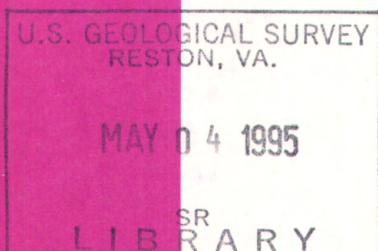
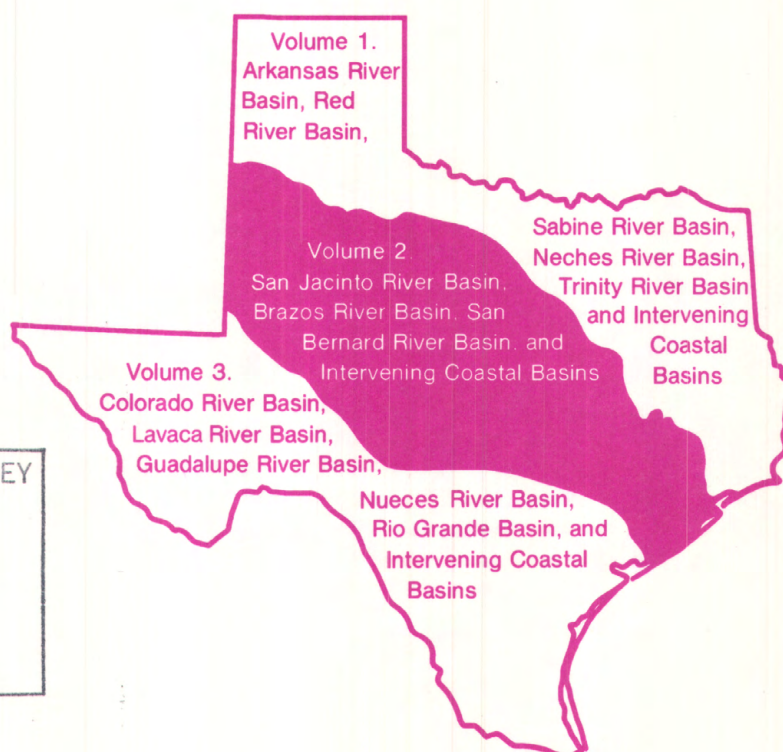


200)
93
1994
V. 2



Water Resources Data Texas Water Year 1994

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-94-2
Prepared in cooperation with the State of Texas
and with other agencies

CALENDAR FOR WATER YEAR 1994

1993

[illegible]

1994

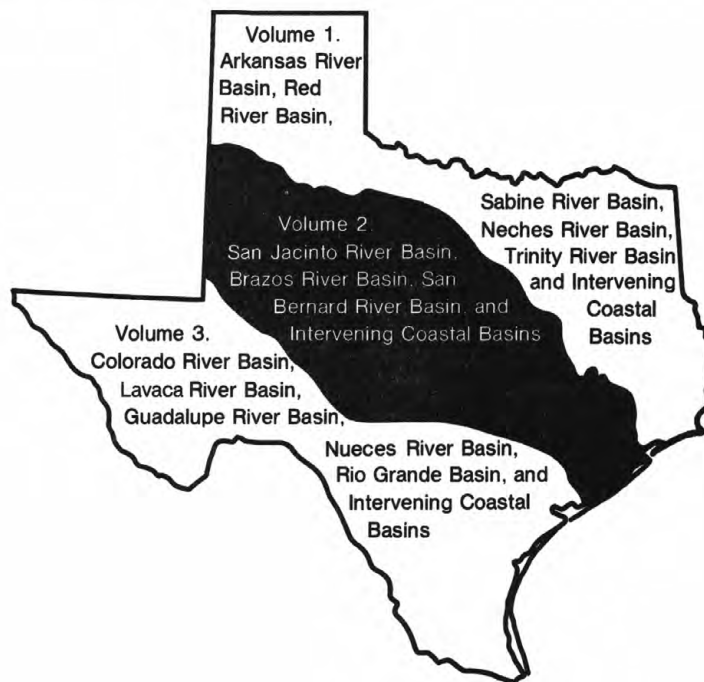
JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
						1			1	2	3	4	5			1	2	3	4	5
2	3	4	5	6	7	8	6	7	8	9	10	11	12	6	7	8	9	10	11	12
9	10	11	12	13	14	15	13	14	15	16	17	18	19	13	14	15	16	17	18	19
16	17	18	19	20	21	22	20	21	22	23	24	25	26	20	21	22	23	24	25	26
23	24	25	26	27	28	29	27	28						27	28	29	30	31		
30	31																			
APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2	1	2	3	4	5	6	7				1	2	3	4
3	4	5	6	7	8	9	8	9	10	11	12	13	14	5	6	7	8	9	10	11
10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18
17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25
24	25	26	27	28	29	30	29	30	31					26	27	28	29	30		
JULY							AUGUST							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2		1	2	3	4	5	6					1	2	3
3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10
10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17
17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24
24	25	26	27	28	29	30	28	29	30	31				25	26	27	28	29	30	
31																				



Water Resources Data Texas Water Year 1994

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

by S.C. Gandara, W.J. Gibbons, F.L. Andrews, J.C. Fisher, B.A. Hinds, and R.E. Jones



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-94-2
Prepared in cooperation with the State of Texas
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

GEOLOGICAL SURVEY

Gordon P. Eaton, Director

For additional information write to:
District Chief, Water Resources Division
U.S. Geological Survey
8011 Cameron Rd., Bldg. 1
Austin, Texas 78754-3898

PREFACE

This edition of the annual hydrologic data report of Texas is one of a series of annual reports that document hydrologic data collected from the U.S. Geological Survey's collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by Federal, State, local agencies, and the private sector for developing and managing land and water resources in Texas which are contained in 4 volumes:

- 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
- Volume 4. Ground-Water Data

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had the primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to U.S. Geological Survey policy and established guidelines, most of the data were collected, computed, and processed from Subdistrict and Field Offices. The following supervised the collection, processing, and tabulation of the data:

Stanley Baldys
J. Pat Bruchmiller
Mike E. Dorsey
Mark C. Kasmarek
Charles C. Kidwell

William H. Martin
Addis M. Miller III
George B. Ozuna
Roberto Perez
J. Ken VanZandt

The following individuals contributed to the collection, processing and preparation of the data:

Houston Subdistrict Office

Joe Boradus	Patrick O. Keefe
Dana Barbie	Fred Liscum
Cindy Billington	Vidal A. Mendoza
Dexter W. Brown	John Noble
Mike R. Burnich	Edna M. Paul
Al Campodonico	Cervando S. Ramirez
Laura S. Coplin	Horacio X. Santos
Jeff W. East	John S. Sawyer
Chandra Fields	Grant Snyder
Lee B. Goldstein	Alberta G. Swanson
Jim S. Hutchison	

Austin Field Office

Searcy M. Jacobs	Venezia Shearer
Milton M. Miller	Keith R. Snider
C.E. Ranzau	Milton W. Sunvison
William E. Reeves	Gene Taylor
	K. Craig Weiss

Wichita Falls Field Office

Paul Bennett	Doris F. Tipps
W.C. Damschen	G. Dan McElhany

Fort Worth Subdistrict Office

Jack D. Benton	Ralph H. Ollman
Ben J. Carr	Darryl G. Pinion
Martin J. Danz	Timothy H. Raines
Judith H. Donohue	Jeffery T. Sandlin
Richard E. Faux	Clyde T. Schoultz
Philip W. Golden	J.M. Taylor
Vernon L. Hastings	David V. Tudor
Bradley L. Mansfield	Charles M. Wood

San Antonio Subdistrict Office

James M. Briers	Olga H. Munoz
Allan K. Clark	M.E. Torres-Pastor
Robert J. Ferris	Jorge O. Pena
Allen L. Furlow	Brian L. Petri
Jon R. Gilhousen	Richard N. Slattery
Ken C. Grimm	Michael W. Thomas
C.A. Hartmann, Jr.	John A. Tomlinson
Joyce Knapick	John F. Wojcik

San Angelo Field Office

Henry Jacques, Jr.	James B. Schiller
Lawanna M. Kiser	Tim E. Teagarden
Jimmy G. Pond	

This report was prepared in cooperation with the State of Texas and other agencies under the supervision of Richard O. Hawkinson, District Chief.

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE March 1995		3. REPORT TYPE AND DATES COVERED Annual--Oct. 1, 1993 to Sept. 30, 1994
4. TITLE AND SUBTITLE Water Resources Data--Texas, Water Year 1994, Volume 2 San Jacinto River, Brazos River, San Bernard River Basins and Intervening Coastal Basins				5. FUNDING NUMBERS
6. AUTHOR(S) S.C. Gandara, W.J. Gibbons, F.L. Andrews, J.C. Fisher, B.A. Hinds and R.E. Jones				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Geological Survey, Water Resources Division Texas District 8011 Cameron Road, Bldg. 1 Austin, TX 78754-3898				8. PERFORMING ORGANIZATION REPORT NUMBER USGS-WDR-TX-94-2
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Geological Survey, Water Resources Division Texas District 8011 Cameron Road, Bldg. 1 Austin, TX 78754-3898				10. SPONSORING / MONITORING AGENCY REPORT NUMBER USGS/WRD/HD-95/238
11. SUPPLEMENTARY NOTES Prepared in cooperation with Federal, State, and local agencies.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT No restriction on distribution. This report may be purchased from National Technical Information Service Springfield, VA 22161				12b. DISTRIBUTION CODE
13. ABSTRACT (Maximum 200 words) Water-resources data for the 1994 water year for Texas are presented in four volumes, and consist of records of stage, discharge, and water quality of streams and canals; stage, contents, and water-quality of lakes and reservoirs; and water levels and water quality of ground-water wells. Volume 2 contains records for water discharge at 79 gaging stations; stage only at 9 gaging stations; stage and contents at 20 lakes and reservoirs; water quality at 42 gaging stations; and data for 33 partial-record and 20 flood-hydrograph partial-record stations. Also included are lists of discontinued surface-water discharge or stage-only stations and discontinued surface-water-quality stations; 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 the bordering States also are included. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating Federal, State, and local agencies in Texas.				
14. SUBJECT TERMS *Texas, *Hydrologic data, *Surface water, *Water quality, Flow rate, Gaging Stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water Temperature, Sampling sites.				15. NUMBER OF PAGES 377
				16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT	

CONTENTS

	Page
Preface	iii
List of gaging stations, in downstream order, for which records are published	vi
List of discontinued surface-water discharge or stage-only stations	ix
List of discontinued surface-water-quality stations	xi
Introduction	1
Cooperation	2
Hydrologic conditions	2
Streamflow	2
Water quality	3
Special networks and programs	6
Explanation of the records	7
Station identification numbers	7
Downstream order numbering	7
Records of stage and water discharge	7
Data collection and computation	8
Data presentation	9
Station manuscript	9
Data table of daily mean values	10
Statistics of monthly mean data	10
Summary statistics	11
Identifying estimated daily discharge	12
Accuracy of the records	12
Other records available	13
Records of surface-water quality	13
Classification of records	13
Arrangement of records	13
On-site measurements and sample collection	13
Water temperature	14
Sediment	14
Laboratory measurements	15
Data presentation	15
Remark codes	16
Access to WATSTORE data	16
Definition of terms	17
Publications of techniques of water-resources investigations	25
Gaging-station records	29
Discharge at partial-record stations and miscellaneous sites	357
Low-flow partial-record stations	357
Crest-stage partial-record stations	359
Miscellaneous partial-record stations	361
Index	363

ILLUSTRATIONS

Figure 1. Area of Texas covered by volume 2 and location of selected streamflow and water-quality stations in volume 2.	4
2. Monthly mean discharges at four long-term hydrologic index gaging stations during 1994 water year and median of the monthly mean discharges for 1961-90 water years.	5

TABLES

Table 1. Streamflow at six selected stations	3
2. Comparison of records of discharge-weighted-average concentrations of dissolved solids for the 1994 and 1990-94 water years	6

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

[Type of data collected: (d) discharge; (c) chemical; (b) biological; (t) water temperature;
(s) sediment; (e) elevation, gage heights, or contents.]

	Station number	Page
WESTERN GULF OF MEXICO BASINS		
SAN JACINTO RIVER BASIN		
West Fork San Jacinto River (head of San Jacinto River):		
Lake Conroe near Conroe (e) (c) _____	08067600	29
West Fork San Jacinto River below Lake Conroe near Conroe (d) _____	08067650	36
West Fork San Jacinto River near Conroe (d) (c) (b) (s) _____	08068000	37
West Fork San Jacinto River above Lake Houston near Porter (d) (c) (b) _____	08068090	41
Spring Creek at Spring (d) (c) (b) _____	08068520	43
Cypress Creek at Katy-Hockley Road near Hockley (d) _____	08068720	46
Cypress Creek at House and Hahl Road near Cypress (d) _____	08068740	47
Little Cypress Creek near Cypress (d) _____	08068780	48
Cypress Creek at Grant Road near Cypress (d) _____	08068800	49
Cypress Creek at Stuebner Airline Road near Westfield (d) _____	08068900	50
Cypress Creek near Westfield (d) (c) (b) _____	08069000	51
East Fork San Jacinto River near Cleveland (d) _____	08070000	53
East Fork San Jacinto River near New Caney (d) (c) (b) (t) _____	08070200	54
Caney Creek near Splendora (d) (c) (b) _____	08070500	59
San Jacinto River:		
Lake Houston:		
Luce Bayou above Lake Houston near Huffman (d) (c) (b) _____	08071280	62
Lake Houston near Sheldon (e) (c) (b) (t) _____	08072000	64
San Jacinto River near Sheldon (e) _____	08072050	75
Buffalo Bayou near Katy (d) _____	08072300	77
Barker Reservoir near Addicks (e) _____	08072500	78
South Mayde Creek:		
Bear Creek near Barker (d) _____	08072730	79
Langham Creek at West Little York Road near Addicks (d) _____	08072760	80
Addicks Reservoir near Addicks (e) _____	08073000	81
Buffalo Bayou near Addicks (d) _____	08073500	82
Buffalo Bayou at West Belt Drive, Houston (d) (c) (b) _____	08073600	83
Buffalo Bayou at Piney Point (d) _____	08073700	86
Buffalo Bayou at Houston (d) (c) (t) _____	08074000	87
Cole Creek at Deihl Road, Houston (d) _____	08074150	93
Brickhouse Gulley at Costa Rica Street, Houston (d) _____	08074250	94
Whiteoak Bayou at Houston (d) (c) (b) _____	08074500	95
Whiteoak Bayou at Main Street, Houston (e) (c) (t) _____	08074598	98
Buffalo Bayou at Main Street, Houston (e) _____	08074600	103
Buffalo Bayou at McKee Street, Houston (e) (c) (t) _____	08074610	105
Buffalo Bayou at Turning Basin, Houston (e) (c) (t) _____	08074710	112
Keegans Bayou at Roark Road near Houston (d) _____	08074800	119
Brays Bayou at Houston (d) (c) (b) _____	08075000	120
Sims Bayou at Hiram Clarke Street, Houston (d) _____	08075400	122
Sims Bayou at Houston (d) (c) (b) (t) _____	08075500	123
Berry Bayou at Forest Oaks Street, Houston (e) _____	08075650	130
Vince Bayou at Pasadena (d) _____	08075730	132
Hunting Bayou at Interstate Highway 610 at Houston (d) (c) (b) _____	08075770	133
Greens Bayou at U.S. Highway 75 near Houston (d) _____	08075900	136
Greens Bayou near Houston (d) (c) (b) _____	08076000	137
Gamers Bayou near Humble (d) _____	08076180	139
Halls Bayou at Houston (d) _____	08076500	140
Greens Bayou at Ley Road, Houston (d) _____	08076700	141
CLEAR CREEK BASIN		
Clear Creek near Pearland (d) _____	08077000	142
COASTAL BASIN		
Moses Lake-Galveston Bay near Texas City (e) _____	08077650	143
HIGHLAND BAYOU BASIN		
Highland Bayou Diversion Channel:		
LaMarque Levee Pump Station near LaMarque (e) _____	08077740	145
CHOCOLATE BAYOU BASIN		
Chocolate Bayou near Alvin (d) _____	08078000	148

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

vii

	Station number	Page
WESTERN GULF OF MEXICO BASINS--Continued		
BRAZOS RIVER BASIN		
Double Mountain Fork Brazos River (head of Brazos River):		
Double Mountain Fork Brazos River at Justiceburg (d) (c) (t) -----	08079600	149
Double Mountain Fork Brazos River near Aspermont (d) (c) (t) -----	08080500	153
Salt Fork Brazos River near Aspermont (d) (c) (b) (s) -----	08082000	156
Brazos River:		
Brazos River at Seymour (d) (c) (t) -----	08082500	160
Millers Creek near Munday (d) -----	08082700	163
Millers Creek Reservoir near Bomarton (e) -----	08082800	164
Clear Fork Brazos River near Roby (d) -----	08083100	165
Clear Fork Brazos River at Nugent (d) -----	08084000	166
Paint Creek:		
California Creek near Stamford (d) -----	08084800	167
Clear Fork Brazos River at Fort Griffin (d) -----	08085500	168
Hubbard Creek below Albany (d) (c) (t) -----	08086212	169
Big Sandy Creek above Breckenridge (d) (c) (t) -----	08086290	175
Hubbard Creek Reservoir near Breckenridge (e) (c) (t) -----	08086400	181
Brazos River near South Bend (d) -----	08088000	189
Salt Creek:		
Lake Graham near Graham (e) -----	08088400	191
Possum Kingdom Lake near Graford (e) (c) (t) -----	08088500	192
Brazos River at Morris Sheppard Dam near Graford (d) -----	08088600	201
Brazos River near Palo Pinto (d) -----	08089000	202
Brazos River near Dennis (d) (c) (t) -----	08090800	203
Lake Granbury near Granbury (e) (c) (t) -----	08090900	206
Brazos River near Glen Rose (d) -----	08091000	215
Paluxy River at Glen Rose (d) -----	08091500	217
Squaw Creek Reservoir near Glen Rose (e) -----	08091730	218
Squaw Creek near Glen Rose (d) -----	08091750	219
Nolan River at Blum (d) -----	08092000	220
Lake Whitney near Whitney (e) -----	08092500	221
Brazos River at Whitney Dam near Whitney (c) (t) -----	08092600	222
Brazos River near Aquilla (d) -----	08093100	224
Aquilla Lake above Aquilla (e) -----	08093350	225
Aquilla Creek near Aquilla (d) -----	08093500	226
North Fork North Bosque River near Stephenville (c) (b) -----	08093675	228
South Fork North Bosque River near Stephenville (c) (b) -----	08093685	229
North Bosque River above Stephenville (c) (b) -----	08093695	230
North Bosque River below Stephenville (c) (b) -----	08093800	231
North Bosque River at Hico (d) (c) (b) -----	08094800	232
North Bosque River near Clifton (d) -----	08095000	234
North Bosque River at Valley Mills (d) -----	08095200	236
South Bosque River:		
Middle Bosque River near McGregor (d) -----	08095300	238
Hog Creek near Crawford (d) -----	08095400	239
Waco Lake near Waco (e) -----	08095550	240
Brazos River at Waco (d) -----	08096500	241
Brazos River near Highbank (d) (c) (b) (t) (s) -----	08098290	243
Leon River near De Leon (d) (c) -----	08099100	249
Sabana River near De Leon (d) (c) -----	08099300	251
Proctor Lake near Proctor (e) (c) (b) (t) -----	08099400	254
Leon River near Hasse (c) -----	08099500	266
Leon River near Hamilton (d) -----	08100000	267
Leon River at Gatesville (d) -----	08100500	269
Leon River at North Fort Hood (c) (b) -----	08100600	271
Cowhouse Creek at Pidcoke (d) (c) (b) -----	08101000	273
Belton Lake near Belton (e) (c) (b) (t) -----	08102000	277
Leon River near Belton (d) (c) (b) -----	08102500	296
Lampasas River near Kempner (d) -----	08103800	299
Rocky Creek:		
South Fork Rocky Creek near Briggs (d) (c) (b) (s) -----	08103900	301
Stillhouse Hollow Lake near Belton (e) (c) (b) (t) -----	08104050	303

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

	Station number	Page
WESTERN GULF OF MEXICO BASINS--Continued		
BRAZOS RIVER BASIN--Continued		
Brazos River:		
Little River near Little River (d) -----	08104500	317
San Gabriel River:		
Lake Georgetown near Georgetown (e) -----	08104650	319
North Fork San Gabriel River near Georgetown (d) -----	08104700	320
South Fork San Gabriel River at Georgetown (d) -----	08104900	321
Berry Creek near Georgetown (d) -----	08105100	322
Granger Lake near Granger (e) -----	08105600	323
San Gabriel River at Laneport (d) -----	08105700	324
Little River near Rockdale (d) -----	08106350	325
Little River at Cameron (d) (c) (t) -----	08106500	326
Brazos River at State Highway 21 near Bryan (d) -----	08108700	330
Middle Yegua Creek (head of Yegua Creek) near Dime Box (d) -----	08109700	332
East Yegua Creek near Dime Box (d) -----	08109800	333
Somerville Lake near Somerville (e) -----	08109900	334
Davidson Creek near Lyons (d) -----	08110100	335
Brazos River at Washington (e) -----	08110200	336
Navasota River above Groesbeck (d) -----	08110325	337
Big Creek near Freestone (d) -----	08110430	338
Lake Limestone near Marquez (e) (c) (t) -----	08110470	339
Navasota River near Easterly (d) -----	08110500	344
Navasota River near Bryan (d) -----	08111000	346
Brazos River near Hempstead (d) -----	08111500	348
Brazos River at Richmond (d) (c) (b) (t) (s) -----	08114000	349
Big Creek near Needville (d) -----	08115000	354
Brazos River near Rosharon (d) -----	08116650	355
SAN BERNARD RIVER BASIN		
San Bernard River near Boling (d) -----	08117500	356

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

ix

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Texas have been discontinued. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the title page of this report.

[Letters after station name designate the type of data collected: (d) discharge, (e) elevation (stage only).]

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Lake Conroe Outflow Weir near Conroe (d)	08067610	445	1974, 1977-89
Caney Creek near Dobbin (d)	08067700	40.40	1963-65
Little Cypress Creek near Cypress (d)	08068780	41.0	1983-92
Cypress Creek at Grant Road near Houston (d)	08068800	214	1983-92
Cypress Creek at Stubner Airline Road near Westfield (d)	08068900*	248	1982-87
West Fork San Jacinto River near Humble (d)	08069500	1,741	1929-54
Peach Creek at Spendor (d)	08071000	117	1944-77
San Jacinto River near Huffman (d)	08071500	2,800	1937-53
Cole Creek at Deihl Road at Houston (d)	08074150*	7.50	1964-86
Brickhouse Gully at Costa Rica Street at Houston (d)	08074250*	11.4	1964-81, 1984-85
Buffalo Bayou at 69th Street, Houston (e)	08074700	476	1985-86
Highland Bayou at Hitchcock (d)	08077700	N/A	1981-82
Oyster Creek near Angleton (d)	08079000	171	1945-80
North Fork Double Mountain Fork Brazos River near Post (d)	08079575	438	1984-93
North Fork Double Mountain Fork Brazos River at Lubbock (d)	08079500	5,300	1940-49
Double Mountain Fork Brazos River near Rotan (d)	08080000	8,536	1949-51
McDonald Creek near Post (d)	08080540	103	1966-78
Running Water Draw at Plainview (d)	08080700	1,291	1939-53, 1957-78
Duck Creek near Girard (d)	08080950	431	1965-89
Salt Fork Brazos River near Peacock (d)	08081000	4,619	1950-51, 1965-86
Croton Creek near Jayton (d)	08081200	290	1959-86
Salt Croton Creek near Aspermont (d)	08081500	64.30	1957-77
Stinking Creek near Aspermont (d)	08082100	88.80	1966-83
North Croton Creek near Knox City (d)	08082180	251	1965-86
Brazos River near Graham (d)	08083000	16,830	1916-20
Clear Fork Brazos River at Hawley (d)	08083240	1,416	1968-89
Mulberry Creek near Hawley (d)	08083245	205	1968-89
Elm Creek near Abilene (d)	08083300	133	1964-79
Little Elm Creek near Abilene (d)	08083400	39.10	1964-79
Cat Claw Creek at Abilene (d)	08083420	13	1971-79
Elm Creek at Abilene (d)	08083430	422	1980-83
Cedar Creek at Abilene	08083470	119	1971-84
Paint Creek near Haskell (d)	08085000	914	1950-51
Clear Fork Brazos River at Crystall Falls (d)	08086000		1922-29
Hubbard Creek near Sedwick (d)	08086015	128	1964-66
Deep Creek at Moran (d)	08086050	228	1963-75
Hubbard Creek near Albany (d)	08086100	454	1962-75
Salt Prong Hubbard Creek at U.S. 380 near Moran (d)	08086120	61	1964-68
North Fork Hubbard Creek near Albany (d)	08086150	39.3	1963-90
Salt Prong Hubbard Creek near Albany (d)	08086200	115	1962-63
Snailum Creek near Albany (d)	08086210	22.90	1964-66
Battle Creek near Moran	08086235	108	1967-68
Pecan Creek near Eolian (d)	08086260	26.40	1967-75
Hubbard Creek near Breckenridge (d)	08086500	1,089	1955-86
Clear Fork Brazos River at Eliasville (d)	08087300	5,697	1915-20, 1924-25, 1928-51, 1962-82

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Salt Creek at Olney (d)	08088100	11.80	1958-77
Salt Creek near Newcastle (d)	08088200	120	1958-60
Briar Creek near Graham (d)	08088300	24.20	1958-89
Big Cedar Creek near Ivan (d)	08088450	97	1964-89
Palo Pinto Lake near Santo (e)	08090300	461	1964-82
Palo Pinto Creek near Santo (d)	08090500	573	1925, 1951-76
Pat Cleburne Lake near Cleburne (d)	08091900	100	1965-85
Hackberry Creek at Hillsboro (d)	08093250	57.9	1979-92
Cobb Creek near Abbott (d)	08093400	12.40	1966-79
North Bosque River at Stephenville (d)	08093700	95.90	1958-73
Green Creek SWS #1 near Dublin (d)	08094000	4.19	1955-77
Green Creek near Alexander (d)	08094500	45.40	1958-73
South Bosque River near Speegleville (d)	08095500	386	1924-30
Bosque River near Waco (d)	08095600	1,656	1960-82
Cow Bayou at Mooreville (d)	08097000	83.50	1958-75
Brazos River near Marlin (d)	08097500	30,211	1939-51
Deer Creek at Chilton (d)	08098000	84.50	1934-36
Little Pond Creek near Burlington (d)	08098300	23	1963-82
Leon River near Hasse (d)	08099500	1,261	1939-91
Cowhouse Creek near Kileen (d)	08101500	667	1924-25, 1939-42
Nolan Creek at Belton (d)	08102600	112	1974-82
Lampasas River at Youngsfort (d)	08104000	1,240	1924-80
Lampasas River near Belton (d)	08104100	1,321	1963-89
Salado Creek below Salado Springs (d)	08104310	N/A	1985-87
San Gabriel River at Georgetown	08105000	405	1924-25, 1934-73, 1984-87
Berry Creek at State Hwy. 971 near Georgetown	08105200	N/A	1985-87
San Gabriel River near Weir (d)	08105300	563	1976-90
San Gabriel River near Circleville (d)	08105400	599	1924-34, 1967-76
Brushy Creek near Rockdale (d)	08106300	505	1968-80
San Gabriel River near Rockdale (d)	08106310	1,359	1974-92
Big Elm Creek near Temple (d)	08107000	74.70	1934-36
Big Elm Creek near Buckholts (d)	08107500	171	1934-36
North Elm Creek near Ben Arnold	08108000	32.20	1935-36
North Elm Creek near Cameron (d)	08108200	44.80	1963-73
Brazos River near Bryan (d)	08109000	29,949	1899-1902, 1918-26, 1926-92
Yegua Creek near Somerville (d)	08110000	1,009	1924-92
Navasota River near Groesbeck (d)	08110400	311	1965-79
Navasota River near College Station (d)	08111010	1,809	1977-85
Burton Creek at Villa Maria Road at Bryan (d)	08111025	1.33	1968-70
Hudson Creek near Bryan (d)	08111050	1.94	1968-70
Mill Creek near Belville (d)	08111700	376	1963-93
Brazos River Authority Canal A near Fulshear (d)	08112500	N/A	1932-54, 1958-73
Richmond Irrigation Co. Canal near Richmond (d)	08113500	N/A	1932-54, 1956-78
Brazos River near Juliff (d)	08114500	45,084	1949-69
Seabourne Creek near Rosenberg (d)	08114900	5.78	1968-72
Fairchild Creek near Needville (d)	08115500	26.20	1947-54
Big Creek near Guy (d)	08116000	116	1947-50
Dry Creek near Rosenberg	08116400	8.65	1959-79
Dry Creek below Rosenberg (d)	08116500	12.20	1947-50
Big Boggy Creek near Wadsworth (d)	08117900	10.30	1970-77
East Matagorda Bay near Matagorda (e)	08117985	N/A	1973-82

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

xi

The following stations were discontinued as continuous-record surface-water-quality stations prior to the 1994 water year. Daily records of specific conductance, temperature, sediment, color, pH, dissolved oxygen, or chloride were collected and published for the record shown for each station.

[SC, specific conductance; T, temperature; S, sediment; C, color; pH, pH; DO, dissolved oxygen; Cl, chloride.]

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record (water years)
West Fork San Jacinto River near Conroe	08068000	828	SC, T	1961-90
Panther Branch near Spring	08068450	34.50	S	1974-76
West Fork San Jacinto River near Humble	08069500	1,741	SC, T	1945-46
San Jacinto River near Huffman	08071500	2,800	SC	1945-54,
			T	1949-54
Buffalo Bayou at West Belt Drive at Houston	08073600	307	SC, T	1979-81
Buffalo Bayou at Main Street, Houston	08074600	469	SC, T, DO	1986-92
Chocolate Bayou near Alvin	08078000	87.70	SC, T	1978-81
North Fork Double Mountain Fork Brazos River near Post	08079575	438	SC, T	1984-93
Double Mountain Fork Brazos River near Rotan	08080000	8,536	SC, T	1949-51
McDonald Creek near Post	08080540	103	SC, T	1949-51,
				1964-78
Salt Fork Brazos River near Peacock	08081000	4,619	SC, T	1949-51,
				1964-86
Croton Creek near Jayton	08081200	290	SC	1960-86,
			T	1960-70,
				1083-86
Salt Croton Creek near Aspermont	08081500	64.30	SC	1970-77,
			T	1972-74
Salt Fork Brazos River near Aspermont	08082000	5,130	SC, T	1948-51,
				1956-82
Stinking Creek near Aspermont	08082100	88.80	SC	1965-68,
			T	1949-50,
				1965-69
North Croton Creek near Knox City	08082180	251	SC, T	1965-86
Clear Fork Brazos River at Hawley	08083240	1,416	SC, T	1967-79,
				1981-84
Clear Fork Brazos River at Nugent	08084000	2,199	SC, T	1948-53
California Creek near Stamford	08084800	478	SC, T	1962-79
Paint Creek near Haskell	08085000	914	SC, T	1949-51
Clear Fork Brazos River at Fort Griffin	08085500	3,988	SC, T, S	1949-51,
			SC, T	1967-79,
				1981-84
Hubbard Creek near Sedwick	08086015	128	SC, T	1963-66
Deep Creek at Moran	08086050	228	SC, T	1962-75
Hubbard Creek near Albany	08086100	454	SC, T	1962-75
North Fork Hubbard Creek near Albany	08086150	39.3	SC, T	1962-90
Salt Prong Hubbard Creek at U.S. Highway 380 near Albany	08086120	61	SC, T	1963-68
North Fork Hubbard Creek near Albany	08086150	39.30	SC, T	1962-90
Salt Prong Hubbard Creek near Albany	08086200	115	SC, T	1962-63
Snailum Creek near Albany	08086210	22.90	SC, T	1963-66
Battle Creek near Moran	08086235	108	SC, T	1966-68
Pecan Creek near Eolian	08086260	26.40	SC, T	1962-75
Big Sandy Creek near Breckenridge	08086300	288	SC, T	1962-76
Hubbard Creek near Breckenridge	08086500	1,089	SC, T	1955-75
Clear Fork Brazos River at Eliasville	08087300	5,697	SC, T	1961-82
Brazos River near South Bend	08088000	22,673	SC	1942-48
			SC, T	1977-81
Salt Creek at Olney	08088100	11.80	SC, T	1958-60
Salt Creek near Newcastle	08088200	120	SC, T	1958-60
Brazos River at Morris Sheppard Dam near Graford	08088600	23,596	SC, T	1942-91
			T	1963-64

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record (water years)
Brazos River near Aquilla	08093100	27,224	SC	1978-79
Aquilla Creek above Aquilla	08093360	255	SC, T	1979-83
Aquilla Creek near Aquilla	08093500	308	SC, T	1965-66, 1967-82
Leon River near Eastland	08098500	235	SC, T	1950-53
Leon River near Belton	08102500	3,542	T	1957-72
South Fork Rocky Creek near Briggs	08103900	33.30	S	1963-65
Lampasas River at Youngsfort	08104000	1,240	SC, T	1961-64
Little River near Little River	08104500	5,228	SC, T	1964-73, 1979-82
San Gabriel River near Weir	08105300	536	T	1976-82
San Gabriel River at Lanepport	08105700	738	T	1976-82
Brazos River at State Hwy. 21 near Bryan	08108700	N/A	SC, T	1961-65
Brazos River near Bryan	08109000	39,515	SC, T	1965-66
Brazos River near College Station	08109500	39,599	SC, T	1966-84
Yegua Creek near Somerville	08110000	1,009	SC, T	1961-67
Navasota River above Groesbeck	08110325	239	SC, T	1967-89
Navasota River near Groesbeck	08110400	311	SC, T	1967-78
Navasota River near Easterly	08110500	968	SC	1941-42, 1947
Navasota River near Bryan	08111000	1,454	SC, T	1958-81, S 1975-81
Brazos River near Rosharon	08116650	45,399	SC, T	1968-80
Brazos River at Harris Reservoir near Angleton	08116700	N/A	SC, CI	1962-77
Brazos River at Brazoria Reservoir near Brazoria	08117200	N/A	SC, CI	1962-77
San Bernard River near Boling	08117500	727	SC, T	1978-81

WATER RESOURCES DATA—TEXAS, 1994

VOLUME 2

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

INTRODUCTION

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

This report series includes records of stage, discharge, and water quality of streams and canals; stage, contents, and water quality of lakes and reservoirs and water levels and water quality of ground water wells. Volume 2 contains records for water discharge at 79 gaging stations; stage only at 9 gaging stations; stage and contents at 20 lakes and reservoirs; and water quality at 42 gaging stations. Also included are data for 33 partial-record and 20 flood-hydrograph partial-record stations. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating Federal, State, and City agencies in Texas.

This series of annual reports for Texas began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report was changed to its present format, with data on quantities and quality of surface water contained in each of three volumes. Ground-water levels and water quality have been published in a separate volume beginning with the 1991 water year.

Prior to introduction of this series and for several water years concurrent with it, water resources data for Texas were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents

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

Publications similar to this report are published annually by the U.S. Geological Survey for all States. These official U.S. Geological Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water Data Report TX-94-2." For archiving and general distribution, the reports for the 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or may be purchased on microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information, including the current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (512) 873-3000. A limited number of CD-ROM discs will be available for sale by the Books & Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

COOPERATION

Federal agencies that assisted the U.S. Geological Survey in the collection of data in this report in the form of funds or services in 1994 are:

- ❑ Corps of Engineers, U.S. Army.
- ❑ International Boundary and Water Commission, United States and Mexico, U.S. Section.
- ❑ U.S. Bureau of Reclamation.

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

Texas Water Development Board, G.E. Kretzschmar, Executive Administrator; the cities of Abilene, Arlington, Austin, Corpus Christi, Dallas, Fort Worth, Gainesville, Garland, Georgetown, Graham, Houston, Lubbock, Nacogdoches, San Angelo, San Antonio, and Wichita Falls; Bexar, Medina, and Atascosa Counties Water Improvement District No. 1; Barton Springs/Edwards Aquifer Conservation District; Brazos River Authority; Canadian River Municipal Water Authority; Coastal Water Authority; Colorado River Municipal Water District; Dallas Public Works Department; Dallas Water Utilities; Edwards Underground Water District; El Paso Public Service Board; Fort Bend Subsidence District; Franklin County Water District; Galveston County; Greenbelt Municipal and Industrial Water Authority; Guadalupe-Blanco River Authority; Harris County Flood Control District; Harris-Galveston Coastal Subsidence District; Lavaca-Navidad River Authority; Lower Colorado River Authority; Lower Neches Valley Authority; North Central Texas Council of Governments; North Central Texas Municipal Water Authority; Northeast Texas Municipal Water District; North Texas Municipal Water District; Orange County; Pecos River Commission; Red Bluff Water Power Control District; Red River Authority; Sabine River Authority of Texas; Sabine River Compact Administration; San Antonio City Public Service Board; San Antonio Water System; San Antonio River Authority; San Jacinto River Authority; Somervell County Water District; Tarrant County Water Control and Improvement District No. 1; Texas Soil & Water Conservation Board; Texas State Department of Highways & Public Transportation; Texas Natural Resources Conservation Commission; Texas Water Development Board; Titus County Fresh Water Supply District No. 1; Trinity River Authority; Upper Guadalupe River Authority; Upper Neches River Municipal Water Authority; West Central Texas Municipal Water District; and Wichita County Water Improvement District No. 2.

HYDROLOGIC CONDITIONS

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

Streamflow across the State during water year 1994 generally was normal (discharges between the 25 percentile and the 75 percentile of record), except for central and east Texas, where streamflow was above normal (discharges within the upper 25 percentile of record) from February through May and in September.

Conservation storage in 77 selected reservoirs throughout the State, with a combined conservation capacity of 34,857,000 acre-feet, decreased from 84 percent at the end of September 1993 to 83 percent at the end of September 1994. Records from the individual reservoirs indicate that storage increased in 35, decreased in 38, and remained the same in 4.

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

Streamflow

Streamflow was above normal in the San Jacinto River Basin and ranged from normal to above normal in the Brazos River Basin during water year 1994. Streamflow for water year 1994 and for the period of record at six selected stations (fig. 1) for which data are included in volume 2 is presented in table 1.

At the four long-term hydrologic index stations in the State, streamflow during water year 1994 ranged from normal to above normal. Monthly

mean discharges for water year 1994 and the median of the long-term monthly means for water years 1961–90 for the four long-term hydrologic index stations in the State are shown in figure 2. Streamflow at the hydrologic index station North Bosque River near Clifton was above normal during May and September and normal for the remaining 10 months. The station Neches River near Rockland had above normal streamflow during February, March, August and September, and normal streamflow for the remaining 8 months. The station North Concho River near Carlsbad had above normal streamflow from January through March and in May and normal streamflow, including 3 months of no flow, for the remaining 8 months. Streamflow for the station Guadalupe River near Spring Branch was normal for all of water year 1994.

Conservation storage in 21 selected reservoirs in this area of the State, with a total combined conservation capacity of 3,893,000 acre-feet, increased from 87 percent of capacity at the end of September 1993 to 89 percent of capacity at

the end of September 1994. Records from these reservoirs indicate that storage increased in 9, decreased in 11, and remained the same in 1 during the water year.

Water Quality

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

Records of discharge-weighted-average concentrations of dissolved solids for water year 1994 are compared with those for water years 1990–94 for selected long-term daily or continuous-record water-quality stations (fig. 2) in the Brazos River Basin. Results are shown in table 2.

Table 1. Streamflow at six selected stations

Station no. and name	Discharge during 1994 water year (cubic feet per second)			Discharge during period of record (cubic feet per second)		
	Maximum instantaneous	Minimum daily mean	Mean	Maximum instantaneous	Minimum daily mean	Mean
<u>San Jacinto River Basin</u>						
08074500 Whiteoak Bayou at Houston, Tex.	6,850	31	125	25,100	0.20	96 (1937-1994)
<u>Brazos River Basin</u>						
08080500 Double Mountain Fork Brazos River near Aspermont, Tex. 1/	2,530	0	16.7	91,400	0	156 (1925-94)
08082500 Brazos River at Seymour, Tex.	7,380	0	103	95,400	0	373 (1924-94)
08095000 North Bosque River near Clifton, Tex. 2/	32,500	9.4	244	200,000	0.01	221 (1968-94)
08111000 Navasota River near Bryan, Tex.	6,860	14	311	66,600	0	580 (1979-94)
08114000 Brazos River at Richmond, Tex. 1/	34,000	755	3,717	119,000	55	7,526 (1941-94)

1/ National Stream Quality Accounting Network (NASQAN) site.

2/ Hydrologic index station.

WATER RESOURCES DATA—TEXAS, 1994

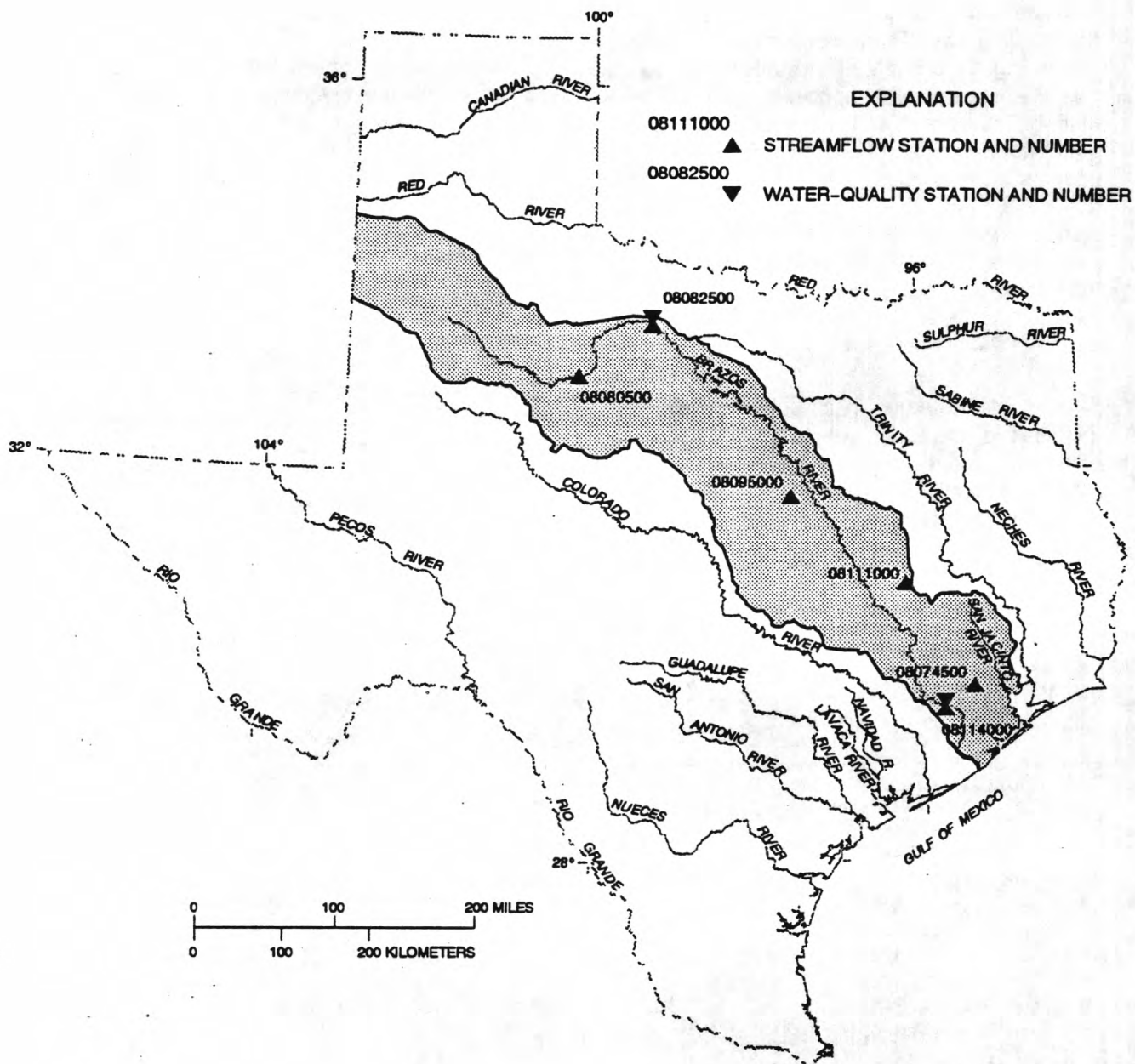


Figure 1. Area of Texas covered by volume 2 (shaded) and location of selected streamflow and water-quality stations in volume 2.

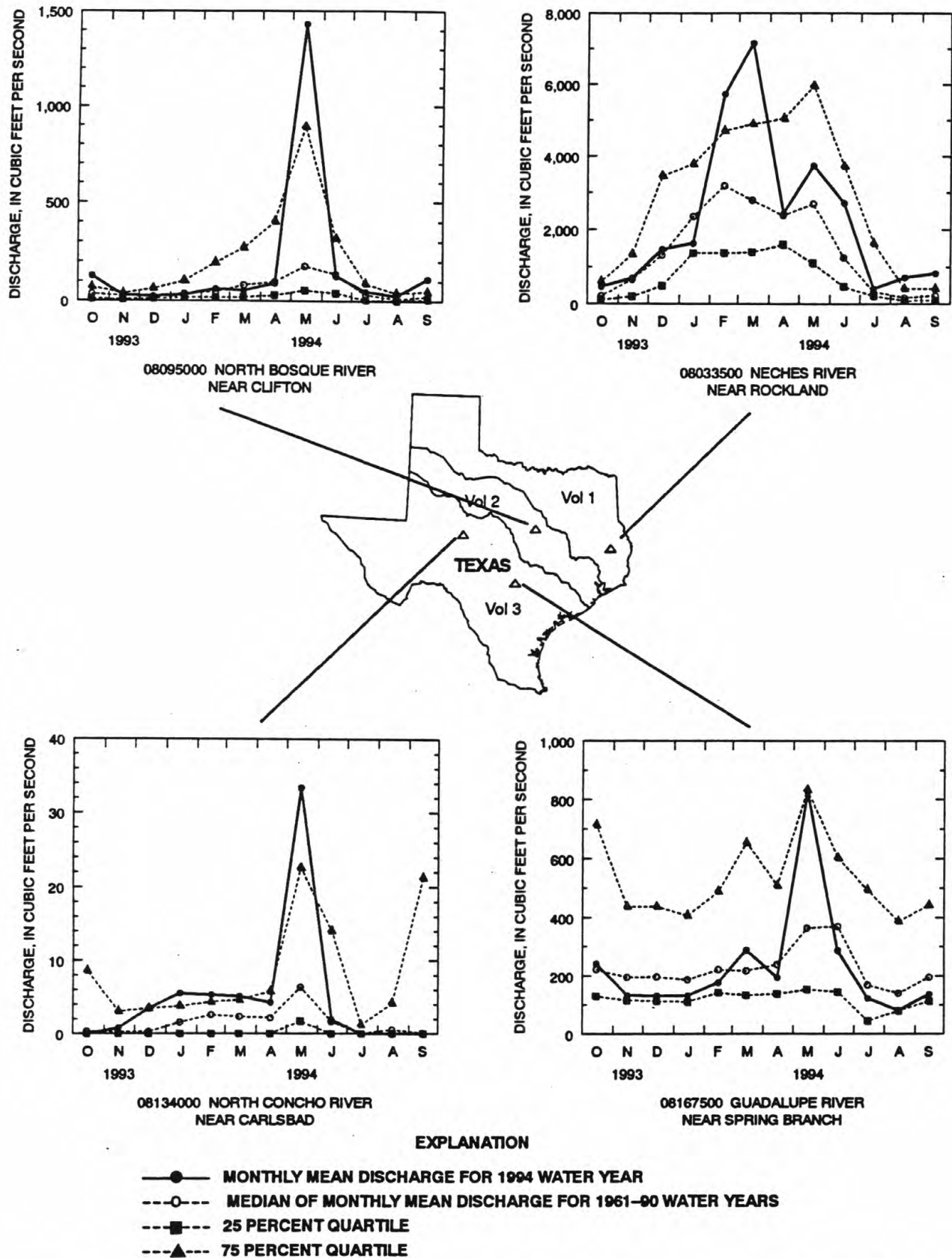


Figure 2. Monthly mean discharges at four long-term hydrologic index gaging stations during 1994 water year and median of the monthly mean discharges for 1961-90 water years.

Table 2.--Comparison of records of discharge-weighted-average concentrations of dissolved solids for the 1994 and 1990-94 water years

Station no. and name	Mean discharge (cubic feet per second)		Discharge-weighted-average concentration of dissolved solids (milligrams per liter)	
	1994	1990-94	1994	1990-94
<u>Brazos River Basin</u>				
08082500 Brazos River at Seymour, Tex.	103	388	4,030	3,130
08114000 Brazos River at Richmond, Tex.	3,717	11,140	357	323

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 53 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 284 sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

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

National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water quality for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in about two-thirds of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

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

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

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1994 water year that began October 1, 1993, and ended September 30, 1994. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Texas, for surface-water stations where only miscellaneous measurements are made.

Downstream Order Numbering

Since October 1, 1950, the order of listing hydrologic-station records in U.S. Geological Survey reports is in a downstream direction along the main stream. All stations on a tributary entering up-

stream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 08057000, which appears just to the left of the station name, includes the 2-digit Part number "08" plus the 6-digit downstream-order number "057000." The Part number designates the major river basin; for example, Part "08" is the Western Gulf of Mexico basin.

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table

titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report.

Data Collection and Computation

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

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

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

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

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

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

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded

gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Streamflow data in this report are presented in a format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consists of four parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge

or lake content. Comments to follow clarify information presented under the various headings of the station description.

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

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

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

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

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

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

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

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

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

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

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the EXTREMES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

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

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the daily mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period, expressed as "FOR WATER YEARS ____-____, BY WATER YEAR (WY)," will list the first and last water years of the range selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive,

including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS ____-____," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. However, data for partial water years, if any, will only be used in the statistical calculations, if appropriate. For example, all of the calculations for the statistical characteristics designated ANNUAL (See line headings below.), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the column heading. When this occurs, it should be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data is omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period.

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

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

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

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that has been exceeded 90 percent of the time for the designated period.

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent.

Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

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

Records of Surface-Water Quality

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

Classification of Records

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

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

obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently.

Arrangement of Records

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

On-Site Measurements and Sample Collection

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

Procedures for on site measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the Texas Office of the Central Region Office. One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section

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

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

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

Water Temperature

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

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

Sediment

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

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

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

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

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the U.S. Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the U.S. Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Historical and current (1994) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

Data Presentation

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

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

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

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

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

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

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

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

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

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

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No

WATER RESOURCES DATA—TEXAS, 1994

descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remarks Codes

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

PRINTED OUTPUT

REMARK

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

DISSOLVED TRACE-ELEMENT CONCENTRATIONS

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter ($\mu\text{g/L}$) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the $\mu\text{g/L}$ level should be viewed with caution. Such data may actually represent elevated environmental concentrations from a natu-

ral or human causes; however, these data could reflect contamination introduced during sampling processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994. Full implementation of the protocols will take place in the near future.

ACCESS TO WATSTORE DATA

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

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

General inquiries about WATSTORE may be directed to:

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

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk; and, as noted in the introduction, on CD-ROM discs. All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. A limited number of CD-ROM discs will be available for sale by the Books & Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

DEFINITION OF TERMS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Bottom material: See Bed material.

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

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

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

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

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

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

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

Cubic foot per second (ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent

to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic-foot-per-second day [(ft³/s)/d] is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Cubic feet per second per square mile [(ft³/s)/mi²] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

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

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

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

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

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

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

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

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

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

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

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

Supplementary gage is a gage used to obtain additional data. A supplementary gage may be used in place of the principal gage if the latter is isolated or cut off from the channel, or registers only above (or below) a certain gage height. One or more supplementary gages may be used on bypass channels or overflow channels, or on streams that flow in several channels, each of which is rated independently.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

Hydrologic Benchmark Network is a network of 53 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

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

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

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

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

Micrograms per liter ($\mu\text{g/L}$) 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 represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

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

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 284 sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are: (1) To obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for; (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs; (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics; and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

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

Organism is any living entity.

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

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

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

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

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

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

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

Classification	Size (mm)	Method of analysis
Clay	0.00024 - 0.004	Sedimentation
Silt	0.004 - 0.062	Sedimentation
Sand	0.062 - 2.0	Sedimentation or sieve
Gravel	2.0 - 64.0	Sieve

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

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

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

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

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

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

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

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

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

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

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

toplankton, and detritus. Because they are the grazers in the aquatic environment, zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used

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

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

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

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 mm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

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

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending

with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

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

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

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

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

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

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

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

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

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

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1990, is called the "water year 1990."

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

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the

corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

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

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 p.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 p.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 p.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 p.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 p.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W. Scott Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 p.
- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 p.
- 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.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 p.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 p.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 p.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 p.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 p.
- 3-A7. *Stage measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 p.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 p.

- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick, and J.F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 p.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 p.
- 3-A11. *Measurement of discharge by moving-boat method*, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 p.
- 3-A12. *Fluorometric procedures for dye tracing*, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS--TWRI Book 3, Chapter A12, 1986. 41 p.
- 3-A13. *Computations of continuous records of streamflow*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A13, 1983. 53 p.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 p.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 p.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 p.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 p.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, N. Yotsukura, G.W. Parker, and L.L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 p.
- 3-A19. *Levels of streamflow gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 p.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 p.
- 3-B2. *Introduction to ground-water hydraulics, a programmed text for self instruction*, by G.D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 p.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 p.
- 3-B4. *Regression modeling of ground-water flow*, by Richard L. Cooley and Richard L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 p.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow - Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS--TWRI Book 3, Chapter B4. 1993. 8 pages.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 p.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 p.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 190 pages.
- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 p.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H.P. Guy and V.W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 p.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 p.
- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 p.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 p.
- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 p.
- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 p.
- 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 p.

- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 p.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 p.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 p.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 p.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 p.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 p.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 p.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 p.
- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 p.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS--TWRI Book 6, Chapter A3. 1993. 136 pages.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS--TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS--TWRI Book 6, Chapter A5. 1993. 243 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 p.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 p.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1983. 110 p.
- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 p.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 p.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 p.

SAN JACINTO RIVER MAIN STEM

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

DRAINAGE AREA.--445 mi².

WATER-CONTENT RECORDS

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

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

REMARKS.--The lake is formed by an earthfill dam 11,300 ft long, including a controlled spillway. The dam was completed Sept. 1, 1972, and deliberate impoundment began Jan. 9, 1973. Water is used for municipal and industrial purposes in the Houston metropolitan area. A small diversion is also made for cooling purposes at the Gulf State Utilities generating plant on Lewis Creek Reservoir near Conroe. During the current year, 2,830 acre-ft were diverted to Lewis Creek Reservoir for that purpose. A spillway with five 40- x 30-foot tainter gates is located near the center of dam. Low-flow releases are made through a separate multi-gated inlet tower. The tower has three gated openings and one uncontrolled opening. It is connected to a stilling basin and a concrete weir by a 14-foot-diameter conduit through the dam. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	212.0	-
Design flood.....	205.5	532,000
Top of tainter gates.....	202.5	462,600
Top of conservation pool (uncontrolled tower outlet).....	201.0	430,300
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 topographic maps dated 1950-59.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 512,000 acre-ft May 22, 1983 (elevation, 204.66 ft); minimum since normal operating level was reached, 336,900 acre-ft Jan. 11, 1989 (elevation, 196.17 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 447,800 acre-ft Feb. 24, at 0600 hours (elevation, 201.82 ft); minimum, 400,100 acre-ft Oct. 11 (elevation, 199.52 ft).

