230900	230900	224000	210100	193000	188800
3	229700	227800	227100	226100	227100	229800	231000	231000	225100	209500	192300	188800
4	229500	227800	227200	226200	227000	229600	231000	230900	226400	209000	191400	188800
5	229300	227800	227300	226200	227000	229800	231000	230800	226600	208700	190800	188800
6	229200	227800	227000	226200	227100	230600	231100	230700	227400	208500	190800	188800
7	229100	227800	226900	226300	227600	230700	231000	231000	227800	208300	190800	188700
8	229000	228200	227000	226100	227600	230800	231100	231000	227800	208100	190700	188900
9	228800	228100	226800	226100	227800	230800	231200	230800	227800	208000	190700	189000
10	228900	227900	226700	226000	227700	230800	231700	230800	227600	207900	190500	189100
11	228600	227900	226600	226100	228100	230800	231700	230900	227500	207800	190500	189100
12	228400	227800	226600	226100	229200	230900	231700	230900	227400	207500	190300	189200
13	228300	227800	226700	226100	229300	231000	231700	230700	227400	207400	190200	189200
14	227700	227800	226600	226000	229400	230900	231600	230600	227400	207300	190000	189100
15	227500	227800	226700	226200	229500	231000	231500	230500	227200	207100	189900	189200
16	227400	227800	226700	226600	229600	231000	231600	230200	226400	207000	189700	189100
17	227300	227800	226600	226500	229600	230900	231600	229800	224700	206800	189500	189000
18	227300	227800	226600	226600	229600	230800	231500	229500	223400	206700	189400	188800
19	227200	227800	226600	226400	229600	230900	231400	229000	222100	206500	189300	188800
20	227200	227800	226500	226300	229600	231000	231300	228900	220800	206400	189200	188800
21	227200	227600	226500	226300	229600	231000	231200	228600	219200	205800	189200	188900
22	228300	227600	226200	226400	229600	231100	231200	228200	217800	204400	189100	188800
23	228200	227600	226200	226400	229600	231300	231100	227900	216800	203300	189100	188800
24	228300	227600	226200	226500	229500	231200	231200	227400	216000	202100	188900	188700
25	228300	227600	226100	226500	229500	231100	231000	227100	215200	201200	188800	188600
26	228300	227600	226000	226400	229700	231000	230900	226600	214100	200100	188700	188500
27	228300	227400	225900	226400	229800	231000	230800	226200	213500	199200	188700	188500
28	228300	227300	226000	226200	229900	231000	230700	225800	212700	198300	188500	188400
29	228300	227400	226100	226400	---	231000	230600	225400	211800	197200	188300	188400
30	228300	227400	226200	226400	---	231000	230700	225100	211200	196400	188200	188300
31	228300	---	226200	226400	---	230900	---	224600	---	195200	188500	---
MAX	230200	228400	227300	226600	229900	231300	231700	231000	227800	210400	194400	189200
MIN	227200	227300	225900	226000	229600	229600	230600	224600	211200	195200	188200	188300
(†)	620.84	620.69	620.51	620.54	621.09	621.25	621.22	620.24	618.06	615.30	614.08	614.06
(‡)	-900	-900	-1200	+200	+3500	+1000	-200	-6100	-11400	-16000	-6700	-200
(††)	24	18	20	26	18	20	23	25	27	40	35	19

CAL YR 1977 MAX 347100 MIN 225900 ‡ -19000 †† 295
WTR YR 1978 MAX 231700 MIN 188200 ‡ -42100 †† 295

† 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.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CaCO_3)	HARDNESS, NONCARBONATE (MG/L CaCO_3)	CALCIUM DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)	SODIUM, DISSOLVED (MG/L AS Na)
DEC 02...	0750	493	8.1	14.0	210	36	47	22	24
JUN 26...	1415	500	--	27.0	170	24	34	21	29
DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO_3)	CARBONATE (MG/L AS CO_3)	SULFATE DISSOLVED (MG/L AS SO_4)	CHLORIDE, DISSOLVED (MG/L AS Cl)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SiO_2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
DEC 02...	.7	2.8	210	0	28	41	.3	9.3	278
JUN 26...	1.0	2.8	180	0	23	55	.3	7.7	262

08104100 LAMPASAS RIVER NEAR BELTON, TX

LOCATION.--Lat 31°00'06", long 97°29'32", Bell County, Hydrologic Unit 12070203, on left bank 22 ft (7 m) upstream from upstream bridge of three bridges on Interstate Highway 35 and U.S. Highway 81, 3.5 mi (5.6 km) downstream from Stillhouse Hollow Dam, 4.1 mi (6.6 km) southwest of Belton, and 12.7 mi (20.4 km) upstream from mouth.

DRAINAGE AREA.--1,321 mi² (3,421 km²).

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 476.58 ft (145.262 m), Texas Department of Highways and Public Transportation datum.

REMARKS.--Records good. Many small diversions above station for irrigation and municipal supply. Since Sept. 2, 1966, flow largely regulated by Stillhouse Hollow Lake (station 08104050). Corps of Engineers satellite telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years (water years 1964-78), 273 ft³/s (7.731 m³/s), 197,800 acre-ft/yr (244 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, 783 ft³/s (22.2 m³/s) June 16, gage height, 8.75 ft (2.667 m); minimum daily, 3.1 ft³/s (0.088 m³/s) Sept. 25, 26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	8.8	7.6	4.4	7.6	8.2	7.6	183	211	442	5.1
2	11	11	7.6	7.6	4.4	7.6	8.2	9.4	138	217	441	4.3
3	11	11	7.6	7.0	4.4	7.1	8.2	10	13	194	441	3.8
4	11	11	7.6	7.0	4.6	7.0	8.2	8.7	11	166	441	3.5
5	11	7.8	7.4	7.0	4.9	8.1	8.2	8.2	10	101	317	3.5
6	13	7.0	5.9	7.0	4.9	22	8.2	8.2	11	9.3	9.6	3.5
7	13	6.4	5.9	6.4	6.5	15	8.2	8.2	13	8.5	6.7	4.2
8	13	8.6	5.9	6.4	6.6	10	8.2	8.2	10	8.0	5.7	4.4
9	11	6.3	5.9	6.4	6.4	9.5	8.2	8.1	10	7.2	5.9	4.4
10	11	5.9	5.4	6.4	6.1	9.5	11	7.6	9.9	6.4	5.9	4.4
11	11	5.9	5.6	6.6	5.9	9.5	8.8	7.0	9.5	6.4	5.9	4.4
12	11	6.4	6.1	7.0	14	9.5	8.8	7.0	9.5	6.4	5.7	4.3
13	11	6.4	6.7	7.0	9.0	9.5	8.2	7.0	9.5	5.9	5.0	3.9
14	11	6.4	6.4	7.0	7.6	9.5	8.2	7.0	9.5	5.9	4.2	3.9
15	11	6.4	6.4	7.0	7.6	9.5	8.2	38	9.5	5.9	4.2	4.2
16	11	6.6	7.0	8.5	7.6	9.5	8.2	154	421	5.7	4.4	4.0
17	11	7.0	7.9	4.1	8.3	9.5	8.2	191	733	5.1	4.4	3.9
18	11	7.0	7.6	3.9	7.7	9.5	8.2	179	663	4.9	4.4	3.9
19	11	6.7	7.6	3.6	7.6	9.5	7.9	180	653	4.9	4.4	3.9
20	11	7.3	7.4	3.5	7.6	9.5	7.6	181	665	4.9	4.4	3.9
21	11	8.2	7.0	3.9	7.6	9.5	7.6	183	669	181	4.4	4.9
22	15	8.2	6.4	4.4	7.6	9.5	7.6	183	669	676	4.4	3.8
23	11	8.2	6.4	4.4	7.6	9.5	7.6	183	503	681	4.4	3.5
24	11	8.2	6.7	4.4	7.8	9.0	7.6	185	323	562	4.4	3.4
25	11	8.2	7.3	4.4	8.4	8.8	7.6	185	322	440	4.2	3.1
26	11	8.2	7.0	4.4	8.8	8.2	7.6	185	321	454	3.9	3.1
27	11	8.8	7.0	4.4	8.3	8.2	7.0	183	359	454	3.8	3.3
28	11	8.8	7.0	4.4	7.6	8.2	7.2	183	392	451	3.5	3.5
29	11	8.8	8.1	4.4	---	8.2	7.6	183	381	441	3.8	3.5
30	11	8.8	7.6	4.4	---	8.2	7.6	183	274	441	3.9	3.5
31	11	---	7.6	4.4	---	8.2	---	183	---	441	4.6	---
TOTAL	351	236.5	214.8	174.9	199.8	293.9	242.1	3054.2	7804.4	6206.4	2208.1	117.0
MEAN	11.3	7.88	6.93	5.64	7.14	9.48	8.07	98.5	260	200	71.2	3.90
MAX	15	11	8.8	8.5	14	22	11	191	733	681	442	5.1
MIN	11	5.9	5.4	3.5	4.4	7.0	7.0	7.0	9.5	4.9	3.5	3.1
AC-FT	696	469	426	347	396	583	480	6060	15480	12310	4380	232

CAL YR 1977 TOTAL 150666.3 MEAN 413 MAX 2000 MIN 5.4 AC-FT 298800
WTR YR 1978 TOTAL 21103.1 MEAN 57.8 MAX 733 MIN 3.1 AC-FT 41860

BRAZOS RIVER BASIN

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 96.3 mi (155.0 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. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--5 years (water years 1924-28) unregulated, 709 ft³/s (20.08 m³/s), 513,700 acre-ft/yr (633 hm³/yr); 16 years (water years 1963-78) regulated, 938 ft³/s (26.56 m³/s), 679,600 acre-ft/yr (838 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, 1,870 ft³/s (53.0 m³/s) Feb. 12, gage height, 8.81 ft (2.685 m); minimum daily, 44 ft³/s (1.25 m³/s) Sept. 20, 27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	81	77	63	68	83	79	62	217	1210	619	91
2	57	86	67	59	71	82	76	65	220	1250	640	72
3	57	80	66	60	66	80	73	232	188	1240	609	60
4	56	79	66	63	64	79	74	103	182	1170	604	54
5	57	76	66	61	64	78	74	72	73	1180	610	61
6	58	74	65	61	65	98	71	67	370	1180	192	54
7	66	73	62	60	79	758	68	68	828	1150	96	50
8	69	133	65	57	137	188	67	66	554	1140	82	89
9	67	178	64	53	105	137	69	60	524	1130	74	97
10	67	84	63	56	137	117	176	55	486	1130	69	68
11	82	76	63	64	84	112	131	60	481	1130	66	70
12	77	77	65	83	433	101	80	74	477	1130	62	77
13	74	73	67	74	403	100	76	59	223	993	60	62
14	74	73	64	65	150	99	71	51	136	608	59	54
15	75	73	63	60	115	94	68	48	128	732	56	51
16	76	72	63	116	106	91	66	132	155	594	54	53
17	73	68	63	135	116	91	64	220	902	579	52	46
18	74	66	61	76	159	93	66	208	848	575	54	45
19	74	68	62	68	102	93	62	211	798	575	53	45
20	74	66	60	63	98	94	59	223	828	523	52	44
21	77	66	60	60	90	99	60	292	837	348	52	49
22	114	66	59	60	86	100	59	244	853	982	128	181
23	234	66	60	61	85	98	62	227	890	1160	75	56
24	92	66	61	65	84	97	66	222	1070	1080	57	51
25	86	66	60	64	84	88	293	221	1070	1110	54	45
26	83	65	58	62	81	85	76	219	1060	855	53	45
27	80	64	59	62	79	85	65	217	1050	839	49	44
28	80	64	62	61	83	84	62	216	1060	745	49	47
29	79	66	70	61	---	81	63	215	1090	653	53	49
30	85	90	82	63	---	81	64	221	1120	624	55	48
31	81	---	67	67	---	81	---	220	---	600	60	---
TOTAL	2453	2335	1990	2083	3294	3647	2440	4650	18718	28215	4848	1858
MEAN	79.1	77.8	64.2	67.2	118	118	81.3	150	624	910	156	61.9
MAX	234	178	82	135	433	758	293	292	1120	1250	640	181
MIN	55	64	58	53	64	78	59	48	73	348	49	44
AC-FT	4870	4630	3950	4130	6530	7230	4840	9220	37130	55960	9620	3690
CAL YR 1977	TOTAL	524201	MEAN	1436	MAX	6740	MIN	54	AC-FT	1040000		
WTR YR 1978	TOTAL	76531	MEAN	210	MAX	1250	MIN	44	AC-FT	151800		

BRAZOS RIVER BASIN

421

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.

WATER TEMPERATURE: October 1964 to September 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,140 micromhos Oct. 28, 1964; minimum daily, 245 micromhos May 16, 1965.

WATER TEMPERATURES: Maximum, 38.0°C July 7, 1969, Sept. 15, 1972; minimum, 3.0°C Jan. 10, 1973.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
OCT 20...	1500	72	601	7.5	21.0	240	30	71	14	33
NOV 30...	0925	74	607	7.6	12.0	240	23	73	15	31
JAN 13...	1100	76	650	7.5	5.0	250	47	78	14	41
FEB 23...	1440	78	600	7.5	10.5	250	53	77	14	30
APR 05...	1055	74	619	--	22.0	230	27	68	15	36
MAY 17...	0900	230	550	--	23.0	220	40	57	19	28
JUN 28...	0940	988	493	--	16.0	190	23	52	14	23
AUG 10...	0900	71	556	--	25.5	190	19	55	13	34
SEP 25...	1050	50	454	--	27.0	170	24	53	9.5	25

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 20...	.9	4.5	250	0	31	40	.4	6.7	324
NOV 30...	.9	4.4	270	0	29	36	.4	9.3	331
JAN 13...	1.1	4.9	250	0	37	64	.5	7.3	370
FEB 23...	.8	4.0	240	0	38	52	.4	6.4	340
APR 05...	1.0	4.6	250	0	38	44	.5	6.0	335
MAY 17...	.8	3.1	220	0	26	45	.3	8.4	295
JUN 28...	.7	3.2	200	0	26	40	.3	8.8	266
AUG 10...	1.1	4.7	210	0	31	48	.4	8.3	298
SEP 25...	.8	3.9	180	0	26	30	.3	9.5	246

BRAZOS RIVER BASIN

08104700 NORTH FORK SAN GABRIEL RIVER NEAR GEORGETOWN, TX

LOCATION.--Lat 30°39'42", long 97°42'40", Williamson County, Hydrologic Unit 12070205, on left bank 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).

PERIOD OF RECORD.--June 1968 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 689.06 ft (210.025 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Beginning on Apr. 6, 1976, flow was partly regulated by detention basin at North Fork Lake (under construction) located about 1 mi (2 km) upstream from gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 86.1 ft³/s (2.438 m³/s), 62,380 acre-ft/yr (76.9 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.

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, 42 ft³/s (1.19 m³/s) Feb. 13, gage height, 4.77 ft (1.454 m); minimum daily, 0.04 (0.001 m³/s) ft³/s July 13, 16-21, Aug. 28, 30, 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	16	2.6	2.1	2.4	5.4	4.7	3.6	2.1	.24	.68	.13
2	.44	22	2.4	1.9	2.4	5.4	4.6	4.1	1.9	.24	.34	.13
3	.56	8.2	2.1	1.8	2.4	5.2	4.7	6.4	2.1	.17	.13	.06
4	.17	4.0	2.2	1.9	2.6	5.0	4.7	6.1	2.4	.13	.17	.24
5	.13	1.5	2.3	1.9	2.6	4.8	4.7	4.7	2.1	.13	.56	.34
6	.17	2.7	2.1	1.9	2.6	6.2	4.7	4.3	5.8	.13	.65	.09
7	.24	2.8	1.8	1.9	3.1	9.0	4.6	4.3	8.5	.09	.50	.09
8	.24	6.5	1.9	2.0	3.7	8.2	5.0	4.0	13	.09	.31	.17
9	.44	6.5	2.1	1.7	3.9	8.7	5.0	3.3	9.6	.06	.32	.17
10	.44	4.8	1.9	1.5	4.0	9.6	13	2.7	7.1	.06	.24	.17
11	.34	3.7	1.9	1.8	3.8	9.1	11	4.8	5.8	.06	.17	.44
12	.24	3.2	1.9	1.9	8.7	7.7	9.4	5.2	4.4	.06	.17	.24
13	.24	3.0	2.1	2.3	37	7.3	7.8	4.9	4.0	.04	.17	.17
14	.24	2.9	2.1	2.3	24	6.8	7.1	3.9	3.9	.06	.17	.17
15	.24	2.9	1.9	2.1	15	6.2	6.6	3.0	3.5	.06	.17	.24
16	.44	2.8	1.9	4.5	11	5.6	6.4	2.0	3.2	.04	.17	.17
17	.40	2.5	1.9	5.1	11	5.2	5.2	1.7	2.6	.04	.17	.13
18	.29	2.3	1.9	4.4	10	5.0	5.0	1.7	2.6	.04	.13	.09
19	.33	2.1	1.8	3.6	9.2	5.0	4.9	1.6	2.1	.04	.17	.09
20	.33	2.1	1.7	3.1	8.7	5.0	4.4	1.5	1.5	.04	.13	.09
21	.43	2.2	1.7	3.1	7.6	5.0	4.1	2.1	1.3	.04	.13	.44
22	4.3	2.1	1.6	3.1	7.1	4.8	4.4	2.0	1.1	.13	.17	.13
23	5.2	2.2	1.5	3.1	6.7	4.8	4.7	1.9	1.1	2.1	.17	.13
24	3.8	1.9	1.7	3.1	6.4	5.5	4.5	1.7	.81	1.1	.13	.13
25	2.6	1.9	1.9	2.9	6.2	5.3	4.3	1.7	.81	.34	.13	.17
26	2.1	1.9	1.9	2.7	6.0	5.0	4.5	1.9	.68	.24	.09	.17
27	1.8	1.9	1.8	2.5	5.4	4.9	4.3	1.9	.44	.24	.06	.13
28	1.6	1.9	1.7	2.4	5.4	4.7	3.6	1.9	.44	.34	.04	.17
29	1.4	2.2	1.9	2.4	---	4.7	3.4	2.4	.34	.34	.06	.17
30	1.3	2.6	1.9	2.4	---	4.7	3.6	2.1	.34	.24	.04	.17
31	1.3	---	1.9	2.4	---	4.7	---	3.2	---	.13	.04	---
TOTAL	31.92	123.3	60.0	79.8	218.9	184.5	164.9	96.6	95.56	7.06	6.58	5.23
MEAN	1.03	4.11	1.94	2.57	7.82	5.95	5.50	3.12	3.19	.23	.21	.17
MAX	5.2	22	2.6	5.1	37	9.6	13	6.4	13	2.1	.68	.44
MIN	.13	1.5	1.5	1.5	2.4	4.7	3.4	1.5	.34	.04	.04	.06
AC-FT	63	245	119	158	434	366	327	192	190	14	13	10

CAL YR 1977 TOTAL 38558.07 MEAN 106 MAX 2540 MIN .13 AC-FT 76480
WTR YR 1978 TOTAL 1074.35 MEAN 2.94 MAX 37 MIN .04 AC-FT 2130

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, wter 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 good. Recording rain gage located at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years (water years 1969-78), 44.6 ft³/s (1.263 m³/s), 4.55 in/yr (116 mm/yr), 32,310 acre-ft/yr (39.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft³/s (572 m³/s) Oct. 31, 1974, gage height, 16.61 ft (5.063 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, about 41 ft (12.5 m) Apr. 24, 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 260 ft³/s (7.36 m³/s) June 7, gage height, 3.53 ft (1.076 m), no peak above base of 2,000 ft³/s (56.6 m³/s); no flow July 20, 21, Aug. 24-30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.02	2.3	.70	1.1	.07	5.3	6.4	3.6	2.2	.46	1.2	.02		
2	.02	1.2	.64	2.4	.04	5.7	7.5	4.0	1.1	.25	.13	.02		
3	.02	1.9	.68	2.4	.07	5.6	5.6	15	1.2	.10	.16	.02		
4	.02	3.2	1.4	1.5	.88	5.4	5.2	7.5	1.6	.10	.16	.03		
5	.02	3.3	1.6	1.4	.56	7.7	4.4	8.6	2.2	.10	.13	.02		
6	.02	2.9	1.1	2.1	.42	8.6	4.4	4.5	11	.07	.10	.02		
7	.02	3.0	.74	1.8	.08	16	4.2	8.0	53	.05	.10	.01		
8	.02	18	.67	1.3	.88	26	4.4	6.3	35	.05	.10	.02		
9	.02	12	.52	1.4	.56	14	7.3	2.5	20	.05	.10	.02		
10	.02	8.3	.39	1.2	.57	12	27	1.8	3.9	.05	.07	.02		
11	.02	5.7	.87	1.4	.52	11	12	25	5.1	.04	.06	.05		
12	.02	5.9	1.7	1.3	27	11	9.3	15	10	.04	.06	.05		
13	.02	6.1	1.5	1.4	48	8.6	8.3	9.8	2.0	.03	.06	.05		
14	.01	9.6	.90	1.4	18	6.2	7.1	8.3	2.1	.03	.06	.05		
15	.01	2.6	.66	1.4	11	6.8	7.7	5.7	2.2	.02	.05	.05		
16	.02	1.9	.64	7.0	11	6.3	7.8	.79	2.2	.02	.05	.05		
17	.02	2.0	.59	7.4	14	6.9	5.9	.38	1.9	.02	.02	.04		
18	.02	2.0	1.1	4.3	14	5.7	3.9	.64	2.0	.01	.02	.03		
19	.02	2.0	1.4	3.2	15	9.0	2.4	1.0	2.3	.01	.02	.03		
20	.02	1.9	1.1	3.1	11	6.9	2.5	2.0	2.1	.00	.02	.02		
21	.02	1.6	.75	1.8	8.3	6.1	3.5	3.9	1.7	.00	.01	.02		
22	2.0	2.0	.64	2.2	7.5	6.5	2.5	4.3	1.8	.10	.01	.01		
23	5.6	1.8	.70	.29	7.9	6.2	6.1	2.0	1.4	2.1	.01	.01		
24	3.1	1.5	1.9	.31	6.5	7.2	4.0	.76	1.0	.07	.00	.01		
25	1.1	2.4	1.6	.31	8.9	8.3	2.7	.48	.68	.04	.00	.01		
26	.52	2.3	2.3	.38	9.1	8.3	3.7	.27	.64	.03	.00	.01		
27	.22	2.3	1.8	.38	4.8	6.3	2.2	.20	.63	.03	.00	.03		
28	.14	1.6	1.3	.42	5.4	5.6	1.8	.17	.54	.03	.00	.05		
29	.08	1.5	.95	.56	---	5.0	2.2	1.0	.46	.03	.00	.05		
30	.06	.97	.61	.40	---	6.0	5.1	2.6	.46	.03	.00	.05		
31	.14	---	.70	.38	---	5.4	---	1.7	---	.03	.01	---		
TOTAL	13.36	113.77	32.15	55.93	232.05	255.6	177.1	147.79	172.41	3.99	2.71	.87		
MEAN	.43	3.79	1.04	1.80	8.29	8.25	5.90	4.77	5.75	.13	.087	.029		
MAX	5.6	18	2.3	7.4	48	26	27	25	53	2.1	1.2	.05		
MIN	.01	.97	.39	.29	.04	5.0	1.8	.17	.46	.00	.00	.01		
CFSM	.003	.03	.008	.01	.06	.06	.04	.04	.04	.001	.001	.000		
IN.	.00	.03	.01	.02	.06	.07	.05	.04	.05	.00	.00	.00		
AC-FT	26	226	64	111	460	507	351	293	342	7.9	5.4	1.7		
CAL YR 1977	TOTAL	18405.66	MEAN	50.4	MAX	5170	MIN	.01	CFSM	.38	IN	5.15	AC-FT	36510
WTR YR 1978	TOTAL	1207.73	MEAN	3.31	MAX	53	MIN	.00	CFSM	.03	IN	.34	AC-FT	2400

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.--11 years, 26.8 ft³/s (0.759 m³/s), 4.38 in/yr (111 mm/yr), 19,420 acre-ft/yr (23.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft³/s (439 m³/s) Oct. 31, 1974, gage height, 19.33 ft (5.892 m); no flow at times in 1967, 1971-72, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1921 occurred September 1921, 25 ft (7.6 m), from information by Texas Department of Highways and Public Transportation and local residents. Discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.7 ft³/s (0.105 m³/s) Apr. 10, June 7, gage height, 3.84 ft (1.170 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 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.1	.32	.17	.04	.89	.35	.14	.00	.00	.00	.00
2	.29	.78	.32	.15	.04	.82	.28	.20	.00	.00	.00	.00
3	.31	.69	.32	.09	.04	.82	.27	.41	.00	.00	.00	.00
4	.32	.69	.32	.08	.04	.82	.19	.21	.00	.00	.00	.00
5	.31	.63	.32	.08	.04	.82	.16	.12	.00	.00	.00	.00
6	.27	.63	.32	.08	.04	1.0	.13	.10	.12	.00	.00	.00
7	.24	.63	.32	.08	.10	1.1	.11	.12	.59	.00	.00	.00
8	.26	1.0	.32	.08	.12	.89	.08	.09	.04	.00	.00	.00
9	.27	.74	.32	.08	.12	.89	.08	.04	.01	.00	.00	.00
10	.35	.63	.32	.08	.12	.89	1.3	.02	.00	.00	.00	.00
11	.36	.63	.32	.08	.10	1.1	.33	.27	.00	.00	.00	.00
12	.53	.57	.28	.08	.38	.96	.36	.10	.00	.00	.00	.00
13	.65	.67	.28	.09	.20	1.0	.41	.04	.00	.00	.00	.00
14	.69	.35	.24	.08	.26	1.0	.41	.03	.00	.00	.00	.00
15	.63	.36	.24	.06	.38	.96	.41	.03	.00	.00	.00	.00
16	.63	.40	.24	.22	.43	.90	.45	.03	.00	.00	.00	.00
17	.72	.36	.24	.10	.77	.75	.41	.03	.00	.00	.00	.00
18	.75	.43	.24	.08	.77	.75	.40	.02	.00	.00	.00	.00
19	.75	.41	.23	.06	.75	.79	.31	.02	.00	.00	.00	.00
20	.75	.41	.21	.04	.75	.82	.24	.02	.00	.00	.00	.00
21	.75	.36	.19	.04	.75	.80	.18	.03	.00	.00	.00	.00
22	1.3	.41	.18	.07	.96	.69	.13	.03	.00	.00	.00	.00
23	.91	.41	.18	.04	.68	.69	.14	.03	.00	.00	.00	.00
24	.89	.36	.18	.06	.73	.68	.11	.03	.00	.00	.00	.00
25	.82	.41	.18	.06	.81	.63	.09	.03	.00	.00	.00	.00
26	.82	.36	.18	.04	.82	.62	.09	.03	.00	.00	.00	.00
27	.75	.32	.20	.04	.82	.62	.08	.03	.00	.00	.00	.00
28	.75	.32	.21	.04	.87	.61	.15	.03	.00	.00	.00	.00
29	.69	.32	.21	.04	---	.52	.21	.02	.00	.00	.00	.00
30	.69	.32	.21	.04	---	.51	.20	.02	.00	.00	.00	.00
31	.69	---	.19	.04	---	.51	---	.00	---	.00	.00	---
TOTAL	19.14	15.70	7.83	2.37	11.93	24.85	8.06	2.32	.76	.00	.00	.00
MEAN	.62	.52	.25	.076	.43	.80	.27	.075	.025	.000	.000	.000
MAX	1.3	1.1	.32	.22	.96	1.1	1.3	.41	.59	.00	.00	.00
MIN	.24	.32	.18	.04	.04	.51	.08	.00	.00	.00	.00	.00
CFSM	.007	.006	.003	.001	.005	.01	.003	.001	.000	.000	.000	.000
IN.	.01	.01	.00	.00	.01	.01	.00	.00	.00	.00	.00	.00
AC-FT	38	31	16	4.7	24	49	16	4.6	1.5	.00	.00	.00
CAL YR 1977	TOTAL	11163.57	MEAN	30.6	MAX	2540	MIN	.18	CFSM	.37	IN	5.00
WTR YR 1978	TOTAL	92.96	MEAN	.25	MAX	1.3	MIN	.00	CFSM	.003	IN	.04
										AC-FT	22140	
										AC-FT	184	

BRAZOS RIVER BASIN

425

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 1977 TO SEPTEMBER 1978

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)
OCT 21...	1120	.76	19.5	108	.22
DEC 01...	1030	.34	12.0	64	.06
JAN 13...	1420	.07	7.0	6	.00
FEB 24...	1040	.74	11.0	17	.03
APR 06...	0915	.12	20.0	46	.01
MAY 18...	0935	.02	24.0	17	.00

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. Datum of gage is 582.04 ft (177.406 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. During the current year, the city of Georgetown released 992 acre-ft (1.22 hm³) of sewage effluent into the river 6.5 mi (10.5 km) above gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,100 ft³/s (513 m³/s) Apr. 15, 1977, gage height, 14.90 ft (4.542 m); minimum daily, 0.45 ft³/s (0.013 m³/s) Aug. 22, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 668 ft³/s (18.9 m³/s) June 7, gage height, 6.07 ft (1.850 m); no peak above base of 4,000 ft³/s (113 m³/s); minimum daily, 0.45 ft³/s (0.013 m³/s) Aug. 22.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	30	19	17	24	25	21	36	7.8	2.9	7.8	.79
2	17	43	19	16	22	24	21	25	9.9	2.9	7.4	2.4
3	16	27	19	16	22	24	21	27	7.8	3.4	4.4	2.2
4	16	20	19	16	22	24	21	19	7.8	2.2	4.1	2.2
5	16	18	19	16	29	23	20	17	7.4	2.4	3.7	2.6
6	16	16	19	18	31	27	20	16	8.9	2.6	3.7	2.6
7	16	17	18	20	34	41	20	16	197	1.8	4.1	2.8
8	16	36	19	17	29	38	20	16	52	1.9	4.4	2.9
9	15	30	19	16	29	34	21	16	25	2.6	4.8	2.9
10	16	23	18	16	27	33	86	15	12	3.1	4.4	3.0
11	15	22	18	17	26	32	33	48	9.4	2.9	3.6	3.6
12	15	20	19	17	50	32	24	23	8.9	3.1	3.3	3.2
13	15	19	19	17	111	32	21	20	8.9	2.9	3.0	2.8
14	15	21	19	18	60	29	19	18	7.4	2.2	3.1	3.1
15	14	22	19	19	39	27	18	17	6.4	2.2	2.9	3.4
16	14	20	20	30	33	25	17	16	6.4	2.2	2.1	3.8
17	14	20	20	23	40	25	18	14	5.6	2.6	1.8	4.1
18	14	19	18	20	35	25	17	14	5.6	3.1	2.0	4.1
19	13	18	20	17	33	25	15	13	5.6	2.6	1.9	4.1
20	14	18	21	16	34	26	15	13	5.6	2.6	1.0	4.1
21	14	18	18	16	30	25	14	15	5.6	4.4	.61	4.7
22	25	17	18	16	30	25	15	15	4.8	3.7	.45	5.2
23	21	17	17	16	30	24	17	13	4.8	4.8	6.5	3.9
24	18	17	21	16	29	24	19	11	4.8	4.1	1.7	4.4
25	18	17	21	18	28	24	30	11	3.7	4.1	1.6	4.4
26	17	17	20	22	30	24	19	11	2.9	4.4	1.4	4.4
27	16	17	20	22	29	24	17	11	3.4	4.4	1.2	4.4
28	17	19	20	21	27	22	16	9.9	3.4	3.7	1.2	4.1
29	16	19	20	22	---	22	19	8.4	3.1	4.4	.70	5.1
30	17	20	19	25	---	22	20	10	2.6	4.8	.89	4.9
31	16	---	19	24	---	22	---	9.4	---	4.8	.79	---
TOTAL	498	637	594	580	963	829	654	523.7	444.5	99.8	90.54	106.19
MEAN	16.1	21.2	19.2	18.7	34.4	26.7	21.8	16.9	14.8	3.22	2.92	3.54
MAX	25	43	21	30	111	41	86	48	197	4.8	7.8	5.2
MIN	13	16	17	16	22	22	14	8.4	2.6	1.8	.45	.79
AC-FT	988	1260	1180	1150	1910	1640	1300	1040	882	198	180	211
CAL YR 1977	TOTAL	80344.00	MEAN	220	MAX	9100	MIN	13	AC-FT	159400		
WTR YR 1978	TOTAL	6019.73	MEAN	16.5	MAX	197	MIN	.45	AC-FT	11940		

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1976 to current year.