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

199.0	389,700	202.0	451,600
200.0	409,600	203.0	473,700
201.0	430,300		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	403100	418500	426500	431300	434500	438600	428800	431800	428800	425700	412900	419300
2	404100	418500	426500	431500	433000	437500	429600	434300	428800	425500	412900	419300
3	403100	419500	429000	431100	432000	436500	429400	433000	428800	424900	412700	419100
4	402700	419100	429600	430900	431800	434500	428600	433000	428800	424700	412500	418900
5	402300	420400	430100	430100	431800	433500	432200	432600	428600	425300	413100	418700
6	402100	419300	430700	430700	431800	433500	430100	431800	428600	425100	413100	419100
7	401500	418300	430700	430900	431800	433500	429200	431300	428000	424700	412500	418900
8	400900	418300	430700	430300	431800	433500	428800	431500	427400	424100	413400	418900
9	401700	418500	430700	429600	433500	433700	429000	431800	427000	424700	413600	418500
10	400500	418500	431800	429800	434300	433200	429200	433900	427400	423700	413400	418500
11	400100	418300	431500	430500	433900	432000	431300	433000	428000	422800	413100	419100
12	405100	417900	431100	430700	434500	431300	431300	432800	427400	422200	412900	419100
13	407000	418300	432400	430700	433700	431500	430900	435600	427400	422000	412500	419100
14	407000	420400	432400	430700	432600	431100	430900	437700	427200	421600	412500	419100
15	407000	420200	432600	430300	432400	431800	434500	438400	427200	421000	412300	419100
16	407000	425700	432400	430700	432400	431500	434300	436900	428000	420800	412100	419100
17	406700	426800	432800	431500	431800	429400	433700	435200	428000	420800	411100	418900
18	406500	428000	433000	430900	431100	429600	433000	433500	429200	420600	410900	418700
19	406300	429600	432800	430300	430700	429600	432200	431800	429200	419700	410500	418100
20	417900	428800	432800	430300	432000	429800	431500	430700	429400	418900	409800	417700
21	419500	428800	432200	430700	433700	430300	431500	430300	429200	418700	410900	417300
22	420800	428200	433000	430500	441600	430100	431500	430100	429000	418700	420600	417500
23	421600	428200	433000	430500	447600	430300	431500	429400	428400	417900	421200	415200
24	421600	429000	433200	430700	447600	430900	430700	428800	428600	417500	420800	415600
25	421600	428600	433200	430900	446300	430500	430500	428400	428000	417100	420600	414800
26	421400	427800	432200	431300	443700	430300	430500	428600	427200	416400	420400	414200
27	421000	427400	431800	437500	440100	431300	430100	428600	426500	416700	419900	413800
28	419900	427000	432000	439200	437700	430500	430300	428400	425900	415600	419900	413800
29	424300	427000	431300	439200	---	429800	430300	428400	426300	414800	419500	413400
30	420400	426500	431100	438400	---	430100	433500	429200	425900	414400	419100	413400
31	419500	---	430700	436900	---	429600	---	429000	---	413600	419300	---
MAX	424300	429600	433200	439200	447600	438600	434500	438400	429400	425700	421200	419300
MIN	400100	417900	426500	429600	430700	429400	428600	428400	425900	413600	409800	413400
(+)	200.48	200.82	201.02	201.31	201.35	200.97	201.15	200.94	200.79	200.19	200.47	200.18
(@)	+15800	+7000	+4200	+6200	+800	-8100	+3900	-4500	-3100	-12300	+5700	-5900
CAL YR 1993	MAX 463100	MIN 400100	(@) -200									
WTR YR 1994	MAX 447600	MIN 400100	(@) +9700									

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

SAN JACINTO RIVER MAIN STEM
08067600 LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY RECORDS

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

302127095335501 - LAKE CONROE SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CAC03	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
FEB												
28...	0955	438000	1.00	190	8.0	62	12.5	1.15	9.2	86	65	3
28...	0957	--	10.0	190	7.9	--	12.5	--	8.6	81	--	--
28...	0959	--	20.0	190	7.9	--	12.5	--	8.6	81	--	--
28...	1001	--	30.0	190	7.9	--	12.5	--	8.6	81	--	--
28...	1003	--	40.0	190	7.9	--	12.5	--	8.4	79	--	--
28...	1005	--	56.0	190	7.9	62	12.5	--	8.0	75	65	3
JUN												
27...	0955	426000	1.00	195	7.0	70	28.5	0.95	5.5	71	68	0
27...	0957	--	10.0	200	6.8	--	27.0	--	1.4	18	--	--
27...	0959	--	20.0	200	6.8	--	25.5	--	1.6	20	--	--
27...	1001	--	30.0	205	6.7	--	23.5	--	1.5	18	--	--
27...	1003	--	40.0	210	6.7	--	22.0	--	1.7	20	--	--
27...	1005	--	51.0	210	6.7	80	22.0	--	1.7	20	70	0
AUG												
18...	1015	411000	1.00	205	7.6	67	28.5	0.90	3.2	41	73	6
18...	1017	--	10.0	205	7.0	--	28.0	--	0.7	9	--	--
18...	1019	--	20.0	205	7.0	--	27.5	--	0.7	9	--	--
18...	1021	--	30.0	210	7.0	--	26.5	--	0.1	1	--	--
18...	1023	--	40.0	230	6.8	--	23.0	--	0.2	2	--	--
18...	1025	--	52.0	250	6.7	94	22.0	--	0.7	8	79	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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 CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
FEB												
28...	23	1.8	11	0.6	2.7	62	6.3	16	0.10	3.1	102	0.200
28...	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
28...	23	1.8	10	0.5	2.7	62	6.4	15	0.10	3.3	101	0.200
JUN												
27...	24	1.9	12	0.6	2.6	70	6.1	16	0.20	4.0	109	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
27...	25	1.9	11	0.6	2.8	80	4.0	17	0.20	8.4	122	--
AUG												
18...	26	1.9	12	0.6	2.9	67	5.1	19	0.10	4.7	112	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	28	2.1	11	0.5	3.1	94	0.60	17	0.10	12	141	--

08067600 LAKE CONROE NEAR CONROE, TX--Continued

302127095335501 - LAKE CONROE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB											
28...	<0.010	0.200	0.200	0.050	0.35	0.40	0.010	<0.010	--	4	3
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	<0.010	0.200	0.200	0.110	0.39	0.50	0.020	<0.010	--	7	45
JUN											
27...	<0.010	--	<0.050	0.020	0.28	0.30	0.010	<0.010	--	5	80
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	<0.010	--	<0.050	0.320	0.48	0.80	0.040	0.030	0.09	570	1500
27...	--	--	--	--	--	--	--	--	--	--	--
27...	<0.010	--	<0.050	0.640	3.2	3.8	0.290	0.120	0.37	940	1600
AUG											
18...	<0.010	--	<0.050	0.040	0.36	0.40	0.030	<0.010	--	12	21
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	<0.010	--	<0.050	0.310	0.39	0.70	0.020	<0.010	--	140	920
18...	--	--	--	--	--	--	--	--	--	--	--
18...	<0.010	--	<0.050	2.90	0.80	3.7	0.490	0.460	1.4	2400	3300

302132095333701 - LAKE CONROE SITE AL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
28...	1020	1.00	190	7.9	12.5	1.60	8.8	83
28...	1022	10.0	190	7.9	12.5	--	8.7	82
28...	1024	20.0	190	7.9	12.5	--	8.6	81
28...	1026	30.0	190	7.9	12.5	--	8.6	81
28...	1028	40.0	190	7.9	12.5	--	8.2	77
28...	1030	50.0	190	7.9	12.5	--	7.9	74
28...	1032	65.0	190	7.9	12.5	--	7.5	70
JUN								
27...	1020	1.00	195	7.1	28.5	1.00	5.5	71
27...	1022	10.0	195	6.9	28.0	--	4.8	61
27...	1024	20.0	200	6.8	26.0	--	1.4	17
27...	1026	30.0	205	6.8	23.5	--	1.6	19
27...	1028	40.0	205	6.8	22.5	--	1.7	20
27...	1030	54.0	210	6.9	21.5	--	2.0	23
AUG								
18...	1048	1.00	205	7.0	28.0	1.00	0.7	9
18...	1050	10.0	205	7.0	28.0	--	0.7	9
18...	1052	20.0	205	7.0	27.5	--	0.7	9
18...	1054	30.0	225	6.9	26.5	--	0.1	1
18...	1056	40.0	245	6.7	22.0	--	0.1	1
18...	1058	50.0	245	6.6	21.5	--	0.1	1
18...	1100	60.0	255	6.6	21.5	--	0.3	3

302245095365301 - LAKE CONROE SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
28...	0930	1.00	190	8.1	13.0	1.00	8.9	84
28...	0932	10.0	190	8.1	13.0	--	8.8	84
28...	0934	20.0	190	8.1	13.0	--	8.5	81
28...	0936	29.0	190	8.0	13.0	--	7.7	73
JUN								
27...	0925	1.00	195	6.7	28.5	0.90	4.5	58
27...	0927	10.0	200	6.5	26.5	--	1.5	19
27...	0929	20.0	200	6.5	26.5	--	1.6	20
27...	0931	29.0	200	6.4	26.5	--	1.7	21
AUG								
18...	0950	1.00	200	8.2	29.5	0.70	2.6	34
18...	0952	10.0	210	7.0	28.0	--	0.2	3
18...	0954	20.0	210	7.0	28.0	--	0.2	3
18...	0956	28.0	215	6.9	27.5	--	0.3	4

SAN JACINTO RIVER MAIN STEM
08067600 LAKE CONROE NEAR CONROE, TX--Continued

302323095341201 - LAKE CONROE SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
28...	1044	1.00	190	7.9	12.5	1.20	9.1	85
28...	1046	10.0	190	7.9	12.5	--	8.9	84
28...	1048	20.0	190	7.9	12.5	--	8.8	83
28...	1050	30.0	190	7.9	12.5	--	8.4	79
28...	1052	40.0	190	7.9	12.5	--	8.4	79
28...	1054	50.0	190	7.9	12.5	--	8.5	80
JUN								
27...	1048	1.00	195	7.4	29.0	1.00	6.0	78
27...	1050	10.0	195	7.2	29.0	--	5.8	76
27...	1052	20.0	195	7.0	28.5	--	4.7	61
27...	1054	30.0	205	6.9	26.5	--	1.6	20
27...	1056	40.0	205	6.9	22.5	--	1.7	20
27...	1058	50.0	215	6.9	22.5	--	2.1	24
AUG								
18...	1110	1.00	200	8.7	30.0	0.80	7.5	99
18...	1112	10.0	200	8.4	30.5	--	6.0	80
18...	1114	20.0	205	7.2	28.5	--	2.3	30
18...	1116	30.0	220	7.0	27.0	--	0.6	8
18...	1118	40.0	240	7.0	23.5	--	0.4	5
18...	1120	54.0	245	6.7	22.5	--	0.4	5

302320095334001 - LAKE CONROE SITE CL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
28...	1100	1.00	190	7.9	12.5	1.20	9.2	86
28...	1102	10.0	190	7.9	12.5	--	9.0	84
28...	1104	20.0	190	7.9	12.5	--	8.8	83
28...	1106	30.0	190	7.9	12.5	--	8.3	78
28...	1108	47.0	190	7.9	12.5	--	8.4	79
JUN								
27...	1110	1.00	195	7.3	28.5	1.00	5.7	74
27...	1112	10.0	195	7.2	28.5	--	5.6	72
27...	1114	20.0	195	7.2	28.5	--	5.4	70
27...	1116	30.0	200	7.0	26.5	--	1.7	21
27...	1118	42.0	205	7.1	24.0	--	2.1	25
AUG								
18...	1135	1.00	200	8.7	30.0	0.90	7.7	102
18...	1137	10.0	200	8.6	30.0	--	6.0	79
18...	1139	20.0	210	7.1	28.0	--	0.1	1
18...	1141	30.0	225	7.0	27.0	--	0.2	3
18...	1143	42.0	235	7.0	24.0	--	0.1	1

302448095374101 - LAKE CONROE SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
28...	1122	1.00	190	7.9	13.5	0.80	9.0	86
28...	1124	10.0	190	7.9	13.0	--	8.8	83
28...	1126	20.0	190	7.9	13.0	--	8.8	83
28...	1128	29.0	190	7.9	13.0	--	8.8	83
JUN								
27...	1140	1.00	195	7.5	30.0	0.80	6.2	82
27...	1142	10.0	195	7.2	29.5	--	5.2	68
27...	1144	20.0	200	7.0	28.0	--	1.6	20
27...	1146	29.0	205	7.1	28.0	--	1.9	24
AUG								
18...	1205	1.00	200	8.6	30.5	0.70	6.5	87
18...	1207	10.0	210	7.1	29.5	--	0.2	3
18...	1209	20.0	210	7.0	28.0	--	0.3	4
18...	1211	28.0	215	7.1	28.0	--	0.2	3

SAN JACINTO RIVER MAIN STEM
08067600 LAKE CONROE NEAR CONROE, TX--Continued

33

302607095360901 - LAKE CONROE SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LITY WAT WH TOT FET FIELD MG/L AS CAC03	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
FEB												
28...	1150	1.00	185	8.0	61	13.5	1.00	9.8	94	65	4	23
28...	1152	10.0	185	7.9	--	13.0	--	8.9	85	--	--	--
28...	1154	20.0	185	7.9	--	13.0	--	8.4	80	--	--	--
28...	1156	30.0	190	7.9	--	13.0	--	8.4	80	--	--	--
28...	1158	37.0	190	7.9	61	13.0	--	8.8	84	65	4	23
JUN												
27...	1212	1.00	195	8.1	69	30.5	1.00	6.6	88	68	0	24
27...	1214	10.0	195	7.9	--	30.0	--	6.4	85	--	--	--
27...	1216	20.0	195	7.6	--	30.0	--	6.2	82	--	--	--
27...	1218	30.0	210	7.2	--	26.5	--	1.7	21	--	--	--
27...	1220	40.0	210	7.2	80	24.0	--	1.7	20	71	0	25
27...	1334	--	--	--	--	--	--	--	--	--	--	--
AUG												
18...	1235	1.00	200	8.6	65	30.0	0.80	6.7	89	70	5	25
18...	1237	10.0	200	8.4	--	29.5	--	5.7	75	--	--	--
18...	1239	20.0	200	7.6	--	29.5	--	3.4	45	--	--	--
18...	1241	30.0	205	7.0	--	28.5	--	1.0	13	--	--	--
18...	1243	40.0	265	7.0	100	--	--	--	--	81	0	29

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
FEB											
28...	1.9	11	0.6	2.7	61	6.5	16	<0.10	3.5	102	0.180
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	1.8	11	0.6	2.7	61	6.5	17	0.10	3.4	103	0.170
JUN											
27...	1.9	11	0.6	2.7	69	6.2	16	0.10	4.0	107	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	2.0	11	0.6	2.9	80	3.5	15	0.10	7.5	119	--
27...	--	--	--	--	--	--	--	--	--	--	--
AUG											
18...	1.9	12	0.6	2.9	65	5.1	18	0.10	5.5	109	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	2.1	11	0.5	3.2	100	0.50	18	0.10	10	145	--

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB											
28...	<0.010	0.180	0.180	0.020	0.38	0.40	0.010	<0.010	--	7	2
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	<0.010	0.170	0.170	0.060	0.34	0.40	<0.010	<0.010	--	6	5
JUN											
27...	<0.010	--	<0.050	0.020	0.48	0.50	<0.010	<0.010	--	<3	17
27...	--	--	--	--	--	--	--	--	--	--	--
27...	<0.010	--	<0.050	0.060	0.44	0.50	0.040	<0.010	--	<10	170
27...	--	--	--	--	--	--	--	--	--	--	--
27...	<0.010	--	<0.050	0.540	0.36	0.90	0.090	0.080	0.25	1000	1600
27...	--	--	--	--	--	--	--	--	--	--	--
AUG											
18...	<0.010	--	<0.050	0.010	0.39	0.40	0.020	<0.010	--	5	5
18...	--	--	--	--	--	--	--	--	--	--	--
18...	<0.010	--	<0.050	0.050	0.25	0.30	<0.010	<0.010	--	20	240
18...	--	--	--	--	--	--	--	--	--	--	--
18...	<0.010	--	<0.050	2.90	0.80	3.7	0.360	0.310	0.95	2400	4200

SAN JACINTO RIVER MAIN STEM
08067600 LAKE CONROE NEAR CONROE, TX--Continued

302714095372201 - LAKE CONROE SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
28...	1215	1.00	180	7.9	13.5	0.55	8.0	77
28...	1217	10.0	185	7.9	13.5	--	7.8	75
28...	1219	20.0	185	8.0	13.5	--	8.2	79
28...	1221	25.0	185	8.0	13.5	--	8.2	79
JUN								
27...	1235	1.00	195	8.1	30.5	1.00	6.7	90
27...	1237	10.0	195	7.8	30.0	--	5.9	78
27...	1239	23.0	200	7.6	29.5	--	2.4	32
AUG								
18...	1312	1.00	200	8.7	30.5	0.80	7.0	94
18...	1314	10.0	200	7.6	30.0	--	3.0	40
18...	1316	20.0	215	7.3	29.5	--	3.0	39

303129095360501 - LAKE CONROE SITE GC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LITY WAT WH TOT FET FIELD MG/L AS CACO3	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
FEB												
28...	1300	1.00	120	7.4	33	14.5	0.35	6.9	68	35	2	12
28...	1302	10.0	105	7.4	--	14.0	--	6.4	62	--	--	--
28...	1304	20.0	105	7.4	--	14.0	--	6.3	61	--	--	--
28...	1306	30.0	105	7.5	31	14.0	--	6.3	61	35	4	12
JUN												
27...	1330	1.00	205	8.0	72	31.5	0.50	6.5	88	68	0	24
27...	1332	10.0	205	7.8	--	31.5	--	6.3	86	--	--	--
27...	1334	15.0	205	7.8	--	31.0	0.50	5.9	80	--	--	--
27...	1336	20.0	205	7.8	--	31.0	--	5.5	74	--	--	--
27...	1338	28.0	205	7.8	71	31.0	--	5.4	73	58	0	19
AUG												
18...	1350	1.00	210	8.3	65	31.0	0.60	5.9	80	71	6	25
18...	1352	10.0	210	7.6	--	30.0	--	3.9	52	--	--	--
18...	1354	20.0	210	7.5	--	30.0	--	3.5	46	--	--	--
18...	1356	26.0	215	7.6	66	30.0	--	4.2	56	71	5	25

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
FEB											
28...	1.2	6.4	0.5	2.6	33	6.2	10	<0.10	9.7	69	0.062
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	1.2	6.4	0.5	2.7	31	5.8	10	<0.10	10	67	0.055
JUN											
27...	2.0	13	0.7	3.0	72	6.5	19	0.20	8.6	120	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	2.6	17	1	4.4	71	6.6	20	0.20	9.2	122	--
AUG											
18...	2.1	13	0.7	3.1	65	5.0	20	0.20	9.4	117	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	2.0	13	0.7	3.1	66	4.8	21	0.20	8.9	118	--

SAN JACINTO RIVER MAIN STEM

35

08067600 LAKE CONROE NEAR CONROE, TX--Continued

303129095360501 - LAKE CONROE SITE GC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB											
28...	<0.010	0.062	0.062	0.080	0.52	0.60	0.050	0.040	0.12	120	27
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	<0.010	0.055	0.055	0.090	0.61	0.70	0.050	0.040	0.12	200	46
JUN											
27...	<0.010	--	<0.050	0.020	0.38	0.40	0.010	<0.010	--	9	5
27...	--	--	--	--	--	--	--	--	--	--	--
27...	<0.010	--	<0.050	0.020	0.38	0.40	0.030	<0.010	--	<10	10
27...	--	--	--	--	--	--	--	--	--	--	--
27...	<0.010	--	<0.050	0.020	0.48	0.50	0.020	<0.010	--	12	25
AUG											
18...	<0.010	--	<0.050	0.010	0.49	0.50	0.020	<0.010	--	95	4
18...	<0.010	--	<0.050	0.020	0.38	0.40	0.020	<0.010	--	10	20
18...	--	--	--	--	--	--	--	--	--	--	--
18...	<0.010	--	<0.050	0.050	0.55	0.60	0.050	<0.010	--	<3	41

SAN JACINTO RIVER MAIN STEM

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

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

DRAINAGE AREA.--451 mi².

PERIOD OF RECORD.--August 1972 to 1989 (discharge for periods of outflow from Lake Conroe only), Oct. 1989 to Sept. 1993 (daily discharges 10 ft³/s or greater). Oct. 1993 to Sept. 1994 (daily discharges 100 ft³/s or greater).

Water-quality records.--Chemical, biochemical and pesticide analyses: October 1972 to September 1986, and October 1987 to August 1989.

GAGE.--Water-stage recorder. Datum of gage is 116.06 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Daily discharges below 100 ft³/s are not published.

AVERAGE DISCHARGE.--17 years (water years 1973-89), 226 ft³/s (163,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,780 ft³/s May 22, 1983 (gage height, 35.50 ft); no flow for many days.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,690 ft³/s Feb. 22 at 1800 hours (gage height, 25.69 ft).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e835	1420	---	e420	---	---	---	---
2	---	---	---	---	e445	1420	---	e210	---	---	---	---
3	---	---	---	---	e420	1370	---	e210	---	---	---	---
4	---	---	---	---	e300	1360	---	e210	---	---	---	---
5	---	---	---	---	---	1060	---	e210	---	---	---	---
6	---	---	---	---	---	284	---	e210	---	---	---	---
7	---	---	---	---	---	170	---	---	---	---	---	---
8	---	---	---	---	---	168	---	---	---	---	---	---
9	---	---	---	---	e420	e660	---	---	---	---	---	---
10	---	---	---	---	e425	940	---	e200	---	---	---	---
11	---	---	---	---	e425	900	---	e420	---	---	---	---
12	---	---	---	---	e425	636	---	e420	---	---	---	---
13	---	---	---	---	e425	354	---	e410	---	---	---	---
14	---	---	---	---	e465	213	---	e800	---	---	---	---
15	---	---	---	---	e210	377	e335	e1060	---	---	---	---
16	---	---	---	---	e210	698	e420	e1060	---	---	---	---
17	---	---	---	---	210	328	e420	e1060	---	---	---	---
18	---	---	---	---	224	---	e420	e1060	---	---	---	---
19	---	---	---	---	223	---	e420	e900	---	---	---	---
20	---	---	---	---	317	---	e250	e200	---	---	---	---
21	---	---	---	---	590	---	---	---	---	---	---	---
22	---	---	---	---	1140	---	---	---	---	---	122	---
23	---	---	---	---	1550	---	---	---	---	---	---	---
24	---	---	---	---	1490	---	---	---	---	---	---	---
25	---	---	---	---	1430	---	---	---	---	---	---	---
26	---	---	---	---	1460	---	---	---	---	---	---	---
27	---	---	---	e215	1390	---	---	---	---	---	---	---
28	---	---	---	e215	1380	---	---	---	---	---	---	---
29	---	---	---	e430	---	---	---	---	---	---	---	---
30	---	---	---	e430	---	---	e200	---	---	---	---	---
31	---	---	---	e430	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
MED	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

SAN JACINTO RIVER MAIN STEM

37

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

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

DRAINAGE AREA.--828 mi².

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--No estimated daily discharges. Records good. Since Jan. 9, 1973, flow regulated by Lake Conroe (station 08067600), capacity 532,000 acre-ft, 14.5 mi upstream from station. There are no large diversions above station. Rain gage and satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--36 years (water years 1925-27, 1940-72) prior to regulation by Lake Conroe, 477 ft³/s (345,600 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925-27, 1940-72).--Maximum discharge, 110,000 ft³/s Nov. 25, 1940 (gage height, 30.85 ft), present datum, from rating curve extended above 43,000 ft³/s on basis of velocity-area studies; no flow June 14, 1956, and Sept. 19 to Oct. 1, 1965, result of temporary dams. Maximum stage since at least December 1913, that of Nov. 25, 1940.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	50	51	74	1030	1840	63	460	54	30	20	45
2	24	44	49	72	877	2150	60	429	50	28	20	38
3	23	52	55	82	542	1910	57	450	52	27	20	39
4	24	54	531	79	510	2070	60	352	69	26	23	34
5	24	49	253	74	342	1720	56	323	55	27	38	33
6	25	45	184	61	115	637	278	300	46	30	64	41
7	24	47	293	60	78	421	113	254	42	29	31	41
8	24	42	209	87	72	381	74	96	38	27	44	36
9	24	47	117	52	152	1210	66	69	41	25	81	34
10	24	44	103	49	829	1630	62	61	122	27	34	35
11	24	41	88	58	1020	1520	58	336	105	27	28	46
12	154	41	75	55	782	1430	69	426	71	27	25	46
13	181	40	85	50	674	837	64	515	59	25	24	43
14	74	128	97	52	569	600	57	1280	51	24	22	42
15	51	134	82	49	388	475	57	1760	45	24	22	40
16	40	480	71	46	318	1110	382	2170	44	23	22	36
17	34	739	270	54	293	875	1100	2080	48	22	25	32
18	32	609	330	77	272	298	1130	1550	47	23	29	29
19	31	582	499	54	268	198	577	1270	94	23	24	28
20	229	529	525	49	395	153	459	589	71	24	21	29
21	815	286	554	47	915	128	135	172	67	23	25	28
22	217	131	680	46	1890	111	105	107	79	23	737	28
23	107	93	690	46	3360	101	160	85	46	23	663	26
24	76	78	601	49	2930	96	112	73	80	22	173	28
25	103	69	675	50	3000	90	82	64	62	22	107	26
26	82	76	747	49	2510	84	69	58	45	22	70	26
27	59	74	605	180	1810	83	60	53	38	22	59	24
28	49	59	519	780	1630	93	52	50	34	21	50	24
29	48	54	313	1420	---	90	48	47	33	21	42	24
30	98	52	116	1990	---	69	152	84	31	20	38	24
31	79	---	83	1350	---	66	---	68	---	20	38	---
TOTAL	2824	4769	9550	7241	27571	22476	5817	15631	1719	757	2619	1005
MEAN	91.1	159	308	234	985	725	194	504	57.3	24.4	84.5	33.5
MAX	815	739	747	1990	3360	2150	1130	2170	122	30	737	46
MIN	23	40	49	46	72	66	48	47	31	20	20	24
AC-FT	5600	9460	18940	14360	54690	44580	11540	31000	3410	1500	5190	1990

SAN JACINTO RIVER MAIN STEM

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1994#, BY WATER YEAR (WY)

MEAN	256	465	604	811	926	629	784	829	714	132	81.2	271
MAX	1446	2080	2064	2559	3258	1687	4185	4153	2609	392	368	1945
(WY)	1974	1975	1977	1991	1992	1992	1979	1983	1979	1989	1983	1979
MIN	18.8	25.7	31.4	44.5	44.2	41.7	38.8	37.6	32.1	19.6	18.9	21.0
(WY)	1991	1991	1981	1981	1981	1981	1978	1978	1990	1978	1981	1990

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1973 - 1994#

ANNUAL TOTAL	261318		101979		539	
ANNUAL MEAN	716		279		1305	1979
HIGHEST ANNUAL MEAN					226	1981
LOWEST ANNUAL MEAN					29400	May 22 1983
HIGHEST DAILY MEAN	8760	Jan 22	3360	Feb 23	11	Aug 20 1981
LOWEST DAILY MEAN	23	Aug 8	20	Jul 30	11	Aug 18 1981
ANNUAL SEVEN-DAY MINIMUM	24	Oct 2	20	Jul 28	38500	Apr 18 1979
INSTANTANEOUS PEAK FLOW			4190	Feb 22	24.71	Apr 18 1979
INSTANTANEOUS PEAK STAGE			15.68	Feb 22		
ANNUAL RUNOFF (AC-FT)	518300		202300		390400	
10 PERCENT EXCEEDS	2800		795		1520	
50 PERCENT EXCEEDS	103		64		99	
90 PERCENT EXCEEDS	26		24		25	

Period of regulated streamflow.

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1959 to current year. Pesticide analyses: May 1975 to June 1982. Sediment records: February 1966 to September 1967, October 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1961 to September 1990.

WATER TEMPERATURE: October 1961 to September 1990.

DISSOLVED OXYGEN: August 1979 to May 1981.

INSTRUMENTATION.--From August 1979 to May 1981, a three-parameter water-quality monitor recorded specific conductance, water temperature, and dissolved oxygen at this station. From June 1981 to September 1990 specific conductance and water temperature were recorded continuously at this station.

REMARKS.--Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 970 microsiemens Aug. 17, 1990; minimum, 40 microsiemens Nov. 24, 1985.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML)	
DEC 13...	1150	76	274	7.3	16.0	17	9.0	92	0.3	220	210	
MAY 24...	1122	71	400	7.8	22.5	5.0	7.4	86	1.4	66	190	
JUL 20...	1000	23	790	6.9	27.0	3.1	6.8	86	1.1	190	230	
SEP 01...	0900	41	766	7.5	25.5	20	11.6	142	1.4	1500	180	
DATE		HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS C03)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HC03)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS S04)
DEC 13...	64	12	21	2.8	28	2	3.8	0	64	52	14	
MAY 24...	85	18	29	3.1	41	2	3.8	0	82	68	14	
JUL 20...	84	0	27	4.0	120	6	6.5	0	126	103	32	
SEP 01...	81	0	26	3.9	120	6	5.8	0	104	85	28	
DATE		CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, 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 CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
DEC 13...	36	0.20	18	169	162	1.28	1.28	0.020	1.30	1.30	0.040	
MAY 24...	64	0.20	19	252	222	1.50	--	<0.010	1.50	1.50	0.030	
JUL 20...	150	0.40	22	454	446	4.18	4.18	0.020	4.20	4.20	0.090	
SEP 01...	160	0.40	19	433	434	3.69	3.69	0.010	3.70	3.70	0.040	
DATE		NITRO-GEN, 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)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)
DEC 13...	1.7	0.36	0.40	0.300	0.210	0.220	0.67	19	3.9	98	40	
MAY 24...	2.0	0.47	0.50	0.350	0.300	0.290	0.89	19	3.6	98	30	
JUL 20...	4.8	0.51	0.60	0.960	0.920	0.940	2.9	19	1.2	98	20	
SEP 01...	4.2	0.46	0.50	0.810	0.780	0.800	2.5	34	3.8	99	60	

SAN JACINTO RIVER MAIN STEM

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
DEC 13...	72	<3	210	5	100	<10	1	<1	<1.0	120	<6
MAY 24...	95	4	110	7	97	<10	1	<1	<1.0	160	<6
JUL 20...	75	<3	47	16	71	10	1	<1	<1.0	320	<6
SEP 01...	82	<3	150	11	73	<10	<1	<1	<1.0	270	<6

SAN JACINTO RIVER MAIN STEM

41

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

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

DRAINAGE AREA.--962 mi².

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Records good, except those for estimated daily discharges, which are fair. There is considerable regulation during high flow periods by Lake Conroe (capacity 532,000 acre-ft) 34.3 mi upstream. During periods of low base flow into Lake Houston, occasional releases are made from Lake Conroe in order to maintain water levels in Lake Houston, which has several large diversions. There are no large diversions upstream from station. There is only minor sewage effluent being discharged by the city of Conroe and by other smaller communities into the river upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e26	105	84	134	1250	2120	103	607	76	46	28	74
2	e25	73	79	119	1110	2790	99	652	65	45	27	90
3	e24	67	80	111	758	2430	96	750	74	44	28	282
4	e25	84	685	126	622	2220	89	677	88	42	31	140
5	e25	82	622	110	540	2440	111	512	95	40	39	72
6	e26	68	300	109	306	1490	261	463	72	141	143	58
7	e25	62	324	92	171	756	402	418	59	67	86	62
8	e25	62	351	103	152	585	158	268	51	51	57	57
9	e25	60	232	110	143	3150	119	126	47	44	162	53
10	e24	65	183	83	1670	3040	102	102	133	42	142	50
11	e24	59	168	106	2810	2140	95	199	183	42	81	54
12	75	55	140	121	1560	1970	103	641	127	40	46	63
13	504	55	128	97	1180	1370	116	636	96	41	37	58
14	267	77	146	82	966	991	100	2260	81	39	36	61
15	135	388	146	79	808	748	177	2100	72	37	33	57
16	89	368	117	77	549	1640	644	2500	62	36	34	51
17	65	1630	157	75	470	1500	1110	2600	59	34	31	46
18	54	917	349	93	443	784	1620	2080	79	31	66	43
19	53	807	459	97	421	460	1020	1680	82	31	41	38
20	83	710	549	78	487	366	729	1180	137	37	34	36
21	1390	528	599	71	2230	278	439	458	119	33	32	36
22	692	288	656	69	2360	228	170	209	126	32	265	35
23	308	190	824	73	6670	202	205	149	104	30	1720	33
24	182	151	709	73	4300	184	226	116	99	33	553	33
25	135	128	685	76	3720	184	148	94	117	28	218	35
26	162	117	813	83	3600	167	114	82	84	28	136	32
27	115	123	736	160	2530	155	96	77	63	28	90	31
28	90	112	612	940	2030	147	82	70	55	28	75	30
29	84	93	462	1310	---	160	72	66	52	27	60	29
30	115	86	278	1980	---	130	70	71	48	28	53	28
31	157	---	158	1750	---	109	---	124	---	29	47	---
TOTAL	5029	7610	11831	8587	43856	34934	8876	21967	2605	1254	4431	1767
MEAN	162	254	382	277	1566	1127	296	709	86.8	40.5	143	58.9
MAX	1390	1630	824	1980	6670	3150	1620	2600	183	141	1720	282
MIN	24	55	79	69	143	109	70	66	47	27	27	28
AC-FT	9980	15090	23470	17030	86990	69290	17610	43570	5170	2490	8790	3500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1994, BY WATER YEAR (WY)

	MEAN	226	499	823	1150	1241	957	732	865	1043	166	86.0	89.9
MAX	1453	2259	1881	2726	3763	2041	2229	2174	3169	536	164	166	166
(WY)	1985	1986	1992	1992	1992	1992	1991	1993	1993	1989	1989	1986	1986
MIN	22.2	29.8	42.7	167	351	117	73.0	59.4	42.0	40.5	30.5	33.5	33.5
(WY)	1991	1991	1990	1986	1988	1986	1986	1988	1990	1994	1990	1990	1990

SUMMARY STATISTICS

	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1985 - 1994
ANNUAL TOTAL	371014	152747	
ANNUAL MEAN	1016	418	653
HIGHEST ANNUAL MEAN			1205
LOWEST ANNUAL MEAN			309
HIGHEST DAILY MEAN	21400	6670	21400
LOWEST DAILY MEAN	24	24	18
ANNUAL SEVEN-DAY MINIMUM	25	25	19
INSTANTANEOUS PEAK FLOW		7400	30000
INSTANTANEOUS PEAK STAGE		22.62	29.76
ANNUAL RUNOFF (AC-FT)	735900	303000	472900
10 PERCENT EXCEEDS	3490	1330	2030
50 PERCENT EXCEEDS	183	110	126
90 PERCENT EXCEEDS	39	33	34

e Estimated

SAN JACINTO RIVER MAIN STEM

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: February 1984 to current year. Pesticide analyses: February 1984 to September 1990.

INSTRUMENTATION.--Stage-activated water-sampler since January 1985 provides water-quality samples over selected runoff events.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECA, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECA, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CaCO3)	
FEB 01...	1225	1240	206	7.4	9.0	10.8	93	620	190	63	
JUN 23...	0841	105	315	7.3	27.5	6.0	76	190	210	67	
AUG 15...	1325	34	609	8.4	33.5	8.1	113	110	20	83	
DATE		HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB 01...	7	22	2.0	13	0.7	3.2	56	7.2	21	<0.10	
JUN 23...	0	22	3.0	36	2	3.5	77	13	46	0.20	
AUG 15...	6	27	3.9	85	4	4.9	77	24	120	0.30	
DATE		SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
FEB 01...	5.8	109	0.260	0.260	0.020	0.280	0.280	0.060	1.1	0.74	
JUN 23...	13	187	0.830	0.830	0.020	0.850	0.850	0.060	1.5	0.54	
AUG 15...	19	335	0.850	0.850	0.020	0.870	0.870	0.040	1.4	0.46	
DATE		NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB 01...	0.74	0.80	0.80	0.110	0.040	0.030	0.09	11	80	10	
JUN 23...	0.44	0.50	0.60	0.240	0.160	0.160	0.49	8.2	230	20	
AUG 15...	0.56	0.60	0.50	0.420	0.370	0.280	0.86	5.5	12	33	

SAN JACINTO RIVER BASIN

43

08068520 SPRING CREEK AT SPRING, TX

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

DRAINAGE AREA.--419 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

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

REMARKS.--Records fair. No known diversions above station. Rain gage at station. Radio telemeter at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 23	1100	3,560	14.85	Mar. 9	1900	3,200	14.09

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	e42	31	34	79	221	50	53	52	43	23	155
2	19	e40	30	33	63	258	48	118	51	41	23	77
3	20	e38	33	33	55	308	45	504	83	38	23	51
4	46	e36	214	33	50	353	44	504	88	35	30	41
5	30	e35	303	32	47	196	71	535	73	34	172	36
6	23	e33	296	32	44	147	230	311	55	35	94	36
7	20	e31	126	31	42	126	115	128	47	35	51	35
8	20	e30	85	31	40	113	75	89	38	39	57	34
9	19	e28	65	29	52	2020	60	74	32	42	75	36
10	18	27	84	30	1350	2040	53	64	29	50	90	45
11	18	26	75	155	1340	869	48	58	62	44	108	78
12	173	25	86	72	556	570	53	54	188	49	70	59
13	313	24	77	50	341	285	49	322	78	49	50	63
14	140	156	61	41	212	184	46	851	46	41	41	70
15	60	194	50	37	151	502	177	657	33	36	38	72
16	51	422	46	35	110	627	165	1070	27	32	42	67
17	39	1150	42	35	83	530	92	1390	26	28	42	61
18	35	552	42	35	69	338	139	1830	30	27	44	47
19	30	468	41	33	63	191	78	1670	37	27	33	39
20	303	185	40	33	419	136	48	705	95	26	29	34
21	834	99	39	33	1990	116	67	211	377	26	28	29
22	400	74	53	33	1900	99	71	138	159	26	253	27
23	222	60	65	32	3390	89	64	108	296	25	362	25
24	94	53	59	32	2890	82	57	89	151	24	210	24
25	65	45	71	35	3050	78	54	77	80	24	170	22
26	50	41	58	45	1630	72	54	65	67	24	100	22
27	40	37	48	259	466	70	52	59	59	23	63	22
28	35	37	43	400	240	68	47	54	56	23	51	21
29	42	35	40	142	---	64	43	50	49	23	44	20
30	59	34	38	190	---	58	46	56	46	23	41	22
31	e44	---	35	116	---	54	---	53	---	23	92	---
TOTAL	3281	4057	2376	2161	20722	10864	2241	11947	2510	1015	2549	1370
MEAN	106	135	76.6	69.7	740	350	74.7	385	83.7	32.7	82.2	45.7
MAX	834	1150	303	400	3390	2040	230	1830	377	50	362	155
MIN	18	24	30	29	40	54	43	50	26	23	23	20
AC-FT	6510	8050	4710	4290	41100	21550	4450	23700	4980	2010	5060	2720
CFSM	.25	.32	.18	.17	1.77	.84	.18	.92	.20	.08	.20	.11
IN.	.29	.36	.21	.19	1.84	.96	.20	1.06	.22	.09	.23	.12

SAN JACINTO RIVER BASIN

08068520 SPRING CREEK AT SPRING, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1994, BY WATER YEAR (WY)

MEAN	106	258	235	330	361	217	360	364	303	96.1	72.4	118
MAX	1205	2536	1949	1710	1932	936	2106	1541	1519	577	1208	1184
(WY)	1974	1941	1941	1979	1992	1941	1979	1993	1973	1946	1945	1979
MIN	3.06	3.55	8.88	4.52	13.1	11.6	13.2	9.10	6.57	5.58	2.84	3.86
(WY)	1957	1957	1957	1957	1957	1971	1971	1956	1971	1956	1956	1956

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1940 - 1994

ANNUAL TOTAL	158863		65093			
ANNUAL MEAN	435		178			
HIGHEST ANNUAL MEAN					234	
LOWEST ANNUAL MEAN					819	1941
HIGHEST DAILY MEAN	8860	May 8	3390	Feb 23	13.4	1956
LOWEST DAILY MEAN	18	Oct 10	18	Oct 10	31500	Nov 25 1940
ANNUAL SEVEN-DAY MINIMUM	19	Sep 27	21	Oct 5	1.1	Oct 23 1956
INSTANTANEOUS PEAK FLOW			3560	Feb 23	1.6	Oct 20 1956
INSTANTANEOUS PEAK STAGE			14.85	Feb 23	42700	Nov 25 1940
ANNUAL RUNOFF (AC-FT)	315100		129100		33.60	Nov 25 1940
ANNUAL RUNOFF (CFSM)	1.04		.43		169300	
ANNUAL RUNOFF (INCHES)	14.10		5.78		.56	
10 PERCENT EXCEEDS	1290		368		7.58	
50 PERCENT EXCEEDS	98		53		416	
90 PERCENT EXCEEDS	28		27		42	
					11	

e Estimated

SAN JACINTO RIVER BASIN

45

08068520 SPRING CREEK AT SPRING, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: August 1983 to current year. Pesticide analyses: August 1983 to September 1990.

INSTRUMENTATION.--Stage-activated water sampler since October 1984 provides water-quality samples over selected runoff events.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

		DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CAC03)
JAN 31...	1247	106	309	7.5	10.0	10.3	89	880	330	58
JUN 22...	1135	147	217	7.4	27.0	6.6	83	700	350	39
AUG 16...	1048	41	448	7.8	27.5	7.1	90	150	80	56
DATE	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN 31...	6	18	3.2	37	2	3.4	52	10	53	0.10
JUN 22...	0	12	2.2	28	2	3.7	51	8.1	27	0.20
AUG 16...	0	17	3.2	68	4	5.5	94	14	62	0.30
DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
JAN 31...	13	176	1.37	1.37	0.030	1.40	1.40	0.090	2.0	0.51
JUN 22...	8.5	127	-1.18	1.18	0.020	1.20	1.20	0.070	2.1	0.83
AUG 16...	16	266	4.65	4.65	0.050	4.70	4.70	0.080	5.4	0.62
DATE	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN 31...	0.51	0.60	0.60	0.300	0.240	0.240	0.74	8.7	420	45
JUN 22...	0.63	0.70	0.90	0.470	0.330	0.340	1.0	11	380	18
AUG 16...	0.72	0.80	0.70	1.00	0.950	0.880	2.7	7.2	91	42

SAN JACINTO RIVER BASIN

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

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

DRAINAGE AREA.--110 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. A concrete weir located 0.9 mi downstream from the gage, washed out on Aug. 11, 1991. Datum of gage is 100.00 ft above National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversions and return flow for irrigation occur upstream from station. Radio telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	4.6	1.4	1.4	10	23	.70	e1.0	11	.39	38	.72
2	.00	4.1	1.3	.89	3.0	24	.48	e3.6	2.8	.18	31	.50
3	.00	4.3	2.3	.54	2.2	18	.39	e13	2.5	.06	26	5.7
4	.00	4.8	.77	.34	1.6	6.1	.35	e30	6.1	.00	34	20
5	.00	6.1	148	.24	1.5	4.1	.46	e50	35	.00	53	9.8
6	.00	7.2	35	.12	1.3	4.3	2.6	e20	22	.00	47	7.4
7	.00	6.9	14	.08	1.0	3.2	13	e5.0	4.1	.00	35	7.0
8	.00	5.4	6.2	.08	.79	2.3	4.0	e2.0	.73	.00	34	11
9	.00	4.5	3.0	.08	.82	137	1.8	e.90	2.9	.00	37	18
10	.00	3.3	2.2	.08	43	245	.38	e1.5	9.8	35	60	14
11	.00	2.5	1.1	.20	6.4	76	.10	e2.5	14	129	64	23
12	.00	1.6	7.6	1.4	46	36	e.12	e1.9	11	17	42	21
13	17	2.1	3.5	1.3	23	18	e.12	e5.0	29	1.8	22	19
14	42	2.4	2.2	2.8	11	9.6	e.12	e46	33	.17	13	21
15	7.9	7.4	.80	2.9	3.1	6.2	e.10	e100	4.5	.04	9.4	18
16	1.3	73	.42	1.5	.59	6.7	e1.0	e500	.13	.90	10	19
17	1.8	259	.42	1.1	2.9	9.7	e5.3	e700	.05	.12	11	11
18	2.0	94	.48	1.3	1.3	7.1	e34	e500	.19	.05	23	4.4
19	1.5	33	.60	1.6	3.4	3.6	e8.6	e300	.12	4.4	12	2.3
20	15	12	.62	3.8	61	2.2	e3.7	e100	1.3	8.1	7.6	1.5
21	226	5.6	.62	3.9	256	1.8	e6.6	e60	11	10	6.3	.46
22	110	3.2	2.7	2.7	255	2.1	e3.7	e30	17	1.2	17	.07
23	27	3.6	6.9	2.0	413	1.8	e3.0	e13	69	.24	33	.00
24	14	3.3	7.3	1.8	308	1.4	e2.0	e10	41	12	37	.00
25	9.8	2.7	7.3	1.6	123	1.6	e1.0	e8.0	24	11	27	.00
26	6.7	2.2	6.0	1.6	64	1.3	e.82	e6.8	11	23	15	.26
27	4.1	1.6	4.9	11	42	1.4	e.79	e7.8	1.3	27	11	.35
28	3.0	1.4	4.0	14	26	1.9	e.60	e5.8	.78	23	8.3	.48
29	3.4	1.4	3.2	12	---	1.5	e.58	e3.0	1.3	17	3.2	.08
30	6.4	1.4	2.5	11	---	1.6	e.55	e8.0	.89	25	.74	.00
31	5.7	---	1.9	8.7	---	1.0	---	e23	---	37	1.3	---
TOTAL	504.64	564.6	355.46	92.05	1768.50	659.5	96.96	2557.80	367.49	383.65	768.84	236.02
MEAN	16.3	18.8	11.5	2.97	63.2	21.3	3.23	82.5	12.2	12.4	24.8	7.87
MAX	226	259	148	14	413	245	34	700	69	129	64	23
MIN	.00	1.4	.42	.08	.59	1.0	.10	.90	.05	.00	.74	.00
AC-FT	1000	1120	705	183	3510	1310	192	5070	729	761	1520	468

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1994, BY WATER YEAR (WY)

	24.8	57.0	78.2	109	95.6	43.2	68.7	99.8	106	19.3	4.89	32.8
MEAN	186	229	257	508	534	196	344	377	375	98.7	24.8	358
MAX	1981	1986	1977	1979	1992	1992	1991	1993	1987	1979	1994	1979
(WY)	.090	.091	.000	.85	.000	.55	.10	1.02	.22	.17	.019	.010
MIN	1989	1978	1989	1990	1976	1982	1987	1978	1988	1988	1988	1988
(WY)												

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1976 - 1994

ANNUAL TOTAL	40294.39	8355.51	61.8
ANNUAL MEAN	110	22.9	186
HIGHEST ANNUAL MEAN			5.01
LOWEST ANNUAL MEAN			1979
HIGHEST DAILY MEAN	1430	700	2240
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		709	2370
INSTANTANEOUS PEAK STAGE		55.88	61.05
ANNUAL RUNOFF (AC-FT)	79920	16570	44770
10 PERCENT EXCEEDS	334	42	123
50 PERCENT EXCEEDS	7.4	3.8	2.9
90 PERCENT EXCEEDS	.16	.12	.00

e Estimated

SAN JACINTO RIVER BASIN

47

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

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

DRAINAGE AREA---131 mi².

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

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

REMARKS---No estimated daily discharges. Records good. Stage discharge relationship affected by seasonal vegetal growth during most years. Considerable diversions and return flow from irrigation occurs upstream from station, especially during the period April through October.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.63	7.2	1.8	1.6	3.7	24	1.8	1.4	13	1.0	.18	1.5
2	.43	5.5	1.6	1.5	2.7	23	1.5	18	10	.82	.44	2.3
3	.44	5.9	3.0	1.3	1.5	18	1.4	43	14	.70	1.9	1.2
4	.57	7.0	84	1.1	1.4	11	1.2	58	5.5	.63	100	6.7
5	.47	7.0	148	1.1	1.3	8.1	1.9	20	14	.92	84	4.9
6	.48	9.3	49	1.2	1.2	7.4	12	9.6	16	2.0	25	2.1
7	.51	8.1	22	1.1	1.2	6.1	9.0	5.7	7.6	2.5	8.0	1.5
8	.41	7.0	14	.88	1.1	4.7	5.3	3.0	4.9	.90	7.5	1.2
9	.41	7.0	9.8	.98	2.4	220	2.8	1.3	4.7	.40	23	62
10	.45	5.9	7.8	.97	137	266	1.6	2.3	15	3.2	30	20
11	.47	3.8	6.1	1.3	146	87	1.3	2.5	34	53	25	13
12	3.3	3.0	8.1	2.3	62	44	1.4	2.4	25	6.7	16	12
13	49	2.7	7.2	2.7	28	27	1.4	8.7	16	1.6	3.6	7.3
14	54	14	5.1	1.9	16	14	1.4	79	21	4.6	2.6	5.8
15	16	13	3.7	1.5	7.5	10	1.3	179	9.0	7.6	1.7	3.7
16	3.4	252	2.8	1.3	3.1	12	15	806	4.4	6.8	1.1	3.5
17	1.8	428	2.6	1.1	2.3	13	40	879	3.0	3.9	.97	2.8
18	3.6	224	2.6	.89	3.0	9.6	10	790	3.0	1.4	4.6	2.0
19	5.2	70	3.2	.80	2.8	6.0	5.6	598	3.3	.62	3.4	1.4
20	46	25	2.6	.82	123	4.3	5.3	200	5.1	1.6	1.4	.93
21	236	11	2.0	1.9	532	2.9	7.8	98	18	2.7	.85	.47
22	191	6.0	7.0	1.6	374	2.6	4.4	54	8.0	4.1	18	.21
23	46	4.6	7.5	1.3	634	2.8	3.9	31	23	6.5	15	.24
24	23	4.3	5.5	1.2	394	2.3	3.0	20	15	2.0	7.9	.20
25	16	4.5	6.2	1.4	125	3.7	2.0	14	6.0	1.4	5.6	.19
26	14	3.5	4.7	1.6	60	4.2	1.5	11	4.4	1.0	2.6	.22
27	8.7	2.7	3.7	32	36	3.5	1.5	12	2.2	.85	3.6	.21
28	7.9	2.4	3.0	21	23	3.3	1.1	9.1	1.1	.20	2.8	.69
29	14	2.1	2.5	7.2	---	2.8	.82	5.6	1.4	.19	1.9	.26
30	17	2.1	2.1	5.8	---	2.2	.78	11	1.4	.13	1.4	.23
31	11	---	1.6	3.9	---	2.1	---	24	---	.21	.84	---
TOTAL	772.17	1148.6	430.8	105.24	2725.2	847.6	148.00	3996.6	309.0	120.17	400.88	158.75
MEAN	24.9	38.3	13.9	3.39	97.3	27.3	4.93	129	10.3	3.88	12.9	5.29
MAX	236	428	148	32	634	266	40	879	34	53	100	62
MIN	.41	2.1	1.6	.80	1.1	2.1	.78	1.3	1.1	.13	.18	.19
AC-FT	1530	2280	854	209	5410	1680	294	7930	613	238	795	315

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1994, BY WATER YEAR (WY)

	MEAN	33.7	69.8	102	132	121	52.7	92.5	131	147	29.4	17.5	51.9
MAX	226	254	336	685	649	224	463	513	625	120	214	537	
(WY)	1981	1986	1977	1979	1992	1992	1991	1993	1993	1979	1983	1979	
MIN	.95	.27	.26	1.93	.065	1.27	.16	1.95	.93	1.88	1.55	.86	
(WY)	1989	1978	1989	1976	1976	1986	1987	1988	1988	1988	1988	1988	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1976 - 1994

ANNUAL TOTAL	57715.09	11163.01	
ANNUAL MEAN	158	30.6	
HIGHEST ANNUAL MEAN			81.3
LOWEST ANNUAL MEAN			255
HIGHEST DAILY MEAN	2140	879	13.5
LOWEST DAILY MEAN	.41	.13	2550
ANNUAL SEVEN-DAY MINIMUM	.46	.25	.00
INSTANTANEOUS PEAK FLOW		903	.00
INSTANTANEOUS PEAK STAGE		42.17	2590
ANNUAL RUNOFF (AC-FT)	114500	22140	46.33
10 PERCENT EXCEEDS	449	51	58930
50 PERCENT EXCEEDS	12	3.9	176
90 PERCENT EXCEEDS	1.7	.83	5.4
			.25

SAN JACINTO RIVER BASIN

08068780 LITTLE CYPRESS CREEK NEAR CYPRESS, TX
(Flood-hydrograph partial-record station)

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

DRAINAGE AREA.--41.0 mi².

PERIOD OF RECORD.--May 1982 to September 30, 1992 (daily discharges); October 1, 1992 to current year (peak discharges greater than base discharge).

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

REMARKS.--Records good. No known regulation or diversions. Several observations of water temperature were made during the year. Rain gage at station. Radio telemetry at station.

AVERAGE DISCHARGE.--10 years (water years 1983-92) 24.0 ft³/s (17,370 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 3,400 ft³/s Nov. 25, 1987 (gage height 80.49 ft).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 16	1700	627	75.29				

08068800 CYPRESS CREEK AT GRANT ROAD NEAR CYPRESS, TX
(Flood-hydrograph partial-record station)

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

DRAINAGE AREA.--214 mi².

PERIOD OF RECORD.--May 1982 (discharge measurements only), October 1982 to Sept. 30, 1992 (daily discharge); Oct. 1, 1992 to current year (peak discharges greater than base discharge).

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

REMARKS.--Records good. Base flow sustained by effluent from urbanized farming areas in the basin. Several observation of water temperature were made during the year. Radio telemetry at station.

AVERAGE DISCHARGE.--10 years (water years 1983-92) 116 ft³/s (83,910 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,550 ft³/s Nov. 26, 1987 (gage height 43.35 ft), maximum gage height 43.48 ft May 14, 1982, from discharge measurement made by USGS personnel.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 16	0700	1,560	36.23	No peak greater than base discharge.			

SAN JACINTO RIVER BASIN

08068900 CYPRESS CREEK AT STUEBNER-AIRLINE ROAD NEAR WESTFIELD, TX
(Flood-hydrograph partial-record station)

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

DRAINAGE AREA.--248 mi².

PERIOD OF RECORD.--June 1982 to May 1986 and February to September 1987 (gage heights and discharge measurements only).
October 1987 to September 1989 (daily mean discharge). October 1989 to September 1992 (annual maximum gage height and discharge). October 1992 to current year (peak discharges greater than base discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 70.00 ft above National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records fair. Low flow is sustained by sewage effluent from urbanized areas and drainage from irrigated farm land. Rain gage at station. Radio telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,910 ft³/s Oct. 25, 1984 (gage height, 37.88 ft); maximum gage height, 39.15 ft, May 18, 1989.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges above base discharge of 2,000 ft³/s, (revised):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 10	1030	2,580	27.42	May 16	0730	2,310	26.52

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

WATER-DISCHARGE RECORDS

REVISID RECORDS.--WSP 1732: Drainage area.

REMARKS.--No estimated daily discharges. Records good. Low flow is maintained by sewage effluent. Channel below gage was rectified in 1950-51, 1975, and 1981. Rain gage at station. Radio telemetry at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 10	1200	4,270	17.10	May 16	1100	2,510	12.22
Feb. 22	1800	2,540	12.37				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	58	22	27	33	133	31	55	63	28	30	238
2	24	48	21	25	30	87	34	173	47	26	23	69
3	49	59	42	25	29	76	35	386	129	26	67	25
4	46	50	299	24	27	63	35	131	80	25	66	27
5	25	44	149	23	26	51	117	111	45	26	390	19
6	23	42	155	23	27	45	255	53	40	26	184	24
7	23	54	80	22	26	47	61	36	45	25	74	22
8	28	52	55	21	25	45	43	30	33	33	67	19
9	33	64	42	22	72	1540	38	28	28	96	85	298
10	22	45	76	26	2170	955	32	24	136	69	109	523
11	23	40	38	215	856	460	33	22	279	41	77	175
12	24	36	29	56	294	207	60	21	202	123	61	65
13	240	30	49	32	169	116	24	446	98	53	43	56
14	117	333	38	28	98	78	32	659	51	33	29	61
15	90	149	29	25	71	192	407	400	49	31	96	34
16	62	901	26	28	54	82	146	1950	36	40	91	23
17	42	919	30	29	43	57	92	1750	121	40	35	21
18	35	460	47	28	38	50	80	1140	188	40	35	17
19	29	220	55	27	34	45	43	841	79	32	22	18
20	526	108	36	25	368	39	35	568	342	26	19	16
21	704	65	29	23	1620	36	30	295	401	24	78	14
22	358	46	145	23	1410	32	32	176	117	24	217	14
23	195	36	78	26	1490	30	37	105	248	28	261	13
24	92	32	43	34	843	28	29	71	185	46	149	12
25	68	24	36	45	483	27	29	51	169	36	75	13
26	53	25	31	43	243	26	24	43	86	32	37	15
27	52	26	31	650	144	27	23	40	79	27	29	17
28	51	25	37	276	98	29	21	38	69	26	24	14
29	112	25	32	93	---	28	21	34	33	30	23	24
30	122	26	25	54	---	33	79	70	29	28	21	19
31	67	---	25	41	---	33	---	43	---	30	31	---
TOTAL	3358	4042	1830	2039	10821	4697	1958	9790	3507	1170	2548	1905
MEAN	108	135	59.0	65.8	386	152	65.3	316	117	37.7	82.2	63.5
MAX	704	919	299	650	2170	1540	407	1950	401	123	390	523
MIN	22	24	21	21	25	26	21	21	28	24	19	12
AC-FT	6660	8020	3630	4040	21460	9320	3880	19420	6960	2320	5050	3780

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1994, BY WATER YEAR (WY)

MEAN	134	167	183	234	236	106	209	282	256	88.8	58.3	128
MAX	1198	1788	931	1168	1322	516	1133	1260	1157	588	562	862
(WY)	1950	1947	1992	1979	1992	1993	1973	1953	1960	1960	1945	1961
MIN	.13	.023	.15	.60	1.39	.21	1.50	1.77	1.64	.26	.087	1.21
(WY)	1957	1956	1951	1951	1951	1956	1963	1956	1958	1958	1948	1956

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1945 - 1994

ANNUAL TOTAL	130571		47665						
ANNUAL MEAN	358		131			173			
HIGHEST ANNUAL MEAN						510			1992
LOWEST ANNUAL MEAN						7.53			1956
HIGHEST DAILY MEAN	4240	Jun 21	2170	Feb 10		15600		Oct 8	1949
LOWEST DAILY MEAN	20	Sep 29	12	Sep 24		.00		Aug 3	1948
ANNUAL SEVEN-DAY MINIMUM	24	Nov 26	14	Sep 20		.00		Aug 3	1948
INSTANTANEOUS PEAK FLOW			4270	Feb 10		22100		Oct 8	1949
INSTANTANEOUS PEAK STAGE			17.10	Feb 10		33.44		Oct 8	1949
ANNUAL RUNOFF (AC-FT)	259000		94540			125200			
10 PERCENT EXCEEDS	1200		294			395			
50 PERCENT EXCEEDS	77		42			25			
90 PERCENT EXCEEDS	29		23			1.3			

SAN JACINTO RIVER BASIN

08069000 CYPRESS CREEK NEAR WESTFIELD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: March 1959 to April 1964, October 1977 to June 1978, August 1983 to current year. Chemical and biochemical analyses: August 1983 to current year. Pesticide analyses: August 1983 to September 1990. Sediment analyses: October 1976 to September 1979, October to April 1990.

INSTRUMENTATION.--Stage-activated water sampler since October 1984 provides water-quality samples over selected runoff events.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECA, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOC CI FECA, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CaCO3)
JAN 31...	1018	41	485	7.8	11.0	9.4	83	3300	700	84
JUN 22...	1003	113	270	7.2	26.5	6.1	76	2300	650	56
AUG 16...	0934	44	299	7.6	28.0	3.9	50	2700	780	43
DATE	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CaCO3 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JAN 31...	0	27	4.0	67	3	8.2	110	19	62	0.30
JUN 22...	0	18	2.6	32	2	5.6	71	11	29	0.20
AUG 16...	0	14	2.0	41	3	5.2	72	12	34	0.30
DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
JAN 31...	13	294	4.97	4.97	0.030	5.00	5.00	0.260	6.3	1.0
JUN 22...	9.7	162	1.86	1.86	0.040	1.90	1.90	0.260	3.3	1.1
AUG 16...	9.1	174	2.34	2.34	0.060	2.40	2.40	0.060	3.4	0.94
DATE	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	IRON, DIS-SOLVED (UG/L AS Fe)	MANGA-NESE, DIS-SOLVED (UG/L AS Mn)
JAN 31...	4.3	4.6	1.3	1.40	1.30	1.30	4.0	9.6	180	66
JUN 22...	0.84	1.1	1.4	0.840	0.710	0.700	2.1	11	230	16
AUG 16...	0.84	0.90	1.0	1.00	1.00	0.940	2.9	9.2	48	8

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

Water-quality records.--Chemical analyses: September 1961 to April 1964, January 1968 to September 1989. Biochemical analyses: August 1983 to September 1989. Pesticide analyses: January to August 1984.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 25	0200	2,710	14.37				

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	29	34	47	126	257	61	208	50	30	18	38
2	18	27	34	47	99	713	58	106	45	30	18	128
3	19	30	39	45	84	661	57	283	49	28	18	153
4	19	38	114	43	75	498	55	270	49	27	22	414
5	19	40	143	41	71	255	58	148	44	28	25	412
6	20	34	146	40	67	192	83	114	65	29	31	103
7	19	30	113	41	63	165	141	83	45	28	26	57
8	19	29	72	40	61	148	145	67	39	27	28	42
9	19	30	57	38	68	837	96	63	34	25	67	36
10	20	36	54	38	410	1210	78	78	96	25	57	36
11	21	34	51	42	1100	991	68	309	332	25	50	37
12	20	32	46	71	1300	740	81	378	532	25	33	42
13	24	31	48	55	1190	292	91	184	364	25	27	35
14	29	42	54	47	606	207	290	567	165	25	25	34
15	29	85	49	44	239	187	274	634	174	23	22	33
16	25	133	43	42	169	181	174	398	232	22	22	32
17	24	160	47	46	139	154	130	241	137	21	22	30
18	23	261	56	48	120	138	134	153	89	22	21	28
19	23	213	73	41	109	124	99	109	101	21	19	26
20	38	101	77	42	114	114	77	86	157	24	18	24
21	135	65	73	43	297	106	66	70	109	27	23	23
22	114	50	78	42	961	99	74	61	78	26	27	22
23	82	43	118	40	1830	94	59	54	62	22	29	21
24	60	41	196	42	2290	93	55	50	54	20	28	20
25	42	39	179	45	2560	95	51	46	49	19	32	19
26	35	37	108	55	1500	86	49	44	51	19	28	19
27	30	36	80	140	388	88	46	43	41	18	27	20
28	27	35	67	514	230	87	43	41	36	18	26	20
29	28	35	59	924	---	76	40	50	33	18	23	20
30	34	35	53	516	---	69	174	68	31	18	21	19
31	36	---	50	195	---	65	---	62	---	18	29	---
TOTAL	1069	1831	2411	3454	16266	9022	2907	5068	3343	733	862	1943
MEAN	34.5	61.0	77.8	111	581	291	96.9	163	111	23.6	27.8	64.8
MAX	135	261	196	924	2560	1210	290	634	532	30	67	414
MIN	18	27	34	38	61	65	40	41	31	18	18	19
AC-FT	2120	3630	4780	6850	32260	17900	5770	10050	6630	1450	1710	3850
CFSM	.11	.19	.24	.34	1.79	.90	.30	.50	.34	.07	.09	.20
IN.	.12	.21	.28	.40	1.86	1.03	.33	.58	.38	.08	.10	.22

MEAN	105	271	251	350	388	259	348	320	274	92.7	51.8	86.9
MAX	1031	3101	1613	1712	1336	748	2302	1473	2023	676	939	894
(WY)	1950	1941	1941	1974	1992	1973	1945	1983	1973	1989	1983	1961
MIN	5.61	9.58	14.6	13.0	20.2	17.1	15.5	18.1	12.0	5.70	5.51	4.46
(WY)	1957	1957	1957	1957	1971	1971	1971	1963	1954	1971	1956	1956

ANNUAL TOTAL	106246		48909				
ANNUAL MEAN	291		134			232	
HIGHEST ANNUAL MEAN						733	1941
LOWEST ANNUAL MEAN						22.8	1971
HIGHEST DAILY MEAN	4640	Jan 22	2560	Feb 25		43200	Nov 25 1940
LOWEST DAILY MEAN	17	Sep 30	18	Oct 1		3.0	Aug 23 1956
ANNUAL SEVEN-DAY MINIMUM	18	Sep 26	18	Jul 27		3.2	Aug 19 1956
INSTANTANEOUS PEAK FLOW			2710	Feb 25		59000	Nov 24 1940
INSTANTANEOUS PEAK STAGE			14.37	Feb 25		24.10	Nov 24 1940
ANNUAL RUNOFF (AC-FT)	210700		97010			168000	
ANNUAL RUNOFF (CFSM)		.90		.41			.71
ANNUAL RUNOFF (INCHES)	12.16		5.60			9.69	
10 PERCENT EXCEEDS	774		272			482	
50 PERCENT EXCEEDS	82		49			49	
90 PERCENT EXCEEDS	21		21			13	

SAN JACINTO RIVER BASIN

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX

LOCATION.--Lat 30°08'43", long 95°07'27", Montgomery County, Hydrologic Unit 12040103, on right bank at downstream side of bridge on Farm Road 1485, 1.0 mi upstream from Church House Gully, 5.5 mi east of New Caney, and 5.9 mi upstream from Caney Creek.

DRAINAGE AREA.--388 mi².

WATER-DISCHARGE RECORDS

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

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

REMARKS.--No estimated daily discharges. Records good. There are no known diversions. The maximum discharge for period of record is from rating curve extended above 6,200 ft³/s on basis of a velocity-area study. Rain gage at station. Radio telemetry at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft³/s :

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	--------------------------------	------------------	------	------	--------------------------------	------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	49	42	60	222	320	91	220	84	51	23	40
2	20	43	42	58	152	468	87	231	76	49	23	59
3	20	39	42	56	121	727	82	154	72	47	22	163
4	20	40	61	55	102	692	80	326	74	45	22	188
5	20	45	141	54	92	528	81	277	74	43	23	360
6	20	54	156	51	85	312	98	175	69	42	29	344
7	20	48	163	50	80	236	114	137	83	43	43	122
8	20	43	129	50	75	200	165	107	70	44	38	78
9	20	42	86	50	74	617	158	91	63	42	43	62
10	20	41	82	48	119	1250	117	89	74	39	67	52
11	20	43	73	49	620	1280	98	98	192	38	70	47
12	21	46	63	50	1030	1000	107	313	367	39	68	46
13	24	44	58	76	1200	728	108	336	495	39	59	53
14	28	46	57	65	1130	355	124	431	354	37	47	49
15	33	64	60	57	614	294	332	626	214	35	40	45
16	35	152	59	54	284	346	385	661	256	33	35	41
17	33	246	54	51	205	265	226	459	257	32	32	40
18	30	195	55	52	169	208	163	266	164	32	27	37
19	29	278	62	56	149	179	155	181	120	31	27	33
20	36	238	80	51	135	158	124	140	122	32	24	32
21	73	136	87	49	202	145	104	115	166	30	24	30
22	134	82	86	49	542	134	110	100	131	33	48	29
23	127	63	92	49	1430	126	99	90	104	31	40	28
24	96	53	135	49	1850	121	86	84	93	28	45	26
25	76	49	210	50	2140	118	88	77	82	27	42	25
26	58	47	191	54	2400	119	78	74	76	26	44	24
27	49	45	127	103	1470	113	72	70	75	25	41	24
28	43	42	95	308	495	111	68	69	67	24	37	24
29	40	42	79	527	---	109	65	67	60	24	35	24
30	41	42	70	810	---	100	62	69	54	23	31	24
31	43	---	64	509	---	95	---	85	---	23	28	---
TOTAL	1270	2397	2801	3650	17187	11454	3727	6218	4188	1087	1177	2149
MEAN	41.0	79.9	90.4	118	614	369	124	201	140	35.1	38.0	71.6
MAX	134	278	210	810	2400	1280	385	661	495	51	70	360
MIN	20	39	42	48	74	95	62	67	54	23	22	24
AC-FT	2520	4750	5560	7240	34090	22720	7390	12330	8310	2160	2330	4260
CFSM	.11	.21	.23	.30	1.58	.95	.32	.52	.36	.09	.10	.18
IN.	.12	.23	.27	.35	1.65	1.10	.36	.60	.40	.10	.11	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1994, BY WATER YEAR (WY)

	MEAN	75.8	189	336	462	571	477	335	406	473	169	34.7	47.9
MAX	369	626	828	1089	1557	981	958	1330	1596	849	49.0	105	105
(WY)	1985	1986	1987	1992	1992	1992	1991	1989	1986	1989	1989	1986	1986
MIN	15.7	20.6	31.2	99.5	191	84.0	68.8	45.7	29.6	27.7	20.8	17.6	17.6
(WY)	1989	1991	1990	1986	1988	1986	1986	1988	1988	1988	1990	1988	1988

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1985 - 1994

ANNUAL TOTAL	133579	57305	296
ANNUAL MEAN	366	157	471
HIGHEST ANNUAL MEAN			139
LOWEST ANNUAL MEAN			1992
HIGHEST DAILY MEAN	4320	Jun 22	12800
LOWEST DAILY MEAN	20	Oct 2	9.8
ANNUAL SEVEN-DAY MINIMUM	20	Oct 2	10
INSTANTANEOUS PEAK FLOW			16100
INSTANTANEOUS PEAK STAGE			24.67
INSTANTANEOUS LOW FLOW			9.8
ANNUAL RUNOFF (AC-FT)	265000	113700	214700
ANNUAL RUNOFF (CFSM)	.94	.40	.76
ANNUAL RUNOFF (INCHES)	12.81	5.49	10.38
10 PERCENT EXCEEDS	1200	339	827
50 PERCENT EXCEEDS	118	69	84
90 PERCENT EXCEEDS	24	28	24

SAN JACINTO RIVER BASIN

55

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: August 1983 to current year. Pesticide analyses: August 1985 to September 1990.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1984 to current year.

WATER TEMPERATURE: June 1984 to current year.

INSTRUMENTATION.--Beginning June 1984, specific conductance and water temperature are recorded continuously at this station. Since June 1984, a stage-activated water sampler provides water-quality samples over selected runoff events.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 870 microsiemens May 7, 1985; minimum, 19 microsiemens November 17, 1992.

WATER TEMPERATURE: Maximum, 32.0°C several days in Jul.; minimum, 1.0 °C Dec. 24, 1989.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECA, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI, FECA, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CaCO3)	
FEB 02...	0940	158	168	7.2	6.5	10.8	88	280	210	44	
JUN 23...	1030	105	139	6.6	26.0	6.2	77	84	600	37	
AUG 17...	1049	31	189	7.4	27.5	7.2	91	230	180	38	
DATE		HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CaCO3 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB 02...	13	15	1.7	14	0.9	2.6	31	7.7	26	<0.10	
JUN 23...	0	12	1.6	13	0.9	1.8	39	3.9	19	0.20	
AUG 17...	12	12	2.0	20	1	2.4	26	4.6	35	0.10	
DATE		SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
FEB 02...	12	99	0.180	0.180	0.020	0.200	0.200	0.090	1.0	0.71	
JUN 23...	13	90	0.190	--	<0.010	0.190	0.190	0.030	0.89	0.67	
AUG 17...	13	106	0.200	--	<0.010	0.200	0.200	0.030	0.50	0.27	
DATE		NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	IRON, DIS-SOLVED (UG/L AS Fe)	MANGA-NESE, DIS-SOLVED (UG/L AS Mn)
FEB 02...	0.71	0.80	0.80	0.100	0.060	0.030	0.09	14	290	34	
JUN 23...	0.47	0.50	0.70	0.080	0.030	0.040	0.12	12	660	57	
AUG 17...	0.37	0.40	0.30	0.080	0.060	0.030	0.09	6.0	230	76	

SAN JACINTO RIVER BASIN

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

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	334	317	323	328	309	318	296	286	292
2	---	---	---	327	316	321	329	257	318	286	280	282
3	---	---	---	327	310	316	257	185	203	287	281	283
4	---	---	---	352	316	336	191	164	170	285	281	283
5	---	---	---	338	273	316	180	126	162	293	284	287
6	---	---	---	291	275	281	138	97	123	302	271	297
7	---	---	---	291	189	208	156	89	110	271	208	217
8	---	---	---	212	189	200	176	149	158	259	215	231
9	---	---	---	213	212	212	289	176	225	324	259	306
10	---	---	---	275	212	237	330	289	313	330	324	327
11	---	---	---	311	265	282	330	288	307	339	329	334
12	---	---	---	370	311	338	349	288	307	346	336	339
13	187	157	165	434	309	378	418	349	394	354	340	348
14	214	164	186	451	413	439	432	389	416	340	332	335
15	216	193	202	413	166	293	391	369	376	346	334	338
16	226	216	220	166	66	118	378	371	375	352	344	348
17	237	223	228	97	72	84	376	233	287	349	342	347
18	253	231	240	190	63	101	320	244	283	342	334	336
19	268	251	259	221	149	188	349	320	337	336	320	327
20	282	89	228	281	218	266	343	248	309	320	309	314
21	151	89	139	241	219	227	255	214	227	310	305	307
22	148	111	135	224	216	219	222	211	217	308	307	307
23	149	76	116	233	224	229	216	200	210	320	307	314
24	102	74	90	239	233	235	273	210	248	320	270	301
25	107	100	102	274	235	259	274	254	267	307	300	304
26	193	107	155	288	274	281	351	253	320	353	306	318
27	203	193	198	290	279	285	347	325	333	355	166	347
28	293	199	250	311	290	299	333	316	327	166	55	135
29	322	290	309	317	308	314	316	296	306	146	53	99
30	331	274	308	309	295	302	296	292	293	139	74	100
31	335	315	326	---	---	---	307	293	297	150	139	147
MONTH	335	74	203	451	63	263	432	89	275	355	53	285

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	158	149	155	182	135	158	272	265	268	240	102	204
2	170	155	162	187	146	168	280	270	275	117	87	101
3	172	167	169	---	---	e94	288	280	284	137	114	128
4	182	172	177	---	---	e90	284	281	283	155	111	135
5	200	182	189	---	---	e98	281	265	279	119	108	113
6	215	200	207	---	---	e108	265	260	263	132	113	119
7	237	213	225	---	---	e120	266	250	259	178	132	157
8	236	220	227	---	---	e132	262	233	251	209	178	196
9	235	229	232	---	---	e101	305	218	247	254	209	240
10	239	214	231	---	---	e75	375	305	353	265	246	251
11	217	81	144	124	59	98	309	280	290	258	244	250
12	84	74	79	137	124	132	296	261	282	244	95	181
13	87	75	81	129	122	125	261	243	253	115	92	103
14	95	86	90	154	128	142	245	240	242	108	64	86
15	101	92	95	161	140	154	318	213	248	114	64	91
16	134	101	119	151	139	143	229	116	159	196	97	123
17	158	134	147	171	146	159	169	116	144	199	144	175
18	184	158	171	187	171	180	172	156	166	177	152	158
19	208	184	196	209	187	200	176	153	162	178	160	168
20	231	208	220	226	209	220	234	176	209	203	169	178
21	234	211	227	238	226	233	244	234	238	212	168	186
22	211	106	185	246	235	241	242	197	212	216	181	189
23	107	66	84	254	245	250	234	197	220	220	188	198
24	68	47	54	259	252	256	234	223	230	226	194	203
25	58	47	51	268	258	262	223	208	214	221	196	204
26	61	57	59	269	262	265	228	215	222	222	199	206
27	81	61	69	266	249	254	239	227	234	223	201	205
28	135	81	104	257	251	254	240	231	236	240	201	213
29	---	---	---	269	257	263	243	238	240	232	202	214
30	---	---	---	268	258	262	243	236	239	236	197	220
31	---	---	---	266	258	262	---	---	---	226	198	213
MONTH	239	47	148	269	59	177	375	116	240	265	64	174

e Estimated

SAN JACINTO RIVER BASIN

57

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

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	224	205	210	206	198	201	---	---	---	---	---	---
2	205	186	193	225	206	214	---	---	---	---	---	---
3	216	191	206	236	225	232	---	---	---	---	---	---
4	226	209	213	251	235	244	---	---	---	---	---	---
5	223	203	211	310	244	264	---	---	---	---	---	---
6	211	207	209	284	264	277	---	---	---	---	---	---
7	214	209	211	266	250	259	---	---	---	---	---	---
8	211	200	205	253	211	234	---	---	---	---	---	---
9	200	194	197	231	221	226	---	---	---	---	---	---
10	200	144	193	238	230	233	---	---	---	---	---	---
11	160	111	147	236	212	228	---	---	---	---	---	---
12	113	70	85	212	199	204	---	---	---	---	---	---
13	143	84	106	202	198	200	---	---	---	---	---	---
14	99	83	89	201	126	185	---	---	---	---	---	---
15	123	99	110	---	---	---	---	---	---	---	---	---
16	135	122	129	---	---	---	---	---	---	---	---	---
17	151	129	140	---	---	---	---	---	---	---	---	---
18	151	134	142	---	---	---	---	---	---	---	---	---
19	148	139	144	---	---	---	---	---	---	---	---	---
20	170	146	160	---	---	---	---	---	---	---	---	---
21	174	138	165	---	---	---	---	---	---	---	---	---
22	171	131	152	---	---	---	---	---	---	---	---	---
23	169	139	146	---	---	---	---	---	---	---	---	---
24	170	143	158	---	---	---	---	---	---	---	---	---
25	198	170	183	---	---	---	---	---	---	---	---	---
26	208	194	201	---	---	---	---	---	---	---	---	---
27	212	200	205	---	---	---	---	---	---	---	---	---
28	203	199	200	---	---	---	---	---	---	---	---	---
29	200	194	197	---	---	---	---	---	---	---	---	---
30	204	199	201	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	226	70	170	310	126	229	---	---	---	---	---	---
YEAR	451	47	217									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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

SAN JACINTO RIVER BASIN

59

08070500 CANEY CREEK NEAR SPLENDORA, TX

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

DRAINAGE AREA.--105 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

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

REMARKS.--No estimated daily discharges. Records good. No diversion above station. Minimum discharge for period of record was caused by construction upstream.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 23	2200	1,970	13.49				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	24	33	29	38	136	51	118	30	22	17	59
2	14	23	33	30	35	422	51	70	29	22	17	43
3	12	24	34	30	34	156	51	108	31	22	17	148
4	12	29	129	29	34	106	50	99	41	22	17	69
5	15	29	79	28	34	89	51	65	36	21	26	34
6	20	25	44	28	34	81	69	55	32	30	26	26
7	18	24	36	28	34	76	71	50	30	23	21	23
8	13	22	33	28	34	72	59	48	29	21	29	21
9	14	24	33	27	35	575	55	47	28	20	62	20
10	15	25	34	27	243	634	53	47	29	20	31	21
11	15	24	40	31	839	166	51	181	47	21	22	22
12	17	24	34	35	308	113	55	117	72	21	18	25
13	16	25	32	32	138	95	62	79	49	21	18	27
14	31	34	39	30	88	85	59	620	37	21	16	26
15	25	79	34	28	71	95	58	272	33	21	16	22
16	23	69	31	28	64	155	118	105	32	20	16	21
17	21	413	30	28	60	108	103	71	30	20	16	19
18	20	141	32	29	58	87	62	58	32	19	15	19
19	19	56	40	28	57	78	53	47	31	19	15	18
20	25	44	42	27	75	71	50	41	34	19	15	18
21	251	39	40	27	143	69	48	37	38	19	15	18
22	96	36	38	28	403	66	47	35	31	19	30	18
23	39	36	82	28	1340	63	44	34	29	19	57	18
24	30	35	68	28	644	62	44	34	38	19	30	17
25	26	34	44	29	159	60	44	32	47	19	26	17
26	24	33	36	32	119	58	44	31	33	18	21	16
27	23	32	33	39	96	58	43	31	28	18	19	17
28	22	32	32	378	86	58	42	30	25	17	17	17
29	22	33	31	118	---	55	41	30	23	16	17	16
30	27	33	30	59	---	53	84	31	23	16	15	16
31	28	---	29	47	---	52	---	32	---	17	15	---
TOTAL	969	1501	1305	1393	5303	4054	1713	2655	1027	622	692	851
MEAN	31.3	50.0	42.1	44.9	189	131	57.1	85.6	34.2	20.1	22.3	28.4
MAX	251	413	129	378	1340	634	118	620	72	30	62	148
MIN	12	22	29	27	34	52	41	30	23	16	15	16
AC-FT	1920	2980	2590	2760	10520	8040	3400	5270	2040	1230	1370	1690
CFSM	.30	.48	.40	.43	1.80	1.25	.54	.82	.33	.19	.21	.27
IN.	.34	.53	.46	.49	1.88	1.44	.61	.94	.36	.22	.25	.30

SAN JACINTO RIVER BASIN

08070500 CANEY CREEK NEAR SPLENDORA, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1994, BY WATER YEAR (WY)

MEAN	48.2	74.8	80.9	112	120	83.9	111	103	98.1	39.7	27.4	38.1
MAX	381	817	277	441	368	245	606	542	843	190	262	296
(WY)	1950	1947	1977	1974	1961	1973	1945	1983	1973	1979	1983	1961
MIN	6.57	8.20	10.5	10.7	13.6	12.2	13.6	13.8	10.1	7.28	6.69	5.91
(WY)	1957	1957	1957	1957	1971	1971	1971	1956	1954	1971	1956	1956

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1945 - 1994	
ANNUAL TOTAL	38518		22085			
ANNUAL MEAN	106		60.5		77.8	
HIGHEST ANNUAL MEAN					190	
LOWEST ANNUAL MEAN					15.9	
HIGHEST DAILY MEAN	2940	Jun 21	1340	Feb 23	11100	Jun 14 1973
LOWEST DAILY MEAN	12	Oct 3	12	Oct 3	5.4	Sep 21 1956
ANNUAL SEVEN-DAY MINIMUM	15	Oct 2	15	Oct 2	5.5	Sep 21 1956
INSTANTANEOUS PEAK FLOW			1970	Feb 23	35000	Jun 14 1973
INSTANTANEOUS PEAK STAGE			13.49	Feb 23	26.30	Jun 14 1973
ANNUAL RUNOFF (AC-FT)	76400		43810		56350	
ANNUAL RUNOFF (CFSM)	1.01		.58		.74	
ANNUAL RUNOFF (INCHES)	13.65		7.82		10.06	
10 PERCENT EXCEEDS	180		101		112	
50 PERCENT EXCEEDS	45		32		26	
90 PERCENT EXCEEDS	19		17		11	

SAN JACINTO RIVER BASIN

61

08070500 CANEY CREEK NEAR SPLENDORA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Chemical analyses: October 1962 to April 1964. Chemical and biochemical analyses: August 1983 to current year. Pesticide analyses: August 1983 to September 1990. Sediment analyses: February 1966, April 1973 to March 1975.

INSTRUMENTATION.--Stage-activated water sampler since November 1984 provides water-quality samples over selected runoff events.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CaCO3)	
FEB 01...	0922	39	129	7.3	9.0	10.6	91	550	270	39	
JUN 22...	1320	30	91	7.2	25.5	7.6	93	88	820	25	
AUG 17...	0855	16	90	7.5	25.0	7.7	93	190	280	21	
DATE		HARDNESS NONCARBONATE DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)	SODIUM, DISSOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS Cl)	FLUORIDE, DISSOLVED (MG/L AS F)
FEB 01...	7	13	1.7	9.4	0.7	1.7	32	4.7	16	<0.10	
JUN 22...	2	7.8	1.4	7.9	0.7	1.3	23	2.5	13	<0.10	
AUG 17...	4	5.9	1.5	8.0	0.8	1.1	17	2.6	13	<0.10	
DATE		SILICA, DISSOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
FEB 01...	0.40	68	0.270	0.270	0.020	0.290	0.290	0.040	0.59	0.26	
JUN 22...	12	62	0.280	--	<0.010	0.280	0.280	0.040	0.58	0.26	
AUG 17...	14	58	0.360	--	<0.010	0.360	0.360	0.030	0.56	0.17	
DATE		NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	IRON, DISSOLVED (UG/L AS Fe)	MANGANESE, DISSOLVED (UG/L AS Mn)
FEB 01...	0.36	0.40	0.30	0.040	0.020	0.010	0.03	7.2	410	50	
JUN 22...	0.26	0.30	0.30	0.050	0.030	0.040	0.12	5.5	730	35	
AUG 17...	0.27	0.30	0.20	0.050	0.040	<0.010	--	3.4	340	45	

SAN JACINTO RIVER BASIN

08071280 LUCE BAYOU ABOVE LAKE HOUSTON NEAR HUFFMAN, TX

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

DRAINAGE AREA.--218 mi².

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Records fair. There are diversions above station for irrigation, but amounts are unknown. Rain gage at station. Radio telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	--------------------------------	------------------	------	------	--------------------------------	------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	e1.0	4.5	2.2	99	114	5.4	4.5	1.5	22	.73	1.5
2	.06	e.90	4.1	2.1	81	161	5.4	57	7.4	10	.71	5.5
3	.05	e.85	5.0	1.9	62	218	5.2	105	8.7	5.9	.64	37
4	.05	e.85	39	1.8	27	180	5.1	72	16	4.2	.74	23
5	.04	e.95	12	1.6	28	127	6.8	107	20	4.5	.97	72
6	e.04	e1.0	74	1.6	40	105	47	131	8.5	43	.90	47
7	e.04	e1.2	49	1.3	26	90	42	80	4.9	47	.80	16
8	e.04	e.95	17	1.2	18	77	34	53	3.7	18	2.0	3.3
9	e.04	e.85	8.9	1.3	15	193	14	33	2.8	9.4	4.4	4.1
10	e.05	e.85	9.2	1.9	57	472	7.6	16	25	2.0	2.1	2.5
11	e.07	e.85	23	20	139	613	6.1	28	208	4.6	1.5	.45
12	e.20	e.85	17	31	216	813	89	146	286	3.8	1.2	.27
13	e.50	e.80	10	14	198	730	98	145	256	2.6	1.6	.18
14	e1.3	e10	35	7.6	114	382	75	179	166	1.9	1.5	.14
15	e3.0	e80	42	5.1	75	144	65	288	76	1.4	1.2	.10
16	e1.9	e50	6.8	3.8	27	207	105	607	63	1.1	1.2	.09
17	e1.1	e30	4.4	3.5	4.5	186	116	869	40	.98	1.2	.07
18	e.80	e100	3.9	2.8	17	115	92	846	56	.90	1.0	.05
19	e.50	e45	5.6	2.1	21	83	62	445	50	.78	1.2	.05
20	e.30	e25	8.6	1.8	14	68	43	115	34	1.2	2.3	.04
21	e.20	e18	5.9	6.5	12	56	22	72	18	1.5	3.7	.04
22	e2.5	e15	3.8	7.5	165	44	13	27	14	1.0	17	.03
23	e50	e12	6.6	2.4	732	30	16	4.4	11	.86	48	.03
24	e25	8.0	8.0	2.2	769	19	25	9.3	44	.80	27	.02
25	e8.0	7.3	8.9	7.1	843	14	32	10	62	.77	14	.02
26	e3.0	6.5	7.1	12	919	11	16	7.2	84	.80	5.8	.01
27	e1.0	5.8	6.0	186	584	9.8	9.3	5.7	80	.76	14	.00
28	e.80	5.3	4.3	465	166	9.3	7.2	6.2	72	.70	9.2	.00
29	e.80	4.8	3.7	396	---	8.4	5.4	8.3	58	.68	4.1	.00
30	e.85	4.6	3.0	366	---	7.3	5.0	9.0	41	.67	2.4	.00
31	e.90	---	2.4	147	---	6.0	---	3.6	---	.66	1.9	---
TOTAL	103.19	439.20	438.7	1706.3	5468.5	5292.8	1074.5	4489.2	1817.5	194.46	174.99	213.49
MEAN	3.33	14.6	14.2	55.0	195	171	35.8	145	60.6	6.27	5.64	7.12
MAX	50	100	74	465	919	813	116	869	286	6.47	48	72
MIN	.04	.80	2.4	1.2	4.5	6.0	5.0	3.6	1.5	.66	.64	.00
AC-FT	205	871	870	3380	10850	10500	2130	8900	3610	386	347	423
CFSM	.02	.07	.06	.25	.90	.78	.16	.66	.28	.03	.03	.03
IN.	.02	.07	.07	.29	.93	.90	.18	.77	.31	.03	.03	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1994, BY WATER YEAR (WY)

	MEAN	30.8	110	239	241	346	357	201	345	565	77.0	5.08	9.68
MAX	131	490	831	826	980	878	1047	2443	1965	334	11.1	58.0	58.0
(WY)	1985	1987	1987	1992	1992	1993	1991	1989	1993	1987	1987	1986	1986
MIN	.009	.17	1.43	6.22	8.36	25.0	3.06	2.95	2.24	2.09	1.09	.034	.034
(WY)	1993	1989	1989	1989	1989	1986	1987	1988	1990	1988	1992	1992	1992

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1985 - 1994

ANNUAL TOTAL	122749.68	21412.83	209
ANNUAL MEAN	336	58.7	350
HIGHEST ANNUAL MEAN			1987
LOWEST ANNUAL MEAN			1994
HIGHEST DAILY MEAN	7850	919	19600
LOWEST DAILY MEAN	.02	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.02	.01	.00
INSTANTANEOUS PEAK FLOW		956	21400
INSTANTANEOUS PEAK STAGE		19.27	33.45
ANNUAL RUNOFF (AC-FT)	243500	42470	151700
ANNUAL RUNOFF (CFSM)	1.54	.27	.96
ANNUAL RUNOFF (INCHES)	20.95	3.65	13.05
10 PERCENT EXCEEDS	863	145	465
50 PERCENT EXCEEDS	17	7.6	11
90 PERCENT EXCEEDS	.10	.58	.30

e Estimated

SAN JACINTO RIVER BASIN

63

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical February 1984 to current year. Pesticide analyses: February 1984 to September 1990.

INSTRUMENTATION.--Stage-activated water sampler since May 1984 provides water-quality samples over selected runoff events.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CAC03)	
FEB 02...	1228	81	73	7.4	7.0	11.8	97	270	500	23	
JUN 23...	1149	10	100	6.6	26.0	5.6	69	96	210	32	
AUG 15...	1037	1.0	156	7.3	26.5	5.6	69	84	150	51	
DATE		HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB 02...	10	7.0	1.3	5.0	0.5	1.6	13	6.4	12	<0.10	
JUN 23...	7	10	1.6	7.3	0.6	1.6	25	3.4	14	0.20	
AUG 15...	1	17	2.1	11	0.7	1.4	50	2.5	16	0.10	
DATE		SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
FEB 02...	5.1	47	0.073	0.073	0.020	0.093	0.093	0.080	0.99	0.82	
JUN 23...	6.5	63	0.250	0.250	0.020	0.270	0.270	0.060	1.2	0.84	
AUG 15...	7.4	88	--	--	<0.010	--	<0.050	0.040	0.50	0.46	
DATE		NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB 02...	0.82	0.90	0.90	0.060	0.050	0.020	0.06	18	530	56	
JUN 23...	0.84	0.90	0.90	0.100	0.080	0.090	0.28	18	1300	100	
AUG 15...	0.46	0.50	0.50	0.070	0.060	0.030	0.09	11	390	220	

SAN JACINTO RIVER BASIN

08072000 LAKE HOUSTON NEAR SHELDON, TX

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

DRAINAGE AREA.--2,828 mi².

WATER-CONTENT RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

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

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

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

COOPERATION.--The capacity table, furnished by the city of Houston, is based on a bathymetric survey made in 1994 by TWDB. Records of diversions were furnished by the San Jacinto River Authority and the city of Houston.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 219,400 acre-ft May 19, 1989 (gage height, 49.60 ft); minimum since first filling of lake in August 1954, 53,380 acre-ft Dec. 1, 1971 (gage height, 34.08 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 158,200 acre-ft Feb. 24 at 0700 hours (gage height, 46.44 ft); minimum, 132,900 acre-ft Aug. 5 (gage height, 44.40 ft).

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

40.0	90,780	45.0	140,670	50.0	207,880
41.0	99,560	46.0	152,630	51.0	229,930
42.0	108,760	47.0	165,230	52.0	237,980
43.0	118,480	48.0	178,660	53.0	253,030
44.0	128,700	49.0	192,830		

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133500	137300	138400	141700	145000	147000	140300	142200	141700	140900	e133800	134500
2	133500	137600	138500	142000	144400	146900	140300	143700	142000	140800	e133600	135300
3	133500	138300	140000	139300	144000	147500	140400	145500	143100	140700	e133400	136400
4	133800	138300	142300	138700	143700	147500	140100	145500	143100	140500	e133100	137700
5	134000	138500	143800	138400	143400	147400	141600	145000	142700	140800	133400	138800
6	133900	137200	143900	138900	142900	146300	141500	144600	142300	140900	134100	139700
7	133900	136800	143700	138000	142300	144900	142000	143900	141900	140700	134500	140000
8	134300	138000	143400	137200	142000	144300	142300	143400	141400	e140300	134800	140000
9	134700	138400	143200	137200	142500	150700	142200	142900	141100	e140000	135300	140100
10	133900	138500	143500	137600	146400	154500	142200	142700	142300	e139700	136000	140800
11	133500	138700	142800	139100	151700	151400	142300	142600	143800	e139300	136500	141100
12	134100	138700	142000	140000	150000	149600	143100	143400	144500	e138900	136900	141300
13	136300	138700	141600	140000	147500	147800	142700	144600	144600	e138800	136100	141100
14	138000	142700	140800	140000	146600	146200	142500	148600	144100	e138500	136100	140900
15	138300	139100	140900	140100	145800	147000	144600	148800	143500	e138100	136000	141000
16	138100	143400	140900	140000	144600	147400	145800	152200	143300	e138000	136000	140700
17	138100	146400	141300	139600	143900	146800	145600	149500	143100	e137700	136700	140300
18	138000	144400	141500	139500	143400	145700	145700	147400	142900	e137500	136700	139900
19	137700	142700	142100	139300	143400	144500	145100	145900	142600	e137200	136300	139500
20	145600	138700	142300	139600	143700	143900	144100	145700	142500	e136800	136000	139100
21	146900	137600	142300	139700	148900	143400	143700	144700	143700	e136500	136000	138400
22	145500	138500	143300	139700	152000	142900	143200	143700	143400	e136300	139700	138700
23	144100	139100	143400	140000	157800	142900	142700	143100	143300	e136000	143300	136700
24	143300	139900	143300	140100	157000	142800	142600	142500	143500	e135700	142100	136700
25	142600	139200	143300	141100	154900	142500	142600	142200	143100	e135500	136900	135900
26	142200	138000	143700	141600	153400	142500	142300	142100	142600	e135200	136000	135300
27	141300	137600	143800	145900	150500	142700	141900	141700	142200	e134900	135600	134900
28	141000	137700	143700	146600	148200	140000	141700	141600	141900	e134700	134300	134700
29	142600	137900	142500	146600	---	139900	141600	141300	141700	e134400	134000	134400
30	137500	138100	142000	146900	---	140400	142000	141400	141400	e134100	133900	134300
31	137200	---	141700	146500	---	140000	---	141700	---	e133900	133800	---
MAX	146900	146400	143900	146900	157800	154500	145800	152200	144600	140900	143300	141300
MIN	133500	136800	138400	137200	142000	139900	140100	141300	141100	133900	133100	134300
(+)	44.74	44.81	45.09	45.49	45.63	44.95	45.11	45.09	45.06	44.50	44.48	44.52
(e)	+3600	+900	+3600	+4800	+1700	-8200	+2000	-300	-300	-7500	-100	+500
(++)	10150	9450	10260	8990	7580	9260	9190	9370	10120	11320	12240	9930

CAL YR 1993 MAX 189200 MIN 133500 (e) -900 (++) 134450
WTR YR 1994 MAX 157800 MIN 133100 (e) +700 (++) 117860

e Estimated

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

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

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

SAN JACINTO RIVER BASIN

65

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1961 to April 1964, December 1969 to current year. Biochemical analyses: August 1983 to current year. Pesticide analyses: May 1968 to August 1972, August 1983 to current year.

295516095080801 - LAKE HOUSTON SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CAC03	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
FEB											
02...	0930	144000	1.00	210	7.8	46	10.5	0.20	9.7	85	600
02...	0932	--	10.0	210	7.8	--	10.5	--	9.7	85	--
02...	0934	--	20.0	210	7.8	--	10.5	--	9.7	85	--
02...	0936	--	30.0	210	7.8	--	10.5	--	9.7	85	--
02...	0938	--	44.0	210	7.8	46	10.0	--	9.6	84	--
APR											
28...	0905	142000	1.00	165	6.7	40	24.0	0.25	6.2	74	K8
28...	0907	--	10.0	165	6.5	--	23.5	--	6.1	72	--
28...	0909	--	20.0	150	6.4	--	21.5	--	5.0	57	--
28...	0911	--	30.0	145	6.4	--	21.0	--	5.0	56	--
28...	0913	--	43.0	145	6.3	35	21.0	--	5.0	56	--
JUN											
22...	0840	143000	1.00	165	7.2	44	29.5	0.35	6.6	87	K2
22...	0842	--	10.0	165	6.9	--	29.0	--	6.5	85	--
22...	0844	--	20.0	165	6.6	--	28.5	--	4.4	57	--
22...	0846	--	30.0	175	6.5	--	26.5	--	1.6	20	--
22...	0848	--	43.0	180	6.5	48	26.0	--	1.6	20	--
AUG											
17...	0922	137000	1.00	205	7.8	52	30.0	0.40	6.5	86	K2
17...	0924	--	10.0	195	7.0	--	28.0	--	3.2	41	--
17...	0926	--	20.0	195	6.9	--	28.0	--	3.2	41	--
17...	0928	--	30.0	195	7.0	--	27.5	--	3.2	40	--
17...	0930	--	40.0	195	7.0	--	27.5	--	2.5	32	--
17...	0932	--	46.0	195	7.0	52	27.5	--	2.7	34	--

DATE	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB											
02...	330	46	0	15	2.1	22	1	3.2	46	8.9	28
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	49	3	16	2.1	22	1	3.1	46	8.9	29
APR											
28...	K16	46	6	15	2.0	14	0.9	2.5	40	7.3	19
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	40	5	13	1.9	11	0.8	2.5	35	6.7	16
JUN											
22...	K1	45	1	15	1.9	14	0.9	2.9	44	6.6	19
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	49	1	16	2.1	15	0.9	2.8	48	6.7	20
AUG											
17...	K1	49	0	16	2.2	19	1	3.0	52	7.3	24
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	52	0	17	2.2	17	1	3.0	52	6.9	22

SAN JACINTO RIVER BASIN

08072000 LAKE HOUSTON NEAR SHELTON, TX--Continued

295516095080801 - LAKE HOUSTON SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
FEB											
02...	<0.10	10	120	0.640	0.640	0.020	0.660	0.660	0.020	1.1	0.38
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	0.10	10	122	0.670	0.670	0.020	0.690	0.690	0.040	1.1	0.36
APR											
28...	0.10	7.2	93	0.380	--	<0.010	0.380	0.380	0.040	1.3	0.86
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	0.390	--	<0.010	0.390	0.390	0.040	1.1	0.66
28...	--	--	--	--	--	--	--	--	--	--	--
28...	<0.10	7.5	82	0.410	--	<0.010	0.410	0.410	0.030	1.0	0.57
JUN											
22...	0.20	7.2	94	0.077	--	<0.010	0.077	0.077	0.020	0.78	0.68
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	0.180	--	<0.010	0.180	0.180	0.020	0.68	0.48
22...	--	--	--	--	--	--	--	--	--	--	--
22...	0.20	9.2	103	0.160	--	<0.010	0.160	0.160	0.130	0.86	0.57
AUG											
17...	0.20	10	113	--	--	<0.010	--	<0.050	0.020	0.60	0.58
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	0.100	--	<0.010	0.100	0.100	0.040	0.80	0.66
17...	--	--	--	--	--	--	--	--	--	--	--
17...	0.20	10	111	0.110	--	<0.010	0.110	0.110	0.060	0.61	0.44
DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
FEB											
02...	0.28	0.30	0.40	0.200	0.130	0.130	0.40	7.4	6.0	1.40	<0.100
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	0.56	0.60	0.40	0.200	0.220	0.150	0.46	7.6	6.0	--	--
APR											
28...	0.36	0.40	0.90	0.150	0.060	0.050	0.15	13	11	1.20	0.200
28...	--	--	--	--	--	--	--	--	--	--	--
28...	0.46	0.50	0.70	0.150	0.080	0.060	0.18	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	0.37	0.40	0.60	0.150	0.060	0.050	0.15	13	11	--	--
JUN											
22...	0.68	0.70	0.70	0.120	0.120	0.050	0.15	11	9.4	4.90	0.500
22...	--	--	--	--	--	--	--	--	--	--	--
22...	0.48	0.50	0.50	0.140	0.040	0.050	0.15	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	0.57	0.70	0.70	0.250	0.140	0.130	0.40	11	9.3	--	--
AUG											
17...	0.28	0.30	0.60	0.180	0.130	0.100	0.31	9.4	8.1	9.90	0.600
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	0.26	0.30	0.70	0.280	0.100	0.090	0.28	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	0.44	0.50	0.50	0.220	0.160	0.120	0.37	8.9	7.2	--	--

295516095080801 - LAKE HOUSTON SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible][illegible]

SAN JACINTO RIVER BASIN

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

295516095080801 - LAKE HOUSTON SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PER- THANE TOTAL (UG/L)	PHORATE TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
FEB										
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
APR										
28...	<0.01	<0.01	<0.1	<0.01	<0.01	<1	<0.01	<0.01	<0.01	<0.01
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
JUN										
22...	<0.01	<0.01	<0.1	<0.01	<0.01	<1	<0.01	<0.01	<0.01	<0.01
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
AUG										
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--

295702095091401 - LAKE HOUSTON SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
02...	1005	1.00	225	7.8	10.5	0.20	9.6	85
02...	1007	10.0	230	7.8	10.5	--	9.6	85
02...	1009	20.0	230	7.8	10.5	--	9.6	85
02...	1011	30.0	230	7.8	10.5	--	9.6	85
02...	1013	41.0	230	7.8	10.0	--	9.7	84
APR								
28...	0940	1.00	175	6.9	24.0	0.28	6.1	72
28...	0942	10.0	175	6.9	24.0	--	6.1	72
28...	0944	20.0	175	6.8	24.0	--	6.0	71
28...	0946	30.0	175	6.8	23.5	--	5.2	61
28...	0948	40.0	175	6.7	22.5	--	3.7	43
JUN								
22...	0935	1.00	165	7.2	29.5	--	5.1	67
22...	0937	10.0	170	6.9	29.0	--	5.0	65
22...	0939	20.0	170	6.8	28.0	--	3.5	45
22...	0941	30.0	175	6.9	27.0	--	3.0	38
22...	0943	37.0	175	7.0	27.0	--	3.0	38
AUG								
17...	0956	1.00	200	7.4	29.0	0.40	5.8	75
17...	0958	10.0	200	7.1	29.0	--	3.5	45
17...	1000	20.0	200	7.0	28.0	--	3.4	43
17...	1002	30.0	200	7.1	28.0	--	3.4	43
17...	1004	38.0	200	7.1	28.0	--	3.4	43

SAN JACINTO RIVER BASIN

69

08072000 LAKE HOUSTON NEAR SHELTON, TX--Continued

295902095074201 - LAKE HOUSTON SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LITY WAT WH TOT FET FIELD MG/L AS CAC03	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB											
02...	1025	1.00	230	7.8	49	10.5	0.20	9.4	83	250	210
02...	1027	10.0	230	7.8	--	10.5	--	9.4	83	--	--
02...	1029	20.0	230	7.8	--	10.0	--	9.3	81	--	--
02...	1031	31.0	230	7.8	49	10.0	--	9.3	81	--	--
APR											
28...	1000	1.00	185	7.0	42	24.5	0.25	5.9	71	20	K16
28...	1002	10.0	185	7.0	--	24.5	--	5.9	71	--	--
28...	1004	20.0	185	6.9	--	24.5	--	5.7	68	--	--
28...	1006	30.0	185	6.9	41	24.0	--	5.2	62	--	--
JUN											
22...	0955	1.00	185	7.0	46	29.5	0.45	5.9	78	K4	K2
22...	0957	10.0	175	6.9	--	29.0	--	5.6	73	--	--
22...	0959	20.0	170	6.8	--	28.5	--	3.1	40	--	--
22...	1001	30.0	170	6.8	48	27.0	--	1.6	20	--	--
AUG											
17...	1015	1.00	240	7.5	57	29.5	0.40	6.1	80	K4	K6
17...	1017	10.0	230	7.2	--	29.0	--	4.5	58	--	--
17...	1019	20.0	215	7.0	--	28.0	--	2.0	25	--	--
17...	1021	29.0	215	7.0	52	28.0	--	2.0	25	--	--

DATE	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB										
02...	49	0	16	2.2	25	2	3.3	49	9.5	32
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	49	0	16	2.2	25	2	3.2	49	9.4	32
APR										
28...	49	7	16	2.1	16	1	2.7	42	7.8	23
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	46	5	15	2.1	16	1	2.6	41	7.7	23
JUN										
22...	46	0	15	2.1	17	1	2.8	46	7.0	22
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	46	0	15	2.1	14	0.9	2.6	48	6.0	19
AUG										
17...	54	0	18	2.3	26	2	3.4	57	7.8	31
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	52	0	17	2.2	21	1	3.0	52	7.0	26

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
FEB										
02...	<0.10	9.7	131	0.720	0.720	0.020	0.740	0.740	0.040	0.26
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	<0.10	9.4	130	0.730	0.730	0.020	0.750	0.750	0.040	0.26
APR										
28...	0.10	6.7	101	0.320	--	<0.010	0.320	0.320	0.070	0.33
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	0.10	7.1	100	0.280	--	<0.010	0.280	0.280	0.110	0.39
JUN										
22...	0.20	8.0	103	0.080	--	<0.010	0.080	0.080	0.040	0.36
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	0.10	9.1	99	--	--	0.010	--	<0.050	0.210	0.39
AUG										
17...	0.20	10	133	--	--	<0.010	--	<0.050	0.020	0.28
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	0.20	10	119	0.130	--	<0.010	0.130	0.130	0.050	0.55

SAN JACINTO RIVER BASIN

08072000 LAKE HOUSTON NEAR SHELTON, TX--Continued

295902095074201 - LAKE HOUSTON SITE CC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB										
02...	0.30	0.140	0.150	0.46	7.5	5.7	2.80	0.100	60	1
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	0.30	0.150	0.150	0.46	8.0	5.8	--	--	21	2
APR										
28...	0.40	0.070	0.070	0.21	12	9.5	2.10	0.400	81	36
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	0.50	0.070	0.060	0.18	12	9.5	--	--	42	28
JUN										
22...	0.40	0.090	0.070	0.21	10	9.9	2.70	0.200	98	140
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	0.60	0.230	0.190	0.58	12	9.5	--	--	260	930
AUG										
17...	0.30	0.160	0.130	0.40	8.9	7.3	8.60	0.800	9	3
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	0.60	0.250	0.140	0.43	8.8	6.6	--	--	17	170

300016095073401 - LAKE HOUSTON SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
02...	1050	1.00	225	7.8	10.5	0.17	9.2	81
02...	1052	10.0	215	7.8	10.0	--	9.2	80
02...	1054	24.0	215	7.8	10.0	--	9.2	80
APR								
28...	1028	1.00	190	7.0	24.5	0.25	6.0	72
28...	1030	10.0	190	7.0	24.5	--	6.0	72
28...	1032	23.0	190	7.0	24.5	--	6.0	72
JUN								
22...	1015	1.00	185	7.0	29.5	--	5.1	67
22...	1017	10.0	185	7.0	29.0	--	4.7	61
22...	1019	22.0	175	7.0	28.5	--	3.1	40
AUG								
17...	1045	1.00	250	7.5	29.0	0.40	6.1	79
17...	1047	10.0	245	7.2	29.0	--	4.2	54
17...	1049	20.0	240	7.0	28.0	--	1.6	20
17...	1051	28.0	240	7.0	28.0	--	1.4	18

300158095074601 - LAKE HOUSTON SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LITY WAT WH TOT FET FIELD MG/L AS CACO3	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB											
02...	1150	1.00	140	7.6	27	10.5	0.20	8.2	72	210	190
02...	1152	10.0	135	7.6	--	10.0	--	8.0	70	--	--
02...	1154	21.0	135	7.7	26	10.0	--	8.2	71	--	--
APR											
28...	1115	1.00	185	7.2	42	25.5	0.25	6.0	73	20	24
28...	1117	10.0	185	7.2	--	25.0	--	5.6	68	--	--
28...	1119	22.0	135	7.5	33	23.5	--	3.3	39	--	--
JUN											
22...	1105	1.00	165	7.0	41	29.5	0.25	5.7	75	--	--
22...	1107	10.0	145	6.8	--	28.5	--	2.7	35	--	--
22...	1109	22.0	110	7.1	28	28.0	--	1.8	23	--	--
AUG											
17...	1150	1.00	230	7.6	53	30.0	0.45	6.5	86	K4	K1
17...	1152	10.0	245	7.1	--	29.0	--	2.4	31	--	--
17...	1154	20.0	245	7.1	61	28.5	--	0.5	6	--	--

SAN JACINTO RIVER BASIN

71

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

300158095074601 - LAKE HOUSTON SITE EC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FEB											
02...	34	7	11	1.6	13	1	2.3	27	5.9	20	<0.10
02...	--	--	--	--	--	--	--	--	--	--	--
02...	34	8	11	1.6	11	0.8	2.4	26	5.7	19	<0.10
APR											
28...	43	1	14	2.0	15	1	2.5	42	7.4	23	0.10
28...	--	--	--	--	--	--	--	--	--	--	--
28...	34	1	11	1.7	10	0.7	2.1	33	5.6	17	0.10
JUN											
22...	40	0	13	1.9	16	1	2.5	41	6.1	22	0.10
22...	--	--	--	--	--	--	--	--	--	--	--
22...	31	3	10	1.5	9.7	0.8	1.7	28	4.1	16	0.10
AUG											
17...	49	0	16	2.2	25	2	3.0	53	6.7	30	0.20
17...	--	--	--	--	--	--	--	--	--	--	--
17...	58	0	19	2.6	27	2	3.3	61	7.5	33	0.20

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, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
FEB											
02...	7.6	79	0.170	0.170	0.020	0.190	0.190	0.040	0.69	0.46	0.36
02...	--	--	--	--	--	--	--	--	--	--	--
02...	7.8	75	0.160	0.160	0.020	0.180	0.180	0.060	0.68	0.44	0.34
APR											
28...	6.4	97	0.200	--	<0.010	0.200	0.200	0.070	0.90	0.63	0.33
28...	--	--	--	--	--	--	--	--	--	--	--
28...	5.8	75	0.140	0.140	0.010	0.150	0.150	0.190	1.0	0.71	0.51
JUN											
22...	8.7	95	--	--	<0.010	--	<0.050	0.040	1.2	1.2	0.36
22...	--	--	--	--	--	--	--	--	--	--	--
22...	9.2	70	0.065	--	<0.010	0.065	0.065	0.110	0.77	0.59	0.49
AUG											
17...	11	126	--	--	<0.010	--	<0.050	0.020	0.60	0.58	0.18
17...	--	--	--	--	--	--	--	--	--	--	--
17...	11	142	0.110	0.110	0.010	0.120	0.120	0.040	0.62	0.46	0.26

DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	IRON, DIS- SOLVED (UG/L AS FE)
FEB											
02...	0.40	0.50	0.080	0.030	0.030	0.09	11	9.5	1.80	0.100	100
02...	--	--	--	--	--	--	--	--	--	--	--
02...	0.40	0.50	0.070	0.030	0.020	0.06	11	10	--	--	200
APR											
28...	0.40	0.70	0.140	0.050	0.040	0.12	12	9.2	8.30	2.00	120
28...	--	--	--	--	--	--	--	--	--	--	--
28...	0.70	0.90	0.110	0.050	0.040	0.12	18	13	--	--	360
JUN											
22...	0.40	1.2	0.160	0.050	0.040	0.12	12	10	7.90	0.500	110
22...	--	--	--	--	--	--	--	--	--	--	--
22...	0.60	0.70	0.110	0.040	0.040	0.12	14	11	--	--	460
AUG											
17...	0.20	0.60	0.190	0.090	0.070	0.21	9.0	6.5	11.0	1.30	12
17...	--	--	--	--	--	--	--	--	--	--	--
17...	0.30	0.50	0.320	0.210	0.190	0.58	8.7	7.4	--	--	24

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

300209095091201 - LAKE HOUSTON SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CAC03	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB											
02...	1110	1.00	215	7.8	57	9.0	0.19	9.7	82	330	180
02...	1112	5.00	215	7.7	--	8.5	--	9.5	80	--	--
02...	1114	13.0	215	7.8	56	8.5	--	9.6	81	--	--
APR											
28...	1045	1.00	265	8.0	66	26.0	0.25	6.6	81	24	K12
28...	1047	12.0	275	7.5	66	25.5	--	6.0	73	--	--
JUN											
22...	1040	1.00	310	7.7	74	30.0	0.20	7.5	99	56	K4
22...	1042	12.0	275	7.0	64	28.5	--	4.5	58	--	--
AUG											
17...	1110	1.00	370	8.6	84	31.0	0.30	6.5	87	K1	K12
17...	1112	11.0	325	7.2	79	29.0	--	0.2	3	--	--

DATE	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FEB											
02...	62	5	21	2.2	17	0.9	3.6	57	7.7	26	<0.10
02...	--	--	--	--	--	--	--	--	--	--	--
02...	62	6	21	2.2	18	1	3.4	56	7.7	27	<0.10
APR											
28...	66	0	22	2.6	25	1	3.8	66	10	33	0.20
28...	66	0	22	2.6	26	1	3.8	66	10	33	0.20
JUN											
22...	59	0	20	2.3	34	2	4.2	74	12	42	0.20
22...	68	4	24	2.0	23	1	3.1	64	10	34	0.20
AUG											
17...	64	0	21	2.7	50	3	5.0	84	13	52	0.20
17...	64	0	21	2.8	39	2	4.1	79	9.2	45	0.20

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
FEB											
02...	7.5	121	0.370	0.370	0.010	0.380	0.380	0.060	1.2	0.74	0.34
02...	--	--	--	--	--	--	--	--	--	--	--
02...	6.4	121	0.380	0.380	0.020	0.400	0.400	0.060	1.0	0.54	0.44
APR											
28...	6.8	145	0.290	0.290	0.020	0.310	0.310	0.040	1.1	0.76	0.56
28...	6.6	146	0.320	0.320	0.020	0.340	0.340	0.040	1.0	0.66	0.46
JUN											
22...	13	175	0.430	0.430	0.050	0.480	0.480	0.040	1.1	0.56	0.56
22...	10	150	0.920	0.920	0.050	0.970	0.970	0.180	2.0	0.82	0.52
AUG											
17...	13	210	0.180	0.180	0.020	0.200	0.200	0.080	1.2	0.92	0.32
17...	12	184	0.053	0.053	0.020	0.073	0.073	0.410	1.2	0.69	0.59

DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	IRON, DIS- SOLVED (UG/L AS FE)
FEB											
02...	0.40	0.80	0.170	0.070	0.070	0.21	11	8.8	4.10	0.300	40
02...	--	--	--	--	--	--	--	--	--	--	--
02...	0.50	0.60	0.140	0.080	0.070	0.21	11	9.1	--	--	44
APR											
28...	0.60	0.80	0.260	0.210	0.140	0.43	12	7.9	34.0	4.00	15
28...	0.50	0.70	0.270	0.130	0.140	0.43	13	8.0	--	--	21
JUN											
22...	0.60	0.60	0.270	0.270	0.270	0.83	10	7.3	11.0	0.900	50
22...	0.70	1.0	0.520	0.330	0.310	0.95	9.7	6.1	--	--	12
AUG											
17...	0.40	1.0	0.550	0.440	0.410	1.3	11	6.3	41.0	3.50	6
17...	1.0	1.1	0.650	0.600	0.520	1.6	8.9	6.7	--	--	44

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

300209095091201 - LAKE HOUSTON SITE FC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible][illegible][illegible]

SAN JACINTO RIVER MAIN STEM

75

08072050 SAN JACINTO RIVER NEAR SHELDON, TX

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

DRAINAGE AREA.--2,879 mi².

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

Discharge measurements, May 19, 1989 and June 24, 1993.

Water-quality records.--Chemical and biochemical analyses: February 1970 to September 1972.

Pesticide analyses: May 1971 to September 1972.

GAGE.--Water-stage recorder. Datum of gage is 0.69 ft below National Geodetic Vertical Datum of 1929, adjustment of 1973. Prior records unadjusted for land-surface subsidence.

REMARKS.--Records good. Gage heights reflect tidal fluctuations. Rain gage at station. Radio telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 20.12 ft June 15, 1973; minimum recorded elevation, -2.52 ft Oct. 28, 1985. A discharge measurement of 111,000 ft³/s was made near the peak of May 19, 1989 (gage height, 20.08 ft).

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 4.63 ft Feb. 24 at 1000 hours; minimum recorded, -2.08 ft Dec. 14.

DAY	MAX MIN		GAGE HEIGHT, FEET		WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994		MAX MIN		MAX MIN		MAX MIN	
			MAX	MIN	MAX	MIN						
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.47	2.35	2.86	.60	3.36	1.58	2.52	.65	1.76	.19	3.10	1.34
2	3.47	1.61	3.26	1.71	3.12	1.15	2.36	.64	1.76	.34	1.44	-.40
3	3.06	.91	3.20	.93	3.19	1.52	1.48	-1.41	2.23	.46	1.83	-.52
4	2.66	1.20	2.56	.83	3.22	.14	.18	-.86	2.31	.63	2.20	.52
5	2.80	1.22	2.70	.00	1.76	.61	2.07	-.58	2.09	.15	2.37	.52
6	2.94	1.39	.58	-.37	2.33	.74	2.22	.57	2.09	.18	2.38	.51
7	2.98	1.77	1.98	.02	2.44	1.29	1.39	-1.05	2.24	.43	2.46	.63
8	3.85	2.02	2.88	1.36	2.46	.95	1.67	-.93	2.53	1.10	2.83	1.28
9	3.55	1.02	3.44	1.81	2.72	1.03	2.96	.71	2.55	.19	2.81	.48
10	2.35	1.03	2.80	1.30	2.54	.63	3.76	1.49	1.72	-.35	2.94	.97
11	2.95	1.28	3.26	1.39	2.35	.33	2.99	.62	2.18	1.12	3.22	2.36
12	3.27	1.59	3.53	1.75	3.76	1.12	2.30	.22	2.76	1.79	3.87	2.86
13	3.25	1.72	3.57	1.42	4.16	.83	2.04	.36	2.42	.00	3.06	1.67
14	2.81	1.23	3.55	1.23	1.20	-2.08	1.95	-.09	2.55	.93	2.25	.95
15	3.13	1.14	3.22	.86	1.50	-.83	1.89	-.02	2.55	1.35	2.58	.91
16	3.07	1.05	4.47	2.29	2.41	1.04	3.15	1.65	2.00	.78	2.44	.93
17	3.01	1.23	3.07	.80	2.61	.86	3.23	.12	2.06	.55	2.83	1.20
18	3.43	1.66	2.45	1.23	2.56	.44	1.82	-.04	2.78	.88	2.58	.97
19	3.47	1.79	2.73	.71	2.45	1.57	2.34	.79	2.99	1.58	2.56	.78
20	3.75	2.09	1.30	.31	2.78	.12	2.52	1.22	2.84	.93	3.03	.96
21	2.93	.59	2.11	1.03	1.57	-.50	2.10	.60	3.03	1.09	2.38	.74
22	1.91	.51	2.43	1.13	1.93	.76	2.17	.49	3.67	1.97	2.65	.56
23	2.40	.91	2.60	1.18	1.85	.01	2.23	.58	4.38	3.67	3.21	1.58
24	2.78	1.46	2.20	.88	1.95	.27	2.24	.59	4.63	4.25	2.60	1.11
25	3.17	1.90	1.78	-.05	1.56	-.69	2.47	.62	4.54	3.46	2.55	.58
26	3.03	1.97	.98	-.89	1.76	-.10	2.46	.66	3.94	2.42	3.36	2.10
27	2.58	.80	1.85	-.51	1.87	.04	2.85	1.05	3.31	2.34	3.65	1.01
28	2.82	1.10	1.88	.16	1.90	.01	2.46	-.64	3.25	2.15	1.07	-.36
29	2.58	1.32	2.04	.15	1.15	-.98	1.84	.49	---	---	2.33	-.59
30	1.74	-1.94	2.69	.80	2.13	.04	2.03	.63	---	---	2.17	.43
31	1.20	-1.25	---	---	2.36	.57	2.09	.79	---	---	2.38	-.32
MONTH	3.85	-1.94	4.47	-.89	4.16	-2.08	3.76	-1.41	4.63	-.35	3.87	-.59

08072050 SAN JACINTO RIVER NEAR SHELDON, TX--Continued

DAY	MAX		MIN		GAGE HEIGHT, FEET,		WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994		MAX		MIN		MAX		MIN	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER					
1	2.28	.27	2.69	.41	2.99	1.50	2.15	.74	2.84	.76	2.89	.91				
2	2.79	.58	3.52	1.64	2.78	1.79	2.13	.67	2.93	1.05	2.35	.72				
3	2.47	.21	2.74	1.39	2.93	1.46	2.36	.74	3.02	1.46	2.27	.57				
4	2.71	.47	2.55	1.37	2.76	1.31	2.44	.79	2.78	.91	2.44	.56				
5	3.03	1.66	2.85	1.43	2.86	1.15	2.78	.99	2.56	.73	2.84	.88				
6	2.33	-.04	2.80	1.50	2.88	1.12	2.58	.88	2.55	.49	2.78	1.40				
7	2.77	.47	2.68	1.39	2.78	.87	2.67	.64	2.49	.77	2.91	1.29				
8	3.08	1.99	2.47	.97	2.92	1.00	2.61	.76	2.55	.85	2.88	1.14				
9	3.45	1.90	2.42	.62	2.90	.90	2.85	.73	2.65	.96	2.72	1.28				
10	3.68	2.19	2.49	.82	3.32	.95	2.80	.93	2.89	1.32	2.96	1.34				
11	3.68	2.25	2.83	.68	3.05	.50	2.62	.67	2.55	1.41	3.30	1.62				
12	2.88	1.41	2.69	.71	2.78	.73	2.73	1.00	2.67	1.53	3.18	1.33				
13	2.71	.90	3.38	1.00	3.01	.93	2.70	1.27	2.81	1.11	3.40	1.33				
14	3.16	1.30	3.80	1.53	3.34	1.30	2.86	1.59	2.69	.87	3.83	1.60				
15	3.07	1.18	3.22	1.44	3.38	1.91	2.49	1.09	2.41	.67	3.54	2.16				
16	2.56	1.03	4.35	2.75	2.91	1.41	2.37	.57	2.66	.47	3.28	1.67				
17	3.02	1.14	4.23	2.46	2.45	.88	2.23	.50	2.68	.64	2.87	1.17				
18	3.35	1.49	3.21	2.26	2.26	.58	2.19	.43	2.82	.79	2.85	1.17				
19	3.23	1.53	3.13	2.00	2.29	.46	2.35	.24	2.49	.73	2.53	1.42				
20	2.76	1.20	3.17	1.85	2.85	.49	2.45	.47	2.63	.83	2.72	1.25				
21	2.93	1.55	2.68	1.45	2.77	.65	2.44	.47	2.37	.97	2.72	1.06				
22	2.84	1.44	2.72	.94	2.64	.53	2.17	.42	2.36	.69	2.76	1.39				
23	2.66	1.18	2.39	.40	2.83	.35	1.93	.23	2.73	1.03	2.53	.86				
24	3.14	1.34	2.48	.15	3.03	.16	1.95	.30	2.29	1.46	2.74	.82				
25	3.68	1.63	2.89	.44	2.22	.07	2.02	.45	2.40	1.35	2.03	.58				
26	3.77	1.60	2.99	.73	2.35	.30	2.14	.80	2.60	1.18	2.26	1.08				
27	4.00	1.71	2.81	.50	2.12	.60	1.92	.05	2.73	1.44	2.51	.89				
28	4.02	2.33	2.83	.62	2.02	.66	1.86	.64	2.77	1.18	2.43	.64				
29	3.87	1.86	3.16	.89	1.65	.96	2.18	.94	2.68	1.22	2.43	.77				

08072300 BUFFALO BAYOU NEAR KATY, TX

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

DRAINAGE AREA.--63.3 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 75.02 ft above National Geodetic Vertical Datum of 1929, 1973 adjustment. All records adjusted to original site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Stage-discharge relationship affected by seasonal vegetation during most years. Gage located at temporary site 250 ft upstream Jan. 18 to Sept. 30, 1985. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,150 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 21	0300	3,780	38.85	May 16	0430	1,680	33.23

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	7.7	1.3	2.0	4.6	36	1.2	216	6.6	1.5	14	9.9
2	1.4	21	2.8	2.0	3.1	35	1.1	302	4.3	1.2	14	4.1
3	1.3	36	8.5	2.0	2.5	25	.97	154	14	1.3	4.9	2.4
4	1.2	43	233	5.2	1.9	21	.97	76	28	1.7	49	1.6
5	1.2	37	107	2.2	1.7	17	1.2	48	25	1.7	e115	1.5
6	1.1	19	65	1.6	1.7	17	1.8	28	18	1.4	e123	1.4
7	1.0	8.6	36	1.5	1.6	13	1.0	17	8.5	1.7	e94	1.3
8	1.1	11	23	1.3	1.5	10	.95	14	2.8	1.5	e54	25
9	1.1	23	17	1.7	8.2	414	.97	9.9	2.0	1.4	e78	122
10	1.0	13	28	2.1	166	174	.97	6.4	1.6	1.4	e124	146
11	1.1	8.4	19	3.3	157	77	1.0	3.1	13	2.0	e63	182
12	29	5.0	11	1.9	70	45	1.1	3.0	15	12	e27	129
13	171	3.1	7.7	1.6	46	29	1.1	41	7.7	4.5	e24	119
14	102	26	4.9	1.9	26	19	1.1	145	9.3	7.4	e21	106
15	62	18	3.2	1.6	15	14	5.3	170	6.9	2.9	e18	70
16	50	370	2.6	1.6	9.9	16	12	1310	5.2	1.0	e11	48
17	39	300	7.3	2.5	6.0	11	4.8	605	3.4	.90	e8.0	35
18	29	112	10	12	3.9	6.8	1.8	329	2.2	.99	e6.8	22
19	20	67	9.0	7.1	2.7	6.1	1.1	189	2.1	4.2	e11	15
20	51	41	6.2	4.7	626	2.9	1.1	124	1.8	2.8	e16	9.8
21	202	20	4.0	3.5	2810	2.2	4.8	83	1.6	1.2	e7.6	6.9
22	96	11	20	2.7	1110	1.8	9.8	54	2.0	1.7	e5.0	4.4
23	58	6.5	28	2.3	695	1.8	2.1	37	67	9.3	32	2.9
24	41	4.7	17	2.3	289	1.5	1.9	20	e131	2.0	55	2.2
25	34	2.5	8.7	5.8	155	1.4	1.8	13	e63	.98	30	2.3
26	34	1.8	4.9	4.5	95	1.4	1.7	10	27	2.0	16	2.1
27	28	1.7	3.2	23	61	1.2	1.6	7.0	12	6.0	13	2.5
28	22	1.4	2.5	42	41	1.1	1.5	6.4	4.9	5.1	12	2.2
29	20	1.4	2.4	21	---	2.2	1.5	4.8	2.2	4.7	5.7	2.4
30	23	1.4	2.4	13	---	2.4	284	16	1.5	3.9	3.9	4.0
31	15	---	2.2	7.9	---	1.4	---	11	---	16	6.3	---
TOTAL	1139.1	1222.2	697.8	187.8	6411.3	1007.2	352.23	4052.6	489.6	106.37	1062.2	1082.9
MEAN	36.7	40.7	22.5	6.06	229	32.5	11.7	131	16.3	3.43	34.3	36.1
MAX	202	370	233	42	2810	414	284	1310	131	16	124	182
MIN	1.0	1.4	1.3	1.3	1.5	1.1	.95	3.0	1.5	.90	3.9	1.3
AC-FT	2260	2420	1380	373	12720	2000	699	8040	971	211	2110	2150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1994, BY WATER YEAR (WY)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	31.1	54.8	66.8	71.4	83.9	34.4	52.2	67.7	75.5	29.2	27.1	52.7					
MAX	99.4	223	376	224	356	129	330	173	292	136	76.7	320					
(WY)	1985	1983	1992	1979	1992	1992	1991	1993	1993	1981	1989	1979					
MIN	2.07	4.95	2.17	4.64	2.64	1.57	2.91	2.45	2.73	3.43	8.05	1.90					
(WY)	1988	1981	1990	1986	1988	1981	1987	1978	1990	1994	1980	1982					

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1978 - 1994

ANNUAL TOTAL	31039.6	17811.30	
ANNUAL MEAN	85.0	48.8	53.6
HIGHEST ANNUAL MEAN			137
LOWEST ANNUAL MEAN			12.4
HIGHEST DAILY MEAN	2040	2810	2810
LOWEST DAILY MEAN	1.0	.90	.30
ANNUAL SEVEN-DAY MINIMUM	1.1	1.0	.34
INSTANTANEOUS PEAK FLOW		3780	3780
INSTANTANEOUS PEAK STAGE		38.85	38.85
ANNUAL RUNOFF (AC-FT)	61570	35330	38850
10 PERCENT EXCEEDS	232	109	111
50 PERCENT EXCEEDS	18	7.3	7.3
90 PERCENT EXCEEDS	2.4	1.4	1.5

e Estimated

SAN JACINTO RIVER BASIN

08072500 BARKER RESERVOIR NEAR ADDICKS, TX

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

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

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

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

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

REMARKS.--The reservoir is formed by a rolled earthfill dam 71,900 ft long. The dam was completed Feb. 3, 1946, but was used as early as the spring of 1945 for flood control. The reservoir is operated for flood protection for the city of Houston. The controlled outlet works consist of five concrete conduits, 9 x 7 ft wide, each controlled by a vertical slide gate. Figures given herein represent total contents. Satellite telemeter at station. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	114.7	-
Ground elevation at ends of dam.....	106.0	209,000
Design flood.....	105.4	199,000
Crest of spillway (invert).....	73.2	0

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 66,780 acre-ft Mar. 6-7, 1992 (elevation, 95.89 ft); minimum, reservoir dry at times.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 22,660 acre-ft February 24 at 1345 hours (elevation, 91.34 ft); minimum, 0.12 acre-ft Dec. 2 (elevation, 73.68 ft).