INSTRUMENTATION.--Water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum values are not shown, mean value is estimated.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 35.0°C July 24, 1977; minimum daily, 2.5°C Jan. 22, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 33.0°C July 3; minimum daily, 2.5°C Jan. 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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)	
DATE	TIME												
OCT													
12...	1650	15	476	8.0	19.0	4	2	8.2	91	.8	230	36	
NOV													
10...	1440	22	556	8.3	15.0	3	1	14.9	152	.4	250	30	
DEC													
16...	1335	24	562	7.8	14.0	2	3	9.0	90	1.3	260	20	
JAN													
26...	1605	32	562	8.3	7.0	2	1	13.4	114	1.1	270	37	
FEB													
17...	1110	44	486	7.8	9.0	2	7	10.2	91	1.9	220	35	
MAR													
28...	1045	23	532	8.0	17.0	5	3	7.2	77	1.2	240	40	
APR													
20...	0923	16	503	7.7	19.0	0	15	4.2	48	2.2	230	31	
MAY													
11...	0927	56	438	8.0	23.0	5	40	4.8	59	2.0	180	20	
JUN													
05...	1530	8.9	529	8.4	29.0	5	15	7.5	101	1.8	230	23	
JUL													
14...	1250	2.6	398	9.0	33.5	34	20	14.0	200	5.0	150	12	
AUG													
07...	1230	4.8	560	9.0	29.0	30	15	10.9	145	5.5	200	1	
SEP													
08...	0953	3.7	542	8.3	26.0	20	20	4.0	51	4.6	190	13	
		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
OCT													
12...	62	19	15	.4	1.6	240	0	19	28	.2	9.6	273	
NOV													
10...	71	18	18	.5	1.9	270	0	23	29	.2	8.4	303	
DEC													
16...	72	19	18	.5	1.7	290	0	27	28	.2	.4	309	
JAN													
26...	77	18	18	.5	1.8	280	0	27	29	.2	1.9	311	
FEB													
17...	63	16	17	.5	1.7	230	0	29	26	.2	4.6	271	
MAR													
28...	65	18	18	.5	1.7	240	0	26	29	.2	1.8	278	
APR													
20...	65	16	17	.5	1.6	240	0	22	33	.2	9.0	282	
MAY													
11...	54	12	14	.4	2.2	200	0	18	22	.2	8.4	229	
JUN													
05...	61	18	21	.6	2.9	240	4	19	28	.2	6.1	279	
JUL													
14...	30	17	25	.9	2.1	130	16	14	37	.3	8.0	213	
AUG													
07...	51	18	37	1.1	3.7	200	22	17	51	.2	15	314	
SEP													
08...	45	18	33	1.1	2.6	210	1	20	52	.2	18	293	

BRAZOS RIVER BASIN

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 12...	3	1	.51	.02	.53	.06	.58	.64	.01	2.2	1	.00
NOV 10...	2	1	1.7	.07	1.8	.11	.49	.60	.18	3.8	2	.10
DEC 16...	5	1	2.0	.05	2.0	.09	.36	.45	.11	4.5	3	.10
JAN 26...	2	1	.12	.01	.13	.03	.32	.35	.36	1.7	2	.10
FEB 17...	45	11	.76	.03	.79	.13	.41	.54	.16	3.0	0	.00
MAR 28...	6	3	.36	.04	.40	.09	.29	.38	.10	3.3	0	.00
APR 20...	25	4	.18	.05	.23	.26	.55	.81	.35	2.4	2	.00
MAY 11...	75	14	.49	.05	.54	.10	.76	.86	.31	4.4	0	.00
JUN 05...	22	6	.03	.02	.05	.13	.47	.60	.33	5.5	1	.10
JUL 14...	26	9	.00	.00	.00	.01	2.0	2.0	.16	8.0	1	.50
AUG 07...	20	10	.02	.00	.02	.02	1.3	1.3	.62	8.2	1	.20
SEP 08...	31	17	.01	.00	.01	.01	1.8	1.8	.37	9.0	1	.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)
OCT 12...	1650	1	0	70	0	4	50
FEB 17...	1110	1	100	1	0	1	10
JUN 05...	1530	5	100	0	5	0	0
AUG 07...	1230	9	40	<1	0	1	<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 12...	10	40	.0	0	0	80
FEB 17...	4	20	.0	0	0	10
JUN 05...	2	5	.0	0	0	5
AUG 07...	1	2	.0	0	0	<3

BRAZOS RIVER BASIN

429

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	28.5	26.0	27.5	23.5	19.0	21.0	15.5	12.0	14.0	13.5	9.5	11.5
2	28.0	25.5	27.0	18.5	16.0	17.0	15.5	12.5	14.0	9.0	6.5	8.0
3	26.0	23.5	25.0	18.5	14.5	16.5	14.0	13.5	15.5	9.0	6.0	7.5
4	25.0	22.0	24.0	18.5	14.5	16.5	18.5	16.0	17.5	8.0	6.5	7.5
5	26.0	22.0	24.0	19.0	16.0	17.5	19.0	16.0	17.0	12.5	8.5	11.0
6	25.5	23.5	24.5	19.5	16.5	18.5	17.0	12.5	14.0	13.5	10.5	12.5
7	25.0	22.5	24.0	20.0	16.5	18.5	13.5	10.0	12.0	16.5	13.5	15.0
8	25.5	23.5	24.5	20.0	16.5	18.5	18.5	13.5	16.0	15.5	11.5	13.0
9	25.0	21.5	23.0	18.0	14.0	16.0	18.0	11.5	13.5	11.5	8.0	9.5
10	23.0	21.0	22.0	15.5	11.5	13.5	11.5	9.5	10.5	9.5	6.5	7.5
11	22.5	20.0	21.0	15.5	11.5	13.5	10.5	9.5	10.5	6.5	5.5	6.0
12	20.5	17.0	19.0	16.0	11.5	14.0	14.0	11.0	11.5	5.5	5.0	5.5
13	19.5	16.5	18.0	16.0	12.0	14.5	16.0	13.5	15.0	8.0	5.0	6.5
14	19.5	16.5	18.5	17.0	13.5	15.0	15.5	11.5	13.5	8.0	6.0	7.0
15	20.5	17.5	19.5	18.5	14.5	16.5	14.0	11.5	13.0	8.0	6.0	7.0
16	20.5	17.0	19.0	19.5	16.5	18.0	16.5	13.5	15.0	12.5	8.0	10.5
17	19.5	16.5	18.0	20.0	16.5	19.5	16.5	13.5	14.5	9.5	6.5	8.0
18	19.5	17.0	18.0	19.5	17.0	18.0	13.5	11.5	13.0	8.0	6.5	7.0
19	21.0	18.5	19.5	19.5	17.5	18.5	15.0	13.0	14.0	6.5	5.0	5.5
20	22.0	19.0	20.5	21.5	14.5	20.0	15.0	11.5	12.5	7.0	3.0	5.0
21	21.5	19.5	20.5	21.5	16.5	18.5	11.5	8.5	10.0	6.5	3.0	4.0
22	22.0	19.5	20.5	17.0	15.5	16.0	9.0	6.5	8.0	4.5	2.5	3.5
23	21.5	18.5	20.0	19.0	16.0	17.0	11.0	8.0	9.5	5.0	3.5	4.0
24	21.0	19.0	20.0	20.0	18.0	19.0	12.5	10.5	11.5	6.5	5.0	5.5
25	21.5	18.0	20.0	19.5	16.5	18.0	12.5	11.0	11.5	7.5	5.0	6.5
26	22.0	19.0	20.5	18.5	15.0	16.5	11.0	7.5	9.0	8.0	5.0	6.5
27	22.0	19.5	21.0	18.5	16.0	17.0	9.5	7.0	8.0	8.0	6.0	6.5
28	22.5	19.5	21.0	18.0	15.0	16.5	9.5	8.5	9.0	6.5	4.5	5.5
29	23.5	20.5	22.0	17.5	12.5	14.5	10.5	8.5	9.5	6.5	5.0	5.5
30	23.5	20.5	22.0	15.5	12.0	13.5	11.5	10.0	10.5	6.0	5.5	6.0
31	23.5	20.5	22.0	---	---	---	13.0	10.5	11.5	6.0	5.0	5.5
MONTH	28.5	16.5	21.5	23.5	11.5	17.0	19.0	6.5	12.5	16.5	2.5	7.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	6.5	5.0	5.5	18.5	13.5	15.0	23.5	17.0	20.5	26.5	23.0	25.0
2	6.5	5.5	6.0	18.5	13.5	15.0	23.5	18.5	20.5	25.0	20.5	23.5
3	5.5	5.0	5.5	17.5	10.5	13.0	24.0	19.5	21.5	22.5	17.0	19.0
4	7.5	5.0	6.0	12.0	7.0	9.5	26.0	20.0	23.0	22.5	17.0	19.5
5	8.5	6.0	7.0	13.5	7.0	10.0	25.5	21.0	23.0	25.5	19.5	21.5
6	9.0	5.5	7.0	13.0	10.0	11.0	24.5	19.5	22.0	26.0	22.0	23.5
7	8.0	5.5	6.5	13.5	10.5	12.0	24.5	21.0	22.5	25.5	23.0	24.0
8	6.0	4.0	5.0	12.0	10.0	10.5	24.0	20.5	22.0	27.0	23.5	25.0
9	5.0	4.0	4.5	14.5	8.0	11.5	23.5	20.0	22.0	28.0	23.0	25.5
10	4.5	3.5	4.0	17.0	9.5	12.5	24.5	20.5	22.0	28.0	25.0	26.5
11	5.5	3.5	4.0	19.0	13.0	15.5	24.0	18.0	21.0	26.0	24.5	25.0
12	9.5	5.5	7.5	16.5	13.5	15.0	21.5	18.5	20.0	24.5	20.0	23.0
13	11.5	7.5	9.5	19.5	14.0	16.5	25.0	17.5	20.5	20.0	19.0	19.5
14	12.5	7.5	9.5	19.0	14.0	16.5	25.5	19.0	21.5	19.0	17.5	18.5
15	10.0	7.5	8.5	19.0	14.5	17.0	26.5	19.5	22.0	---	---	19.0
16	12.5	7.5	9.5	18.0	13.5	15.5	26.5	20.0	23.0	---	---	22.5
17	10.5	7.5	9.0	19.0	13.0	15.5	26.0	20.5	22.5	---	---	26.0
18	11.0	6.0	8.0	20.0	13.0	16.5	27.0	21.5	24.0	---	---	27.0
19	11.5	5.5	8.0	20.0	13.5	16.5	26.5	20.0	23.0	---	---	27.0
20	12.0	7.0	9.5	20.0	16.0	18.0	24.5	18.5	21.5	---	---	27.0
21	11.5	6.5	9.0	23.0	16.5	19.0	24.5	18.5	21.5	---	---	27.0
22	12.0	6.5	9.0	23.5	18.5	20.5	23.5	19.0	20.5	---	---	27.0
23	13.5	8.0	10.0	21.0	18.5	20.0	24.5	19.0	21.5	28.5	26.0	27.5
24	16.0	9.5	12.5	20.5	16.0	18.5	29.0	23.0	25.0	28.5	27.0	28.0
25	16.5	11.5	14.0	19.5	15.5	17.5	27.5	23.0	24.5	28.0	27.0	28.0
26	17.0	12.0	14.5	20.0	13.5	17.0	25.5	20.0	23.0	29.5	27.0	28.0
27	15.5	13.5	14.0	19.5	14.0	17.0	26.0	20.0	23.0	29.5	27.5	28.5
28	19.0	13.5	16.0	21.5	15.5	18.5	24.5	20.0	22.5	29.5	27.5	28.5
29	---	---	---	20.5	16.0	18.5	23.5	20.5	22.0	28.5	27.0	27.5
30	---	---	---	23.0	16.0	19.0	26.0	22.0	23.5	29.5	26.0	27.5
31	---	---	---	23.0	16.5	20.0	---	---	---	29.5	26.5	28.5
MONTH	19.0	3.5	4.5	23.5	7.0	15.5	28.0	17.0	22.0	29.5	17.0	25.0

BRAZOS RIVER BASIN

08105300 SAN GABRIEL RIVER NEAR WEIR, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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

BRAZOS RIVER BASIN

431

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.--WDR 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 Laneport Reservoir under construction during the 1978 water year.

AVERAGE DISCHARGE.--13 years, 280 ft³/s (7.930 m³/s), 5.15 in/yr (131 mm/yr), 202,900 acre-ft/yr (250 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, 1,430 ft³/s (40.5 m³/s) Feb. 12, gage height, 10.44 ft (3.182 m); minimum daily, 0.28 ft³/s (0.008 m³/s) Aug. 25-28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	25	26	24	26	40	32	23	16	3.6	.95	.36
2	16	25	26	24	24	39	31	39	14	3.4	1.8	.37
3	18	49	25	22	24	39	32	146	16	3.0	.79	.37
4	16	42	25	23	22	38	31	58	15	2.7	4.4	.35
5	16	32	23	24	21	38	31	36	13	2.5	6.2	.35
6	18	28	23	24	22	50	29	32	12	2.2	5.6	.37
7	17	24	23	24	27	197	30	27	112	1.8	4.7	.41
8	18	37	23	23	34	70	32	27	155	1.2	4.0	.47
9	18	57	23	22	33	60	33	23	97	.70	3.3	.47
10	17	44	22	21	33	55	267	21	51	.46	1.7	.71
11	17	34	22	22	30	51	173	40	33	.39	1.4	.63
12	17	31	22	25	248	48	67	64	30	.36	3.6	2.1
13	17	30	24	25	486	47	50	35	25	.33	2.9	5.5
14	17	29	24	24	170	46	45	26	23	.30	2.0	7.6
15	18	30	22	21	105	41	40	23	19	.30	1.3	8.4
16	18	29	22	29	73	38	36	20	17	.39	.77	5.0
17	17	26	22	37	68	38	35	19	16	.52	.46	1.8
18	17	25	22	30	77	43	35	17	15	.59	.34	.81
19	18	25	22	36	64	59	31	15	14	.62	.29	1.5
20	17	25	22	31	60	41	28	17	13	.62	.32	.98
21	17	25	21	29	56	40	26	20	12	.60	.35	.69
22	22	26	21	27	52	38	28	20	12	.46	.35	9.7
23	37	24	21	27	48	49	28	19	11	.38	.33	5.2
24	33	25	23	28	46	50	28	20	9.0	.48	.29	1.7
25	28	24	21	25	44	38	194	16	8.3	.60	.28	.82
26	27	24	20	18	43	36	119	11	7.9	.46	.28	.60
27	25	24	21	2.9	44	37	35	2.1	5.9	.37	.28	.45
28	24	24	22	37	44	36	27	4.1	5.3	.64	.28	.38
29	24	26	24	26	---	34	22	14	4.4	.52	.29	1.3
30	24	27	25	23	---	33	22	20	3.8	.37	.32	2.1
31	25	---	25	24	---	32	---	15	---	.35	.34	---
TOTAL	629	896	707	777.9	2024	1501	1617	869.2	785.6	31.21	50.21	61.49
MEAN	20.3	29.9	22.8	25.1	72.3	48.4	53.9	28.0	26.2	1.01	1.62	2.05
MAX	37	57	26	37	486	197	267	146	155	3.6	6.2	9.7
MIN	16	24	20	2.9	21	32	22	2.1	3.8	.30	.28	.35
CFSM	.03	.04	.03	.03	.10	.07	.07	.04	.04	.001	.002	.003
IN.	.03	.05	.04	.04	.10	.08	.08	.04	.04	.00	.00	.00
AC-FT	1250	1780	1400	1540	4010	2980	3210	1720	1560	62	100	122
CAL YR 1977 TOTAL	103041.00			MEAN 282		MAX 12300	MIN 16	CFSM .38	IN 5.19	AC-FT 204400		
WTR YR 1978 TOTAL	9949.61			MEAN 27.3		MAX 486	MIN .28	CFSM .04	IN .50	AC-FT 19740		

08105700 SAN GABRIEL RIVER AT LANEPOR, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: July 1972 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1976 to current year.

INSTRUMENTATION.--Water temperature is recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Where maximum or minimum values are not shown, mean value is estimated.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 37.5°C July 9, 1978; minimum daily, 1.5°C Jan. 28, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 37.5°C July 9; minimum daily, 1.5°C Jan. 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	
DATE	TIME												
OCT													
12...	1410	17	587	8.0	19.0	2	15	8.4	93	.6	240	36	
NOV													
09...	1020	55	580	8.1	15.5	7	35	8.6	89	.1	250	45	
DEC													
12...	1655	22	620	7.8	12.0	2	8	10.8	104	1.0	260	43	
JAN													
25...	1115	26	658	8.0	6.0	1	3	12.2	101	.3	260	33	
FEB													
17...	1350	72	560	7.8	9.0	10	40	10.7	96	1.0	240	54	
MAR													
28...	1220	37	617	8.0	18.5	2	35	9.3	102	.6	--	--	
APR													
20...	1124	29	616	8.2	20.5	10	40	7.8	91	1.0	250	45	
MAY													
11...	1211	25	580	8.0	24.0	5	35	6.8	85	1.3	230	35	
JUN													
09...	1030	111	460	7.9	25.0	10	60	7.0	88	2.5	190	21	
JUL													
12...	1120	.37	638	7.7	27.5	8	25	7.2	94	1.8	250	49	
AUG													
07...	1505	4.4	652	7.6	29.0	0	15	7.8	104	1.5	230	68	
SEP													
05...	1600	.35	660	7.6	31.0	0	10	8.0	110	2.2	250	45	
		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
OCT													
12...	70	16	26	.7	1.6	250	0	32	41	.3	12	322	
NOV													
09...	72	17	23	.6	2.0	250	0	36	36	.3	9.2	319	
DEC													
12...	78	17	28	.7	1.9	270	0	44	47	.4	6.5	356	
JAN													
25...	77	17	31	.8	1.8	280	0	40	46	.3	4.5	356	
FEB													
17...	74	14	23	.6	2.0	230	0	43	35	.2	6.6	311	
MAR													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	77	14	25	.7	2.5	250	0	37	45	.2	1	334	
MAY													
11...	73	12	23	.7	2.7	240	0	30	38	.3	10	307	
JUN													
09...	56	11	19	.6	3.3	200	0	25	26	.3	7.0	246	
JUL													
12...	72	16	30	.8	2.3	240	0	41	48	.3	12	340	
AUG													
07...	68	15	37	1.1	2.6	200	0	55	72	.3	11	360	
SEP													
05...	72	17	35	1.0	2.5	250	0	52	51	.3	15	368	

BRAZOS RIVER BASIN

433

08105700 SAN GABRIEL RIVER AT LANEPOR, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 12...	16	2	.44	.01	.45	.00	.32	.32	.01	2.4	1	.00
NOV 09...	47	6	2.5	.01	2.5	.00	.50	.50	.03	2.1	1	.20
DEC 12...	11	2	3.0	.01	3.0	.06	.32	.38	.02	2.4	3	.10
JAN 25...	5	1	.60	.01	.61	.02	.34	.36	.04	1.8	3	.10
FEB 17...	67	10	.77	.01	.78	.08	.52	.60	.30	3.9	0	.00
MAR 28...	51	8	.85	.02	.87	.01	.44	.45	.00	3.8	0	.00
APR 20...	72	10	.97	.03	1.0	.03	.52	.55	.10	3.4	3	.00
MAY 11...	69	10	1.7	.04	1.7	.03	.58	.61	.08	3.5	0	.00
JUN 09...	118	20	.92	.08	1.0	.58	.92	1.5	.12	4.9	1	.00
JUL 12...	31	6	1.7	.03	1.7	.03	.93	.96	.02	4.0	1	.20
AUG 07...	16	2	.45	.02	.47	.02	.38	.40	.20	4.2	2	.10
SEP 05...	15	5	.57	.04	.61	.10	.50	.60	.02	--	1	.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)
OCT 12...	1410	1	0	0	10	1	10
FEB 17...	1350	3	0	2	0	3	0
JUN 09...	1030	7	50	1	10	0	0

DATE	LEAD, DIS- SOLVED (UG/L AS PR)	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 12...	0	0	.0	1	0	20
FEB 17...	4	10	.0	1	0	10
JUN 09...	2	10	.0	0	0	5

BRAZOS RIVER BASIN
08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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

BRAZOS RIVER BASIN

435

08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	26.0	32.0	24.0	27.0	---	---	24.5	27.5	25.5	26.5
2	28.0	---	25.5	36.0	25.0	28.0	---	---	25.5	28.5	25.5	26.5
3	27.5	26.0	26.5	36.5	20.0	27.5	---	---	26.0	28.0	25.5	27.0
4	28.5	25.5	27.0	36.5	24.5	27.5	---	---	26.5	29.0	26.0	27.0
5	29.0	25.5	27.0	36.0	25.0	28.0	---	---	26.5	29.0	25.0	26.5
6	30.5	26.5	28.0	36.0	24.5	27.5	---	---	26.5	27.5	25.0	26.5
7	28.0	26.0	27.0	36.5	24.0	27.0	---	---	26.0	26.5	25.0	25.5
8	28.0	25.0	26.5	36.0	23.0	27.0	---	---	26.5	26.5	24.5	25.5
9	28.0	25.0	26.5	37.5	22.5	27.5	---	---	26.5	27.5	25.0	26.0
10	28.0	26.0	27.0	---	---	28.0	---	---	26.5	26.5	25.5	26.0
11	30.5	26.5	28.0	---	---	28.0	---	---	27.0	26.0	25.0	25.5
12	31.0	27.0	28.5	---	---	27.5	---	---	28.5	28.5	25.0	26.5
13	30.0	20.0	28.5	---	---	27.5	---	---	28.5	27.5	26.0	26.5
14	30.5	26.5	28.5	---	---	28.0	---	---	28.5	28.0	26.0	27.0
15	31.0	27.0	28.5	---	---	28.0	---	---	28.5	28.5	27.0	27.5
16	30.5	27.5	29.0	---	---	28.0	---	---	28.0	30.0	27.0	28.0
17	31.0	27.5	29.0	---	---	28.0	---	---	28.0	29.5	27.0	28.0
18	31.0	28.0	29.0	---	---	27.5	---	---	28.0	28.5	27.0	27.5
19	31.0	27.5	29.0	---	---	27.5	---	---	28.0	29.5	27.0	28.0
20	31.0	20.0	28.0	---	---	27.5	---	---	28.5	29.5	26.5	27.5
21	31.5	27.0	28.5	---	---	27.5	---	---	28.5	29.0	26.0	27.0
22	31.0	26.5	28.5	---	---	27.0	---	---	28.0	27.0	25.0	26.0
23	31.5	27.0	28.5	---	---	26.5	---	---	27.5	26.5	25.5	26.0
24	32.0	27.5	28.5	---	---	26.0	---	---	28.0	28.0	24.5	26.0
25	32.0	27.5	28.5	---	---	27.0	29.5	27.0	28.0	27.5	24.0	25.5
26	31.5	26.0	28.0	---	---	27.5	30.0	27.0	28.0	25.0	23.5	24.0
27	32.0	24.5	27.5	---	---	26.5	29.5	26.5	28.0	24.0	23.0	23.5
28	34.5	24.0	27.5	---	---	26.0	31.5	27.0	28.5	24.5	22.0	23.5
29	31.0	23.5	27.0	---	---	25.5	29.5	26.5	28.0	25.5	21.0	23.0
30	33.0	22.5	27.0	---	---	26.5	28.0	26.5	27.0	26.0	21.5	23.5
31	---	---	---	---	---	25.0	28.0	26.0	26.5	---	---	---
MONTH	34.5	20.0	28.0	37.5	20.0	27.0	31.5	26.0	27.5	30.0	21.0	26.0

08106300 BRUSHY CREEK NEAR ROCKDALE, TX

LOCATION.--Lat 30°41'38", long 97°04'42", Milam County, Hydrologic Unit 12070205, on left bank 36 ft (11 m) upstream from bridge on Farm Road 908, 2.8 mi (4.5 km) upstream from mouth, and 5.3 mi (8.5 km) northwest of Rockdale.

DRAINAGE AREA.--505 mi² (1,308 km²).

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

REVISED RECORDS.--WDR TX-73-1: 1972. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 325.56 ft (99.231 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 4, 1970, water-stage recorder at site 150 ft (46 m) downstream at datum 5.00 ft (1.524 m) higher. Feb. 5 to Sept. 3, 1970, non-recording gage at site 150 ft (46 m) downstream at present datum. Since Oct. 10, 1974, auxiliary water-stage recorder on the San Gabriel River at Farm Road 487, 4.0 mi (6.4 km) downstream at datum 13.97 ft (4.258 m) lower.

REMARKS.--Records good. Flow is affected at times by the discharge from 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 1970, the channel was rectified in the vicinity of the gage. Backwater occurs at times from the San Gabriel River.

AVERAGE DISCHARGE.--11 years, 197 ft³/s (5.579 m³/s), 142,700 acre-ft/yr (176 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft³/s (348 m³/s) May 24, 1975, gage height, 28.43 ft (8.665 m); maximum gage height, 31.09 ft (9.476 m) Jan. 20, 1968, prior to channel rectification, present datum, from floodmark; minimum daily discharge, 0.04 ft³/s (0.001 m³/s) Sept. 4, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1903, 54.5 ft (16.61 m), present datum, in September 1921, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,900 ft³/s (53.8 m³/s) Apr. 11, gage height, 12.00 ft (3.658 m); minimum daily, 0.15 ft³/s (0.004 m³/s) Aug. 21-24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.0	5.1	9.1	7.1	4.3	7.3	7.4	4.6	.92	1.8	.51
2	1.8	2.7	5.3	8.5	7.4	4.3	6.9	7.9	4.1	.84	1.1	1.3
3	1.2	4.9	6.4	8.2	7.8	4.1	7.0	15	7.7	.82	2.0	1.6
4	1.1	9.3	5.9	7.8	7.8	3.7	7.0	93	7.1	.71	4.3	2.7
5	3.6	6.5	5.7	7.8	7.8	3.6	6.5	39	4.9	.63	2.4	3.0
6	3.1	5.0	5.1	7.8	7.8	3.7	5.9	21	4.1	.55	1.8	2.0
7	2.3	4.2	5.2	7.8	8.5	515	5.6	15	28	.54	1.3	9.9
8	2.1	7.2	5.5	8.5	9.3	336	10	12	194	.53	1.1	8.2
9	2.0	22	4.8	8.2	26	56	8.7	11	250	.53	.95	5.2
10	1.7	23	4.8	7.9	19	32	563	8.3	107	.49	.84	5.3
11	1.6	11	4.5	8.5	16	24	1330	8.1	41	.50	.64	4.7
12	1.1	6.8	4.7	7.9	19	19	170	152	27	.36	.46	4.6
13	.92	5.3	5.0	8.6	184	15	73	55	20	.31	.46	5.2
14	.84	4.4	5.0	10	150	13	49	30	15	.31	.46	9.0
15	2.1	4.0	5.4	9.5	30	12	38	21	11	.26	.46	7.4
16	2.4	3.5	6.0	10	14	11	32	16	9.5	.18	.38	6.4
17	2.4	3.5	6.3	10	10	9.9	27	12	8.0	.32	.31	3.8
18	2.2	3.7	6.0	23	20	9.2	21	11	6.9	.31	.24	6.0
19	2.0	4.2	6.2	16	28	8.4	19	9.2	5.6	.35	.31	5.8
20	1.8	4.6	6.4	12	16	8.2	16	8.8	4.6	.44	.18	3.6
21	1.6	4.8	6.2	11	11	8.7	12	9.2	3.8	.38	.15	2.4
22	2.0	4.4	5.8	9.4	8.8	9.4	11	12	3.2	.41	.15	1.8
23	8.7	13	5.9	8.1	7.1	9.4	9.6	19	2.7	.47	.15	1.3
24	31	6.5	6.4	7.7	6.0	9.1	9.0	18	2.3	.42	.15	1.3
25	14	4.4	6.4	7.9	5.3	9.4	9.4	11	2.1	.37	.18	1.1
26	8.5	4.4	6.2	8.2	5.2	9.5	9.1	8.5	1.8	1.1	.24	1.1
27	5.8	4.5	6.2	8.4	4.8	10	12	7.2	1.6	1.1	.24	.95
28	4.4	4.8	7.1	8.8	4.4	10	10	6.1	1.4	.84	.24	.84
29	3.5	5.0	7.1	7.4	---	9.3	10	5.7	1.2	.90	.31	.64
30	3.1	4.8	7.1	6.7	---	8.6	8.0	4.9	1.0	.89	.38	.55
31	2.8	---	8.0	6.8	---	7.8	---	4.7	---	.61	.38	---
TOTAL	123.46	195.4	181.7	287.5	648.1	1193.6	2503.0	659.0	781.2	17.39	24.06	108.19
MEAN	3.98	6.51	5.86	9.27	23.1	38.5	83.4	21.3	26.0	.56	.78	3.61
MAX	31	23	8.0	23	184	515	1330	152	250	1.1	4.3	9.9
MIN	.84	2.7	4.5	6.7	4.4	3.6	5.6	4.7	1.0	.18	.15	.51
AC-FT	245	388	360	570	1290	2370	4960	1310	1550	34	48	215
CAL YR 1977	TOTAL	67050.36	MEAN	184	MAX	8000	MIN	.84	AC-FT	133000		
WTR YR 1978	TOTAL	6722.60	MEAN	18.4	MAX	1330	MIN	.15	AC-FT	13330		

BRAZOS RIVER BASIN

437

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 8,550 acre-ft (10.5 hm³) from river above gage during the current year for use at their Rockdale plant. Flow is affected at times by discharge from the flood-detention pools of 67 floodwater-retarding structures with a combined detention capacity of 73,910 acre-ft (91.1 hm³). These structures control runoff from 221 mi² (572 km²) in the Nolan, Donahoe, and Brushy Creek drainage basins. National Weather Service gage-height telemeter 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); 25 years (water years 1954-78) regulated, 1,666 ft³/s (47.18 m³/s), 1,207,000 acre-ft/yr (1.49 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1852, that of Sept. 10, 1921; flood in 1852 reached about the same stage. 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, 2,760 ft³/s (78.2 m³/s) Mar. 8, gage height, 10.85 ft (3.307 m); minimum daily, 31 ft³/s (0.88 m³/s) Sept. 29, 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	85	87	151	115	150	125	84	233	988	650	64
2	92	98	97	142	119	148	123	82	223	1050	656	72
3	93	95	108	84	119	148	119	247	256	1110	568	88
4	89	130	92	78	120	145	117	392	366	1110	647	73
5	92	119	84	78	117	140	101	361	389	1080	640	67
6	92	100	95	80	111	143	74	193	186	1070	639	62
7	92	90	76	81	124	680	75	149	209	1090	419	62
8	95	112	78	78	138	2080	73	125	1030	1060	203	70
9	97	122	95	71	167	601	78	116	990	1050	147	68
10	95	273	107	68	229	337	471	102	900	1050	121	88
11	66	190	107	71	203	276	1950	93	700	1040	104	110
12	78	121	103	122	224	235	795	163	660	1040	92	104
13	69	103	90	87	728	209	324	285	600	1040	84	85
14	69	100	82	105	1420	164	210	164	400	1020	77	86
15	68	95	83	102	539	153	167	113	200	696	70	77
16	65	90	84	100	332	142	139	92	170	743	66	50
17	66	92	95	104	258	127	121	78	180	655	65	47
18	66	119	86	219	242	116	111	155	940	619	64	48
19	66	87	78	228	307	114	105	232	900	609	61	40
20	63	82	77	174	266	139	86	233	767	603	59	37
21	64	87	77	152	186	116	72	246	775	595	61	34
22	76	81	71	140	165	115	63	296	781	459	61	33
23	84	81	70	130	147	110	62	323	797	716	58	78
24	212	92	115	129	145	119	70	283	801	1020	121	90
25	196	84	120	127	167	127	102	257	928	1050	77	44
26	115	78	122	123	162	111	463	247	967	860	64	38
27	102	78	121	118	157	102	299	238	967	833	60	35
28	93	76	117	102	155	98	154	229	965	835	58	32
29	85	95	121	104	---	103	119	221	958	782	56	31
30	82	107	125	128	---	132	103	221	983	705	52	31
31	79	---	133	115	---	129	---	227	---	664	57	---
TOTAL	2785	3162	2996	3591	7162	7509	6871	6247	19221	27242	6157	1844
MEAN	89.8	105	96.6	116	256	242	229	202	641	879	199	61.5
MAX	212	273	133	228	1420	2080	1950	392	1030	1110	656	110
MIN	63	76	70	68	111	98	62	78	170	459	52	31
AC-FT	5520	6270	5940	7120	14210	14890	13630	12390	38120	54030	12210	3660
CAL YR 1977 TOTAL	760132			2083	MAX 36400	MIN 56	AC-FT 1508000					
WTR YR 1978 TOTAL	94787			260	MAX 2080	MIN 31	AC-FT 188000					

BRAZOS RIVER BASIN

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.

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, 4.0°C Jan. 11, 1968, Jan. 12-14, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 809 micromhos Oct. 26; minimum daily, 396 micromhos June 10.

WATER TEMPERATURES: Maximum daily, 29.0°C Aug. 19-21; minimum daily, 5.0°C on several days during January and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	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)	
DATE	TIME											
NOV 09...	1215	114	655	8.1	17.0	--	8.5	90	1.3	--	--	
DEC 15...	1040	84	772	7.6	11.0	--	--	--	--	--	--	
JAN 25...	1330	127	704	7.9	6.0	10	12.8	106	1.9	--	--	
FEB 22...	1245	159	620	7.9	8.5	40	10.8	96	3.0	120000	3000	
MAR 29...	0840	95	720	8.6	17.5	25	10.8	116	4.4	82000	11000	
APR 24...	1604	74	682	8.7	25.0	32	12.7	161	7.4	67000	5000	
MAY 08...	1640	117	660	8.1	26.0	45	7.5	95	2.1	77000	7600	
JUN 06...	1615	144	454	7.8	28.0	80	6.3	82	.6	69000	6000	
JUL 12...	1640	1040	460	8.1	23.5	80	8.2	100	1.0	2700	430	
AUG 08...	1530	192	556	7.9	27.0	25	7.5	96	.9	K1200	75	
SEP 06...	0900	62	622	7.8	27.0	40	5.1	65	2.2	--	18000	
		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)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS S04)
NOV 09...	--	260	27	73	18	42	1.1	3.3	280	0	48	
DEC 15...	--	300	43	86	20	49	1.2	3.8	310	0	58	
JAN 25...	--	270	43	81	17	47	1.2	3.7	280	0	57	
FEB 22...	670	260	61	80	14	35	1.0	3.1	240	0	61	
MAR 29...	300	280	46	85	17	50	1.3	3.9	260	14	66	
APR 24...	240	260	20	79	16	40	1.1	3.9	280	8	53	
MAY 08...	190	230	32	72	12	43	1.2	4.2	240	0	50	
JUN 06...	560	170	30	48	12	27	.9	3.5	170	0	29	
JUL 12...	2000	190	38	56	11	22	.7	3.5	180	0	27	
AUG 08...	54	210	28	52	19	30	.9	3.4	220	0	27	
SEP 06...	480	220	25	64	15	36	1.1	4.4	240	0	45	

BRAZOS RIVER BASIN

439

08106500 LITTLE RIVER AT CAMERON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, 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)
NOV 09...	43	.3	9.2	--	375	1.8	.01	1.8	.05	.58
DEC 15...	63	.4	8.6	--	442	--	--	--	--	--
JAN 25...	54	.4	5.1	422	403	.94	.02	.96	.34	.56
FEB 22...	46	.3	8.1	362	366	1.7	.05	1.7	.30	.60
MAR 29...	54	.4	1.7	407	420	.26	.01	.27	.03	1.1
APR 24...	42	.5	7.1	379	388	1.1	.03	1.1	.01	1.1
MAY 08...	51	.5	11	--	362	1.6	.05	1.6	.14	.66
JUN 06...	39	.4	5.6	243	248	.70	.05	.75	.17	.58
JUL 12...	34	.3	10	253	253	.31	.01	.32	.01	.79
AUG 08...	46	.3	9.1	292	295	.46	.01	.47	.10	.70
SEP 06...	42	.4	11	346	336	.32	.02	.34	.12	1.3

DATE	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 09...	.63	--	.54	--	--	--	--	--	--	--
DEC 15...	--	--	--	--	--	--	--	--	--	--
JAN 25...	.90	1.4	.98	.30	--	--	--	--	--	--
FEB 22...	.90	.59	.32	.09	--	4.0	.9	64	27	100
MAR 29...	1.1	.82	.16	.11	6.8	--	--	21	5.4	86
APR 24...	1.1	.69	.62	.22	3.1	--	--	56	11	99
MAY 08...	.80	.55	.71	.53	5.4	--	--	83	26	96
JUN 06...	.75	.54	.28	.17	--	5.0	.7	151	59	99
JUL 12...	.80	.52	.15	.08	6.1	--	--	186	522	97
AUG 08...	.80	.61	.18	.14	--	3.7	.5	43	22	98
SEP 06...	1.4	.84	.57	.60	7.1	--	--	61	10	94

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)
FEB 22...	1245	3	0	4	100	0	100	0	0	3
JUN 06...	1615	6	1	5	100	50	50	1	1	0
AUG 08...	1530	3	1	2	100	40	60	1	0	<1

BRAZOS RIVER BASIN

08106500 LITTLE RIVER AT CAMERON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE D RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE D RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE D RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
FEB 22...	0	0	0	2	2	0	5	3	2	1400
JUN 06...	10	5	5	2	2	0	10	9	1	2300
AUG 08...	0	0	0	2	1	<1	5	4	1	530
DATE	IRON, SUS- PENDE D RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE D 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 D RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE D RECOV- ERABLE (UG/L AS HG)
FEB 22...	--	0	4	4	0	60	50	10	.0	.0
JUN 06...	--	0	6	3	3	100	100	0	.1	.0
AUG 08...	510	20	4	1	3	30	20	7	.0	.0
DATE	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE D RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE D RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE D RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 22...	.0	1	0	2	0	0	0	20	10	10
JUN 06...	.1	0	0	1	0	0	0	30	30	5
AUG 08...	.2	0	0	0	0	0	0	20	20	3

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

PERIPHYTON

DATE	LENGTH OF EXPOSURE (DAYS)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	SAMPLING METHOD
MAR 29...	35	78.2	85.8	79.2	6.37	POLYETHYLENE STRIP
SEP 06...	29	9.13	12.9	34.6	8.96	POLYETHYLENE STRIP

BRAZOS RIVER BASIN

441

08106500 LITTLE RIVER AT CAMERON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	MAR 29,78 0840	MAY 8,78 1640	JUN 6,78 1615	JUL 12,78 1640	SEP 6,78 0900
TOTAL CELLS/ML	12000	6400	130	1100	5000
DIVERSITY: DIVISION	1.2	1.3	1.2	1.1	1.7
..CLASS	1.2	1.3	1.2	1.1	1.7
..ORDER	2.4	1.8	1.9	1.3	2.4
...FAMILY	2.7	2.5	2.4	1.4	3.0
....GENUS	3.2	3.1	2.4	1.4	3.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....COELASTRACEAE										
.....COELASTRUM	* 0	--	--	--	15 11	--	--	--	880# 18	--
....MICRACTINACEAE										
.....GOLFKNINIA	--	--	180 3	--	--	--	--	--	--	--
.....MICRACTINIUM	* 0	--	--	--	--	--	--	--	--	--
....OOCYSTACEAE										
.....ANKISTRODES MUS	79 1	--	--	--	--	--	--	--	55 1	--
.....CHONATELLA	--	--	75 1	--	--	--	--	--	--	--
.....DICTYOSPHAERIUM	--	--	700 11	--	--	--	--	--	--	--
.....KIRCHNERIELLA	440 4	--	--	--	--	--	--	--	120 2	--
....OOCYSTIS	320 3	--	700 11	--	29# 22	--	--	--	--	--
.....SELENASTRUM	--	--	* 0	--	--	--	--	--	--	--
....SCENEDESMACEAE										
.....ACTINASTRUM	630 5	--	--	--	--	--	--	--	--	--
.....CIRRIIGENTIA	--	--	1200# 19	--	--	--	--	--	110 2	--
....SCENEDESMUS	950 8	--	400 6	--	--	88 8	--	--	320 6	--
....TETRASTRUM	1900# 16	--	100 2	--	--	--	--	--	55 1	--
..TETRAPODALES										
...PALMELLACEAE										
....SPHAEROYSTIS	870 7	--	--	--	--	--	--	--	--	--
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	--	--	--	--	22 2	--	--	55 1	--
....CHLAMYDOMONAS	2900# 25	--	430 7	--	--	--	--	--	28 1	--
...POLYRLEPHARIDACEAE										
....SPERMATOZOOPSIS	--	--	--	--	--	--	--	--	28 1	--
..ZYGEMATALES										
...DESMIDIACEAE										
....COSMARION	79 1	--	--	--	44# 33	--	--	--	--	--
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCAEAE										
.....CYCLOTELLA	1700 15	--	100 2	--	--	22 2	--	--	580 12	--
..DINOFYNIALES										
...ACHNANTHACEAE										
....COCONEIS	--	--	--	--	--	22 2	--	--	--	--
....DINOTACEAE										
.....DIATOMA	630 5	--	--	--	--	--	--	--	--	--
...FRAGILARIACEAE										
....SYNDRA	--	--	* 0	--	15 11	--	--	--	--	--
...NAVICULACEAE										
....GYROSIGMA	--	--	--	--	--	--	--	--	55 1	--
....NAVICULA	--	--	50 1	--	15 11	44 4	--	--	150 3	--
....PLEUROSIGMA	--	--	--	--	--	--	--	--	* 0	--
...NITZSCHIAEAE										
....NITZSCHIA	74 1	--	--	--	--	44 4	--	--	450 9	--
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOMONADACEAE										
.....CRYPTOMONAS	100 1	--	--	--	--	22 2	--	--	* 0	--
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCALES										
....CHROCOCCACEAE										
.....AGMENELLUM	--	--	--	--	--	--	--	--	720 14	--
....ANACYSTIS	* 0	--	1900# 30	--	--	--	--	--	--	--
...HORMOGONIALES										
....OSCILLATORIACEAE										
.....LYNGBYA	--	--	300 5	--	--	--	--	--	--	--
....OSCILLATORIA	--	--	--	--	15 11	840# 76	--	--	1300# 25	--