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

73.2	0	80.4	49	85.0	2,430	91.0	20,530
76.3	2	81.0	100	86.0	3,980	92.0	27,320
76.9	4	81.6	192	87.0	6,000	93.0	35,800
77.6	8	82.2	331	88.0	8,580	94.0	46,290
78.4	14	83.0	666	89.0	11,760	95.0	56,420
79.2	22	84.0	1,370	90.0	15,620	96.0	68,160
79.8	32						

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.22	.13	.13	.22 19310		112	1570	.18	.16	.21	.24
2	.13	.20	.12	.13	.20 17410		152	3450	.30	.15	.21	.18
3	.14	.35	.14	.13	.16 15070		190	4400	.24	.14	.20	.15
4	.14	.35	2.05	.13	.15 12720		225	3690	.48	.14	.19	.14
5	.14	.33	17.8	.13	.15 10960		265	2030	.28	.15	3.15	.13
6	.14	.28	8.69	.13	.14 9510		331	229	.24	.15	81.2	.13
7	.13	.22	.42	.13	.14 8780		331	.21	.19	.15	18.1	.13
8	.13	.20	.31	.12	.14 8320		14.2	.17	.17	.15	.35	.13
9	.13	.31	.24	.12	.24 10230		.19	.21	.16	.15	1.02	356
10	.13	.23	.75	.12	1300 10490		.19	.18	.17	.15	1.42	1000
11	.13	.19	.41	.26	3640 9480		.13	.17	.19	.15	.64	1620
12	1.00	.16	.27	.17	3820 7950		.14	.15	.22	.16	.35	2750
13	466	.15	.22	.15	3320 7120		.13	.32	.26	.19	.25	3420
14	700	.84	.16	.13	2180 6410		.13	55.4	.21	.18	.21	3850
15	33.7	.42	.16	.12	1350 6340		.13	1090	.18	.18	.19	3980
16	.43	376	.14	.12	24.4 6340		.24	5030	.20	.16	.18	3940
17	.35	2520	.30	.15	.43 5500		.17	9210	.27	.15	.18	4070
18	.30	2650	.26	.13	.20 4030		.15	10860	.20	.14	.19	4120
19	.25	1800	.24	.15	.18 2310		.13	10390	.27	.14	.15	3050
20	31.2	570	.21	.14	169 1280		.13	9240	1.80	.16	.14	1060
21	1050	.43	.19	.14	10360 912		.12	7730	17.3	.16	.17	.18
22	1070	.28	.41	.13	18190 500		.26	5980	22.6	.16	.19	.15
23	442	.22	.32	.13	22080 .125		.16	4170	85.1	.15	.18	.14
24	1.44	.19	.25	.14	22530 87.1		.17	2040	1100	.19	.37	.13
25	.35	.16	.19	.18	22020 146		.16	373	1260	.17	.33	.12
26	.29	.15	.16	.15	21260 3.25		.14	.31	778	.15	.23	.13
27	.28	.14	.15	10.4	20040 12.9		.13	.19	12.8	.15	.21	.13
28	.24	.14	.15	180	19360 22.3		.13	.17	.19	.18	.26	.13
29	.30	.14	.13	26.2	---	33.0	.12	.16	.19	.18	.24	.13
30	.26	.13	.13	.43	---	46.7	112	.38	.17	.17	.27	.14
31	.25	---	.13	.28	---	74.8	---	.24	---	.17	.25	---
MAX	1070	2650	17.8	180	22530	19310	331	10860	1260	.19	81.2	4120
MIN	.13	.13	.12	.12	.14	3.25	.12	.15	.16	.14	.14	.12

CAL YR 1993 MAX 34680 MIN .12
WTR YR 1994 MAX 22530 MIN .12

08072730 BEAR CREEK NEAR BARKER, TX

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

DRAINAGE AREA.--21.5 mi². Prior to Oct. 1, 1988, 19.8 mi². Change due to road and ditch relocations.

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

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

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

REMARKS.--Records fair. Channel was rectified in 1981 and 1987 water years. Considerable diversions and return of irrigation water from area above station. Several observations of water temperature were made during the year. Maximum gage height for period of record occurred prior to channel rectification. Gage at temporary location 1,100 ft downstream Mar. 1, 1984, to Mar. 12, 1985. Satellite telemeter at station.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	2000	808	11.18	Aug. 9	1230	452	8.57
May 16	0400	434	8.42				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.67	.43	.63	.96	11	.39	24	5.0	.12	.36	5.8
2	e.00	3.7	.40	.52	.73	7.8	.39	51	4.2	1.3	.40	2.5
3	e.00	11	1.1	.49	.53	4.1	.37	22	5.9	1.4	1.5	.86
4	e.00	12	39	.59	.49	2.6	.35	9.1	83	.94	3.1	.63
5	e.00	9.2	18	1.1	.49	1.4	.37	3.9	69	.75	79	.69
6	.11	5.1	10	1.2	.49	1.1	.59	1.8	25	1.3	55	.53
7	1.9	2.5	5.9	.77	.46	1.1	.56	.72	12	3.3	31	.45
8	1.3	1.8	3.8	.56	.45	.78	.45	.49	4.7	2.2	22	.52
9	.36	7.5	2.6	.49	3.5	184	.39	.42	1.2	2.0	194	116
10	.10	1.8	3.2	.49	140	81	.37	.42	6.2	1.8	77	62
11	.03	.48	2.8	2.3	75	43	.35	.34	57	2.2	39	70
12	1.9	.18	1.7	2.1	30	29	.41	.48	42	2.9	25	53
13	48	.08	1.3	1.1	18	17	.42	13	32	2.5	18	40
14	16	15	1.0	.89	9.0	9.1	.39	72	25	6.1	15	34
15	7.0	11	.80	.68	4.2	6.0	1.0	48	12	6.9	11	26
16	6.4	135	.71	.45	2.6	4.9	4.6	298	5.2	5.9	5.6	15
17	5.5	113	.93	.49	1.6	3.1	2.3	156	1.5	3.3	3.9	9.4
18	3.5	38	1.6	.46	1.6	2.0	.69	122	.33	2.3	14	5.4
19	3.3	26	1.5	.39	1.6	1.3	.53	90	.24	.94	9.7	3.5
20	31	19	1.2	.39	175	.99	.35	48	.29	.70	3.0	2.0
21	77	12	.90	.39	484	.80	.28	32	.39	.96	1.4	1.2
22	19	8.0	5.4	.40	283	.67	.34	23	.33	1.1	2.0	.89
23	8.7	5.2	6.4	.4	225	.61	.39	16	11	.56	43	.74
24	5.0	3.5	2.8	.54	96	.58	.57	9.6	12	.38	23	.68
25	3.1	2.2	1.6	.94	64	.60	.64	5.8	2.4	.21	5.2	e.64
26	1.8	1.4	1.1	1.2	43	.62	.44	2.4	.63	.20	1.5	e.54
27	1.0	.96	.83	56	25	.58	.31	1.2	.72	.36	.82	e.46
28	.61	.68	.81	13	16	.47	.23	.58	.36	.34	.66	e.39
29	.89	.53	.81	4.1	---	.42	.19	.30	.24	.87	.71	e.33
30	2.6	.47	.81	3.2	---	.39	54	16	.13	.97	1.7	e.27
31	1.3	---	.77	1.6	---	.39	---	10	---	.51	1.8	---
TOTAL	247.40	447.95	120.20	97.93	1702.70	417.40	72.66	1078.55	419.96	55.31	689.35	454.42
MEAN	7.98	14.9	3.88	3.16	60.8	13.5	2.42	34.8	14.0	1.78	22.2	15.1
MAX	77	135	39	56	484	184	54	298	83	6.9	194	116
MIN	.00	.08	.40	.39	.45	.39	.19	.30	.13	.12	.36	.27
AC-FT	491	889	238	194	3380	828	144	2140	833	110	1370	901

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1994, BY WATER YEAR (WY)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	13.5	23.6	23.0	25.5	27.4	12.9	17.6	28.6	31.9	12.0	11.9	20.5					
MAX	73.1	98.2	131	91.0	120	52.7	119	89.5	106	45.3	53.1	128					
(WY)	1985	1983	1992	1979	1992	1993	1991	1983	1986	1983	1983	1979					
MIN	.010	.034	.098	.75	.61	.26	.029	1.28	1.19	1.27	.76	.10					
(WY)	1989	1989	1990	1986	1988	1982	1987	1985	1980	1985	1990	1990					

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1978 - 1994

ANNUAL TOTAL	10810.16	5803.83	
ANNUAL MEAN	29.6	15.9	20.6
HIGHEST ANNUAL MEAN			48.4
LOWEST ANNUAL MEAN			4.45
HIGHEST DAILY MEAN	569	Jun 20	1120
LOWEST DAILY MEAN	.00	Aug 11*	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 11	.00
INSTANTANEOUS PEAK FLOW			2060
INSTANTANEOUS PEAK STAGE			16.72
ANNUAL RUNOFF (AC-FT)	21440	11510	14940
10 PERCENT EXCEEDS	95	43	50
50 PERCENT EXCEEDS	3.2	1.6	1.8
90 PERCENT EXCEEDS	.03	.37	.04

e Estimated

SAN JACINTO RIVER BASIN

08072760 LANGHAM CREEK AT WEST LITTLE YORK ROAD NEAR ADDICKS, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°52'01", long 95°38'47", Harris County, Hydrologic Unit 12040104, at bridge on West Little York Road, 500 ft upstream from former site, 2.1 mi downstream from Dinners Creek, and 5.7 mi north of Addicks.

DRAINAGE AREA.--24.6 mi².

PERIOD OF RECORD.--July 1977 to September 1980 (daily mean discharge). October 1980 to September 1982 (peak discharges greater than base discharge and annual maximum), October 1982 to September 1989 (annual maximum). October 1989 to current year (peak discharges greater than base discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 90.00 ft above National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records good. Rain gage at station. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,790 ft³/s June 19, 1993 (gage height 22.65 ft); maximum gage height 24.42 ft Sept. 19, 1979; no flow for a few days during period July to September 1977, and during the 1978 and 1980 water years.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 16	1430	636	18.33	Mar. 9	0700	565	17.94
Jan. 27	1330	504	17.58	May 16	0230	1,010	20.08
Feb. 10	1200	558	17.90	June 10	1830	675	18.54
Feb. 20	2030	1,580	21.93	Aug. 9	1200	540	17.79

08073000 ADDICKS RESERVOIR NEAR ADDICKS, TX

LOCATION.--Lat 29°47'28", long 95°37'24", Harris County, Hydrologic Unit 12040104, at dam on South Mayde Creek, 65 ft upstream from reservoir outlet works, 2,700 ft upstream from U.S. Highway 90 and Interstate Highway 10, 1.2 mi east of Addicks, and 1.4 mi upstream from mouth.

DRAINAGE AREA.--136 mi². Prior to Aug. 1, 1977, 133 mi². Basin boundary change due to relocation of drainage ditches. During extreme floods, basin may receive and (or) lose runoff due to basin interchange.

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

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

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

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

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	122.7	-
Design flood.....	112.7	212,500
Ground elevation at ends of dam.....	112.0	200,800
Crest of spillway (invert).....	71.1	0

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 57,950 acre-ft Mar 9, 1992 (elevation, 100.58 ft); minimum, reservoir was dry at times.

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 18,030 acre-ft Feb. 24 at 1015 hours (elevation, 94.32 ft); minimum, 0.29 acre-ft Dec. 2 (elevation, 71.56 ft).

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

71.1	0	75.5	13	81.0	295	87.0	2,320	92.0	9,930	97.0	32,040
71.9	0.5	76.0	21	82.0	414	88.0	3,190	93.0	12,980	98.0	38,460
72.4	1	77.0	47	83.0	598	89.0	4,300	94.0	16,700	99.0	45,500
73.6	2	78.0	85	84.0	870	90.0	5,710	95.0	21,120	100.0	53,180
74.6	4	79.0	134	85.0	1,220	91.0	7,540	96.0	26,260	101.0	61,570
75.1	8	80.0	202	86.0	1,680						

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	.56	.29	.40	.49	16180	123	1260	.54	.44	.58	38
2	.42	.82	.31	.40	.45	14990	117	2430	2.2	.44	.54	28
3	.43	1.5	.42	.42	.39	13500	113	2730	.73	.45	.57	1.4
4	.43	1.3	152	.41	.39	11960	109	1810	179	.46	.77	1.4
5	.44	1.1	92	.42	.40	10620	107	554	270	.46	125	1.3
6	.44	1.1	1.2	.43	.40	9500	123	16	1.9	.47	426	1.4
7	.44	.97	.60	.41	.39	8850	148	.50	.82	.58	224	1.2
8	.46	1.0	.74	.40	.39	8420	66	.47	.63	.54	60	1.4
9	.44	2.1	.48	.41	.73	10230	1.1	.42	.55	.49	654	978
10	.49	.89	1.1	.42	2210	10860	1.5	.41	27	.49	1410	2060
11	.46	.69	.50	2.3	4970	9930	.50	.39	205	.47	701	2660
12	70	.68	.43	.58	4870	8610	.68	.41	318	.52	49	3090
13	770	.72	.38	.43	4290	7950	.51	21	164	.50	.81	3090
14	714	63	.39	.41	3150	7380	.49	202	1.5	.53	.74	2950
15	26	46	.41	.41	2150	7260	.51	982	.95	.55	1.0	2880
16	.90	781	.41	.41	975	7180	1.8	6040	.76	.55	.73	2590
17	.71	2440	.70	.42	2.7	6300	.86	8750	.74	.51	.74	2620
18	.57	1910	.55	.43	.65	4870	.64	9450	.60	.55	95	2620
19	.55	885	.55	.42	.58	3460	.60	8680	.54	.54	1.2	1970
20	200	54	.42	.41	196	2400	.58	7560	5.6	.57	.70	739
21	1170	.44	.45	.41	8590	2000	.39	6280	140	.55	.62	2.3
22	975	.49	6.7	.39	14660	1170	.38	4910	190	.96	1.5	.44
23	288	.42	.80	.41	17520	495	.39	3550	503	.67	61	.41
24	.57	.38	.49	.42	17900	420	.41	2090	1470	.64	112	.41
25	.65	.37	.43	.95	17480	432	.43	907	1620	.58	1.2	.43
26	.53	.35	.40	.55	17030	254	.38	213	1120	.70	1.0	.41
27	.47	.33	.39	298	16500	231	.36	.78	260	.58	1.1	.40
28	.46	.32	.39	1000	16260	243	.36	1.4	.45	.65	.93	.41
29	1.1	.32	.39	910	---	260	.35	.65	.47	.55	1.1	.44
30	1.2	.30	.39	505	---	273	65	5.4	.45	.56	1.2	.44
31	.74	---	.40	1.2	---	199	---	1.1	---	.65	1.3	---
MAX	1170	2440	152	1000	17900	16180	148	9450	1620	.96	1410	3090
MIN	.42	.30	.29	.39	.39	199	.35	.39	.45	.44	.54	.40

CAL YR 1993 MAX 31190 MIN .29
WTR YR 1994 MAX 17900 MIN .29

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

DRAINAGE AREA.--293 mi².

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

Water-quality records.--Chemical analyses: October 1962 to March 1963. Chemical, biochemical, and pesticide analyses: August 1970 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

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

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Floodflows are regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000), 3.2 and 3.0 mi upstream, respectively (total capacity, 315,900 acre-ft). Extreme low flow is sustained by drainage from irrigated lands, and from minor sewage effluent.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	e50	e25	38	105	e80	126	125	106	53	53	105
2	31	e35	31	36	76	e990	38	210	165	46	54	184
3	31	115	34	37	62	e1500	37	180	171	44	56	90
4	31	126	278	41	56	e1600	36	999	267	41	70	65
5	28	e90	400	43	57	e1400	37	1450	369	50	253	46
6	28	e80	310	48	55	e1300	65	1180	289	43	486	46
7	24	e50	179	44	53	717	45	349	117	49	500	42
8	26	77	116	39	50	631	139	112	87	51	317	46
9	26	165	92	39	67	e300	206	93	81	109	314	590
10	34	107	273	42	652	995	50	88	149	54	297	70
11	29	e50	192	108	779	e1400	51	79	277	45	605	34
12	177	e35	110	113	1240	e1500	57	71	342	44	573	138
13	309	e30	77	64	1140	e1300	60	129	354	52	175	265
14	414	126	59	47	1220	520	48	494	256	52	109	381
15	914	294	47	43	1010	e450	41	364	105	55	85	289
16	332	552	62	42	947	87	101	529	83	52	69	373
17	133	731	103	46	700	502	119	264	70	47	86	36
18	e60	1380	124	53	144	1290	68	e450	115	47	237	34
19	e50	1350	100	47	78	e1000	56	e1400	116	43	176	558
20	272	1180	85	49	161	e900	49	e1450	279	48	69	1270
21	418	521	64	45	176	372	48	e1400	344	52	54	968
22	817	131	132	43	114	449	68	e1350	182	63	253	101
23	866	e70	195	40	209	624	91	e1300	213	60	221	47
24	581	e50	111	44	1060	224	52	e1300	183	62	216	42
25	164	e35	79	56	1750	35	75	e1200	372	52	209	40
26	e80	e30	55	87	946	207	62	700	660	44	107	38
27	e60	e29	49	256	919	98	49	221	778	47	122	36
28	e50	e28	48	518	e900	23	46	99	389	48	96	37
29	e80	e27	43	527	---	26	42	91	85	50	137	35
30	e100	e26	39	401	---	26	197	243	62	48	95	35
31	e80	---	37	362	---	31	---	168	---	46	127	---
TOTAL	6277	7570	3549	3398	14726	20577	2159	18088	7066	1597	6221	6041
MEAN	202	252	114	110	526	664	72.0	583	236	51.5	201	201
MAX	914	1380	400	527	1750	1600	206	1450	778	109	605	1270
MIN	24	26	25	36	50	23	36	71	62	41	53	34
AC-FT	12450	15020	7040	6740	29210	40810	4280	35880	14020	3170	12340	11980

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1994, BY WATER YEAR (WY)

	201	238	242	265	323	184	205	302	303	192	126	211
MEAN	201	238	242	265	323	184	205	302	303	192	126	211
MAX	1044	1790	884	1107	1508	1563	1438	1599	1135	971	664	1186
(WY)	1958	1947	1977	1992	1992	1992	1992	1968	1992	1993	1983	1981
MIN	2.05	.48	1.35	2.00	3.84	.91	2.63	4.54	4.42	1.78	1.61	12.1
(WY)	1957	1956	1949	1957	1951	1956	1955	1951	1954	1956	1948	1948

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1945 - 1994

ANNUAL TOTAL	172190	97269	
ANNUAL MEAN	472	266	
HIGHEST ANNUAL MEAN			232
LOWEST ANNUAL MEAN			784
HIGHEST DAILY MEAN	2340	1750	23.3
LOWEST DAILY MEAN	24	23	6790
ANNUAL SEVEN-DAY MINIMUM	28	28	.00
INSTANTANEOUS PEAK FLOW		2300	.00
INSTANTANEOUS PEAK STAGE		62.64	11200
ANNUAL RUNOFF (AC-FT)	341500	192900	81.23
10 PERCENT EXCEEDS	1470	906	168100
50 PERCENT EXCEEDS	206	92	745
90 PERCENT EXCEEDS	36	37	46
			5.0

e Estimated

SAN JACINTO RIVER BASIN

83

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX

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

DRAINAGE AREA.--307 mi², unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 0.67 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records good. Stage discharge relationship is affected by seasonal vegetal growth during most years. High water flow is a combination of regulated flow from Barker and Addicks Reservoirs (stations 08072500 and 08073000, located 10.1 and 10.3 mi upstream, respectively), and runoff from highly urbanized areas below these reservoirs. Low flow is mostly sustained by sewage effluent. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	88	58	56	129	e80	102	191	103	65	65	121
2	57	76	60	57	83	1180	41	275	221	59	68	346
3	56	169	67	58	73	1600	40	270	217	57	71	179
4	58	147	321	58	63	1680	40	838	284	57	108	77
5	58	134	414	57	65	1470	60	1300	434	72	311	61
6	55	109	356	60	62	1370	119	1140	355	56	563	61
7	54	93	226	58	63	727	50	424	135	58	574	59
8	55	139	137	57	62	601	209	103	83	63	400	70
9	56	211	109	54	91	700	179	83	71	181	446	779
10	62	138	410	54	796	1080	55	76	332	72	320	107
11	60	87	242	134	742	1480	57	70	317	60	616	56
12	248	74	131	137	1170	1580	70	65	439	57	638	258
13	448	69	93	72	1120	1210	62	214	389	64	227	314
14	342	195	82	57	1150	714	55	563	305	64	111	478
15	886	337	70	53	1060	493	53	487	116	66	134	249
16	409	1030	79	56	896	153	125	1000	91	64	80	463
17	152	665	211	61	819	705	108	416	148	60	240	46
18	114	1270	151	62	190	1210	67	459	139	61	362	42
19	94	1280	115	60	87	e1100	59	1440	170	58	218	434
20	709	1170	99	61	290	1060	55	1510	734	59	86	1140
21	598	645	82	59	472	430	54	1480	545	62	78	987
22	815	166	184	58	163	549	80	1440	256	69	645	146
23	898	107	243	55	374	608	79	1400	380	72	475	57
24	661	88	128	59	1270	206	74	1380	257	75	382	56
25	194	78	87	64	1430	39	79	1260	375	67	297	49
26	120	73	69	88	954	299	63	746	695	59	130	44
27	98	69	64	394	953	72	56	284	769	61	236	44
28	89	65	78	542	e900	31	54	93	448	62	113	44
29	111	64	61	572	---	34	52	91	88	63	215	45
30	149	62	58	439	---	33	411	366	70	62	143	44
31	106	---	57	386	---	54	---	203	---	60	154	---
TOTAL	7868	8898	4542	4038	15527	22548	2608	19667	8966	2065	8506	6856
MEAN	254	297	147	130	555	727	86.9	634	299	66.6	274	229
MAX	898	1280	414	572	1430	1680	411	1510	769	181	645	1140
MIN	54	62	57	53	62	31	40	65	70	56	65	42
AC-FT	15610	17650	9010	8010	30800	44720	5170	39010	17780	4100	16870	13600

SAN JACINTO RIVER BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1994, BY WATER YEAR (WY)

MEAN	254	329	343	396	437	307	304	397	452	286	198	325
MAX	757	1012	961	1133	1619	1701	1639	965	1129	956	784	1278
(WY)	1974	1975	1977	1992	1992	1992	1992	1992	1973	1993	1983	1981
MIN	58.5	38.4	62.4	84.8	36.2	39.6	46.0	58.7	65.7	66.6	67.4	60.0
(WY)	1979	1972	1990	1986	1976	1976	1978	1978	1982	1994	1980	1988

SUMMARY STATISTICS

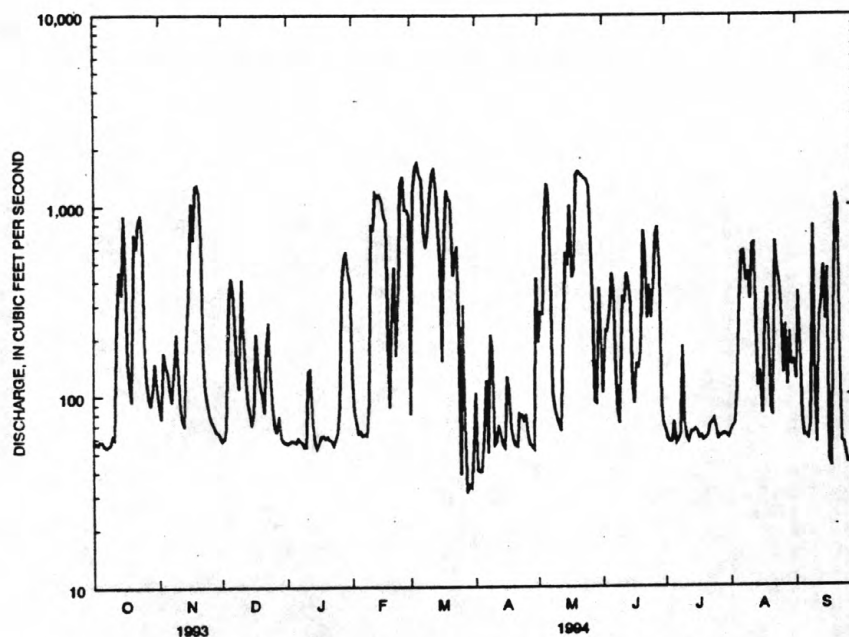
FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1972 - 1994

ANNUAL TOTAL	188418		112089									
ANNUAL MEAN	516		307									
HIGHEST ANNUAL MEAN										335		
LOWEST ANNUAL MEAN										854		1992
HIGHEST DAILY MEAN	2930	Jun 20	1680	Mar 4						142		1988
LOWEST DAILY MEAN	42	Mar 17	31	Mar 28						3820	Aug 31	1981
ANNUAL SEVEN-DAY MINIMUM	56	Aug 20	47	Sep 24						20	Apr 20	1990
INSTANTANEOUS PEAK FLOW			2150	May 16						27	Nov 13	1971
INSTANTANEOUS PEAK STAGE			53.58	May 16						7290	Mar 4	1992
ANNUAL RUNOFF (AC-FT)	373700		222300							68.30	Mar 4	1992
10 PERCENT EXCEEDS	1480		921							242600		
50 PERCENT EXCEEDS	258		114							990		
90 PERCENT EXCEEDS	61		56							109		
										48		

e Estimated



08073600 BUFFALO BAYOU AT WEST BELT DRIVE AT HOUSTON, TX
MEAN DAILY DISCHARGE (CFS)

SAN JACINTO RIVER BASIN

85

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: June 1978 to current year. Chemical and biochemical analyses: June 1978 to August 1986. Pesticide analyses: June 1978 to March 1983. Sediment analyses: May 1979 to August 1986.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1979 to September 1981.

WATER TEMPERATURES: June 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

WATER TEMPERATURE: Maximum daily, 30.5°C July 1, 1978; minimum daily, 1.0°C Nov. 27, 1980.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC 07...	1235	213	366	7.8	15.0	140	55	9.7	96	4.1
MAY 19...	0832	1420	102	6.4	24.0	140	63	7.0	83	3.3
JUL 21...	0910	60	795	7.3	27.0	14	21	7.4	93	2.0
SEP 02...	0845	146	464	7.5	27.0	55	38	8.2	103	2.7
DATE	BOD OXYGEN DEMAND, BIOCHEM CARBON, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)
DEC 07...	2.5	81	2	25	4.5	39	2	6.8	79	24
MAY 19...	2.5	30	0	9.6	1.5	7.5	0.6	3.2	30	5.3
JUL 21...	--	150	0	48	7.6	110	4	8.4	180	30
SEP 02...	1.6	89	0	28	4.6	60	3	6.2	120	17
DATE	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)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
DEC 07...	39	0.30	11	206	56	14	42	1.62	1.62	0.080
MAY 19...	8.2	0.10	5.5	61	56	16	40	0.310	0.310	0.030
JUL 21...	110	0.40	19	465	38	18	20	4.95	4.95	0.050
SEP 02...	52	0.30	14	270	90	26	64	2.61	2.61	0.090
DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PD4)	CARBON, ORGANIC TOTAL (MG/L AS C)	
DEC 07...	1.70	1.70	0.420	0.58	1.0	0.460	0.450	1.4	12	
MAY 19...	0.340	0.340	0.090	0.71	0.80	0.160	0.150	0.46	12	
JUL 21...	5.00	5.00	0.070	0.63	0.70	1.00	1.00	3.1	6.7	
SEP 02...	2.70	2.70	0.110	0.49	0.60	0.900	0.900	2.8	9.7	

SAN JACINTO RIVER BASIN

08073700 BUFFALO BAYOU AT PINEY POINT, TX

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

DRAINAGE AREA.--317 mi².

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

Water-quality records.--Chemical, biochemical, and pesticide analyses: October 1970 to September 1978.

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

REMARKS.--Records good. High-water flow is a combination of regulated flow from Barker and Addicks Reservoirs (stations 08072500 and 08073000), located 14.0 and 13.8 mi upstream from gage, respectively, and runoff from highly urbanized areas below these reservoirs. Low flow is mostly sustained by sewage effluent. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	113	78	73	186	92	119	210	115	70	65	132
2	56	96	80	72	98	1010	53	340	206	64	68	388
3	56	216	90	71	86	1600	53	232	239	60	67	253
4	59	175	397	73	76	1720	52	748	258	58	105	81
5	59	162	487	71	79	1540	63	1300	433	82	275	64
6	56	135	437	74	74	1420	165	1180	353	61	536	61
7	54	116	268	72	75	771	63	478	158	62	555	59
8	57	165	171	70	72	671	169	111	91	66	396	66
9	58	265	142	67	108	742	198	88	77	215	458	851
10	63	176	500	68	782	1010	64	82	385	105	286	148
11	63	110	292	154	736	1480	65	77	315	66	585	68
12	269	92	169	168	1140	1610	87	72	449	61	647	260
13	553	92	125	94	1090	1310	69	203	382	65	253	315
14	297	246	110	72	1100	644	63	556	302	66	116	e500
15	877	387	91	67	1100	557	60	528	127	66	175	e350
16	502	1330	100	71	840	129	116	1240	96	67	99	522
17	176	692	293	79	879	612	113	496	141	62	263	62
18	139	1280	186	77	257	1180	75	483	147	61	410	54
19	113	1310	148	74	102	1270	68	1450	151	58	219	348
20	845	1200	128	76	217	1120	64	1550	777	57	101	1140
21	791	755	105	72	599	408	62	1560	689	61	91	1040
22	828	213	217	71	185	486	80	1520	309	67	844	201
23	919	140	281	66	334	592	90	1490	441	79	591	66
24	737	114	165	71	1190	228	98	1450	293	78	429	63
25	249	101	114	79	1460	54	87	1370	328	66	290	56
26	153	94	93	106	921	249	74	810	673	58	128	54
27	124	89	83	434	897	126	64	330	731	60	257	55
28	112	84	103	591	854	45	60	105	510	60	124	53
29	145	83	82	631	---	45	56	101	99	61	185	52
30	175	83	75	518	---	44	439	383	78	60	171	51
31	135	---	73	440	---	53	---	217	---	58	138	---
TOTAL	8776	10114	5683	4722	15537	22818	2889	20760	9353	2180	8927	7413
MEAN	283	337	183	152	555	736	96.3	670	312	70.3	288	247
MAX	919	1330	500	631	1460	1720	439	1560	777	215	844	1140
MIN	54	83	73	66	72	44	52	72	77	57	65	51
AC-FT	17410	20060	11270	9370	30820	45260	5730	41180	18550	4320	17710	14700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1994, BY WATER YEAR (WY)

	199	370	371	450	514	545	448	538	539	267	227	175
MEAN	199	370	371	450	514	545	448	538	539	267	227	175
MAX	472	942	945	1156	1673	1804	1708	1032	1295	1027	534	474
(WY)	1985	1985	1986	1992	1992	1992	1992	1992	1992	1993	1989	1991
MIN	64.2	69.6	75.0	88.5	71.8	93.5	63.9	107	82.2	70.3	103	70.5
(WY)	1989	1989	1990	1986	1988	1986	1987	1985	1990	1994	1993	1988

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1985 - 1994

ANNUAL TOTAL	206141	119172	
ANNUAL MEAN	565	326	
HIGHEST ANNUAL MEAN			386
LOWEST ANNUAL MEAN			907
HIGHEST DAILY MEAN	3970	1720	4740
LOWEST DAILY MEAN	54	44	24
ANNUAL SEVEN-DAY MINIMUM	57	55	39
INSTANTANEOUS PEAK FLOW		2570	7500
INSTANTANEOUS PEAK STAGE		46.64	61.23
ANNUAL RUNOFF (AC-FT)	408900	236400	279500
10 PERCENT EXCEEDS	1560	906	1140
50 PERCENT EXCEEDS	290	135	128
90 PERCENT EXCEEDS	73	60	57

e Estimated

SAN JACINTO RIVER BASIN

87

08074000 BUFFALO BAYOU AT HOUSTON, TX

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

DRAINAGE AREA.--358 mi², unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.36 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted for land-surface subsidence. Prior to June 19, 1936, nonrecording gage, and June 19, 1936, to Jan. 16, 1962, water-stage recorder at site 0.8 mi downstream at 4.08-feet lower datum. Jan. 17, 1962, to Sept. 30, 1973, auxiliary water-stage recorder 0.8 mi downstream. Water-stage recorder at Main Street (station 08074598) used as auxiliary gage after Sept. 30, 1993.

REMARKS.--Records fair. Although floodflows are regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) located 26.3 and 26.8 mi 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 relation for all storms that produce peak discharges above 2,000 ft³/s. Discharges below 1,000 ft³/s are computed or estimated following designated storm periods only. Low flow is mostly sustained by sewage effluent from Houston suburbs. Gage heights are affected by tides, backwater from Whiteoak Bayou, and other streams. Satellite telemeter at station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft³/s Mar. 4, 1992 (gage height, 34.63 ft); minimum daily, 1.3 ft³/s May 24, 1939, Nov. 5, 1950, occurred prior to urban development and accompanying sewage effluent releases.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,890 ft³/s Nov. 16 at 1400 hours (gage height, 21.19 ft); minimum discharges not determined (affected by tides).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	746	---	---	---	---	---	---
3	---	---	---	---	---	1800	---	---	---	---	---	---
4	---	---	---	---	---	2040	---	---	---	---	---	---
5	---	---	---	---	---	2000	---	1500	---	---	---	---
6	---	---	---	---	---	1730	---	1520	---	---	---	---
7	---	---	---	---	---	1120	---	1230	---	---	---	---
8	---	---	---	---	---	e1000	---	1200	---	---	---	---
9	---	---	---	---	---	e1500	---	---	---	---	---	---
10	---	---	---	---	---	e1000	---	---	---	---	---	---
11	---	---	---	---	---	1750	---	---	---	---	---	---
12	---	---	---	---	1340	1970	---	---	---	---	---	---
13	---	---	---	---	1390	1880	---	---	---	---	---	---
14	---	---	---	---	1330	775	---	---	---	---	---	---
15	---	---	---	---	1520	1030	---	---	---	---	---	---
16	---	3120	---	---	946	---	---	---	---	---	---	---
17	---	1430	---	---	1270	---	---	---	---	---	---	---
18	---	1460	---	---	---	1300	---	---	---	---	---	---
19	---	1640	---	---	---	1550	---	1440	---	---	---	---
20	1410	1510	---	---	---	1530	---	1840	---	---	---	1230
21	2170	1240	---	---	---	---	---	1820	1550	---	---	1400
22	903	---	---	---	---	---	---	1770	---	---	---	---
23	1150	---	---	---	---	---	---	1720	---	---	2110	---
24	996	---	---	---	1200	---	---	1670	---	---	---	---
25	---	---	---	---	1860	---	---	1670	---	---	---	---
26	---	---	---	---	1290	---	---	1090	---	---	---	---
27	---	---	---	---	1130	---	---	---	---	---	---	---
28	---	---	---	---	1290	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1968 to July 1981. Pesticide analyses: February 1, 1969 to July 1981.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1986 to current year.

WATER TEMPERATURE: April 1986 to current year.

DISSOLVED OXYGEN: April to current year.

INSTRUMENTATION.--Since April 1986, a three-parameter water-quality monitor continuously records specific conductance, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, >1020 microsiemens Oct. 16, 1987, Mar. 14, 1988; minimum 37 microsiemens Jun. 10, 1994.

WATER TEMPERATURE: Maximum, 31.5°C on several summer days during 1988-91, 93; minimum 5.0°C Dec. 24, 1989.

DISSOLVED OXYGEN: Maximum, 12.6 mg/L Feb. 12, 1994; minimum, 1.1 Aug. 9, 1988.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 873 microsiemens Apr. 9; minimum, 37 microsiemens Jun. 10.

WATER TEMPERATURE: Maximum, 31.5°C Jul. 17, 18, 23, 24; minimum, 6.0°C Feb. 11.

DISSOLVED OXYGEN: Maximum, 12.6 mg/L Feb. 12; minimum, 2.4 mg/L Jul. 24.

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	562	487	511	777	734	761	770	752	761
2	---	---	---	598	562	577	799	751	779	775	766	772
3	---	---	---	620	326	450	810	607	780	784	771	777
4	---	---	---	512	374	439	609	225	389	800	781	790
5	---	---	---	550	505	527	539	245	353	812	791	800
6	---	---	---	546	531	540	279	245	257	821	808	814
7	---	---	---	575	536	556	343	279	323	831	820	824
8	---	---	---	586	380	541	467	341	412	833	818	826
9	---	---	---	459	298	365	519	460	492	837	827	832
10	---	---	---	517	406	458	521	164	283	833	824	829
11	---	---	---	523	435	480	412	277	379	829	472	658
12	696	396	590	600	522	566	420	352	389	693	560	632
13	521	164	256	662	597	634	531	419	466	631	532	560
14	396	198	302	677	216	481	593	531	559	650	567	605
15	408	221	253	518	296	383	653	590	610	706	650	681
16	317	236	262	336	104	188	704	651	668	749	706	724
17	446	317	395	260	149	205	704	296	554	766	749	759
18	533	444	488	225	139	153	491	269	339	754	731	742
19	596	528	556	152	139	145	594	491	549	778	750	767
20	611	85	398	170	152	157	583	538	558	804	778	793
21	255	127	185	216	169	179	627	578	596	807	804	805
22	283	188	209	360	216	292	633	439	540	812	805	809
23	207	191	195	480	360	421	538	399	457	819	811	815
24	240	207	218	545	478	513	473	408	440	824	815	819
25	352	240	294	603	535	580	549	465	505	828	752	771
26	485	352	428	659	603	627	582	527	547	817	790	808
27	540	485	512	680	645	664	648	582	621	816	135	539
28	591	524	563	723	680	701	695	646	672	356	215	265
29	593	440	547	731	696	712	710	630	673	256	220	233
30	535	422	489	755	722	738	709	604	663	258	238	250
31	561	491	532	---	---	---	752	709	736	279	251	266
MONTH	696	85	384	755	104	459	810	164	527	837	135	688

89

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	336	229	276	314	128	212	655	534	625	216	147	179
2	558	336	455	396	109	238	534	464	475	222	116	163
3	632	558	596	109	96	103	606	474	522	306	146	242
4	669	628	641	102	96	99	597	563	575	375	128	191
5	702	666	680	116	98	101	611	250	589	132	106	117
6	735	684	717	117	100	107	425	257	370	155	120	135
7	754	735	744	138	108	127	476	335	422	242	154	183
8	758	744	751	149	129	135	807	476	656	364	242	304
9	763	561	708	189	137	153	873	655	726	432	364	394
10	607	174	367	199	129	161	678	654	662	466	432	458
11	244	168	189	139	124	133	831	677	739	499	462	486
12	177	121	131	144	134	138	831	517	639	496	472	484
13	141	130	133	146	128	136	725	589	663	505	242	473
14	137	125	133	195	146	181	810	725	773	323	164	211
15	149	130	135	182	146	162	858	498	791	183	130	159
16	177	149	169	325	182	251	666	234	570	142	112	141
17	197	154	168	382	181	269	731	596	691	208	190	203
18	259	197	226	181	137	146	611	555	572	235	102	157
19	473	259	370	152	141	144	674	611	656	256	78	116
20	551	473	520	181	151	160	739	661	707	85	77	80
21	525	178	230	240	181	218	744	625	722	98	85	89
22	313	203	262	254	229	238	743	583	691	102	95	98
23	367	246	310	240	209	219	810	710	760	113	98	106
24	328	113	160	304	232	269	762	571	656	123	112	117
25	113	103	108	392	304	349	571	514	529	151	118	132
26	128	109	121	557	392	450	688	547	618	213	151	182
27	128	114	122	557	345	372	736	688	719	322	211	276
28	128	105	115	420	352	388	755	734	749	422	322	386
29	---	---	---	495	420	450	762	727	747	649	419	558
30	---	---	---	622	495	566	771	146	534	659	246	423
31	---	---	---	633	616	623	---	---	---	493	110	337
MONTH	763	103	341	633	96	235	873	146	638	659	77	245
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	479	216	395	654	617	647	579	573	576	611	325	477
2	492	302	430	---	---	---	609	573	585	556	135	431
3	509	275	347	---	---	---	612	606	610	271	99	193
4	418	95	307	---	---	---	616	596	610	491	99	338
5	388	217	279	747	204	369	596	477				

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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

SAN JACINTO RIVER BASIN

91

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	27.5	26.5	27.0	30.0	28.5	29.0	28.5	26.0	27.0	29.0	27.5	28.5
2	27.0	25.5	26.0	---	---	---	28.5	26.5	27.5	28.5	26.0	28.0
3	26.5	25.0	26.0	---	---	---	29.0	27.0	28.0	28.0	26.0	27.0
4	26.5	25.0	26.0	---	---	---	28.0	27.5	27.5	29.5	26.5	27.5
5	27.5	26.0	26.5	30.0	28.5	29.0	27.5	26.5	27.0	30.0	27.5	28.5
6	28.5	26.0	27.0	31.0	28.0	29.5	27.0	26.0	26.5	30.0	28.0	28.5
7	30.0	27.0	28.5	31.0	29.0	30.0	28.0	26.0	26.5	29.5	28.0	29.0
8	30.5	28.0	29.0	30.0	29.0	29.5	28.0	27.5	27.5	29.0	28.0	28.5
9	31.0	28.5	29.5	29.5	28.5	29.0	28.0	26.0	27.5	28.5	23.5	26.0
10	30.0	25.0	28.0	28.5	27.5	28.0	27.5	25.5	26.5	25.5	23.5	24.5
11	28.0	25.5	26.5	30.5	27.5	29.0	27.5	26.0	27.0	27.0	25.0	26.0
12	27.5	26.0	26.5	31.0	28.5	30.0	28.0	27.0	27.5	27.0	26.0	26.5
13	28.0	26.5	27.0	31.0	29.0	30.0	29.0	27.0	28.0	27.5	26.5	27.0
14	28.5	27.0	28.0	31.0	29.0	30.0	29.5	27.0	28.0	27.0	26.0	26.5
15	29.0	27.5	28.0	31.0	29.0	30.0	30.5	28.0	29.0	28.0	26.0	27.0
16	29.0	28.0	28.5	31.0	29.5	30.0	29.5	27.5	28.5	27.5	26.0	27.0
17	29.5	27.5	28.5	31.5	29.0	30.0	29.5	25.5	28.5	28.0	26.0	27.0
18	29.0	27.0	28.0	31.5	29.0	30.0	29.0	25.5	27.5	28.0	26.0	26.5
19	29.0	27.0	28.0	31.0	29.5	30.0	29.5	27.5	28.5	27.0	25.0	26.0
20	29.0	25.0	27.5	30.0	29.0	29.5	30.0	28.5	29.0	26.0	25.0	26.0
21	26.5	24.0	25.5	30.5	28.0	29.5	29.5	28.0	28.5	25.5	24.5	25.0
22	28.0	25.5	27.0	31.0	28.5	29.5	28.0	25.0	27.0	26.0	24.5	25.0
23	27.5	27.5	27.5	31.5	29.0	30.0	27.0	25.5	26.0	25.0	23.0	24.0
24	---	---	---	31.5	28.5	30.0	27.5	26.5	27.0	24.5	22.5	23.5
25	---	---	---	30.5	29.0	30.0	28.0	26.5	27.5	23.5	22.0	22.5
26	---	---	---	31.0	28.5	29.5	28.5	27.0	28.0	24.0	21.5	22.5
27	30.0	29.0	29.5	30.0	29.0	29.5	28.5	27.5	28.0	25.0	22.5	23.5
28	30.5	28.5	29.5	30.0	27.5	28.5	28.5	26.5	27.5	26.0	23.5	24.5
29	30.0	28.5	29.5	29.0	27.0	28.0	28.5	27.0	28.0	26.0	24.0	24.5
30	31.0	28.5	29.5	28.5	26.5	27.5	28.5	27.5	28.0	25.0	24.0	24.5
31	---	---	---	28.0	27.0	27.5	29.5	27.0	28.0	---	---	---
MONTH	31.0	24.0	27.5	31.5	26.5	29.5	30.5	25.0	27.5	30.0	21.5	26.0
YEAR	31.5	6.0	21.5									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	9.2	8.5	8.8	7.9	7.5	7.6	8.9	8.4	8.7
2	---	---	---	8.8	8.4	8.6	7.5	6.7	7.1	8.8	8.3	8.6
3	---	---	---	8.4	7.1	7.8	6.7	5.9	6.3	9.2	8.7	8.9
4	---	---	---	7.3	6.7	7.0	7.3	5.1	5.7	9.7	8.9	9.2
5	---	---	---	7.3	7.2	7.3	7.6	5.7	6.9	9.9	9.1	9.4
6	---	---	---	8.1	7.3	7.7	8.2	7.6	7.9	9.5	8.7	9.1
7	---	---	---	8.7	8.0	8.5	8.4	8.2	8.4	9.7	8.1	8.9
8	---	---	---	8.6	8.2	8.4	8.4	7.5	8.0	10.7	8.8	9.6
9	---	---	---	8.6	7.2	7.8	7.5	6.7	7.2	10.8	9.5	10.1
10	---	---	---	8.3	7.9	8.1	7.6	5.4	6.3	10.5	8.9	9.6
11	---	---	---	8.2	7.8	8.1	6.8	5.7	6.2	9.3	6.7	8.1
12	6.7	3.9	6.3	7.8	7.2	7.5	6.9	6.6	6.8	8.2	6.5	7.3
13	5.7	2.9	4.8	7.2	6.4	6.8	6.7	6.3	6.6	8.4	7.4	7.8
14	5.9	5.2	5.5	7.9	5.9	6.6	6.9	6.0	6.5	9.3	7.9	8.5
15	6.3	5.4	6.0	6.8	5.9	6.3	8.2	6.9	7.5	9.3	8.1	8.7
16	6.4	6.0	6.1	9.3	6.8	7.7	8.3	7.6	7.9	9.0	8.5	8.7
17	6.2	6.1	6.2	7.8	7.2	7.4	9.1	7.8	8.3	8.9	8.1	8.5
18	6.5	6.1	6.3	8.1	7.8	8.0	8.2	7.8	8.0	9.7	8.0	8.8
19	6.4	6.1	6.2	8.0	7.8	7.9	8.5	8.0	8.3	10.5	9.1	9.7
20	8.8	6.0	6.8	8.0	7.7	7.8	8.4	8.2	8.4	10.2	9.3	9.8
21	7.1	6.5	6.7	8.5	7.9	8.2	8.8	8.3	8.6	10.9	9.1	9.9
22	7.7	6.6	7.2	8.6	8.0	8.3	9.4	8.5	9.0	10.3	9.1	9.8
23	8.0	7.6	7.8	8.3	7.8	8.1	9.7	8.7	9.2	10.1	8.8	9.5
24	8.0	7.8	7.9	7.8	7.2	7.5	10.0	9.7	9.9	9.7	8.5	9.1
25	8.0	7.4	7.7	7.6	7.2	7.3	10.1	9.7	9.9	8.0	8.1	7.5
26	7.5	7.1	7.4	8.2	7.6	8.0	10.0	9.6	9.7	7.9	6.4	7.3
27	7.5	7.1	7.3	8.8	8.2	8.6	9.6	8.9	9.3	7.7	5.4	6.4
28	7.7	7.4	7.6	9.0	8.7	8.8	8.9	8.2	8.6	8.4	5.7	7.0
29	7.6	6.4	7.1	9.0	8.6	8.8	8.5	7.7	7.9	9.1	8.4	8.8
30	7.8	6.1	6.8	8.6	7.9	8.2	8.8	7.8	8.3	9.7	9.1	9.4
31	8.5	7.8	8.3	---	---	---	9.1	8.6	8.9	9.7	9.5	9.6
MONTH	---	---	---	9.3	5.9	7.9	10.1	5.1	7.9	10.9	5.4	8.8

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	9.7	9.2	9.5	8.9	7.5	8.4	7.8	6.9	7.4	6.8	6.4	6.6
2	9.7	9.1	9.4	9.7	7.4	8.8	9.8	7.2	8.5	7.3	6.8	7.1
3	9.6	9.1	9.4	9.9	9.5	9.6	8.7	7.7	8.1	7.0	6.4	6.7
4	9.2	8.6	9.0	9.6	9.4	9.5	8.1	7.5	7.8	7.7	6.4	7.2
5	8.6	7.9	8.3	9.4	8.9	9.2	7.5	7.1	7.4	7.2	6.9	7.0
6	8.1	7.7	7.9	9.2	8.8	9.0	7.4	4.3	5.4	7.1	6.8	7.0
7	8.1	7.6	7.8	9.2	8.5	8.9	5.9	4.7	5.4	7.0	6.6	6.8
8	8.0	7.3	7.7	9.0	8.7	8.9	7.0	5.6	6.2	6.8	6.2	6.5
9	7.8	7.1	7.4	9.6	8.3	9.0	10.5	6.3	8.1	7.1	6.1	6.6
10	12.3	7.6	9.5	9.9	9.2	9.5	10.9	6.2	8.4	7.4	6.3	6.8
11	12.5	12.0	12.3	9.4	8.9	9.1	8.9	6.4	7.5	7.8	6.7	7.1
12	12.6	12.0	12.3	9.3	8.9	9.1	6.8	5.6	6.0	7.8	6.8	7.3
13	12.0	11.5	11.7	9.6	8.9	9.3	6.5	5.1	5.8	7.7	7.0	7.2
14	11.6	11.2	11.3	9.5	8.5	9.1	7.0	5.7	6.2	7.7	5.1	6.3
15	11.2	10.4	10.7	9.5	8.3	9.1	7.0	5.7	6.3	7.2	6.6	6.9
16	10.6	10.2	10.5	8.3	6.8	7.2	6.4	5.1	5.8	6.9	6.9	6.9
17	10.5	9.8	10.0	9.3	6.8	8.4	7.4	5.8	6.6	6.4	5.8	6.4
18	10.0	9.0	9.6	9.1	8.6	8.8	7.6	6.2	6.9	---	---	---
19	9.0	8.2	8.7	8.6	8.0	8.3	8.2	6.4	7.2	7.4	6.0	7.1
20	8.3	8.0	8.1	8.2	7.7	7.9	8.8	6.4	7.5	7.4	7.0	7.2
21	8.1	7.5	7.7	7.8	7.1	7.5	9.1	6.1	7.5	7.3	6.9	7.2
22	7.7	7.1	7.4	8.0	7.6	7.7	8.4	5.9	7.3	7.3	6.9	7.0
23	7.6	6.8	7.2	7.7	7.2	7.5	8.3	6.3	7.3	7.1	6.5	6.8
24	8.8	7.6	8.6	7.2	6.7	7.0	7.5	4.8	6.6	6.8	6.4	6.5
25	8.9	8.6	8.8	6.7	6.0	6.5	5.5	4.6	5.0	6.5	5.9	6.1
26	9.5	8.5	9.0	6.3	5.8	6.0	6.9	5.1	5.8	6.0	5.5	5.8
27	9.7	9.3	9.5	7.0	3.6	6.1	6.6	5.4	6.0	6.0	5.6	5.7
28	9.5	8.9	9.2	4.6	3.1	4.0	6.7	5.0	5.8	5.7	4.6	5.6
29	---	---	---	5.7	4.3	5.1	6.7	5.6	6.3	6.7	4.6	6.0
30	---	---	---	6.6	5.6	6.1	6.6	5.1	5.9	6.3	4.2	5.1
31	---	---	---	7.5	6.0	6.7	---	---	---	6.4	4.7	5.5
MONTH	12.6	6.8	9.2	9.9	3.1	8.0	10.9	4.3	6.7	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	5.7	4.3	5.0	5.5	5.2	5.4	8.4	6.3	7.2	5.2	4.6	5.0
2	5.8	5.2	5.6	---	---	---	7.8	6.2	6.8	5.8	4.8	5.1
3	---	---	---	---	---	---	7.6	5.2	6.4	5.8	4.5	5.0
4	---	---	---	---	---	---	7.0	5.2	6.3	5.5	4.4	4.9
5	---	---	---	7.1	4.6	6.4	5.4	3.0	4.2	5.8	4.8	5.2
6	---	---	---	7.0	4.4	5.8	5.4	4.0	4.8	---	---	---
7	---	---	---	7.6	4.8	6.0	5.9	5.4	5.6	5.7	3.7	4.7
8	6.8	5.9	6.2	6.4	4.1	5.5	5.7	5.4	5.6	6.2	4.9	5.5
9	6.5	5.4	5.9	6.1	4.1	5.2	5.9	5.1	5.5	6.3	4.2	5.4
10	8.5	4.3	5.9	4.7	3.6	4.3	6.2	5.6	5.8	6.1	5.3	5.7
11	5.1	4.3	4.8	6.1	4.6	5.2	6.5	5.8	6.2	5.8	5.0	5.4
12	5.9	4.6	5.5	6.9	5.4	5.9	6.1	5.4	5.9	6.1	4.8	5.5
13	5.9	5.1	5.6	7.2	5.5	6.1	6.3	5.9	6.1	5.9	4.5	5.0
14	6.2	5.7	5.9	7.9	5.5	6.4	6.6	5.5	6.1	6.6	5.6	6.2
15	6.2	5.8	6.0	8.3	5.3	6.5	8.7	4.1	5.8	6.4	5.5	5.9
16	6.1	5.5	5.8	7.9	5.4	6.5	5.8	3.1	4.4	5.7	5.0	5.4
17	6.6	5.7	5.9	8.4	5.5	6.6	6.5	3.9	5.4	---	---	---
18	5.9	4.2	5.1	8.2	5.3	6.4	6.5	4.2	4.8	---	---	---
19	---	---	---	7.6	5.2	6.2	5.7	5.0	5.4	---	---	---
20	6.0	4.0	4.7	6.8	5.3	6.0	6.4	5.4	5.8	---	---	---
21	5.9	4.8	5.2	7.3	5.2	6.0	6.2	4.2	5.8	---	---	---
22	5.9	5.1	5.5	7.1	5.5	6.2	---	---	---	5.8	5.5	5.7
23	5.5	4.1	4.4	8.3	5.5	6.6	6.5	5.4	5.8	6.2	5.5	5.9
24	---	---	---	5.9	2.4	3.7	6.0	5.3	5.5	6.8	5.8	6.3
25	---	---	---	6.9	3.1	5.1	5.7	5.2	5.4	7.2	6.4	6.8
26	---	---	---	7.5	5.3	6.1	6.3	5.1	5.7	7.5	6.7	7.1
27	6.6	6.4	6.5	7.3	5.3	6.1	6.4	4.7	5.4	7.5	6.6	7.0
28	6.5	6.1	6.3	7.5	5.4	6.3	5.7	4.8	5.2	7.5	6.6	6.9
29	6.3	5.8	6.1	7.2	5.8	6.5	6.6	5.2	5.9	8.1	6.6	7.2
30	6.6	5.9	6.3	8.1	6.1	6.9	6.1	4.6	5.2	7.7	6.7	7.2
31	---	---	---	8.6	6.1	7.1	5.6	4.7	5.2	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

SAN JACINTO RIVER BASIN

93

08074150 COLE CREEK AT DEIHL ROAD, HOUSTON, TX
(Flood-hydrograph partial-record station)

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

DRAINAGE AREA.--7.50 mi².

PERIOD OF RECORD.--April 1964 to September 1986 (daily mean discharges). October 1986 to September 1992 (annual maximum discharge). October 1992 to current (peak discharges greater than base discharge).

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

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

REMARKS.--Records good. Recording rain gage at station. Radio telemeter at station.

AVERAGE DISCHARGE.--22 years, (water years 1965-86) 8.08 ft³/s, (5,850 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,780 ft³/s Mar. 4, 1992 (elevation, 80.73 ft); no flow at times.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Feb. 20	2030	503	74.30	Aug. 5	1330	522	74.42
Apr. 30	0930	537	74.51	Aug. 17	1900	581	74.78
June 24	0900	499	74.28	Aug. 22	1700	598	74.88

SAN JACINTO RIVER BASIN

08074250 BRICKHOUSE GULLEY AT COSTA RICA STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

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 upstream from Whiteoak Bayou.

DRAINAGE AREA.--11.4 mi².

PERIOD OF RECORD.--August 1964 to September 1981 (daily discharge); October 1981 to September 1982 (water quality only); October 1982 to September 1983 (peaks above base discharge or annual maximum); October 1983 to September 1992 (annual maximum); October 1992 to current year (peak discharges greater than base discharge).

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.--Records fair. Low flow is partially sustained by sewage effluent. No known diversion above station. Recording rain gage at station. Stage and rainfall telemeter owned and operated by Harris County Flood Control District at station.

AVERAGE DISCHARGE.--17 years (1965-1981), 14.0 ft³/s, 10,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,580 ft³/s Mar. 04, 1992, elevation, 71.26 ft; no flow at times.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges above base discharge of 1,600 ft³/s:

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Apr. 30	0945	1,890	62.25	Aug. 17	1915	3,800	66.22
June 23	1500	1,720	61.82	Aug. 22	1630	3,530	65.73
June 24	0900	1,510	61.25	Aug. 23	1230	1,750	61.89

SAN JACINTO RIVER BASIN

95

08074500 WHITEOAK BAYOU AT HOUSTON, TX

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

DRAINAGE AREA.--86.3 mi². Prior to Oct. 1, 1976, 84.7 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 7.35 ft below National Geodetic Vertical Datum of 1929, adjustment of 1973; unadjusted for land-surface subsidence. Prior to June 17, 1936, nonrecording gage, and June 17, 1936, to Apr. 28, 1965, water-stage recorder at site 480 ft upstream at same datum.

REMARKS.--Records good. Low flow is sustained by sewage effluent and industrial waste water. No diversions above station. Satellite telemeter at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 16	1030	6,850	30.94	Aug. 17	2030	5,240	28.58
June 23	1430	4,630	27.62	Aug. 22	1730	5,410	28.84
June 24	1030	5,270	28.63				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	31	35	41	42	99	49	233	51	48	37	107
2	34	32	35	39	41	76	56	380	115	36	40	270
3	35	152	41	41	44	50	58	261	186	34	43	272
4	34	47	503	38	45	46	59	104	199	34	153	49
5	32	34	62	42	55	48	78	53	47	65	653	34
6	33	32	36	43	45	51	231	42	37	36	274	34
7	33	35	38	41	44	49	77	40	35	37	66	32
8	42	34	43	38	42	52	66	40	35	35	48	49
9	32	141	35	39	138	1030	68	38	35	62	141	632
10	32	53	243	41	1260	234	64	37	421	39	87	211
11	33	39	46	209	523	105	51	36	355	34	40	142
12	132	38	37	111	164	63	169	34	144	35	37	74
13	440	41	50	43	134	61	47	210	152	35	36	209
14	99	312	40	41	69	51	38	490	45	36	35	162
15	42	173	38	39	56	303	54	244	35	35	59	44
16	36	2090	37	40	53	157	99	1590	32	79	164	36
17	35	332	92	57	49	70	57	307	67	79	681	38
18	34	83	73	42	49	55	39	184	168	55	317	35
19	34	60	68	41	48	55	39	59	94	34	53	34
20	1130	48	47	41	634	51	40	46	384	37	42	35
21	697	43	41	41	952	47	45	45	306	36	128	35
22	82	40	157	40	556	44	41	39	103	35	1070	37
23	39	40	97	44	374	48	40	38	851	60	711	34
24	35	40	43	47	124	49	154	39	1370	41	215	35
25	33	38	39	69	73	49	53	39	404	37	56	35
26	32	37	37	66	59	48	42	40	91	35	124	35
27	31	38	38	712	53	126	41	39	47	37	180	37
28	31	39	65	304	50	49	41	47	43	34	60	36
29	107	37	42	150	---	41	41	41	40	35	39	38
30	96	33	38	78	---	45	901	237	39	36	52	36
31	34	---	37	48	---	49	---	113	---	37	39	---
TOTAL	3572	4192	2233	2666	5776	3301	2838	5145	5931	1308	5680	2857
MEAN	115	140	72.0	86.0	206	106	94.6	166	198	42.2	183	95.2
MAX	1130	2090	503	712	1260	1030	901	1590	1370	79	1070	632
MIN	31	31	35	38	41	41	38	34	32	34	35	32
AC-FT	7090	8310	4430	5290	11460	6550	5630	10210	11760	2590	11270	5670

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1994, BY WATER YEAR (WY)

MEAN	79.7	106	94.4	112	113	87.7	87.0	123	119	79.7	70.7	88.7
MAX	478	774	378	437	472	517	408	558	556	439	535	578
(WY)	1950	1947	1992	1944	1992	1992	1991	1989	1973	1942	1983	1941
MIN	.71	.93	2.22	1.70	5.12	1.10	1.35	.75	2.93	2.19	.61	1.07
(WY)	1949	1940	1949	1940	1951	1940	1939	1937	1954	1944	1940	1948

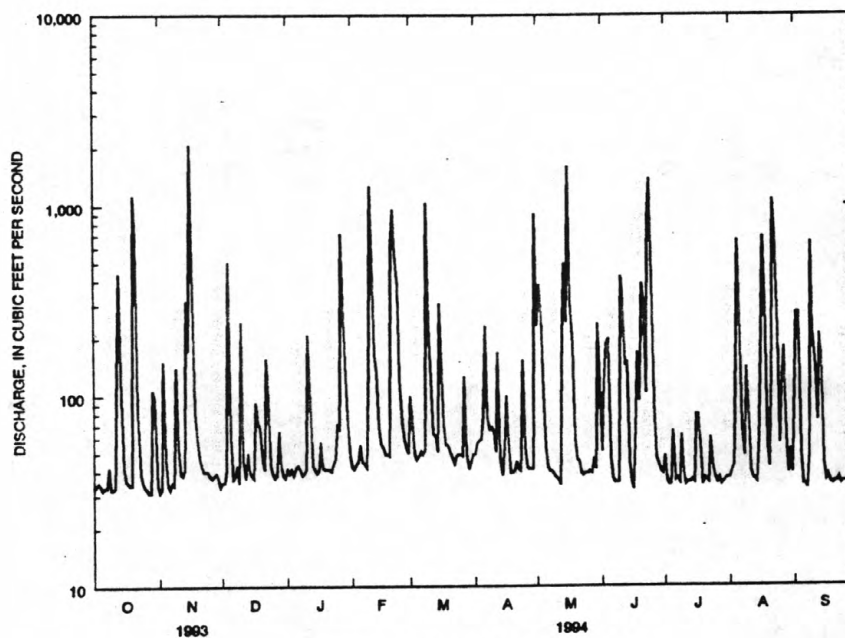
SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1937 - 1994

ANNUAL TOTAL	67211		45499			
ANNUAL MEAN	184		125			
HIGHEST ANNUAL MEAN					96.5	
LOWEST ANNUAL MEAN					267	1992
HIGHEST DAILY MEAN					10.9	1951
LOWEST DAILY MEAN	4150	Mar 1	2090	Nov 16	10700	May 18 1989
ANNUAL SEVEN-DAY MINIMUM	31	Oct 27	31	Oct 27	.20	Aug 7 1940
INSTANTANEOUS PEAK FLOW	33	Sep 29	33	Oct 1	.26	Aug 12 1951
INSTANTANEOUS PEAK STAGE			6850	Nov 16	25100	Mar 4 1992
ANNUAL RUNOFF (AC-FT)	133300		30.94	Nov 16	50.43	Mar 4 1992
10 PERCENT EXCEEDS	392		90250		69920	
50 PERCENT EXCEEDS	53		273		200	
90 PERCENT EXCEEDS	35		46		25	
			35		2.2	



08074500 WHITEOAK BAYOU AT HOUSTON, TX
MEAN DAILY DISCHARGE (CFS)

SAN JACINTO RIVER BASIN

97

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1968 to current year. Pesticide analyses: February 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	BOD OXYGEN DEMAND, BIOCHEM CARBON, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	
FEB 15...	1255	57	740	8.2	10.0	22	20	13.2	116	3.3	3.0	4200	
MAY 03...	1232	192	365	7.8	29.0	58	38	8.6	112	2.7	2.3	6000	
AUG 02...	1250	40	875	8.8	29.0	18	30	15.0	196	4.2	3.1	680	
DATE	TIME	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB 15...	820	170	0	55	8.9	86	3	5.7	220	29	81	0.40	
MAY 03...	5700	95	0	31	4.2	34	2	4.6	120	16	30	0.30	
AUG 02...	190	160	0	50	9.3	120	4	6.8	230	32	110	0.60	
DATE	TIME	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)
FEB 15...	17	434	28	8	20	3.32	3.32	0.080	3.40	3.40	0.620	0.48	
MAY 03...	12	209	71	20	51	1.22	1.22	0.080	1.30	1.30	0.280	0.62	
AUG 02...	22	514	52	12	40	3.87	3.87	0.330	4.20	4.20	0.470	0.63	
DATE	TIME	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)
FEB 15...	1.1	1.40	1.30	4.0	6.8	8	190	<0.5	1.0	<5	<3	<10	
MAY 03...	0.90	0.400	0.370	1.1	11	4	110	<0.5	<1.0	<5	<3	<10	
AUG 02...	1.1	1.20	1.10	3.4	9.7	8	190	<0.5	<1.0	<5	<3	<10	
DATE	TIME	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
FEB 15...	18	<10	15	37	<0.1	<10	<10	1	<1.0	340	<6	55	
MAY 03...	32	<10	8	18	<0.1	10	<10	<1	<1.0	170	<6	14	
AUG 02...	12	<10	16	7	<0.1	20	<10	<1	<1.0	400	<6	16	
DATE	TIME	AME-TRYNE TOTAL (UG/L)	ATRA-ZINE WATER UNFLTRD REC (UG/L)	CYAN-AZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	
FEB 15...		<0.10	0.1	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	0.20	<0.10	
MAY 03...		--	2.6	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	0.20	<0.10	
AUG 02...		<0.10	<0.1	<0.20	--	<0.20	<0.10	<0.10	--	--	<0.10	<0.10	

SAN JACINTO RIVER BASIN

08074598 WHITEOAK BAYOU AT MAIN STREET, HOUSTON, TX

LOCATION.--Lat 29°45'59", long 95°21'30", Harris County, Hydrologic Unit 12040104, on right bank at Main street bridge, 3 miles downstream from station 08074500, and 700 ft. upstream from Buffalo Bayou.

DRAINAGE AREA.--Not determined.

WATER-STAGE RECORDS

PERIOD OF RECORD.--November 1992 to current year.

GAGE.--Water-stage recorder and data logger. Datum of gage is National Geodetic Vertical Datum of 1929, 1978 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records good. Mostly tidal, affected by local runoff. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation 19.22 ft. Mar. 1, 1993 at 2130 hrs.; minimum, -1.57 ft. Aug. 14, 1994 at 2215 hrs.

EXTREMES FOR CURRENT YEAR.--Maximum elevation 14.94 ft. Nov. 16 at 1230 hrs.; minimum, -1.57 ft. Aug. 14 at 2215 hrs.

DAY	GAGE HEIGHT, FEET, WATER YEAR		OCTOBER 1993		TO SEPTEMBER 1994							
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	4.01	4.72	2.36	5.14	3.35	4.35	2.43	3.34	1.83	4.28	2.16
2	5.06	3.35	5.17	3.38	4.94	2.99	4.04	2.39	3.42	1.88	2.16	1.53
3	4.70	2.65	5.02	2.66	5.02	3.20	2.79	.32	3.83	2.09	3.68	1.43
4	4.22	2.76	4.16	2.44	5.86	1.98	2.21	.77	3.98	2.20	4.03	2.43
5	4.36	2.88	4.40	1.78	3.67	2.44	3.93	1.60	3.72	1.71	4.08	2.52
6	4.46	3.09	2.43	1.36	4.06	2.48	4.07	2.45	3.61	1.73	4.07	2.00
7	4.67	3.36	3.79	2.13	4.16	3.04	3.30	.76	3.74	2.06	4.10	2.18
8	5.40	3.70	4.54	3.52	4.22	2.74	3.55	.90	4.02	2.47	4.50	3.00
9	5.16	2.43	5.05	3.26	4.48	2.80	5.30	2.64	4.06	1.72	6.70	2.10
10	3.99	2.87	4.29	2.86	5.42	2.80	5.98	3.36	5.70	2.00	3.40	1.50
11	4.54	3.04	4.82	2.94	4.14	2.14	4.98	2.66	4.30	1.80	4.55	3.00
12	5.16	3.17	4.97	3.26	5.65	2.94	4.11	2.17	4.20	3.19	5.45	4.09
13	5.68	3.50	4.98	2.84	5.80	2.52	4.01	2.31	3.94	1.87	4.43	3.55
14	4.60	3.08	6.50	3.54	2.83	-.18	3.67	1.68	4.32	2.66	3.90	2.41
15	4.93	3.14	4.78	2.42	3.54	1.22	3.99	1.76	4.32	3.26	4.62	2.65
16	4.86	3.00	14.94	4.46	4.46	2.94	4.93	3.51	3.78	2.50	4.08	2.30
17	4.75	3.07	7.09	2.21	4.52	.07	4.95	1.95	3.90	2.60	4.45	2.66
18	5.32	3.34	4.34	3.25	4.38	2.38	3.60	1.72	4.44	2.64	4.54	2.77
19	5.18	3.59	---	---	4.40	3.49	4.21	2.60	4.56	3.10	4.61	2.89
20	10.96	4.82	---	---	4.68	1.87	4.40	3.12	7.77	2.59	4.85	3.04
21	9.62	2.43	---	---	3.54	1.20	3.96	2.55	7.31	2.91	4.28	2.42
22	3.94	2.38	3.97	2.89	3.86	2.79	4.05	2.34	4.99	2.79	4.55	2.35
23	4.55	2.98	4.38	2.89	3.74	1.89	4.11	2.41	4.41	1.56	4.92	3.33
24	4.81	3.55	4.00	2.70	3.85	1.95	3.99	2.40	4.07	2.39	4.26	2.76
25	5.07	3.99	3.42	1.80	3.53	1.09	4.28	2.33	4.45	3.35	4.16	2.14
26	4.84	3.77	2.79	.92	3.56	1.72	4.18	2.45	4.04	.42	4.90	3.54
27	4.00	2.65	3.62	1.22	3.68	1.72	7.30	3.52	4.45	2.74	5.07	2.20
28	4.40	2.80	3.57	1.89	3.78	1.79	4.66	.63	4.65	3.16	2.55	1.19
29	4.20	2.90	3.80	1.95	3.03	.76	3.75	2.30	---	---	3.90	1.07
30	2.90	.20	4.54	2.50	3.88	1.82	3.69	2.14	---	---	3.79	2.13
31	3.10	.60	---	---	4.20	2.39	3.71	2.28	---	---	4.00	1.40
MONTH	---	.20	---	---	5.86	-.18	7.30	.32	7.77	.42	6.70	.53

SAN JACINTO RIVER BASIN

99

08074598 WHITEOAK BAYOU AT MAIN STREET, HOUSTON, TX--Continued

DAY	GAGE HEIGHT, FEET, WATER		YEAR		OCTOBER 1993		TO SEPTEMBER 1994					
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.90	1.90	4.78	2.08	4.77	3.23	3.85	2.41	4.80	2.29	4.77	2.46
2	4.34	2.20	5.19	3.58	4.78	3.49	3.88	2.41	4.70	2.74	5.76	2.13
3	4.08	1.73	4.59	2.89	---	---	4.07	2.51	4.76	2.81	5.32	2.88
4	4.41	2.11	4.13	2.81	---	---	4.11	2.47	4.74	2.72	3.94	2.22
5	4.70	3.19	4.64	3.29	4.48	2.89	4.94	2.58	5.71	2.55	4.42	2.44
6	4.06	1.55	4.58	3.44	4.47	2.79	4.15	2.62	4.46	2.60	4.29	2.90
7	4.37	2.11	4.27	2.93	4.13	2.40	4.32	2.19	4.33	2.62	4.59	2.76
8	4.71	3.59	3.90	2.44	4.76	2.29	4.39	2.29	4.43	2.70	4.44	2.87
9	4.99	3.51	3.91	2.12	5.08	2.80	4.71	2.37	4.52	2.77	5.00	3.75
10	5.24	3.68	4.12	2.34	7.34	3.05	4.53	2.68	---	---	4.90	2.89
11	5.23	3.77	4.25	2.24	5.62	3.66	4.32	2.40	---	---	4.99	3.17
12	4.28	2.94	4.34	2.26	5.69	3.31	4.41	2.71	---	---	4.77	2.89
13	4.42	2.52	5.83	2.45	4.99	2.91	4.35	2.87	4.53	-1.40	5.11	3.29
14	4.85	2.96	5.83	3.47	5.37	3.34	4.43	3.16	4.40	-1.57	5.43	3.47
15	4.82	2.75	4.89	2.72	5.57	4.02	4.22	2.70	4.56	-1.10	5.13	3.87
16	4.22	2.34	9.46	4.39	5.28	3.82	4.02	2.32	---	---	5.04	3.28
17	4.68	2.65	4.60	2.81	4.99	3.48	4.05	2.30	---	---	4.50	2.93
18	5.06	2.94	4.33	2.94	5.17	3.36	3.87	2.00	---	---	4.56	2.89
19	4.90	3.06	4.74	3.27	5.35	3.25	4.07	2.00	---	---	4.32	3.13
20	4.34	2.76	5.03	3.77	7.58	3.49	4.18	2.21	4.15	2.37	4.61	3.27
21	3.20	3.20	4.63	3.40	5.19	2.95	4.14	1.90	5.13	2.60	4.51	3.24
22	4.47	3.04	4.67	3.11	5.04	2.45	3.76	2.16	10.86	2.33	4.48	3.09
23	4.23	2.87	4.32	2.73	9.05	2.27	3.62	1.80	6.29	3.92	4.25	2.57
24	4.66	3.01	4.44	2.59	9.10	2.38	3.76	2.05	4.11	2.88	4.50	2.58
25	5.18	3.31	5.24	2.77	4.68	1.90	3.64	2.16	3.85	2.80	3.68	2.27
26	5.39	3.28	4.71	2.73	4.06	2.12	3.84	2.54	4.01	2.84	3.99	2.71
27	5.64	3.36	4.46	2.28	3.66	2.31	3.58	1.87	4.28	2.96	4.18	2.53
28	5.71	3.96	4.56	2.28	3.70	2.56	3.62	2.39	4.28	2.66	4.04	.51
29	5.46	3.41	4.83	2.59	3.38	2.60	3.90	2.61	4.14	2.84	4.16	.04
30	7.67	3.47	4.66	2.94	3.92	2.48	4.17	2.76	4.32	2.74	4.66	3.00
31	---	---	5.21	2.62	---	---	4.30	2.54	4.52	2.60	---	---
MONTH	7.67	1.55	9.46	2.08	---	---	4.94	1.80	---	---	5.76	.04

SAN JACINTO RIVER BASIN

08074598 WHITEOAK BAYOU AT MAIN STREET, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

LOCATION.--Lat. 29°45'59", Long. 95°21'30", Harris County, Hydrologic Unit 12040104, on right bank, at Main street bridge, 3 miles downstream from station 08074500, 700 ft upstream from Buffalo Bayou.

DRAINAGE AREA.-- Not determined.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1992 to current year.

WATER TEMPERATURE: May 1992 to current year.

DISSOLVED OXYGEN: May 1992 to current year.

INSTRUMENTATION.--Since May 1992, a three-parameter water-quality monitor continuously records specific conductance, water temperature and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Due to tidal effects, backwater, probe location, channel morphology, the water-quality data collected at this location may not be representative of the entire flow through the cross-section.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum 1,740 microsiemens on May 23, 1994; minimum, 12 microsiemens June, 4, 1994.

WATER TEMPERATURE: Maximum, 34.0°C on August 10, 1993; minimum, 9.0 °C February 11, 1994.

DISSOLVED OXYGEN: Maximum, 20.0 mg/L September 30, 1994; minimum, 0.3 mg/L, August 5, 1993.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum 1,100 microsiemens Apr 29; minimum, 132 microsiemens June 25.

WATER TEMPERATURE: Maximum 33.5°C on June 26, July 17-18; minimum, 9.0°C February 11.

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	901	846	714	790	---	307	---	701	---	---
2	---	776	912	838	778	711	---	316	---	787	---	---
3	897	513	---	857	818	751	824	353	---	816	---	---
4	873	621	296	848	835	822	826	465	---	830	---	572
5	893	747	451	843	778	868	743	620	---	618	---	756
6	935	806	632	833	823	---	496	701	---	667	---	926
7	952	812	725	865	867	---	797	778	---	735	---	837
8	954	744	743	896	910	---	876	787	---	721	---	778
9	769	404	747	891	---	---	---	752	---	707	---	223
10	853	500	---	900	---	---	865	836	---	619	---	---
11	881	671	519	581	---	---	---	903	---	743	---	272
12	687	787	650	490	363	632	475	863	---	739	---	401
13	369	820	682	646	495	730	593	785	---	747	---	439
14	383	503	773	771	621	797	639	266	---	722	---	314
15	570	340	793	806	709	625	574	338	---	706	---	---
16	672	257	811	850	801	436	464	188	---	548	---	578
17	752	280	700	820	829	606	432	272	---	550	---	595
18	787	438	660	837	863	706	605	400	---	419	---	779
19	817	---	643	873	878	782	671	650	---	629	---	710
20	517	---	722	885	779	806	738	---	---	640	---	792
21	227	---	771	886	197	859	744	---	---	---	---	842
22	388	---	592	894	344	856	740	---	---	718	---	841
23	540	837	453	892	313	864	843	---	---	---	---	824
24	663	---	605	887	476	863	640	---	---	517	---	847
25	744	888	723	---	655	879	582	---	132	---	---	846
26	---	866	783	771	729	878	739	---	442	829	553	857
27	---	883	818	458	788	720	831	---	737	861	389	743
28	---	881	780	254	850	724	1010	---	909	878	525	644
29	---	911	742	397	---	761	1100	---	---	---	731	638
30	---	890	807	537	---	812	609	---	775	---	782	629
31	---	---	844	659	---	---	---	---	---	---	692	---
MEAN	701	674	699	760	689	762	710	557	599	698	612	667
MAX	954	911	912	900	910	879	1100	903	909	878	782	926
MIN	227	257	296	254	197	436	432	188	132	419	389	223

WTR YR 1994 MEAN 692 MAX 1100 MIN 132

SAN JACINTO RIVER BASIN

101

08074598 WHITEOAK BAYOU AT MAIN STREET, HOUSTON, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	27.5	25.5	26.5	16.0	14.5	15.5	19.0	17.5	18.5	18.0	14.0	16.0
2	27.5	25.5	26.5	17.5	16.0	17.0	21.0	18.5	20.0	18.0	16.0	16.5
3	28.0	25.5	27.0	20.0	17.5	19.5	23.0	20.0	22.0	17.5	13.5	15.0
4	28.0	26.0	27.0	22.5	20.0	21.0	23.0	17.5	20.0	15.5	13.0	14.0
5	28.0	26.5	27.0	22.5	20.0	22.0	19.0	16.0	17.0	16.0	13.0	14.0
6	28.0	26.0	27.0	20.0	16.0	17.0	18.5	17.5	17.5	20.0	16.0	17.0
7	27.5	26.0	27.0	16.5	14.5	15.5	17.5	16.0	17.0	20.0	14.0	17.5
8	28.5	26.0	27.0	16.5	15.5	16.0	20.0	17.5	18.5	14.0	12.0	13.0
9	28.0	26.5	27.0	16.5	15.5	16.0	22.0	20.0	20.5	14.5	13.0	13.5
10	28.0	23.5	25.0	20.0	16.5	17.5	23.5	21.0	22.0	16.0	14.0	15.0
11	26.0	23.5	24.5	20.0	18.0	19.0	22.0	19.0	19.5	19.0	16.0	17.0
12	25.0	23.5	24.5	23.0	20.0	21.0	20.0	17.5	18.0	17.0	16.5	16.5
13	23.5	21.5	22.5	24.5	23.0	23.5	20.0	17.5	19.0	17.5	16.0	16.5
14	24.0	22.0	22.5	25.0	20.0	22.5	18.0	15.0	16.5	18.5	15.5	16.5
15	24.5	22.5	23.5	20.5	19.0	20.0	17.5	14.5	16.0	18.5	16.0	16.5
16	26.5	24.5	25.0	20.5	17.5	19.5	17.0	14.5	15.5	16.5	15.5	16.0
17	27.0	25.0	26.5	19.5	16.5	17.5	17.0	15.0	16.0	18.0	16.0	17.0
18	27.5	26.0	27.0	20.0	16.0	17.5	16.5	16.0	16.5	16.5	13.5	14.0
19	27.5	26.5	27.0	19.5	18.5	19.0	16.5	15.5	16.0	13.5	12.0	12.5
20	27.5	22.0	25.0	17.5	16.0	16.5	17.0	16.0	17.0	14.5	12.5	13.5
21	22.0	20.0	21.5	16.0	15.0	15.5	16.0	14.0	15.0	16.0	14.5	15.0
22	21.0	17.5	19.0	18.0	14.5	16.0	16.0	12.0	14.0	16.5	15.0	15.5
23	22.0	18.5	19.5	20.0	16.0	17.5	13.5	10.0	11.5	17.0	15.5	16.0
24	22.0	19.5	20.5	21.5	18.5	19.5	14.0	12.0	13.0	19.0	17.0	17.5
25	23.0	20.5	21.5	21.5	15.0	17.5	15.5	11.5	13.5	21.0	18.5	20.0
26	24.0	22.0	23.0	15.0	12.5	13.0	16.5	13.0	14.5	21.5	20.5	21.0
27	25.5	20.5	22.0	14.5	11.0	12.5	18.5	15.5	16.5	21.5	19.0	21.0
28	---	---	---	16.0	12.5	14.0	19.5	17.5	18.5	19.0	13.5	16.0
29	---	---	---	17.5	14.5	16.0	17.5	14.0	15.0	14.0	12.5	13.0
30	---	---	---	18.5	16.5	17.0	14.5	13.0	13.5	15.5	11.5	13.0
31	---	---	---	---	---	---	15.0	13.5	13.5	15.5	13.0	14.0
MONTH	28.5	17.5	24.5	25.0	11.0	17.5	23.5	10.0	17.0	21.5	11.5	16.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	15.0	11.5	12.5	19.5	18.0	18.5	---	---	---	22.0	18.0	19.5
2	14.5	10.5	11.5	19.0	14.0	16.5	22.0	19.0	20.0	21.5	19.5	20.5
3	14.5	12.0	12.5	19.5	15.5	17.0	24.0	20.0	21.5	25.0	21.0	22.5
4	17.0	12.5	14.5	21.0	17.5	18.5	24.5	20.0	21.5	26.0	20.5	22.5
5	20.5	16.5	18.5	21.5	19.5	20.0	23.0	22.0	22.5	26.5	23.0	24.0
6	20.5	18.0	19.0	22.0	20.0	21.0	22.0	16.5	19.5	26.5	23.5	24.5
7	21.5	19.5	20.0	21.5	21.0	21.5	21.5	17.0	19.0	27.0	24.5	25.5
8	23.0	21.0	22.0	---	---	---	23.0	19.5	21.0	28.5	25.5	26.5
9	23.5	15.5	20.5	---	---	---	24.0	22.0	23.0	28.5	26.0	27.0
10	13.5	13.5	13.5	---	---	---	25.0	23.5	24.0	28.0	26.0	26.5
11	11.5	9.0	10.0	19.0	15.5	16.0	24.5	23.0	23.5	27.5	25.5	26.5
12	16.0	10.5	13.0	18.5	16.5	17.0	23.5	21.0	22.0	27.5	25.5	26.0
13	17.0	13.5	15.0	20.5	17.0	18.0	25.0	21.0	22.0	27.5	22.0	25.5
14	16.5	13.0	14.5	22.0	18.0	19.5	25.5	23.5	24.5	26.0	21.5	23.5
15	16.5	14.5	15.0	22.0	19.0	20.0	26.0	23.5	24.5	26.0	22.5	24.5
16	19.0	15.0	16.5	21.0	18.5	19.5	25.0	20.5	22.5	25.5	22.0	23.5
17	19.5	16.5	17.5	23.0	17.5	19.5	24.0	21.0	22.0	27.0	25.0	26.0
18	19.5	17.0	18.0	24.5	19.5	21.0	25.0	22.5	23.5	29.5	24.0	26.5
19	20.5	19.0	20.0	25.0	21.5	23.0	26.0	23.0	24.5	28.5	24.0	26.0
20	21.5	19.5	20.5	25.0	22.5	23.5	26.5	23.5	25.0	28.0	24.5	26.0
21	19.5	19.0	19.0	25.5	23.0	24.0	26.5	23.5	24.5	28.0	24.5	26.0
22	20.5	19.5	19.5	24.0	21.0	22.0	26.5	23.5	24.5	27.5	24.5	25.5
23	19.5	16.0	18.0	25.0	23.0	23.5	27.0	24.0	25.0	27.5	24.5	25.5
24	19.5	13.5	16.0	25.0	23.5	24.5	27.0	24.0	25.0	28.0	24.5	26.0
25	20.5	15.5	17.0	25.5	22.0	23.5	25.0	24.0	24.5	28.5	25.5	26.5
26	20.5	16.0	17.5	25.5	23.0	23.5	25.5	24.5	25.0	28.5	25.0	26.0
27	17.5	15.0	16.0	24.0	20.0	22.5	26.5	25.5	26.0	28.5	25.5	26.5
28	18.5	16.5	17.5	21.5	18.0	19.5	27.0	25.0	26.0	28.5	26.0	27.0
29	---	---	---	20.5	17.0	18.5	26.5	24.5	25.5	29.0	26.0	27.0
30	---	---	---	22.5	18.0	20.0	26.5	18.5	22.0	31.0	25.0	28.0
31	---	---	---	22.5	18.5	19.0	---	---	---	29.0	26.5	27.5
MONTH	23.5	9.0	16.5	25.5	14.0	20.5	27.0	16.5	23.0	31.0	18.0	25.5

SAN JACINTO RIVER BASIN

103

08074600 BUFFALO BAYOU AT MAIN STREET, HOUSTON, TX

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

DRAINAGE AREA.--469 mi².

WATER-STAGE RECORDS

PERIOD OF RECORD.--January 1962 to current year. (Gage removed for bridge repairs Apr. 5, 1982, to Dec. 2, 1983.)
Water-quality records: A three-parameter water quality monitor continuously recorded specific conductance, water temperature, and dissolved oxygen at this station, April 1986 to May 1992.

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

REMARKS.--Gage height records fair. Most days are influenced by tidal fluctuations. Gage heights during rises reflect releases from Barker and Addicks Reservoirs (stations 08072500 and 08073000, respectively) and runoff from urban areas. Satellite telemeter at station until Feb. 18, 1994.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 30.9 ft Mar. 4, 1992; minimum recorded, -3.5 ft Jan. 13, 1964.

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height recorded, 10.3 ft Aug. 22 at 1845 hours; minimum, -1.6 ft Aug. 14.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4.7	3.9	3.7	2.3	---	---	4.2	2.3	3.4	1.8	4.5	2.4
2	5.0	3.2	4.2	3.3	---	---	3.9	2.3	3.4	2.0	2.4	.8
3	4.6	2.6	---	---	---	---	2.7	.3	3.8	2.0	3.8	1.7
4	4.1	2.7	---	---	---	---	2.1	.7	4.0	2.2	4.2	2.6
5	4.2	2.8	---	---	---	---	3.8	1.5	3.7	1.7	4.3	2.7
6	4.3	3.0	---	---	---	---	4.0	2.3	3.6	1.7	4.3	2.5
7	4.6	3.3	---	---	---	---	3.2	.7	3.7	2.1	4.1	2.4
8	5.3	3.6	---	---	---	---	3.4	.8	4.1	2.5	4.5	3.0
9	5.1	---	---	---	---	---	5.2	2.6	4.1	1.8	6.7	2.1
10	---	---	---	---	---	---	5.9	3.3	5.7	2.0	3.4	1.5
11	---	---	---	---	---	---	4.9	2.5	4.3	1.8	4.7	3.0
12	---	---	---	---	---	---	4.0	2.1	4.1	3.1	5.5	4.2
13	---	---	---	---	---	---	3.9	2.2	3.8	1.8	4.5	3.5
14	---	---	---	---	---	---	3.6	1.6	4.3	2.6	3.8	2.5
15	---	---	---	---	---	---	3.9	1.7	4.3	3.2	4.5	2.6
16	---	---	---	---	---	---	4.8	3.4	3.8	2.5	4.0	2.3
17	---	---	---	---	4.3	2.8	4.8	1.9	3.8	2.6	4.4	2.6
18	---	---	---	---	4.2	2.2	3.6	1.7	4.4	2.7	4.4	2.7
19	---	---	---	---	3.1	2.5	4.1	2.6	4.5	3.1	4.5	2.8
20	10.5	---	---	---	3.2	1.8	4.4	3.1	7.1	2.6	4.8	3.0
21	9.4	---	---	---	2.1	1.1	3.9	2.5	7.0	3.1	4.2	2.4
22	3.7	2.1	---	---	2.1	1.5	3.9	2.3	5.1	3.0	4.5	2.4
23	4.2	2.7	---	---	2.0	1.0	4.0	2.3	4.6	1.8	4.9	3.3
24	4.5	3.3	---	---	2.0	1.3	3.9	2.3	4.3	2.6	4.2	2.8
25	4.9	3.8	---	---	1.4	.5	4.2	2.3	4.6	3.5	4.1	2.2
26	4.6	3.7	---	---	1.5	.4	4.1	2.3	4.2	2.3	4.9	3.5
27	4.0	2.5	---	---	3.5	1.0	6.3	3.4	4.7	3.0	5.1	2.2
28	4.4	2.8	---	---	3.6	1.7	4.5	.5	4.8	3.4	2.5	1.2
29	4.2	2.9	---	---	2.9	.7	3.7	2.2	---	---	3.8	1.1
30	2.9	.3	---	---	3.8	1.7	3.6	2.1	---	---	3.7	2.1
31	3.0	.6	---	---	4.1	2.3	3.7	2.3	---	---	4.0	1.4
MONTH	---	---	---	---	---	---	6.3	.3	7.1	1.7	6.7	.8

SAN JACINTO RIVER BASIN

08074600 BUFFALO BAYOU AT MAIN STREET, HOUSTON, TX--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.9	1.9	4.7	2.1	1.9	---	3.8	2.3	4.6	2.2	4.9	2.6
2	4.2	2.2	5.2	3.6	2.0	---	3.8	2.3	4.5	2.6	5.7	2.2
3	4.0	1.7	4.6	2.9	2.1	---	4.0	2.4	4.6	2.7	5.2	2.9
4	4.3	2.1	4.1	2.8	1.7	---	4.0	2.4	4.6	2.6	4.0	2.3
5	4.6	3.1	4.6	3.3	1.7	---	4.8	2.5	5.1	2.4	4.5	2.6
6	4.0	1.5	4.6	3.4	1.7	---	4.1	2.6	4.3	2.5	4.4	3.0
7	4.3	2.1	4.3	3.0	1.6	---	4.2	2.1	4.1	2.5	4.7	2.9
8	4.6	3.6	3.9	2.5	1.7	---	4.3	2.2	4.3	2.6	4.5	3.0
9	4.9	3.5	4.0	2.2	4.4	---	4.6	2.3	4.4	2.7	5.0	3.9
10	5.2	3.7	4.2	2.4	6.5	2.6	4.4	2.6	4.2	---	5.0	3.0
11	5.2	3.8	---	---	4.6	2.7	4.2	2.3	---	---	5.1	3.2
12	4.3	2.9	---	---	4.7	2.4	4.3	2.6	---	-1.5	4.9	3.0
13	4.4	2.5	---	---	4.5	2.6	4.2	2.8	4.6	-1.3	5.2	3.4
14	4.7	2.9	---	---	4.9	2.9	4.3	3.1	4.5	-1.6	5.5	3.5
15	4.7	2.7	---	---	4.9	3.5	4.1	2.6	4.1	-1.5	5.1	3.8
16	4.1	2.3	---	---	4.5	3.0	3.9	2.2	4.4	-1.2	5.0	3.3
17	4.6	2.6	---	---	4.1	2.6	3.9	2.1	---	---	4.4	2.9
18	5.0	2.9	---	---	4.1	2.3	3.7	1.8	---	---	4.5	2.9
19	4.8	3.0	---	---	4.1	2.2	3.9	1.8	4.1	---	4.3	3.1
20	4.2	2.7	---	---	5.5	2.2	4.0	2.0	4.3	2.6	4.5	3.2
21	4.6	3.2	---	---	4.8	2.7	3.9	1.9	5.2	2.8	4.4	3.2
22	---	---	---	---	4.7	2.2	3.6	2.0	10.3	2.5	4.4	3.1
23	---	---	---	---	8.5	2.0	3.4	1.8	6.1	3.9	4.2	2.6
24	---	---	---	---	8.4	2.4	3.5	1.8	4.1	2.8	4.4	2.6
25	---	---	---	---	4.6	1.9	3.4	2.0	3.8	---	3.6	2.2
26	---	---	---	---	4.0	2.1	3.6	2.3	4.0	---	4.0	2.7
27	---	---	---	---	3.6	2.3	3.4	1.7	4.4	3.1	4.1	2.5
28	---	---	---	---	3.6	2.5	3.4	2.2	4.4	2.8	4.0	2.4
29	5.4	3.4	---	---	3.6	2.5	3.7	2.4	4.3	3.0	4.1	2.7
30	7.0	3.4	---	---	3.8	2.4	3.9	2.6	4.4	2.9	4.6	3.0
31	---	---	---	---	---	---	4.1	2.4	4.6	2.6	---	---
MONTH	---	---	---	---	8.5	---	4.8	1.7	---	---	5.7	2.2

SAN JACINTO RIVER BASIN

105

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX

LOCATION.--Lat 29°45'57", long 95°52'07", Harris County, Hydrologic Unit 12040104, on left bank at McKee street bridge over Buffalo Bayou 0.8 mi downstream from station 08074700, 5.5 mi upstream from station 08074710.

DRAINAGE AREA.--Not determined.

WATER-ELEVATION RECORDS

PERIOD OF RECORD.--February 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, 1978 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records good. Mostly tidal, affected by local runoff. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 13.60 ft Mar. 1 1993 at 2200 hours; minimum, -1.89 ft Mar. 13, 1993 at 0400 hours.

EXTREMES FOR CURRENT YEAR.-- Maximum elevation, 10.77 ft Nov. 16 at 1300 hours; minimum, -1.60 ft Oct. 30 at 1400 hours.

DAY	ELEVATION (FEET NGVD), WATER YEAR		OCTOBER 1993 TO SEPTEMBER 1994									
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.3	2.2	2.8	.5	3.3	1.7	2.6	.7	1.5	.1	e2.5	e.1
2	3.3	1.6	3.3	1.6	3.2	1.2	2.3	.7	1.6	.2	e.3	e-1.0
3	2.9	.9	3.2	1.0	3.1	1.5	1.0	-1.5	2.1	.4	1.9	-.3
4	2.4	1.0	2.5	.7	3.6	.1	.4	-1.0	2.2	.5	2.2	.5
5	2.6	1.1	2.6	-.1	1.8	.6	2.1	-.2	2.0	.0	2.3	.6
6	2.7	1.4	.6	-.4	2.3	.7	2.2	.8	1.9	.1	2.4	.5
7	2.9	1.7	2.0	.3	2.4	1.3	1.5	-.9	2.0	.3	2.3	.6
8	3.7	2.0	2.8	1.8	2.4	1.0	1.7	-.8	2.3	.8	2.7	1.2
9	3.4	.8	3.3	1.7	2.5	1.0	3.5	.9	2.3	-.1	4.1	-.1
10	2.3	1.2	2.7	1.3	3.2	.9	4.2	1.7	2.5	.2	1.5	-.4
11	2.8	1.4	3.3	1.4	2.3	.4	3.2	.9	2.0	.0	2.8	1.1
12	3.3	1.5	3.4	1.7	3.8	1.2	2.3	.4	2.3	1.3	3.7	2.3
13	3.5	1.8	3.5	1.4	4.0	.7	2.2	.5	2.0	-.1	2.5	1.6
14	2.8	1.4	4.0	1.6	1.0	-1.6	1.9	.0	2.5	.8	2.1	.7
15	3.2	1.5	3.1	.7	1.7	-.6	2.2	.0	2.5	1.4	2.5	.8
16	3.1	1.2	10.8	2.9	2.6	1.1	3.1	1.8	2.0	.7	2.3	.5
17	3.0	1.4	4.5	.4	2.6	1.0	3.1	.2	2.1	.7	2.6	.9
18	3.4	1.7	2.5	1.3	2.5	.5	1.9	.0	2.7	.9	2.6	.9
19	3.4	1.9	2.8	.7	2.5	1.7	2.4	.9	2.8	1.4	2.6	.9
20	7.3	3.1	1.6	.5	2.7	.2	2.6	1.4	4.3	.9	2.9	1.1
21	6.1	.5	2.3	1.5	1.7	-.5	2.2	.7	4.2	1.1	2.4	.7
22	2.0	.4	2.4	1.2	2.1	.9	2.1	.6	3.2	1.3	2.8	.7
23	2.5	1.0	2.6	1.2	1.9	.1	2.3	.6	2.8	.1	3.2	1.6
24	2.8	1.5	2.2	.9	2.0	.2	2.2	.6	e2.2	e.5	2.5	1.1
25	3.1	2.0	1.6	.1	1.7	-.7	2.4	.6	e2.6	e1.4	2.5	.5
26	2.9	1.8	1.0	-.8	1.7	-.1	2.3	.6	e2.2	e.4	3.1	1.9
27	2.3	.7	1.8	-.5	1.8	.0	3.5	1.7	e2.6	e1.1	3.3	.6
28	2.7	1.0	1.8	.1	1.9	.0	2.4	-1.5	e2.9	e1.4	.8	-.4
29	2.5	1.2	2.0	.2	1.2	-1.0	1.8	.3	---	---	2.1	-.7
30	1.2	-1.6	2.7	.8	2.1	.0	1.9	.2	---	---	2.0	.4
31	1.3	-1.2	---	---	2.4	.6	1.9	.5	---	---	2.3	-.4
MONTH	7.3	-1.6	10.8	-.8	4.0	-1.6	4.2	-1.5	4.3	-.1	4.1	-1.0

e Estimated

DAY	ELEVATION (FEET NGVD), WATER YEAR													
			OCTOBER 1993		TO SEPTEMBER 1994									
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER			
1	2.1	.2	3.0	.4	2.8	1.4	2.1	.7	2.8	.5	3.1	.9		
2	2.5	.4	3.4	1.7	2.9	1.7	2.1	.7	2.8	.9	3.2	.6		
3	2.3	.0	2.7	1.1	3.1	1.3	2.3	.7	2.9	1.0	3.1	1.0		
4	2.6	.3	2.4	1.1	2.6	1.3	2.3	.7	2.8	1.0	2.2	.6		
5	2.8	1.4	2.8	1.4	2.7	1.2	2.9	.9	3.0	.8	2.9	.9		
6	2.2	-.3	2.7	1.6	2.7	1.1	2.4	.9	2.6	.7	2.6	1.4		
7	2.6	.4	2.6	1.3	2.6	.7	2.5	.5	2.5	.9	2.9	1.2		
8	2.9	1.8	2.2	.8	2.7	.8	2.6	.6	2.6	.9	2.8	1.3		
9	3.2	1.8	2.3	.5	2.8	.7	2.9	.7	2.6	1.0	3.0	2.0		
10	3.4	2.0	2.5	.7	4.1	.9	2.7	.9	2.7	1.3	3.2	1.3		
11	3.5	2.1	2.6	.7	2.9	.7	2.5	.6	2.5	1.4	3.3	1.6		
12	2.5	1.1	2.6	.6	2.8	.7	2.6	1.0	2.7	1.5	3.2	1.3		
13	2.6	.8	3.8	.8	2.9	.8	2.6	1.2	2.7	1.1	3.5	1.6		
14	3.0	1.2	3.8	1.4	3.2	1.2	2.7	1.5	2.6	.7	3.8	1.8		
15	3.0	1.0	3.0	1.0	3.2	1.8	2.4	1.0	2.3	.4	3.5	2.2		
16	2.4	.6	5.9	2.6	2.7	1.4	2.2	.6	2.7	.5	3.2	1.5		
17	2.9	.9	2.8	1.1	2.4	.9	2.2	.4	5.0	.7	2.7	1.2		
18	3.3	1.2	2.6	1.2	2.2	.5	2.0	.2	2.9	1.1	2.7	1.2		
19	3.1	1.3	2.9	1.4	2.2	.4	2.2	.2	2.3	.7	2.5	1.4		
20	2.5	1.0	3.1	1.8	3.4	.5	2.3	.4	2.5	.7	2.7	1.4		
21	2.8	1.5	2.7	1.4	2.9	.9	2.2	.3	3.2	1.0	2.7	1.3		
22	2.6	1.3	2.7	1.1	2.7	.4	1.8	.3	6.9	.7	2.7	1.3		
23	2.4	1.1	2.3	.7	5.5	.2	1.9	.1	3.8	2.0	2.5	.8		
24	2.9	1.2	2.5	.5	5.3	.4	1.8	.2	2.3	1.3	2.7	.9		
25	3.4	1.6	2.9	.7	2.6	.1	1.7	.3	2.2	1.3	1.9	.6		
26	3.5	1.5	2.8	.8	2.3	.3	1.9	.7	2.4	1.2	2.2	.9		
27	3.8	1.6	2.7	.5	1.8	.6	1.7	.0	2.6	1.4	2.4	.8		
28	3.8	2.2	2.7	.5	1.8	.7	1.7	.5	2.7	1.2	2.3	.6		
29	3.7	1.7	3.0	.8	1.6	.9	2.0	.8	2.5	1.3	2.3	.9		
30	4.3	1.7	2.8	1.2	2.1	.8	2.3	.9	2.7	1.2				

SAN JACINTO RIVER BASIN

107

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1992 to current year.

WATER TEMPERATURE: February 1992 to current year.

DISSOLVED OXYGEN: February 1992 to current year.

INSTURMENTATION.-- Since February 1992 a three-parameter water-quality monitor continuously records specific conductance, water temperature, and dissolved oxygen at this station.

REMARKS.-- Interruption in the record was due to malfunctions of the instrumentation. Due to tidal effects, probe location, channel morphology, the water quality data collected at this location may not be representative of the entire flow through the cross-section.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2000 microsiemens Oct. 11, 1992 and Sept. 7, 1993; minimum, 52 microsiemens Sept. 3, 1994.

WATER TEMPERATURE: Maximum 32.5°C Jul. 1, 18, 26, 1994; minimum, 6.0°C on Feb. 10, 11, 1994.

DISSOLVED OXYGEN: Maximum, 10.8 mg/L Jul. 20, 1994; minimum, 0.8 mg/L Sept. 4, 1992.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1060 microsiemens Jan. 10; minimum, 60 microsiemens Aug. 5.

WATER TEMPERATURE: Maximum, 32.5°C Jul. 1, 18, 26; minimum, 6.0°C Feb. 10, 11.

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	546	520	532	---	---	---	---	---	---
2	---	---	---	541	519	530	---	---	---	---	---	---
3	---	---	---	590	318	438	---	---	---	---	---	---
4	---	---	---	416	366	398	---	---	---	---	---	---
5	---	---	---	536	410	487	562	475	529	---	---	---
6	---	---	---	562	536	548	574	559	567	929	781	842
7	---	---	---	576	555	567	570	557	562	846	779	806
8	---	---	---	588	362	558	---	---	---	873	790	835
9	---	---	---	388	326	357	---	---	---	926	788	830
10	---	---	---	467	304	384	---	---	---	1060	757	826
11	---	---	---	472	429	446	585	568	575	---	---	---
12	---	---	---	---	---	---	587	582	585	572	438	520
13	---	---	---	620	520	585	597	582	589	727	521	608
14	363	192	257	646	141	428	632	593	605	781	550	626
15	394	233	291	404	254	306	837	627	654	623	572	599
16	346	235	283	449	73	211	---	---	---	681	585	630
17	484	291	385	417	135	201	---	---	---	761	644	681
18	---	---	---	280	194	223	---	---	---	709	673	687
19	---	---	---	219	195	208	---	---	---	---	---	---
20	---	---	---	263	219	239	---	---	---	718	688	706
21	218	127	165	559	263	318	---	---	---	---	---	---
22	271	198	221	---	---	---	685	415	544	---	---	---
23	209	191	200	---	---	---	502	410	460	---	---	---
24	246	205	222	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	726	447	556	---	---	---
26	---	---	---	---	---	---	671	551	610	---	---	---
27	---	---	---	---	---	---	---	---	---	710	152	448
28	---	---	---	---	---	---	747	609	696	---	---	---
29	---	---	---	---	---	---	783	638	699	---	---	---
30	486	387	453	---	---	---	---	---	---	---	---	---
31	545	459	512	---	---	---	---	---	---	---	---	---
MONTH	545	127	299	646	73	398	837	410	588	1060	152	689

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	380	262	208	228
2	---	---	---	---	---	---	---	---	397	257	200	226
3	---	---	---	---	---	---	---	---	413	338	220	265
4	---	---	---	---	---	455	---	---	433	---	---	---
5	---	---	---	---	---	450	---	---	471	279	218	249
6	---	---	---	---	---	444	---	---	475	278	218	246
7	---	---	---	---	---	461	---	---	---	267	217	242
8	---	---	---	---	---	480	---	---	---	263	202	234
9	---	---	---	---	---	397	---	---	---	599	214	429
10	---	---	---	---	---	354	---	---	---	670	592	631
11	---	---	---	---	---	353	---	---	---	728	670	704
12	480	468	473	---	---	350	---	---	---	755	724	736
13	493	452	479	---	---	347	---	---	---	791	394	744
14	452	407	431	---	---	349	676	604	641	394	256	298
15	407	391	397	---	---	360	750	652	695	336	230	280
16	416	392	402	---	---	372	747	552	636	266	107	156
17	444	416	429	---	---	373	643	532	585	266	188	225
18	---	---	---	---	---	377	696	634	678	282	212	252
19	527	479	503	---	---	366	672	614	633	307	173	231
20	572	527	551	---	---	231	722	644	680	190	155	173
21	541	448	466	---	---	229	755	713	725	184	160	171
22	---	---	---	---	---	255	765	717	745	194	161	178
23	---	---	---	---	---	234	766	714	737	208	174	189
24	---	---	---	---	---	236	797	393	687	228	168	195
25	---	---	---	---	---	259	548	435	490	247	185	209
26	---	---	---	---	---	288	553	438	502	314	227	257
27	---	---	---	---	---	319	695	553	597	424	292	343
28	---	---	---	---	---	325	757	662	713	557	413	479
29	---	---	---	---	---	334	786	723	736	653	557	584
30	---	---	---	---	---	347	769	121	486	---	---	---
31	---	---	---	---	---	362	---	---	---	---	---	---
MONTH	572	391	459	---	---	347	797	121	588	791	107	327
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	652	544	589	802	773	784	577	397	462
2	---	---	---	683	583	616	851	799	809	---	---	---
3	---	---	---	707	683	695	---	---	---	---	---	---
4	---	---	---	737	702	718	854	507	781	266	66	124
5	---	---	---	763	394	615	747	60	457	422	266	339
6	402	318	346	634	388	453	342	201	267	581	422	527
7	472	350	392	719	634	685	204	145	172	561	361	434
8	587	472	506	706	641	667	322	204	245	623	339	500
9	668	537	593	738	520	694	538	236	323	---	---	---
10	713	179	554	520	196	296	365	209	270	---	---	---
11	285	171	228	434	349	380	507	246	342	275	162	223
12	405	265	336	532	390	471	253	189	221	404	264	323
13	303	221	260	726	529	645	411	192	290	---	---	---
14	373	303	329	734	702	717	590	408	475	228	108	182
15	438	354	391	750	733	741	837	170	624	272	155	189
16	---	---	---	771	496	702	643	122	384	376	135	212
17	---	---	---	690	496	579	---	---	---	319	171	242
18	722	343	565	690	404	561	---	---	---	404	313	360
19	457	330	395	706	658	677	410	217	303	---	---	---
20	531	147	413	715	632	695	470	410	453	---	---	---
21	302	133	184	727	699	709	509	153	390	---	---	---
22	320	211	293	750	727	738	---	---	---	399	238	320
23	302	80	219	770	617	748	---	---	---	490	398	456
24	205	80	157	617	448	528	293	103	193	584	462	533
25	242	172	202	592	436	502	336	113	199	709	562	654
26	293	190	245	671	579	614	533	207	375	797	691	738
27	264	234	249	718	668	700	433	207	351	796	747	770
28	298	234	260	780	713	730	417	263	289	794	758	776
29	407	284	335	778	725	749	485	279	372	840	762	795
30	545	397	439	792	759	778	594	400	524	855	776	810
31	---	---	---	800	776	790	499	304	372	---	---	---
MONTH	722	80	343	800	196	638	854	60	395	855	66	453
YEAR	1060	60	457									

SAN JACINTO RIVER BASIN

109

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	27.5	26.5	27.0	32.5	29.5	30.5	28.5	27.0	27.5	29.0	27.5	28.5
2	27.0	26.0	26.5	31.5	30.0	30.5	28.5	27.0	27.5	29.0	26.0	28.0
3	26.5	24.5	25.5	32.0	29.5	30.5	29.5	27.0	27.5	27.5	26.0	26.5
4	26.5	26.0	26.5	32.0	29.5	30.5	28.5	27.5	28.0	28.5	27.0	27.5
5	27.5	26.0	26.5	30.0	29.0	29.5	28.0	25.0	26.5	30.5	28.0	29.0
6	28.0	27.0	27.0	31.0	29.0	29.5	27.5	25.5	26.0	30.5	28.5	29.0
7	28.5	28.0	28.0	31.5	29.5	30.5	27.5	26.0	26.5	29.5	29.0	29.0
8	30.5	28.5	29.5	30.5	29.5	30.0	27.5	27.0	27.5	30.0	28.5	29.0
9	31.0	29.5	30.0	30.0	29.0	29.5	28.0	27.0	27.5	28.5	23.5	26.0
10	30.5	26.0	29.0	29.5	28.0	28.5	27.5	25.5	26.5	25.0	23.5	24.5
11	28.0	25.0	26.0	30.0	28.5	29.0	27.0	26.5	27.0	27.0	25.0	25.5
12	28.0	27.0	27.5	31.0	29.0	30.0	27.5	26.5	27.0	27.5	26.5	27.0
13	28.0	27.0	27.5	31.5	29.5	30.5	28.0	27.0	27.5	27.5	26.5	26.5
14	28.0	27.5	28.0	31.5	30.0	30.5	30.0	28.0	28.5	27.0	26.0	26.5
15	29.0	28.0	28.5	31.5	30.0	30.5	31.0	28.5	29.0	28.5	26.5	27.0
16	28.5	28.0	28.5	32.0	30.0	30.5	29.5	28.5	28.5	27.5	26.5	27.0
17	29.5	28.5	29.0	31.5	30.0	30.5	30.0	26.0	28.5	28.0	26.5	27.0
18	29.5	28.0	29.0	32.5	30.0	31.0	29.5	26.0	27.0	28.5	27.0	27.5
19	28.5	27.5	28.0	32.0	30.0	30.5	29.5	28.0	28.5	27.5	26.5	27.0
20	29.0	26.0	28.0	30.5	29.5	30.0	30.5	28.5	29.5	26.0	25.5	26.0
21	27.0	24.0	25.5	32.0	29.5	30.0	29.5	27.5	28.5	25.5	24.5	25.0
22	28.5	26.5	27.0	31.5	29.5	30.5	28.0	25.0	27.0	25.5	25.0	25.5
23	28.0	25.5	27.0	31.5	29.5	30.5	27.5	25.0	26.0	27.0	24.5	25.0
24	27.5	25.0	26.5	32.0	30.0	30.5	28.0	26.5	27.0	25.5	23.5	24.5
25	29.5	27.0	27.5	32.0	30.0	30.5	27.5	26.5	27.0	25.5	23.0	24.0
26	29.5	27.5	28.5	32.5	29.5	30.5	29.0	27.5	28.0	26.5	23.0	24.0
27	30.0	28.0	29.0	31.0	29.0	30.0	29.0	28.0	28.0	26.5	23.0	24.5
28	30.5	28.5	29.5	31.0	29.0	29.5	28.5	27.5	27.5	27.0	23.5	25.0
29	31.5	29.5	30.0	30.5	28.0	29.0	29.0	27.5	28.0	27.0	24.5	25.5
30	32.0	29.5	30.0	29.0	27.5	28.0	28.5	28.0	28.0	26.0	25.0	25.5
31	---	---	---	28.0	27.0	27.5	30.0	28.0	28.5	---	---	---
MONTH	32.0	24.0	28.0	32.5	27.0	30.0	31.0	25.0	27.5	30.5	23.0	26.5
YEAR	32.5	6.0	22.0									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

111

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	7.5	4.9	5.7
11	---	---	---	---	---	---	---	---	---	6.9	4.9	5.9
12	---	---	---	---	---	---	---	---	---	7.8	4.3	5.7
13	---	---	---	---	---	---	---	---	---	7.3	4.6	5.8
14	---	---	---	---	---	---	---	---	---	7.4	5.6	6.3
15	---	---	---	---	---	---	---	---	---	7.4	5.8	6.5
16	---	---	---	---	---	---	---	---	---	8.3	6.5	7.3
17	---	---	---	---	---	---	---	---	---	6.5	5.5	5.9
18	---	---	---	---	---	---	---	---	---	5.7	4.5	5.3
19	---	---	---	---	---	---	---	---	---	6.8	4.8	6.2
20	---	---	---	---	---	---	---	---	---	6.9	6.7	6.8
21	---	---	---	---	---	---	---	---	---	6.9	6.6	6.8
22	---	---	---	---	---	---	---	---	---	6.9	6.6	6.7
23	---	---	---	---	---	---	---	---	---	6.9	6.1	6.4
24	---	---	---	---	---	---	---	---	---	6.5	6.1	6.2
25	---	---	---	---	---	---	---	---	---	6.7	6.0	6.2
26	---	---	---	---	---	---	---	---	---	6.5	5.4	5.9
27	---	---	---	---	---	---	---	---	---	6.4	5.4	5.7
28	---	---	---	---	---	---	---	---	---	6.5	4.9	5.6
29	---	---	---	---	---	---	---	---	---	6.5	4.0	5.3
30	---	---	---	---	---	---	---	---	---	7.4	4.0	5.3
31	---	---	---	---	---	---	---	---	---	6.8	4.1	4.9
MONTH	---	---	---	---	---	---	---	---	---	8.3	4.0	6.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	4.6	2.2	3.1	---	---	---	---	---	---	7.9	5.2	6.3
2	---	---	---	---	---	---	---	---	---	8.9	5.1	6.3
3	6.7	5.3	6.0	---	---	---	---	---	---	10.0	6.7	7.4
4	7.4	4.7	5.7	---	---	---	---	---	---	7.0	4.7	5.9
5	6.3	5.2	5.5	---	---	---	---	---	---	6.6	4.8	5.7
6	6.6	5.7	6.1	7.3	3.4	4.8	---	---	---	9.0	5.0	6.5
7	6.1	5.2	5.8	---	---	---	---	---	---	6.8	3.0	4.7
8	6.5	4.0	5.5	10.3	7.3	9.0	---	---	---	7.0	1.9	4.2
9	8.2	2.8	5.6	---	---	---	---	---	---	8.8	2.2	6.6
10	8.7	5.4	7.1	8.6	3.6	5.5	---	---	---	8.8	7.0	7.9
11	7.3	5.5	6.4	7.3	3.4	5.3	---	---	---	7.9	6.8	7.2
12	7.0	5.2	5.9	---	---	---	6.5	5.7	6.1	7.5	5.7	6.6
13	7.0	6.3	6.5	---	---	---	6.4	6.0	6.3	7.6	5.1	6.1
14	6.9	5.3	6.6	---	---	---	7.1	5.3	5.9	8.3	6.1	7.0
15	6.8	5.2	6.1	---	---	---	8.5	5.2	6.6	8.3	5.9	7.2
16	---	---	---	---	---	---	6.3	2.5	3.7	7.8	5.9	7.1
17	---	---	---	---	---	---	---	---	---	7.8	3.9	6.0
18	8.3	3.8	5.9	---	---	---	---	---	---	6.7	3.2	4.9
19	4.8	2.4	3.8	---	---	---	6.4	4.9	5.5	---	---	---
20	8.3	3.7	5.0	---	---	---	7.0	5.8	6.3	---	---	---
21	6.7	5.8	6.2	---	---	---	8.4	5.3	6.3	---	---	---
22	7.5	5.3	5.8	---	---	---	9.7	4.4	6.2	---	---	---
23	8.2	4.2	6.0	---	---	---	9.3	7.4	7.9	6.3	3.4	4.6
24	8.6	6.3	7.0	---	---	---	7.7	6.5	7.3	4.9	2.6	3.6
25	7.1	6.0	6.5	---	---	---	6.9	5.9	6.5	6.3	2.9	4.2
26	6.5	5.3	5.9	---	---	---	8.4	6.1	6.6	7.5	3.4	4.9
27	6.3	6.1	6.2	---	---	---	7.2	4.3	5.4	7.8	3.8	5.6
28	6.3	5.7	5.9	---	---	---	6.7	5.0	5.4	8.0	4.3	6.0
29	---	---	---	---	---	---	6.0	4.6	5.2	8.9	4.2	6.1
30	7.9	5.6	6.5	---	---	---	7.0	4.4	6.1	8.2	4.0	5.4
31	---	---	---	---	---	---	6.4	4.5	5.3	---	---	---
MONTH	8.7	2.2	5.9	10.3	3.4	6.1	9.7	2.5	6.0	10.0	1.9	5.9
YEAR	10.3	1.9	6.0									

SAN JACINTO RIVER BASIN

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX

LOCATION.--Lat 29°44'57", long 95°17'27", Harris County, Hydrologic Unit 12040104, on left bank at Wharf No. 5 at end of private road, 1.0 mi downstream from station 08074700, 1.8 mi upstream from Brays Bayou and 4.9 mi east of downtown Houston.