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 1977 TO SEPTEMBER 1978

DATE TIME	MAR 29,78 0840		MAY 8,78 1640		JUN 6,78 1615		JUL 12,78 1640		SEP 6,78 0900	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENACEAE										
.....EUGLENA	1000	9	130	2	--	-	--	-	--	-
.....PHACUS	--	-	*	0	--	-	--	-	--	-
.....TRACHELOMONAS	79	1	*	0	--	-	--	-	28	1
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...PERIDINIALES										
....GLENODINIACEAE										
.....GLENODINIUM	--	-	--	-	--	-	--	-	55	1

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

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

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	2785	746	430	3220	66	496	52	394	280
NOV. 1977.....	3162	682	390	3330	58	495	48	409	260
DEC. 1977.....	2996	762	440	3540	68	551	54	433	280
JAN. 1978.....	3591	753	430	4190	67	648	53	512	280
FEB. 1978.....	7162	627	360	6950	51	995	44	850	240
MAR. 1978.....	7509	604	350	6990	48	983	42	860	230
APR. 1978.....	6871	566	330	6040	44	812	40	736	220
MAY 1978.....	6247	599	340	5790	48	807	42	709	230
JUNE 1978.....	19221	497	290	14800	35	1830	35	1820	190
JULY 1978.....	27242	472	270	20000	32	2370	33	2440	190
AUG. 1978.....	6157	552	320	5260	42	701	39	645	210
SEPT 1978.....	1844	683	390	1950	58	290	48	238	260
TOTAL	94787	**	**	82100	**	11000	**	10000	**
WTD.AVG.	259.69	559	320	**	43	**	39	**	220

BRAZOS RIVER BASIN

443

08106500 LITTLE RIVER AT CAMERON, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	736	681	739	772	712	688	733	604	556	488	529	684
2	731	661	740	775	737	686	731	650	579	486	524	661
3	736	665	726	777	755	706	731	619	578	469	522	700
4	731	635	733	782	745	720	728	490	573	467	527	620
5	770	643	739	785	760	718	732	600	563	468	524	591
6	731	675	753	777	767	725	734	670	428	467	534	610
7	741	685	750	770	760	650	734	650	469	464	535	636
8	758	677	748	767	757	530	722	660	526	456	543	638
9	766	665	745	762	753	486	732	637	475	452	571	649
10	760	669	743	775	750	494	600	636	396	451	580	727
11	750	724	764	772	779	526	400	650	472	454	597	744
12	752	690	758	757	744	534	499	636	469	456	613	679
13	749	701	760	765	713	573	585	600	468	453	591	700
14	750	714	762	740	600	597	617	561	465	452	561	681
15	755	692	764	743	485	613	639	581	468	453	543	742
16	751	668	752	745	430	647	642	603	482	454	535	720
17	744	664	757	748	429	667	628	626	493	455	540	797
18	752	650	760	745	457	681	631	637	511	458	543	794
19	761	662	769	745	524	695	658	670	520	463	555	744
20	759	650	777	771	548	702	670	671	522	462	569	711
21	758	631	785	776	619	686	684	610	519	464	598	682
22	750	651	795	760	628	693	680	550	523	465	617	680
23	742	674	800	763	644	706	664	570	525	474	662	688
24	728	688	777	750	655	713	675	566	526	498	674	647
25	750	703	775	740	680	708	686	599	500	486	691	626
26	809	725	770	738	678	702	706	605	483	500	678	647
27	791	737	777	721	688	722	654	574	482	506	674	653
28	744	732	780	699	692	737	617	586	480	501	699	659
29	690	735	770	710	---	732	555	574	481	500	711	696
30	686	739	775	720	---	727	592	578	485	505	711	693
31	690	---	783	726	---	734	---	598	---	507	699	---
MEAN	746	683	762	754	660	661	655	608	501	472	595	683

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.0	22.0	13.0	10.0	5.0	13.0	19.0	23.0	27.0	23.0	22.0	26.0
2	26.0	20.0	12.0	8.0	5.0	14.0	20.0	23.0	27.0	23.0	22.0	26.0
3	24.0	18.0	14.0	8.0	5.0	13.0	20.0	20.0	26.0	23.0	22.0	27.0
4	24.0	18.0	15.0	8.0	5.0	9.0	21.0	18.0	25.0	23.0	23.0	26.0
5	23.0	17.0	15.0	9.0	6.0	8.0	22.0	19.0	25.0	22.0	23.0	26.0
6	24.0	18.0	13.0	10.0	9.0	9.0	21.0	21.0	26.0	22.0	23.0	26.0
7	24.0	18.0	12.0	12.0	7.0	10.0	22.0	23.0	26.0	23.0	22.0	26.0
8	24.0	18.0	14.0	12.0	6.0	11.0	22.0	24.0	26.0	22.0	23.0	25.0
9	23.0	16.0	12.0	10.0	5.0	10.0	22.0	24.0	25.0	22.0	25.0	26.0
10	22.0	15.0	10.0	8.0	5.0	10.0	21.0	24.0	25.0	22.0	26.0	26.0
11	20.0	13.0	10.0	7.0	5.0	11.0	19.0	25.0	25.0	22.0	27.0	25.0
12	19.0	12.0	10.0	6.0	7.0	13.0	18.0	25.0	25.0	22.0	27.0	25.0
13	17.0	13.0	12.0	6.0	7.0	14.0	18.0	24.0	26.0	22.0	28.0	25.0
14	17.0	14.0	10.0	5.0	8.0	15.0	19.0	24.0	26.0	22.0	28.0	25.0
15	17.0	15.0	11.0	5.0	8.0	15.0	20.0	24.0	26.0	22.0	28.0	26.0
16	17.0	17.0	11.0	5.0	8.0	15.0	21.0	25.0	27.0	23.0	28.0	26.0
17	16.0	17.0	13.0	5.0	7.0	14.0	22.0	26.0	28.0	24.0	28.0	27.0
18	17.0	17.0	13.0	6.0	6.0	15.0	22.0	26.0	28.0	24.0	28.0	27.0
19	18.0	18.0	12.0	6.0	8.0	15.0	22.0	27.0	27.0	25.0	29.0	27.0
20	18.0	19.0	13.0	5.0	7.0	16.0	21.0	27.0	28.0	24.0	29.0	27.0
21	20.0	18.0	12.0	5.0	7.0	18.0	20.0	26.0	28.0	25.0	29.0	27.0
22	21.0	16.0	10.0	5.0	6.0	19.0	20.0	25.0	27.0	25.0	28.0	25.0
23	20.0	16.0	9.0	6.0	7.0	20.0	20.0	26.0	27.0	25.0	28.0	26.0
24	20.0	18.0	10.0	6.0	8.0	18.0	22.0	26.0	28.0	24.0	28.0	25.0
25	20.0	17.0	10.0	6.0	10.0	16.0	22.0	26.0	27.0	23.0	28.0	24.0
26	20.0	16.0	10.0	6.0	10.0	15.0	22.0	26.0	27.0	22.0	28.0	24.0
27	20.0	16.0	9.0	6.0	12.0	15.0	21.0	27.0	26.0	23.0	28.0	24.0
28	21.0	16.0	9.0	5.0	---	16.0	22.0	26.0	26.0	23.0	27.0	23.0
29	21.0	16.0	9.0	5.0	---	17.0	22.0	26.0	24.0	23.0	27.0	22.0
30	22.0	13.0	9.0	5.0	---	18.0	---	27.0	---	23.0	27.0	---
31	22.0	---	9.0	5.0	---	---	---	---	---	---	---	---
MEAN	21.0	16.5	11.5	7.0	7.0	14.0	21.0	24.5	26.5	23.0	26.5	25.5

08109000 BRAZOS RIVER NEAR BRYAN, TX

LOCATION.--Lat 30°36'52", long 96°29'10", Brazos-Burleson County line, Hydrologic Unit 12070101, on left bank 2.4 mi (3.9 km) downstream from Little Brazos River, 5 mi (8 km) downstream from Texas and New Orleans Railroad Co. bridge, 9 mi (14 km) southwest of Bryan, and at mile 281.1 (452.3 km).

DRAINAGE AREA.--39,515 mi² (102,344 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

PERIOD OF RECORD.--August 1899 to December 1902, February 1918 to January 1926, June 26 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 good. 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 126 floodwater-retarding structures with a combined detention capacity of 149,660 acre-ft (185 hm³). These structures control runoff from 431 mi² (1,116 km²). Since 1941, at least 10 percent of drainage area is regulated by reservoirs.

AVERAGE DISCHARGE.--24 years (water years 1900-2. 1919-25, 1927-40), 5,652 ft³/s (160.1 m³/s), 4,095,000 acre-ft/yr (5.05 km³/yr); 38 years (water years 1941-78) regulated, 5,010 ft³/s (141.9 m³/s), 3,630,000 acre-ft/yr (4.48 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54 ft³/s (16.5 m³/s) Sept. 12, 1921, gage height, present site and datum (discharge not determined); minimum daily discharge, 89 ft³/s (2.52 m³/s) Aug. 24, 1934.

EXTREMES FROM OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Sept. 12, 1921. 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, 14,900 ft³/s (422 m³/s) Mar. 8, gage height, 11.50 ft (3.505 m); minimum daily, 213 ft³/s (6.03 m³/s) Sept. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	653	426	396	420	540	515	373	1050	1450	716	1030
2	949	716	451	406	423	537	517	337	1120	1270	678	1090
3	667	735	450	407	412	534	514	358	1230	1250	657	1030
4	643	788	437	407	420	529	489	817	2510	1250	663	981
5	995	654	415	382	422	524	475	1070	3420	1210	657	734
6	665	680	379	359	403	530	467	1270	2030	1170	636	638
7	526	640	355	357	512	1280	457	912	2370	1130	632	734
8	475	600	367	353	801	13800	450	687	4340	1120	582	766
9	450	601	349	336	558	10200	455	514	3270	1090	362	743
10	428	643	323	332	542	6260	668	428	2480	1060	257	760
11	415	690	329	371	594	4100	1310	385	2010	1060	293	797
12	437	694	373	394	657	2580	2730	354	1700	1050	1200	939
13	439	564	432	371	1070	1790	1800	321	1460	1030	3560	1090
14	407	497	377	405	2360	1410	1100	635	1410	1020	4040	911
15	413	466	366	438	3870	1160	787	1710	1350	1010	4010	779
16	682	445	360	565	2720	1000	619	1000	1230	804	4050	769
17	924	441	360	537	1640	883	495	650	848	685	4080	796
18	743	429	344	514	1140	801	440	487	612	683	4090	1070
19	718	417	340	642	938	724	394	411	917	599	3410	750
20	691	431	346	662	902	663	362	432	1470	572	2260	601
21	671	413	327	548	944	630	346	480	1510	557	2220	568
22	682	394	313	484	830	634	312	605	1530	550	1700	608
23	681	398	320	445	726	601	325	754	1540	572	1300	608
24	729	406	326	391	651	591	319	979	1540	532	1270	604
25	931	396	322	401	607	565	307	907	1510	915	1280	570
26	892	382	327	420	576	550	390	758	1630	1030	1280	434
27	975	369	348	415	566	570	734	676	1730	948	1250	306
28	1030	402	367	415	554	597	857	562	1730	887	1220	246
29	677	400	374	410	---	554	545	504	1770	867	1120	213
30	555	391	378	380	---	535	434	579	1800	819	1010	219
31	597	---	399	387	---	516	---	972	---	758	1050	---
TOTAL	21107	15735	11380	13330	26258	56188	19613	20927	53117	28948	51533	21384
MEAN	681	525	367	430	938	1813	654	675	1771	934	1662	713
MAX	1030	788	451	662	3870	13800	2730	1710	4340	1450	4090	1090
MIN	407	369	313	332	403	516	307	321	612	532	257	213
AC-FT	41870	31210	22570	26440	52080	111400	38900	41510	105400	57420	102200	42420
CAL YR 1977 TOTAL		2167550		5938		60200		313		4299000		
WTR YR 1978 TOTAL		339520		930		13800		213		673400		

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1961-71, 1972-78): 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, 2,810 micromhos Aug. 27; minimum daily, 339 micromhos Mar. 10.

WATER TEMPERATURES: Maximum daily, 33.0°C July 18, Aug. 11; minimum daily, 2.5°C Jan. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
NOV 30...	2120	391	943	8.3	14.0	240	52	65	19	100
DEC 31...	1455	399	1020	8.0	13.0	290	54	84	20	100
FEB 28...	1600	554	887	--	20.0	260	58	79	16	79
MAR 31...	2225	516	818	8.2	19.5	230	53	67	16	78
APR 18...	1145	583	771	--	23.5	210	48	62	14	75
MAY 30...	1845	516	647	--	31.0	200	37	54	16	57
JUL 10...	1520	1060	554	--	31.0	190	27	55	13	38
SEP 30...	1410	220	2140	--	28.5	400	220	110	31	310

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 30...	2.8	4.5	230	0	97	130	.3	4.4	534
DEC 31...	2.5	4.3	290	0	98	130	.3	4.0	584
FEB 28...	2.1	4.4	250	0	95	100	.4	8.2	505
MAR 31...	2.2	4.2	220	0	91	89	.4	1.3	455
APR 18...	2.2	4.9	200	0	88	86	.5	4.6	434
MAY 30...	1.8	4.5	200	0	64	66	.5	7.1	368
JUL 10...	1.2	3.4	200	0	38	54	.3	7.7	308
SEP 30...	6.7	7.9	220	0	260	460	.3	2.1	1290

BRAZOS RIVER BASIN

08109500 BRAZOS RIVER NEAR COLLEGE STATION, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	21107	1110	620	35500	150	8490	120	6670	270
NOV. 1977.....	15735	1010	570	24000	130	5510	110	4500	260
DEC. 1977.....	11380	1010	570	17500	130	3980	110	3330	260
JAN. 1978.....	13330	960	540	19500	120	4360	100	3620	260
FEB. 1978.....	26258	725	410	29300	78	5560	76	5400	220
MAR. 1978.....	56188	474	270	41600	34	5160	50	7580	160
APR. 1978.....	19613	741	420	22300	82	4320	78	4110	220
MAY 1978.....	20927	772	440	24800	87	4940	82	4600	230
JUNE 1978.....	53117	766	440	62500	86	12400	80	11500	230
JULY 1978.....	28948	599	340	26900	56	4390	63	4910	190
AUG. 1978.....	51533	1800	1000	139000	270	38000	190	26300	280
SEPT 1978.....	21384	2270	1260	72600	360	20600	240	13800	290
TOTAL	339520	**	**	515000	**	118000	**	96300	**
WTD.AVG.	930.19	999	560	**	130	**	110	**	260

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1030	1000	1050	854	854	801	879	632	886	598	2450
2	---	1050	1000	1040	897	888	796	900	650	764	616	2320
3	---	1090	990	1030	975	884	777	872	708	715	610	2450
4	---	1050	1010	1050	933	874	774	848	811	676	599	2390
5	---	1050	1010	1040	914	822	769	800	541	628	603	2430
6	---	1040	1020	1040	925	816	774	765	588	599	599	2290
7	---	1050	1010	1030	864	480	785	627	674	587	596	2260
8	---	1000	1000	1050	513	398	796	650	832	578	598	2400
9	1100	959	1020	1050	723	395	820	677	357	564	613	2300
10	1090	983	1030	1050	800	339	823	712	532	553	638	2200
11	1070	1000	1020	987	851	350	703	765	712	536	663	2190
12	1060	1010	1030	837	825	386	630	812	736	528	840	1490
13	1050	913	980	979	734	421	516	820	657	525	1290	1870
14	1100	931	928	1000	783	474	600	827	755	516	1450	1900
15	1110	959	950	996	700	541	695	1000	825	511	1460	1910
16	1140	955	1010	962	711	587	738	896	896	516	1470	2100
17	1160	965	1030	711	555	599	775	818	978	541	1550	2270
18	1110	979	1020	856	513	626	783	803	1000	550	1770	2450
19	1080	1010	1030	783	547	650	800	815	978	558	2280	2490
20	1110	1050	1020	800	593	676	818	812	900	569	2370	2430
21	1160	1020	1030	967	640	672	829	843	899	555	2560	2370
22	1120	979	1030	951	685	656	835	750	933	558	2590	2430
23	1100	1010	1030	975	758	664	842	732	940	553	2630	2460
24	1110	1040	1010	947	800	697	848	752	941	546	2650	2520
25	1160	1020	1000	967	805	712	864	709	937	584	2730	2590
26	1160	1000	987	975	833	753	855	683	933	532	2780	2640
27	1060	991	1010	967	864	745	868	636	907	560	2810	2360
28	950	975	1030	987	887	738	982	623	914	595	2720	2200
29	1000	960	1010	1010	---	769	842	643	903	611	2660	2130
30	1000	951	1050	1030	---	800	855	650	937	599	2600	2120
31	1020	---	1040	1020	---	808	---	668	---	599	2530	---
MEAN	1090	1000	1010	972	767	648	786	767	800	587	1630	2280

BRAZOS RIVER BASIN

447

08109500 BRAZOS RIVER NEAR COLLEGE STATION, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

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

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) Texas Department of Highways and Public Transportation datum. June 30 to July 21, 1970, nonrecording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--16 years, 54.1 ft³/s (1.532 m³/s), 3.11 in/yr (79 mm/yr), 39,200 acre-ft/yr (48.3 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.--Maximum discharge, 76 ft³/s (2.15 m³/s) Mar. 9, gage height, 4.12 ft (1.256 m), no peak above base of 500 ft³/s (14.2 m³/s); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	3.5	5.9	2.8	.95	2.3	.00	.00	.00
2	.00	.00	.00	.00	3.9	5.9	2.6	.97	2.2	.00	.00	.00
3	.00	.00	.00	.00	4.2	5.8	2.4	10	1.9	.00	.00	.00
4	.00	.00	.00	.00	4.4	5.4	2.3	19	1.7	.00	.00	.00
5	.00	.00	.00	.00	4.2	5.5	2.4	18	2.1	.00	.00	.00
6	.00	.00	.00	.00	4.7	5.7	2.4	14	5.0	.00	.00	.00
7	.00	.00	.00	.00	5.9	26	2.4	9.3	19	.00	.00	.00
8	.00	.00	.00	.00	15	40	2.8	5.7	12	.00	.00	.00
9	.00	.00	.00	.00	40	72	2.6	4.0	9.9	.00	.00	.00
10	.00	.00	.00	.00	37	45	6.4	3.3	7.3	.00	.00	.00
11	.00	.00	.00	.00	22	25	11	3.2	5.5	.00	.00	.00
12	.00	.00	.00	.00	23	17	23	3.7	4.4	.00	.00	12
13	.00	.00	.00	1.3	18	14	21	6.0	3.3	.00	.00	6.0
14	.00	.00	.00	11	30	12	14	7.4	6.3	.00	.00	1.4
15	.00	.00	.00	8.9	36	10	9.6	7.7	3.7	.00	.00	.49
16	.00	.00	.00	10	21	9.3	6.7	8.2	1.4	.00	.00	.26
17	.00	.00	.00	12	15	8.5	4.6	6.4	.84	.00	.00	.16
18	.00	.00	.00	52	13	7.8	3.7	4.3	.57	.00	.00	.12
19	.00	.00	.00	35	11	7.3	2.8	3.1	.39	.00	.00	.09
20	.00	.00	.00	18	11	7.0	2.5	2.4	.31	.00	.00	.06
21	.00	.00	.00	12	11	6.9	1.9	1.9	.25	.00	.00	.03
22	.00	.00	.00	8.7	9.9	6.4	1.7	1.6	.23	.00	.00	.03
23	.00	.00	.00	6.8	8.6	6.2	1.4	2.5	.19	.00	.00	.02
24	.00	.00	.00	5.8	7.6	6.4	1.2	18	.13	.00	.00	.01
25	.00	.00	.00	5.3	6.8	5.7	1.3	21	.11	.00	.00	.00
26	.00	.00	.00	4.9	6.2	5.8	1.5	13	.08	.00	.00	.00
27	.00	.00	.00	4.8	6.2	5.1	1.3	8.4	.04	.00	.00	.00
28	.00	.00	.00	4.0	6.2	4.6	1.2	6.3	.02	.00	.00	.00
29	.00	.00	.00	3.3	---	4.1	1.0	4.5	.01	.00	.00	.00
30	.00	.00	.00	3.2	---	3.7	1.0	3.5	.00	.00	.00	.00
31	.00	---	.00	3.1	---	3.0	---	2.8	---	.00	.00	---
TOTAL	.00	.00	.00	210.10	385.3	393.0	141.5	221.12	91.17	.00	.00	20.67
MEAN	.000	.000	.000	6.78	13.8	12.7	4.72	7.13	3.04	.000	.000	.69
MAX	.00	.00	.00	52	40	72	23	21	19	.00	.00	12
MIN	.00	.00	.00	.00	3.5	3.0	1.0	.95	.00	.00	.00	.00
CFSM	.000	.000	.000	.03	.06	.05	.02	.03	.01	.000	.000	.003
IN.	.00	.00	.00	.03	.06	.06	.02	.03	.01	.00	.00	.00
AC-FT	.00	.00	.00	417	764	780	281	439	181	.00	.00	41
CAL YR 1977	TOTAL	16203.61	MEAN	44.4	MAX	1560	MIN	.00	CFSM	.19	IN	2.55
WTR YR 1978	TOTAL	1462.86	MEAN	4.01	MAX	72	MIN	.00	CFSM	.02	IN	.23
									AC-FT	32140	AC-FT	2900

08109800 EAST YEGUA CREEK NEAR DIME BOX, TX

LOCATION.--Lat 30°24'26", long 96°49'02", Burleson County, Hydrologic Unit 12070102, on left 49 ft (15 m) upstream from centerline of State Highway 21, 0.8 mi (1.3 km) downstream from Buffalo Creek, 3.5 mi (5.6 km) north of Dime Box, and 12.2 mi (19.6 km) upstream from mouth.

DRAINAGE AREA.--244 mi² (632 km²).

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

Water-quality records: Sediment records: June 1966 to September 1975.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 284.00 ft (86.56 m) Texas Department of Highways and Public Transportation datum. Nov. 6 to Dec. 10, 1970, nonrecording gage at present site and datum.

REMARKS.--Records fair. Diversions above station for irrigation. The Aluminum Co. of American reported a diversion of 1,841 acre-ft (2.27 hm³) from a pond designated as "A-26 Lake" at their Rockdale plant into the headwaters of East Yegua Creek during the period October to June. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years 57.6 ft³/s (1.631 m³/s), 41,730 acre-ft/yr (51.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s (396 m³/s) May 24, 1975, gage height, 13.91 ft (4.240 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1886, 17 ft (5.2 m) in 1899 and 1957, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 442 ft³/s (12.5 m³/s) June 7, gage height, 8.24 ft (2.512 m), no peak above base of 1,000 ft³/s (28.3 m³/s); no flow Aug. 19-22, 27-30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	2.1	7.7	10	12	14	8.4	8.4	4.0	.62	.94	.46
2	.37	2.6	6.7	11	11	14	11	8.8	3.8	.46	1.7	.74
3	.66	2.5	5.1	10	14	16	11	26	3.2	.49	1.6	.46
4	1.7	2.7	4.4	10	14	17	10	53	3.0	.47	1.1	.26
5	2.1	2.4	3.6	11	14	17	12	25	5.5	.37	.83	.23
6	2.3	2.1	3.1	11	14	16	13	15	31	.31	.71	.32
7	1.9	1.8	6.6	11	19	60	13	12	322	.20	1.4	.50
8	1.7	3.1	6.2	9.9	36	91	13	11	225	.18	1.8	.59
9	1.5	4.4	4.7	8.4	46	64	13	8.2	62	.11	1.7	.69
10	1.3	6.5	3.9	8.4	28	31	23	5.7	19	.38	1.5	.74
11	1.3	4.6	5.6	14	22	25	66	4.4	11	1.5	.97	.86
12	1.3	3.0	6.4	13	19	21	102	4.0	7.9	1.2	.80	20
13	1.2	2.4	6.6	9.2	30	19	41	3.5	6.4	.86	.59	4.9
14	1.1	2.1	5.3	8.4	38	18	22	3.1	5.6	.80	.32	2.1
15	.98	2.5	4.4	7.5	27	17	16	4.6	7.8	.80	.12	1.2
16	.82	2.8	4.4	9.7	20	16	12	5.9	7.7	.74	.05	.74
17	.74	2.6	4.9	24	19	15	9.1	6.1	4.9	.64	.04	.55
18	.68	2.5	7.1	26	21	15	9.3	6.2	3.4	.69	.02	.46
19	.71	2.3	7.7	20	18	14	8.7	6.2	2.6	.69	.00	.64
20	.76	2.6	6.1	17	19	14	7.3	7.0	2.2	.59	.00	.69
21	.79	2.7	6.8	17	18	14	6.7	9.4	1.9	.55	.00	1.1
22	.79	2.4	7.4	16	17	14	6.4	10	1.9	.42	.00	1.1
23	1.1	3.3	6.8	15	17	13	6.3	28	1.8	.35	.01	1.0
24	2.0	4.3	5.4	15	17	15	6.7	19	1.6	.29	.01	1.5
25	2.1	4.5	6.1	15	16	15	7.8	10	1.4	1.8	.01	1.5
26	2.0	4.7	10	15	16	15	7.4	7.0	1.2	1.8	.01	1.5
27	1.6	4.6	11	15	16	14	6.2	6.0	1.0	.64	.00	1.4
28	1.3	4.3	11	14	16	14	5.0	5.6	1.3	.50	.00	1.2
29	1.1	6.1	10	14	---	12	6.1	5.0	1.1	.50	.00	1.0
30	.94	7.9	8.8	14	---	9.4	7.9	4.5	.83	.50	.00	.86
31	1.3	---	8.4	12	---	8.0	---	4.3	---	.80	.07	---
TOTAL	38.51	102.4	202.2	411.5	574	657.4	487.3	332.9	752.03	20.25	16.30	49.29
MEAN	1.24	3.41	6.52	13.3	20.5	21.2	16.2	10.7	25.1	.65	.53	1.64
MAX	2.3	7.9	11	26	46	91	102	53	322	1.8	1.8	20
MIN	.37	1.8	3.1	7.5	11	8.0	5.0	3.1	.83	.11	.00	.23
AC-FT	76	203	401	816	1140	1300	967	660	1490	40	32	98
CAL YR 1977 TOTAL	19830.52			MEAN 54.3	MAX 1650	MIN .37	AC-FT 39330					
WTR YR 1978 TOTAL	3644.08			MEAN 9.98	MAX 322	MIN .00	AC-FT 7230					

BRAZOS RIVER BASIN

08109900 SOMERVILLE LAKE NEAR SOMERVILLE, TX

LOCATION.--Lat 30°19'20", long 96°31'32", Burleson County, Hydrologic Unit 12070102, in intake structure of Somerville Dam on Yegua Creek, at the southwest edge of the city limits of Somerville, and 20.0 mi (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. Corps of Engineers gage-height telemeter at station.

REMARKS.--The lake is formed by a rolled earthfill dam 20,210 ft (6,160 m) long, with a 4,715-foot-long (1,437 m) dike and a 1,250-foot-long (381 m) uncontrolled spillway. Deliberate impoundment began Jan. 3, 1967, and the dam was completed Oct. 27, 1967. The emergency spillway is an uncontrolled ogee weir 1,250 ft (381 m) wide located near right end of dam. The low-flow outlet consists of one 10.0-foot-diameter (3.0 m) conduit that is controlled by two 5.0 by 10.0 ft (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. 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 ft 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, 294,200 acre-ft (363 hm³) June 28, 1968, elevation, 247.56 ft (75.456 m); minimum, 98,070 acre-ft (121 hm³) Sept. 7, 1978, elevation, 231.80 ft (70.653 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 164,300 acre-ft (203 hm³) Mar. 10, elevation, 238.36 ft (72.652 m); minimum, 98,070 acre-ft (121 hm³) Sept. 7, elevation, 231.80 ft (70.653 m).

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

231.0	91,280	236.0	138,200
232.0	99,800	237.0	148,900
233.0	108,800	238.0	160,100
234.0	118,100	239.0	171,800
235.0	127,900		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141800	138900	137800	139200	148100	160200	159700	152900	114500	126100	105500	99460
2	141500	138300	137900	139200	148200	160500	159500	152000	114400	125700	104700	99370
3	141100	138300	138000	139200	148100	160200	159400	151300	114300	125400	103800	99280
4	140800	138100	137700	139100	148200	159800	159300	150100	114300	125200	103300	99370
5	140600	138100	137400	139200	148400	159800	159400	148900	114200	125000	102800	98930
6	140400	138000	137300	139400	148000	160200	159300	148000	120300	124800	102800	98850
7	140300	137700	137200	139200	151400	162200	159200	147000	128600	124500	102600	98930
8	140000	138700	136100	138900	154400	163800	159100	145900	132700	124100	102400	98930
9	139800	138600	136600	138700	156100	164000	159100	144700	134200	123700	102300	98850
10	139500	138400	136500	138700	156800	163600	159900	143900	134800	123300	102700	98800
11	139000	138300	136300	140100	156800	163100	160000	142600	134800	122900	102000	100400
12	138800	138200	136300	140300	158100	162500	160100	141200	134800	122500	101800	102000
13	138600	138100	140100	140300	159200	162400	160100	140000	134600	122100	101600	104200
14	138300	138100	140300	140100	159700	162400	160100	138800	134400	121800	101400	105600
15	138100	138100	140400	140300	160100	162300	160100	137300	134300	121400	101100	106100
16	138000	138100	140400	143500	160200	161800	160100	135500	133700	120900	100900	106500
17	137900	137900	140300	144000	161700	161100	160100	134000	132700	120200	100700	106500
18	137800	137900	140400	145600	162300	160500	160100	132500	131900	118900	100400	106400
19	137700	138000	140200	146400	162400	160100	159900	131300	131100	117400	100200	106400
20	137600	138000	140100	146600	162500	160200	159800	130500	130300	116400	99980	106400
21	137300	137800	139700	147000	162200	160100	159500	129400	130200	114900	99890	107300
22	137700	137900	139500	147300	161900	160100	159500	128300	130000	113700	99720	107400
23	137700	137800	139500	147400	161500	160700	159700	127100	129600	113400	99540	107400
24	137700	138000	139400	147600	161400	160500	159500	125900	129200	112400	99370	107200
25	137600	137700	139200	147600	161100	160100	159100	124600	128600	111400	99200	106900
26	137400	137700	139200	147500	160700	160100	159100	123500	128100	109700	99020	106700
27	137400	137600	139000	147600	160700	160100	158300	121900	127700	109000	98760	106700
28	137300	137600	139100	147300	160500	160000	156700	120100	127200	108100	98670	106700
29	137200	137800	139200	147500	---	159900	155300	118500	126600	107300	98410	106600
30	137100	137700	139200	147600	---	159800	154200	116900	126300	106700	98240	106500
31	137100	---	139300	148100	---	159800	---	115200	---	105800	99110	---
MAX	141800	138900	140400	148100	162500	164000	160100	152900	134800	126100	105500	107400
MIN	137100	137600	136100	138700	148000	159800	154200	115200	114200	105800	98240	98850
(+)	235.90	235.95	236.11	236.93	238.03	237.97	237.48	233.69	234.84	232.67	231.92	232.75
(+)	-4900	+600	+1600	+8800	+12400	-700	-5600	-39000	+11100	-20500	-6690	+7390
(++)	188	135	139	202	160	157	178	191	186	265	208	154
CAL YR 1977	MAX	290700	MIN	136100	+	-66100	++	1960				
WTR YR 1978	MAX	164000	MIN	98240	+	-35500	++	2160				

† Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

++ Diversions, in acre-feet, for municipal use by city of Brenham.

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 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
MAR									
13...	1330	1.0	401	8.2	15.0	.80	9.9	101	120
13...	1333	10	401	7.7	13.0	--	9.0	88	--
13...	1336	20	401	7.6	12.5	--	8.6	83	--
13...	1339	28	401	7.5	12.0	--	7.5	72	120

DATE	TIME	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR										
13...	74	36	8.0	28	1.1	5.5	60	0	68	--
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	74	36	8.1	28	1.1	5.5	60	0	69	--

DATE	TIME	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR										
13...	48	.2	7.8	231	.07	.03	.11	10	10	--
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	50	.2	7.9	234	.08	.05	.10	10	0	--

301940096315801 - SOMERVILLE LAKE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
13...	1350	1.0	401	8.2	15.5	9.9	102
13...	1353	10	401	7.9	13.0	9.4	92
13...	1356	20	401	7.7	12.5	8.6	83
13...	1358	27	401	7.5	12.5	8.4	82

302026096341501 - SOMERVILLE LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR												
13...	1405	1.0	398	8.3	14.5	9.7	98	.02	.00	.10	10	10
13...	1408	13	398	7.9	13.5	8.9	88	.06	.01	.10	10	0

BRAZOS RIVER BASIN
SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301805096332501 - SOMERVILLE LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)
MAR							
13...	1550	1.0	401	8.3	13.5	.70	9.6
13...	1555	14	401	7.7	12.0	--	7.9

DATE	PER- CENT SATUR- ATION	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR						
13...	95	.03	.00	.11	20	10
13...	76	.07	.05	.11	10	20

301847096334601 - SOMERVILLE LAKE DR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
13...	1450	1.0	401	8.5	14.5	10.1	102
13...	1452	10	401	7.9	12.5	9.1	88
13...	1455	23	401	7.7	12.0	7.9	76

301904096335601 - SOMERVILLE LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG)
MAR									
13...	1430	1.0	401	8.3	14.5	.80	10.1	102	120
13...	1433	10	401	8.0	12.5	--	9.4	91	--
13...	1436	20	401	7.8	12.5	--	9.1	88	--
13...	1439	27	401	7.7	12.5	--	8.0	78	130

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
13...	71	35	8.0	28	1.1	5.9	60	0	69
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	77	37	8.3	28	1.1	5.7	60	0	69

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED STLCA (SIO2) (MG/L)	DIS- SOLVED (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
13...	48	7.8	231	.04	.01	.11	10	10
13...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
13...	48	7.9	234	.05	.06	.12	20	20

BRAZOS RIVER BASIN

453

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301817096364101 - SOMERVILLE LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAR							
13...	1505	1.0	411	8.4	14.0	10.1	101
13...	1507	10	411	7.9	12.5	9.0	87
13...	1509	20	411	7.8	12.5	8.6	83
13...	1510	25	411	7.8	12.5	8.5	83

301754096380801 - SOMERVILLE LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
MAR									
13...	1525	1.0	568	8.1	15.0	.40	9.4	96	180
13...	1529	13	575	7.5	14.0	--	7.9	79	180

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
MAR									
13...	140	49	13	39	1.3	5.8	40	0	130
13...	150	53	12	39	1.3	5.9	40	0	130

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAR								
13...	64	9.1	330	.07	.05	.14	20	20
13...	66	9.2	335	.05	.08	.15	20	130

BRAZOS RIVER BASIN
SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301908096313101 - SOMERVILLE LAKE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CAC03)
JUL									
14...	0922	1.0	465	8.2	30.5	.61	6.7	91	140
14...	0924	10	465	7.5	30.0	--	5.1	69	--
14...	0927	20	465	7.1	30.0	--	3.5	47	--
14...	0930	27	467	7.1	30.0	--	3.3	45	140

DATE	TIME	HARD- NESS, NONCAR- BONATE, DIS- (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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL										
14...	85	39	9.4	35	1.3	6.2	62	n	82	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	84	39	9.4	33	1.2	6.2	63	n	81	--

DATE	TIME	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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA 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)
JUL										
14...	58	.1	9.4	270	.00	.00	.05	20	10	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	58	.1	9.8	268	.01	.01	.06	20	140	--

301940096315801 - SOMERVILLE LAKE AL

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
14...	0945	1.0	465	8.5	31.0	7.8	107
14...	0947	10	465	7.1	30.0	3.6	49
14...	0950	20	465	7.0	30.0	2.6	35

302026096341501 - SOMERVILLE LAKE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JUL							
14...	1000	1.0	475	8.4	32.0	.55	6.4
14...	1003	10	475	8.4	31.5	--	6.3

DATE	TIME	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA 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)
JUL							
14...	89	.01	.00	.04	20	0	0
14...	86	.01	.00	.04	30	0	0

BRAZOS RIVER BASIN

455

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301805096332501 - SOMERVILLE LAKE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JUL 14...	1140	1.0	467	7.8	31.5	.46	6.1
14...	1142	12	467	6.9	29.5	--	1.9

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA 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)
JUL 14...	84	.01	.00	.05	10	30
14...	25	.01	.01	.07	10	320

301847096334601 - SOMERVILLE LAKE DR

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL 14...	1035	1.0	465	8.4	31.0	6.8	93
14...	1037	10	465	7.8	30.5	5.2	70
14...	1040	20	465	7.1	30.0	2.9	39

301904096335601 - SOMERVILLE LAKE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CAC03)
JUL 14...	1015	1.0	465	8.5	31.5	.67	7.0	96	140
14...	1017	10	465	7.8	31.0	--	4.9	67	--
14...	1018	20	465	7.0	30.0	--	2.1	29	--
14...	1020	25	470	6.9	30.0	--	.3	4	140

DATE	HARD- NESS, NONCAR- BONATE, DIS- (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)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL 14...	86	39	9.5	33	1.2	6.2	54	4	83
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	83	40	9.4	34	1.3	6.2	68	0	80

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA 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)
JUL 14...	56	9.6	267	.00	.00	.05	30	10
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
14...	59	10	273	.01	.08	.09	110	660

BRAZOS RIVER BASIN

SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued

301817096364101 - SOMERVILLE LAKE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
14...	1050	1.0	465	7.9	30.5	6.0	81
14...	1052	10	465	7.8	30.0	5.7	77
14...	1055	21	465	7.3	30.0	4.2	57

301754096380801 - SOMERVILLE LAKE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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, DIS- SOLVED (MG/L AS CACO3)
JUL									
14...	1111	1.0	478	7.3	31.0	.24	4.8	66	140
14...	1114	8.0	480	7.1	31.0	--	2.8	38	140

DATE	HARD- NESS, NONCAR- BONATE, DIS- (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL									
14...	87	40	9.7	34	1.3	6.8	64	0	84
14...	91	41	9.9	34	1.2	6.5	64	0	84

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, AMMONIA 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)
JUL								
14...	61	10	278	.01	.01	.12	840	410
14...	57	11	277	.01	.01	.12	1100	520

BRAZOS RIVER BASIN

457

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 of 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.--1009 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.