DRAINAGE AREA.--Not determined.

WATER-ELEVATION RECORDS

PERIOD OF RECORD.--January 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical datum of 1929, 1978 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair. Only very large storms or hurricane surge produces elevations above normal tidal fluctuations. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 9.1 ft June 26, 1989; minimum, -3.1 ft Mar. 6, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 4.3 ft Nov. 16 at 0900 hours; minimum, -2.3 ft Oct. 30.

DAY	ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994											
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	2.8	1.9	2.3	2.0	.0	.8	2.9	1.2	2.2	2.1	.4	1.3
2	2.8	1.3	2.0	2.5	.9	1.9	2.6	.9	1.9	1.8	.3	1.0
3	2.2	.6	1.5	2.3	.3	1.5	2.7	1.1	2.1	.7	-1.7	-.9
4	1.8	.7	1.5	1.7	.1	1.1	2.9	-.1	1.1	-.3	-1.2	-.7
5	2.1	.8	1.6	1.7	-.8	.8	1.4	.3	.9	1.7	-.5	.6
6	2.1	.9	1.6	-.4	-1.2	-.7	1.8	.4	1.1	1.9	.4	1.2
7	3.2	1.3	2.2	1.0	-.6	.6	1.9	1.0	1.5	1.1	-1.3	-.4
8	3.6	1.8	2.9	1.9	.9	1.5	2.0	.7	1.5	1.3	-1.2	-.4
9	3.4	.9	2.4	2.5	1.2	1.9	2.2	.9	1.6	2.9	.6	1.5
10	1.6	.6	1.3	2.5	1.1	1.8	2.2	.3	1.4	3.6	1.3	2.4
11	2.2	.8	1.7	2.9	1.1	2.0	1.9	.0	1.1	2.6	.6	1.7
12	2.6	1.0	1.9	3.1	1.4	2.4	3.3	.8	1.8	2.0	.2	1.1
13	2.5	1.3	1.9	3.1	1.1	2.2	3.6	.4	1.9	1.7	.3	1.1
14	2.2	1.0	1.6	3.9	1.1	2.3	.5	-1.9	-.8	1.5	-.3	.6
15	2.5	.9	1.7	2.7	.4	1.7	1.3	-1.0	.0	1.7	-.2	.7
16	2.5	.7	1.6	4.3	1.7	2.9	2.2	.8	1.5	2.7	1.5	2.0
17	2.3	.8	1.8	2.3	.0	1.1	2.2	.7	1.5	2.7	.0	1.1
18	2.7	1.2	2.1	2.0	.7	1.4	2.0	.2	1.1	1.5	-.2	.6
19	2.7	1.3	2.3	2.2	.2	1.3	2.2	1.4	1.7	2.0	.7	1.4
20	3.5	1.9	2.7	1.0	.0	.5	2.4	-.2	1.3	2.2	1.1	1.8
21	2.1	.0	1.3	1.7	1.0	1.5	1.3	-.8	.2	1.8	.6	1.3
22	1.2	-.1	.7	2.0	.8	1.5	1.6	.6	1.1	1.7	.4	1.2
23	1.8	.4	1.4	2.1	.8	1.6	1.4	-.2	.5	1.9	.4	1.2
24	2.0	.9	1.8	1.9	.7	1.3	1.6	.0	.9	1.9	.4	1.3
25	2.4	1.4	2.0	1.3	-.3	.5	1.3	-1.0	.0	2.0	.4	1.2
26	2.2	1.3	1.7	.7	-1.1	-.1	1.3	-.4	.4	1.9	.4	1.3
27	1.6	.3	.9	1.4	-.8	.2	1.4	-.3	.7	2.2	.7	1.7
28	1.7	.4	1.0	1.4	-.1	.7	1.5	-.3	.7	1.8	-1.5	.3
29	1.7	.6	1.3	1.6	-.1	.9	.7	-1.3	-.2	1.3	.1	.8
30	.7	-2.3	-1.4	2.2	.5	1.4	1.7	-.2	.6	1.8	.2	.8
31	.6	-1.8	-1.1	---	---	---	2.0	.3	1.2	1.8	-.9	.9
MONTH	3.6	-2.3	1.6	4.3	-1.2	1.3	3.6	-1.9	1.0	3.6	-1.7	1.0

DAY	ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994											
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1.2	-.1	.5	2.4	-.4	1.6	1.8	-.1	1.1	2.5	.1	1.2
2	1.5	-.3	.5	2.4	-1.3	-.7	2.1	.2	1.4	3.0	1.2	2.1
3	1.7	.2	1.0	1.3	-1.4	.0	1.9	-.3	.9	2.2	.9	1.5
4	1.9	.3	1.2	1.6	-.3	.8	2.2	.0	1.0	1.9	.8	1.3
5	1.7	-.2	.8	1.7	-.2	.8	2.5	1.1	1.9	2.2	1.0	1.5
6	1.7	-.1	.9	1.8	-.1	.9	2.0	-.5	.5	2.2	1.0	1.7
7	1.8	.1	1.1	1.9	.2	1.2	2.2	.2	1.3	2.1	1.0	1.5
8	2.1	.6	1.5	2.2	.8	1.6	2.5	1.5	2.0	1.9	.5	1.3
9	2.0	-.2	1.1	2.7	-.6	.9	2.9	1.5	2.3	1.9	.2	1.3
10	2.1	.0	1.3	1.3	-1.3	.0	3.2	1.7	2.5	2.1	.4	1.3
11	1.4	-.3	.5	2.5	.9	1.6	3.2	2.0	2.6	2.2	.3	1.4
12	1.7	.8	1.2	3.4	2.0	2.6	2.2	.8	1.5	2.2	.3	1.5
13	1.5	-.7	.1	2.1	1.1	1.6	2.2	.5	1.5	3.0	.6	1.8
14	2.0	.3	1.1	1.9	.6	1.3	2.6	.9	1.8	3.1	.8	2.1
15	2.0	.9	1.4	2.2	.6	1.5	2.5	.7	1.7	2.4	.6	1.6
16	1.5	.4	1.0	2.1	.5	1.4	2.0	.4	1.4	3.0	1.1	2.2
17	1.6	.2	1.0	2.3	.9	1.7	2.5	.6	1.7	2.4	.8	1.6
18	2.3	.6	1.5	2.2	.6	1.5	2.8	1.0	1.8	2.2	.9	1.5
19	2.4	1.1	1.9	2.3	.5	1.5	2.6	1.0	1.9	2.3	1.0	1.5
20	2.3	.6	1.6	2.6	.7	1.7	2.1	.7	1.5	2.6	1.2	1.8
21	2.3	.5	1.5	2.1	.5	1.3	2.4	1.1	1.6	2.2	.7	1.6
22	2.6	1.0	1.9	2.6	.5	1.5	2.2	1.0	1.6	2.2	.4	1.4
23	2.4	-.2	1.0	2.9	1.4	2.2	2.0	.9	1.5	1.8	.1	1.1
24	1.9	.3	1.0	2.3	1.0	1.8	2.5	1.0	1.9	1.9	-.2	1.2
25	2.2	1.0	1.7	2.0	.6	1.3	3.0	1.3	2.3	2.7	.1	1.5
26	1.8	.0	1.0	2.7	1.6	2.2	3.1	1.2	2.3	2.5	.3	1.6
27	2.4	.8	1.6	2.9	.3	1.5	3.4	1.3	2.6	2.3	.2	1.4
28	2.5	1.2	2.0	.5	-.7	-.1	3.4	1.9	2.8	2.4	.3	1.6
29	---	---	---	1.8	-1.0	.7	3.3	1.5	2.5	2.7	.5	1.7
30	---	---	---	1.6	.1	.9	2.9	1.1	2.0	2.3	.8	1.5
31	---	---	---	1.9	-.6	.7	---	---	---	3.0	.6	1.6
MONTH	2.6	-.7	1.2	3.4	-1.4	1.2	3.4	-.5	1.8	3.1	-.2	1.5

[illegible]

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE: April 1986 to current year.
WATER TEMPERATURE: April 1986 to current year.
DISSOLVED OXYGEN: April 1986 to current year.

REMARKS.--Water-quality monitor data have been collected one foot below the water surface since February 3, 1988. From April 1986 to January 1987 data were collected at a fixed elevation of 6.5 ft below NGVD using a submersible pump. From February 1987 until January 1988 data were collected at a fixed elevation of 5.5 ft below NGVD using a submersible pump. Dissolved oxygen data are not corrected for salinity. The upper limit of the specific conductance instrument is 20,000 microsiemens. Due to tidal effects, location of probe units, and channel morphology, the water-quality data collected at this location may not be representative of the entire flow through the cross-section.

SPECIFIC CONDUCTANCE: Maximum, >20,000 microsiemens Oct. 12-14, Dec. 13, 1988, Jan. 23, 1989; minimum, 60 microsiemens June 26, 1989.
WATER TEMPERATURE: Maximum, 36.5°C Aug. 21, 1990; minimum, 8.0°C Feb. 10-11, 1994.
DISSOLVED OXYGEN: Maximum, 12.9 mg/L Jan. 24, 1989; minimum, 0.0 mg/L on several days during 1987-88 water year.

SPECIFIC CONDUCTANCE: Maximum, 14,600 microsiemens Oct. 12; minimum, 147 microsiemens May 16.
WATER TEMPERATURE: Maximum, 33.0°C Jul. 18-19; minimum, 8.0°C Feb. 10-11.

[illegible]

SAN JACINTO RIVER BASIN

115

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2570	1400	1930	2370	346	808	2540	1110	1530	640	357	433
2	5000	1750	3090	2060	1060	1410	2300	1040	1700	396	303	359
3	4900	2240	3730	1200	331	570	2540	1140	1610	391	303	332
4	4150	1750	3040	589	312	403	3110	1470	2220	376	327	350
5	4980	2030	3190	522	302	396	2960	1740	2030	371	283	344
6	6040	2650	4330	390	282	316	2280	1010	1380	317	244	276
7	7280	3450	5230	443	258	317	1990	1180	1600	357	239	268
8	5100	3640	4180	468	326	406	2690	1320	1700	484	298	366
9	5370	3450	3970	1170	414	710	1620	967	1180	469	317	389
10	5750	790	3510	1390	351	471	1160	772	929	547	386	459
11	1020	443	578	1070	282	410	1600	1100	1260	557	454	508
12	986	561	781	623	268	331	---	---	---	624	498	539
13	971	551	769	385	307	350	---	---	---	697	556	615
14	898	473	687	648	277	423	---	---	---	863	531	618
15	873	370	592	535	365	453	---	---	---	556	424	468
16	1770	468	856	764	409	566	---	---	---	424	147	195
17	1220	424	790	1080	584	769	---	---	---	263	151	213
18	1280	512	808	710	516	601	---	---	---	399	263	299
19	1690	746	1140	516	302	383	3740	1160	1910	399	282	339
20	2220	1010	1470	612	307	360	2740	1140	1720	321	214	251
21	1100	375	526	792	316	428	3510	1320	1660	229	180	203
22	1240	443	769	734	457	564	4200	1710	2540	209	180	193
23	3870	911	1510	676	491	586	3180	1130	1750	229	189	206
24	2760	906	1620	705	472	530	2290	1270	1650	242	208	222
25	1740	429	770	1840	617	1180	2200	1050	1400	251	213	229
26	1200	409	630	2060	1380	1590	2200	1140	1480	421	221	259
27	1150	375	634	1620	777	1060	2050	1080	1320	407	240	272
28	716	307	472	3250	1150	1640	1920	972	1240	407	263	325
29	---	---	---	5900	1550	2410	1800	884	1260	743	346	431
30	---	---	---	2860	1710	2210	1210	591	954	---	---	---
31	---	---	---	2600	1250	1860	---	---	---	---	---	---
MONTH	7280	307	1840	5900	258	791	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	1420	523	675	10200	4590	6510	8050	2920	4410
2	---	---	---	2170	655	1000	8180	4980	6510	6020	2480	4320
3	---	---	---	4150	895	1630	8870	4990	6830	2480	567	1020
4	---	---	---	4150	1140	1750	10100	6130	8170	913	557	736
5	---	---	---	7180	1620	3160	7080	1900	4930	2650	894	1750
6	---	---	---	6690	2260	3760	2470	700	1460	5580	1180	2470
7	---	---	---	8450	2880	4020	3610	1260	1990	6510	2450	3680
8	3850	1100	1700	7160	3050	4860	4400	1500	2770	7900	3530	5210
9	3740	1310	2230	8240	2660	4190	3690	2140	2900	6790	728	3170
10	2200	620	1390	5630	1840	3090	3180	1270	2110	1680	464	1020
11	1400	347	621	6790	1870	3390	4580	1650	3070	1330	772	1040
12	576	357	452	6580	2380	3790	3070	1540	2090	2460	772	1850
13	576	352	455	8400	3470	4880	3370	1060	1880	3120	1440	2190
14	606	371	427	10600	3430	5150	4560	1390	2740	2870	806	1400
15	567	396	430	10600	4090	6140	7650	3490	4980	4540	1390	2190
16	508	435	467	9160	3430	4830	7260	3160	4590	4870	1690	2560
17	576	493	524	6270	4240	4990	7870	804	3440	9100	1800	3820
18	611	542	570	8200	3310	4620	1710	647	1000	8060	2030	3880
19	664	513	605	7870	4280	5330	5050	1210	2410	10500	2560	4980
20	679	601	643	9500	4790	6150	4750	2350	3560	7760	1570	3910
21	659	327	402	6340	4260	4790	7850	1710	3970	4240	781	1760
22	361	274	330	9460	4190	5830	4760	297	2420	5390	879	2100
23	396	205	308	9450	4190	6490	1520	302	681	3880	1870	2760
24	225	171	194	8240	2880	4690	793	347	526	6810	3400	4930
25	274	200	223	6390	2710	3660	2320	640	1200	7900	4260	5470
26	303	244	269	10000	4420	6210	3690	1250	2250	9350	3480	5920
27	357	274	306	9230	4360	6090	3640	1710	2660	---	---	---
28	376	283	325	9670	4600	6930	4380	1040	2440	9240	4640	6620
29	440	327	367	9070	5170	6620	2940	1480	2220	---	---	---
30	884	440	532	10900	5200	6620	4350	2380	3070	7680	5420	6500
31	---	---	---	10100	4080	5880	5090	2920	3990	---	---	---
MONTH	---	---	---	10900	523	4560	10200	297	3210	---	---	---

SAN JACINTO RIVER BASIN

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	29.5	28.0	28.5	21.0	19.0	20.0	20.0	17.5	19.0	17.5	15.5	16.5
2	30.0	28.0	28.5	21.5	19.0	20.5	20.5	18.5	19.5	17.5	15.5	16.5
3	30.0	27.5	28.5	21.5	19.0	19.5	21.0	19.0	20.0	16.5	15.0	15.5
4	30.0	27.5	28.5	20.5	19.0	20.0	20.5	18.5	19.5	17.0	14.5	16.0
5	30.0	28.0	28.5	22.0	19.5	21.0	20.0	19.0	19.5	17.0	14.0	15.5
6	30.0	28.0	29.0	20.0	18.5	19.5	19.5	18.0	18.5	19.5	16.0	17.5
7	29.5	28.0	28.5	20.0	18.0	19.0	18.5	17.5	18.0	19.0	15.0	16.5
8	29.5	27.5	28.5	20.0	18.0	19.0	20.5	17.0	18.0	16.5	14.0	15.5
9	29.5	27.5	28.5	---	---	---	---	---	---	17.5	14.5	16.0
10	29.0	26.5	27.5	19.0	17.0	18.0	21.0	18.0	20.0	17.0	15.0	16.0
11	28.5	26.5	27.5	19.5	18.0	18.5	21.0	19.5	20.0	18.0	16.0	16.5
12	28.5	26.5	27.0	21.5	19.5	21.0	21.0	19.0	20.0	17.0	16.0	16.5
13	26.5	23.5	25.0	22.5	20.5	22.0	20.5	18.0	19.5	17.5	16.0	16.5
14	25.0	23.0	24.0	23.0	19.5	21.5	19.0	17.0	18.0	18.0	16.0	17.0
15	25.5	23.5	24.5	21.5	20.0	20.5	19.5	16.5	18.5	18.0	15.5	17.0
16	25.0	23.5	24.0	22.0	19.5	20.5	19.0	17.0	18.5	18.5	15.0	16.5
17	26.5	24.5	25.5	19.5	19.0	19.0	20.0	17.0	18.5	18.5	15.5	17.0
18	27.0	25.0	26.5	20.0	18.5	19.0	18.0	16.0	17.0	17.0	14.5	15.5
19	27.5	26.0	26.5	18.5	17.5	18.0	18.0	16.5	17.5	16.5	14.0	15.0
20	27.5	23.0	25.5	17.5	16.5	17.0	18.0	16.5	17.0	17.5	14.5	16.5
21	23.0	22.0	22.5	17.5	16.0	16.5	19.0	16.0	16.5	17.5	14.5	16.0
22	22.0	21.5	22.0	18.5	16.0	16.5	18.5	15.0	16.5	17.5	15.5	16.0
23	22.0	20.5	21.5	---	---	---	16.5	14.0	15.0	18.0	15.0	16.0
24	20.5	19.5	20.0	20.0	18.0	19.0	16.5	13.0	14.5	18.0	15.5	17.0
25	22.5	19.5	21.0	19.5	16.0	17.0	15.0	13.0	14.0	---	---	---
26	22.5	21.0	22.0	18.0	15.0	16.0	16.0	14.5	15.5	19.5	18.0	19.0
27	23.0	20.5	21.5	18.0	15.5	16.5	18.0	15.0	16.5	20.5	18.0	20.0
28	23.0	20.5	21.5	18.0	16.0	17.0	19.0	15.5	17.0	20.0	17.5	18.5
29	24.0	21.5	22.5	18.5	16.0	17.5	17.5	14.5	15.5	18.0	15.5	16.5
30	21.5	18.0	20.0	20.0	16.0	18.0	17.5	14.5	16.0	15.5	13.5	14.5
31	21.0	17.5	19.0	---	---	---	16.5	15.0	16.0	15.0	13.5	14.0
MONTH	30.0	17.5	25.0	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	14.5	13.0	13.5	17.5	16.5	17.0	23.0	21.0	21.5	22.5	21.5	21.5
2	16.5	13.0	14.5	17.0	16.0	17.0	22.0	21.0	21.5	22.0	21.0	21.5
3	16.0	13.5	14.5	17.0	16.0	16.5	---	---	---	23.5	21.5	22.0
4	17.5	14.0	16.0	17.0	15.5	16.5	22.5	21.0	21.5	24.5	22.0	23.0
5	18.0	16.0	17.0	17.5	16.5	17.0	23.0	21.0	22.5	25.5	23.0	23.5
6	18.5	15.5	16.5	18.0	16.5	17.5	22.5	20.5	21.0	24.0	22.5	23.0
7	19.0	16.0	17.5	19.5	17.5	18.0	22.5	20.0	21.5	24.5	23.0	23.5
8	20.5	18.0	20.0	20.5	19.0	19.5	24.0	21.0	22.0	28.0	24.0	25.5
9	20.5	17.5	19.0	20.5	15.0	17.5	23.0	22.0	22.5	27.5	24.0	26.0
10	17.5	8.0	14.0	16.0	14.5	15.0	23.0	22.5	22.5	27.0	25.5	26.5
11	9.5	8.0	8.5	16.5	14.5	16.0	23.5	22.0	23.0	27.0	26.5	26.5
12	10.0	9.0	9.5	16.5	16.0	16.0	---	---	---	28.0	26.5	27.0
13	10.5	9.0	10.0	17.0	15.5	16.0	24.0	20.5	22.5	27.5	26.5	27.0
14	12.5	10.5	11.0	18.0	15.5	16.5	24.0	22.0	23.0	27.0	26.0	26.5
15	12.0	11.0	11.5	17.5	16.5	17.0	23.5	22.5	23.0	26.0	25.0	25.5
16	14.0	11.5	13.0	19.0	17.5	18.0	22.5	21.5	22.0	25.5	24.0	24.0
17	15.5	13.0	14.0	21.5	18.5	19.5	22.5	21.5	22.0	26.5	24.5	25.0
18	16.0	14.5	15.0	20.5	18.5	19.5	25.0	22.0	23.5	28.0	25.0	26.5
19	18.0	16.0	17.5	21.0	18.5	19.5	25.0	24.0	24.5	28.0	26.0	26.5
20	18.5	17.0	18.0	21.0	19.5	20.0	26.0	24.0	25.0	27.5	25.5	26.0
21	19.5	17.0	19.0	21.5	20.5	21.0	25.5	24.0	25.0	27.0	25.5	25.5
22	19.5	19.5	19.5	22.0	20.5	21.5	25.5	24.0	24.5	26.0	25.0	25.5
23	19.5	17.5	19.0	22.5	21.5	22.0	27.0	24.5	25.5	26.0	25.0	25.5
24	18.5	17.5	18.0	23.0	22.0	22.0	26.5	24.5	25.5	27.0	25.5	26.0
25	18.5	17.0	17.5	24.5	21.0	22.5	26.0	25.0	25.5	27.0	25.5	26.0
26	18.0	16.5	17.0	23.0	21.5	22.5	26.5	25.0	25.5	27.5	26.0	26.0
27	18.0	16.0	17.0	23.0	22.0	22.5	27.0	25.5	26.0	28.5	26.0	27.0
28	17.0	16.0	16.5	22.0	20.5	21.5	27.5	26.0	26.5	27.5	26.5	27.0
29	---	---	---	22.0	20.5	21.0	26.5	26.0	26.0	29.0	27.0	28.0
30	---	---	---	23.0	21.0	22.0	26.5	22.5	25.5	30.0	27.5	28.0
31	---	---	---	23.5	21.0	21.5	---	---	---	29.0	27.5	28.0
MONTH	20.5	8.0	15.5	24.5	14.5	19.0	---	---	---	30.0	21.0	25.5

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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

OXYGEN DISSOLVED (MG/L). WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

SAN JACINTO RIVER BASIN

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	4.6	3.1	3.7
2	---	---	---	---	---	---	---	---	---	5.6	2.7	4.2
3	---	---	---	---	---	---	---	---	---	5.5	3.6	4.8
4	---	---	---	---	---	---	---	---	---	4.9	3.9	4.5
5	---	---	---	---	---	---	---	---	---	5.0	2.5	3.7
6	---	---	---	---	---	---	---	---	---	5.2	3.6	4.4
7	---	---	---	---	---	---	---	---	---	5.7	4.3	5.1
8	---	---	---	---	---	---	---	---	---	6.1	3.9	5.2
9	---	---	---	---	---	---	---	---	---	5.1	2.9	4.2
10	---	---	---	---	---	---	---	---	---	4.7	2.7	3.8
11	---	---	---	---	---	---	---	---	---	4.0	2.5	3.1
12	---	---	---	---	---	---	---	---	---	3.5	1.6	2.3
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	4.0	2.3	3.2	---	---	---
15	---	---	---	---	---	---	4.0	2.5	3.3	---	---	---
16	---	---	---	---	---	---	4.2	1.2	2.5	5.9	2.6	4.8
17	---	---	---	---	---	---	4.7	2.5	3.5	4.9	3.4	4.2
18	---	---	---	---	---	---	6.7	3.0	4.3	4.4	2.7	3.6
19	---	---	---	---	---	---	5.6	3.2	4.1	4.2	2.4	3.2
20	---	---	---	---	---	---	7.4	2.5	4.4	6.0	2.0	3.9
21	---	---	---	---	---	---	8.2	2.6	4.9	5.4	3.4	4.4
22	---	---	---	---	---	---	6.1	2.1	4.1	5.5	3.7	4.6
23	---	---	---	---	---	---	11.8	3.8	6.6	5.3	3.9	4.7
24	---	---	---	---	---	---	6.6	3.2	4.6	5.1	3.8	4.5
25	---	---	---	---	---	---	6.7	3.3	4.4	---	---	---
26	---	---	---	---	---	---	6.0	2.9	4.2	4.9	2.8	4.0
27	---	---	---	---	---	---	5.9	3.1	4.6	5.9	2.4	3.9
28	---	---	---	---	---	---	8.7	3.4	5.7	5.3	3.4	4.2
29	---	---	---	---	---	---	6.3	3.3	4.6	5.5	3.7	4.8
30	---	---	---	---	---	---	4.9	1.9	3.4	6.5	4.0	5.0
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	---	---	---	6.6	1.9	4.9	2.5	1.8	2.2
2	---	---	---	6.3	1.5	3.7	6.9	4.1	5.4	2.9	1.8	2.2
3	---	---	---	---	---	---	6.1	4.1	4.9	3.2	1.9	2.6
4	---	---	---	11.2	4.5	6.8	4.7	2.5	4.0	3.5	2.2	2.8
5	---	---	---	7.7	5.2	6.3	4.1	1.3	3.1	3.6	2.1	2.7
6	---	---	---	---	---	---	4.8	1.8	3.3	3.9	1.8	2.9
7	---	---	---	11.1	5.3	8.1	4.0	2.6	3.2	3.1	1.8	2.5
8	---	---	---	---	---	---	3.9	2.4	3.2	3.9	1.3	2.4
9	---	---	---	---	---	---	3.7	2.8	3.2	3.3	1.6	2.3
10	---	---	---	7.1	2.7	4.8	5.7	2.6	3.4	5.1	2.0	3.6
11	---	---	---	7.1	4.0	5.4	4.7	2.2	3.3	4.9	3.3	4.1
12	---	---	---	9.5	5.0	6.3	3.9	2.7	3.4	4.8	2.8	3.7
13	---	---	---	10.3	4.8	7.0	3.5	2.8	3.1	3.6	2.4	3.0
14	---	---	---	11.6	5.7	8.6	3.5	2.1	2.8	3.7	2.5	3.1
15	---	---	---	---	---	---	5.1	2.3	3.3	3.7	2.4	3.0
16	---	---	---	11.8	5.2	8.9	4.0	.4	2.1	3.2	2.4	2.8
17	---	---	---	10.6	3.8	6.5	3.9	.9	2.1	3.3	2.4	2.9
18	---	---	---	8.4	4.0	6.5	4.9	2.2	3.8	3.3	1.4	2.8
19	---	---	---	7.7	4.1	5.9	4.0	1.3	3.2	3.3	2.1	2.8
20	---	---	---	8.2	4.0	5.9	5.1	1.8	3.3	3.1	1.9	2.5
21	---	---	---	8.7	2.0	5.5	---	---	---	3.1	2.6	2.9
22	---	---	---	7.7	2.9	4.5	---	---	---	3.1	2.1	2.8
23	---	---	---	5.3	1.6	3.1	---	---	---	3.7	2.6	3.0
24	---	---	---	5.8	2.2	3.6	---	---	---	3.0	2.1	2.7
25	---	---	---	---	---	---	---	---	---	2.7	2.2	2.5
26	---	---	---	9.2	2.3	4.7	---	---	---	3.0	2.2	2.6
27	---	---	---	5.5	2.5	3.8	---	---	---	---	---	---
28	---	---	---	3.7	1.6	2.8	---	---	---	3.3	1.5	2.5
29	---	---	---	4.5	2.0	3.4	---	---	---	---	---	---
30	---	---	---	5.3	3.1	4.2	---	---	---	3.1	2.1	2.6
31	---	---	---	5.6	3.7	4.6	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

SAN JACINTO RIVER BASIN

119

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX
(Flood-hydrograph partial-record station)

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

DRAINAGE AREA.--12.7 mi². Oct. 1, 1976, to Dec. 31, 1977, 12.0 mi²; August 1964 to Sept. 30, 1976, 11.6 mi². Drainage area changes were the result of ditch relocations or extensions.

PERIOD OF RECORD.--August 1964 to September 1981 (daily mean discharges). October 1981 to September 1992 (annual maximum discharge). October 1992 to current year (peak discharges greater than base discharge).

REVISED RECORDS.--WDR TX-74-1: Drainage area. WDR-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.--Records good. Recording rain gage at station. Radio telemeter at station.

AVERAGE DISCHARGE.--17 years, (water years 1965-81) 12.3 ft³/s, (8,910 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,880 ft³/s Mar. 4, 1992, elevation, 75.91 ft; no flow for many days.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges above base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Oct. 20	1630	2,040	71.51	Aug. 9	0900	1,060	69.63
Nov. 16	1000	2,410	72.11	Sept. 3	1900	1,620	70.79
June 10	1700	1,080	69.66	Sept. 9	0845	1,510	70.57

08075000 BRAYS BAYOU AT HOUSTON, TX

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

DRAINAGE AREA.--94.9 mi². Prior to October 1976, 88.4 mi². Changes due to drainage ditch relocations.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.16 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence. Prior to June 20, 1936, nonrecording gage, and June 20, 1936, to Nov. 25, 1959, water-stage recorder at site 0.8 mi downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. There are no known diversions above station. Low flow is sustained mostly from sewage effluent from Houston suburbs. Satellite telemeter at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	1700	13,800	42.66	June 23	1400	7,540	37.24
Nov. 16	1100	16,600	44.65				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	108	123	113	121	162	127	538	181	112	115	214
2	107	107	121	111	116	137	119	758	175	108	108	736
3	103	519	159	113	122	132	115	333	465	104	107	598
4	116	165	863	118	120	128	117	163	839	103	241	500
5	104	115	152	119	128	139	197	137	215	168	234	128
6	104	105	123	120	120	140	595	124	140	116	172	176
7	101	105	114	116	118	144	184	123	124	104	118	127
8	109	372	124	110	118	147	130	126	117	151	131	299
9	104	356	120	111	266	1320	132	120	117	577	924	1630
10	101	128	802	125	1250	207	140	119	1230	248	210	536
11	106	111	162	219	436	141	145	119	487	126	114	217
12	527	106	129	132	214	121	337	119	572	105	123	140
13	1260	117	138	185	184	121	150	350	248	109	106	177
14	223	695	123	118	147	119	138	459	138	105	190	143
15	120	210	118	112	148	264	186	822	118	103	408	116
16	109	6120	116	114	137	151	284	1450	120	105	234	108
17	113	670	590	167	126	123	166	412	145	98	124	111
18	112	223	336	122	125	122	172	512	700	112	161	106
19	118	165	178	113	120	115	184	179	356	116	112	105
20	4640	130	146	114	118	115	213	121	1340	113	99	105
21	1580	122	123	114	178	115	228	114	1400	118	300	103
22	223	125	410	113	155	114	249	110	699	113	546	105
23	158	128	206	115	170	117	197	113	1580	112	425	102
24	128	130	147	118	136	117	266	110	531	122	493	103
25	131	118	120	155	128	120	216	114	310	114	172	106
26	126	114	115	125	126	117	170	115	173	107	129	111
27	118	116	121	832	121	189	159	114	132	108	225	108
28	117	119	132	249	124	143	151	119	115	106	202	112
29	267	123	128	374	---	123	151	107	110	105	254	113
30	158	128	115	174	---	121	679	367	114	106	262	113
31	112	---	115	130	---	125	---	474	---	156	209	---
TOTAL	11500	11850	6469	5051	5372	5449	6297	8941	12991	4150	7248	7348
MEAN	371	395	209	163	192	176	210	288	433	134	234	245
MAX	4640	6120	863	832	1250	1320	679	1450	1580	577	924	1630
MIN	101	105	114	110	116	114	115	107	110	98	99	102
AC-FT	22810	23500	12830	10020	10660	10810	12490	17730	25770	8230	14380	14570

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1994, BY WATER YEAR (WY)

MEAN	132	158	144	174	170	123	138	174	201	125	126	159
MAX	709	719	626	760	893	577	713	586	941	519	880	857
(WY)	1971	1944	1992	1991	1992	1992	1991	1970	1973	1942	1983	1979
MIN	.58	.68	5.98	1.90	9.72	1.36	1.40	.95	3.78	1.72	.74	1.12
(WY)	1939	1939	1951	1940	1947	1940	1939	1937	1937	1937	1940	1939

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1937 - 1994

ANNUAL TOTAL	126617	92666	152	1992
ANNUAL MEAN	347	254	430	1940
HIGHEST ANNUAL MEAN			15.1	
LOWEST ANNUAL MEAN				
HIGHEST DAILY MEAN	7250	Jun 20	13100	Aug 31 1981
LOWEST DAILY MEAN	96	Sep 30	.10	Oct 11 1937
ANNUAL SEVEN-DAY MINIMUM	103	Sep 24	.19	Oct 6 1937
INSTANTANEOUS PEAK FLOW			29000	Jun 15 1976
INSTANTANEOUS PEAK STAGE			52.13	Jun 15 1976
ANNUAL RUNOFF (AC-FT)	251100	183800	110000	
10 PERCENT EXCEEDS	694	515	270	
50 PERCENT EXCEEDS	128	127	52	
90 PERCENT EXCEEDS	107	107	5.2	

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 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	BOD OXYGEN DEMAND, BIOCHEM. 5 DAY (MG/L)	COLI-FORM, FECAI, 0.7 UM-MF (COLS./100 ML)
FEB 16...	0800	113	777	8.0	16.5	13	1.6	8.6	87	2.8	2.0	900
MAY 04...	0922	141	682	7.8	20.0	18	3.0	8.2	91	8.6	6.4	3200
AUG 03...	1050	101	795	8.2	26.5	8	7.8	13.0	162	2.7	2.2	4300
DATE	STREP-TOCOCCI FECAI, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB 16...	310	180	0	55	11	90	3	6.3	210	44	83	0.50
MAY 04...	460	150	0	44	8.6	76	3	6.8	180	40	68	0.50
AUG 03...	140	150	0	46	8.6	100	4	7.7	180	47	94	0.50
DATE	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)
FEB 16...	19	458	14	12	2	4.62	4.62	0.180	4.80	4.80	0.830	0.37
MAY 04...	17	391	14	8	6	3.24	3.24	0.860	4.10	4.10	2.10	1.1
AUG 03...	21	459	11	6	5	5.02	5.02	0.080	5.10	5.10	0.110	0.59
DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)
FEB 16...	1.2	0.570	0.600	1.8	12	3	110	<0.5	1.0	<5	<3	<10
MAY 04...	3.2	1.10	1.00	3.1	9.2	4	78	<0.5	<1.0	<5	<3	<10
AUG 03...	0.70	1.00	1.00	3.1	7.0	3	77	<0.5	<1.0	<5	<3	<10
DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
FEB 16...	20	<10	16	31	<0.1	10	10	1	1.0	430	6	17
MAY 04...	22	10	15	22	<0.1	<10	<10	<1	<1.0	360	<6	8
AUG 03...	17	<10	17	8	<0.1	<10	<10	<1	<1.0	400	<6	21
DATE	AME-TRYNE TOTAL (UG/L)	ATRA-ZINE WATER UNFLTRD REC (UG/L)	CYAN-AZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	
FEB 16...	<0.10	<0.1	<0.20	--	<0.20	<0.10	<0.10	--	--	<0.10	<0.10	
MAY 04...	--	1.4	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	0.20	<0.10	
AUG 03...	--	<0.1	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	0.10	<0.10	

SAN JACINTO RIVER BASIN

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

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 in southwest Houston, 12.7 mi upstream from gage Sims Bayou at Houston, and 19.7 mi upstream from mouth.

DRAINAGE AREA.--20.2 mi².

PERIOD OF RECORD.--October 1965 to September 1978 and October 1980 to September 1991 (daily mean discharge). Dec. 6, 1978 to Aug. 31, 1979 (discharge measurements and supplemental peak discharges only). October 1991 to September 1992 (annual maximum). October 1992 to current year (peak discharges greater than base discharge).

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

REMARKS.--Records fair. Elevation telemeter at station.

AVERAGE DISCHARGE.--24 years (water years 1966-78, 1981-91), 30.3 ft³/s (21,950 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,290 ft³/s Feb. 22, 1992 (elevation, 53.08 ft.); maximum elevation, 57.12 ft June 15, 1976, occurred prior to 1978 channel rectification; minimum daily discharge, 1.5 ft³/s July 26, 1965.

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

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Oct. 20	1630	3,710	49.00	June 20	2145	1,370	43.53
Nov. 14	2030	1,130	42.73	June 23	1530	2,150	45.72
Nov. 16	1500	3,610	48.82				

08075500 SIMS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°40'27", long 95°17'21", Harris County, Hydrologic Unit 12040104, on left bank State Highway 35 in southeast Houston and 7.0 mi upstream from mouth.

DRAINAGE AREA.--63.0 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1922: 1960. 1975(M). WDR TX-77-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.09 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Low flow is largely sustained by sewage effluent from Houston suburbs and from industrial wastes. Stage-discharge relationship is affected by seasonal vegetal growth during most years. Rain gage at station. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	2000	4,770	25.61	Nov. 16	1530	4,520	25.21
Nov. 14	1500	2,720	21.54				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	43	38	48	55	44	32	190	144	44	50	77
2	48	45	36	44	47	43	29	416	171	40	39	72
3	43	165	40	43	41	37	33	131	541	40	37	66
4	45	93	670	41	43	40	30	51	219	50	53	164
5	46	52	137	42	46	38	47	41	328	45	118	45
6	51	45	75	43	45	41	242	41	78	45	107	39
7	45	41	54	45	46	39	55	38	58	37	40	68
8	47	131	53	41	42	37	39	36	51	73	40	61
9	156	300	49	44	61	463	36	33	48	53	118	87
10	65	79	107	45	270	134	36	36	114	100	99	135
11	45	57	62	59	295	56	33	34	363	43	47	81
12	153	51	47	53	112	41	80	33	355	44	e38	61
13	355	51	49	93	98	40	55	60	201	37	e37	42
14	136	1170	44	56	62	37	38	178	85	35	e38	56
15	54	605	45	43	50	64	50	160	59	35	e60	35
16	56	2400	40	43	45	47	70	918	52	36	e125	33
17	55	1120	99	57	41	35	42	245	50	39	51	29
18	49	248	144	54	44	34	36	121	154	46	43	30
19	49	123	76	48	41	38	35	53	264	38	42	31
20	1740	77	57	44	44	39	38	49	491	38	37	28
21	1880	62	48	47	42	38	37	45	1190	e37	36	28
22	235	49	147	41	44	36	38	44	482	e37	63	27
23	79	46	120	45	46	36	40	43	614	36	104	28
24	57	45	65	47	43	36	41	42	1150	36	88	28
25	45	46	52	118	42	34	42	43	953	34	50	28
26	43	49	45	66	38	35	36	41	224	36	45	30
27	40	46	45	235	38	37	36	48	97	39	42	28
28	41	41	49	139	37	38	33	47	65	36	40	30
29	99	43	46	166	---	32	33	47	61	37	40	26
30	108	40	44	125	---	31	138	53	49	34	41	30
31	46	---	43	66	---	29	---	116	---	37	73	---
TOTAL	5954	7363	2626	2081	1858	1729	1530	3433	8711	1317	1841	1523
MEAN	192	245	84.7	67.1	66.4	55.8	51.0	111	290	42.5	59.4	50.8
MAX	1880	2400	670	235	295	463	242	918	1190	100	125	164
MIN	40	40	36	41	37	29	29	33	48	34	36	26
AC-FT	11810	14600	5210	4130	3690	3430	3030	6810	17280	2610	3650	3020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1994, BY WATER YEAR (WY)

	73.5	88.1	88.4	113	125	76.1	86.4	108	152	70.3	72.6	90.6
MEAN	73.5	88.1	88.4	113	125	76.1	86.4	108	152	70.3	72.6	90.6
MAX	303	296	331	428	470	284	373	428	629	354	535	452
(WY)	1971	1986	1987	1991	1959	1957	1991	1970	1976	1979	1983	1979
MIN	4.87	3.43	5.03	5.77	9.12	4.56	8.98	9.86	5.41	4.53	6.38	6.53
(WY)	1957	1956	1955	1957	1962	1955	1955	1960	1955	1956	1956	1954

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1953 - 1994

ANNUAL TOTAL	62580	39966	95.0	
ANNUAL MEAN	171	109	200	1973
HIGHEST ANNUAL MEAN			9.26	1956
LOWEST ANNUAL MEAN			8290	Jun 16 1976
HIGHEST DAILY MEAN	3610	Jun 20	2400	Nov 16
LOWEST DAILY MEAN	36	Dec 2	26	Sep 29
ANNUAL SEVEN-DAY MINIMUM	40	Apr 18	28	Sep 20
INSTANTANEOUS PEAK FLOW			4770	Oct 20
INSTANTANEOUS PEAK STAGE			25.61	Oct 20
ANNUAL RUNOFF (AC-FT)	124100	79270	68810	
10 PERCENT EXCEEDS	392	168	146	
50 PERCENT EXCEEDS	52	46	37	
90 PERCENT EXCEEDS	42	35	8.2	

e Estimated

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1993 to current year.

WATER TEMPERATURE: July 1993 to current year.

DISSOLVED OXYGEN: July 1993 to current year.

INSTRUMENTATION.--Since July 1993, water-quality monitor continuously records specific conductance, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruption in record was due to malfunctions of the instrumentation. Due to low flow sewage effluent, industrial wastes, probe location, and channel morphology, the water quality collected at this location may not be representative of the entire flow through the cross-section.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2470 microsiemens Apr. 10, 1994; minimum, 130 microsiemens Nov. 14, 1993.

WATER TEMPERATURE: Maximum, 31.5°C Sept. 6, 1994; minimum, 10.5°C Feb. 12, 1994.

DISSOLVED OXYGEN: Maximum, 11.4 mg/L Feb. 11, 1994; minimum, 2.7 mg/L Mar. 9, 1994.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	BOD OXYGEN DEMAND, BIOCHEM. CARBON, 5 DAY (MG/L)	COLI-FORM, FECA, 0.7 UM-MF (COLS./100 ML)
FEB 15...	1129	55	936	7.8	14.5	28	44	7.4	73	3.2	1.7	4100
MAY 04...	0752	55	830	7.6	20.0	55	44	3.8	42	4.0	2.5	4800
AUG 03...	0843	36	1140	7.8	27.5	14	20	5.6	71	3.3	3.2	2600
DATE	STREP-TOCOCCI FECA, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB 15...	320	190	16	56	12	120	4	5.3	170	110	110	0.50
MAY 04...	1900	150	16	45	8.4	110	4	5.6	130	160	69	0.40
AUG 03...	190	180	31	55	9.9	160	5	7.8	150	190	130	0.50
DATE	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)
FEB 15...	13	553	100	14	86	4.39	4.39	0.110	4.50	4.50	0.360	0.64
MAY 04...	12	501	77	18	59	2.40	2.40	0.100	2.50	2.50	0.330	0.77
AUG 03...	13	677	34	8	26	4.33	4.33	0.170	4.50	4.50	0.220	0.78
DATE	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)
FEB 15...	1.0	0.350	0.370	1.1	11	2	130	<0.5	2.0	<5	<3	<10
MAY 04...	1.1	0.160	0.120	0.37	12	3	100	<0.5	<1.0	<5	<3	<10
AUG 03...	1.0	0.530	0.530	1.6	9.5	3	140	<0.5	<1.0	<5	<3	<10
DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
FEB 15...	35	10	10	89	<0.1	10	10	<1	<1.0	370	<6	34
MAY 04...	92	20	8	110	<0.1	10	<10	<1	<1.0	290	<6	7
AUG 03...	17	20	11	17	<0.1	<10	<10	<1	<1.0	390	<6	35

SAN JACINTO RIVER BASIN

125

08075500 SIMS BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	AME- TRYNE TOTAL (UG/L)	ATRA- ZINE WATER UNFLTRD REC (UG/L)	CYAN- AZINE TOTAL (UG/L)	METHO- MYL TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)
FEB 15...	<0.10	0.1	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	<0.10	<0.10
MAY 04...	--	2.2	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	0.20	<0.10
AUG 03...	<0.10	0.2	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	<0.10	<0.10

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	1590	952	1340	1260	1070	1190	---	---	---	1110	1000	1040
2	1570	936	1190	1260	1070	1150	---	---	---	1070	958	1030
3	1410	1060	1320	1140	527	773	---	---	---	1070	948	998
4	1480	1250	1340	879	581	729	---	---	---	1330	1070	1210
5	1650	1230	1460	1140	879	994	---	---	---	1390	1290	1340
6	1490	855	1110	1210	1040	1120	---	---	---	1340	1280	1320
7	1500	917	1210	1320	1080	1220	---	---	---	1590	1320	1470
8	1740	901	1270	1330	396	938	---	---	---	1520	1370	1450
9	1820	175	1190	723	475	533	1250	751	1100	1740	1490	1620
10	1070	399	752	974	515	611	1020	707	836	1690	1480	1610
11	1340	1070	1230	1070	968	1010	819	747	786	1480	1240	1370
12	1300	334	976	1140	808	922	1000	812	889	1380	1030	1230
13	723	266	460	1210	841	995	1300	1000	1150	1030	799	894
14	580	428	486	1230	130	485	1440	1190	1320	908	782	828
15	816	580	714	504	290	394	1440	1160	1290	1220	892	1000
16	974	816	917	512	137	193	1320	1200	1260	1520	1220	1370
17	973	776	820	377	186	272	1310	647	1020	1480	1070	1210
18	803	778	792	571	377	483	910	647	755	1460	1090	1190
19	1050	803	928	626	571	604	1050	898	973	1680	1110	1380
20	1210	1050	1180	---	---	---	1120	1050	1100	1700	1380	1480
21	---	---	---	---	---	---	1190	933	1080	1710	1460	1550
22	1010	408	560	---	---	---	1180	623	861	1570	1340	1390
23	1060	475	742	---	---	---	866	593	696	1890	1250	1530
24	1260	637	994	---	---	---	1100	682	936	1690	1360	1530
25	1170	1010	1100	---	---	---	839	757	787	1520	922	1160
26	1410	1090	1240	---	---	---	841	815	825	1190	829	990
27	1250	1080	1160	---	---	---	1120	832	880	1300	335	888
28	1440	1150	1280	---	---	---	1210	1120	1150	738	570	646
29	1340	677	1020	---	---	---	1240	1120	1200	950	718	807
30	918	716	788	---	---	---	1270	1200	1240	890	677	771
31	1100	846	1020	---	---	---	1260	1000	1130	1160	890	1050
MONTH	1820	175	1020	1330	130	769	1440	593	1010	1890	335	1200

SAN JACINTO RIVER BASIN

08075500 SIMS BAYOU AT HOUSTON, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

SAN JACINTO RIVER BASIN

127

08075500 SIMS BAYOU At HOUSTON, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	27.9	25.5	26.7	16.9	15.0	16.1	18.7	16.4	18.1	16.2	13.5	15.4
2	27.8	26.2	27.0	19.9	16.9	18.6	20.2	18.5	19.8	16.6	14.6	15.9
3	27.9	26.2	27.1	20.5	19.9	20.2	21.8	20.1	21.1	15.0	13.0	14.2
4	27.7	25.8	26.9	22.0	20.2	21.3	20.1	16.4	18.3	13.9	12.7	13.2
5	27.5	26.3	26.9	22.5	19.4	21.6	16.9	15.8	16.3	14.3	12.7	13.7
6	27.2	26.0	26.6	19.4	15.0	17.1	16.7	15.5	16.3	17.8	14.2	16.7
7	27.0	26.0	26.5	15.3	14.7	15.0	16.7	15.3	15.8	17.8	15.0	17.0
8	27.8	26.1	26.9	16.5	14.6	15.7	18.8	16.7	17.9	15.0	11.9	13.0
9	27.3	23.6	26.3	17.1	16.0	16.7	20.9	18.8	20.2	13.9	11.9	12.9
10	24.9	23.4	24.3	18.8	17.0	18.1	22.0	20.5	21.4	15.3	13.9	14.8
11	24.7	23.5	24.1	20.1	18.4	19.2	20.5	17.5	19.0	17.1	15.3	16.2
12	25.3	23.2	24.2	22.8	20.1	21.7	18.0	17.3	17.5	17.2	16.2	16.8
13	23.9	21.6	23.0	24.3	22.8	23.7	19.3	16.6	18.3	16.4	15.3	15.8
14	23.9	23.1	23.4	24.4	17.5	19.8	16.6	14.4	15.4	15.9	14.7	15.1
15	25.2	22.9	23.8	18.7	18.0	18.3	15.0	14.2	14.6	16.0	14.8	15.3
16	26.2	24.5	25.4	19.6	16.6	18.5	15.1	14.2	14.7	16.1	14.5	15.3
17	27.3	26.1	26.5	17.4	15.8	16.7	16.9	14.8	16.1	16.4	15.1	15.8
18	27.4	26.4	26.9	18.4	16.5	17.6	16.6	15.2	16.0	15.1	12.5	13.6
19	27.4	26.7	27.0	19.5	17.9	18.7	15.8	15.2	15.5	12.5	11.1	11.6
20	---	---	---	18.0	15.8	16.5	16.4	14.7	15.8	13.2	11.3	12.6
21	---	---	---	15.8	15.1	15.4	14.7	13.7	14.0	14.9	13.1	14.1
22	---	---	---	16.2	15.4	15.9	13.9	12.2	13.0	15.4	14.4	14.9
23	20.5	18.6	19.6	17.8	15.8	17.1	12.4	11.8	12.1	15.7	14.6	15.1
24	21.1	20.2	20.7	19.7	17.6	19.2	12.7	11.7	12.3	17.8	15.6	16.6
25	22.6	20.9	21.9	18.8	13.8	16.7	13.5	11.9	12.7	19.9	17.8	19.0
26	23.2	22.0	22.7	13.8	11.6	12.7	14.2	13.0	13.7	20.4	19.7	19.9
27	22.4	20.1	21.7	12.7	11.4	12.2	16.9	14.0	15.5	20.7	19.1	20.0
28	21.2	19.7	20.5	13.7	12.1	13.2	18.0	16.5	17.5	---	---	---
29	22.6	20.2	21.8	15.9	13.5	15.2	16.5	12.7	14.5	---	---	---
30	20.2	15.2	17.4	17.3	15.5	16.8	13.0	12.3	12.6	---	---	---
31	15.4	14.3	14.9	---	---	---	13.5	12.3	12.8	---	---	---
MONTH	---	---	---	24.4	11.4	17.5	22.0	11.7	16.1	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	18.4	17.2	17.7	21.3	18.1	19.9	21.0	19.2	19.9
2	---	---	---	17.4	15.9	16.5	21.4	18.9	20.5	20.9	19.0	19.8
3	---	---	---	17.5	15.4	16.5	22.6	19.8	21.2	23.5	20.9	22.0
4	---	---	---	19.2	16.2	17.8	21.9	20.0	21.3	24.1	22.8	23.3
5	---	---	---	20.7	18.6	19.7	22.5	20.2	21.8	25.7	23.0	24.4
6	---	---	---	21.1	19.4	20.3	20.8	17.3	18.8	26.1	24.0	25.3
7	---	---	---	22.1	20.3	21.2	20.0	17.7	18.8	27.1	25.0	26.1
8	---	---	---	23.3	21.7	22.5	22.3	19.2	20.8	28.5	26.1	27.3
9	---	---	---	22.6	13.6	16.2	24.3	21.8	23.1	29.1	26.9	28.0
10	---	---	---	15.3	12.4	13.7	24.0	23.2	23.7	28.5	26.8	27.9
11	---	---	---	16.9	14.9	15.7	23.4	22.7	23.0	28.0	26.4	27.4
12	14.6	10.5	11.9	17.1	16.5	16.9	22.9	21.1	21.7	27.8	26.0	27.1
13	14.9	14.2	14.6	18.4	16.4	17.4	23.8	20.5	21.9	27.5	24.0	26.5
14	14.6	13.4	14.1	19.7	17.7	18.8	25.7	23.4	24.6	26.7	22.8	24.5
15	14.6	14.0	14.3	19.4	18.9	19.2	25.6	24.0	24.9	26.8	22.2	25.4
16	16.3	13.9	14.9	19.5	19.0	19.3	24.0	21.4	22.2	26.9	23.0	24.7
17	17.7	15.6	16.6	20.2	17.6	19.0	22.5	20.4	21.5	26.6	25.0	25.5
18	18.0	16.3	17.2	22.2	19.0	20.7	25.2	21.8	23.3	27.7	25.1	26.5
19	19.8	18.0	19.1	23.5	20.9	22.2	25.5	23.3	24.4	27.8	26.1	27.0
20	20.4	19.6	20.0	23.6	22.1	22.9	25.8	24.1	25.0	27.4	25.1	26.5
21	20.6	20.1	20.3	24.0	22.3	23.2	25.0	23.5	24.4	26.8	24.8	26.0
22	20.6	19.8	20.2	23.0	21.4	22.0	25.4	23.5	24.5	27.1	24.4	25.9
23	20.2	17.2	19.0	24.0	21.6	22.8	25.3	23.3	24.4	27.4	24.7	26.3
24	17.2	15.1	15.8	24.0	23.1	23.5	25.9	24.1	25.0	27.9	25.4	26.7
25	18.3	15.3	16.8	24.0	21.7	23.0	25.5	24.2	25.0	28.0	25.9	27.0
26	18.3	15.9	17.4	24.0	22.6	23.3	25.8	24.5	25.1	27.9	26.3	27.2
27	16.0	14.4	15.3	23.0	20.7	22.3	27.2	25.0	26.1	28.4	25.9	27.2
28	17.6	15.5	16.7	20.7	18.6	19.3	27.2	25.7	26.6	29.0	27.0	28.1
29	---	---	---	18.9	16.8	18.1	27.3	25.5	26.5	29.7	26.9	28.2
30	---	---	---	20.5	16.8	18.8	27.0	20.7	24.3	30.1	27.3	28.9
31	---	---	---	21.1	18.2	19.7	---	---	---	---	---	---
MONTH	---	---	---	24.0	12.4	19.7	27.3	17.3	23.1	---	---	---

SAN JACINTO RIVER BASIN

08075500 SIMS BAYOU AT HOUSTON, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN		MAX	MIN	MEAN		MAX	MIN	MEAN		MAX	MIN	MEAN
	OCTOBER				NOVEMBER				DECEMBER				JANUARY		
1	---	---	---		---	---	---		---	---	---		---	---	---
2	---	---	---		---	---	---		---	---	---		---	---	---
3	---	---	---		---	---	---		---	---	---		---	---	---
4	---	---	---		---	---	---		---	---	---		---	---	---
5	---	---	---		---	---	---		---	---	---		---	---	---
6	---	---	---		---	---	---		---	---	---		---	---	---
7	---	---	---		---	---	---		---	---	---		9.0	6.7	8.3
8	---	---	---		---	---	---		---	---	---		10.2	7.3	8.7
9	---	---	---		---	---	---		---	---	---		9.5	7.3	8.3
10	---	---	---		---	---	---		---	---	---		9.1	5.8	7.6
11	---	---	---		---	---	---		---	---	---		7.5	6.0	6.5
12	---	---	---		---	---	---		---	---	---		8.9	5.5	6.8
13	---	---	---		---	---	---		---	---	---		7.4	5.4	6.5
14	---	---	---		---	---	---		---	---	---		6.7	5.9	6.3
15	---	---	---		---	---	---		---	---	---		7.4	5.9	6.5
16	---	---	---		---	---	---		---	---	---		6.6	5.0	5.7
17	---	---	---		---	---	---		---	---	---		7.7	4.7	6.7
18	---	---	---		---	---	---		---	---	---		8.8	7.6	8.2
19	---	---	---		---	---	---		---	---	---		9.2	7.9	8.6
20	---	---	---		---	---	---		---	---	---		8.3	6.2	7.4
21	---	---	---		---	---	---		---	---	---		6.9	5.2	6.0
22	---	---	---		---	---	---		---	---	---		7.7	5.8	6.7
23	---	---	---		---	---	---		---	---	---		8.0	6.2	7.1
24	---	---	---		---	---	---		---	---	---		6.6	4.8	5.7
25	---	---	---		---	---	---		---	---	---		6.7	4.5	5.9
26	---	---	---		---	---	---		---	---	---		5.9	5.2	5.6
27	---	---	---		---	---	---		---	---	---		7.2	4.9	5.7
28	---	---	---		---	---	---		---	---	---		6.5	5.6	6.1
29	---	---	---		---	---	---		---	---	---		8.7	6.5	7.9
30	---	---	---		---	---	---		---	---	---		8.7	6.6	7.7
31	---	---	---		---	---	---		---	---	---		7.4	6.6	7.1
MONTH	---	---	---		---	---	---		---	---	---		---	---	---

SAN JACINTO RIVER BASIN

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX

LOCATION.--Lat 29°40'35", long 95°14'37", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge at Forest Oaks Street in southeast Houston, 0.8 mi upstream from mouth of Berry Creek, and 1.7 mi upstream from Sims Bayou.

DRAINAGE AREA.--10.7 mi², revised.

PERIOD OF RECORD.--April 1964 to September 1966, daily mean discharge. October 1967 to September 1982, daily mean discharges greater than base discharge or flood-hydrograph partial-record station. October 1982 to current year, stages only.

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

Water Temperature: April 1964 to September 1981.

REVISED RECORDS.--WDR TX-80-2: 1979(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.72 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment. June 1964 to January 1965, auxiliary nonrecording gage 0.8 mi downstream at same datum. January 1965 to September 1982, auxiliary water-stage recorder 0.8 mi downstream at same datum.

REMARKS.--Records good. Low stages are affected by tides. Rises are occasionally affected by backwater from Sims Bayou. The reports "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan area", for water years 1965-82, contain additional storm runoff data for this station. Rain gage at station. Radio telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s June 9, 1975; maximum gage height, 23.85 ft Sept. 20, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 15.61 ft Oct. 20 at 1700 hours; minimum, 3.40 ft Mar. 7.