AVERAGE DISCHARGE.--41 years (1925-65) unregulated, 290 ft³/s (8.312 m³/s), 210,100 acre-ft/yr (259 hm³/yr); 13 years (1966-78) regulated, 311 ft³/s (8.808 m³/s), 225,300 acre-ft/yr (278 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 since 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, 857 ft³/s (24.3 m³/s) May 28, gage height, 6.69 ft (2.039 m); minimum daily, 0.06 ft³/s (0.002 m³/s) Oct. 17, 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.56	.18	2.0	1.8	83	2.4	723	621	68	357	.17
2	.27	.60	.16	2.1	2.4	82	2.5	715	171	67	348	.18
3	.22	.42	.18	2.1	2.2	83	2.8	709	14	47	346	.15
4	.16	.39	.22	2.2	1.9	80	2.9	703	7.8	2.5	344	.14
5	.14	.42	.26	2.4	1.4	45	3.0	705	5.9	.42	254	.15
6	.11	.42	.26	2.5	1.2	3.6	3.1	705	17	.24	9.1	.14
7	.11	.42	.28	2.6	9.2	2.5	3.1	705	74	7.1	.90	.14
8	.12	.68	.32	2.5	17	2.0	3.4	702	8.6	57	.33	.14
9	.11	.64	.32	2.5	5.6	147	3.8	700	2.9	66	.20	.13
10	.11	.52	.32	2.5	3.9	392	4.9	698	2.0	67	.19	.20
11	.14	.45	.32	3.5	3.1	403	5.3	701	2.0	68	.17	.36
12	.12	.42	.34	5.1	3.0	399	4.5	697	2.4	69	.16	.74
13	.10	.42	14	4.6	3.6	333	4.5	692	2.7	68	.15	2.3
14	.08	.42	3.3	4.0	3.0	24	5.0	689	2.0	67	.15	3.4
15	.08	.39	.86	3.6	2.4	4.4	5.4	721	.64	67	.16	.96
16	.07	.36	.58	17	2.4	119	5.5	803	161	66	.16	.90
17	.06	.32	.50	12	4.8	382	5.7	815	505	145	.16	.30
18	.06	.30	.47	6.7	7.3	394	6.0	807	513	622	.18	.20
19	.07	.30	.51	9.4	5.1	235	6.0	769	497	681	.18	.16
20	.08	.32	.51	4.3	3.9	10	6.7	694	350	691	.18	.11
21	.09	.30	.54	2.3	52	4.0	7.4	688	9.0	683	.16	.16
22	.12	.28	.58	1.8	184	3.3	7.4	688	12	639	.16	.45
23	.15	.28	.71	1.5	187	3.2	8.1	686	109	626	.16	.42
24	.16	.28	.85	1.5	185	2.8	7.3	684	122	617	.16	.30
25	.16	.28	.93	1.8	180	3.0	7.1	682	123	611	.16	.26
26	.15	.24	1.0	1.7	178	2.8	6.3	707	131	608	.16	.20
27	.14	.20	1.2	1.5	143	2.6	292	827	166	602	.16	.18
28	.15	.16	1.4	1.4	86	2.3	702	851	169	585	.11	.16
29	.16	.20	1.7	1.2	---	2.3	722	849	65	494	.11	.15
30	.16	.20	1.8	1.1	---	2.5	724	800	68	465	.11	.11
31	.17	---	1.9	1.0	---	2.5	---	670	---	427	.12	---
TOTAL	4.13	11.19	36.50	110.4	1280.2	3254.8	2570.1	22585	3933.94	9283.26	1662.94	13.36
MEAN	.13	.37	1.18	3.56	45.7	105	85.7	729	131	299	53.6	.45
MAX	.31	.68	14	17	187	403	724	851	621	691	357	3.4
MIN	.06	.16	.16	1.0	1.2	2.0	2.4	670	.64	.24	.11	.11
AC-FT	8.2	22	72	219	2540	6460	5100	44800	7800	18410	3300	26
CAL YR 1977	TOTAL	134562.10	MEAN 369	MAX 2440	MIN .06	AC-FT 266900						
WTR YR 1978	TOTAL	44745.82	MEAN 123	MAX 851	MIN .06	AC-FT 88750						

BRAZOS RIVER BASIN

08110000 YEGUA CREEK NEAR SOMERVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: September 1961 to September 1967, October 1968 to current year. Water temperatures: September 1961 to September 1967.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)	SODIUM, DIS- SOLVED (MG/L AS NA)
DEC 12...	1445	.40	847	7.0	15.0	260	200	78	15	60
JAN 23...	1512	1.5	706	6.7	4.0	210	180	56	17	58
MAR 07...	1020	2.6	802	6.9	13.5	230	180	67	14	69
APR 18...	1025	6.0	534	--	24.0	150	94	46	9.7	38
MAY 30...	1700	824	473	--	28.0	130	84	39	8.8	32
JUL 10...	1300	68	468	--	30.0	130	85	39	8.8	34
AUG 21...	1230	.17	622	--	32.0	180	110	52	12	52
DATE		SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
DEC 12...		1.6	8.9	65	0	150	120	.2	9.9	474
JAN 23...		1.7	6.4	37	0	140	94	.1	12	402
MAR 07...		2.0	6.5	54	0	150	120	.1	9.4	463
APR 18...		1.3	6.6	74	0	88	64	.2	9.1	298
MAY 30...		1.2	5.8	60	0	90	54	.2	9.0	268
JUL 10...		1.3	5.5	59	0	86	53	.2	9.6	265
AUG 21...		1.7	6.9	85	0	110	80	.2	18	373

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 good. During year, the city of Cadwell discharged 214 acre-ft (0.264 hm³) of sewage effluent into creek above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 63.8 ft³/s (1.807 m³/s), 4.44 in/yr (113 mm/yr), 46,220 acre-ft/yr (57.0 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, 1,100 ft³/s (31.2 m³/s) Mar. 7, gage height, 13.81 ft (4.209 m), no peak above base of 1,500 ft³/s (42.5 m³/s); no flow Oct. 1 to Dec. 12, and June 26 to Sept. 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.21	.90	1.5	1.6	.90	.15	.00	.00	.00
2	.00	.00	.00	.21	.86	1.5	1.7	.97	.21	.00	.00	.00
3	.00	.00	.00	.21	1.8	1.5	1.5	1.5	.27	.00	.00	.00
4	.00	.00	.00	.16	1.4	1.4	1.4	2.1	.39	.00	.00	.00
5	.00	.00	.00	.16	1.0	1.3	1.3	2.3	.34	.00	.00	.00
6	.00	.00	.00	.16	.79	1.3	1.4	3.8	80	.00	.00	.00
7	.00	.00	.00	.21	42	632	1.5	3.3	597	.00	.00	.00
8	.00	.00	.00	.21	318	408	1.4	2.5	89	.00	.00	.00
9	.00	.00	.00	.12	58	45	1.5	1.9	12	.00	.00	.00
10	.00	.00	.00	.21	25	18	1.7	1.5	4.5	.00	.00	.00
11	.00	.00	.00	1.2	15	10	3.5	1.3	3.5	.00	.00	.00
12	.00	.00	.00	3.0	15	6.7	29	.93	2.2	.00	.00	76
13	.00	.00	.62	7.5	167	4.8	17	.87	1.6	.00	.00	217
14	.00	.00	.16	2.6	38	4.1	7.2	.57	1.2	.00	.00	83
15	.00	.00	.12	1.5	16	3.5	4.1	.47	.81	.00	.00	221
16	.00	.00	.12	1.3	8.5	3.0	3.2	.35	.45	.00	.00	22
17	.00	.00	.12	50	5.6	2.6	2.7	.32	.31	.00	.00	4.0
18	.00	.00	.62	21	20	2.4	2.2	.39	1.8	.00	.00	2.0
19	.00	.00	.90	46	19	2.2	1.9	.36	1.7	.00	.00	1.2
20	.00	.00	.71	31	6.9	2.1	1.7	.31	1.3	.00	.00	.80
21	.00	.00	.80	7.4	3.5	2.1	1.6	.32	.66	.00	.00	.80
22	.00	.00	1.0	3.0	2.6	2.1	1.5	.40	.31	.00	.00	.71
23	.00	.00	.90	2.1	2.4	2.0	1.4	.76	.14	.00	.00	.32
24	.00	.00	.71	1.6	2.1	2.0	1.3	2.1	.07	.00	.00	.26
25	.00	.00	.62	1.3	1.9	2.0	1.1	1.8	.03	.00	.00	.16
26	.00	.00	.46	1.0	1.8	2.0	1.1	1.5	.00	.00	.00	.10
27	.00	.00	.32	.92	1.6	1.9	.97	1.0	.00	.00	.00	.10
28	.00	.00	.32	.80	1.6	1.9	.78	.68	.00	.00	.00	.08
29	.00	.00	.32	.80	---	1.9	.76	.45	.00	.00	.00	.08
30	.00	.00	.32	.72	---	2.0	.86	.27	.00	.00	.00	.08
31	.00	---	.26	.65	---	1.7	---	.16	---	.00	.00	---
TOTAL	.00	.00	9.40	187.25	778.25	1174.5	98.87	36.08	799.94	.00	.00	629.69
MEAN	.000	.000	.30	6.04	27.8	37.9	3.30	1.16	26.7	.000	.000	21.0
MAX	.00	.00	1.0	50	318	632	29	3.8	597	.00	.00	221
MIN	.00	.00	.00	.12	.79	1.3	.76	.16	.00	.00	.00	.00
CFSM	.000	.000	.002	.03	.14	.19	.02	.006	.14	.000	.000	.11
IN.	.00	.00	.00	.04	.15	.22	.02	.01	.15	.00	.00	.12
AC-FT	.00	.00	19	371	1540	2330	196	72	1590	.00	.00	1250
CAL YR 1977 TOTAL	31920.04			MEAN 87.5	MAX 4910	MIN .00	CFSM .45	IN 6.09	AC-FT 63310			
WTR YR 1978 TOTAL	3713.98			MEAN 10.2	MAX 632	MIN .00	CFSM .05	IN .71	AC-FT 7370			

BRAZOS RIVER BASIN

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 (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, is 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 128 floodwater-retarding structures with a combined detention capacity of 150,110 acre-ft (185 hm³). These structures control runoff from 432 mi³ (1,119 km³) above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 5,240 ft³/s (148.4 m³/s), 3,796,000 acre-ft/yr (4.68 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, 237 ft³/s (6.71 m³/s) Aug. 12, 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, 10,400 ft³/s (295 m³/s) Mar. 8, gage height, 12.58 ft (3.834 m); maximum gage height, 13.26 ft (4.042 m) Mar. 9 (backwater from Navasota River); minimum discharge, 237 ft³/s (6.71 m³/s) Aug. 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1320	789	433	470	580	634	561	1200	2020	2080	1050	1050
2	1240	844	448	478	592	621	540	1090	1980	1690	985	995
3	1110	874	473	486	548	589	560	1130	1490	1490	911	1060
4	741	919	483	487	531	579	547	1090	1530	1400	878	967
5	746	1000	463	498	557	587	526	1680	3750	1350	887	907
6	1190	862	438	469	569	541	514	2140	4570	1290	787	709
7	725	819	423	436	862	849	493	2320	5350	1220	631	576
8	512	914	408	411	3320	6240	486	1730	7080	1180	600	637
9	438	813	373	406	1900	9410	477	1380	6400	1240	567	664
10	435	758	378	392	546	7170	498	1170	4420	1210	401	792
11	424	756	368	380	313	6430	763	1070	3230	1180	278	1100
12	419	810	353	409	299	5100	1620	1020	2640	1150	252	2030
13	445	840	2200	514	662	3360	3000	964	2160	1140	1200	1660
14	482	703	1570	416	1150	2310	2020	1000	1850	1140	3560	950
15	437	583	1000	437	2900	1570	1210	1410	1770	1100	4040	1380
16	420	523	755	1240	4050	1150	861	2720	1670	1080	4010	1140
17	585	488	646	2000	2600	1020	688	2150	1690	863	4050	882
18	1020	473	635	1630	1680	901	580	1720	1530	857	4080	783
19	867	463	600	1660	1050	766	481	1490	1240	1150	4090	1030
20	810	448	553	738	727	600	412	1330	1620	1180	3410	825
21	777	443	516	556	591	605	372	1260	2010	1160	2260	749
22	749	438	445	445	673	697	350	1240	1790	1120	2220	917
23	760	423	421	483	730	756	325	1400	1780	1070	1800	1040
24	783	413	411	528	723	779	323	1600	1880	1120	1360	750
25	810	443	403	553	705	721	305	1910	1890	1040	1300	720
26	1080	418	405	559	695	673	281	1840	1850	1490	1290	696
27	1060	398	395	581	717	636	328	1820	1970	1620	1340	574
28	1120	388	420	589	705	647	1060	1790	2100	1530	1230	439
29	1260	423	461	589	---	666	1790	1690	2090	1420	1200	357
30	834	448	462	585	---	627	1390	1600	2070	1250	1120	299
31	709	---	462	555	---	583	---	1570	---	1150	1010	---
TOTAL	24308	18914	17801	19980	30975	57817	23361	47524	77420	38960	52797	26678
MEAN	784	630	574	645	1106	1865	779	1533	2581	1257	1703	889
MAX	1320	1000	2200	2000	4050	9410	3000	2720	7080	2080	4090	2030
MIN	419	388	353	380	299	541	281	964	1240	857	252	299
AC-FT	48210	37520	35310	39630	61440	114700	46340	94260	153600	77280	104700	52920

CAL YR 1977	TOTAL	2490165	MEAN	6822	MAX	63600	MIN	353	AC-FT	4939000
WTR YR 1978	TOTAL	436535	MEAN	1196	MAX	9410	MIN	252	AC-FT	865900

BRAZOS RIVER BASIN

08110300 LAKE MEXIA NEAR MEXIA, TX

461

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 ft (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 2,510 acre-ft (3.09 hm³) for municipal use during the current year. Figures given herein represent total contents. Data regarding the dam is 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 preconstruction survey in 1958 and was not adjusted for borrow in the lake area. Diversions from lake for municipal use was furnished by the Bistone Municipal Water Supply District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 20,320 acre-ft (25.1 hm³) Oct. 31, 1974, gage height, 34.40 ft (10.485 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, 16,030 acre-ft (19.8 hm³) Mar. 7, gage height, 32.31 ft (9.848 m); minimum, 5,370 acre-ft (6.62 hm³) Jan. 10, gage height, 24.47 ft (7.458 m).

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

24.0	5,020	28.0	8,970
25.0	5,760	29.0	10,400
26.0	6,650	30.0	12,010
27.0	7,720	31.0	13,620

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6440	5940	5760	5490	5460	8380	9160	8660	8920	7970	6810	6020
2	6400	5890	5760	5470	5450	8460	9140	8790	8900	7930	6760	6000
3	6370	5880	5750	5460	5440	8420	9130	8820	9030	7890	6740	5980
4	6340	5870	5750	5460	5430	8390	9130	8790	9000	7860	6690	5970
5	6320	5850	5750	5460	5430	8370	9110	8770	8960	7810	6820	5950
6	6310	5820	5720	5440	5420	11850	9100	8770	8970	7740	6800	5920
7	6300	5800	5690	5460	5490	13490	9070	8770	8960	7700	6770	5890
8	6290	5950	5710	5430	5510	10400	9060	8770	8930	7670	6740	5890
9	6260	5930	5680	5400	5550	9740	9060	8720	8900	7630	6700	5880
10	6260	5900	5660	5380	5550	9600	9110	8730	8840	7580	6670	5860
11	6230	5880	5650	5450	5550	9530	9100	8700	8810	7540	6630	5840
12	6200	5870	5650	5460	6490	9500	9070	8790	8800	7510	6600	5930
13	6180	5860	5660	5440	7930	9480	9060	8770	8760	7460	6550	5910
14	6160	5840	5660	5430	8070	9470	9030	8760	8720	7430	6530	5910
15	6140	5830	5640	5400	8120	9410	9000	8730	8680	7390	6500	5880
16	6120	5830	5650	5520	8110	9370	8980	8680	8630	7330	6460	5860
17	6090	5810	5630	5480	8330	9330	8980	8680	8580	7300	6420	5810
18	6090	5780	5620	5520	8460	9280	8970	8660	8540	7260	6380	5800
19	6070	5770	5620	5500	8510	9270	8930	8640	8510	7210	6370	5780
20	6050	5780	5600	5490	8510	9270	8840	8720	8460	7160	6340	5760
21	6030	5760	5580	5480	8470	9260	8870	8770	8430	7120	6320	5730
22	6030	5770	5560	5470	8460	9230	8870	9040	8380	7090	6290	5710
23	6020	5770	5550	5470	8440	9360	8860	9100	8320	7110	6260	5690
24	6000	5780	5550	5500	8430	9300	8840	9080	8280	7090	6220	5670
25	5990	5780	5530	5470	8430	9270	8810	9080	8230	7050	6190	5640
26	5970	5810	5520	5460	8390	9260	8780	9030	8170	7020	6160	5630
27	5960	5800	5500	5450	8410	9230	8740	8980	8140	7000	6130	5620
28	5960	5810	5490	5440	8410	9210	8710	8940	8090	6960	6100	5600
29	5930	5770	5500	5430	---	9260	8680	8910	8040	6920	6060	5580
30	5910	5780	5490	5430	---	9240	8680	8910	8020	6890	6040	5570
31	5880	---	5490	5460	---	9200	---	8880	---	6840	6000	---
MAX	6440	5950	5760	5520	8510	13490	9160	9100	9030	7970	6820	6020
MIN	5880	5760	5490	5380	5420	8370	8680	8640	8020	6840	6000	5570
(+)	25.14	25.02	24.64	24.59	27.54	28.16	27.77	27.93	27.24	26.18	25.27	24.74
(+)	-570	-100	-290	-30	+2950	+790	-520	+200	-860	-1180	-840	-430
(++)	227	186	217	216	180	215	214	226	229	212	209	180
CAL YR 1977	MAX	13890	MIN	5490	+	-3890	++	2060				
WTR YR 1978	MAX	13490	MIN	5380	+	-880	++	2510				

+ 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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CAC03)	HARDNESS, NONCARBONATE (MG/L AS CAC03)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
JAN 04...	1800	427	7.4	7.0	150	23	51	4.6	27
SEP 14...	1640	284	--	31.0	90	0	31	3.0	17
DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
JAN 04...	1.0	4.8	150	0	17	55	.3	5.3	239
SEP 14...	.8	5.2	110	0	12	23	.3	5.0	151

BRAZOS RIVER BASIN

463

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 at mi 161.4 (259.7 km).

DRAINAGE AREA.--239 mi² (619 km²).

PERIOD OF RECORD.--July 1975 to May 1978 (periodic gage-height and low-flow measurements only), June to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 396.65 ft (120.899 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for June 1-19, which are fair. 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 Mexia discharged 150 acre-ft (184,900 m³) of sewage effluent during the period June through September above station. The city of Groesbeck diverted 213 acre-ft (263,000 m³) for municipal use from pool at gage during the period June through September and returned 6.3 acre-ft (7,770 m³) of washwater and 45 acre-ft (55,500 m³) of sewage effluent below station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13 ft³/s (0.37 m³/s) Sept. 12, 1978, gage height, 1.89 ft (0.576 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 during period June to September, 13 ft³/s (0.37 m³/s) Sept. 12, gage height, 1.89 ft (0.576 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, JUNE TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									.60	.07	.00	1.6
2									.60	.00	.00	.68
3									.60	.00	.00	.58
4									.50	.00	.00	.63
5									.50	.15	.00	.73
6									.50	.38	.00	.71
7									.50	.41	.02	.92
8									.50	.36	.02	1.4
9									.50	.28	.00	1.4
10									.50	.31	.00	1.4
11									.50	.39	.00	1.7
12									.50	.54	.12	4.0
13									.50	.55	.84	.89
14									.00	.52	.97	.52
15									.00	.65	.78	.41
16									.00	.62	.73	.44
17									.00	.29	.65	.46
18									.00	.00	.39	.39
19									.00	.00	.52	.43
20									.00	.00	.83	.29
21									.00	.03	1.2	.22
22									.00	.12	1.4	.20
23									.00	.36	1.5	.21
24									.29	.36	1.3	.12
25									.64	.13	1.0	.15
26									.09	.16	.69	.19
27									.00	.16	.59	.21
28									.23	.05	.68	.23
29									.45	.00	.78	.24
30									.44	.00	.73	.21
31									---	.00	.48	---
TOTAL									8.94	6.89	16.22	21.56
MEAN									.30	.22	.52	.72
MAX									.64	.65	1.5	4.0
MIN									.00	.00	.00	.12
AC-FT									18	14	32	43

WTR YR 1978 TOTAL - MEAN - MAX - MIN - AC-FT -

BRAZOS RIVER BASIN

08110400 NAVASOTA RIVER NEAR GROESBECK, TX

LOCATION.--Lat 31°30'45", Long 96°27'03", Limestone County, Hydrologic Unit 12070103, on left bank 43 ft (13 m) downstream from State Highway 164, 0.4 mi (0.6 km) downstream from Pin Oak Creek, 5 mi (8 km) east of Groesbeck, and 154.6 mi (248.8 km) upstream from mouth.

DRAINAGE AREA.--311 mi² (805 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1965 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 353.84 ft (107.850 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1972, at 5.0 ft (1.52 m) higher datum.

REMARKS.--Water-discharge records fair. Flow partly regulated by Lake Mexia (station 08110300) 14.4 mi (23.2 km) upstream, capacity 9,400 acre-ft (11.6 hm³), and Springfield Lake 8.0 mi (12.9 km) upstream, approximate capacity 3,100 acre-ft (3.82 hm³). Several diversions above station for irrigation, municipal supply, and oilfield operation (total amount unknown). During year, the city of Mexia discharged 452 acre-ft (557,000 m³) of sewage effluent into the river above station. During year, the city of Groesbeck diverted 470 acre-ft (580,000 m³) for municipal use; the city returned 12.8 acre-ft (15,800 m³) of washwater and 149 acre-ft (184,000 m³) of sewage effluent above station.

AVERAGE DISCHARGE.--13 years (water years 1966-78), 194 ft³/s (5.494 m³/s), 140,600 acre-ft/yr (173 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft³/s (765 m³/s) Nov. 1, 1974, gage height, 25.55 ft (7.788 m); no flow at times in 1967, 1969, 1971-72, and 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902 occurred in 1944 (stage unknown), from information by local residents. Maximum stage occurred in 1932 and reached a stage of 28.7 ft (8.75 m), from information by Texas Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,880 ft³/s (280 m³/s) Mar. 7, gage height, 23.65 ft (7.209 m); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.57	.70	8.0	1.3	1.4	3.3	3.4	2.2	.82	.14	.02	.04
2	.50	.70	4.9	1.4	4.3	3.6	3.3	2.5	2.1	.14	.00	.51
3	.44	.70	3.0	1.4	3.9	3.5	3.4	21	1.7	.18	.00	2.3
4	.39	.76	2.3	1.4	2.5	7.4	3.4	15	1.5	.18	.02	1.9
5	.34	.80	2.0	1.4	1.8	4.8	3.1	5.1	1.5	.18	.20	1.1
6	.33	.88	1.8	1.4	1.5	2.9	2.9	3.4	1.5	.14	.49	.71
7	.33	.88	1.5	1.6	1.5	3420	2.9	2.7	1.5	.14	3.3	.60
8	.33	1.2	1.3	1.6	21	6540	2.9	2.3	4.2	.14	1.9	.60
9	.33	11	1.3	1.4	17	2350	2.8	1.8	2.6	.06	1.0	.63
10	2.0	5.5	1.3	1.2	20	434	3.8	1.7	1.7	.03	.77	.80
11	2.2	3.4	1.2	1.4	11	121	7.1	1.7	1.3	.03	.58	1.1
12	1.4	2.6	1.2	4.3	111	72	6.5	2.8	1.0	.00	.54	9.3
13	1.4	2.0	1.5	6.5	574	44	4.1	8.9	.94	.00	.40	44
14	1.1	1.8	1.8	3.4	119	38	3.2	6.9	.85	.00	.30	8.0
15	.91	1.8	1.8	2.0	51	26	2.8	3.5	.83	.00	.05	3.1
16	.79	1.8	1.6	22	35	23	2.5	2.5	.97	.00	.01	1.7
17	.73	1.8	1.6	56	36	15	2.5	1.8	.90	.00	.00	.96
18	.70	1.8	1.4	14	115	11	2.5	1.6	.75	.00	.00	.75
19	.70	1.8	1.3	11	50	7.5	2.6	1.5	.55	.00	.00	.63
20	.70	1.4	1.3	12	29	5.8	2.6	1.5	.44	.00	.00	.53
21	.70	1.2	1.2	6.9	24	5.3	2.8	2.4	.40	.00	.00	.45
22	.70	1.4	1.2	5.0	15	5.0	2.8	7.8	.40	.00	.00	.39
23	.94	1.8	1.2	4.3	9.5	4.1	2.7	4.2	.40	.00	.00	.28
24	.94	2.2	1.2	3.8	8.0	6.4	2.6	3.1	.40	.05	.00	.27
25	.94	2.0	1.2	3.6	6.4	15	2.5	2.1	.40	.03	.00	.27
26	.94	1.6	1.2	3.2	6.8	6.9	2.5	1.5	.40	.02	.00	.27
27	.94	1.4	1.2	2.8	4.8	5.0	2.5	1.3	.40	.02	.00	.27
28	.94	1.3	1.2	2.4	3.5	4.2	2.7	1.1	.30	.02	.00	.27
29	.82	1.5	1.3	2.0	---	3.5	2.7	1.0	.18	.02	.00	.25
30	.81	7.0	1.3	1.6	---	3.4	2.4	.99	.18	.02	.00	.28
31	.76	---	1.2	1.6	---	3.4	---	.88	---	.02	.00	---
TOTAL	25.62	64.72	55.5	183.9	1283.9	13195.0	94.5	116.77	31.11	1.56	9.58	82.26
MEAN	.83	2.16	1.79	5.93	45.9	426	3.15	3.77	1.04	.050	.31	2.74
MAX	2.2	11	8.0	56	574	6540	7.1	21	4.2	.18	3.3	44
MIN	.33	.70	1.2	1.2	1.4	2.9	2.4	.88	.18	.00	.00	.04
AC-FT	51	128	110	365	2550	26170	187	232	62	3.1	19	163
CAL YR 1977	TOTAL	53757.64	MEAN	147	MAX	6860	MIN	.16	AC-FT	106600		
WTR YR 1978	TOTAL	15144.42	MEAN	41.5	MAX	6540	MIN	.00	AC-FT	30040		

BRAZOS RIVER BASIN

465

08110400 NAVASOTA RIVER NEAR 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.

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, 2,550 micromhos Aug. 4; minimum daily, 139 micromhos Mar. 8.

WATER TEMPERATURES: Maximum daily, 38.0°C May 28; minimum daily, 2.0°C Jan. 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	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)
OCT										
07...	1334	.30	1360	7.8	12.0	330	130	100	19	150
NOV										
22...	1540	1.4	957	7.6	4.0	250	65	80	13	96
DEC										
31...	1930	1.2	1110	7.9	10.0	290	65	95	12	110
JAN										
31...	1600	1.6	778	7.9	5.0	220	68	71	9.3	71
FEB										
15...	1334	.47	610	7.0	7.0	130	39	43	5.2	69
MAR										
29...	1103	3.5	835	--	18.0	210	72	68	10	84
APR										
30...	1500	2.5	1340	--	27.0	340	130	110	16	150
JUN										
30...	1500	.22	1700	--	34.0	390	170	130	17	200
JUL										
31...	1730	.02	2510	--	28.0	540	330	170	28	300
SEP										
30...	1400	.25	878	--	30.0	200	71	65	9.8	110

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT									
07...	3.6	5.7	240	0	100	240	.4	11	744
NOV									
22...	2.6	7.5	230	0	82	140	.4	11	543
DEC									
31...	2.8	5.8	270	0	70	170	.2	8.8	605
JAN									
31...	2.1	4.7	180	0	60	110	.2	8.4	423
FEB									
15...	2.6	4.2	110	0	23	120	.6	26	345
MAR									
29...	2.5	5.0	170	0	71	130	.2	6.0	458
APR									
30...	3.5	7.4	260	0	100	230	.4	8.3	750
JUN									
30...	4.4	7.2	270	0	100	370	.4	13	971
JUL									
31...	5.6	7.4	260	0	180	580	.6	15	1410
SEP									
30...	3.4	6.8	160	0	60	170	.3	11	512

BRAZOS RIVER BASIN

08110400 NAVASOTA RIVER NEAR GROESBECK, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	25.62	1540	870	60	300	21	120	8.3	360
NOV. 1977.....	64.72	1060	600	104	180	31	78	14	270
DEC. 1977.....	55.5	1120	630	95	190	28	84	13	290
JAN. 1978.....	183.9	704	400	197	100	51	46	22	180
FEB. 1978.....	1283.9	479	270	935	61	211	28	99	120
MAR. 1978.....	13194.98	245	140	4880	28	983	13	462	63
APR. 1978.....	94.5	1240	700	178	220	56	93	24	320
MAY 1978.....	116.77	1050	590	186	170	55	77	24	270
JUNE 1978.....	31.11	1090	610	51	180	15	80	6.5	280
JULY 1978.....	1.56	1920	1080	4.6	400	1.7	150	0.6	430
AUG. 1978.....	9.58	2120	1200	31	460	12	170	4.4	470
SEPT 1978.....	82.26	579	330	73	84	19	38	8.6	150
TOTAL	15144.38	**	**	6790	**	1480	**	686	**
WTD.AVG.	41.49	297	170	**	37	**	17	**	76

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1190	1240	1180	1140	819	816	965	1380	1060	1770	2490	2130
2	1200	1240	1000	1130	864	922	1000	1350	1020	1790	---	2210
3	1260	1240	991	1100	1000	847	1050	929	1040	1810	---	1740
4	1280	1240	1050	1090	1010	804	1110	752	1060	1840	2550	1650
5	1310	1220	1080	1090	975	787	1230	661	1030	1850	2420	1460
6	1350	1240	1070	1090	971	807	1310	966	1000	1870	2540	1350
7	1380	1240	1040	1070	996	486	1360	1110	1010	1900	2010	1310
8	1400	1230	1030	1090	929	139	1380	1180	1000	1920	2390	1130
9	1410	1170	1000	1060	1010	171	1470	1340	1070	1950	2150	1200
10	1520	821	944	1050	794	204	1480	1390	890	1970	2020	1180
11	1570	812	916	1060	631	231	1470	1460	837	1980	1940	1250
12	1850	827	928	1090	393	247	1260	1500	843	---	1930	1060
13	2130	852	944	1150	337	274	1000	1430	938	---	1900	314
14	2040	872	1060	900	549	287	1040	1040	987	---	1910	373
15	1920	880	1250	913	600	330	1090	862	1050	---	1910	383
16	1810	893	1350	722	610	311	1150	842	1120	---	1950	404
17	1730	900	1370	495	576	370	1180	991	1220	---	---	454
18	1610	922	1350	540	549	436	1230	1130	1280	---	---	500
19	1580	938	1300	770	566	470	1190	1230	1330	---	---	528
20	1550	953	1270	649	615	531	1240	1340	1380	---	---	564
21	1500	996	1260	722	667	600	1260	1410	1420	---	---	599
22	1480	957	1250	694	680	661	1280	1220	1470	---	---	651
23	1440	953	1220	724	690	680	1260	949	1510	---	---	685
24	1400	978	1190	760	715	694	1250	937	1540	2300	---	701
25	1380	974	1210	797	731	899	1280	953	1570	2330	---	721
26	1350	962	1160	825	752	888	1260	966	1610	2330	---	759
27	1320	970	1140	805	771	841	1280	982	1620	2380	---	791
28	1300	1110	1140	770	799	807	1290	1000	1680	2400	---	815
29	1280	1450	1150	757	---	822	1310	1000	1650	2430	---	843
30	1270	1490	1130	762	---	854	1340	1030	1710	2460	---	880
31	1260	---	1140	778	---	917	---	1060	---	2510	---	---
MEAN	1490	1050	1130	890	736	582	1230	1110	1230	2090	2150	955

BRAZOS RIVER BASIN

467

08110400 NAVASOTA RIVER NEAR GROESBECK, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.0	23.0	17.0	10.0	7.0	13.0	24.0	23.0	32.0	32.0	30.0	26.0
2	27.0	18.0	19.0	5.0	7.0	13.0	24.0	27.0	30.0	33.0	---	28.0
3	25.0	17.0	17.0	9.0	6.0	10.0	23.0	18.0	27.0	32.0	---	28.0
4	25.0	17.0	19.0	9.0	10.0	10.0	26.0	20.0	27.0	33.0	30.0	32.0
5	27.0	22.0	18.0	12.0	7.0	11.0	23.0	23.0	31.0	31.0	28.0	33.0
6	23.0	19.0	13.0	16.0	7.0	14.0	24.0	24.0	31.0	33.0	30.0	32.0
7	26.0	21.0	13.0	18.0	6.0	12.0	26.0	23.0	30.0	33.0	30.0	30.0
8	26.0	19.0	17.0	6.0	4.0	9.0	23.0	25.0	30.0	33.0	31.0	27.0
9	20.0	15.0	13.0	9.0	5.0	11.0	23.0	30.0	25.0	33.0	32.0	30.0
10	---	15.0	8.0	7.0	7.0	14.0	22.0	30.0	31.0	33.0	32.0	27.0
11	21.0	15.0	16.0	5.0	4.0	15.0	23.0	26.0	32.0	33.0	29.0	30.0
12	20.0	16.0	13.0	5.0	10.0	14.0	24.0	25.0	34.0	---	29.0	27.0
13	19.0	17.0	13.0	6.0	10.0	15.0	24.0	27.0	34.0	---	29.0	26.0
14	20.0	18.0	13.0	7.0	10.0	18.0	24.0	27.0	30.0	---	29.0	27.0
15	23.0	19.0	13.0	13.0	10.0	18.0	24.0	30.0	30.0	---	29.0	30.0
16	24.0	20.0	14.0	14.0	10.0	18.0	26.0	30.0	32.0	---	31.0	30.0
17	23.0	19.0	15.0	8.0	18.0	18.0	23.0	29.0	34.0	---	---	31.0
18	24.0	18.0	12.0	7.0	6.0	17.0	25.0	30.0	34.0	---	---	30.0
19	24.0	18.0	15.0	4.0	7.0	18.0	27.0	33.0	35.0	---	---	29.0
20	24.0	22.0	10.0	2.0	9.0	20.0	24.0	30.0	34.0	---	---	29.0
21	22.0	18.0	9.0	3.0	8.0	23.0	24.0	30.0	26.0	---	---	30.0
22	22.0	15.0	5.0	4.0	9.0	23.0	22.0	30.0	34.0	---	---	31.0
23	22.0	17.0	12.0	7.0	12.0	13.0	26.0	30.0	30.0	---	---	30.0
24	23.0	19.0	13.0	6.0	13.0	12.0	27.0	30.0	35.0	---	---	30.0
25	24.0	19.0	11.0	7.0	4.0	22.0	27.0	31.0	32.0	33.0	---	27.0
26	23.0	16.0	10.0	6.0	15.0	24.0	26.0	32.0	30.0	33.0	---	28.0
27	21.0	16.0	10.0	7.0	12.0	24.0	25.0	31.0	33.0	32.0	---	24.0
28	22.0	18.0	9.0	6.0	14.0	22.0	25.0	38.0	34.0	32.0	---	26.0
29	25.0	16.0	9.0	5.0	---	21.0	27.0	32.0	32.0	32.0	---	27.0
30	24.0	17.0	10.0	7.0	---	22.0	27.0	32.0	34.0	33.0	---	30.0
31	24.0	---	10.0	5.0	---	24.0	---	31.0	---	28.0	---	---
MEAN	23.5	18.0	13.0	7.5	9.0	16.5	24.5	28.5	31.5	32.5	30.0	29.0

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 sq mi (147.9 km²).

PERIOD OF RECORD.--July 1975 to June 1978 (periodic gage-height and low-flow measurements only), July to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 362.94 ft (110.624 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14 ft³/s (0.40 m³/s) Sept. 1, gage height, 4.90 ft (1.494 m); no flow part or all of each day Sept. 23-26.

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.--Maximum discharge during period July to September, 14 ft³/s (0.40 m³/s) Sept. 1, gage height, 4.90 ft (1.494 m); no flow part or all of each day Sept. 23-26.

DISCHARGE, IN CUBIC FEET PER SECOND, JULY TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										.06	.03	2.6
2										.06	.03	.56
3										.06	.02	.12
4										.06	.02	.39
5										.06	.08	.44
6										.06	.05	.27
7										.05	.03	.18
8										.05	.04	.15
9										.05	.03	.11
10										.05	.03	.09
11										.05	.04	.20
12										.05	.03	4.2
13										.05	.04	6.0
14										.04	.04	3.9
15										.04	.03	1.4
16										.04	.03	.59
17										.04	.02	.29
18										.04	.02	.18
19										.04	.02	.12
20										.04	.04	.09
21										.04	.04	.06
22										.04	.05	.04
23										.54	.05	.01
24										.07	.05	.00
25										.02	.05	.00
26										.01	.05	.00
27										.03	.05	.03
28										.03	.07	.04
29										.02	.06	.04
30										.02	.06	.05
31										.03	.07	---
TOTAL										1.84	1.27	22.15
MEAN										.059	.041	.74
MAX										.54	.08	6.0
MIN										.01	.02	.00
AC-FT										3.6	2.5	44

WTR YR 1978 TOTAL - MEAN - MAX - MIN - AC-FT -

BRAZOS RIVER BASIN

469

08110500 NAVASOTA RIVER NEAR EASTERLY, TX

LOCATION.--Lat 31°10'10", long 96°17'54", Leon-Robertson County line, Hydrologic Unit 12070103, near center of span at downstream side 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).

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.

GAGE.--Water-stage recorder. Datum of gage is 276.46 ft (84.265 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 datum 24.86 ft (7.577 m) higher.

REMARKS.--Water-discharge records poor except Aug. 9 to Sept. 30, which are fair. Since 1961, at least 10 percent of drainage area is regulated by reservoirs. Numerous diversions above station for irrigation, municipal, supply, and oilfield operation. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--36 years (water years 1925-60) unregulated, 406 ft³/s (11.50 m³/s), 5.70 in/yr (145 mm/yr), 294,100 acre-ft/yr (363 hm³/yr); 18 years (water years 1961-78) regulated, 480 ft³/s (13.59 m³/s), 6.73 in/yr (171 mm/yr), 347,800 acre-ft/yr (429 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,300 ft³/s (1,710 m³/s) May 2, 1944, gage height, 22.13 ft (6.745 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1845, 24 ft (7.3 m) in 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, 6,590 ft³/s (187 m³/s) Mar. 10, gage height, 15.96 ft (4.865 m), no other peak above base of 2,500 ft³/s (70.8 m³/s); minimum daily, 0.64 ft³/s (0.018 m³/s) Aug. 18-21.

REVISIONS.--Revised maximum daily discharge for water year 1974 and revised daily discharges for water year 1977, in cubic feet per second, are given below. These figures supersede those published in the reports for 1974 and 1977.

Oct. 15, 1974..... 10,600

Month	Total	Mean	Max	Min	Cfs	In.	Ac-ft
October 1974	75,224	2,427	10,600	75	2.51	2.87	149,200
WTR YR 1974	274,273.7	751	10,600	1.9	.78	10.54	544,000
CAL YR 1973	419,755.5	1,150	14,500	3.6	1.19	16.13	832,600

Month	Total	Mean	Max	Min	Cfs	In.	Ac-ft
Sept. 3, 1977..... 1.6	Sept. 10, 1977..... 87	Sept. 17, 1977..... 17	Sept. 24, 1977..... 7.1				
4..... 1.5	11..... 290	18..... 17	25..... 6.0				
5..... 1.4	12..... 322	19..... 14	26..... 5.6				
6..... 1.4	13..... 92	20..... 12	27..... 5.3				
7..... 1.5	14..... 38	21..... 10	28..... 4.9				
8..... 2.0	15..... 19	22..... 8.7	29..... 4.6				
9..... 42	16..... 16	23..... 7.6	30..... 4.4				

Month	Total	Mean	Max	Min	Cfs	In.	Ac-ft
September 1977	1,043.0	34.8	322	1.4	0.04	0.04	2,070
WTR YR 1977	285,559.5	782	20,600	1.4	.81	10.97	566,400

BRAZOS RIVER BASIN

08110500 NAVASOTA RIVER NEAR EASTERLY, TX--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	3.6	22	15	34	53	51	30	12	4.7	1.8	12
2	3.9	4.2	19	14	34	51	50	30	11	4.0	1.5	54
3	3.5	4.4	16	13	33	50	46	120	11	4.0	1.4	56
4	3.6	5.6	17	13	32	50	43	118	14	3.6	1.3	46
5	3.3	7.9	21	14	31	49	40	97	12	3.6	1.3	41
6	3.2	6.2	19	15	32	51	39	113	15	3.3	1.5	32
7	3.0	5.2	17	15	41	87	37	97	26	3.3	1.7	23
8	2.9	17	15	14	76	164	36	82	19	3.0	1.6	16
9	2.9	28	12	12	93	1070	35	67	16	2.5	1.4	11
10	7.7	17	11	12	136	4130	48	55	14	2.7	1.4	8.1
11	47	11	10	14	158	4410	73	45	12	2.5	1.2	8.2
12	9.4	11	9.4	21	371	2300	80	38	24	2.4	1.0	73
13	5.8	18	14	23	1230	552	69	33	26	2.2	.96	237
14	4.5	13	20	22	1690	179	63	28	25	1.9	.89	113
15	3.8	9.8	23	20	1850	117	58	25	23	1.9	.89	82
16	3.3	9.4	19	70	1230	79	52	22	20	1.8	.76	75
17	2.9	8.8	20	256	266	42	47	21	18	1.7	.76	67
18	3.4	8.1	19	490	286	37	46	20	15	1.5	.64	57
19	4.1	7.5	17	402	343	39	43	19	13	1.4	.64	48
20	4.1	7.2	14	154	337	45	38	17	11	1.3	.64	39
21	3.8	6.6	12	101	182	48	35	17	8.5	1.2	.64	33
22	3.5	6.3	10	84	119	49	36	18	8.2	1.1	.76	27
23	3.5	6.6	9.8	71	95	48	48	18	7.0	1.1	1.0	20
24	3.3	8.2	9.8	61	80	48	59	16	6.2	1.0	1.4	16
25	7.2	11	9.7	54	70	46	63	16	5.6	1.0	1.3	.2
26	6.1	9.3	9.2	48	63	53	56	21	5.1	1.0	.96	9.3
27	4.5	8.4	9.0	42	58	66	47	21	4.0	1.2	.76	7.0
28	3.8	8.2	9.3	39	55	68	40	19	4.9	1.5	.89	6.4
29	3.5	12	13	36	---	64	36	17	4.4	1.9	1.1	5.4
30	3.3	19	16	34	---	62	32	15	4.0	2.1	.76	4.7
31	3.2	---	15	33	---	54	---	14	---	2.0	1.3	---
TOTAL	172.2	298.5	457.2	2212	9025	14161	1446	1269	394.9	68.4	34.15	1239.1
MEAN	5.55	9.95	14.7	71.4	322	457	48.2	40.9	13.2	2.21	1.10	41.3
MAX	47	28	23	490	1850	4410	80	120	26	4.7	1.8	237
MIN	2.9	3.6	9.0	12	31	37	32	14	4.0	1.0	.64	4.7
AC-FT	342	592	907	4390	17900	28090	2870	2520	783	136	68	2460
CAL YR 1977	TOTAL	160217.40	MEAN	439	MAX	14400	MIN	1.4	AC-FT	317800		
WTR YR 1978	TOTAL	30777.45	MEAN	84.3	MAX	4410	MIN	.64	AC-FT	61050		

BRAZOS RIVER BASIN

471

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	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)
OCT 06...	1630	.81	675	7.2	13.0	150	74	42	12	67
NOV 22...	1020	6.3	978	7.3	5.0	220	120	63	16	110
JAN 04...	1045	13	596	7.1	7.0	140	79	38	10	64
FEB 15...	1135	1790	178	--	8.0	44	14	12	3.3	15
MAR 28...	1800	20	620	--	17.5	160	77	45	11	54
MAY 09...	1830	67	680	--	26.5	180	97	47	15	65
SEP 14...	1147	109	261	--	26.0	59	21	16	4.6	23

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 06...	2.3	4.4	98	0	78	110	.2	14	376
NOV 22...	3.2	4.7	120	0	100	190	.3	14	557
JAN 04...	2.4	4.0	70	0	56	120	.2	14	341
FEB 15...	1.0	4.0	36	0	18	22	.1	8.3	100
MAR 28...	1.9	4.5	98	0	64	100	.2	12	339
MAY 09...	2.1	5.7	100	0	62	130	.3	7.6	382
SEP 14...	1.3	4.5	46	0	27	35	.2	9.0	142

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) northeast 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. Since 1961, at least 10 percent of drainage area regulated by reservoirs. 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); 18 years (water years 1961-78) regulated, 617 ft³/s (17.47 m³/s), 447,000 acre-ft/yr (551 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, 4,390 ft³/s (124 m³/s) Mar. 14, gage height, 13.14 ft (4.005 m), no peak above base of 3,000 ft³/s (85.0 m³/s); minimum daily, 0.27 ft³/s (0.008 m³/s) Aug. 24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	11	27	34	63	89	75	42	19	6.1	3.6	7.8
2	8.9	10	35	38	64	84	70	38	17	6.0	3.6	18
3	8.3	9.8	46	37	69	84	64	56	17	6.1	3.5	7.4
4	7.8	11	43	33	71	80	61	178	18	6.5	3.5	5.3
5	7.5	11	37	30	72	77	58	359	17	6.7	3.3	28
6	7.2	11	32	29	66	77	54	285	20	6.2	3.0	35
7	7.0	12	30	29	81	101	51	183	29	5.6	2.6	33
8	7.0	17	29	29	378	180	48	155	31	5.2	2.3	30
9	7.3	21	28	29	269	308	45	129	81	4.8	2.0	26
10	7.0	29	26	28	306	438	61	107	98	4.4	1.8	22
11	7.2	51	25	30	283	840	200	88	58	3.9	1.6	20
12	7.2	48	23	34	291	1750	277	74	34	3.5	1.4	26
13	29	34	25	40	573	3740	225	61	25	3.3	1.3	14
14	48	27	30	43	730	3940	149	51	23	3.1	1.1	102
15	27	25	37	46	1060	2310	109	42	25	3.0	1.0	272
16	19	25	40	78	1440	888	91	36	25	2.8	.89	177
17	15	23	40	104	1740	366	81	31	23	2.5	.83	104
18	12	21	36	193	1620	188	73	28	23	2.2	.76	79
19	10	20	32	509	918	106	67	26	21	2.0	.70	65
20	9.1	18	30	671	565	77	61	25	18	1.9	.60	53
21	8.6	18	29	479	492	67	55	25	14	1.7	.58	61
22	8.6	17	27	274	403	71	49	24	12	1.7	.62	83
23	8.9	16	26	170	261	73	44	26	11	3.2	.32	41
24	9.0	15	25	133	180	73	59	27	9.3	2.9	.27	32
25	9.0	15	24	116	144	71	124	28	8.5	2.4	.28	28
26	9.1	15	23	104	122	69	105	25	7.9	2.3	.52	24
27	9.4	17	22	95	106	65	84	22	7.2	2.1	.95	20
28	9.8	21	22	86	96	66	70	22	6.8	2.3	1.1	16
29	12	22	23	76	---	77	58	23	6.5	3.0	.88	13
30	12	24	24	70	---	82	48	23	6.5	3.7	1.1	4.4
31	11	---	28	65	---	79	---	21	---	3.9	3.3	---
TOTAL	368.2	614.8	924	3732	12463	16516	2616	2260	711.7	115.0	49.30	1446.9
MEAN	11.9	20.5	29.8	120	445	533	87.2	72.9	23.7	3.71	1.59	48.2
MAX	48	51	46	671	1740	3940	277	359	98	6.7	3.6	272
MIN	7.0	9.8	22	28	63	65	44	21	6.5	1.7	.27	4.4
AC-FT	730	1220	1830	7400	24720	32760	5190	4480	1410	228	98	2870
CAL YR 1977	TOTAL	206965.40	MEAN 567	MAX 12500	MIN 3.6	AC-FT 410500						
WTR YR 1978	TOTAL	41816.90	MEAN 115	MAX 3940	MIN .27	AC-FT 82940						

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1958 to current year. Sediment records: October 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1958 to current year.
 WATER TEMPERATURES: October 1958 to current year.
 SUSPENDED-SEDIMENT DISCHARGE: October 1975 to current year.

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: Maximum daily, 33.0°C July 14, 17, 1978; minimum daily, 1.0°C Jan. 13, 1962.
 SEDIMENT CONCENTRATIONS: Maximum daily mean, 438 mg/L Feb. 15, 1978; minimum daily mean, 10 mg/L Sept. 5, 6, 1977.
 SEDIMENT LOADS: Maximum daily, 5,450 tons Dec. 14, 1976; minimum daily, 0.03 tons Aug. 23-25, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 922 micromhos Aug. 29; minimum daily, 172 micromhos Sept. 17.
 WATER TEMPERATURES: Maximum daily, 33.0°C July 14, 17; minimum daily, 3.0°C Jan. 21-23.
 SEDIMENT CONCENTRATIONS: Maximum daily mean, 438 mg/L Feb. 15; minimum daily mean, 25 mg/L July 21-24.
 SEDIMENT LOADS: Maximum daily, 1,670 tons Mar. 14; minimum daily, 0.03 tons Aug. 23-25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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 11...	1800	7.3	438	7.2	20.0	55	50	7.4	84	1.6	100	49
NOV 21...	1213	18	413	7.0	6.5	--	--	--	--	--	97	56
DEC 13...	0912	23	442	6.9	13.5	50	45	9.9	98	1.6	97	54
FEB 23...	0820	279	356	6.8	6.5	180	130	10.9	92	2.8	91	52
APR 25...	0823	131	710	7.5	22.0	80	50	6.6	79	2.8	180	110
MAY 09...	1430	128	584	--	25.0	--	--	--	--	--	150	93
JUN 08...	1134	32	598	7.5	26.0	60	70	5.4	68	1.4	140	65
JUL 27...	1330	2.1	840	--	29.0	--	--	--	--	--	190	79
AUG 09...	1507	2.0	902	8.2	30.5	20	10	7.8	105	2.8	200	78

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 11...	29	7.8	41	1.7	4.7	68	0	50	64	.2	13	243
NOV 21...	26	7.7	39	1.7	4.4	50	0	53	68	.2	15	238
DEC 13...	26	7.8	43	1.9	4.2	52	0	53	75	.2	17	252
FEB 23...	25	6.9	34	1.6	4.1	48	0	50	51	.1	10	205
APR 25...	48	15	64	2.1	5.1	84	0	81	120	.4	14	389
MAY 09...	39	12	54	1.9	5.4	66	0	72	93	.2	12	320
JUN 08...	36	13	54	2.0	4.8	96	0	50	95	.2	10	311
JUL 27...	53	15	85	2.7	5.1	140	0	57	160	.3	9.0	453
AUG 09...	54	16	89	2.7	5.8	150	0	58	160	.3	8.8	466

BRAZOS RIVER BASIN

0811000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 11...	90	8	.00	.00	.00	.01	.62	.63	.08	6.4	1	.10
NOV 21...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 13...	80	6	.05	.01	.06	.09	.46	.55	.07	7.8	4	.10
FEB 23...	198	16	.17	.01	.18	.06	1.0	1.1	.18	12	0	.00
APR 25...	102	11	.00	.01	.01	.03	1.1	1.1	.11	9.8	0	.40
MAY 09...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 08...	142	16	.06	.02	.08	.10	.73	.83	.07	9.2	1	.00
JUL 27...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 09...	16	3	.01	.00	.01	.02	.58	.60	.05	7.1	1	.10

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)
OCT 11...	1800	0	100	1	0	1	20
FEB 23...	0820	0	100	7	0	2	40
JUN 08...	1134	1	100	0	10	1	360
AUG 09...	1507	1	100	<1	10	1	<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 11...	0	80	.0	0	0	0
FEB 23...	4	70	.0	0	0	10
JUN 08...	6	190	.0	0	0	10
AUG 09...	4	240	.0	0	0	<3

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	368.2	467	260	254	74	74	49	48	110
NOV. 1977.....	614.8	386	220	357	58	96	40	67	89
DEC. 1977.....	924	489	270	681	79	196	51	128	110
JAN. 1978.....	3732	341	190	1930	48	488	36	358	79
FEB. 1978.....	12463	245	160	5520	39	1310	31	1040	68
MAR. 1978.....	16516	281	160	7040	36	1600	30	1320	65
APR. 1978.....	2616	572	320	2260	96	680	59	415	130
MAY 1978.....	2260	531	300	1820	87	533	55	333	120
JUNE 1978.....	711.7	538	300	577	89	170	56	107	120
JULY 1978.....	114	770	430	133	140	42	74	23	180
AUG. 1978.....	49.3	867	480	64	160	21	82	11	200
SEPT 1978.....	1446.9	345	190	751	50	195	35	138	80
TOTAL	41816.88	**	**	21400	**	5400	**	3990	**
WTD.AVG.	114.57	339	190	**	48	**	36	**	78

BRAZOS RIVER BASIN

475

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	374	314	453	463	419	433	519	640	580	685	816	773
2	383	307	452	437	413	446	514	646	573	691	831	451
3	394	314	474	439	410	456	555	679	582	700	837	598
4	406	315	543	443	407	476	569	600	587	704	846	604
5	413	320	530	417	413	489	600	428	606	711	853	671
6	418	320	518	424	404	500	630	413	614	723	856	768
7	422	318	507	447	400	513	637	425	590	737	863	811
8	431	307	520	479	370	525	640	440	578	747	869	832
9	437	315	534	458	420	516	641	567	558	757	873	727
10	441	323	526	425	400	508	623	597	530	765	876	680
11	443	360	513	410	440	399	516	619	543	776	879	548
12	447	358	477	403	470	278	444	659	521	781	880	486
13	460	379	445	395	374	229	468	676	493	789	886	394
14	467	354	469	385	275	216	539	658	482	795	890	336
15	464	385	477	379	254	229	566	632	456	801	885	255
16	485	430	457	285	238	255	599	623	436	809	890	213
17	561	467	409	366	218	285	656	613	430	810	890	172
18	596	441	418	350	215	325	630	611	429	818	893	223
19	617	425	438	300	249	358	619	613	446	824	911	260
20	620	420	426	280	307	372	656	615	474	833	900	252
21	616	414	473	338	347	388	666	607	511	835	910	249
22	609	398	502	336	404	398	670	604	552	840	897	223
23	588	395	519	347	371	423	672	607	587	849	908	244
24	559	409	533	352	379	446	690	591	614	842	910	265
25	501	410	535	359	390	483	697	585	623	840	908	345
26	462	420	539	365	398	503	650	580	641	833	911	508
27	418	430	531	370	407	505	558	583	650	839	911	600
28	383	446	530	371	426	501	570	571	660	842	915	723
29	359	464	520	377	---	489	584	570	672	852	922	739
30	324	484	500	389	---	496	616	571	682	842	915	723
31	314	---	482	403	---	516	---	574	---	836	876	---
MEAN	465	381	492	387	365	418	600	587	557	791	884	489

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.0	22.0	14.0	10.0	5.0	14.0	20.0	23.0	27.0	31.0	28.0	26.0
2	27.0	18.0	14.0	8.0	6.0	15.0	21.0	22.0	27.0	31.0	30.0	26.0
3	25.0	17.0	15.0	7.0	5.0	12.0	21.0	20.0	27.0	32.0	30.0	---
4	24.0	17.0	17.0	7.0	6.0	11.0	21.0	---	26.0	32.0	30.0	29.0
5	24.0	18.0	16.0	9.0	5.0	12.0	22.0	18.0	28.0	32.0	28.0	---
6	24.0	18.0	13.0	10.0	6.0	---	22.0	21.0	29.0	32.0	29.0	---
7	22.0	19.0	11.0	13.0	---	13.0	22.0	21.0	26.0	32.0	30.0	---
8	26.0	18.0	14.0	11.0	---	11.0	22.0	21.0	28.0	32.0	30.0	27.0
9	22.0	16.0	12.0	9.0	---	9.0	21.0	24.0	27.0	31.0	29.0	---
10	21.0	15.0	10.0	8.0	---	10.0	21.0	24.0	28.0	32.0	30.0	---
11	20.0	13.0	11.0	---	5.0	11.0	20.0	25.0	27.0	32.0	30.0	---
12	18.0	14.0	11.0	6.0	7.0	12.0	19.0	24.0	30.0	32.0	31.0	26.0
13	19.0	14.0	13.0	5.0	10.0	14.0	20.0	25.0	28.0	32.0	31.0	26.0
14	18.0	15.0	12.0	5.0	10.0	14.0	19.0	23.0	29.0	33.0	32.0	26.0
15	19.0	16.0	13.0	6.0	8.0	15.0	21.0	23.0	29.0	31.0	---	27.0
16	17.0	17.0	13.0	11.0	8.0	15.0	22.0	26.0	29.0	30.0	31.0	28.0
17	18.0	18.0	13.0	6.0	8.0	14.0	22.0	27.0	28.0	33.0	32.0	---
18	20.0	17.0	12.0	---	6.0	15.0	21.0	28.0	29.0	30.0	30.0	---
19	20.0	18.0	14.0	---	8.0	17.0	23.0	27.0	30.0	30.0	32.0	---
20	20.0	19.0	11.0	---	8.0	17.0	21.0	27.0	30.0	32.0	32.0	---
21	21.0	18.0	10.0	3.0	7.0	19.0	20.0	27.0	30.0	31.0	30.0	---
22	21.0	14.0	9.0	3.0	7.0	18.0	20.0	27.0	30.0	30.0	31.0	---
23	20.0	16.0	9.0	3.0	9.0	19.0	22.0	27.0	31.0	29.0	31.0	---
24	20.0	18.0	12.0	5.0	11.0	17.0	24.0	27.0	31.0	31.0	31.0	25.0
25	22.0	18.0	---	4.0	12.0	15.0	23.0	29.0	30.0	31.0	31.0	---
26	22.0	16.0	9.0	6.0	13.0	15.0	22.0	27.0	31.0	32.0	31.0	25.0
27	21.0	---	9.0	---	12.0	15.0	22.0	27.0	31.0	29.0	30.0	---
28	22.0	15.0	---	5.0	16.0	18.0	---	28.0	31.0	30.0	29.0	24.0
29	22.0	14.0	---	4.0	---	17.0	22.0	28.0	30.0	31.0	29.0	25.0
30	22.0	13.0	---	5.0	---	17.0	24.0	27.0	30.0	29.0	28.0	25.0
31	23.0	---	9.0	5.0	---	19.0	---	28.0	---	28.0	26.0	---
MEAN	21.5	16.5	12.0	6.5	8.5	14.5	21.5	25.0	29.0	31.0	30.0	26.0

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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	9.3	48	1.2	11	57	1.7	27	65	4.7
2	8.9	51	1.2	10	52	1.4	35	70	6.6
3	8.3	54	1.2	9.8	55	1.5	46	85	11
4	7.8	55	1.2	11	62	1.8	43	70	8.1
5	7.5	58	1.2	11	75	2.2	37	57	5.7
6	7.2	62	1.2	11	85	2.5	32	60	5.2
7	7.0	62	1.2	12	85	2.8	30	62	5.0
8	7.0	62	1.2	17	85	3.9	29	62	4.9
9	7.3	60	1.2	21	85	4.8	28	62	4.7
10	7.0	60	1.1	29	102	8.0	26	57	4.0
11	7.2	58	1.1	51	150	21	25	42	2.8
12	7.2	58	1.1	48	135	17	23	40	2.5
13	29	98	7.7	34	95	8.7	25	40	2.7
14	48	170	22	27	62	4.5	30	58	4.7
15	27	108	7.9	25	52	3.5	37	62	6.2
16	19	52	2.7	25	52	3.5	40	60	6.5
17	15	42	1.7	23	55	3.4	40	55	5.9
18	12	42	1.4	21	55	3.1	36	52	5.1
19	10.1	42	1.1	20	58	3.1	32	50	4.3
20	9.1	42	1.0	18	70	3.4	30	52	4.2
21	8.6	45	1.0	18	62	3.0	29	50	3.9
22	8.6	40	.93	17	62	2.8	27	52	3.8
23	8.9	42	1.0	16	62	2.7	26	52	3.7
24	9.0	45	1.1	15	60	2.4	25	52	3.5
25	9.0	45	1.1	15	60	2.4	24	55	3.6
26	9.1	42	1.0	15	65	2.6	23	52	3.2
27	9.4	48	1.2	17	67	3.1	22	50	3.0
28	9.8	52	1.4	21	65	3.7	22	50	3.0
29	12	52	1.7	22	65	3.9	23	50	3.1
30	12	55	1.8	24	65	4.2	24	50	3.2
31	11	55	1.6	---	---	---	28	50	3.8
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	34	50	4.6	63	57	9.7	89	180	43
2	38	45	4.6	64	62	11	84	178	40
3	37	48	4.8	69	60	11	84	170	39
4	33	47	4.2	71	65	12	80	167	36
5	30	50	4.1	72	65	13	77	170	35
6	29	50	3.9	66	65	12	77	165	34
7	29	50	3.9	81	75	16	101	172	47
8	29	48	3.8	378	162	165	180	245	119
9	29	48	3.8	269	187	136	308	317	264
10	28	52	3.9	306	132	109	438	287	339
11	30	55	4.5	283	100	76	840	205	465
12	34	78	7.2	291	108	85	1750	162	765
13	40	85	9.2	573	255	395	3740	155	1570
14	43	85	9.9	730	435	857	3940	157	1670
15	46	85	11	1060	438	1250	2310	155	967
16	78	110	23	1440	377	1470	888	155	372
17	104	132	37	1740	312	1470	366	155	153
18	193	135	70	1620	280	1220	188	155	79
19	509	202	278	918	240	595	106	157	45
20	671	170	308	565	215	328	77	157	33
21	479	107	138	492	205	272	67	155	28
22	274	100	74	403	207	225	71	140	27
23	170	100	46	261	202	142	73	132	26
24	133	97	35	180	200	97	73	125	25
25	116	95	30	144	200	78	71	122	23
26	104	90	25	122	195	64	69	115	21
27	95	72	18	106	190	54	65	112	20
28	86	67	16	96	188	49	66	108	19
29	76	62	13	---	---	---	77	98	20
30	70	60	11	---	---	---	82	95	21
31	65	57	10	---	---	---	79	95	20

08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	75	95	19	42	85	9.6	19	130	6.7
2	70	95	18	38	87	8.9	17	130	6.0
3	64	95	16	56	142	21	17	125	5.7
4	61	95	16	178	210	101	18	125	6.1
5	58	95	15	359	207	201	17	117	5.4
6	54	95	14	285	205	158	20	115	6.2
7	51	95	13	183	195	96	29	137	11
8	48	97	13	155	195	82	31	142	12
9	45	95	12	129	190	66	81	190	42
10	61	105	17	107	185	53	98	205	54
11	200	150	81	88	180	43	58	180	28
12	277	162	121	74	177	35	34	140	13
13	225	127	77	61	170	28	25	110	7.4
14	149	95	38	51	162	22	23	108	6.7
15	109	85	25	42	162	18	25	105	7.1
16	91	80	20	36	172	17	25	110	7.4
17	81	80	17	31	182	15	23	107	6.6
18	73	77	15	28	180	14	23	100	6.2
19	67	80	14	26	190	13	21	95	5.4
20	61	80	13	25	190	13	18	95	4.6
21	55	80	12	25	177	12	14	95	3.6
22	49	85	11	24	170	11	12	95	3.1
23	44	82	9.7	26	160	11	11	92	2.7
24	59	98	16	27	145	11	9.3	93	2.3
25	124	160	54	28	135	10	8.5	90	2.1
26	105	145	41	25	128	8.6	7.9	90	1.9
27	84	100	23	22	120	7.1	7.2	90	1.7
28	70	88	17	22	115	6.8	6.8	80	1.5
29	58	85	13	23	115	7.1	6.5	75	1.3
30	48	85	11	23	125	7.8	6.5	65	1.1
31	---	---	---	21	122	6.9	---	---	---
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	6.1	62	1.0	3.6	30	.29	7.8	70	1.5
2	6.0	65	1.1	3.6	30	.29	18	102	5.0
3	6.1	65	1.1	3.5	35	.33	7.4	85	1.7
4	6.5	62	1.1	3.5	37	.35	5.3	52	.74
5	6.7	65	1.2	3.3	40	.36	28	130	9.8
6	6.2	62	1.0	3.0	42	.34	35	160	15
7	5.6	57	.86	2.6	42	.29	33	147	13
8	5.2	57	.80	2.3	42	.26	30	142	12
9	4.8	55	.71	2.0	42	.23	26	135	9.5
10	4.4	55	.65	1.8	42	.20	22	132	7.8
11	3.9	55	.58	1.6	42	.18	20	130	7.0
12	3.5	50	.47	1.4	41	.15	26	140	9.8
13	3.3	45	.40	1.3	40	.14	14	170	6.4
14	3.1	40	.33	1.1	40	.12	102	207	57
15	3.0	32	.26	1.0	38	.10	272	267	196
16	2.8	32	.24	.89	38	.09	177	270	129
17	2.5	32	.22	.83	40	.09	104	235	66
18	2.2	30	.18	.76	40	.08	79	202	43
19	2.0	30	.16	.70	40	.08	65	167	29
20	1.9	27	.14	.60	40	.06	53	142	20
21	1.7	25	.11	.58	40	.06	61	130	21
22	1.7	25	.11	.62	38	.06	83	170	38
23	3.2	25	.22	.32	38	.03	41	137	15
24	2.9	25	.20	.27	42	.03	32	95	8.2
25	2.4	27	.17	.28	42	.03	28	80	6.0
26	2.3	35	.22	.52	40	.06	24	77	5.0
27	2.1	35	.20	.95	40	.10	20	75	4.1
28	2.3	32	.20	1.1	40	.12	16	72	3.1
29	3.0	35	.28	.88	42	.10	13	72	2.5
30	3.7	35	.35	1.1	40	.12	4.4	65	.77
31	3.9	35	.37	3.3	45	.40	---	---	---
YEAR	41816.90		21078.01						

BRAZOS RIVER BASIN

08111010 NAVASOTA RIVER NEAR COLLEGE STATION, TX

LOCATION.--Lat 30°36'26", long 96°10'53", Grimes County, Hydrologic Unit 12070103, on left bank at downstream side of bridge on State Highway 30, 0.5 mi (0.8 km) downstream from Wickson Creek, 9.8 mi (15.8 km) east of the Post Office in College Station, and 35.2 mi (56.6 km) upstream from mouth.