DAY	MAX MIN		GAGE HEIGHT, FEET, WATER YEAR		OCTOBER 1993		TO SEPTEMBER 1994		MAX MIN		MAX MIN	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.15	4.94	5.59	3.56	---	---	5.33	3.69	4.31	3.61	5.68	4.29
2	6.06	4.40	6.12	4.40	---	---	5.05	3.71	4.41	3.58	4.82	3.66
3	5.63	3.78	6.16	4.20	---	---	3.85	3.59	4.95	3.57	3.92	3.58
4	5.35	3.84	5.35	3.84	---	---	3.69	3.60	4.97	3.60	4.57	3.58
5	5.47	3.90	5.56	3.77	---	---	4.96	3.61	4.75	3.62	4.67	3.57
6	5.57	4.23	3.84	3.69	---	---	5.06	3.53	4.73	3.58	4.79	3.54
7	5.86	4.42	4.83	3.75	---	---	4.31	3.59	4.81	3.65	4.81	3.40
8	6.44	4.77	6.87	4.73	---	---	4.58	3.57	4.90	3.74	4.91	3.64
9	6.27	4.20	6.26	4.57	---	---	6.21	3.66	5.13	3.84	7.03	4.13
10	5.11	4.11	5.58	4.21	---	---	6.79	4.38	4.18	3.89	4.13	3.53
11	5.65	4.21	6.00	4.16	---	---	5.91	3.85	4.60	3.87	4.73	3.53
12	6.11	4.24	6.18	4.53	---	---	5.14	3.78	5.02	3.84	6.11	3.85
13	6.52	4.59	6.30	4.22	---	---	5.04	3.87	4.74	3.68	5.41	3.92
14	5.67	4.23	10.98	5.16	---	---	4.70	3.71	4.61	3.65	4.67	3.43
15	5.99	4.00	6.07	4.15	---	---	5.03	3.69	5.17	3.95	5.01	3.45
16	5.82	3.98	13.27	5.78	---	---	5.95	4.65	4.79	3.62	4.82	3.53
17	5.85	4.16	6.91	4.19	---	---	5.95	3.79	4.64	3.59	5.13	3.53
18	6.22	4.50	5.31	4.01	---	---	4.86	3.69	5.15	3.63	---	---
19	6.23	4.64	5.53	3.82	---	---	5.33	3.84	5.45	4.14	---	---
20	15.61	5.99	4.39	3.72	4.83	3.84	5.48	4.24	5.61	3.71	---	---
21	11.64	4.14	5.00	4.39	4.64	3.62	5.15	3.72	5.42	3.64	---	---
22	4.78	3.77	5.27	4.03	4.86	4.00	5.04	3.69	5.66	4.00	---	---
23	5.26	3.78	---	---	4.69	3.72	5.21	3.68	5.80	3.63	---	---
24	5.63	4.20	---	---	4.77	3.61	5.07	3.76	4.21	3.63	---	---
25	5.95	4.77	---	---	4.42	3.58	5.31	4.13	5.35	3.70	---	---
26	5.76	4.53	---	---	4.54	3.56	5.26	3.74	5.29	3.70	---	---
27	5.25	3.64	---	---	4.53	3.57	11.79	4.49	5.43	3.70	---	---
28	5.42	3.81	---	---	4.72	3.61	5.31	3.92	5.70	4.01	---	---
29	5.30	4.01	---	---	3.99	3.56	4.73	3.86	---	---	4.96	---
30	4.27	3.65	---	---	4.90	3.58	4.66	3.81	---	---	4.78	3.56
31	4.05	3.54	---	---	5.08	3.60	4.66	3.68	---	---	5.00	3.55
MONTH	15.61	3.54	---	---	---	---	11.79	3.53	5.80	3.57	---	---

SAN JACINTO RIVER BASIN

131

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

DAY	GAGE HEIGHT, FEET, WATER YEAR		OCTOBER 1993		TO SEPTEMBER 1994							
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.97	3.55	7.72	3.79	5.77	4.19	4.88	3.71	5.77	3.79	5.99	3.99
2	5.31	3.56	7.07	4.62	5.69	4.53	4.93	3.71	5.80	3.95	6.08	3.92
3	5.10	3.58	5.30	3.95	6.95	4.24	5.16	3.74	5.83	4.02	5.53	4.17
4	5.28	3.51	5.17	3.82	5.45	4.15	5.22	3.74	5.89	3.91	5.30	4.36
5	5.96	4.13	5.44	4.02	5.62	3.95	5.57	3.80	5.61	3.97	5.74	3.98
6	5.35	3.83	5.41	4.16	5.49	3.87	5.27	3.79	5.50	3.97	5.71	4.44
7	5.41	3.76	5.23	3.92	5.49	3.73	5.32	3.69	5.44	3.83	5.94	4.27
8	5.75	4.56	5.05	3.66	5.51	3.70	5.43	3.67	5.51	3.89	5.79	4.28
9	6.04	4.55	5.03	3.60	5.60	3.67	5.70	3.72	5.66	4.04	5.74	4.29
10	6.26	4.76	5.15	3.62	6.19	3.74	5.55	3.80	5.67	4.29	6.23	4.33
11	6.18	4.75	5.40	3.59	5.73	3.71	5.44	3.76	5.44	4.31	6.38	4.54
12	5.22	4.03	5.40	3.59	5.65	3.66	5.48	3.95	5.69	4.41	6.19	4.32
13	5.36	3.78	6.18	3.67	5.62	3.71	5.44	4.06	5.79	4.05	6.47	4.67
14	5.78	4.01	6.33	4.11	5.99	3.96	5.43	4.33	5.63	3.92	6.72	4.75
15	5.70	3.77	7.90	3.73	6.02	4.52	5.26	3.94	6.02	3.97	6.43	5.07
16	5.29	4.05	9.51	5.07	5.58	4.16	5.10	3.73	5.69	4.18	6.24	4.44
17	5.69	3.76	5.59	3.95	5.11	3.86	5.04	3.72	5.80	4.10	5.73	4.11
18	5.99	4.11	5.38	3.99	5.07	3.69	5.07	3.73	5.96	4.07	5.69	4.11
19	5.88	4.08	5.52	3.99	5.18	3.71	5.15	3.73	4.60	4.08	5.47	4.40
20	5.33	3.85	5.73	4.33	6.88	3.67	5.24	3.72	4.96	4.60	5.52	4.18
21	5.61	4.26	5.41	3.85	5.77	4.25	5.14	3.76	5.32	4.96	5.52	4.04
22	5.42	4.09	5.36	3.71	5.31	3.81	4.86	3.71	5.51	4.64	5.62	4.33
23	5.29	3.96	5.04	3.64	5.64	3.72	4.72	3.72	5.66	4.21	5.56	3.85
24	6.11	4.07	5.11	3.62	6.66	3.81	4.75	3.72	5.24	4.16	5.72	3.83
25	6.27	4.43	5.59	3.64	5.07	4.07	4.69	3.68	5.41	4.28	4.93	3.78
26	6.46	4.40	5.62	3.62	5.06	3.74	4.86	3.70	5.50	4.22	5.17	3.95
27	6.66	4.38	5.52	3.61	4.70	3.66	4.67	3.70	5.65	4.34	5.37	3.84
28	6.62	5.04	5.64	3.58	4.72	3.66	4.77	3.77	5.75	4.16	5.27	3.79
29	6.36	4.50	5.81	3.77	4.41	3.78	5.06	3.80	5.66	4.30	5.34	3.86
30	6.57	4.41	5.55	3.89	4.99	3.75	5.24	3.93	5.80	4.35	5.91	4.28
31	---	---	6.02	3.76	---	---	5.39	3.83	5.91	4.01	---	---
MONTH	6.66	3.51	9.51	3.58	6.95	3.66	5.70	3.67	6.02	3.79	6.72	3.78

SAN JACINTO RIVER BASIN

08075730 VINCE BAYOU AT PASADENA, TX

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

DRAINAGE AREA.--8.26 mi², revised.

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

Water-quality records.--Chemical, biochemical, and pesticide analyses: May 1971 to September 1973 and October 1976 to July 1979.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.54 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence (levels by the U.S. Army Corps of Engineers).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Radio telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	1800	2,030	14.88	Jan. 27	1315	1,600	14.11
Nov. 16	0845	1,510	13.95				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.6	5.3	1.7	2.6	e2.1	e1.6	38	2.7	2.0	.61	1.4
2	2.1	2.4	3.3	1.2	2.3	e2.7	e1.7	44	6.2	.82	.75	31
3	1.6	43	3.7	1.6	2.6	e1.7	e1.7	12	23	1.2	1.7	51
4	1.9	4.7	103	2.4	2.2	e1.7	e1.7	4.3	4.0	.31	4.7	13
5	2.2	3.5	5.8	1.4	3.3	e2.1	e2.7	2.4	2.4	5.5	18	1.8
6	3.6	2.5	4.0	1.3	1.9	e1.7	e6.7	1.4	2.5	.60	2.0	1.3
7	2.9	2.1	2.5	1.3	4.4	e1.7	e1.6	1.3	3.0	.18	1.3	2.3
8	15	58	3.6	3.3	3.1	e1.6	e13	2.1	2.9	.56	3.5	2.6
9	6.4	30	2.1	1.3	8.1	e65	e9.7	1.3	3.6	3.1	2.1	4.2
10	4.2	5.8	29	1.7	28	e4.1	e8.2	1.3	26	.54	1.8	2.3
11	2.8	4.0	4.0	11	12	e2.8	e6.9	1.9	6.2	22	1.5	2.0
12	13	2.2	2.8	4.4	8.7	e2.0	e1.6	1.0	4.7	8.8	1.2	.88
13	41	6.2	2.7	11	16	e2.1	e5.0	17	1.9	.51	1.1	1.5
14	5.9	192	2.6	3.9	42	e1.8	3.1	18	2.9	.13	1.7	1.4
15	4.9	27	2.0	3.2	6.3	e17	13	73	3.3	.13	40	.79
16	3.9	434	e10	2.0	e2.1	e5.0	12	78	3.8	.19	16	2.3
17	4.4	36	e30	8.1	e2.0	e2.7	2.3	21	4.5	.16	12	1.9
18	4.3	7.8	e20	3.7	e1.9	e2.1	2.5	8.9	9.5	.34	8.6	.69
19	9.2	4.3	e15	2.1	e2.1	e1.9	3.7	2.8	9.0	.31	3.4	.48
20	474	3.1	e10	2.7	e5.0	e1.8	2.4	1.1	80	3.8	1.5	.85
21	132	2.2	3.6	2.0	e17	e1.9	2.0	.97	8.3	.30	2.0	.96
22	8.8	2.0	22	1.5	e10	e1.8	5.7	1.0	.94	.25	30	.53
23	6.8	2.1	3.2	2.4	e7.1	e2.0	3.1	1.0	7.3	.31	4.3	.46
24	3.6	1.4	1.8	2.1	e2.4	e1.9	16	.97	19	.79	15	.37
25	2.7	1.5	1.3	34	e2.2	e1.8	2.9	.95	12	.36	3.4	.40
26	4.0	2.0	1.2	4.4	e2.0	e1.7	2.4	6.2	2.7	.66	2.7	.34
27	4.6	1.6	1.7	275	e1.8	e4.1	1.6	1.3	1.7	1.0	1.5	.35
28	4.2	1.4	2.9	30	e1.7	e1.8	1.4	31	1.2	1.2	1.2	.36
29	21	2.5	2.6	31	---	e1.7	1.4	6.0	3.9	.91	1.4	.31
30	5.0	2.7	1.8	9.7	---	e1.6	28	3.8	2.9	.69	2.6	.30
31	1.8	---	.92	3.9	---	e1.6	---	3.2	---	.52	2.3	---
TOTAL	799.4	890.6	304.42	465.3	200.8	145.5	165.6	387.19	262.04	58.17	189.86	128.07
MEAN	25.8	29.7	9.82	15.0	7.17	4.69	5.52	12.5	8.73	1.88	6.12	4.27
MAX	474	434	103	275	42	65	28	78	80	22	40	51
MIN	1.6	1.4	.92	1.2	1.7	1.6	1.4	.95	.94	.13	.61	.30
AC-FT	1590	1770	604	923	398	289	328	768	520	115	377	254

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1994, BY WATER YEAR (WY)

	11.9	16.8	12.7	19.3	13.4	11.1	12.3	18.0	28.6	15.4	13.7	18.0
MEAN	11.9	16.8	12.7	19.3	13.4	11.1	12.3	18.0	28.6	15.4	13.7	18.0
MAX	57.4	41.1	35.0	57.7	40.3	36.8	57.6	49.8	87.0	87.4	78.1	113
(WY)	1974	1987	1972	1980	1992	1979	1991	1981	1989	1979	1983	1979
MIN	.64	1.71	1.49	3.17	1.67	1.47	.38	.90	1.81	1.66	1.31	1.04
(WY)	1979	1981	1989	1986	1988	1981	1983	1988	1990	1982	1980	1982

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1972 - 1994

ANNUAL TOTAL	6649.92	3996.95	15.9
ANNUAL MEAN	18.2	11.0	32.1
HIGHEST ANNUAL MEAN			4.97
LOWEST ANNUAL MEAN			1610
HIGHEST DAILY MEAN	486	Mar 1	Jun 26
LOWEST DAILY MEAN	.61	Jan 17	Aug 5
ANNUAL SEVEN-DAY MINIMUM	1.7	Nov 22	Jul 27
INSTANTANEOUS PEAK FLOW			4720
INSTANTANEOUS PEAK STAGE			18.30
ANNUAL RUNOFF (AC-FT)	13190	7930	11540
10 PERCENT EXCEEDS	34	21	26
50 PERCENT EXCEEDS	3.6	2.6	2.2
90 PERCENT EXCEEDS	1.8	.87	.46

e Estimated

SAN JACINTO RIVER BASIN

133

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX

LOCATION.--Lat 29°47'35", long 95°16'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of downstream service road bridge of Interstate Highway 610 in northeast Houston and 8.8 mi upstream from mouth.

DRAINAGE AREA.--16.1 mi². Prior to Oct. 1, 1973, 16.8 mi². Oct 1, 1973, to Sept. 30, 1978, 14.7 mi². Oct. 1, 1978, to Sept. 30, 1987, 15.8 mi². Changes due to storm sewer relocations and addition or relocation of ditches.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year. Prior to October 1973, published as "U.S. Highway 90-A, Houston".

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

REMARKS.--Records good. Low flow is largely maintained by sewage and industrial effluent. The stage-discharge relationship is affected by seasonal vegetal growth during most years. Recording rain gage at station. Rain gage at station. Radio telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Oct. 20	1730	1,910	34.78	May 16	0500	1,630	33.64
Nov. 16	1430	1,970	35.02				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	7.8	4.6	6.9	8.3	10	5.9	23	43	5.0	4.5	42
2	4.1	7.8	4.6	6.9	7.9	10	6.2	56	55	4.9	4.2	15
3	4.2	38	6.2	6.7	7.3	6.6	6.2	62	136	4.8	4.1	29
4	4.1	14	37	6.3	7.3	6.5	6.2	13	27	6.4	5.3	8.9
5	4.0	9.6	6.7	7.4	8.1	7.5	9.1	8.7	12	11	28	5.8
6	4.0	7.9	e6.0	6.5	7.3	6.5	20	7.8	9.5	6.4	10	4.8
7	4.1	7.0	e5.6	6.5	7.0	6.3	7.1	7.7	8.2	4.7	5.5	4.4
8	4.5	16	e5.4	6.5	6.9	6.1	35	7.4	7.2	5.1	8.6	4.6
9	6.3	24	e5.3	6.4	16	124	36	7.1	6.7	4.8	6.3	25
10	4.4	9.0	70	7.4	25	20	30	6.7	15	4.7	5.1	45
11	4.3	7.4	14	14	24	11	29	6.8	13	4.5	5.4	15
12	5.4	6.7	11	7.4	16	9.2	55	6.7	14	4.4	4.5	12
13	19	6.5	11	6.9	19	8.4	25	12	9.3	4.6	3.7	28
14	5.5	279	9.3	6.4	11	8.0	21	30	6.4	5.0	3.6	19
15	4.6	93	8.3	6.3	10	46	24	81	5.9	4.7	3.4	6.7
16	4.5	794	7.8	6.4	8.9	21	32	650	5.5	25	11	5.2
17	4.4	129	19	6.7	8.1	11	12	59	5.2	14	67	4.8
18	4.2	20	13	6.0	7.7	9.3	20	27	8.9	5.5	37	4.3
19	4.2	11	9.4	5.7	7.8	8.3	24	16	19	5.3	5.6	4.2
20	708	8.0	8.5	5.7	16	7.6	25	12	15	13	4.3	4.1
21	282	9.4	7.7	6.4	48	7.4	22	9.2	13	6.7	64	4.3
22	17	7.1	8.4	6.0	37	7.0	32	8.7	11	5.3	143	4.1
23	7.4	5.9	9.3	5.9	28	7.4	14	7.9	87	7.5	64	4.0
24	5.5	5.7	8.4	5.7	12	7.0	22	7.3	45	14	9.9	4.0
25	4.5	5.4	7.9	34	9.8	6.8	13	7.0	18	5.4	5.4	3.8
26	4.1	5.0	7.5	10	9.0	6.5	7.9	6.5	7.7	4.4	4.4	3.6
27	4.4	4.9	7.6	104	7.7	13	7.2	6.5	6.2	4.5	8.9	3.5
28	5.6	4.8	7.9	27	6.9	7.4	6.8	9.5	6.0	4.6	6.9	3.8
29	17	4.6	7.6	20	---	6.3	7.7	7.2	5.4	4.5	4.4	3.8
30	12	4.8	6.9	14	---	6.1	42	10	4.7	4.4	5.1	3.5
31	7.6	---	6.6	10	---	6.0	---	63	---	4.5	5.2	---
TOTAL	1174.8	1553.3	348.5	382.0	388.0	424.2	603.3	1242.7	625.8	209.6	548.3	326.2
MEAN	37.9	51.8	11.2	12.3	13.9	13.7	20.1	40.1	20.9	6.76	17.7	10.9
MAX	708	794	70	104	48	124	55	650	136	25	143	45
MIN	3.9	4.6	4.6	5.7	6.9	6.0	5.9	6.5	4.7	4.4	3.4	3.5
AC-FT	2330	3080	691	758	770	841	1200	2460	1240	416	1090	647

SAN JACINTO RIVER BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

MEAN	21.2	20.8	20.6	28.1	25.5	24.7	22.1	31.2	36.8	18.3	18.8	27.4
MAX	111	51.8	68.0	99.4	107	113	83.0	91.1	136	83.4	121	194
(WY)	1971	1994	1987	1991	1992	1993	1979	1982	1973	1987	1983	1979
MIN	3.75	2.92	4.55	5.18	4.89	3.16	2.88	7.13	2.55	2.20	3.35	5.92
(WY)	1979	1968	1989	1965	1976	1965	1965	1985	1967	1965	1967	1982

SUMMARY STATISTICS

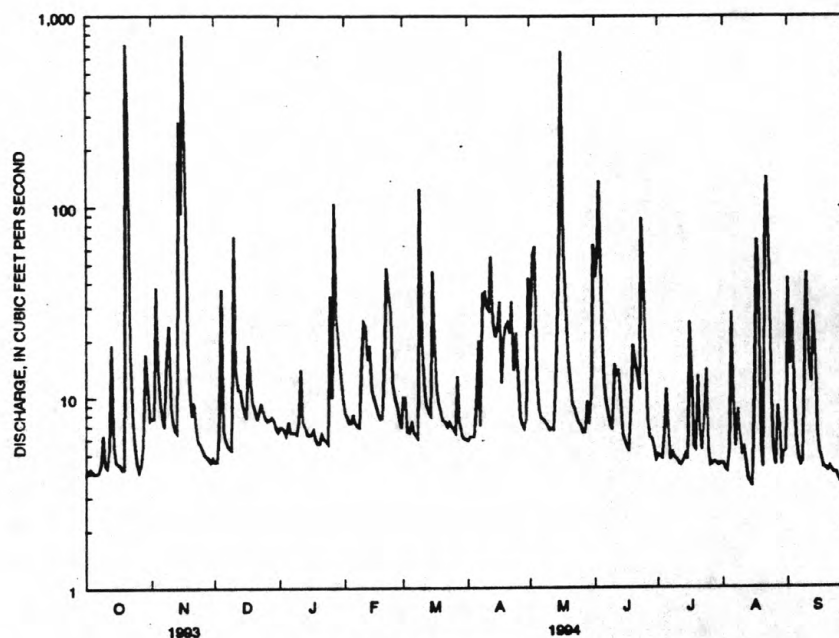
FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1965 - 1994

ANNUAL TOTAL	13531.6	7826.7	24.6
ANNUAL MEAN	37.1	21.4	45.2
HIGHEST ANNUAL MEAN			6.97
LOWEST ANNUAL MEAN			1930
HIGHEST DAILY MEAN	1180	794	1930
LOWEST DAILY MEAN	3.3	3.4	.88
ANNUAL SEVEN-DAY MINIMUM	3.6	3.7	1.0
INSTANTANEOUS PEAK FLOW		1970	3470
INSTANTANEOUS PEAK STAGE		35.02	39.91
ANNUAL RUNOFF (AC-FT)	26840	15520	17830
10 PERCENT EXCEEDS	65	34	40
50 PERCENT EXCEEDS	10	7.4	7.0
90 PERCENT EXCEEDS	4.5	4.4	3.3

e Estimated

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX
MEAN DAILY DISCHARGE (CFS)

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.

INSTRUMENTATION.--Stage-activated water sampler from July 1983 to September 1988 provided water-quality samples over selected runoff events.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	BOD OXYGEN DEMAND, BIOCHEM. CARBON, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	
FEB 15...	1048	9.0	710	7.7	13.0	14	4.1	9.0	84	1.8	1.3	150	
MAY 03...	1115	68	315	7.7	25.0	48	88	6.0	73	4.0	2.8	9700	
AUG 02...	1040	4.0	868	8.2	26.5	17	8.0	7.2	90	6.0	5.9	700	
DATE	TIME	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS-FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB 15...	110	230	13	72	13	66	2	4.0	220	66	49	0.70	
MAY 03...	9800	100	8	33	4.4	23	1	3.2	93	32	16	0.40	
AUG 02...	150	200	0	65	10	100	3	7.3	230	72	83	0.80	
DATE	TIME	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	
FEB 15...	11	426	13	7	6	2.22	2.22	0.080	2.30	2.30	0.260	0.34	
MAY 03...	7.2	186	169	32	137	2.01	2.01	0.090	2.10	2.10	0.380	0.62	
AUG 02...	11	514	39	11	28	5.31	5.31	0.090	5.40	5.40	0.090	0.71	
DATE	TIME	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)
FEB 15...	0.60	0.210	0.220	0.67	7.5	3	130	<0.5	<1.0	<5	<3	<10	
MAY 03...	1.0	0.480	0.400	1.2	14	7	66	<0.5	2.0	<5	<3	<10	
AUG 02...	0.80	0.920	0.850	2.6	14	5	110	<0.5	<1.0	<5	<3	<10	
DATE	TIME	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
FEB 15...	9	<10	11	89	<0.1	<10	<10	<1	<1.0	400	<6	10	
MAY 03...	22	10	5	31	<0.1	<10	<10	<1	<1.0	170	<6	17	
AUG 02...	35	<10	17	41	<0.1	10	<10	<1	<1.0	390	<6	22	
DATE	TIME	AME-TRYNE TOTAL (UG/L)	ATRA-ZINE WATER UNFLT RD REC (UG/L)	CYAN-AZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	
FEB 15...		<0.10	<0.1	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	<0.10	<0.10	
MAY 03...	--		<0.1	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	<0.10	<0.10	
AUG 02...		<0.10	0.2	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	<0.10	<0.10	

SAN JACINTO RIVER BASIN

08075900 GREENS BAYOU NEAR U.S. HIGHWAY 75 NEAR HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°57'22", long 95°24'57", Harris County, Hydrologic Unit 12040104, on right bank at upstream side of bridge on Knobcrest Street, 600 ft downstream from U.S. Highway 75 access road bridge, 8.9 mi upstream from station 08076000, and 20.9 mi upstream from Halls Bayou.

DRAINAGE AREA.--36.6 mi².

PERIOD OF RECORD.--August 1965 to September 1980 and Mar.27,1981 to September 1992 (daily mean discharge). Oct. 1, 1980 to Mar.26, 1981 (discharge measurements and supplemental peak discharges only). October 1992 to current year (peak discharges greater than base discharge).

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is at National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence. Prior to July 19, 1989, water-stage recorder at site 600 ft upstream at present datum.

REMARKS.--Records fair. Rain gage at station. Radio telemetry at station.

AVERAGE DISCHARGE.--26 years (water year 1966-80, 1982-1992), 40.5 ft³/s (29,370 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s June 26, 1989 (elevation, 90.20 ft. from peak mark at former site); maximum elevation, 91.09 ft Feb. 21, 1969 at former site, occurred prior to 1980-81 channel rectification; minimum daily discharge, 0.16 ft³/s Oct. 21, 22, 1969.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft³/s:

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Feb. 10	1300	1,940	77.99				

LOCATION.--Lat 29°55'05", long 95°18'24", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on U.S. Highway 59 access road, 10.5 mi northeast of Houston, 12.0 mi upstream from Halls Bayou, and 23.4 mi upstream from mouth.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.-- No estimated daily discharges. Records good. Channel was rectified during water years 1974-75. No known diversion above station. Low flow is sustained by Houston Lighting and Power Co. effluent, (which is obtained from ground-water sources) and sewage effluent from Houston suburbs. Radio telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 16	0400	3,150	57.48				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	31	35	30	24	66	27	100	53	36	30	117
2	23	30	35	30	24	59	29	182	104	32	31	59
3	22	77	63	29	23	34	28	356	217	33	41	34
4	42	55	596	29	23	29	27	87	78	34	72	25
5	28	37	62	26	26	30	33	43	52	63	385	22
6	25	30	42	24	24	31	118	33	47	43	204	25
7	25	33	36	25	22	35	43	33	42	33	46	25
8	29	73	34	23	22	33	32	34	41	34	37	24
9	29	164	37	25	51	341	30	36	40	55	67	177
10	29	49	153	27	118	175	34	38	116	61	43	224
11	28	38	57	162	160	64	33	35	219	48	34	185
12	55	36	45	59	95	47	122	34	69	46	32	45
13	235	34	74	31	58	40	47	114	128	46	42	51
14	73	270	49	26	40	38	34	416	63	50	34	56
15	38	110	39	24	35	268	70	113	50	134	42	40
16	35	1050	36	24	33	232	221	1410	46	119	132	29
17	32	224	53	38	32	70	51	201	44	43	359	29
18	32	61	79	27	30	49	36	94	121	36	266	27
19	31	47	74	23	29	43	34	61	155	34	47	27
20	746	40	53	23	83	37	36	52	98	108	30	26
21	554	37	42	25	320	39	36	45	204	56	35	24
22	71	39	153	22	379	35	34	42	62	36	90	26
23	41	38	84	23	252	36	30	43	178	31	160	25
24	37	40	44	31	75	36	50	42	157	33	112	21
25	36	34	36	52	50	34	43	39	99	31	39	22
26	36	34	31	40	38	34	31	37	55	33	30	23
27	31	35	32	498	35	52	29	38	42	32	26	23
28	28	34	47	190	35	44	27	41	41	31	25	22
29	114	36	43	72	---	30	30	43	42	30	27	21
30	109	35	32	47	---	26	245	142	39	28	36	22
31	40	---	29	29	---	26	---	63	---	28	34	---
TOTAL	2679	2851	2225	1734	2136	2113	1640	4047	2702	1457	2588	1476
MEAN	86.4	95.0	71.8	55.9	76.3	68.2	54.7	131	90.1	47.0	83.5	49.2
MAX	746	1050	596	498	379	341	245	1410	219	134	385	224
MIN	22	30	29	22	22	26	27	33	39	28	25	21
AC-FT	5310	5650	4410	3440	4240	4190	3250	8030	5360	2890	5130	2930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1994, BY WATER YEAR (WY)

MEAN	62.2	66.9	67.6	77.3	91.6	62.0	74.7	111	99.8	53.6	43.7	69.1
MAX	353	338	293	284	353	262	328	480	549	291	330	443
(WY)	1985	1975	1992	1991	1961	1992	1973	1989	1973	1961	1983	1961
MIN	.000	.000	.000	.058	.35	.045	.13	.25	.12	.45	.81	1.97
(WY)	1953	1956	1955	1957	1957	1955	1956	1956	1954	1957	1957	1956

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1953 - 1994

ANNUAL TOTAL	56031		27648				
ANNUAL MEAN	154		75.7		73.1		
HIGHEST ANNUAL MEAN					180		1992
LOWEST ANNUAL MEAN					6.82		1956
HIGHEST DAILY MEAN	1920	Mar 1	1410	May 16	10700		May 18 1989
LOWEST DAILY MEAN	22	Sep 30	21	Sep 24	.00		Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	26	Sep 28	22	Sep 24	.00		Oct 1 1952
INSTANTANEOUS PEAK FLOW			3150	May 16	16500		Jun 27 1989
INSTANTANEOUS PEAK STAGE			57.48	May 16	66.04		Jun 27 1989
ANNUAL RUNOFF (AC-FT)	111100		54840		52970		
10 PERCENT EXCEEDS	333		161		129		
50 PERCENT EXCEEDS	67		38		21		
90 PERCENT EXCEEDS	30		25		1.6		

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	BOD OXYGEN DEMAND, BIOCHEM CARBON, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	
FEB 15...	0822	37	645	8.1	13.0	35	10	9.2	86	2.9	1.6	330	
MAY 03...	0925	598	202	7.8	23.0	76	170	6.4	75	5.5	4.0	5800	
AUG 02...	0830	33	850	8.1	27.0	13	23	5.9	75	3.0	2.3	580	
DATE	TIME	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB 15...	210	190	13	50	15	69	2	6.2	170	33	67	0.40	
MAY 03...	9300	54	0	18	2.1	16	1	3.6	57	11	15	0.20	
AUG 02...	650	170	0	56	7.4	110	4	7.8	180	64	110	0.40	
DATE	TIME	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	
FEB 15...	18	387	29	9	20	4.24	4.24	0.160	4.40	4.40	0.560	0.44	
MAY 03...	6.8	113	430	60	370	0.890	0.890	0.060	0.950	0.950	0.180	0.52	
AUG 02...	26	521	38	9	29	6.01	6.01	0.190	6.20	6.20	0.180	0.62	
DATE	TIME	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)
FEB 15...	1.0	1.10	1.10	3.4	6.8	4	210	<0.5	2.0	<5	<3	<10	
MAY 03...	0.70	0.390	0.350	1.1	14	3	79	<0.5	<1.0	<5	<3	<10	
AUG 02...	0.80	1.50	1.10	3.4	6.3	8	250	<0.5	<1.0	<5	<3	<10	
DATE	TIME	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
FEB 15...	25	<10	21	210	<0.1	<10	<10	<1	<1.0	490	<6	25	
MAY 03...	20	<10	<4	2	<0.1	<10	<10	<1	<1.0	97	<6	17	
AUG 02...	<3	<10	16	11	<0.1	<10	<10	<1	<1.0	390	<6	17	
DATE	TIME	AME-TRYNE TOTAL (UG/L)	ATRA-ZINE WATER UNFLTRD REC (UG/L)	CYAN-AZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	
FEB 15...		<0.10	<0.1	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	0.10	<0.10	
MAY 03...	--		0.7	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	<0.10	<0.10	
AUG 02...		<0.10	<0.1	<0.20	<0.5	<0.20	<0.10	<0.10	<0.5	<0.5	<0.10	<0.10	

SAN JACINTO RIVER BASIN

139

08076180 GARNERS BAYOU NR HUMBLE, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°56'03", long 95°14'02", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of upstream bridge on Beltway 8, 0.2 mi downstream from Williams Gully, 1.2 mi upstream from Greens Bayou, and 4.5 mi southeast of Humble.

DRAINAGE AREA.--31.0 mi².

PERIOD OF RECORD.--February 1986 to September 1993 (daily discharge); October 1993 to current year (peaks above base discharge and maximum).

GAGE.--Water-stage recorder and crest stage gage. Datum of gage is National Geodetic Vertical Datum, 1978 adjustment, furnished by Harris County Flood Control District.

REMARKS.--No known diversion above station. Low flow is sustained by sewage effluent from Humble suburbs. Minor channel rectification made in 1988. Rain gage at station. Radio telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum:

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Nov. 16	1300	2,370	53.64	May 16	0700	1,800	51.18

SAN JACINTO RIVER BASIN

08076500 HALLS BAYOU AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°51'42", long 95°20'05", Harris County, Hydrologic Unit 12040104, on right bank, at downstream side of bridge on Jensen Drive in northeast section of Houston, and 11.0 mi upstream from mouth.

DRAINAGE AREA.--28.7 mi². Oct. 1, 1973, to Sept. 30, 1977, 28.3 mi². Oct. 1, 1977 to Sept. 30, 1988, 27.6 mi². Prior to Oct. 1, 1973, 24.7 mi². Changes were the result of drainage ditch extensions or relocations.

PERIOD OF RECORD.--October 1952 to September 1993 (daily discharge); October 1993 to present (peak discharges greater than base discharge).

Water-quality records.--Chemical, biochemical, and pesticide analyses: October 1968 to September 1984.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Stage discharge relationship is affected by seasonal vegetal growth during most years. No known diversions above station. Low flow is sustained by sewage effluent from Houston suburbs. Rain gage at station. Radio telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 16	1300	1,580	56.31	May 16	0400	1,940	57.54

SAN JACINTO RIVER BASIN

141

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX

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

DRAINAGE AREA.--182 mi².

PERIOD OF RECORD.--November 1962 to December 1964, May to September 1971 (discharge measurements only), October 1971 to Sept. 12, 1991, and August 12, 1992 to current year (highwater records only).

Water-quality records: Chemical, biochemical, and pesticide analyses: October 1970 to September 1981.

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

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Discharge is computed for all storms that produce peak discharges above 2,000 ft³/s. Gage was discontinued on Sept. 12, 1991 for bridge construction and temporarily relocated about 1 mile downstream at US highway 90 to obtain stage data for the Harris County Flood Control District. Gage was moved back to Ley Road on Aug. 12, 1992 at current datum. Rain gage at station. Radio telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s June 27, 1989 (gage height, 39.40 ft, from peak mark); minimum not determined (affected by tide).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base of 4,200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 21	0300	4,370	19.18	May 16	1100	8,840	26.78
Nov. 16	1900	8,130	25.81				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	e1200	---	---	---	---	---	1870	---	---	---
5	---	---	---	---	---	---	---	---	e820	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	1440	---	---	---	---	---	---
10	---	---	---	---	e1000	e400	---	---	---	---	---	---
11	---	---	---	---	1230	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	e900	---	---	---	---	---	---	---	---	---	---
15	---	e500	---	---	---	---	---	---	---	---	---	---
16	---	3960	---	---	---	---	---	5850	---	---	---	---
17	---	2600	---	---	---	---	---	1400	---	---	e370	---
18	---	e500	---	---	---	---	---	e480	---	---	e1050	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	e1600	---	---	---	---	---	---	---	---	---	---	---
21	2550	---	---	---	873	---	---	---	---	---	---	---
22	---	---	---	---	e665	---	---	---	---	---	e800	---
23	---	---	---	---	e1000	---	---	---	---	---	790	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	e1000	---	---	---	---	---	---	---	---
28	---	---	---	e960	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

CLEAR CREEK BASIN

08077000 CLEAR CREEK NEAR PEARLAND, TX

LOCATION.--Lat 29°35'50", long 95°17'11", Harris-Brazoria County line, Hydrologic Unit 12040204, on left bank at downstream side of bridge on State Highway 35, 0.7 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi upstream from Hickory Slough, 2.3 mi north of Pearland, and about 30 mi upstream from head of Clear Lake.

DRAINAGE AREA.--38.8 mi².

PERIOD OF RECORD.--July to October 1944, March to October 1946, April 1947 to December 1959, March 1963 to September 1992. October 1992 to current year (daily mean discharges 20 ft³/s or greater and peaks above base discharge).

REVISED RECORDS.--WSP 1392: 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 26.58 ft above National Geodetic Vertical Datum of 1929, 1973 adjustment; prior records unadjusted for land-surface subsidence. Prior to June 9, 1948, nonrecording gage, and June 9, 1948, to Apr. 22, 1952, water-stage recorder at same site and datum 5.80 ft higher.

REMARKS.--Records poor. Daily mean discharges below 20 ft³/s are not published.

AVERAGE DISCHARGE.--41 years (water years 1948-59, 1964-1992), 37.2 ft³/s (26,960 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft³/s Mar. 18, 1957; maximum gage height, 18.57 ft July 26, 1957; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1960, stage and discharge unknown, may have exceeded that of Mar. 18, 1957. Channel was rectified in 1933, 1952, 1968, and 1978.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 25	0500	480	10.26				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	22	---	---	97	---	---	---	---
2	---	---	---	---	---	---	---	129	---	---	---	---
3	---	---	---	---	---	---	---	68	209	---	---	36
4	---	---	74	---	---	---	---	35	218	---	---	59
5	---	---	43	---	---	---	---	---	157	---	---	---
6	---	---	27	---	---	---	20	---	66	---	---	---
7	---	---	22	---	---	---	---	---	28	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	86	---	---	---	---	---	---
10	---	---	26	---	50	38	---	---	---	---	---	---
11	---	---	---	---	105	---	---	---	---	---	---	---
12	---	---	---	---	61	---	---	---	98	---	---	---
13	33	---	---	---	42	---	---	---	66	---	---	---
14	22	---	---	---	28	---	---	24	28	---	---	---
15	---	---	---	---	20	---	---	75	---	---	---	---
16	---	---	---	---	---	---	---	e175	---	---	---	---
17	---	---	---	---	---	---	---	e100	---	---	---	---
18	---	---	---	---	---	---	---	e50	---	---	---	---
19	---	---	---	---	---	---	---	e20	22	---	---	---
20	21	---	---	---	---	---	---	---	40	---	---	---
21	---	---	---	---	---	---	---	---	114	---	---	---
22	---	---	---	---	---	---	---	---	84	---	---	---
23	---	---	---	---	---	---	---	---	56	---	---	---
24	---	---	---	---	---	---	---	---	135	---	---	---
25	---	20	---	---	---	---	---	---	437	---	---	---
26	---	e20	---	---	---	---	---	---	220	---	---	---
27	---	---	---	---	---	---	---	---	65	---	---	---
28	---	---	---	---	---	---	---	---	26	---	---	---
29	---	---	---	47	---	---	---	---	---	---	---	---
30	---	---	---	54	---	---	60	---	---	---	---	---
31	---	---	---	33	---	---	---	---	---	---	---	---

e Estimated

08077650 MOSES LAKE-GALVESTON BAY NEAR TEXAS CITY, TX

LOCATION.--Lat 29°26'50", long 94°55'12", Galveston County, Hydrologic Unit 12040204, on right side of gate abutment of Texas City Flood Control Dike, one orifice located upstream and one downstream, at mouth of Moses Lake, and 4.5 mi north of Texas City.

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

GAGE.--Duplex water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by county engineer, Galveston County), 1978 adjustment. Prior to May 19, 1983, datum of gage was 0.49 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment. Prior records unadjusted for land-surface subsidence.

REMARKS.--Records fair. Moses Lake is connected to Galveston Bay by gated opening through levee. These gates are open during periods of normal tide and are closed during periods of high tide and hurricane surge. Rain gage at station. Radio telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation (Moses Lake), 4.4 ft Sept. 20, 1979; minimum, -4.2 ft Feb. 28, 1983. Maximum elevation (Galveston Bay), about 10.0 ft (Hurricane Alicia) Aug. 18, 1983; minimum, about -4.2 ft Feb. 28, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (Moses Lake), 2.2 ft Oct. 20 at 1000 hours and Nov. 16 at 0900 hours; minimum recorded, -1.9 ft Dec. 14 at 1700 hours and Jan. 3 at 1800 hours. Maximum elevation (Galveston Bay), 2.5 ft April 28 at 1245 hours; minimum, -2.6 Dec. 14 at 1430 hours.

DAY	ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994											
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MOSES LAKE MAX	GALV. BAY MAX	GALV. BAY MIN	MOSES LAKE MAX	GALV. BAY MAX	GALV. BAY MIN	MOSES LAKE MAX	GALV. BAY MAX	GALV. BAY MIN	MOSES LAKE MAX	GALV. BAY MAX	GALV. BAY MIN
1	1.6	1.6	.9	---	---	---	1.7	1.7	.5	1.1	1.1	-.1
2	1.6	1.6	.5	---	---	---	1.7	1.6	.2	.7	.7	-.3
3	1.3	1.5	.0	---	---	---	1.8	1.7	.4	.3	.3	-2.3
4	1.2	1.1	.1	---	---	---	1.6	1.6	-.8	-1.0	-.8	-1.4
5	1.3	1.3	.0	---	---	---	.3	.5	-.2	.5	.7	-1.0
6	1.5	1.5	.2	---	---	---	.8	.7	-.3	.6	.7	-.3
7	1.7	1.7	.6	---	---	---	1.0	.9	.3	.4	.3	-1.2
8	2.1	2.2	.9	---	---	---	1.1	1.1	.0	-.2	.3	-1.8
9	2.0	2.0	.5	---	---	---	1.2	1.1	.0	1.1	1.4	-.1
10	1.2	1.0	.4	1.2	1.2	.6	1.2	1.1	-.1	1.8	1.9	.6
11	1.4	1.4	.4	1.5	1.6	.4	1.1	1.0	-.5	1.8	1.6	.0
12	1.5	1.5	.6	1.7	1.7	.6	1.3	1.6	.0	1.0	1.0	-.4
13	1.6	1.7	.8	1.8	1.8	.3	2.1	2.2	.3	1.0	1.0	-.2
14	1.3	1.3	.6	1.9	1.9	.3	.7	.3	-2.6	.5	.5	-.9
15	1.3	1.4	.4	1.7	1.8	.2	-.4	.1	-1.4	.2	.5	-.6
16	1.4	1.4	.1	2.2	2.2	.8	.9	.9	.0	1.4	1.5	.5
17	1.6	1.6	.2	1.5	1.4	-.6	1.2	1.1	.0	1.5	1.5	-.4
18	2.0	1.9	.5	1.1	.9	-.1	1.0	.9	-.3	.6	.6	-.6
19	2.0	2.1	.6	1.1	1.1	-.1	1.2	1.2	.4	1.2	1.1	.2
20	2.2	2.3	.7	.3	.3	-.2	1.4	1.4	-.5	1.2	1.1	.5
21	1.8	1.7	-.1	.8	.7	.3	.4	.6	-1.2	1.2	1.0	.0
22	.9	.8	.0	1.0	.9	.2	.8	.7	.0	.8	.8	-.2
23	1.3	1.3	.3	1.1	1.0	.1	.5	.6	-.9	.9	.9	-.3
24	1.6	1.5	.7	.9	.8	.0	.8	.7	-.5	.9	.9	-.3
25	---	---	1.2	.8	.7	-.5	.5	.4	-1.4	.8	.8	-.5
26	---	---	1.1	.4	.2	-1.1	.1	.3	-1.1	.9	.9	-.5
27	---	---	.1	.2	.3	-1.1	.4	.5	-1.1	1.2	1.2	-.3
28	---	---	.2	.5	.5	-.8	.6	.6	-.8	.9	.8	-1.0
29	---	---	---	.6	.6	-.7	.2	.0	-1.4	.4	.4	-.3
30	---	---	---	.9	1.1	-.2	.3	.6	-.7	.3	.4	-.3
31	---	---	---	---	---	---	.8	.9	-.2	.5	.4	-.2
MONTH	---	---	---	---	---	---	2.1	2.2	-2.6	1.8	1.9	-2.3

COASTAL BASIN

08077650 MOSES LAKE-GALVESTON BAY NEAR TEXAS CITY, TX--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994												
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY
	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX	MIN
1	.4	.3	-.7	1.3	1.4	-.3	.7	.7	-.6	1.4	1.6	.0
2	.4	.4	-.5	.3	-.3	-1.3	1.0	1.0	-.3	1.7	1.8	.6
3	.8	.8	-.4	.2	.2	-1.8	.8	.6	-.3	1.4	1.4	.5
4	.8	.7	-.3	.4	.4	-.8	.8	1.0	-.7	.8	1.0	.4
5	.5	.7	-.8	.5	.5	-.8	1.1	1.2	.4	.9	1.0	.5
6	.7	.6	-.7	.7	.7	-.8	1.1	1.2	-.5	1.0	1.1	.3
7	.7	.7	-.5	.8	.9	-.4	1.0	.9	.0	.9	1.2	.1
8	.8	1.0	-.3	1.0	1.1	.0	1.2	1.2	.7	.8	1.0	---
9	1.1	1.1	-.1	1.5	1.7	-.9	1.5	1.4	.8	.8	1.0	---
10	.4	.2	-.8	-.2	-.1	-1.1	1.6	1.6	.9	.9	1.1	---
11	-.1	.0	-1.0	.8	.9	-.1	1.7	1.7	.8	1.0	1.1	-.1
12	.6	.6	.0	1.6	1.6	.9	1.1	1.1	.4	1.0	1.1	-.2
13	.5	.4	-1.0	1.2	1.0	.2	1.1	1.2	.1	1.5	1.8	-.1
14	.7	.7	-.3	.5	.4	.0	1.3	1.4	.3	1.5	1.7	.0
15	.7	.7	.3	.8	.8	.0	1.4	1.5	.0	1.2	1.4	-.2
16	.6	.5	-.1	.8	.8	-.2	1.1	1.2	.0	1.5	1.5	.2
17	.7	.7	-.3	1.0	.9	.0	1.4	1.5	.3	1.2	1.2	.2
18	1.2	1.1	.0	.9	.9	-.2	1.5	1.6	.4	1.1	1.1	.3
19	1.3	1.2	.4	1.0	.9	-.2	1.3	1.4	.5	1.2	1.2	.4
20	1.3	1.2	.1	1.2	1.2	.0	1.2	1.2	.3	1.3	1.4	.6
21	1.3	1.2	-.2	1.1	.9	.0	1.1	1.3	.5	1.1	1.3	.2
22	1.5	1.5	.3	1.2	1.2	-.3	1.0	1.0	.5	1.0	1.2	-.3
23	1.5	1.5	-.1	1.3	1.3	.5	.9	.9	.4	.7	.8	-.6
24	.7	.9	-.4	1.2	1.1	.2	1.2	1.2	.4	.8	.9	-.6
25	1.1	1.1	.1	.9	.8	-.2	1.6	1.7	.5	1.0	1.2	-.5
26	.9	.8	-.4	1.3	1.3	.7	1.8	2.0	.6	1.1	1.3	-.4
27	1.0	.9	.2	1.4	1.4	-.2	2.0	2.1	.4	1.0	1.2	-.2
28	1.3	1.3	.7	.3	.3	-1.2	1.8	2.5	.9	1.2	1.3	-.1
29	---	---	---	.5	.6	-1.3	1.9	1.9	.7	1.4	1.6	.0
30	---	---	---	.5	.5	-.4	1.7	2.0	.7	1.1	1.3	.3
31	---	---	---	.7	.6	-.8	---	---	---	1.0	1.4	.1
MONTH	1.5	1.5	-1.0	1.6	1.7	-1.8	2.0	2.5	-.7	1.7	1.8	---
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY
	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX	MIN
1	1.2	1.3	.6	.4	.5	-.2	.9	1.0	-.1	1.3	1.5	-.2
2	1.3	1.3	.5	.8	.8	-.1	1.4	1.7	.2	1.0	1.0	-.1
3	1.3	1.4	.5	.9	.9	-.2	1.4	1.6	.0	.8	.8	-.1
4	1.3	1.3	.3	.9	.9	-.2	1.3	1.4	.0	.7	.8	-.1
5	1.4	1.5	.3	1.1	1.2	-.4	1.1	1.2	-.3	1.0	1.1	.1
6	1.2	1.3	.0	.8	.8	-.5	1.1	1.0	-.3	1.1	1.2	.6
7	1.2	1.4	.0	.8	.9	-.5	.9	.8	-.2	1.1	1.5	.6
8	1.2	1.4	-.1	1.0	1.0	-.4	1.0	1.1	-.3	1.1	1.2	.4
9	1.1	1.2	-.1	1.2	1.2	-.2	1.1	1.0	.2	1.3	1.5	.5
10	1.1	1.6	-.2	1.1	1.2	-.5	1.2	1.1	.5	1.7	1.8	.5
11	1.1	1.2	-.1	.9	.9	-.1	1.2	.9	.3	2.0	2.1	.7
12	1.0	1.3	-.2	.9	.9	.1	1.2	.9	.2	1.9	2.0	.6
13	1.0	1.1	-.1	.8	.8	.2	1.4	1.2	.2	2.0	2.1	.9
14	1.3	1.4	.0	.9	.9	.3	1.4	1.2	-.1	2.1	2.3	1.0
15	1.3	1.5	.6	.9	.9	.0	1.2	1.1	-.3	2.1	2.1	1.1
16	1.0	1.1	.5	.8	.8	-.4	1.4	1.2	-.2	1.8	1.9	.4
17	1.0	1.1	.1	.8	.8	-.5	1.2	1.1	-.2	1.3	1.2	.3
18	.8	1.1	-.1	.7	.9	-.9	1.1	1.2	-.2	1.2	1.1	.4
19	.9	1.1	.0	.7	.9	-.6	1.0	.9	-.3	1.1	1.1	.6
20	1.2	1.4	-.1	.8	1.2	-.5	.9	.7	-.5	1.1	1.0	.4
21	1.2	1.4	-.3	.7	1.2	-.8	.8	.5	-.2	1.1	1.1	.2
22	1.0	1.1	-.3	.5	.5	-.8	.7	.6	-.4	1.4	1.4	.7
23	.8	1.0	-.5	.3	.4	-.9	.7	.6	.0	1.2	1.2	.0
24	.5	.8	-.6	.3	.4	-.5	.7	.5	.0	1.4	1.5	.2
25	.5	.7	-.7	.3	.4	-.3	.8	.6	.0	.9	1.0	.0
26	.4	.5	-.7	.3	.5	-1.2	1.0	.7	-.1	1.1	1.2	.0
27	.1	.2	-.5	.1	.1	-.7	1.4	1.0	.2	1.1	1.2	.0
28	.2	.3	-.3	.4	.3	.3	1.4	1.2	.0	1.0	1.1	.0
29	.1	.1	-.2	.7	.6	-.1	1.4	1.1	.0	1.2	1.3	.3
30	.4	.5	-.1	.9	.8	.0	1.4	1.6	.4	1.5	1.7	.7
31	---	---	---	1.0	1.1	-.2	1.3	1.4	.1	---	---	---
MONTH	1.4	1.6	-.7	1.2	1.2	-1.2	1.4	1.7	-.5	2.1	2.3	-.2

HIGHLAND BAYOU BASIN

145

08077740 LAMARQUE LEVEE PUMP STATION NEAR LAMARQUE, TX

LOCATION.--Lat 29°20'44", long 94°57'47", Galveston County, Hydrologic Unit 12040204, in the LaMarque Levee pumping station on the LaMarque hurricane protection levee, one orifice located landward and one seaward, 0.5 mi southwest of Interstate Highway 45, 0.9 mi south of LaMarque, 4.8 mi northwest of Virginia Point.
 Supplementary gage (station 08077752).--Lat 29°20'26", long 94°51'00", 4,000 ft southeast along LaMarque Levee from LaMarque Levee Pumping Station.

PERIOD OF RECORD.--November 1986 to current year.

GAGE.--Water-stage recorder. Datum of gages are National Geodetic Vertical Datum, 1978 adjustment (levels by Galveston County Engineer).

REMARKS.--Records fair. Landward orifice records elevation of flood runoff behind levee. This runoff is pumped into Jones Bay. Only maximum landward elevations equal or exceeding, minus 3.0 ft are shown. Seaward records are tidal but influenced by runoff in Highlands Bayou. Rain gage at station. Radio telemeter at station.
 Supplementary gage: Records fair. Landward orifice records elevation of flood runoff behind levee. Seaward records are equivalent to seaward records at primary station. A channel connects site to pumping station. Water will be pumped, or drained by gravity, into Jones Bay depending on elevation of seaward water-surface. Only elevations equal or exceeding -2.0 ft are shown. Radio telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation (landward) 3.5 ft July 26, 1989; maximum elevation (seaward) 3.6 ft Oct. 15, 1989; minimum (seaward), -2.0 ft Apr. 11, 1988. Supplementary gage: Maximum elevation (landward) 11.0 ft June 7, 1992; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (landward), minus 0.9 ft May 17 at 2030; maximum elevation (seaward), 2.4 ft Nov. 16 at 0700 hours; minimum (seaward), -1.6 ft Jan. 3 at 2100 hours.
 Supplemental gage: Maximum elevation (landward), -0.6 ft Mar. 16 at 0845 hours; minimum not determined.

DAY	ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994											
	OCTOBER				NOVEMBER				DECEMBER			
	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX
1	---	1.6	1.1	---	---	1.2	-.2	---	---	1.8	.9	---
2	---	1.6	.6	---	---	1.8	1.0	---	---	1.6	.6	---
3	---	1.2	.2	---	---	1.8	.4	---	---	1.8	.7	---
4	---	1.1	.3	---	---	1.1	.2	---	---	1.6	-.3	---
5	---	1.2	.3	---	---	1.2	-.2	---	---	.4	-.1	---
6	---	1.4	.5	---	---	.0	-.7	---	---	.7	.1	---
7	---	1.5	.7	---	---	.9	-.1	---	---	1.0	.4	---
8	---	2.1	1.1	---	---	1.5	.9	---	---	1.1	.2	---
9	---	2.0	.7	---	---	1.8	1.0	---	---	1.2	.3	---
10	---	1.2	.5	---	---	1.3	.7	---	---	1.2	.1	---
11	---	1.4	.6	---	---	1.6	.6	---	---	1.0	-.1	---
12	---	1.7	.6	---	---	1.9	.9	---	---	1.8	.4	---
13	---	1.6	1.1	---	---	1.8	.7	---	---	2.3	.6	---
14	---	1.4	.6	---	---	1.9	.6	---	---	.7	-1.1	---
15	---	1.4	.5	---	---	1.7	.4	---	---	.0	-1.1	---
16	---	1.4	.4	---	---	2.4	1.1	---	---	.9	-.1	---
17	---	1.6	.6	---	---	1.5	-.2	---	---	.9	.0	---
18	---	1.9	.8	---	---	.9	.2	---	---	.7	-.3	---
19	---	1.9	.9	---	---	1.1	-.1	---	---	1.1	.4	---
20	-2.9	2.2	1.0	---	---	.4	-.1	---	---	1.2	-.5	---
21	-2.9	1.6	.1	---	---	.9	.4	---	---	.3	-1.0	---
22	---	1.0	.2	---	---	1.0	.4	---	---	.5	-.1	---
23	---	1.4	.4	---	---	1.1	.3	---	---	.4	-.6	---
24	---	1.6	.8	---	---	.9	.2	---	---	.4	-.4	---
25	---	1.7	1.1	---	---	.7	-.3	---	---	.2	-1.3	---
26	---	1.7	1.1	---	---	.3	-.7	---	---	.0	-1.1	---
27	---	1.2	.3	---	---	.5	-.6	---	---	.2	-.8	---
28	---	1.2	.3	---	---	.5	-.4	---	---	.3	-.6	---
29	---	1.4	.5	---	---	.6	-.3	---	---	-.1	-1.1	---
30	---	.7	-1.3	---	---	1.2	.1	---	---	.5	-.4	---
31	---	-.2	-1.3	---	---	---	---	---	---	.8	-.1	---
MONTH	---	2.2	-1.3	---	---	2.4	-.7	---	---	2.3	-1.3	---

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994												
JANUARY				FEBRUARY				MARCH				
DAY	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX
1	---	1.0	-.1	---	---	.3	-.6	---	---	1.3	.4	---
2	---	.6	-.2	---	---	.3	-.4	---	---	.4	-1.2	---
3	---	.1	-1.6	---	---	.8	-.4	---	---	.1	-1.4	---
4	---	-1.1	-1.5	---	---	.7	-.1	---	---	.3	-.6	---
5	---	.5	-1.2	---	---	.5	-.5	---	---	.4	-.5	---
6	---	.5	-.2	---	---	.6	-.4	---	---	.6	-.4	---
7	---	.2	-1.1	---	---	.7	-.3	---	---	.8	-.1	---
8	---	.1	-1.4	---	---	k.8	s.1	---	---	1.1	.3	---
9	---	1.3	-.1	---	---	k.7	k-.1	---	-2.6	1.3	-.6	---
10	---	1.7	.7	---	---	k.3	k-.3	---	---	-.3	-.9	---
11	---	1.7	.2	---	---	k.2	k-.6	---	---	.8	-.3	---
12	---	.8	-.2	---	---	k.3	k-.2	---	---	1.5	.8	---
13	---	.9	-.2	---	---	k-.2	k-.9	---	---	1.1	.3	---
14	---	.3	-.7	---	---	k.5	k-.2	---	---	.5	.0	---
15	---	.2	-.6	---	---	k.5	k-.0	---	---	.8	.0	---
16	---	1.5	.2	---	---	k.3	k.1	-1.8	---	.8	.0	-.6
17	---	1.5	-.4	---	---	k.5	k-.2	---	---	.9	.1	---
18	---	.5	-.6	---	---	k.9	k.0	---	---	.9	.1	---
19	---	1.1	.2	---	---	k1.0	k.4	---	---	.9	.0	---
20	---	1.1	.4	---	---	k.9	k.3	---	---	1.1	.2	---
21	---	1.0	.1	-1.7	---	k1.0	k.1	---	---	1.0	.1	---
22	---	.8	-.1	---	---	k1.1	k.5	---	-2.9	1.3	-.1	---
23	---	.9	.0	---	---	k.8	k.1	---	-2.8	1.3	.7	---
24	---	.9	.0	---	---	k.9	k.0	---	---	1.2	.5	---
25	---	.8	-.1	---	---	k.9	k.3	---	---	.8	.1	---
26	---	1.0	-.1	---	---	.7	.0	---	---	1.3	.7	---
27	---	1.1	.2	---	---	1.0	.4	---	---	1.4	.2	---
28	---	.6	-.7	---	---	1.4	.7	---	---	.4	-.5	---
29	---	.4	-.3	---	---	---	---	---	---	.5	-.8	---
30	---	.3	-.3	---	---	---	---	---	---	.5	-.2	---
31	---	.4	-.1	---	---	---	---	---	---	.7	-.6	---
MONTH	---	1.7	-1.6	---	---	1.4	-.9	---	---	1.5	-1.4	---
APRIL				MAY				JUNE				
DAY	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX
1	---	.7	-.3	---	---	1.3	.0	---	-2.7	1.1	.6	---
2	---	.9	-.1	---	---	1.7	.9	---	---	1.2	.5	---
3	---	.9	-.2	---	---	1.5	.5	---	---	1.3	.5	---
4	---	1.0	-.4	---	---	.9	.4	---	---	1.2	.5	---
5	---	1.3	.5	---	---	1.0	.4	---	---	1.4	.4	---
6	---	.9	-.2	---	---	1.1	.5	---	---	1.2	.4	---
7	---	.9	.0	---	---	1.0	.3	---	---	1.2	.2	---
8	---	1.3	.8	---	---	.7	.1	---	---	1.2	.2	---
9	---	1.6	.8	---	---	.8	-.2	---	---	1.1	.1	---
10	---	1.6	1.0	---	---	.8	-.1	---	---	1.1	.0	---
11	---	1.7	1.1	---	---	1.0	-.1	---	---	1.1	.1	---
12	---	1.1	.6	---	---	1.1	.0	---	---	1.0	.0	---
13	---	k1.3	k.5	---	---	1.4	.0	---	---	1.0	.0	---
14	---	k1.3	k.7	---	---	1.6	.5	---	---	1.3	.2	---
15	---	k1.4	k.7	-1.9	---	1.2	.1	---	---	1.4	.7	---
16	---	k1.3	k.5	---	---	1.4	.4	---	---	1.0	.4	---
17	---	k1.4	k.7	---	-.9	1.1	.3	-.7	---	1.0	.1	---
18	---	k1.5	k.8	---	-1.0	1.1	.4	-1.5	---	.8	.0	---
19	---	k1.4	k.8	---	---	1.1	.3	---	---	.9	.0	---
20	---	k1.2	k.7	---	---	1.3	.7	---	---	1.2	.0	---
21	---	1.2	.6	---	---	1.1	.4	---	-2.9	1.2	.1	---
22	---	1.1	.6	---	---	.9	.1	---	---	1.0	.0	---
23	---	.9	.5	---	---	.6	-.1	---	---	.9	-.2	---
24	---	1.3	.4	---	---	.8	-.4	---	---	.6	-.4	---
25	---	1.7	.6	---	---	1.1	-.2	---	---	.6	-.6	---
26	---	1.8	.8	---	---	1.1	.0	---	---	.5	-.4	---
27	---	2.1	.7	---	---	1.0	-.1	---	---	.3	-.4	---
28	---	2.1	1.2	---	---	1.2	.0	---	---	.3	-.4	---
29	---	1.9	.9	---	---	1.3	.2	---	---	.2	-.2	---
30	---	1.7	.9	---	---	1.2	.5	---	---	.4	-.1	---
31	---	---	---	---	-2.8	1.1	.1	---	---	---	---	---
MONTH	---	2.1	-.4	---	---	1.7	-.4	---	---	1.4	-.6	---

HIGHLAND BAYOU BASIN

147

08077740 LAMARQUE LEVEE PUMP STATION NEAR LAMARQUE, TX--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994												
DAY	JULY				AUGUST				SEPTEMBER			
	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX
1	---	.5	-.1	---	-2.6	.9	-.1	---	---	1.2	.2	---
2	---	.8	-.1	---	-2.6	1.3	.1	---	---	.9	.1	---
3	---	.9	.0	---	---	1.3	.4	---	---	.8	-.1	---
4	---	.8	.0	---	---	1.2	.2	---	---	.9	-.1	---
5	---	1.2	.1	---	---	1.1	.1	---	---	1.0	.1	---
6	---	.8	.0	---	---	1.0	.0	---	---	1.1	.6	---
7	---	.9	-.1	---	---	.9	.1	---	---	1.2	.6	---
8	---	.9	.0	---	---	.9	.1	---	---	1.2	.5	---
9	---	1.1	.0	---	---	1.0	.3	---	---	1.3	.5	---
10	---	1.1	.1	---	---	1.1	.6	---	---	1.6	.9	---
11	---	1.0	.1	---	---	1.1	.5	---	-2.3	1.9	.8	---
12	---	.9	.3	---	---	1.1	.5	---	-2.7	1.8	.7	---
13	---	.9	.3	---	---	1.3	.5	---	---	2.0	.9	---
14	---	1.0	.4	---	---	1.2	.3	---	---	2.2	1.0	---
15	---	.8	.1	---	---	1.1	.1	---	---	2.1	1.2	---
16	---	.7	-.1	---	---	1.2	.1	---	---	2.0	.9	---
17	---	.8	-.2	---	---	1.2	.2	---	---	1.4	.7	---
18	---	.6	-.3	---	---	1.2	.2	---	---	1.3	.6	---
19	---	.8	-.4	---	---	1.0	.1	---	---	1.1	.7	---
20	---	.8	-.3	---	---	.9	.0	---	---	1.2	.5	---
21	---	.8	-.3	---	---	.6	.1	---	---	1.1	.4	---
22	---	.5	-.3	---	---	.7	-.1	---	---	1.4	.8	---
23	---	.4	-.6	---	---	.7	.1	---	---	1.3	.3	---
24	---	.3	-.6	---	---	.7	.2	---	---	1.3	.3	---
25	---	.2	-.4	---	---	.7	.3	---	---	.9	.1	---
26	---	.4	-.2	---	---	.9	.3	---	---	1.1	.3	---
27	---	.1	-.7	---	---	1.3	.5	---	---	1.1	.2	---
28	---	.4	-.5	---	---	1.3	.3	---	---	1.0	.1	---
29	---	.6	.0	---	---	1.2	.4	---	---	1.2	.2	---
30	---	.9	.1	---	---	1.4	.5	---	---	1.6	.7	---
31	-2.9	1.0	-.1	---	---	1.3	.3	---	---	---	---	---
MONTH	---	1.2	-.7	---	---	1.4	-.1	---	---	2.2	-.1	---

k From supplementary station.