DRAINAGE AREA.--1,809 mi² (4,685 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 178.00 ft (54.254 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Since 1961, flow regulated to some extent by upstream reservoirs. Numerous diversions above station for irrigation, municipal, and oilfield operation. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,540 ft³/s (100 m³/s) Mar. 16, 1978, gage height, 17.52 ft (5.340 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) \pm 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, 3,540 ft³/s (100 m³/s) Mar. 16, gage height, 17.52 ft (5.340 m), no peak above base of 4,000 ft³/s (113 m³/s); minimum daily, 0.07 ft³/s (0.002 m³/s) Aug. 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								1000	64	37	8.1	5.2
2								1400	64	32	7.7	5.2
3								1300	64	28	6.6	5.2
4								1200	80	27	5.9	5.2
5								1500	72	25	5.2	5.2
6								1650	73	23	4.9	5.2
7								1800	65	21	4.9	5.2
8								1600	55	20	4.3	5.2
9								1200	50	18	4.0	5.2
10								600	44	17	3.7	5.2
11								360	40	16	3.7	6.0
12								254	43	15	3.4	15
13								220	40	15	3.4	200
14								188	35	14	3.4	280
15								167	32	14	3.7	340
16								152	31	13	4.0	300
17								138	62	13	3.4	160
18								127	52	12	3.4	100
19								119	60	11	4.0	64
20								112	180	14	4.3	52
21								109	500	12	4.6	66
22								111	700	11	4.0	53
23								110	764	13	4.0	45
24								112	745	14	4.6	45
25								113	351	13	5.2	36
26								106	140	12	5.2	28
27								97	83	11	5.2	23
28								90	64	11	5.9	20
29								80	51	11	6.2	17
30								72	42	10	5.9	16
31								66	---	9.2	5.2	---
TOTAL								16153	4646	512.2	148.0	1918.0
MEAN								521	155	16.5	4.77	63.9
MAX								1800	764	37	8.1	340
MIN								66	31	9.2	3.4	5.2
AC-FT								32040	9220	1020	294	3800

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

BRAZOS RIVER BASIN

479

08111010 NAVASOTA RIVER NEAR COLLEGE STATION, TX--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	24	24	107	140	97	65	28	7.5	2.2	.09
2	14	14	25	26	176	120	94	57	27	7.0	2.2	.20
3	11	14	28	32	136	109	89	62	24	6.6	4.8	1.7
4	9.9	13	38	36	104	100	82	76	26	6.5	4.8	5.4
5	9.9	11	50	38	89	95	76	117	46	5.5	3.6	13
6	9.2	11	45	37	83	181	74	253	37	5.5	3.9	9.6
7	8.5	11	43	34	190	1170	70	324	102	5.5	4.4	11
8	8.5	29	38	31	1450	1900	67	244	161	5.5	4.3	30
9	7.8	28	29	30	2240	1170	63	182	81	5.5	3.5	32
10	6.6	17	28	30	1770	512	70	154	74	5.0	2.9	32
11	6.6	19	30	33	936	440	147	133	102	4.4	2.5	30
12	6.6	28	29	76	676	614	266	114	99	4.0	1.9	228
13	7.1	52	141	67	764	995	324	100	65	3.6	1.6	361
14	7.5	53	218	73	940	1470	290	84	44	3.0	1.4	353
15	17	42	85	58	871	2230	218	70	33	2.5	1.1	232
16	49	32	46	104	950	3340	159	60	26	2.0	.99	195
17	34	27	41	757	1250	2940	127	50	25	1.9	.91	228
18	23	26	40	1070	1450	1670	109	42	26	1.9	.65	168
19	18	26	40	1200	1740	660	96	38	24	1.9	.53	113
20	15	24	37	1210	1610	260	85	34	23	1.9	.57	85
21	13	21	34	897	1100	152	77	31	21	1.6	.50	72
22	12	19	32	703	950	114	71	29	19	1.2	.61	129
23	9.9	19	31	508	680	100	65	29	17	1.1	.77	191
24	8.8	18	30	290	540	113	59	30	15	1.4	.53	177
25	8.5	18	29	188	450	111	55	30	13	2.3	.42	80
26	8.8	17	26	146	390	101	83	32	12	2.5	.34	45
27	8.2	17	25	126	275	94	123	33	10	2.5	.26	34
28	9.5	16	24	112	190	89	108	31	9.2	2.2	.22	28
29	9.2	17	24	102	---	84	90	29	8.6	2.2	.25	23
30	9.9	22	24	92	---	85	76	28	8.2	2.1	.11	19
31	11	---	24	83	---	95	---	27	---	1.7	.07	---
TOTAL	393.0	676	1358	8213	22107	21254	3410	2588	1206.0	108.0	52.83	2925.99
MEAN	12.7	22.5	43.8	265	790	686	114	83.5	40.2	3.48	1.70	97.5
MAX	49	53	218	1210	2240	3340	324	324	161	7.5	4.8	361
MIN	6.6	11	24	24	83	84	55	27	8.2	1.1	.07	.09
AC-FT	780	1340	2690	16290	43850	42160	6760	5130	2390	214	105	5800
CAL YR 1977	TOTAL	-	MEAN	-	MAX	-	MIN	-	AC-FT	-		
WTR YR 1978	TOTAL	64291.82	MEAN	176	MAX	3340	MIN	.07	AC-FT	127500		

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 fair except those below 800 ft³/s (22.7 m³/s), which are poor. There are many small diversions above station for irrigation, municipal and industrial uses, and oilfield operations. At times, flow is affected by reservoirs on the Brazos River above Waco and by reservoirs on the Lampasas and Little Rivers above Cameron. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years, 6,656 ft³/s (188.5 m³/s), 4,822,000 acre-ft/yr (5.95 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft³/s (4,050 m³/s) May 2, 1957, gage height, 44.21 ft (13.475 m), at site 1,500 ft (457 m) downstream; minimum daily, 137 ft³/s (3.88 m³/s) Nov. 6, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 56.1 ft (17.10 m) Dec. 8, 1913, at site 1,500 ft (457 m) downstream at present datum, from information by Texas and New Orleans Railroad Co., obtained at bridge 6,000 ft (1,830 m) downstream. Flood of July 4, 1899, reached a stage of 53.6 ft (16.34 m), at site 1,500 ft (457 m) downstream at present datum, from information by Texas and New Orleans Railroad Co.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,400 ft³/s (351 m³/s) Mar. 9, gage height, 12.58 ft (3.834 m); minimum daily, 491 ft³/s (13.9 m³/s) Jan. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	804	620	510	827	887	780	1340	1410	1860	1200	1320
2	1170	878	600	500	1030	794	770	1240	1610	1780	1120	1310
3	1120	878	580	510	1050	754	760	1220	1560	1530	1050	1330
4	1020	893	560	520	981	717	746	1230	1360	1390	998	1310
5	817	931	540	530	881	702	730	1220	1450	1350	975	1230
6	813	962	530	530	777	692	720	1560	2590	1300	981	1140
7	1030	864	520	520	1080	658	710	1810	6410	1250	878	970
8	842	879	510	510	7830	1610	700	1950	5770	1200	762	892
9	709	988	500	500	6710	10800	700	1780	4830	1190	732	959
10	640	883	550	491	4640	10900	690	1600	4290	1230	697	992
11	600	861	600	520	4230	8250	690	1420	3220	1200	641	1220
12	570	859	700	853	3980	6080	876	1300	2500	1180	615	5340
13	540	865	850	1050	3930	4230	1660	1220	2130	1160	600	7420
14	530	872	3740	998	2910	3150	2340	1140	1860	1160	1390	4090
15	520	802	3080	844	2800	2530	1860	1090	1660	1150	3030	3640
16	520	730	2280	1580	4150	2300	1470	1510	1560	1130	3550	2860
17	520	700	1640	5710	4050	2390	1210	2050	1480	1110	3750	2230
18	712	680	1100	4050	3550	2930	1020	1730	1480	948	3870	1690
19	992	660	772	6990	2800	3540	885	1480	1350	954	3860	1470
20	899	640	650	5540	2360	3530	790	1360	1190	1150	3820	1550
21	851	620	600	3800	2250	2700	750	1390	1490	1170	3070	1560
22	824	600	570	3200	2270	1850	850	1260	1670	1160	2450	2450
23	808	590	550	2620	2290	1330	800	1240	1580	1140	2310	1560
24	837	580	530	2070	2050	1070	760	1320	1590	1120	1850	1100
25	843	570	520	1690	1720	959	720	1460	1660	1130	1580	1020
26	876	560	510	1400	1440	921	700	1600	1650	1120	1590	972
27	1040	550	500	1100	1190	883	690	1560	1650	1390	1550	872
28	1040	550	500	900	1010	834	720	1540	1750	1490	1480	733
29	1120	667	510	797	---	820	1120	1500	1830	1440	1410	618
30	1150	640	520	741	---	814	1500	1440	1820	1360	1380	541
31	896	---	520	713	---	790	---	1380	---	1260	1320	---
TOTAL	25989	22556	26752	52287	74786	80415	28717	44940	66400	39002	54509	54389
MEAN	838	752	863	1687	2671	2594	957	1450	2213	1258	1758	1813
MAX	1170	988	3740	6990	7830	10900	2340	2050	6410	1860	3870	7420
MIN	520	550	500	491	777	658	690	1090	1190	948	600	541
AC-FT	51550	44740	53060	103700	148300	159500	56960	89140	131700	77360	108100	107900
CAL YR 1977	TOTAL	2909360	MEAN	7971	MAX	80300	MIN	500	AC-FT	5771000		
WTR YR 1978	TOTAL	570742	MEAN	1564	MAX	10900	MIN	491	AC-FT	1132000		

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 records. Datum of gage is 122.82 ft (37.436 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. During the year, the city of Bellville discharged about 240 acre-ft (296,000 m³) of sewage effluent into a tributary of Mill Creek above gage.

AVERAGE DISCHARGE.--15 years, 233 ft³/s (6.599 m³/s), 8.39 in/yr (213 mm/yr), 168,800 acre-ft/yr (208 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 Texas Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,350 ft³/s (265 m³/s) Sept. 12, gage height, 13.95 ft (4.252 m), no other peak above base of 4,500 ft³/s (127 m³/s); minimum, estimated 2.4 ft³/s (0.068 m³/s) Aug. 25-29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	8.8	19	35	33	115	81	42	19	11	6.2	5.9	4.0		
2	12	44	23	34	113	77	41	18	11	5.9	6.3	9.5		
3	13	30	19	33	80	74	40	37	12	5.8	5.5	6.0		
4	10	17	17	31	66	69	38	43	10	5.7	5.4	5.2		
5	11	14	16	32	59	65	36	34	9.3	5.4	4.9	5.2		
6	10	13	14	32	54	66	36	28	10	5.0	4.4	4.2		
7	9.8	13	13	32	113	81	36	24	250	4.7	4.3	4.1		
8	9.8	34	14	32	1350	80	36	22	100	4.6	4.0	6.0		
9	9.4	76	14	28	1660	75	38	20	50	4.6	3.9	6.5		
10	9.3	33	13	25	403	69	42	18	25	4.4	3.7	8.4		
11	9.9	18	13	82	167	67	45	17	18	4.5	3.5	23		
12	9.6	12	13	350	317	63	45	16	16	4.4	3.3	3140		
13	9.7	11	19	126	624	64	48	16	19	4.4	3.2	6660		
14	9.7	10	25	72	195	69	43	15	48	4.1	3.1	3560		
15	9.6	10	59	56	128	63	40	14	29	4.3	3.0	1750		
16	9.4	10	38	136	112	56	36	14	18	3.9	2.9	761		
17	9.3	10	31	537	169	52	34	13	14	4.0	2.8	172		
18	9.9	10	27	470	332	51	34	13	12	4.1	2.8	94		
19	10	11	26	1410	211	49	30	13	12	4.2	2.7	63		
20	11	11	24	536	138	50	27	15	11	5.5	2.7	47		
21	11	11	22	157	109	51	26	14	10	5.1	2.6	60		
22	13	11	21	112	95	51	25	14	9.2	5.8	2.6	355		
23	15	11	22	100	89	51	26	13	8.6	5.4	2.5	200		
24	16	11	23	98	85	70	26	12	7.9	5.6	2.5	89		
25	22	15	23	92	86	64	24	12	7.3	5.0	2.4	58		
26	17	14	22	76	84	55	22	12	6.9	4.6	2.4	45		
27	13	13	22	63	80	48	20	12	6.3	4.5	2.4	37		
28	12	12	24	55	84	47	19	11	6.3	5.0	2.4	33		
29	12	56	35	52	---	45	19	11	6.2	6.4	2.4	31		
30	11	54	38	52	---	44	19	11	6.6	5.8	3.1	28		
31	11	---	37	57	---	43	---	11	---	5.5	3.6	---		
TOTAL	354.2	614	742	5001	7118	1890	993	542	760.6	154.4	107.2	17265.1		
MEAN	11.4	20.5	23.9	161	254	61.0	33.1	17.5	25.4	4.98	3.46	576		
MAX	22	76	59	1410	1660	81	48	43	250	6.4	6.3	6660		
MIN	8.8	10	13	25	54	43	19	11	6.2	3.9	2.4	4.0		
CFSM	.03	.06	.06	.43	.68	.16	.09	.05	.07	.01	.009	1.53		
IN.	.04	.06	.07	.49	.70	.19	.10	.05	.08	.02	.01	1.71		
AC-FT	703	1220	1470	9920	14120	3750	1970	1080	1510	306	213	34250		
CAL YR 1977	TOTAL	97303.6	MEAN	267	MAX	14000	MIN	7.2	CFSM	.71	IN	9.63	AC-FT	193000
WTR YR 1978	TOTAL	35541.5	MEAN	97.4	MAX	6660	MIN	2.4	CFSM	.26	IN	3.52	AC-FT	70500

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	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)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 09...	1445	10	542	7.4	26.0	170	15	61	4.6	38
NOV 29...	1545	88	516	7.3	15.0	200	19	73	4.1	27
JAN 10...	1525	24	619	7.2	7.5	230	20	82	5.0	36
APR 04...	1600	36	612	7.5	27.0	220	22	79	5.2	37
MAY 02...	1425	17	571	7.6	25.0	200	16	71	4.7	37
JUL 23...	1630	4.7	463	7.7	32.0	150	15	55	4.1	31
AUG 29...	1805	2.5	476	7.4	31.0	150	17	52	4.4	31

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 09...	1.3	4.4	190	0	11	63	.2	24	300
NOV 29...	.8	3.5	220	0	8.6	47	.2	21	293
JAN 10...	1.0	2.3	250	0	7.8	65	.3	17	339
APR 04...	1.1	2.5	240	0	12	63	.4	17	334
MAY 02...	1.1	2.5	220	0	11	61	.3	19	315
JUL 23...	1.1	2.7	170	0	9.9	56	.2	25	268
AUG 29...	1.1	2.9	160	0	9.2	58	.2	26	263

BRAZOS RIVER BASIN

483

08113500 RICHMOND IRRIGATION CO.'S CANAL NEAR RICHMOND, TX

LOCATION.--Lat 29°34'02", long 95°47'03", Fort Bend County, Hydrologic Unit 12070104, on right downstream wingwall of first bridge downstream from pump plant, about 0.5 mi (0.8 km) upstream from previous gage, 1.2 mi (1.9 km) downstream from pump plant, and 1.7 mi (2.7 km) southwest of Richmond.

PERIOD OF RECORD.--October 1927 to September 1954, March 1956 to September 1978 (discontinued). Records for water years 1928-31, 1955-56 incomplete yearly estimates only published in WSP 1313 and 1732.

GAGE.--Water-stage recorder. Altitude of gage is 90 ft (27 m) from topographic map.

REMARKS.--Records fair. Water for irrigation is diverted by pumping from right bank of Brazos River 6 mi (10 km) upstream from Richmond. Figures of discharge represent water pumped from river. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--51 years, 43.8 ft³/s (1.240 m³/s), 31,730 acre-ft/yr (39.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 267 ft³/s (7.56 m³/s) Nov. 15, 28, 1957; no flow for several months each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	96	.00	.00	.00	92	95	171	173	.00	.00
2	.00	.00	94	.00	.00	.00	90	94	172	176	.00	.00
3	.00	.00	92	.00	.00	.00	90	95	87	176	.00	.00
4	.00	.00	92	.00	.00	.00	93	96	71	176	.00	.00
5	.00	.00	93	.00	.00	.00	93	94	178	175	.00	.00
6	.00	.00	94	.00	.00	.00	93	95	174	174	.00	.00
7	.00	.00	95	.00	.00	.00	94	94	172	169	.00	.00
8	.00	.00	93	.00	.00	36	94	108	174	172	.00	.00
9	.00	.00	94	.00	.00	76	95	171	182	176	.00	.00
10	.00	.00	96	.00	.00	.00	94	172	178	174	.00	.00
11	.00	.00	97	.00	.00	.00	93	171	180	174	.00	.00
12	.00	.00	97	.00	.00	.00	62	172	179	178	.00	.00
13	.00	.00	95	.00	.00	.00	32	171	179	180	.00	.00
14	.00	.00	89	.00	.00	.00	87	169	175	180	.00	13
15	.00	.00	92	.00	.00	.00	.00	166	176	178	.00	123
16	.00	.00	81	.00	.00	.00	.00	152	174	179	.00	201
17	.00	.00	137	.00	.00	.00	.00	128	174	145	.00	192
18	.00	.00	180	.00	.00	.00	52	168	173	96	.00	188
19	.00	.00	8.7	.00	.00	.00	96	172	173	97	.00	187
20	.00	.00	.00	.00	.00	.00	95	139	172	97	.00	187
21	.00	.00	.00	.00	.00	.00	97	167	172	155	.00	189
22	.00	35	.00	.00	.00	.00	95	168	170	181	.00	90
23	.00	98	.00	.00	.00	.00	62	168	169	180	.00	.00
24	.00	96	.00	.00	.00	.00	.00	168	173	183	.00	.00
25	.00	96	.00	.00	.00	.00	.00	168	174	183	.00	.00
26	.00	97	.00	.00	.00	.00	.00	168	173	182	.00	.00
27	.00	93	.00	.00	.00	.00	16	166	173	182	.00	.00
28	.00	89	.00	.00	.00	.00	95	170	174	70	.00	.00
29	.00	91	.00	.00	---	.00	93	171	174	.00	.00	.00
30	.00	96	.00	.00	---	.00	94	170	171	.00	.00	.00
31	.00	---	.00	.00	---	29	---	171	---	.00	.00	---
TOTAL	.00	791.00	1815.70	.00	.00	141.00	1997.00	4577	5037	4561.00	.00	1370.00
MEAN	.000	26.4	58.6	.000	.000	4.55	66.6	148	168	147	.000	45.7
MAX	.00	98	180	.00	.00	76	97	172	182	183	.00	201
MIN	.00	.00	.00	.00	.00	.00	.00	94	71	.00	.00	.00
AC-FT	.00	1570	3600	.00	.00	280	3960	9080	9990	9050	.00	2720
CAL YR 1977	TOTAL	18969.70	MEAN	52.0	MAX	214	MIN	.00	AC-FT	37630		
WTR YR 1978	TOTAL	20289.70	MEAN	55.6	MAX	201	MIN	.00	AC-FT	40240		

BRAZOS RIVER BASIN

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 presnet site at datum 3.00 ft (0.914 m) higher.

REMARKS.--Water-discharge records fair. Considerable water diverted above station for irrigation and municipal supply.

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); 38 years (water years 1941-78) regulated, 7,345 ft³/s (208.0 m³/s), 5,321,000 acre-ft/yr (6.56 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 side 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 (14.11 m); May 9, 1922, 43.9 ft (13.38 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,100 ft³/s (456 m³/s) Sept. 14, gage height, 13.55 ft (4.130 m); minimum daily, 466 ft³/s (13.2 m³/s) Aug. 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	1350	760	673	1340	2190	913	680	1050	1340	1500	1410
2	1150	1310	819	697	1320	1980	821	1130	1020	1360	1320	1400
3	1290	1140	779	686	1440	1810	818	1230	1370	1400	1300	1450
4	1310	1070	742	668	1550	1680	804	1180	1790	1330	1210	1430
5	1340	1070	715	674	1540	1570	774	1090	1490	1130	1130	1380
6	1250	1060	704	686	1480	1480	708	1050	1510	978	1070	1360
7	1000	1080	697	705	1400	1550	700	1040	2520	955	1030	1300
8	948	1210	678	717	1780	1660	674	1280	6710	902	996	1240
9	1090	1200	660	701	8810	1440	638	1410	9060	868	939	1130
10	1070	1160	651	662	11400	4000	630	1560	6120	820	824	1040
11	925	1240	640	732	7950	9900	660	1410	5140	786	740	1190
12	823	1170	627	971	6800	9950	728	1220	4320	796	707	1340
13	752	1070	688	1200	6440	7780	797	1070	3290	790	571	4460
14	712	1050	806	1530	6580	5800	777	940	2500	760	466	15000
15	684	1040	858	1460	6150	4550	1510	863	2020	744	483	12000
16	665	1040	2960	2080	4760	3570	2270	802	1720	726	852	7620
17	664	1010	3130	3090	5010	3000	2040	796	1450	737	2370	6050
18	656	947	2470	5190	6130	2760	1650	917	1280	802	3180	4220
19	641	912	1980	9290	6180	2850	1260	1450	1180	803	3470	3070
20	653	859	1540	10500	5210	3260	997	1390	1140	745	3680	2330
21	917	857	1170	8850	4170	3830	875	1130	1050	678	3770	2000
22	1070	830	938	6170	3730	3850	729	1040	910	790	3700	1960
23	1060	790	813	4890	3490	3140	736	1020	1020	937	3110	2370
24	1030	760	748	4230	3370	2390	790	927	1240	964	2540	3000
25	1020	731	713	3630	3370	1800	770	850	1180	953	2310	2330
26	1030	705	684	3070	3140	1450	736	888	1160	936	1940	1730
27	1040	706	656	2600	2780	1270	704	1050	1190	999	1610	1550
28	1020	710	646	2190	2480	1180	589	1190	1150	1070	1490	1450
29	1130	739	651	1830	---	1150	557	1160	1200	1340	1500	1350
30	1200	693	656	1570	---	1100	497	1180	1260	1500	1470	1180
31	1220	---	660	1410	---	1030	---	1170	---	1520	1440	---
TOTAL	30410	29509	31239	83352	119800	94970	27152	34113	68040	30459	52718	89340
MEAN	981	984	1008	2689	4279	3064	905	1100	2268	983	1701	2978
MAX	1340	1350	3130	10500	11400	9950	2270	1560	9060	1520	3770	15000
MIN	641	693	627	662	1320	1030	497	680	910	678	466	1040
AC-FT	60320	58530	61960	165300	237600	188400	53860	67660	135000	60420	104600	177200
CAL YR 1977 TOTAL	3109318			8519	79400	627	AC-FT	6167000				
WTR YR 1978 TOTAL	691102			1893	15000	466	AC-FT	1371000				

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.

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, 8,300 mg/L Apr. 27, 1966; minimum daily mean, 8 mg/L Nov. 29, 1967.

SEDIMENT LOADS: Maximum daily, 1,190,000 tons Apr. 28, 1966; minimum daily, 15 tons Apr. 8-10, 1967.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,600 micromhos Sept. 4; minimum daily, 258 micromhos Feb. 15.

WATER TEMPERATURES: Minimum daily, 31.0°C Aug. 13; minimum daily, 4.0°C Jan. 18, 20, 23.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,750 mg/L Mar. 11; minimum daily mean, 15 mg/L Dec. 31, Aug. 16.

SEDIMENT LOADS: Maximum daily, 100,000 tons Mar. 11; minimum daily, 26 tons Aug. 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, 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 12...	0415	880	1110	8.3	22.0	--	--	--	--	--	260	83
NOV 30...	1300	630	908	8.2	14.5	20	40	9.6	97	2.8	270	42
DEC 05...	0430	630	887	8.1	20.0	--	--	--	--	--	250	49
JAN 23...	0900	5600	311	8.0	3.5	180	200	11.4	88	2.5	93	11
FEB 27...	0430	2800	414	7.8	13.0	--	--	--	--	--	120	38
MAR 21...	1110	4000	395	8.0	18.5	160	180	8.5	93	2.2	110	23
APR 12...	0430	730	795	8.2	19.0	--	--	--	--	--	240	42
MAY 16...	1545	810	580	8.6	28.5	40	50	10.8	140	5.2	150	34
JUN 25...	0745	1240	837	7.9	27.0	--	--	--	--	--	200	80
JUL 18...	1600	720	620	8.3	33.5	20	20	8.4	117	2.6	170	8
AUG 09...	0430	940	626	7.4	30.0	--	--	--	--	--	180	27
SEP 27...	1345	1500	880	7.8	27.0	60	--	7.8	99	1.2	180	64
DATE		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 12...		74	19	110	3.0	4.7	220	0	100	170	.3	13
NOV 30...		79	18	83	2.2	4.0	280	0	73	100	.3	8.8
DEC 05...		67	19	80	2.2	4.0	240	0	66	100	.2	9.5
JAN 23...		30	4.3	22	1.0	3.6	100	0	25	27	.1	8.6
FEB 27...		38	6.1	32	1.3	3.8	100	0	45	49	.1	9.8
MAR 21...		36	5.6	31	1.3	4.0	110	0	38	42	.2	9.7
APR 12...		71	15	67	1.9	4.4	240	0	69	88	.3	8.3
MAY 16...		42	11	53	1.9	5.4	130	5	69	66	.2	5.4
JUN 25...		60	13	84	2.6	5.4	150	0	78	130	.3	8.9
JUL 18...		60	5.4	50	1.7	4.2	200	0	41	65	.3	9.1
AUG 09...		50	14	47	1.5	4.7	190	0	53	63	.3	10
SEP 27...		55	10	96	3.1	5.8	140	0	78	150	.3	12

BRAZOS RIVER BASIN

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 12...	599	--	--	--	--	--	--	--	--	--	--
NOV 30...	504	89	15	.06	.01	.07	.08	.56	.64	.11	2.7
DEC 05...	464	--	--	--	--	--	--	--	--	--	--
JAN 23...	170	460	84	.30	.01	.31	.03	.96	.99	.35	11
FEB 27...	233	--	--	--	--	--	--	--	--	--	--
MAR 21...	221	388	76	.49	.03	.52	.01	.88	.89	.27	10
APR 12...	441	--	--	--	--	--	--	--	--	--	--
MAY 16...	322	101	32	.00	.01	.01	.01	1.1	1.1	.17	10
JUN 25...	454	--	--	--	--	--	--	--	--	--	--
JUL 18...	334	37	21	.01	.00	.01	.02	.51	.53	.08	3.1
AUG 09...	336	--	--	--	--	--	--	--	--	--	--
SEP 27...	476	150	64	.46	.03	.49	.04	.96	1.0	.26	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)
JAN 23...	0900	3	200	2	0	2	20
MAY 21...	1110	4	100	1	0	2	30
JUL 18...	1600	4	300	0	10	3	20
SEP 27...	1345	6	100	<1	0	5	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)
JAN 23...	0	0	.0	0	0	10
MAY 21...	0	0	.0	0	0	0
JUL 18...	0	10	.0	0	0	10
SEP 27...	0	<1	.0	0	0	<3

BRAZOS RIVER BASIN

487

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
JAN 23...	0900	.0	0	.00	.00	.0	.0	1	.00	1.2
MAR 21...	1110	.0	0	.00	.00	.0	.0	0	.00	.0
JUL 18...	1600	.0	0	.00	.00	.0	.0	0	.00	.0
SEP 27...	1345	.0	0	.00	.00	.0	.0	0	.00	.3

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
JAN 23...	.01	4.8	.01	.7	.01	.00	.1	.00	.00	.0
MAR 21...	.01	.3	.00	.0	.01	.00	.0	.00	.00	.0
JUL 18...	.00	.1	.00	.0	.01	.00	.0	.00	.00	.0
SEP 27...	.00	.9	.00	.5	.00	.00	.0	.00	.00	.0

DATE	ETHION, TOTAL (UG/L)	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)	METHYL PARA- THION, TOTAL (UG/L)
JAN 23...	.00	.00	.0	.00	.0	.00	.0	.00	.00
MAR 21...	.00	.00	.0	.00	.0	.00	.0	.00	.00
JUL 18...	.00	.00	.0	.00	.0	.00	.0	.00	.00
SEP 27...	.00	.00	.0	.00	.0	.00	.0	.00	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIRFX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOX- APHENE, 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)
JAN 23...	.00	.00	.00	0	0	.00	.03	.01	.00
MAR 21...	.00	.00	.00	0	0	.00	.01	.00	.00
JUL 18...	.00	.00	.00	0	0	.00	.00	.00	.00
SEP 27...	.00	.00	.00	0	0	.00	.13	.11	.00

BRAZOS RIVER BASIN

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	
DEC 17...	1630	3000	16.0	610	4940	64	68	
FEB 09...	1120	9870	7.0	1500	40000	35	39	
11...	0430	8820	6.0	987	23500	64	66	
MAR 23...	1150	3270	20.0	261	2300	75	79	
SEP 14...	0430	11600	29.0	1480	46200	62	64	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM
DEC 17...	79	85	90	97	99	100	--	
FEB 09...	43	49	59	68	96	99	100	
11...	70	72	81	86	97	99	100	
MAR 23...	80	90	91	95	98	99	100	
SEP 14...	70	76	79	85	93	99	100	

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	30410	1070	580	47900	160	13200	96	7880	260
NOV. 1977.....	29509	999	540	43400	150	11700	89	7090	250
DEC. 1977.....	31239	705	380	32400	92	7780	61	5130	200
JAN. 1978.....	83352	428	230	52400	42	9540	36	7990	120
FEB. 1978.....	119800	414	230	73600	40	12800	34	10900	120
MAR. 1978.....	94970	449	250	63100	45	11600	36	9350	130
APR. 1978.....	27152	716	390	28700	94	6930	61	4450	210
MAY 1978.....	34113	717	390	36000	93	8600	60	5550	210
JUNE 1978.....	68040	567	310	56900	67	12300	47	8680	160
JULY 1978.....	30459	729	400	32800	96	7870	62	5100	210
AUG. 1978.....	52718	1330	730	103000	210	29700	120	17200	280
SEPT 1978.....	89340	1120	610	147000	170	40500	100	24100	260
TOTAL	691102	**	**	717000	**	173000	**	113000	**
WTD.AVG.	1843.43	704	380	**	93	**	61	**	200

BRAZOS RIVER BASIN

489

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	1070	907	873	570	460	646	736	677	916	554	2490
2	1030	1050	899	885	592	505	685	770	666	920	553	2530
3	1050	1060	933	893	624	530	707	800	638	916	565	2580
4	1040	1050	910	914	649	555	717	835	576	920	553	2600
5	1030	1020	887	922	666	581	732	860	585	922	569	2370
6	1080	1080	878	920	683	564	747	764	579	918	592	2490
7	1060	1010	888	917	690	613	756	724	540	917	616	2410
8	1050	980	899	878	659	621	762	730	475	916	622	2320
9	1090	921	910	926	400	602	776	700	440	933	626	2300
10	1120	985	920	917	327	550	780	686	386	920	622	2320
11	1100	970	933	931	350	435	783	672	395	834	626	2160
12	1110	929	956	705	303	433	795	716	449	778	634	2100
13	1100	970	938	750	323	442	789	728	670	742	622	2040
14	1120	1000	852	804	289	379	790	741	840	710	655	861
15	1110	1020	875	825	258	352	795	685	516	688	668	509
16	1120	1030	867	610	266	358	789	625	394	658	675	496
17	1100	1040	800	446	309	379	802	618	436	675	689	568
18	1090	1040	550	400	450	400	780	627	589	630	713	703
19	1060	1030	306	350	571	432	651	631	673	616	1280	698
20	1070	1010	289	323	550	446	662	640	714	609	1470	693
21	1100	1000	330	300	525	419	631	648	710	596	1480	799
22	1120	990	400	287	510	404	600	700	691	590	1490	846
23	1090	980	440	337	485	398	566	738	760	580	1570	879
24	1060	961	480	284	470	393	576	788	856	585	1660	1340
25	1070	947	550	300	437	412	552	795	837	563	1970	1160
26	1060	925	594	316	413	436	585	787	852	568	2240	949
27	1070	943	650	339	414	471	621	750	888	555	2350	1070
28	1030	966	718	378	436	508	653	700	979	544	2470	1190
29	1020	947	772	445	---	549	688	710	919	576	2450	1200
30	1070	925	807	499	---	593	723	694	910	578	2480	1200
31	1060	---	855	546	---	623	---	666	---	566	2410	---
MEAN	1070	995	742	620	472	479	705	718	655	724	1180	1530

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.0	23.0	16.0	13.0	7.0	14.0	19.0	23.0	26.0	27.0	30.0	29.0
2	28.0	21.0	16.0	---	7.0	14.0	19.0	23.0	26.0	27.0	30.0	29.0
3	27.0	18.0	16.0	6.0	7.0	---	21.0	---	26.0	27.0	30.0	29.0
4	---	18.0	18.0	8.0	7.0	---	21.0	21.0	26.0	30.0	30.0	29.0
5	24.0	28.0	20.0	16.0	---	9.0	---	21.0	---	---	30.0	29.0
6	24.0	18.0	16.0	---	7.0	9.0	22.0	22.0	26.0	---	30.0	29.0
7	24.0	20.0	---	7.0	---	10.0	22.0	22.0	---	---	30.0	29.0
8	29.0	23.0	16.0	---	6.0	9.0	27.0	25.0	---	30.0	30.0	29.0
9	24.0	18.0	---	7.0	---	9.0	22.0	---	26.0	30.0	30.0	---
10	25.0	16.0	13.0	8.0	6.0	9.0	---	25.0	---	30.0	30.0	29.0
11	24.0	14.0	11.0	6.0	6.0	---	21.0	25.0	---	30.0	30.0	29.0
12	22.0	14.0	14.0	6.0	9.0	14.0	19.0	25.0	26.0	30.0	30.0	---
13	17.0	15.0	15.0	6.0	8.0	15.0	15.0	---	26.0	30.0	31.0	29.0
14	18.0	16.0	14.0	6.0	8.0	14.0	---	25.0	26.0	30.0	30.0	---
15	17.0	23.0	12.0	---	8.0	15.0	18.0	---	26.0	30.0	30.0	29.0
16	19.0	24.0	15.0	---	8.0	14.0	22.0	25.0	27.0	30.0	30.0	29.0
17	---	24.0	16.0	6.0	9.0	14.0	23.0	25.0	27.0	---	30.0	29.0
18	18.0	22.0	---	4.0	---	14.0	22.0	25.0	27.0	30.0	30.0	29.0
19	21.0	---	18.0	---	6.0	15.0	23.0	26.0	27.0	30.0	30.0	---
20	20.0	23.0	16.0	4.0	---	15.0	20.0	---	27.0	30.0	30.0	29.0
21	22.0	24.0	---	---	6.0	15.0	20.0	26.0	27.0	30.0	30.0	29.0
22	22.0	20.0	8.0	5.0	---	18.0	---	26.0	27.0	30.0	---	29.0
23	---	20.0	10.0	4.0	---	18.0	20.0	26.0	27.0	---	29.0	29.0
24	23.0	20.0	---	5.0	10.0	18.0	22.0	26.0	27.0	30.0	29.0	27.0
25	---	19.0	---	---	12.0	18.0	23.0	---	27.0	30.0	30.0	26.0
26	23.0	18.0	10.0	5.0	13.0	17.0	---	---	27.0	30.0	30.0	26.0
27	23.0	---	---	6.0	13.0	17.0	23.0	---	27.0	---	---	---
28	23.0	20.0	12.0	5.0	15.0	18.0	---	---	27.0	---	29.0	26.0
29	23.0	20.0	12.0	6.0	---	18.0	23.0	26.0	27.0	30.0	29.0	---
30	23.0	---	12.0	7.0	---	19.0	23.0	26.0	27.0	30.0	29.0	---
31	---	---	14.0	7.0	---	19.0	---	---	---	---	29.0	---
MEAN	22.5	20.0	14.0	6.5	8.5	14.5	21.5	24.5	26.5	29.5	30.0	28.5

BRAZOS RIVER BASIN

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	1050	35	99	1350	28	102	760	49	101
2	1150	36	112	1310	46	163	819	40	88
3	1290	28	94	1140	32	98	779	24	50
4	1310	28	99	1070	38	110	742	21	42
5	1340	36	130	1070	34	98	715	23	44
6	1250	35	118	1060	30	86	704	25	48
7	1000	34	92	1080	33	96	697	25	47
8	948	22	56	1210	28	91	678	21	38
9	1090	34	100	1200	40	130	660	25	45
10	1070	24	69	1160	42	132	651	22	39
11	925	22	55	1240	28	94	640	22	38
12	923	22	49	1170	32	101	627	22	37
13	752	20	41	1070	60	173	688	20	37
14	712	18	35	1050	29	82	806	45	98
15	684	22	41	1040	26	73	858	45	104
16	665	36	65	1040	24	67	2960	334	2870
17	664	30	54	1010	24	65	3130	630	5320
18	656	26	46	947	24	61	2470	605	4030
19	641	23	40	912	21	52	1980	550	2940
20	653	22	39	859	19	44	1540	470	1950
21	917	32	79	857	23	53	1170	360	1140
22	1070	22	64	830	22	49	938	260	658
23	1060	37	106	790	20	43	813	205	450
24	1030	45	125	760	26	53	748	168	339
25	1020	46	127	731	29	57	713	130	250
26	1030	34	95	705	30	57	684	95	175
27	1040	44	124	706	27	51	656	50	89
28	1020	31	85	710	25	48	646	40	70
29	1130	34	104	739	17	34	651	27	47
30	1200	33	107	693	40	75	656	20	35
31	1220	27	89	---	---	---	660	15	27
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	673	25	45	1340	121	438	2190	175	1030
2	697	30	56	1320	85	303	1980	150	802
3	686	20	37	1440	62	241	1810	125	611
4	668	17	31	1550	107	448	1680	120	544
5	674	17	31	1540	155	644	1570	120	509
6	686	20	37	1480	160	639	1480	110	440
7	705	25	48	1400	280	1060	1550	110	460
8	717	37	72	1780	710	3650	1660	200	896
9	701	26	49	8810	1640	41400	1440	225	875
10	662	19	34	11400	1930	59400	4000	1750	24800
11	732	35	69	7950	1280	27500	9900	3750	100000
12	971	150	393	6800	825	15100	9950	3220	86500
13	1200	117	379	6440	825	14300	7780	2750	57800
14	1530	120	496	6580	780	13900	5800	2050	32100
15	1460	137	540	6150	775	12900	4550	1500	18400
16	2080	438	3370	4760	600	7710	3570	1100	10600
17	3090	1410	12100	5010	425	5750	3000	700	5670
18	5190	1950	27300	6130	450	7450	2760	450	3350
19	9290	1850	46400	6180	500	8340	2850	320	2460
20	10500	1600	45400	5210	460	6470	3260	320	2820
21	8850	1260	30100	4170	375	4220	3830	350	3620
22	6170	750	12500	3730	300	3020	3850	305	3170
23	4490	550	7260	3490	300	2830	3140	275	2330
24	4230	425	4850	3370	300	2730	2390	205	1320
25	3630	325	3190	3370	270	2460	1800	150	729
26	3070	275	2280	3140	250	2120	1450	124	485
27	2600	210	1470	2780	250	1880	1270	126	432
28	2190	197	1160	2480	200	1340	1180	131	417
29	1830	186	919	---	---	---	1150	90	279
30	1570	157	666	---	---	---	1100	48	143
31	1410	135	514	---	---	---	1030	30	83

BRAZOS RIVER BASIN

491

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	913	26	64	680	24	44	1050	56	159
2	821	28	62	1130	40	122	1020	46	127
3	818	26	57	1230	40	133	1370	85	314
4	804	28	61	1180	37	118	1790	185	894
5	774	30	63	1090	47	138	1490	142	571
6	708	30	57	1050	48	136	1510	80	326
7	700	31	59	1040	40	112	2520	633	4960
8	674	33	60	1280	44	152	6710	1800	33500
9	638	27	47	1410	45	171	9060	1500	36700
10	630	28	48	1560	59	249	6120	1130	18700
11	660	20	36	1410	70	266	5140	975	13500
12	728	23	45	1220	85	280	4320	925	10400
13	797	30	65	1070	86	248	3290	600	5330
14	777	28	59	940	80	203	2500	400	2700
15	1510	38	155	863	80	186	2020	375	2050
16	2270	90	552	802	90	195	1720	375	1740
17	2040	102	562	796	80	172	1450	310	1210
18	1650	102	454	917	62	154	1280	175	605
19	1260	82	279	1450	85	333	1180	115	366
20	997	67	180	1390	98	368	1140	100	308
21	875	72	170	1130	92	281	1050	85	241
22	729	82	161	1040	68	191	910	55	135
23	736	97	193	1020	82	226	1020	44	121
24	790	82	175	927	65	163	1240	53	177
25	770	80	166	850	70	161	1180	60	191
26	736	65	129	888	74	177	1160	54	169
27	704	50	95	1050	80	227	1190	46	148
28	589	29	46	1190	80	257	1150	45	140
29	557	31	47	1160	75	235	1200	65	211
30	497	30	40	1180	74	236	1260	60	204
31	---	---	---	1170	63	199	---	---	---
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	1340	54	145	1500	110	445	1410	35	133
2	1360	58	213	1320	105	374	1400	36	136
3	1400	52	197	1300	90	316	1450	34	133
4	1330	54	194	1210	78	255	1430	28	108
5	1130	50	153	1130	58	177	1380	26	97
6	978	36	95	1070	44	127	1360	23	84
7	955	35	90	1030	37	103	1300	17	60
8	902	34	83	996	23	62	1240	18	60
9	868	36	84	939	24	61	1130	22	67
10	820	31	69	824	22	49	1040	22	62
11	786	26	55	740	19	38	1190	28	90
12	796	25	54	707	22	42	1340	40	145
13	790	25	53	571	38	59	4460	444	8990
14	760	22	45	466	21	26	15000	1460	58700
15	744	23	46	483	24	31	12000	900	29200
16	726	29	57	852	15	35	7620	510	10500
17	737	25	50	2370	75	480	6050	450	7350
18	802	22	48	3180	210	1800	4220	375	4270
19	803	20	43	3470	282	2640	3070	280	2320
20	745	23	46	3680	287	2850	2330	200	1260
21	678	27	49	3770	305	3100	2000	225	1220
22	790	26	55	3700	295	2950	1960	110	582
23	937	28	71	3110	255	2140	2370	115	736
24	964	27	70	2540	212	1450	3000	195	1580
25	953	29	75	2310	175	1090	2330	305	1920
26	936	34	86	1940	140	733	1730	285	1330
27	999	82	221	1610	100	435	1550	170	711
28	1070	115	332	1490	75	302	1450	70	274
29	1340	122	441	1500	55	223	1350	52	190
30	1500	120	486	1470	45	179	1180	50	159
31	1520	115	472	1440	45	175	---	---	---
YEAR	691102		1146300						

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 fair. 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.--28 years (water years 1948-49, 1953-78), 32.9 ft³/s (0.932 m³/s), 23,840 acre-ft/yr (29.4 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 1,000 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)
Jan. 16	2030	*2,270 64.3	19.72 6.011	Feb. 17	unknown	1,000 28.3	unknown -
Jan. 19	0430	1,450 41.1	18.01 5.489	June 7	0530	1,340 37.9	17.71 5.398

Minimum daily discharge, 0.33 ft³/s (0.009 m³/s) Dec. 10, Aug. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	2.2	3.4	.71	12	.90	.70	.75	16	2.8	3.0	.65
2	.55	23	1.6	.82	11	.80	.74	.75	13	4.8	2.2	.67
3	.54	4.6	.78	1.2	8.3	.74	.72	.80	107	11	2.0	.67
4	.51	1.6	.59	1.1	6.2	.63	.68	.70	54	12	1.5	.67
5	.46	1.1	.50	.94	4.7	.69	.67	.75	30	8.9	1.6	.73
6	.46	.92	.40	.83	3.3	.68	.68	.75	64	8.9	3.4	.80
7	.46	.83	.38	1.1	11	.66	.64	.75	535	9.6	3.2	.70
8	.50	73	.39	3.8	279	.60	.66	.80	145	8.0	1.7	.70
9	.51	52	.35	1.8	85	.63	.72	.80	77	6.0	1.0	.90
10	.51	9.1	.33	1.2	50	.56	.69	.80	45	4.6	.62	1.8
11	.55	4.0	.36	158	25	.56	.73	.84	24	4.3	.45	17
12	.57	3.1	.40	175	220	.63	1.5	.90	13	4.1	.37	24
13	.57	2.1	21	36	100	.65	3.1	.90	7.3	4.0	.75	35
14	.53	1.2	9.1	15	50	.68	6.4	.98	4.0	3.5	.68	152
15	.51	.98	2.2	8.3	25	.54	3.9	.95	5.3	3.1	.60	65
16	.49	.76	1.1	767	13	.58	2.3	1.1	3.6	3.7	.45	45
17	.48	.63	.74	577	400	.58	1.6	1.1	2.5	3.6	.35	23
18	.51	.53	.56	442	150	.61	1.8	1.2	2.1	3.5	.33	12
19	.52	.52	.55	835	60	.66	1.6	1.3	2.1	2.8	.35	6.9
20	.51	.49	.51	156	25	.61	1.1	1.3	2.2	2.8	.40	15
21	.51	.56	.46	66	10	.64	1.1	1.8	2.1	3.2	.85	142
22	.51	1.3	.53	37	5.0	.55	1.2	1.8	2.1	3.5	.96	39
23	.79	1.1	.59	28	3.2	.54	5.4	1.8	1.9	3.9	.91	14
24	.89	.84	.58	56	2.3	.77	14	1.8	1.5	5.6	.77	8.5
25	.69	6.4	.60	61	1.8	.75	9.3	1.8	1.4	7.8	.65	4.1
26	.64	2.9	.51	32	1.5	.58	4.9	1.8	1.1	11	.65	2.4
27	.64	2.7	.56	15	1.1	.51	2.6	1.8	.97	10	.65	1.4
28	.66	1.9	.55	9.4	1.1	.44	1.6	1.9	.84	8.4	.64	.90
29	.67	2.7	.74	6.5	---	.96	1.1	1.8	.66	6.4	.64	.83
30	.67	4.1	.89	5.1	---	.67	.85	2.4	1.5	5.4	.64	.34
31	.67	---	.74	4.3	---	.70	---	20	---	4.4	.64	---
TOTAL	17.58	207.16	51.99	3503.10	1564.5	20.10	72.98	56.92	1166.17	181.6	32.95	616.66
MEAN	.57	6.91	1.68	113	55.9	.65	2.43	1.84	38.9	5.86	1.06	20.6
MAX	.89	73	21	835	400	.96	14	20	535	12	3.4	152
MIN	.46	.49	.33	.71	1.1	.44	.64	.70	.66	2.8	.33	.34
AC-FT	35	411	103	6950	3100	40	145	113	2310	360	65	1220
CAL YR 1977	TOTAL	4348.69	MEAN	11.9	MAX	850	MIN	.00	AC-FT	8630		
WTR YR 1978	TOTAL	7491.71	MEAN	20.5	MAX	835	MIN	.33	AC-FT	14860		

BRAZOS RIVER BASIN

493

08116400 DRY CREEK NEAR ROSENBERG, TX

LOCATION.--Lat 29°30'42", long 95°44'45", Fort Bend County, Hydrologic Unit 12070104, on right bank 38 ft (12 m) downstream from county road bridge, 5.0 mi (8.0 km) southeast of Rosenberg, and 8.2 mi (13.2 km) upstream from Smither's Lake (Lake George) spillway.

DRAINAGE AREA.--8.65 mi² (22.40 km²). See REMARKS.

PERIOD OF RECORD.--October 1958 to current year.

REVISED RECORDS.--WSP 1732: Drainage area. WSP 1922: 1959-60. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 71.90 ft (21.915 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Runoff given herein includes return flow from irrigation, and at times flow is supplemented by water from Richmond Irrigation Co.'s canal (station 08113500). Publication of supplemental peak discharges was discontinued in September 1977 because of large releases of water into Dry Creek from Smither's Lake. Water is stored in Smither's Lake and used for cooling of electrical power generators and for irrigation. Recording rain gage in basin from January 1969 to September 1974.

AVERAGE DISCHARGE.--20 years, 11.8 ft³/s (0.334 m³/s), 8,550 acre-ft/yr (10.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,410 ft³/s (68.3 m³/s) Oct. 31, 1959, gage height, 12.66 ft (3.859 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Highest flood since at least 1932, that of Oct. 31, 1959, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 600 ft³/s (17.0 m³/s) Jan. 16, gage height, 9.75 ft (2.972 m); no flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.11	95	.00	3.5	.00	5.1	.40	.65	.42	.00	.00
2	.00	3.2	98	.00	1.9	.00	1.5	1.0	.69	.54	.00	.00
3	.00	.02	92	.09	.85	.00	.60	.57	70	.85	.00	.00
4	.00	.00	85	.13	.45	.00	.40	1.5	4.6	.46	.00	.00
5	.00	.00	87	.05	.22	.00	.40	1.8	.61	.44	.00	.00
6	.00	.00	95	.03	.08	.00	.40	.42	3.4	.46	.00	.00
7	.00	.00	95	.90	6.7	.00	.40	.42	140	.44	.00	.00
8	.00	15	92	1.5	98	4.8	.40	.42	20	.42	.00	.00
9	.00	10	89	.38	17	103	.40	15	7.0	.46	.00	.00
10	.00	2.0	100	.07	8.8	4.9	.40	17	2.0	.50	.00	.04
11	.00	.50	102	81	3.2	.20	.40	2.7	1.0	.50	.00	9.7
12	.00	.10	105	69	73	.04	4.0	1.1	.70	.53	.00	2.3
13	.00	.00	143	8.3	27	.00	2.0	1.2	.60	.57	3.7	6.1
14	.00	.00	94	2.6	4.3	.00	1.0	1.6	.50	.57	1.9	17
15	.00	.00	91	.89	1.4	.00	.50	1.3	.40	.56	.57	85
16	.00	.00	68	210	.70	.00	.40	1.5	.40	.55	.17	213
17	.00	.00	115	70	143	.00	.40	.54	.40	.49	.03	195
18	.00	.00	235	106	41	.00	.40	1.7	.35	.25	.00	180
19	.00	.00	64	206	7.1	.00	.40	2.3	.35	.37	.00	174
20	.00	.00	.43	15	2.5	.00	.40	1.4	.35	.42	.00	172
21	.00	.00	.03	5.2	.92	.00	.40	8.7	.35	62	.24	168
22	.00	30	.00	3.0	.35	.00	5.0	8.1	.40	121	1.5	119
23	.00	95	.00	4.1	.15	.00	10	.77	.42	142	.42	1.5
24	.00	95	.00	23	.06	.00	5.0	.60	.36	185	.13	.10
25	.00	96	.00	13	.03	.00	2.0	.58	.47	189	.03	.01
26	.00	97	.00	6.0	.01	.00	1.0	.75	.41	183	.00	.00
27	.00	95	.00	1.4	.00	.00	.50	.62	.43	183	.00	.00
28	.00	90	.00	.57	.00	.00	.40	.51	.52	112	.00	.00
29	.00	90	.00	.15	---	.00	.40	1.5	.46	1.3	.00	.02
30	.00	95	.00	.05	---	.00	.40	.63	.36	.15	.00	.07
31	.00	---	.00	.09	---	.00	---	.62	---	.03	.00	---
TOTAL	.00	813.93	1945.46	828.50	442.22	112.94	45.00	77.25	258.18	1188.28	8.69	1342.84
MEAN	.000	27.1	62.8	26.7	15.8	3.64	1.50	2.49	8.61	38.3	.28	44.8
MAX	.00	97	235	210	143	103	10	17	140	189	3.7	213
MIN	.00	.00	.00	.00	.00	.00	.40	.40	.35	.03	.00	.00
AC-FT	.00	1610	3860	1640	877	224	89	153	512	2360	17	2660

CAL YR 1977 TOTAL 5770.59 MEAN 15.8 MAX 235 MIN .00 AC-FT 11450
WTR YR 1978 TOTAL 7063.29 MEAN 19.4 MAX 235 MIN .00 AC-FT 14010

BRAZOS RIVER BASIN

08116650 BRAZOS RIVER NEAR ROSHARON, TX
(National stream-quality accounting network)

LOCATION.--Lat 29°20'58", Long 95°34'56", Fort Bend-Brazoria County, Hydrologic Unit 12070104, on right bank at downstream side of bridge on Farm Road 1462, 2.0 mi (3.2 km) downstream from Big Creek, 2.1 mi (3.4 km) upstream from Cow Creek, and 7.3 mi (11.7 km) west of Rosharon and at mile 56.7 (91.2 km).

DRAINAGE AREA.--45,339 mi² (117,428 km²), approximately, of which 9,566 mi² (24,776 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1967 to 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.--Water-discharge records fair. Water diverted above station for irrigation, industrial, and municipal supply materially affects low flow.

AVERAGE DISCHARGE.--11 years (water years 1968-78), 7,698 ft³/s (218.0 m³/s), 5,577,000 acre-ft/yr (6.88 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,900 ft³/s (2,260 m³/s), May 14, 1968, elevation, 50.74 ft (15.466 m); minimum daily, 40 ft³/s (1.13 m³/s) Apr. 7-10, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1884, 56.4 ft (17.19 m) about Dec. 11, 1913, from information by Texas Department of Highways and Public Transportation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,700 ft³/s (360 m³/s) Jan. 20, elevation, 21.25 ft (6.477 m); minimum daily, 74 ft³/s (2.10 m³/s) May 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	1150	649	730	1500	2090	596	74	262	340	1420	1290
2	1140	1260	663	738	1450	1840	478	159	231	420	1170	1260
3	1210	1160	707	754	1410	1650	459	541	1020	437	1020	1230
4	1280	1020	687	756	1540	1440	434	650	2770	524	1000	1260
5	1310	1070	658	646	1600	1340	353	552	2370	474	951	1240
6	1320	1120	619	631	1520	1270	332	450	1450	319	928	1210
7	1270	1090	602	637	1340	1220	244	401	2050	200	953	1040
8	1100	1120	613	675	2050	1230	239	436	4190	161	827	1080
9	1070	1330	599	698	4250	1260	223	596	7170	132	754	1020
10	1170	1330	557	659	9890	1240	201	650	6610	122	692	928
11	1180	1190	557	676	8610	7440	256	649	4610	113	608	708
12	1020	1210	557	2750	6570	9530	305	522	3990	105	562	241
13	932	1140	591	2450	7780	8000	552	375	3050	103	538	406
14	885	1060	849	1750	7770	6500	657	242	2110	102	474	6000
15	834	1050	798	1610	6890	5100	639	164	1380	105	306	11700
16	809	1040	919	1620	5150	4000	1460	114	1000	118	299	8600
17	778	1030	2780	5640	4300	3240	1940	86	689	118	791	6000
18	778	863	2780	5700	5870	2780	1580	77	478	114	2180	4710
19	790	769	2210	10200	6180	2580	1020	134	350	167	2780	3380
20	708	752	1790	12500	5550	2630	648	469	270	206	2990	2440
21	708	748	1330	11100	4480	2970	395	423	225	246	3180	1800
22	1040	760	1050	7970	3740	3280	297	244	170	294	3220	1620
23	1180	690	880	5830	3320	3200	457	179	117	485	3030	1740
24	1120	596	779	4720	3120	2520	660	148	184	799	2530	2220
25	932	682	727	4190	3080	1800	659	94	275	1000	2210	2310
26	947	616	671	3620	2950	1290	610	84	244	871	1950	1820
27	973	601	643	2970	2730	952	527	93	241	849	1610	1420
28	974	600	627	2590	2400	735	391	159	258	912	1320	1250
29	1080	614	627	2170	---	700	257	265	223	1030	1230	1180
30	1190	654	637	1840	---	647	85	298	308	1250	1270	1060
31	1220	---	710	1600	---	623	---	337	---	1430	1290	---
TOTAL	32108	28315	28866	100420	117040	85097	16954	9665	48295	13546	44083	72163
MEAN	1036	944	931	3239	4180	2745	565	312	1610	437	1422	2405
MAX	1320	1330	2780	12500	9890	9530	1940	650	7170	1430	3220	11700
MIN	708	596	557	631	1340	623	85	74	117	102	299	241
AC-FT	63690	56160	57260	199200	232100	168800	33630	19170	95790	26870	87440	143100
CAL YR 1977	TOTAL	2980549	MEAN	8166	MAX	72800	MIN	557	AC-FT	5912000		
WTR YR 1978	TOTAL	596552	MEAN	1634	MAX	12500	MIN	74	AC-FT	1183000		

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1967 to current year. Pesticide analyses: February 1968 to current year. Sediment records: October 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to current year.

WATER TEMPERATURES: October 1967 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1968-78): Maximum daily, 4,430 micromhos Aug. 8, 1971; minimum daily, 203 micromhos Oct. 26, 1970.

WATER TEMPERATURES: Maximum daily, 31.0°C on several days during summer months; minimum daily, 4.0°C Jan. 12, 13, 1973, Jan. 22, 23, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,550 micromhos Sept. 5; minimum daily, 272 micromhos Feb. 16.

WATER TEMPERATURES: Maximum daily, 30.0°C on many days during summer months; minimum daily, 4.0°C Jan. 22, 23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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)
OCT												
25...	1120	700	1080	8.1	22.5	--	20	8.4	99	1.6	2300	26
NOV												
30...	1410	700	950	8.2	15.0	--	20	9.4	96	2.6	4300	950
DEC												
28...	1315	600	677	8.1	11.0	--	60	10.3	96	2.7	3200	80
JAN												
16...	1000	1470	755	8.2	12.0	--	80	11.0	106	3.3	4900	180
FEB												
08...	1000	1900	651	8.3	5.0	--	150	11.6	94	4.5	7000	92
MAR												
21...	1415	2900	432	8.1	20.5	--	200	8.5	97	2.8	4000	60
APR												
11...	1245	790	887	8.2	17.5	10	60	8.8	95	3.3	1000	820
MAY												
16...	1315	117	740	5.8	27.5	--	40	5.8	74	34	72	5
JUN												
15...	0945	1380	800	7.8	29.0	--	120	7.0	92	.8	--	--
JUL												
18...	1320	102	900	7.9	30.5	--	40	6.4	85	1.6	2700	20
AUG												
09...	1430	750	660	8.1	30.5	--	30	9.6	128	1.1	2200	28
SEP												
27...	1600	1330	900	7.9	27.0	--	200	7.8	99	1.0	--	2000
DATE		STREP- TOCOCI FFCAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CA03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT												
25...		34	290	70	77	24	110	2.8	4.2	270	0	86
NOV												
30...		1000	290	52	83	20	88	2.3	3.9	290	0	74
DEC												
28...		2400	210	25	64	13	52	1.6	4.4	230	0	49
JAN												
16...		190	240	39	68	16	66	1.9	3.7	240	0	57
FEB												
08...		550	200	17	61	11	51	1.6	3.9	220	0	48
MAR												
21...		74	140	24	45	6.4	31	1.1	3.8	140	0	41
APR												
11...		40	300	54	89	19	73	1.8	4.4	300	0	64
MAY												
16...		26	230	38	61	18	78	2.3	4.9	230	0	67
JUN												
15...		--	170	67	53	10	87	2.9	5.2	130	0	75
JUL												
18...		46	240	49	64	19	88	2.5	3.8	230	0	52
AUG												
09...		16	210	50	61	15	51	1.5	4.4	200	0	52
SEP												
27...		78	190	78	59	11	100	3.1	5.2	140	0	86

BRAZOS RIVER BASIN

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, 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)
OCT 25...	150	.3	11	584	596	--	--	.00	.01	.01	.02
NOV 30...	110	.3	9.0	521	531	--	--	.06	.01	.07	.08
DEC 28...	65	.2	13	384	374	--	--	.25	.01	.26	.00
JAN 16...	84	.2	7.3	419	421	--	--	.19	.01	.20	.18
FEB 08...	67	.2	9.3	357	360	--	--	.60	.03	.63	.07
MAR 21...	40	.2	9.6	233	248	--	--	.91	.04	.95	.01
APR 11...	95	.2	8.3	508	501	58	16	.01	.00	.01	.01
MAY 16...	90	.2	6.5	437	439	--	--	.00	.01	.01	.04
JUN 15...	130	.3	9.5	433	434	--	--	.83	.02	.85	.06
JUL 18...	130	.4	13	489	484	--	--	.01	.00	.01	.01
AUG 09...	73	.3	10	356	365	--	--	.03	.01	.04	.05
SEP 27...	150	.4	11	499	492	--	--	.53	.02	.55	.06
DATE	NITRO- GEN, ORGANIC TOTAL (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
OCT 25...	.54	.56	.50	.10	.01	4.2	--	--	33	62	95
NOV 30...	.68	.76	.59	.10	.03	3.4	--	--	34	64	96
DEC 28...	.76	.76	.48	.14	.11	--	8.8	1.5	152	246	42
JAN 16...	.71	.89	.35	.26	.07	6.8	--	--	156	619	89
FEB 08...	1.1	1.2	.69	.33	.06	11	--	--	371	1900	93
MAR 21...	.73	.74	.54	.29	.21	--	6.6	4.4	377	2950	87
APR 11...	.74	.75	.68	.11	.06	4.3	--	--	41	87	90
MAY 16...	.89	.93	.70	.21	.04	9.4	--	--	57	18	96
JUN 15...	1.0	1.1	.48	.25	.08	--	13	2.5	274	1020	99
JUL 18...	1.4	1.4	.50	.06	.01	4.9	--	--	30	8.3	92
AUG 09...	.54	.59	.46	.11	.08	4.7	--	--	43	87	96
SEP 27...	.82	.88	.61	.29	.18	--	7.2	1.3	315	1130	98

497

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)		ARSENIC SUS- PENDED TOTAL (UG/L AS AS)		ARSENIC DIS- SOLVED (UG/L AS AS)		BARIUM, SUS- PENDED TOTAL RECOV- ERABLE (UG/L AS BA)		BARIUM, DIS- SOLVED (UG/L AS RA)		CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)		CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)		CADMIUM DIS- SOLVED (UG/L AS CD)			
		AS	AS	AS	AS	AS	AS	AS	BA	AS	BA	AS	RA	AS	CD	AS	CD	AS	CD
DEC 28...	1315	6		2		4		100		0		200		0		0		0	
MAR 21...	1415	5		1		4		100		0		100		1		1		0	
JUN 15...	0945	6		1		5		300		100		200		0		0		1	
SEP 27...	1600	6		--		6		200		200		0		0		0		0	

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	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)
DEC 28...	10	0	10	1	1	0	9	7	2	2500
MAR 21...	10	10	0	3	3	0	15	13	2	6700
JUN 15...	20	10	10	4	3	1	11	9	2	5900
SEP 27...	10	10	0	3	3	0	12	8	4	7700

DATE	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	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)
DEC 28...	--	10	12	12	0	180	160	20	.2	.2
MAR 21...	--	1600	10	10	0	200	200	0	.0	.0
JUN 15...	5900	30	20	20	0	300	300	0	.1	.0
SEP 27...	7600	80	9	9	0	150	140	10	.1	.1

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	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)
DEC 28...	.0	1	1	0	0	0	0	30	20	10
MAR 21...	.1	0	0	0	0	0	0	30	30	0
JUN 15...	.1	0	0	0	0	0	0	30	30	0
SEP 27...	.0	0	0	0	0	0	0	30	20	10

BRAZOS RIVER BASIN

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ATRA- ZINE, TOTAL (UG/L)	ATRA- ZINE, 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)
NOV 30...	1410	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 08...	1000	ND	--	ND	--	--	--	ND	--	ND	--
MAY 16...	1315	ND	ND	ND	ND	ND	--	ND	ND	ND	ND
AUG 09...	1430	ND	--	ND	--	ND	--	ND	--	ND	--
DATE		DDE, TOTAL (UG/L)	P,P' 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- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 30...		ND	.5	ND	ND	ND	ND	ND	ND	ND	ND
FEB 08...		ND	--	ND	--	ND	--	ND	--	ND	--
MAY 16...		ND	--	ND	ND	ND	ND	ND	ND	ND	ND
AUG 09...		ND	--	ND	--	ND	--	ND	--	ND	--
DATE		ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (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)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 30...		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 08...		ND	--	ND	--	ND	--	ND	--	ND	--
MAY 16...		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 09...		ND	--	ND	--	ND	--	ND	--	ND	--
DATE		METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI- THION, TOTAL (UG/L)	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG)	PARA- THION, TOTAL (UG/L)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL COUL- SON COND. (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)
NOV 30...		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 08...		ND	--	ND	--	ND	--	ND	--	--	--
MAY 16...		ND	ND	ND	ND	ND	ND	ND	ND	ND	--
AUG 09...		ND	--	ND	--	ND	--	ND	--	ND	--
DATE		TOX- APHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 30...		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 08...		ND	--	ND	--	--	--	--	--	--	--
MAY 16...		ND	ND	ND	ND	--	--	--	--	--	--
AUG 09...		ND	--	ND	--	--	--	--	--	--	--

BRAZOS RIVER BASIN

499

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO AUGUST 1978

DATE TIME	NOV 30,77 1410	MAR 21,78 1415	MAY 16,78 1315	JUN 15,78 0945	JUL 18,78 1320	AUG 9,78 1430
TOTAL CELLS/ML	14000	1900	1400	1500	2800	76000
DIVERSITY: DIVISION	1.6	0.0	0.9	1.4	1.2	0.9
..CLASS	1.6	0.0	0.9	1.4	1.2	0.9
..ORDER	1.8	0.0	1.7	1.7	1.8	0.9
...FAMILY	2.4	0.6	2.2	2.0	2.3	1.2
....GENUS	3.3	1.5	3.1	2.5	3.3	1.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
..CHLOROPHYCEAE												
...CHLOROCOCCALES												
...CHARACIACEAE												
...SCHROEDERIA											*	0
...COELASTRACEAE												
...COELASTRUM					110	8						
...MICRACTINACEAE												
...GOLENKINIA									29	1		
...MICRACTINIUM											540	1
...OOCYSTACEAE												
...ANKISTRODESMUS	960	7	140	7	120	9	44	3	420#	15	1500	2
...CHODATFLLA	210	1							14	1		*
...DICTYOSPHAERIUM	1300	9			420#	30			520#	19	2600	3
...FRANCEIA			140	7								*
...KIRCHNERIELLA					180	13			14	1	590	1
...OOCYSTIS	820	6					59	4	72	3		*
...SELENASTRUM	480	3										
...TETRAEDRON	270	2										
...TRIFUBARIA					41	3						
...SCENEDESMACFAE												
...ACTINASTRUM									170	6	7200	10
...CRUCIGENIA							410#	27			4000	5
...SCENEDESMUS	2700#	19	1100#	57	27	2	230#	16	110	4	2500	3
...TFRASTRUM	550	4	540#	29					57	2		
...TETRASPORALES												
...COCCOMYXACEAE												
...ELAKATOTHRUX					27	2			57	2		
...PALMELLACEAF												
...SPHAEROCYSTIS					180	13						
...VOLVOCALES												
...CHLAMYDOMONADACEAE												
...CHLAMYDOMONAS	270	2			54	4						
...ZYGNEMATALES												
...DESMIDIACEAF												
...CLOSTERIUM									72	3		*
...CHLOROCOCCALFS												
...OOCYSTACEAE												
...GLOEOACTINIUM									110	4		*
...POLYEDRIOPSIS												*
CHRYSOPHYTA												
..BACILLARIOPHYCEAE												
...CENTRALES												
...COSCINODISCACEAE												
...CYCLOTFLLA	2000	14			41	3	15	1				
...MELOSIQA							150	10				
...PENNALES												
...ACHNANTHACEAE												
...ACHNANTHES	*	0										
...COCCONITS							29	2				
...FRAGILARIACEAE												
...SYNEDRA					14	1	15	1				
...NAVICULACEAF							15	1				
...NAVICULA												
...NITZSCHACEAE												
...NITZSCHIA	550	4										
...SURIWELLACEAE												
...CYMATOPLFURA							15	1				
CRYPTOPHYTA (CRYPTOMONADS)												
..CRYPTOPHYCEAE												
...CRYPTOMONADALFS												
...CRYPTOMONODACEAE												
...CRYPTOMONAS	210	1										
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROCOCCALES												
...CHROCOCCACEAE												
...AGMENEILUM	550	4							460#	17	53000#	71
...ANACYSTIS	3400#	24			190	13	15	1			1800	2
...HORMOGONIALFS												
...OSCILLATORIACEAE												
...OSCILLATORIA							510#	34	550#	20		

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

BRAZOS RIVER BASIN

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO AUGUST 1978

(CONTINUED)

DATE TIME	NOV 30,77 1410	MAR 21,78 1415	MAY 16,78 1315	JUN 15,78 0945	JUL 18,78 1320	AUG 9,78 1430
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....EUGLENA	* 0	-- -	-- -	-- -	14 1	-- -
....TRACHELOMONAS	-- -	-- -	14 1	-- -	29 1	* 0
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...GYMNODINIALES						
....GYMNODINIACEAE						
.....GYMNODINIUM	-- -	-- -	-- -	-- -	57 2	-- -

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 WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	32108	1070	610	52700	150	12900	87	7500	260
NOV. 1977.....	28315	1020	580	44000	140	10600	82	6270	250
DEC. 1977.....	28866	742	410	32200	92	7160	60	4670	220
JAN. 1978.....	100420	423	230	62500	34	10400	34	9220	140
FEB. 1978.....	117040	438	240	75100	41	12900	35	11200	140
MAR. 1978.....	85097	480	260	60100	47	10900	39	8860	150
APR. 1978.....	16954	771	430	19500	98	4480	62	2850	220
MAY 1978.....	9665	763	420	11000	96	2500	62	1610	220
JUNE 1978.....	48295	513	280	36300	53	6930	41	5370	160
JULY 1978.....	13546	694	380	13900	83	3050	56	2040	210
AUG. 1978.....	44083	1280	730	87100	180	21800	100	12300	240
SEPT 1978.....	72163	1000	570	110000	140	26600	80	15700	250
TOTAL	596552	**	**	604000	**	130000	**	87600	**
WTD.AVG.	1634.39	675	380	**	81	**	54	**	200

BRAZOS RIVER BASIN

501

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	981	1060	921	840	535	455	669	759	688	860	586	2390
2	1000	1050	934	882	573	483	708	807	700	830	576	2420
3	1020	1100	938	898	599	525	737	787	683	871	571	2480
4	1040	1090	943	919	621	558	777	790	520	860	587	2530
5	1050	1080	961	937	676	588	790	827	559	859	574	2550
6	1030	1070	934	942	704	614	816	863	569	816	582	2350
7	1050	1070	931	945	717	647	822	879	520	819	589	2370
8	1080	1080	929	946	696	655	865	790	412	833	626	2360
9	1070	985	951	933	548	666	881	754	513	841	647	2280
10	1080	869	961	907	504	654	896	740	487	833	651	2240
11	1100	961	956	933	326	701	905	693	375	878	662	2150
12	1120	985	980	631	375	530	850	687	415	848	669	2100
13	1110	961	1000	517	313	437	840	730	456	894	676	1960
14	1120	970	956	639	342	414	836	771	646	875	683	1000
15	1130	1010	831	759	294	371	843	822	806	863	723	488
16	1140	1030	864	780	272	348	829	806	574	890	769	479
17	1150	1050	868	472	286	361	819	802	476	929	720	485
18	1150	1040	951	424	319	383	815	774	448	912	688	598
19	1130	1060	544	350	461	402	829	823	528	903	703	752
20	1110	1050	351	339	561	438	757	691	625	816	1240	695
21	1080	1040	317	345	631	453	737	659	651	753	1460	677
22	1090	1020	359	282	524	421	732	681	676	762	1470	782
23	1100	971	426	296	508	407	663	715	679	720	1480	807
24	1100	1000	482	334	516	400	646	766	684	657	1560	860
25	1080	1010	521	294	480	413	645	817	757	621	1750	1250
26	1060	990	555	301	449	441	630	856	790	609	1930	1020
27	1070	990	598	328	433	478	626	860	819	586	2190	1070
28	1060	985	660	350	430	523	628	895	833	596	2290	838
29	1070	995	721	385	---	560	679	726	850	589	2350	985
30	1030	980	772	435	---	590	732	678	913	590	2400	1490
31	1070	---	817	490	---	632	---	807	---	580	2310	---
MEAN	1080	1020	772	608	489	502	767	776	622	784	1120	1480

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.0	24.0	14.0	14.0	7.0	16.0	19.0	25.0	28.0	30.0	29.0	27.0
2	29.0	20.0	15.0	10.0	8.0	16.0	21.0	25.0	27.0	29.0	29.0	28.0
3	26.0	18.0	17.0	8.0	8.0	15.0	22.0	23.0	27.0	29.0	29.0	28.0
4	24.0	17.0	20.0	10.0	7.0	11.0	22.0	24.0	26.0	30.0	29.0	29.0
5	23.0	19.0	21.0	13.0	8.0	11.0	23.0	23.0	28.0	30.0	29.0	28.0
6	24.0	20.0	16.0	16.0	9.0	13.0	23.0	23.0	28.0	30.0	29.0	28.0
7	24.0	21.0	14.0	18.0	9.0	15.0	23.0	24.0	28.0	30.0	29.0	28.0
8	25.0	22.0	16.0	15.0	7.0	14.0	22.0	26.0	25.0	30.0	29.0	26.0
9	25.0	19.0	17.0	11.0	7.0	11.0	22.0	27.0	27.0	30.0	29.0	26.0
10	24.0	15.0	12.0	11.0	7.0	11.0	22.0	27.0	27.0	30.0	29.0	27.0
11	24.0	15.0	12.0	9.0	6.0	14.0	19.0	26.0	27.0	30.0	30.0	27.0
12	20.0	15.0	13.0	9.0	8.0	14.0	17.0	26.0	29.0	29.0	30.0	27.0
13	18.0	15.0	16.0	8.0	9.0	15.0	16.0	26.0	29.0	30.0	30.0	27.0
14	18.0	16.0	15.0	7.0	10.0	15.0	19.0	25.0	29.0	30.0	30.0	27.0
15	19.0	18.0	14.0	7.0	10.0	16.0	21.0	25.0	29.0	30.0	30.0	27.0
16	20.0	19.0	15.0	10.0	9.0	15.0	22.0	27.0	29.0	30.0	30.0	27.0
17	18.0	21.0	17.0	11.0	10.0	15.0	23.0	28.0	29.0	30.0	30.0	28.0
18	20.0	21.0	15.0	10.0	8.0	16.0	23.0	27.0	29.0	30.0	30.0	28.0
19	22.0	21.0	16.0	7.0	8.0	17.0	23.0	27.0	29.0	30.0	30.0	29.0
20	22.0	21.0	15.0	5.0	9.0	18.0	21.0	27.0	29.0	29.0	30.0	29.0
21	23.0	23.0	12.0	5.0	8.0	19.0	19.0	27.0	29.0	29.0	30.0	28.0
22	23.0	20.0	10.0	4.0	8.0	20.0	21.0	28.0	29.0	29.0	30.0	28.0
23	22.0	19.0	11.0	4.0	10.0	20.0	20.0	27.0	30.0	28.0	30.0	27.0
24	23.0	20.0	15.0	5.0	11.0	19.0	23.0	27.0	30.0	27.0	30.0	27.0
25	23.0	21.0	15.0	6.0	13.0	18.0	24.0	28.0	30.0	29.0	30.0	26.0
26	23.0	19.0	13.0	6.0	13.0	17.0	22.0	28.0	30.0	29.0	30.0	26.0
27	23.0	20.0	13.0	7.0	14.0	16.0	22.0	28.0	30.0	29.0	30.0	26.0
28	24.0	21.0	13.0	7.0	15.0	17.0	22.0	28.0	30.0	28.0	29.0	25.0
29	24.0	22.0	12.0	7.0	---	18.0	23.0	27.0	30.0	29.0	29.0	24.0
30	24.0	16.0	12.0	7.0	---	18.0	25.0	27.0	30.0	30.0	29.0	25.0
31	24.0	---	12.0	7.0	---	19.0	---	27.0	---	28.0	27.0	---
MEAN	23.0	19.5	14.5	9.0	9.0	16.0	21.5	26.0	28.5	29.5	29.5	27.0

SAN BERNARD RIVER BASIN

08117500 SAN BERNARD RIVER NEAR BOLING, TX

LOCATION.--Lat 29°18'47", long 95°53'36", Wharton-Fort Bend County line, Hydrologic Unit 12090401, near left bank at downstream side of pile bent of bridge on Farm Road 442, 2.5 mi (4.0 km) downstream from Snake Creek, and 4.5 mi (7.2 km) northeast of Boling.

DRAINAGE AREA.--727 mi² (1,883 km²).

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.--Records good. Part of low flow is drainage from areas irrigated with diversions from Colorado River. Diversions above station for irrigation and other uses. Several observations of water temperature were made during the current year.

AVERAGE DISCHARGE.--24 years, 488 ft³/s (13.82 m³/s), 353,600 acre-ft/yr (436 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)
Jan. 19	2000	4,190 119	21.82 6.651	Sept. 17	0500	*4,470 127	21.61 6.587

Minimum daily discharge, 15.0 ft³/s (0.42 m³/s) for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	23	71	15	173	52	20	39	137	90	132	112
2	130	204	195	15	181	47	19	30	144	157	124	164
3	154	277	221	15	208	44	18	26	149	275	117	136
4	157	362	160	16	179	42	17	27	245	284	89	127
5	166	316	114	16	152	39	17	32	302	268	64	157
6	196	206	82	15	129	37	17	47	382	217	53	160
7	236	153	57	15	114	36	19	45	565	173	63	162
8	287	148	43	35	452	34	17	45	785	146	58	164
9	320	585	34	23	805	152	16	44	1010	127	50	163
10	308	369	28	97	1010	168	15	46	803	123	51	187
11	290	305	25	132	1010	161	20	42	573	118	55	477
12	297	211	23	893	1090	144	28	43	481	113	62	647
13	302	150	28	842	1700	106	24	39	389	145	67	1040
14	253	117	31	960	1460	75	29	34	284	192	65	1830
15	209	87	84	862	1140	53	33	35	184	220	67	2780
16	192	61	252	731	758	41	31	33	119	227	68	4040
17	145	44	207	2440	847	35	32	41	89	226	59	4420
18	110	34	161	2800	1940	31	30	47	82	213	58	4040
19	85	28	133	3830	1150	29	29	46	77	245	69	3510
20	65	25	94	3980	676	27	23	44	76	286	67	2670
21	48	39	63	3610	449	26	18	40	87	330	74	1670
22	41	65	42	3400	372	24	17	38	83	350	66	1060
23	38	48	32	3060	286	24	41	40	77	338	70	683
24	44	47	26	2090	199	24	60	46	72	279	72	483
25	54	43	22	1190	133	24	159	50	73	249	69	382
26	41	38	19	858	94	24	188	42	83	218	79	355
27	33	34	19	659	72	24	131	32	82	189	81	364
28	31	31	16	477	60	22	100	31	77	196	80	378
29	31	30	15	352	---	21	75	32	66	189	90	337
30	28	52	15	270	---	21	53	44	69	161	103	314
31	25	---	15	202	---	20	---	69	---	138	108	---
TOTAL	4418	4132	2327	33900	16839	1607	1296	1249	7645	6482	2330	33012
MEAN	143	138	75.1	1094	601	51.8	43.2	40.3	255	209	75.2	1100
MAX	320	585	252	3980	1940	168	188	69	1010	350	132	4420
MIN	25	23	15	15	60	20	15	26	66	90	50	112
AC-FT	8760	8200	4620	67240	33400	3190	2570	2480	15160	12860	4620	65480
CAL YR 1977	TOTAL	98545	MEAN 270	MAX 3430	MIN 15	AC-FT 195500						
WTR YR 1978	TOTAL	115237	MEAN 316	MAX 4420	MIN 15	AC-FT 228600						

SAN BERNARD RIVER BASIN

503

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: February to September 1978.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February to September 1978.

WATER TEMPERATURES: February to September 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 980 micromhos Apr. 13; maximum daily, 109 micromhos Sept. 16.

WATER TEMPERATURES: Maximum daily, 30.0°C Sept. 21, 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	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												
13...	1230	1950	153	7.5	11.0	720	250	9.6	90	3.3	48000	1400
MAR												
21...	0825	23	607	7.8	18.5	--	60	7.6	84	1.8	11000	150
APR												
10...	1455	15	956	8.0	22.0	20	40	7.0	82	2.2	2900	64
MAY												
17...	1120	33	680	7.7	26.0	--	40	6.8	85	1.5	11000	120
JUN												
14...	1400	280	260	7.5	28.0	--	60	6.0	77	.8	9300	84
JUL												
19...	1050	252	620	7.6	28.5	50	40	6.4	83	2.1	7700	130
AUG												
08...	1350	46	700	7.6	28.0	40	40	6.2	79	1.6	250	70
SEP												
26...	1530	370	280	7.4	25.0	--	40	7.2	89	1.5	--	44

DATE	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	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)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
FEB											
13...	3200	50	8	15	3.1	8.8	.5	3.0	51	0	8.9
MAR											
21...	76	190	25	56	12	50	1.6	3.8	200	0	23
APR											
10...	48	300	54	89	19	82	2.1	4.2	300	0	23
MAY											
17...	210	220	52	60	16	58	1.7	5.8	200	0	37
JUN											
14...	500	91	14	25	6.9	15	.7	3.7	94	0	13
JUL											
19...	240	190	38	48	18	45	1.4	2.4	190	0	27
AUG											
08...	200	220	53	59	17	54	1.6	6.1	200	0	29
SEP											
26...	140	89	7	24	7.0	17	.8	5.2	100	0	9.6

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)	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)
FEB											
13...	13	.1	8.1	91	85	640	120	.83	.01	.84	.12
MAR											
21...	75	.1	11	330	330	--	--	.28	.01	.29	.05
APR											
10...	140	.2	12	537	517	25	14	.03	.00	.03	.03
MAY											
17...	88	.4	13	389	377	--	--	.39	.01	.40	.03
JUN											
14...	24	.2	15	161	149	--	--	.36	.01	.37	.03
JUL											
19...	75	.4	18	340	327	94	23	.15	.00	.15	.00
AUG											
08...	98	.4	21	394	383	65	14	.25	.01	.26	.02
SEP											
26...	28	.2	28	184	169	--	--	.23	.02	.25	.06

SAN BERNARD RIVER BASIN

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- TOTAL (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
FEB 13...	1.3	1.4	.87	.36	.46	30	--	--	336	1770	99
MAR 21...	.58	.63	.63	.20	.15	--	6.2	--	77	4.8	99
APR 10...	.54	.57	.23	.11	.06	8.4	--	--	38	1.5	53
MAY 17...	1.1	1.1	.74	.15	.11	6.4	--	--	67	6.0	99
JUN 14...	.79	.82	.70	.26	.18	--	10	.9	70	53	88
JUL 19...	.84	.84	.72	.13	.09	7.5	--	--	65	44	99
AUG 08...	.69	.71	.69	.12	.12	7.6	--	--	49	6.1	99
SEP 26...	1.0	1.1	.96	.34	.26	--	13	1.0	56	56	98

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)
MAR 21...	0825	2	0	3	100	0	100	1	0	1
JUN 14...	1400	6	1	5	300	100	200	0	0	1
SEP 26...	1530	6	--	6	100	20	80	0	0	<1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COPALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COPALT, 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)
MAR 21...	10	10	0	1	0	1	4	3	1	1700
JUN 14...	10	0	10	2	1	1	9	7	2	2700
SEP 26...	0	0	0	0	0	<1	6	2	4	1900

DATE	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PR)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PR)	LEAD, DIS- SOLVED (UG/L AS PR)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (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)
MAR 21...	--	30	1	0	1	70	50	20	.0	.0
JUN 14...	--	90	13	13	0	80	70	10	.1	.1
SEP 26...	1500	390	2	2	0	110	110	3	.2	.2

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL RECOV- ERABLE (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)
MAR 21...	.0	0	0	0	0	0	0	10	0	10
JUN 14...	.0	0	0	0	0	0	0	30	30	0
SEP 26...	.0	0	0	0	1	1	0	10	4	6

SAN BERNARD RIVER BASIN

505

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
MAR 21...	0825	.0	0	.00	.00	.0	.0	0	.00	.0
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)
MAR 21...	.00	.2	.00	.0	.00	.00	.0	.00	.00	.0
DATE		ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/KG)	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)	METHYL PARA- THION, TOTAL (UG/L)	
MAR 21...	.00	.00	.00	.0	.00	.0	.00	.0	.00	.00
DATE		METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	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)
MAR 21...	.00	.00	.00	.00	0	0	.00	.00	.00	.00

SAN BERNARD RIVER BASIN

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO AUGUST 1978

DATE TIME	MAR 21,78 0825	MAY 17,78 1120	JUN 14,78 1400	JUL 19,78 1050	AUG 8,78 1350	
TOTAL CELLS/ML	14	200	380	370	190	
DIVERSITY: DIVISION	0.0	0.9	1.0	1.0	1.7	
..CLASS	0.0	0.9	1.0	1.0	1.7	
...ORDER	0.0	0.9	1.0	1.4	1.8	
...FAMILY	0.0	1.2	1.1	1.6	1.8	
....GENUS	0.0	1.6	1.1	2.0	1.8	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....OOCYSTACEAE						
.....ANKISTRODESMUS	--	-	--	-	230#	62
.....KIRCHNERIELLA	--	-	--	-	--	-
.....OOCYSTIS	--	-	--	-	59#	15
.....SELENASTRUM	--	-	--	-	14	4
.....TREUBARIA	--	-	--	-	14	4
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	--	-	14	4
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCAEAE						
....CYCLOTELLA	--	-	--	-	14	4
..PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	--	-	--	-	15	4
...DIATOMACEAE						
....DIATOMA	--	-	--	-	15	4
...FRAGILARIACEAE						
....SYNEDRA	--	-	41#	20	--	-
...NAVICULACEAE						
....GYROSIGMA	--	-	--	-	--	-
....NAVICULA	14#	100	27	13	29	8
...NITZSCHIAEAE						
....NITZSCHIA	--	-	--	-	43	12
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCALES						
...CHROCOCCACEAE						
....ANACYSTIS	--	-	--	-	--	-
...HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	290#	77
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	120#	60	14	4
....PHACUS	--	-	14	7	--	-
....TRACHELOMONAS	--	-	--	-	--	-

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

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

SAN BERNARD RIVER BASIN

507

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MONTH	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. 1977.....	****	****	****	****	****	****	****	****	****
NOV. 1977.....	****	****	****	****	****	****	****	****	****
DEC. 1977.....	****	****	****	****	****	****	****	****	****
JAN. 1978.....	****	****	****	****	****	****	****	****	****
FEB. 1978.....	16839	178	98	4450	16	733	8	356	57
MAR. 1978.....	1607	451	250	1070	51	223	20	85	150
APR. 1978.....	1296	589	320	1130	72	251	26	90	190
MAY 1978.....	1249	652	360	1210	83	282	28	96	210
JUNE 1978.....	7645	328	180	3710	32	667	14	299	110
JULY 1978.....	6482	575	320	5520	69	1200	25	438	190
AUG. 1978.....	2330	706	390	2440	93	587	31	194	230
SEPT 1978.....	33012	235	130	11400	23	2020	10	910	76
TOTAL	70460	**	**	30900	**	5960	**	2470	**
WTD.AVG.	291	297	160	**	31	**	13	**	97

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					273	442	806	446	596	541	618	624
2					310	488	859	489	559	426	620	633
3					382	512	855	565	540	429	626	720
4					290	545	878	563	479	435	630	740
5					284	571	890	531	460	513	640	733
6					294	573	898	533	451	515	647	723
7					306	590	910	797	247	520	660	710
8					268	623	915	649	244	541	680	705
9					237	590	930	625	200	550	695	715
10					173	294	946	601	292	560	700	700
11					156	238	833	599	264	576	702	392
12					146	239	829	660	250	570	700	400
13					153	253	980	710	245	580	723	415
14					164	292	900	723	260	594	720	261
15					152	350	814	705	295	605	733	172
16					155	400	798	703	332	607	723	109
17					154	451	739	705	350	609	735	155
18					145	494	712	695	377	620	740	180
19					155	530	740	690	422	607	760	207
20					166	576	769	653	460	605	770	240
21					176	629	789	660	510	607	780	235
22					174	650	862	678	496	601	750	242
23					191	694	650	682	531	611	747	277
24					207	727	505	690	527	615	756	281
25					256	760	470	700	525	620	759	290
26					290	780	420	695	523	625	759	300
27					384	790	404	690	524	627	765	305
28					385	800	402	710	530	629	773	309
29					---	820	400	700	540	627	770	332
30					---	837	396	708	552	614	759	345
31					---	813	---	603	---	610	631	---
MEAN					230	560	743	650	419	574	712	415

SAN BERNARD RIVER BASIN

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					5.5	17.0	20.0	25.0	28.0	28.0	28.0	27.0
2					6.0	18.0	21.0	25.0	26.5	28.0	28.0	27.0
3					5.5	15.0	22.0	22.0	27.0	27.5	28.0	27.0
4					5.0	11.0	23.0	22.0	27.0	29.0	28.0	27.0
5					6.0	---	23.0	23.0	27.0	29.0	28.0	27.0
6					6.0	14.0	23.0	23.0	28.5	28.5	28.0	26.0
7					6.0	15.0	22.5	25.5	25.0	28.0	---	26.0
8					5.0	14.0	22.5	27.0	25.0	29.0	---	25.5
9					5.0	13.0	22.0	---	26.0	29.0	28.0	---
10					5.0	12.0	21.0	26.0	26.5	29.0	29.0	---
11					5.0	14.0	19.0	26.5	27.5	29.0	29.0	26.0
12					5.0	16.0	17.0	27.0	22.5	29.0	29.0	26.0
13					10.0	17.0	19.0	27.0	23.5	29.0	29.0	26.0
14					10.0	16.0	22.0	26.0	23.0	29.0	29.0	26.0
15					10.0	16.0	23.0	25.0	23.0	28.5	29.0	27.0
16					10.0	16.0	24.0	25.0	29.0	28.0	29.0	27.0
17					10.0	16.0	26.0	26.0	26.0	28.0	---	27.5
18					5.0	15.0	25.0	26.0	26.0	28.0	---	---
19					5.0	17.0	21.0	26.0	28.5	29.0	---	28.0
20					10.0	18.0	22.0	27.0	29.5	28.5	---	27.0
21					10.0	21.0	21.0	27.0	28.5	28.0	28.0	30.0
22					10.0	22.0	21.5	27.0	28.0	28.0	28.0	30.0
23					10.0	24.0	21.0	27.5	29.0	28.0	28.0	26.0
24					10.0	24.0	26.0	27.0	28.5	---	28.0	26.0
25					10.0	18.0	25.0	27.5	28.5	---	28.0	---
26					10.0	18.0	26.0	28.0	28.0	28.0	28.0	---
27					15.0	17.0	22.0	---	28.0	28.0	28.0	25.0
28					17.0	17.0	26.0	---	28.5	28.0	28.0	24.0
29					---	---	24.0	26.0	28.5	28.0	27.5	23.0
30					---	18.0	23.0	28.0	28.0	28.0	27.0	24.0
31					---	19.0	---	27.0	---	28.0	27.0	---
MEAN					8.0	17.0	22.5	26.0	27.0	28.5	28.0	26.5

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

509

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 1978

Discharge measurements made at low-flow partial-record stations during water year 1978						
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, TX	Lat 33°39'57", long 101°09'35", Crosby County, at bridge on U.S. Highway 82 and 4.5 mi east of Crosbyton.	(c)	1951-78	1-10-78 5- 2-78 7-18-78	1.2 .33 .06
08110325	Navasota River above Groesbeck, TX	Lat 31°34'27", long 96°31'14", Limestone County, at city of Groesbeck filtration plant, 1.2 mi downstream from Springfield Lake, and 3.7 mi north of Groesbeck.	239	1975-78	10- 7-77 11-22-77 12- 6-77 12-20-77 1- 4-78	.33 .27 .45 .64 .90
08110430	Big Creek near Freestone, TX	Lat 31°30'25", long 96°19'31", Limestone County, at downstream side of bridge on State Highway 164, 5.1 mi southwest of Freestone, and 8.2 mi upstream from Navasota River.	57.1	1975-78	10- 7-77 11-22-77 12- 6-77 12-20-77 1- 4-78	.03 .11 .34 .36 .70
08110460	Navasota River near Marquez, TX	Lat 31°21'01", long 96°19'11", Robertson County, at old Jewitt McKenzie Road crossing, 0.4 mi upstream from Mine Creek, and 8.5 mi northwest of Marquez.	611	1975-78	10- 7-77 10- 7-77 11-22-77 12- 6-77 12-20-77 1- 4-78	.69 *.82 1.2 6.2 3.4 3.8
08111600	Piney Creek near Bellville, TX	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, 1964-78	10- 5-77 7-28-78 8-30-78	2.3 1.8 0
08111650	West Fork Mill Creek near Industry, TX	Lat 29°58'55", long 96°30'00", Austin County, at bridge on Farm Road 109 and 0.6 mi north of Industry.	75.3	1964-78	10- 6-77 7-19-78 7-28-78 8-30-78	.04 0 0 0

* Measurement made 3.4 miles downstream.

c Not applicable.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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 or 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 1978							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft ³ /s)
San Jacinto River basin							
08072400	Buffalo Bayou near Clodine, TX	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	1974-78	1-16-78	97.22	2,060
08072700	South Mayde Creek near Addicks, TX	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	1974-78	1-19-78	106.46	768
08072800	Langham Creek near Addicks, TX	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	1974-78	9-15-78	101.02	1,070
08074200	Brickhouse Gully at Clarblak Street, Houston, TX	Lat 29°49'53", long 95°31'42", Harris County, at bridge on Clarblak Street in northwest Houston.	2.56	1965-78	6- 6-78 6- 7-78	87.67 87.66	278 278
08074760	Brays Bayou at Alief, TX	Lat 29°42'39", long 95°35'13", Harris County, at bridge on High Star Street in Alief.	r14.1	1977-78	2-10-77 6- 7-78	p10.22 13.24	q505 1,510
08074780	Keegans Bayou at Keegan Road near Houston, TX	Lat 29°39'55", Long 95°35'42", Harris County, at bridge on Keegan Road and about 16 mi southwest of Houston.	r7.47	1965-71, 1975-78	1-16-78	p75.77	225
08074810	Brays Bayou at Gessner Drive, Houston, TX	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.	r53.2	1977-78	6- 7-78	52.34	3,570
08074850	Bintliff Ditch at Bissonnet Street, Houston, TX	Lat 29°41'16", long 95°30'20", Harris County, at bridge on Bissonnet Street in southwest Houston.	4.38	1968-78	6- 7-78	62.10	1,020
08075470	Sims Bayou at Martin Luther King Boulevard, Houston, TX	Lat 29°38'42", long 95°20'13", Harris County, at bridge on Martin Luther King Boulevard in south Houston.	48.4	1978	1-19-78	-	e1,500
08075550	Berry Bayou at Gilpin Street, Houston, TX	Lat 29°38'32", long 95°13'22", Harris County, at bridge on Gilpin Street in southeast Houston.	2.87	1965-78	6-27-78	33.55	260
08075780	Greens Bayou at Cutten Road near Houston, TX	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	1965-78	6- 7-78	p112.13	169
08076200	Halls Bayou at Deertrail Street near Houston, TX	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.	r8.99	1965-78	6- 7-78	85.41	813
Clear Creek basin							
08077100	Clear Creek tributary at Hall Road, Houston, TX	Lat 29°36'09", long 95°16'41", Harris County, at bridge on Hall Road in south Houston (discontinued).	1.31	1965-78	11-29-77	42.55	200
08077600	Clear Creek near Friendswood, TX	Lat 29°31'02", long 95°10'42", Galveston County, at bridge on Farm Road 528 and 1.5 mi southeast of Friendswood.	-	1966-78	1-19-78	f10.0	-
Highland Bayou basin							
08077800	Highland Bayou near Texas City, TX	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.	-	1974-78	1-12-78	2.52	-

d To be determined.

e Estimated.

f Estimated; flow did not reach intakes.

g Gage Height in feet above datum of gage.

p Occurred at different time than peak discharge.

r Revised.

q Not previously published.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

2 511

Annual maximum stage and (or) discharge during water year 1978--Continued							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
08082900	North Elm Creek near Throckmorton, TX.	Lat 33°10'58", long 99°22'10", Throckmorton County, on Highway 380, 11.3 mi west of Throckmorton.	3.58	1965-74, 1978	8- 4-78	30.60	5,000
08085300	Humphries Draw near Haskell, TX	Lat 33°10'36", long 99°34'42", Haskell County, on U.S. Highway 380, 9.3 mi east of Haskell.	3.51	1965-74, 1978	8- 4-78	19.36	1,830
08093370	Aquilla Creek below Farm Road 310 near Aquilla, TX.	Lat 31°53'22", long 97°12'04", Hill County, on left bank 0.8 mi downstream from Farm Road 310, 2.8 mi upstream from Cobb Creek, 2.9 mi north east of Aquilla, and 4.0 mi upstream from gaging station 08093500.	-	1976-78	5-11-78	494.73	-
08093530	Aquilla Creek at abandoned Missouri-Kansas-Texas railroad bridge near Aquilla, TX.	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 08093500, 2.5 mi upstream from Farm Road 2114, and 2.8 mi southeast of Aquilla.	-	1976-78	5-12-78	457.31	-
08093540	Aquilla Creek at Farm Road 2114 near Aquilla, TX.	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.	-	1976-78	5-12-78	438.97	-
08093560	Aquilla Creek at Farm Road 1858 near Ross, TX.	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.	-	1976-78	5-12-78	410.55	-
08093580	Aquilla Creek at Farm Road 933 near Ross, TX.	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.	-	1976-78	5-12-78	384.9 f/	-

f/ Estimated; flow did not reach intakes.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Measurements of streamflow at point other than gaging stations of partial-record stations are given in the following table:

Discharge measurements made at miscellaneous sites during water year 1978						
Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
San Jacinto River basin						
Halls Bayou	Greens Bayou	Lat 29°50'52", long 95°15'42", Harris County, at bridge on East Houston Road at Houston, TX.	-	1963, 1971-77	12- 7-77	13
Chocolate Bayou basin						
Chocolate Bayou Company's Canal	Chocolate Bayou (Diversion)	Lat 29°19'08", long 95°16'11", Brazoria County, 300 ft below pumps, 3,400 ft southeast of crossing with Farm Road 2917, 8.0 mi south of Alvin, TX	-	1975-77	4-17-78 5-10-78 6-20-78	53 51 83
Brazos River basin						
Squaw Creek	Paluxy River	Lat 32°17'23", long 97°45'22", Somervell County, 1,750 ft downstream from Squaw Creek Dam (see station 08091730), 2.3 mi upstream from State Highway 144, and about 3.8 mi north of Glen Rose, TX	-	-	6-28-78	2.22
....do.....	.....do.....	Lat 32°17'09", long 97°45'03", Somervell County, at downstream side of low-water bridge of county road, 0.8 mi downstream from Squaw Creek Dam (see station 08091730), 1.8 mi upstream from State Highway 144, and about 3.5 mi north northeast of Glen Rose, TX	-	-	6-14-78 6-28-78	1.27 1.29
Chocolate Bayou Company's Canal	Brazos River (Diversion)	Lat 29°27'07", long 95°29'30", Fort Bend County, at concrete flume over Oyster Creek, 1 mi west of Juliff, TX and 2.5 mi below pumps.	-	1939, 1948-49, 1951-52, 1956, 1958, 1963-77	4-17-78 5- 9-78 6-20-78 7-18-78 8- 2-78	141 503 584 411 127

	Page		Page
Accuracy of field data and computed results.....	22	Clear Creek tributary at Hall Road, Houston.....	510
Acre-foot, definition of.....	6	Clear Fork Brazos River, at Eliasville.....	270-273
Addicks Reservoir near Addicks.....	85-87	at Fort Griffin.....	233-235
Agencies other than Geological Survey, records		at Hawley.....	212-215
collected by.....	23	at Nugent.....	224-225
Algae, definition of.....	6	near Roby.....	211
Aquilla Creek, at abandoned Missouri-Kansas-Texas		Coastal Basin, gaging-station records in.....	150,
Railroad bridge near Aquilla.....	511		160-161
at Farm Road 933 near Ross.....	511	Cobb Creek near Abbott.....	369
at Farm Road 1858 near Ross.....	511	Cole Creek at Deihl Road, Houston.....	98
below Farm Road 310 near Aquilla.....	511	Coliform organisms, definition of.....	6
near Aquilla.....	370-373	Collection, and computation of data.....	18
Ash mass, definition of.....	7	and examination of data.....	23
Bacteria, definition of.....	6	Color unit, definition of.....	8
Barker Reservoir near Addicks.....	80-82	Contents, definition of.....	8
Bear Creek near Barker.....	83	Control, definition of.....	8
Bed material, definition of.....	7	Cooperation.....	2
Belton Lake near Belton.....	401-411	Cowhouse Creek at Pidcoke.....	400
Berry Bayou, at Forest Oaks Street, Houston.....	126-127	Crest-stage partial-record measurements.....	510-511
at Gilpin Street, Houston.....	510	Crest-stage partial-record station, definition of.....	22
Berry Creek near Georgetown.....	424-425	Croton Creek, below Short Croton Creek near Jayton.....	184
Big Cedar Creek near Ivan.....	286	near Jayton.....	185-187
Big Creek, near Freestone.....	468	Cubic foot per second (FT ³ /s, ft ³ /s), definition of.....	8
near Needville.....	492,509	Cubic foot per second per square mile (CFSM),	
Big Sandy Creek above Breckenridge.....	244-247	definition of.....	8
Bintliff Ditch at Bissonnet Street, Houston.....	510	Cypress Creek, at House and Hahl Road near Cypress.....	64-66
Biochemical oxygen demand (BOD), definition of.....	7	at Katy-Hockley Road near Hockley.....	63
Biomass, definition of.....	7	at Sharp Road near Hockley.....	62
Biomass pigment ratio, definition of.....	8	near Humble.....	69-70
Blue-green algae, definition of.....	12	near Westfield.....	67-68
Bosque River near Waco.....	382	Data, accuracy of field, and computed results.....	22
Bottom material, definition of.....	8	collection and computation of.....	18
Brays Bayou, at Alief.....	510	collection and examination of.....	23
at Gessner Drive, Houston.....	510	other available.....	23
at Houston.....	114-116	Davidson Creek near Lyons.....	459
at Scott Street at Houston.....	117-118	Deadman Creek near Nugent.....	226
Brazos River, at Possum Kingdom Dam near Graford.....	309-311	Definition of terms.....	6
at Richmond.....	484-491	Diatoms, definition of.....	12
at Seymour.....	202-205	Discharge, at partial-record stations and	
at Waco.....	383	miscellaneous sites.....	509
at Washington.....	460	definition of.....	9
at Whitney Dam near Whitney.....	365-367	Dissolved, definition of.....	9
near Aquilla.....	368	Diversity index, definition of.....	9
near Bryan.....	444	Double Mountain Fork Brazos River, at Justiceburg.....	162-165
near College Station.....	445-447	near Aspermont.....	166-172
near Dennis.....	315-318	Downstream order and station number.....	16
near Glen Rose.....	340	Drainage area, definition of.....	9
near Hempstead.....	480	Drainage basin, definition of.....	9
near Highbank.....	384-390	Dry Creek near Rosenberg.....	493
near Palo Pinto.....	312	Dry mass, definition of.....	7
near Rosharon.....	494-501	Duck Creek near Girard.....	178
near South Bend.....	274-282	East Fork San Jacinto River near Cleveland.....	72-73
Brazos River basin, crest-stage partial-record		East Levee Ditch near Freeport.....	160
stations in.....	511	East Yegua Creek near Dime Box.....	449
discharge measurements at miscellaneous sites in.....	512	Elm Creek, near Abilene.....	218
gaging-station records in.....	162-501	near Proffitt.....	210
low-flow partial-record stations in.....	509	Explanation, of stage and water-discharge records.....	18
Briar Creek near Graham.....	283	of surface-water quality records.....	23
Brickhouse Gully, at Clarblak Street, Houston.....	510	Fecal coliform bacteria, definition of.....	7
at Costa Rica Street, Houston.....	99-101	Fecal streptococcal bacteria, definition of.....	7
Brushy Creek near Rockdale.....	436	Fort Phantom Hill Reservoir near Nugent.....	222-223
Buffalo Bayou, at Houston.....	95-97	Gage height, definition of.....	9
at Main Street, Houston.....	108	Gaging station, definition of.....	9
at Piney Point.....	92-94	Gaging-station records.....	29
at West Belt Drive, Houston.....	91	Green algae, definition of.....	12
at 69th Street, Houston.....	109	Greens Bayou, at Cutten Road near Houston.....	510
near Addicks.....	88-90	at Ley Road at Houston.....	147-148
near Clodine.....	510	at U.S. Highway 75 near Houston.....	138
near Katy.....	79	near Houston.....	139-142
California Creek near Stamford.....	229-232	Halls Bayou, at Deertrail Street near Houston.....	510
Caney Creek near Splendora.....	74	at Houston.....	143-146
Cat Claw Creek at Abilene.....	220	Hardness, definition of.....	9
Cedar Creek at Abilene.....	221	Highland Bayou, at Hitchcock.....	151
Cells/volume, definition of.....	8	near Texas City.....	510
Cfs-days, definition of.....	8	Highland Bayou basin, crest-stage partial-record	
Chemical oxygen demand (COD), definition of.....	8	station in.....	510
Chlorophyll, definition of.....	8	gaging-station record in.....	151
Chocolate Bayou basin, discharge measurement		Hog Creek near Crawford.....	379
at miscellaneous site in.....	512	Hubbard Creek, below Albany.....	240-243
gaging-station record in.....	152-158	near Breckenridge.....	269
Chocolate Bayou near Alvin.....	152-158	Hubbard Creek Reservoir near Breckenridge.....	248-268
Clear Creek basin, crest-stage partial-record		Humphries Draw near Haskell.....	511
stations in.....	510	Hunting Bayou at Falls Street, Houston.....	131-133
gaging-station record in.....	149		
Clear Creek, near Friendswood.....	510		
near Pearland.....	149		

	Page		Page
Hunting Bayou at Interstate Highway 610 at Houston.....	134-137	National stream-quality accounting network (NASQAN), definition of.....	17
Hydrologic bench-mark station.....	17	Navasota River, above Groesbeck.....	463-509
Hydrologic conditions.....	3	near Bryan.....	472-477
Hydrologic unit.....	10	near College Station.....	478-479
Index.....	513	near Easterly.....	469-471
Instantaneous discharge, definition of.....	9	near Groesbeck.....	464-467
Introduction.....	1	near Marquez.....	509
Keegans Bayou, at Keegan Road near Houston.....	510	ND, definition of.....	10
at Roark Road near Houston.....	110-113	NGVD, definition of.....	20
Lake Conroe, at outflow weir near Conroe.....	46	Nolan Creek at Belton.....	413
near Conroe.....	29-45	Nolan River at Blum.....	346-347
Lake Creek near Conroe.....	50	North Bosque River, at Hico.....	375
Lake Graham near Graham.....	284-285	at Stephenville.....	374
Lake Granbury near Granbury.....	319-339	at Valley Mills.....	377
Lake Houston near Sheldon.....	75-76	near Clifton.....	376
Lake Houston Plant Intake at Galena Park.....	77	North Croton Creek near Knox City.....	198-201
Lake Mexia near Mexia.....	461-462	North Elm Creek near Throckmorton.....	511
Lake Palo Pinto near Santo.....	313-314	North Fork Hubbard Creek near Albany.....	236-239
Lake Pat Cleburne near Cleburne.....	344-345	North Fork San Gabriel River near Georgetown.....	422
Lake Stamford near Haskell.....	227-228	Organic mass, definition of.....	8
Lake Surveys (Water Quality):		Organism, definition of.....	10
Addicks Reservoir near Addicks.....	86-87	Organism count/area, definition of.....	10
Barker Reservoir near Addicks.....	81-82	Organisms count/volume, definition of.....	10
Belton Lake near Belton.....	402-411	Other data available.....	23
Conroe, Lake, near Conroe.....	30-45	Oyster Creek basin, gaging-station record in.....	159
Granbury, Lake, near Granbury.....	320-339	Oyster Creek near Angleton.....	159
Hubbard Creek Reservoir near Breckenridge.....	249-268	Paluxy River at Glen Rose.....	341
Possum Kingdom Reservoir near Graford.....	288-308	Partial-record station, definition of.....	10
Somerville Lake near Somerville.....	451-456	Partial-record stations, crest-stage.....	510-511
Whitney Lake near Whitney.....	349-364	low-flow.....	509
Lakes and reservoirs:		Particle size, definition of.....	10
Addicks Reservoir near Addicks.....	85-87	Particle-size classification, definition of.....	11
Barker Reservoir near Addicks.....	80-82	Percent composition, definition of.....	11
Belton Lake near Belton.....	401-411	Periphyton, definition of.....	11
Conroe, Lake, near Conroe.....	29-45	Pesticide program.....	18
Fort Phantom Hill Reservoir near Nugent.....	222-223	Pesticides, definition of.....	11
Graham, Lake, near Graham.....	284-285	Phytoplankton, definition of.....	11
Granbury, Lake, near Granbury.....	319-339	Picocurie, definition of.....	11
Houston, Lake, near Sheldon.....	75-76	Piney Creek near Bellville.....	509
Hubbard Creek Reservoir near Breckenridge.....	248-268	Plankton, definition of.....	11
Leon Reservoir near Ranger.....	392	Polychlorinated biphenyls, definition of.....	12
Mexia, Lake, near Mexia.....	461-462	Possum Kingdom Reservoir near Graford.....	287-308
Millers Creek Reservoir near Bomartin.....	208-209	Proctor Lake near Proctor.....	395-396
Palo Pinto, Lake, near Santo.....	313-314	Programs, special networks.....	17
Pat Cleburne, Lake, near Cleburne.....	344-345	Publication of techniques of water-resources investigations.....	26
Possum Kingdom Reservoir near Graford.....	287-308	Radiochemical program.....	18
Proctor Lake near Proctor.....	395-396	Records of discharge collected by agencies other than the Geological Survey.....	23
Somerville Lake near Somerville.....	450-456	Recoverable from bottom material, definition of.....	12
Squaw Creek Reservoir near Glen Rose.....	342	Reservoirs. See Lakes and reservoirs.	
Stamford, Lake, near Haskell.....	227-228	Richmond Irrigation Co.'s canal near Richmond.....	483
Stillhouse Hollow Lake near Belton.....	417-418	Running Water Draw at Plainview.....	177
Waco Lake near Waco.....	380-381	Runoff in inches, definition of.....	12
Whitney Lake near Whitney.....	348-364	Sabana River near De Leon.....	394
Lampasas River, at Youngsport.....	416	Salt Fork Brazos River, near Aspermont.....	188-195
near Belton.....	419	near Peacock.....	179-182
near Kempner.....	414	San Bernard River near Boling.....	502-508
Langham Creek, at State Highway 6 near Addicks.....	84	San Bernard River basin, gaging-station records in.....	502-508
near Addicks.....	510	San Gabriel River, at Lanepoint.....	431-435
Leon Reservoir near Ranger.....	392	near Weir.....	426-430
Leon River, at Gatesville.....	399	San Jacinto River near Sheldon.....	78
near Belton.....	412	San Jacinto River basin, crest-stage partial-record stations in.....	510
near De Leon.....	393	discharge measurements at miscellaneous sites in.....	512
near Hamilton.....	398	gaging-station records in.....	29-148
near Hasse.....	397	Sediment, collection and examination.....	25
Little Elm Creek near Abilene.....	219	definition of.....	12
Little Pond Creek at Burlington.....	391	Short Croton Creek at mouth near Jayton.....	183
Little River, at Cameron.....	437-443	Sims Bayou, at Hiram Clarke Street, Houston.....	119-122
near Little River.....	420-421	at Houston.....	123-125
Little Whiteoak Bayou at Houston.....	106-107	at Martin Luther King Boulevard, Houston.....	510
Low-flow partial-record measurements.....	509	Sodium adsorption ratio, definition of.....	13
Low-flow partial-record station, definition of.....	22	Solute, definition of.....	13
McDonald Creek near Post.....	173-176	Somerville Lake near Somerville.....	450-456
Mean concentration, definition of.....	13	South Fork Rocky Creek near Briggs.....	415
Mean discharge, definition of.....	9	South Fork San Gabriel River at Georgetown.....	423
Methylene blue active substance, definition of.....	10	South Levee Ditch near Freeport.....	161
Micrograms per gram, definition of.....	10	South Mayde Creek near Addicks.....	510
Micrograms per liter, definition of.....	10	Special networks and programs.....	17
Middle Bosque River near McGregor.....	378	Specific conductance, definition of.....	13
Middle Yegua Creek near Dime Box.....	448	Spring Creek at Spring.....	61
Mill Creek near Bellville.....	481-482	Squaw Creek near Glen Rose.....	343
Millers Creek near Munday.....	206-207	Squaw Creek Reservoir near Glen Rose.....	342
Millers Creek Reservoir near Bomartin.....	208-209	Stage, explanation of.....	18
Milligrams per liter, definition of.....	10		
Miscellaneous measurements.....	512		
Moses Lake-Galveston Bay near Texas City.....	150		
Mulberry Creek near Hawley.....	216-217		

	Page		Page
Stage-discharge relation, definition of.....	13	Total sediment discharge, definition of.....	13
Station number and downstream order.....	16	Vince Bayou at Pasadena.....	128-130
Stillhouse Hollow Lake near Belton.....	417-418	Waco Lake near Waco.....	380-381
Stinking Creek near Aspermont.....	196-197	Water analysis.....	23
Streamflow, definition of.....	14	Water discharge records, explanation of.....	18
Substrate, definition of.....	14	Water temperature.....	24
Suspended, recoverable, definition of.....	14	WDR, definition of.....	16
Suspended sediment, definition of.....	13	Weighted average, definition of.....	16
Suspended-sediment concentration, definition of.....	13	West Fork Mill Creek near Industry.....	509
Suspended-sediment discharge, definition of.....	13	West Fork San Jacinto River, below Lake Conroe	
Suspended-sediment load, definition of.....	13	near Conroe.....	47-49
Suspended, total, definition of.....	14	near Conroe.....	51-60
Taxonomy, definition of.....	16	near Humble.....	71
Temperature, collection and examination.....	24	Wet mass, definition of.....	8
Terms, definition of.....	6	Whiteoak Bayou at Houston.....	102-105
Time-weighted average, definition of.....	15	White River below falls near Crosbyton.....	509
Tons per acre-foot, definition of.....	15	Whitney Lake near Whitney.....	348-364
Tons per day, definition of.....	15	WRD, definition of.....	16
Total coliform bacteria, definition of.....	6	WSP, definition of.....	16
Total (in tables of chemical analyses), definition of.....	15	Yegua Creek near Somerville.....	457-458
Total in bottom material, definition of.....	15	Zooplankton, definition of.....	12
Total load (tons), definition of.....	15		
Total organism count, definition of.....	10		
Total, recoverable, definition of.....	15		

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



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
INT 413



U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
30 Federal Building, 300 East 8th Avenue
Austin, TX 78701

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300
SPECIAL 4TH CLASS BOOK RATE