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX

LOCATION.--Lat 29°22'09", long 95°19'14", Brazoria County, Hydrologic Unit 12040204, on right bank 800 ft downstream from bridge on Farm Road 1462, 5.9 mi southwest of Alvin, and 6.9 mi upstream from State Highway 35.

DRAINAGE AREA.--87.7 mi². During extreme flooding, overflow from about 11 mi² of the Mustang Bayou drainage basin enters the Chocolate Bayou basin upstream from gage.

PERIOD OF RECORD.--August to October 1944, and March to December 1946 (low-water records during irrigation season); January 1947 to February 1958, and March 1958 to February 1959 (discharge measurements only); March 1959 to current year.

Water-quality records.--Chemical and biochemical analyses: May 1971 to September 1985.

Pesticide analyses: May 1971 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 0.31 ft above National Geodetic Vertical Datum of 1929. Prior to May 3, 1959, nonrecording gage or water-stage recorders located at various sites from 900 to 1,400 ft upstream and at datum 3.00 ft higher. May 3, 1959, to Sept. 30, 1987, present site, at datum 10.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Stage-discharge relationship is affected by seasonal vegetation during most years. Large area of riceland above station is irrigated with water diverted from the Brazos River. Low flow from April to October is largely drainage from these irrigated lands. Diversions for irrigation occur above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 14, 1939, reached a stage of 32.5 ft, present site and datum, adjusted from floodmark 1,700 ft to right and 550 ft upstream from present gage, on basis of slope of flood of Oct. 8, 1949, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 21	2000	2,890	28.59	June 4	0900	2,500	27.71
Nov. 17	2100	2,450	27.55				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	6.5	6.5	8.3	67	3.5	5.6	137	108	90	248	35
2	6.2	4.6	6.7	14	37	3.9	6.2	175	151	89	371	36
3	6.4	14	6.6	10	23	2.4	5.7	205	1370	78	182	46
4	6.7	22	12	7.7	16	1.9	7.4	132	2340	77	325	38
5	7.2	17	20	6.7	19	2.1	7.7	59	1470	78	863	19
6	7.5	9.8	15	6.8	15	2.1	10	34	575	80	523	13
7	7.5	6.1	10	5.9	15	1.9	18	25	301	86	226	10
8	8.3	4.7	8.4	4.8	15	1.8	13	22	152	115	146	14
9	11	5.6	7.7	4.5	13	395	9.7	22	65	177	532	76
10	13	8.0	6.8	4.7	21	312	8.3	27	41	178	783	262
11	13	9.4	6.7	7.1	188	92	8.2	34	504	146	290	517
12	16	7.1	6.0	7.5	140	49	24	24	356	130	134	234
13	293	5.8	5.4	40	80	28	25	26	314	116	74	99
14	337	480	4.8	42	46	20	22	117	194	106	70	89
15	125	1730	4.5	23	23	17	16	250	121	86	61	98
16	65	1380	4.2	16	14	18	336	229	95	77	112	59
17	37	2270	4.1	20	10	18	141	122	85	80	96	35
18	21	2130	14	18	7.5	15	39	80	126	90	68	26
19	8.9	937	23	13	9.8	12	21	51	547	88	53	23
20	418	280	21	10	6.7	10	14	38	371	80	49	15
21	2630	112	14	8.6	5.6	8.9	12	33	213	98	38	13
22	2400	54	10	7.3	5.1	7.7	21	29	158	86	59	14
23	743	33	14	6.9	4.6	7.3	14	34	120	82	192	16
24	144	25	14	7.1	3.7	7.0	9.9	32	179	71	99	10
25	52	19	10	10	2.8	7.8	8.0	46	431	70	61	15
26	27	15	7.9	11	2.7	6.9	7.6	42	360	67	46	8.8
27	15	13	6.6	279	2.3	8.1	6.7	50	167	66	38	11
28	8.9	10	9.8	839	2.2	13	6.0	53	85	76	38	10
29	15	8.9	12	327	---	6.7	5.9	142	69	68	35	8.2
30	19	7.7	10	309	---	5.7	11	126	69	59	32	7.3
31	9.6	---	8.5	150	---	5.2	---	98	---	75	36	---
TOTAL	7476.1	9625.2	310.2	2224.9	795.0	1089.9	839.9	2494	11137	2865	5880	1857.3
MEAN	241	321	10.0	71.8	28.4	35.2	28.0	80.5	371	92.4	190	61.9
MAX	2630	2270	23	839	188	395	336	250	2340	178	863	517
MIN	4.9	4.6	4.1	4.5	2.2	1.8	5.6	22	41	59	32	7.3
AC-FT	14830	19090	615	4410	1580	2160	1670	4950	22090	5680	11660	3680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994, BY WATER YEAR (WY)

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994		
MEAN	60.3	89.5	94.3	129	112	64.9	90.6	142	229	163	101	137																									
MAX	375	378	464	508	359	431	528	876	1659	642	843																										
(WY)	1985	1975	1977	1992	1985	1973	1992	1968	1979	1989	1979																										
MIN	.52	1.08	.77	3.49	2.38	3.38	8.57	21.4	18.2	46.2	15.2	7.74																									
(WY)	1978	1981	1990	1971	1976	1981	1987	1985	1990	1990	1972	1989																									

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1960 - 1994

	1993	1994	1960-1994
ANNUAL TOTAL	69790.1	46594.5	
ANNUAL MEAN	191	128	118
HIGHEST ANNUAL MEAN			340
LOWEST ANNUAL MEAN			39.6
HIGHEST DAILY MEAN	2940	2630	15700
LOWEST DAILY MEAN	2.3	1.8	.03
ANNUAL SEVEN-DAY MINIMUM	2.7	2.3	.08
INSTANTANEOUS PEAK FLOW		2890	21500
INSTANTANEOUS PEAK STAGE		28.59	33.88
ANNUAL RUNOFF (AC-FT)	138400	92420	85160
10 PERCENT EXCEEDS	428	296	202
50 PERCENT EXCEEDS	39	23	32
90 PERCENT EXCEEDS	6.6	6.0	3.6

BRAZOS RIVER MAIN STEM

149

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX

LOCATION.--Lat 33°02'18", long 101°11'50", Garza County, Hydrologic Unit 12050004, on right bank at downstream side of bridge on U.S. Highway 84 at Justiceburg, 250 ft downstream from Panhandle and Santa Fe Railroad, and at mile 143.4 measured from confluence with Salt Fork Brazos River at mile 923.2 on the Brazos River.

DRAINAGE AREA.--1,466 mi², of which 1,222 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1961 to current year. Prior to October 1963, published as Sand Creek or South Fork Double Mountain Fork Brazos River at Justiceburg.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,222.47 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,100 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	e.05	.00	.00	.40	.04	.00	.00	.00
2	.00	.00	.00	.00	e.03	.00	.00	.10	.01	.00	.00	.00
3	.00	.00	219	.00	e.02	.00	.00	.05	e.01	.00	.00	.00
4	.00	.00	3.2	.00	e.02	.00	.00	.03	.00	.00	.00	.00
5	.00	.00	.18	.00	e.02	.00	.00	.03	.00	.00	.00	.00
6	.00	.00	.13	.00	e.02	.00	.00	.01	.00	.00	.00	.00
7	.00	.00	.13	.00	e.02	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.13	.00	e.02	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.13	.00	e.02	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.07	.00	e.02	.00	.00	427	.00	.00	.00	.00
11	.00	.00	.05	.00	e.02	.00	.00	211	.00	.00	.00	.00
12	.00	.00	e.05	.00	e.02	.00	.00	569	1.5	.00	.00	.00
13	.00	.00	e.02	.00	e.02	.00	.00	336	.00	.00	.00	.00
14	.00	.00	.01	.00	e.02	.00	.00	12	.00	.00	.00	.00
15	.00	.00	e.01	.00	.02	.00	.00	e2.9	.00	.00	.00	237
16	.00	.00	e.01	.00	e.01	.00	.00	1.4	.00	.00	.00	2.7
17	.00	.00	e.01	.00	e.01	.00	.00	.86	.00	.00	.00	.01
18	.00	.00	e.01	.00	e.01	.00	.00	.53	.00	.00	.00	.00
19	8.7	.00	.00	.00	.00	.00	.00	.36	.00	.00	.00	.00
20	63	.00	.00	.00	.00	.00	.00	.30	.00	.00	.00	.00
21	1.2	.00	.00	.00	.00	.00	.00	.30	.00	.00	.00	.00
22	.01	.00	.00	.00	8.4	.00	.00	e.13	.00	.00	.00	.00
23	.00	.00	.00	.00	.07	.00	.00	.01	.00	.00	.00	.00
24	.00	.00	.00	.00	.05	.00	e.85	.01	.00	.00	.00	.00
25	.00	.00	.00	.00	e.02	.00	.22	e109	.00	.00	.00	.00
26	.00	.00	.00	.00	e.01	.00	e.01	29	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	215	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	8.7	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	21	e.86	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	22	.23	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.10	---	.00	.00	---
TOTAL	72.91	0.00	223.14	0.00	8.92	0.00	44.08	1925.31	1.56	0.00	0.00	239.71
MEAN	2.35	.000	7.20	.000	.32	.000	1.47	62.1	.052	.000	.000	7.99
MAX	63	.00	219	.00	8.4	.00	22	569	1.5	.00	.00	237
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	145	.00	443	.00	18	.00	87	3820	3.1	.00	.00	475
CFSM	.01	.00	.03	.00	.00	.00	.01	.25	.00	.00	.00	.03
IN.	.01	.00	.03	.00	.00	.00	.01	.29	.00	.00	.00	.04

BRAZOS RIVER MAIN STEM

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

MEAN	33.5	6.22	5.15	2.46	5.11	7.54	11.3	56.9	73.3	30.4	36.5	54.5
MAX	276	38.7	87.7	30.9	56.1	81.6	120	357	510	249	408	321
(WY)	1986	1969	1992	1992	1992	1970	1966	1969	1967	1979	1972	1962
MIN	.000	.000	.000	.000	.000	.000	.000	.014	.052	.000	.000	.000
(WY)	1965	1978	1974	1974	1965	1971	1964	1989	1994	1964	1987	1968

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1962 - 1994

ANNUAL TOTAL	2594.68	2515.63	
ANNUAL MEAN	7.11	6.89	26.4
HIGHEST ANNUAL MEAN			69.8
LOWEST ANNUAL MEAN			1.65
HIGHEST DAILY MEAN	541 Jun 11	569 May 12	9920 Aug 13
LOWEST DAILY MEAN	.00 Mar 17	.00 Oct 1	.00 Feb 17
ANNUAL SEVEN-DAY MINIMUM	.00 Mar 26	.00 Oct 1	.00 Mar 3
INSTANTANEOUS PEAK FLOW		2020 May 10	49600 May 6
INSTANTANEOUS PEAK STAGE		7.87 May 10	19.80 May 6
ANNUAL RUNOFF (AC-FT)	5150	4990	19160
ANNUAL RUNOFF (CFSM)	.029	.028	.11
ANNUAL RUNOFF (INCHES)	.40	.38	1.47
10 PERCENT EXCEEDS	1.8	.13	11
50 PERCENT EXCEEDS	.00	.00	.05
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Chemical analyses: December 1964 to September 1965, and October 1975 to current year. Sediment analyses: June 1977 to June 1982.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to current year.

WATER TEMPERATURES: October 1975 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 26,800 microsiemens Mar. 5, 1982; minimum daily, 370 microsiemens Oct. 20, 1983.

WATER TEMPERATURES: Maximum daily, 34.0°C Aug. 18, 1991; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 20,800 microsiemens May 6; minimum daily, 740 microsiemens May 27.

WATER TEMPERATURE: Maximum daily, 21.5°C May 31; minimum daily, 1.0°C Feb. 23.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 19...	1545	31	2220	16.0	150	68	45	8.3	410
DEC 14...	1530	0.01	16800	13.0	1300	1100	330	120	3200
FEB 15...	0900	0.02	16700	4.0	1200	1000	290	120	3300
MAY 11...	1210	9.8	864	19.0	41	0	11	3.3	170
JUN 01...	0750	0.03	13500	19.5	1100	900	270	100	2500

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	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 19...	15	2.9	79	180	540	0.40	5.5	1240
DEC 14...	38	11	210	620	5500	1.2	11	9920
FEB 15...	41	9.3	220	660	5700	1.1	11	10200
MAY 11...	12	2.8	110	92	140	1.2	9.3	497
JUN 01...	33	12	180	460	4100	0.90	13	7570

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1993	72.91	1310	786	155	410	80	68	13	100
NOV. 1993	0.00	*	*	0.00	*	0.00	*	0.00	*
DEC. 1993	223.14	2050	1230	739	630	382	110	64	160
JAN. 1994	0.00	*	*	0.00	*	0.00	*	0.00	*
FEB. 1994	8.92	3850	2320	56	1200	29	190	4.6	290
MAR. 1994	0.00	*	*	0.00	*	0.00	*	0.00	*
APR. 1994	44.08	1470	880	105	450	54	77	9.2	120
MAY 1994	1925.31	1510	904	4700	470	2430	78	406	120
JUNE 1994	1.56	4410	2650	11	1400	5.8	220	0.9	340
JULY 1994	0.00	*	*	0.00	*	0.00	*	0.00	*
AUG. 1994	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT 1994	239.71	1510	901	583	470	301	79	51	120
TOTAL	2515.63	**	**	6300	**	3280	**	549	**
WTD.AVG.	6.9	1560	935	**	480	**	81	**	120

BRAZOS RIVER MAIN STEM

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

FROM DAILY OBSERVER
 SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
 DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e14000	---	---	4950	14000	---	---	---
2	---	---	---	---	e15000	---	---	12800	15500	---	---	---
3	---	---	2000	---	e16000	---	---	16900	e16000	---	---	---
4	---	---	2150	---	e16000	---	---	18700	---	---	---	---
5	---	---	6200	---	e16000	---	---	20400	---	---	---	---
6	---	---	10000	---	e16000	---	---	20800	---	---	---	---
7	---	---	12800	---	e16000	---	---	---	---	---	---	---
8	---	---	15000	---	e16000	---	---	---	---	---	---	---
9	---	---	15200	---	e16000	---	---	---	---	---	---	---
10	---	---	15400	---	e16000	---	---	2900	---	---	---	---
11	---	---	15700	---	e16500	---	---	845	---	---	---	---
12	---	---	e16000	---	e16500	---	---	820	4000	---	---	---
13	---	---	e16500	---	e16500	---	---	865	---	---	---	---
14	---	---	16800	---	e16500	---	---	2460	---	---	---	---
15	---	---	e17000	---	16700	---	---	e5000	---	---	---	1500
16	---	---	e17000	---	e17000	---	---	7420	---	---	---	2000
17	---	---	e17000	---	e17000	---	---	8960	---	---	---	7500
18	---	---	e17000	---	e17000	---	---	10500	---	---	---	---
19	3450	---	---	---	---	---	---	12200	---	---	---	---
20	990	---	---	---	---	---	---	14600	---	---	---	---
21	2750	---	---	---	---	---	---	15400	---	---	---	---
22	8580	---	---	---	3180	---	---	e16000	---	---	---	---
23	---	---	---	---	8470	---	---	17300	---	---	---	---
24	---	---	---	---	14600	---	e3000	18800	---	---	---	---
25	---	---	---	---	e15000	---	4460	e4000	---	---	---	---
26	---	---	---	---	e16000	---	e6000	800	---	---	---	---
27	---	---	---	---	---	---	---	740	---	---	---	---
28	---	---	---	---	---	---	---	1940	---	---	---	---
29	---	---	---	---	---	---	1500	e5500	---	---	---	---
30	---	---	---	---	---	---	1350	8600	---	---	---	---
31	---	---	---	---	---	---	---	12700	---	---	---	---
MEAN	3940	---	13200	---	15100	---	3260	9390	12400	---	---	3670
e Estimated												

FROM DAILY OBSERVER
 WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
 DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	10.0	19.0	---	---	---
2	---	---	---	---	---	---	---	14.0	20.0	---	---	---
3	---	---	10.0	---	---	---	---	13.0	---	---	---	---
4	---	---	3.5	---	---	---	---	14.0	---	---	---	---
5	---	---	9.0	---	---	---	---	18.0	---	---	---	---
6	---	---	2.0	---	---	---	---	19.0	---	---	---	---
7	---	---	5.0	---	---	---	---	---	---	---	---	---
8	---	---	5.0	---	---	---	---	---	---	---	---	---
9	---	---	10.0	---	---	---	---	---	---	---	---	---
10	---	---	5.0	---	---	---	---	19.0	---	---	---	---
11	---	---	4.5	---	---	---	---	18.0	---	---	---	---
12	---	---	---	---	---	---	---	17.0	21.0	---	---	---
13	---	---	---	---	---	---	---	15.0	---	---	---	---
14	---	---	13.0	---	---	---	---	17.5	---	---	---	---
15	---	---	---	---	4.0	---	---	---	---	---	---	20.0
16	---	---	---	---	---	---	---	15.5	---	---	---	21.0
17	---	---	---	---	---	---	---	19.0	---	---	---	17.0
18	---	---	---	---	---	---	---	19.0	---	---	---	---
19	15.0	---	---	---	---	---	---	18.5	---	---	---	---
20	13.5	---	---	---	---	---	---	17.0	---	---	---	---
21	7.0	---	---	---	---	---	---	17.5	---	---	---	---
22	7.0	---	---	---	6.0	---	---	---	---	---	---	---
23	---	---	---	---	1.0	---	---	18.0	---	---	---	---
24	---	---	---	---	3.0	---	---	19.0	---	---	---	---
25	---	---	---	---	---	---	19.0	---	---	---	---	---
26	---	---	---	---	---	---	---	18.0	---	---	---	---
27	---	---	---	---	---	---	---	17.0	---	---	---	---
28	---	---	---	---	---	---	---	18.5	---	---	---	---
29	---	---	---	---	---	---	9.0	---	---	---	---	---
30	---	---	---	---	---	---	7.0	21.0	---	---	---	---
31	---	---	---	---	---	---	---	21.5	---	---	---	---
MEAN	10.6	---	6.7	---	3.5	---	11.7	17.2	20.0	---	---	19.3

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX

LOCATION.--Lat 33°00'29", long 100°10'49", Stonewall County, Hydrologic Unit 12050004, on right bank at downstream side of bridge on U.S. Highway 83, 0.3 mi downstream from Hitson Creek, 10 mi south of Aspermont, and at mile 34.5, measured from confluence with Salt Fork Brazos River, which is at mile 923.2 on the Brazos River.

DRAINAGE AREA.--8,796 mi², of which 6,932 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1923 to September 1934, June 1939 to current year.

REVISED RECORDS.--WSP 733: 1927(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,624.79 ft above National Geodetic Vertical Datum of 1929. Dec. 3, 1923, to Sept. 30, 1934, nonrecording gage at site 90 ft downstream at datum 2.0 ft higher, and June 8, 1939, to Aug. 12, 1972, water-stage recorder at present site and datum 2.0 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. There are small diversions above station for oil field operations.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,800 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.36	.18	.37	5.8	4.8	.00	1.5	89	.00	.00	40
2	.00	.28	.25	.37	5.5	3.7	.00	.48	96	.00	.00	6.8
3	.00	.28	.63	.34	3.9	3.2	.00	.52	60	.00	.00	e.15
4	.00	.26	.21	.37	3.3	2.9	.00	.29	43	.00	.00	e.00
5	.00	.17	.18	.35	3.1	3.5	.00	.09	30	.00	.00	e.00
6	.00	.14	.22	.33	2.7	3.2	.00	.00	20	.00	.00	.00
7	.00	.14	.24	.25	2.4	2.6	.00	.00	15	.00	.00	.00
8	.00	.14	.24	.30	2.6	2.8	.00	.00	11	.00	.00	13
9	.00	.14	.28	.33	3.1	2.7	.00	.00	7.7	.00	.00	14
10	.00	.19	.23	.36	3.1	1.9	.00	.69	5.5	.00	.00	e.04
11	.00	.26	.17	.38	2.8	1.5	.00	280	3.5	.00	.00	e.00
12	.00	.28	.33	.38	2.9	1.1	.00	522	3.4	.00	.00	.00
13	.00	.26	.51	.41	2.9	1.1	.00	1210	16	.00	.00	.00
14	.00	.50	.35	.36	2.6	.86	.00	570	32	2.0	.00	.00
15	.00	.16	.29	.33	2.3	.77	.00	617	13	.00	.00	41
16	.00	.38	.36	.38	2.2	.57	.00	379	5.9	.00	.00	14
17	.00	.31	.44	.32	2.1	.29	.00	250	3.0	.00	.00	e.08
18	.00	.38	.43	.35	1.9	.20	.00	163	e2.6	.00	.00	.00
19	25	.52	.44	.62	1.7	.12	.00	110	e2.2	.00	.00	.00
20	95	.38	.49	1.0	1.8	.15	.00	78	2.0	.00	.00	.00
21	48	.37	.38	1.1	2.2	.03	.00	55	1.8	.00	.00	.00
22	23	.28	.90	2.1	4.6	.02	.00	39	.72	.00	.00	.00
23	8.8	.21	.93	1.9	4.6	.01	.00	30	.28	.00	.00	.00
24	5.2	.25	.99	3.6	3.5	.00	.00	26	.20	.00	.00	.00
25	3.3	.15	.89	4.2	2.8	.00	.00	24	e.09	.00	.00	.00
26	2.1	.15	.88	3.7	6.0	.02	.00	20	e.03	.00	.00	.00
27	1.3	.12	.74	2.8	5.2	.00	.00	53	.00	.00	.00	.00
28	.87	.11	.54	2.3	3.9	.00	.03	46	.00	.00	.00	.00
29	.75	.11	.50	2.7	---	.00	2.6	235	.00	.00	.00	.00
30	.67	.15	.44	3.4	---	.00	28	235	.00	.00	.00	.00
31	.38	---	.40	5.4	---	.00	---	112	---	.00	.00	---
TOTAL	214.37	7.43	14.06	41.10	91.5	38.04	30.63	5057.57	463.92	2.00	0.00	129.07
MEAN	6.92	.25	.45	1.33	3.27	1.23	1.02	163	15.5	.065	.000	4.30
MAX	95	.52	.99	5.4	6.0	4.8	28	1210	96	2.0	.00	41
MIN	.00	.11	.17	.25	1.7	.00	.00	.00	.00	.00	.00	.00
AC-FT	425	15	28	82	181	75	61	10030	920	4.0	.00	256
CFSM	.00	.00	.00	.00	.00	.00	.00	.09	.01	.00	.00	.00
IN.	.00	.00	.00	.00	.00	.00	.00	.10	.01	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1994h, BY WATER YEAR (WY)

	MEAN	260	41.8	34.2	15.6	29.8	30.6	111	377	319	191	176	269
MAX	2640	261	354	129	427	259	1190	2785	1564	1202	2847	2712	
(WY)	1927	1985	1992	1992	1992	1955	1941	1941	1967	1960	1972	1955	
MIN	.000	.000	.000	.000	.000	.000	.000	.50	1.33	.000	.000	.000	
(WY)	1953	1925	1925	1925	1952	1925	1978	1984	1984	1934	1931	1939	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1925 - 1994

ANNUAL TOTAL	10425.48	6089.69	156
ANNUAL MEAN	28.6	16.7	525
HIGHEST ANNUAL MEAN			16.7
LOWEST ANNUAL MEAN			1941
HIGHEST DAILY MEAN	1990	May 13	55600
LOWEST DAILY MEAN	.00	Oct 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	.00
INSTANTANEOUS PEAK FLOW	2530	May 13	91400
INSTANTANEOUS PEAK STAGE	5.57	May 13	29.50
ANNUAL RUNOFF (AC-FT)	20680		112700
ANNUAL RUNOFF (CFSM)	.015	.009	.083
ANNUAL RUNOFF (INCHES)	.21	.12	1.13
10 PERCENT EXCEEDS	50	15	209
50 PERCENT EXCEEDS	6.1	.26	6.2
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

h See PERIOD OF RECORD paragraph.

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1948 to November 1951, and September 1956 to current year. Chemical and biochemical analyses: June 1978 to September 1993. Sediment analyses: September 1944 to November 1951, and June 1978 to September 1993. Pesticide analyses: March to June 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1948 to November 1951, September 1956 to current year.

WATER TEMPERATURE: November 1949 to November 1951, September 1956 to current year.

SUSPENDED-SEDIMENT DISCHARGE: November 1949 to September 1951.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 13,100 microsiemens July 29, 1980; minimum daily, 720 microsiemens Oct. 18, 1985.

WATER TEMPERATURE: 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, 10,100 microsiemens Feb. 14; minimum daily, 1,490 microsiemens Sept. 15.

WATER TEMPERATURE: Maximum daily, 32.5°C June 3; minimum daily, 1.5°C Nov. 26, Feb. 1, 9, 10.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 20...	1315	89	1660	17.0	620	580	210	23	110
DEC 15...	1620	0.31	7700	9.0	2800	2600	810	180	890
FEB 16...	1000	2.2	10100	7.0	2300	2200	660	160	1500
JUN 01...	1250	75	1800	30.0	340	220	85	32	240
DATE		SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)
OCT 20...		2	7.2	36	560	190	0.20	5.2	1130
DEC 15...		7	12	130	1900	1700	0.60	7.6	5580
FEB 16...		14	11	110	2000	2500	0.70	5.2	6900
JUN 01...		6	9.3	120	330	310	1.6	11	1090
MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1993	214.37	3480	2300	1330	690	401	770	443	840
NOV. 1993	7.43	7410	5040	101	1700	33	1600	32	1800
DEC. 1993	14.06	7590	5170	196	1700	65	1700	63	1900
JAN. 1994	41.10	8770	6040	670	2000	227	1900	211	2200
FEB. 1994	91.5	9350	6470	1600	2200	548	2000	500	2300
MAR. 1994	38.04	8380	5750	591	1900	198	1800	187	2100
APR. 1994	30.63	3630	2390	198	710	59	800	66	880
MAY 1994	5057.57	2620	1710	23400	500	6800	580	7900	630
JUNE 1994	463.92	2760	1810	2270	530	670	610	762	670
JULY 1994	2.00	5000	3330	18	1000	5.5	1100	5.9	1200
AUG. 1994	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT 1994	129.07	1740	1120	392	320	111	380	134	420
TOTAL	6089.69	**	**	30700	**	9120	**	10300	**
WTD.AVG.	17	2850	1870	**	550	**	630	**	690

BRAZOS RIVER MAIN STEM

155

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

FROM DAILY OBSERVER
 SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
 DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	e7100	7500	e8100	9380	7400	---	e4000	1800	---	---	1690
2	---	e7200	7000	e8000	9460	8300	---	4610	e1800	---	---	1950
3	---	e7300	6800	8030	9600	8330	---	6090	e2000	---	---	e3000
4	---	e7400	e7000	7930	e9800	8580	---	6500	e2500	---	---	---
5	---	e7500	e7300	8150	e9800	e8400	---	7040	e3000	---	---	---
6	---	e7550	7500	8110	e9800	e8200	---	---	3490	---	---	---
7	---	e7600	7580	7970	e9750	8310	---	---	3960	---	---	---
8	---	7660	7480	e7950	e9750	8270	---	---	4470	---	---	2920
9	---	7580	7490	e7950	9740	8140	---	---	4950	---	---	1500
10	---	7450	7640	7900	e9800	8520	---	e7000	5360	---	---	e3000
11	---	e7500	e7600	7940	9860	8860	---	4800	e5800	---	---	---
12	---	7540	e7600	7910	e9900	e9000	---	2100	e6200	---	---	---
13	---	e7600	7620	7860	e10000	e9200	---	3010	5750	---	---	---
14	---	e7500	7620	7870	10100	9430	---	e2500	3020	e5000	---	---
15	---	7400	7550	e7900	9300	9610	---	e2000	3490	---	---	1490
16	---	6710	7540	e7900	8500	9630	---	1840	5170	---	---	1610
17	---	7010	7600	e7850	9100	9690	---	2030	5170	---	---	e3000
18	---	7060	e7650	e7850	9620	9720	---	2090	e5600	---	---	---
19	4400	e7100	e7700	e8000	e9700	e9750	---	2340	e6100	---	---	---
20	1900	e7300	7730	e8100	e9800	e9800	---	2660	6540	---	---	---
21	5100	e7500	7720	e8200	e9500	9830	---	e3000	6740	---	---	---
22	4000	7610	7120	e8300	9170	9740	---	e3300	7120	---	---	---
23	e4400	7690	7350	e8400	9610	e9800	---	3590	7570	---	---	---
24	e4800	7690	e7200	8500	e9800	---	---	4010	7770	---	---	---
25	e5200	e8000	e7400	8490	e10000	---	---	4320	e8000	---	---	---
26	5600	8350	e7600	9000	e8000	e9800	---	4660	e8500	---	---	---
27	6180	e8100	e8000	9320	e7800	---	---	4290	---	---	---	---
28	6680	e7900	8680	9360	8050	---	e7000	e4500	---	---	---	---
29	6810	7650	8500	e9350	---	---	e5000	e3000	---	---	---	---
30	e6900	7710	e8300	e9400	---	---	e3500	e2000	---	---	---	---
31	e7000	---	8200	e9350	---	---	---	1570	---	---	---	---
MEAN	5310	7510	7600	8290	9450	9010	5170	3660	5070	5000	---	2240

e Estimated

FROM DAILY OBSERVER
 WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
 DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	10.5	---	1.5	7.5	---	---	22.5	---	---	25.5
2	---	---	12.5	---	3.5	11.5	---	15.5	---	---	---	24.5
3	---	---	13.5	4.5	5.5	12.5	---	13.5	32.5	---	---	---
4	---	---	---	4.5	5.5	12.5	---	18.5	---	---	---	---
5	---	---	---	6.5	---	---	---	20.5	---	---	---	---
6	---	---	4.5	7.5	---	---	---	---	30.5	---	---	---
7	---	---	6.5	6.5	---	14.5	---	---	28.5	---	---	---
8	---	13.5	12.5	---	---	9.5	---	---	25.5	---	---	27.5
9	---	9.5	13.5	---	1.5	7.5	---	---	28.5	---	---	23.5
10	---	11.5	9.5	4.5	1.5	7.5	---	---	24.5	---	---	---
11	---	---	---	5.5	3.5	10.5	---	19.5	---	---	---	---
12	---	18.5	---	12.5	---	---	---	20.5	---	---	---	---
13	---	---	10.5	4.5	---	---	---	17.5	26.5	---	---	---
14	---	---	10.5	4.5	6.5	14.5	---	---	25.5	---	---	---
15	---	6.5	13.5	---	6.5	17.5	---	---	24.5	---	---	27.5
16	---	9.5	13.5	---	8.5	16.5	---	22.5	28.5	---	---	23.5
17	---	7.5	4.5	---	9.5	16.5	---	23.5	28.5	---	---	---
18	---	11.5	---	---	13.5	16.5	---	23.5	---	---	---	---
19	18.5	13.5	---	---	---	---	---	22.5	---	---	---	---
20	16.5	---	4.5	---	---	---	---	20.5	28.5	---	---	---
21	12.5	---	4.5	---	---	14.5	---	---	26.5	---	---	---
22	10.5	15.5	3.5	---	13.5	15.5	---	---	29.5	---	---	---
23	---	12.5	3.5	---	6.5	---	---	23.5	27.5	---	---	---
24	---	5.5	---	11.5	8.5	---	---	29.5	29.5	---	---	---
25	12.5	---	---	12.5	12.5	---	---	25.5	---	---	---	---
26	11.5	1.5	---	12.5	---	---	---	23.5	---	---	---	---
27	11.5	---	---	5.5	---	---	---	22.5	---	---	---	---
28	20.5	---	4.5	4.5	15.5	---	---	---	---	---	---	---
29	10.5	11.5	3.5	---	---	---	---	---	---	---	---	---
30	---	4.5	3.5	---	---	---	---	---	---	---	---	---
31	---	---	5.5	---	---	---	---	27.5	---	---	---	---
MEAN	13.8	10.2	8.0	7.2	7.3	12.8	---	21.7	27.5	---	---	25.3

BRAZOS RIVER BASIN

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX
(National stream-quality accounting network)

LOCATION.--Lat 33°20'02", long 100°14'16", Stonewall County, Hydrologic Unit 12050007, on left bank at downstream side of bridge on U.S. Highway 83, 5.5 mi downstream from Salt Croton Creek, 13.2 mi north of Aspermont, and at mile 27.3 measured from confluence with Double Mountain Fork Brazos River which is at mile 923.2 on the Brazos River.

DRAINAGE AREA.--5,130 mi², of which 2,634 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1923 to August 1925, June 1939 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 1,588.70 ft above National Geodetic Vertical Datum of 1929. Dec. 5, 1923, to Aug. 29, 1925, nonrecording gage at site 6.7 mi downstream at different datum. June 15, 1939, to July 13, 1972, water-stage recorder at present site. July 14, 1972, to July 14, 1975, at site 0.1 mi upstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. There are no large diversions above station. Some regulation by White River Reservoir (capacity, 44,900 acre-ft), 106 mi upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1913 reached a stage of 14.4 ft, and flood in November 1934 reached a stage of 13.7 ft, from information by local residents.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.56	3.0	6.4	19	13	4.1	14	78	.12	.01	e19
2	.31	.62	3.6	6.4	15	33	4.0	7.1	55	.12	.02	44
3	.35	.55	60	5.7	11	20	3.3	5.9	43	.12	.03	19
4	.35	.56	18	5.5	7.9	11	3.6	5.9	35	.12	.02	5.9
5	.35	.60	6.2	5.4	7.0	8.1	3.4	4.5	27	.12	.02	e1.7
6	.36	.50	5.2	5.4	6.5	7.2	3.3	3.7	21	.12	.02	e.69
7	.51	.40	4.4	5.4	6.2	6.5	2.9	3.1	16	.10	.03	.33
8	.44	.45	4.4	5.4	6.0	7.6	2.9	2.8	12	.07	.03	.53
9	.35	.44	4.6	5.4	5.6	9.9	3.0	2.7	9.7	.27	.03	3.4
10	.31	.62	4.8	6.0	5.7	10	2.9	3.7	8.2	.06	.03	1.9
11	.35	.93	4.4	6.5	5.7	7.3	4.1	1220	8.0	.04	.03	.43
12	.36	1.3	5.7	6.5	5.8	6.1	5.3	1190	6.7	.03	.03	.05
13	.35	1.5	15	6.5	5.3	6.4	4.2	699	5.4	.04	.03	.02
14	.37	2.2	8.3	6.5	4.9	5.9	3.2	698	4.0	.04	.03	.08
15	.41	2.3	5.5	5.9	4.8	5.8	2.6	281	3.4	.15	.03	267
16	.38	4.7	5.4	5.9	4.4	5.4	2.3	195	2.7	.45	.03	72
17	.39	8.4	5.4	5.7	4.7	5.4	2.1	140	2.1	.06	.03	44
18	.44	4.5	5.7	5.5	5.2	4.8	2.0	102	1.3	.04	.03	40
19	24	3.5	6.2	5.6	5.4	4.4	1.8	78	.95	.02	.03	18
20	48	2.7	6.4	6.1	5.3	4.1	2.0	60	.69	.04	.02	7.8
21	11	2.3	6.2	7.2	70	3.8	2.0	50	.52	.01	.03	2.8
22	3.9	2.1	6.6	16	149	4.0	2.1	42	.45	.01	.04	1.2
23	2.0	2.1	6.5	22	51	3.9	2.1	37	.44	.01	.04	.66
24	1.5	2.3	6.8	16	27	3.5	2.1	31	.43	.01	.04	.38
25	1.2	2.1	6.6	13	14	3.5	1.8	26	.40	.01	.03	.27
26	.99	1.9	6.1	10	9.1	4.0	1.6	75	.31	.02	.03	.20
27	.76	2.1	5.9	7.8	7.1	4.4	1.6	208	.28	.01	.03	.17
28	.70	2.6	5.4	6.5	8.3	4.3	3.2	238	.25	.01	.03	.15
29	.67	2.8	5.3	6.5	---	3.7	16	361	.22	.01	.04	.14
30	.68	2.9	5.2	9.1	---	3.6	38	177	.14	.01	.04	.12
31	.51	---	5.7	18	---	3.6	---	115	---	.01	.03	---
TOTAL	102.59	60.53	248.5	249.8	476.9	224.2	133.5	6076.4	343.58	2.25	0.91	551.92
MEAN	3.31	2.02	8.02	8.06	17.0	7.23	4.45	196	11.5	.073	.029	18.4
MAX	.48	8.4	60	22	149	33	38	1220	78	.45	.04	267
MIN	.30	.40	3.0	5.4	4.4	3.5	1.6	2.7	.14	.01	.01	.02
AC-FT	203	120	493	495	946	445	265	12050	681	4.5	1.8	1090

BRAZOS RIVER BASIN

157

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued
(National stream-quality accounting network)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1994h, BY WATER YEAR (WY)

MEAN	201	31.7	21.0	13.1	17.9	20.9	74.9	258	263	93.8	110	148
MAX	2210	215	226	134	232	180	1006	2175	1283	642	1054	1605
(WY)	1942	1958	1992	1992	1992	1941	1925	1941	1957	1945	1972	1955
MIN	.059	.010	.11	.13	.007	.042	.26	.22	.013	.031	.024	.10
(WY)	1980	1940	1990	1953	1953	1946	1971	1945	1953	1974	1983	1947

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1924 - 1994
ANNUAL TOTAL	6739.05	8471.08	
ANNUAL MEAN	18.5	23.2	104
HIGHEST ANNUAL MEAN			463
LOWEST ANNUAL MEAN			13.8
HIGHEST DAILY MEAN	274	1220	23300
LOWEST DAILY MEAN	.02	.01	.00
ANNUAL SEVEN-DAY MINIMUM	.06	.01	.00
INSTANTANEOUS PEAK FLOW		5210	52200
INSTANTANEOUS PEAK STAGE		6.48	14.92
ANNUAL RUNOFF (AC-FT)	13370	16800	75480
10 PERCENT EXCEEDS	51	29	129
50 PERCENT EXCEEDS	6.4	3.6	5.9
90 PERCENT EXCEEDS	.30	.03	.15

e Estimated

h See PERIOD OF RECORD paragraph.

BRAZOS RIVER BASIN

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1941 to October 1951, and October 1956 to September 1974. Chemical and biochemical analyses: October 1974 to August 1994 (discontinued). Pesticide analyses: March to June 1979. Sediment analyses: June 1961 to September 1965, and October 1974 to August 1994 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1948 to October 1951, October 1956 to September 1982.
WATER TEMPERATURE: October 1948 to October 1951, October 1956 to September 1982.

INSTRUMENTATION.--Specific conductance was recorded continuously from January 1969 to September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 173,000 microsiemens Apr. 12, 1974; minimum daily, 1,690 microsiemens July 8, 1960.
WATER TEMPERATURE: Maximum daily, 38.0°C Aug. 2, 1973; minimum daily, 0.0°C on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECA, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECA, KF AGAR (COLS. PER 100 ML)	
NOV 02...	1325	0.66	53400	8.0	15.0	0.70	10.1	132	0.6	K7	56	
JAN 04...	1255	5.4	60900	8.0	8.5	1.0	11.2	132	0.3	<1	K5	
MAY 03...	1302	5.9	49300	7.9	12.0	0.60	14.0	169	1.5	K1	23	
AUG 08...	1220	0.03	79000	7.7	34.5	1.0	7.8	161	1.7	K16	56	
DATE		HARDNESS TOTAL (MG/L AS CaCO3)	HARDNESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	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)	CARBONATE WATER DIS IT FIELD (MG/L AS CO3)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKALINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV 02...	4100	3900	1100	320	14000	96	39	0	172	141	3200	
JAN 04...	3800	3600	980	320	15000	110	37	0	166	136	2700	
MAY 03...	3700	3600	1000	280	11000	79	35	0	125	103	2800	
AUG 08...	6400	6300	1800	450	22000	120	60	0	115	94	4400	
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)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)
NOV 02...	21000	0.50	8.0	40100	39800	0.360	--	<0.010	0.360	0.360	0.250	
JAN 04...	24000	0.50	5.5	42100	43100	0.400	0.400	0.010	0.410	0.410	0.330	
MAY 03...	19000	0.40	6.3	35800	34200	0.200	0.200	0.010	0.210	0.210	0.270	
AUG 08...	37000	0.40	16	65700	65800	--	--	<0.010	--	<0.050	0.500	
DATE		NITROGEN, 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)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUMINUM, DIS-SOLVED (UG/L AS AL)
NOV 02...	--	--	<0.20	0.020	0.050	--	--	12	0.02	97	30	
JAN 04...	--	--	<0.20	<0.010	<0.010	<0.010	--	39	0.57	13	<100	
MAY 03...	0.51	0.03	0.30	<0.010	<0.010	0.010	0.03	3	0.05	60	<50	
AUG 08...	0.40	0.0	0.40	<0.010	<0.010	0.010	0.03	88	0.01	92	100	

BRAZOS RIVER BASIN

159

08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV 02...	<100	1	260	170	240	3	<1	17	<1.0	18000	390
JAN 04...	300	2	340	150	130	3	<1	6	2.0	17000	340
MAY 03...	200	<1	250	130	120	3	<1	4	<1.0	3100	260
AUG 08...	200	2	<10	300	210	5	4	<1	3.0	30000	850

BRAZOS RIVER MAIN STEM

08082500 BRAZOS RIVER AT SEYMOUR, TX

LOCATION.--Lat 33°34'51", long 99°16'02", Baylor County, Hydrologic Unit 12060101, on left bank at downstream side of bridge on U.S. Highways 277 and 283, 0.8 mi upstream from Wichita Valley Railway bridge, 1.0 mi southwest of courthouse in Seymour, and at mile 847.4.

DRAINAGE AREA.--15,538 mi², approximately, of which 9,566 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1923 to current year.

REVISED RECORDS.--WSP 808: 1924-29. WSP 1312: 1933. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,238.97 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 6, 1972, at datum 2.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Small diversions upstream from station for irrigation and for oil field operations. For statement regarding upstream regulation by Soil Conservation Service floodwater-retarding structures, see remarks paragraph for station 08080950. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood in 1906 reached about the same stage as the flood in 1955.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	14	18	24	34	99	13	83	413	12	.00	34
2	3.6	15	20	23	36	85	13	78	324	5.1	.00	17
3	3.0	15	68	22	30	96	11	64	233	2.7	.00	16
4	5.7	14	48	21	27	84	13	42	195	1.7	.00	19
5	4.3	11	37	22	26	71	12	43	188	1.2	.00	9.6
6	2.7	11	29	19	27	67	12	34	159	55	.00	12
7	2.3	11	31	19	27	59	12	25	134	72	.00	60
8	2.5	10	47	20	24	57	12	21	117	10	.00	62
9	2.0	11	40	20	22	64	13	21	105	9.1	.00	24
10	2.0	11	31	20	23	53	13	23	99	97	.00	18
11	2.0	12	28	19	22	50	16	105	87	15	.00	15
12	2.7	13	36	21	21	45	16	4700	75	5.7	.00	10
13	50	12	98	21	20	43	16	3000	67	4.6	.00	7.8
14	18	17	64	20	19	38	23	2550	57	3.1	.00	5.9
15	6.2	44	53	18	19	34	16	1590	46	1.8	.00	1280
16	4.5	29	39	19	18	29	15	1160	37	1.0	.00	2130
17	3.2	24	32	19	18	28	15	1030	30	.42	.00	682
18	2.8	24	31	16	19	24	14	726	29	.08	507	e309
19	23	20	31	20	20	24	14	533	40	.00	e175	148
20	110	19	27	23	19	23	15	398	35	.00	49	109
21	75	19	25	21	27	20	15	300	33	.00	e11	79
22	71	19	28	27	115	18	16	239	24	.00	7.1	58
23	72	19	27	29	126	18	16	201	19	.00	e5.0	40
24	78	16	26	32	99	16	15	176	16	.00	3.5	27
25	65	15	29	34	112	17	19	263	14	.00	2.0	21
26	48	14	34	34	96	20	16	1450	11	.00	1.0	18
27	33	18	28	30	77	17	15	1970	8.4	.00	e.60	15
28	25	16	24	29	67	16	17	749	7.4	.00	e.10	13
29	19	16	24	28	---	15	29	374	6.9	.00	.00	11
30	18	17	25	27	---	13	129	293	13	1.3	.00	8.5
31	16	---	25	34	---	13	---	321	---	.71	8.8	---
TOTAL	773.5	506	1103	731	1190	1256	571	22562	2622.7	299.51	770.10	5258.8
MEAN	25.0	16.9	35.6	23.6	42.5	40.5	19.0	728	87.4	9.66	24.8	175
MAX	110	44	98	34	126	99	129	4700	413	97	507	2130
MIN	2.0	10	18	16	18	13	11	21	6.9	.00	.00	5.9
AC-FT	1530	1000	2190	1450	2360	2490	1130	44750	5200	594	1530	10430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1994, BY WATER YEAR (WY)

MEAN	611	135	93.5	59.2	98.6	98.7	280	850	830	347	378	667
MAX	5545	764	859	434	1481	640	2245	6746	3505	2100	4343	4581
(WY)	1942	1935	1931	1992	1938	1973	1925	1941	1990	1961	1926	1932
MIN	.000	.067	.000	.000	.40	.000	.000	2.88	6.75	.24	.000	.000
(WY)	1929	1940	1925	1929	1926	1925	1928	1937	1953	1970	1954	1931

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1924 - 1994

ANNUAL TOTAL	43787.60		37643.61					
ANNUAL MEAN	120		103			373		
HIGHEST ANNUAL MEAN						1294		1941
LOWEST ANNUAL MEAN						46.7		1952
HIGHEST DAILY MEAN	1770	Mar 1	4700	May 12		62600	Oct 16	1926
LOWEST DAILY MEAN	.00	Aug 21	.00	Jul 19		.00	Feb 5	1924
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 21	.00	Jul 19		.00	Mar 6	1924
INSTANTANEOUS PEAK FLOW			7380	May 12		95400	Oct 16	1926
INSTANTANEOUS PEAK STAGE			8.26	May 12		23.00	Sep 28	1955
ANNUAL RUNOFF (AC-FT)	86850		74670			270000		
10 PERCENT EXCEEDS	240		121			634		
50 PERCENT EXCEEDS	72		20			39		
90 PERCENT EXCEEDS	4.0		1.0			.00		

e Estimated

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1942 to current year. Chemical and biochemical analyses: October 1974 to September 1977. Sediment analyses: October 1974 to September 1977. Pesticide analyses: April 1975 to August 1977.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1959 to current year.

WATER TEMPERATURES: August 1959 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 80,400 microsiemens May 24, 1971; minimum daily, 47 microsiemens May 16, 1989.

WATER TEMPERATURES (1959-84, 1988 to current year): Maximum daily, 38.0°C Aug. 1, 1983; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 26,400 microsiemens Dec. 11; minimum estimated daily, 600 microsiemens Aug. 19.

WATER TEMPERATURE: Maximum daily, 34.0°C June 21; minimum 0.0°C Nov. 27.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 18...	1210	25	7000	12.5	1200	1000	320	100	1200
JAN 06...	0905	18	15300	6.5	1700	1500	410	160	2800
MAR 29...	1655	14	17100	20.5	1900	1700	490	170	3200
MAY 25...	1035	227	6200	24.0	910	810	240	76	1100
JUL 14...	0950	4.2	6430	27.5	900	740	220	84	1000
DATE		SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	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...		15	7.5	190	1200	1700	0.90	10	4650
JAN 06...		30	12	150	1600	4500	0.80	3.3	9570
MAR 29...		32	14	180	1700	5300	0.80	5.3	11000
MAY 25...		16	12	100	780	1700	1.3	12	3980
JUL 14...		15	9.0	160	810	1700	0.80	6.9	3920
MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1993	773.5	7780	4870	10200	2100	4430	920	1930	1000
NOV. 1993	506	9250	5730	7830	2500	3390	1100	1520	1200
DEC. 1993	1103	12900	8350	24900	3700	11200	1400	4290	*
JAN. 1994	731	15100	9850	19400	4400	8750	1700	3310	*
FEB. 1994	1190	13900	9110	29300	4100	13200	1500	4960	*
MAR. 1994	1256	14900	9770	33100	4400	15000	1600	5590	*
APR. 1994	571	12700	8210	12700	3700	5670	1400	2200	*
MAY 1994	22562	5220	3120	190000	1300	79600	660	40400	730
JUNE 1994	2622.7	8870	5510	39000	2400	16900	1100	7550	1200
JULY 1994	299.51	4840	2920	2360	1200	997	610	490	670
AUG. 1994	770.10	3670	2160	4500	900	1870	470	983	520
SEPT 1994	5258.8	4190	2550	36200	1100	15400	520	7390	580
TOTAL	37643.61	**	**	409000	**	176000	**	80600	**
WTD. AVG.	103	6530	4030	**	1700	**	790	**	880

BRAZOS RIVER MAIN STEM
08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

FROM DAILY OBSERVER
SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9800	10200	12200	e15000	13000	9000	16200	e5000	13000	12900	---	e5000
2	e9860	e9840	11600	e15000	10000	7350	16300	9070	e9000	e12000	---	3000
3	9910	9500	e7500	15200	16000	15000	16300	10600	4430	e11000	---	e4000
4	e9760	9430	8320	e15000	e17500	15000	16100	e9000	5500	e10000	---	e5000
5	9530	9500	10500	e15000	17200	12400	e16000	7750	5490	9920	---	5810
6	e9400	e9390	e10600	14700	e14500	e13000	15700	e17000	e6000	9000	---	e5000
7	e9240	e9280	10800	13700	11900	14400	15600	25100	6210	e3000	---	2300
8	9030	9150	e13000	14300	19300	e15500	15500	e24000	e7000	2620	---	e5000
9	9000	e8900	16900	e14200	e19500	17300	e15500	22400	7970	e3000	---	e10000
10	e8910	e8660	26300	14100	21700	15100	15700	19500	e8500	e2700	---	14800
11	8620	8420	26400	14300	19500	16500	14400	e15000	9180	2930	---	15000
12	8480	8280	e23000	14100	e19000	16800	e15000	4000	e10000	e4000	---	e14500
13	5850	8200	e7500	e14100	e18000	e16700	15300	5200	e11000	e5000	---	14400
14	2850	e7540	5790	14200	17000	16600	14900	e6000	e12000	6610	---	14200
15	2910	6870	9770	14300	16600	17000	e16000	e6000	12800	7040	---	e7000
16	3840	e7000	11000	e13000	16300	17600	17200	e6000	e12500	7540	---	980
17	e4770	7140	11300	12000	16700	e18000	e16500	e6000	12500	e8000	---	965
18	5680	7140	e12000	e13000	e17000	19500	16200	e6000	12500	9080	4990	e7000
19	e3800	7360	13600	14500	e15000	20500	15100	e6000	e13000	---	e600	12100
20	2180	7730	e14000	14500	e17000	e19500	15000	e6000	e13000	---	810	10800
21	2390	8290	14800	14800	e14000	18600	e15000	e6000	13600	---	e1500	e10500
22	e5320	9300	15400	e14800	6100	18100	e15000	e6000	e12500	---	2220	10500
23	e8250	10200	15400	e14800	6950	e18000	14700	5940	11500	---	e3000	10400
24	e11100	e10500	15900	e14800	10700	17700	14900	6970	11000	---	4050	12500
25	14100	11600	15800	14800	14200	17700	e15000	6550	10900	---	5930	13000
26	15300	e12900	e15500	15200	e17000	17200	15400	3550	e11500	---	5920	e12000
27	15300	14100	15000	15500	e18000	e17000	15200	2500	12700	---	e6000	11000
28	e13600	e13700	15500	16400	e19000	16800	14200	e5000	12700	---	e6500	e11000
29	e12200	13400	15500	18400	---	16700	e11000	e6000	12200	---	---	10500
30	11100	12000	15000	18500	---	16600	4150	6910	10000	e6000	---	10600
31	---	---	14900	19200	---	16500	---	e10000	---	e7000	7460	---
MEAN	8400	9520	13900	14900	15700	16200	15000	9070	10300	6970	4080	8960

e Estimated

FROM DAILY OBSERVER
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	12.0	15.0	---	10.0	7.0	21.0	---	25.0	28.0	---	---
2	---	---	15.0	---	12.0	7.0	20.0	15.0	---	---	---	23.0
3	17.0	16.0	---	8.0	15.0	15.0	11.0	18.0	25.0	---	---	---
4	---	19.0	13.0	---	---	13.0	22.0	---	25.0	---	---	---
5	18.0	14.0	9.0	---	10.0	14.0	---	18.0	25.0	27.0	---	22.0
6	---	---	---	8.0	---	---	20.0	---	---	23.0	---	---
7	---	---	13.0	3.0	9.0	20.0	20.0	19.0	25.0	25.0	---	24.0
8	16.0	9.0	---	3.0	10.0	---	21.0	---	---	24.0	---	---
9	14.0	---	17.0	---	---	9.0	---	22.0	23.0	---	---	---
10	---	---	14.0	15.0	8.0	17.0	16.0	20.0	---	---	---	25.0
11	28.0	15.0	14.0	15.0	9.0	20.0	17.0	---	25.0	25.0	---	21.0
12	28.0	15.0	---	13.0	---	11.0	---	20.0	---	---	---	---
13	22.0	15.0	---	---	---	---	15.0	21.0	---	---	---	23.0
14	23.0	---	12.0	12.0	10.0	14.0	22.0	---	---	28.0	---	27.0
15	24.0	12.0	8.0	5.0	15.0	20.0	---	---	22.0	25.0	---	---
16	---	---	12.0	---	16.0	12.0	15.0	---	---	25.0	---	22.0
17	---	16.0	9.0	10.0	19.0	---	---	---	25.5	---	---	21.0
18	24.0	15.0	---	---	---	15.0	24.0	---	25.5	24.0	24.0	---
19	---	12.0	10.0	8.0	---	15.0	24.0	---	---	---	---	20.0
20	19.0	14.0	---	5.0	---	---	24.0	---	---	---	25.0	20.0
21	19.0	5.0	7.0	7.0	---	25.0	---	---	34.0	---	---	---
22	---	17.0	10.0	---	10.0	13.0	24.0	---	---	---	21.0	16.0
23	---	12.0	8.0	---	10.0	---	24.0	23.0	27.0	---	---	14.0
24	---	---	7.0	---	12.0	14.0	20.0	28.0	25.0	---	23.0	12.0
25	18.0	3.0	11.0	15.0	10.0	13.0	---	27.0	25.0	---	25.0	13.0
26	17.0	---	---	15.0	10.0	17.0	27.0	22.0	---	---	25.0	---
27	16.0	.0	10.0	7.0	---	---	14.0	22.0	27.0	---	---	17.0
28	---	---	8.0	7.0	---	15.0	20.0	---	27.0	---	---	---
29	---	13.0	8.0	5.0	---	20.5	---	---	32.0	---	---	19.0
30	8.0	15.0	2.0	4.0	---	20.0	10.0	25.0	33.0	---	---	25.0
31	---	---	12.0	7.0	---	20.0	---	---	---	---	23.0	---
MEAN	19.4	12.4	10.6	8.6	11.5	15.3	19.6	21.4	26.4	25.4	23.7	20.2

08082700 MILLERS CREEK NEAR MUNDAY, TX

LOCATION.--Lat 33°19'45", long 99°27'53", Throckmorton County, Hydrologic Unit 12060101, near right bank at downstream side of bridge on Farm Road 1720, 12.7 mi southeast of Munday, and 24.6 mi upstream from mouth.

DRAINAGE AREA.--104 mi².

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

Water-quality records.--Sediment records: October 1976 to September 1978.

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

GAGE.--Water-stage recorder. Elevation of gage is 1,350 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1883 occurred June 13, 1930, and exceeded 18.0 ft.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY 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	.01
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.66	.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	.93	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	35	.00	.00	.00	.00
13	.00	.00	.01	.00	.00	.00	.00	122	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	84	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	24	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	6.4	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	1.7	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.49	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.01	.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	.01	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.25	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	2.0	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	4.2	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	2.2	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.22	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.05	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.67	0.00	0.00	0.00	0.00	283.46	0.00	0.00	0.00	0.01
MEAN	.000	.000	.022	.000	.000	.000	.000	9.14	.000	.000	.000	.000
MAX	.00	.00	.66	.00	.00	.00	.00	122	.00	.00	.00	.01
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	1.3	.00	.00	.00	.00	562	.00	.00	.00	.02
CFSM	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00
IN.	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

MEAN	4.61	1.69	.82	1.97	5.59	2.77	6.21	15.5	31.1	2.09	17.3	6.60
MAX	92.7	37.7	13.1	34.8	94.5	25.8	128	182	420	43.4	403	72.1
(WY)	1987	1973	1992	1968	1992	1973	1990	1982	1982	1967	1978	1988
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1964	1966	1964	1964	1966	1964	1964	1967	1966	1964	1964	1963

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1963 - 1994

ANNUAL TOTAL	487.48	284.14	8.07
ANNUAL MEAN	1.34	.78	50.7
HIGHEST ANNUAL MEAN			.033
LOWEST ANNUAL MEAN			8730
HIGHEST DAILY MEAN	129	May 13	Aug 4 1978
LOWEST DAILY MEAN	.00	Oct 1	Aug 2 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	Aug 2 1963
INSTANTANEOUS PEAK FLOW		162	May 13
INSTANTANEOUS PEAK STAGE		4.27	May 13
ANNUAL RUNOFF (AC-FT)	967	564	34600
ANNUAL RUNOFF (CFSM)	.013	.007	17.53
ANNUAL RUNOFF (INCHES)	.17	.10	5850
10 PERCENT EXCEEDS	.82	.00	.078
50 PERCENT EXCEEDS	.00	.00	1.05
90 PERCENT EXCEEDS	.00	.00	1.2
			.00
			.00

BRAZOS RIVER BASIN

08082800 MILLERS CREEK RESERVOIR NEAR BOMARTON, TX

LOCATION.--Lat 33°24'32", long 99°23'19", Baylor County, Hydrologic Unit 12060101, at intake tower on left bank of Millers Creek, 1.1 mi upstream from dam, 7.1 mi southeast of Bomarton, and 13.2 mi upstream from mouth.

DRAINAGE AREA.--240 mi².

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

Water-quality records.--Chemical analyses: October 1975 to September 1984.

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

REMARKS.--The reservoir is formed by an earthfill dam 9,250 ft long. The dam was completed in 1974 and storage began in July 1974. Dead storage, 1,240 acre-ft below elevation, 1,303.4 ft. The reservoir is used for municipal and industrial water supply. The uncontrolled spillway is an open cut 3,000 ft wide located on left bank about 800 ft upstream from levee. The service spillway is an uncontrolled morning-glory-type drop inlet, 16.5 ft square, that discharges through a 5.0-foot-square concrete conduit. Low-flow releases are made by valves in the outlet vault of the drop inlet. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,355.0	-
Crest of spillway.....	1,340.1	49,080
Crest of spillway.....	1,334.4	32,230
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 provided by Freese and Nichols, Inc., Consulting Engineers. Record of diversions provided by North Central Texas Municipal Water Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,850 acre-ft June 26, 1982 (elevation, 1,341.42 ft); minimum contents were below dead storage elevation prior to Apr. 20, 1977, and July 17 to Aug. 3, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,970 acre-ft Oct. 1 at 0000 hours (elevation, 1,330.55 ft); estimated minimum daily, 17,830 acre-feet Sept. 30.

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

1,304.0	1,390	1,320.0	10,160	1,333.0	28,930
1,308.0	2,655	1,324.0	14,270	1,336.0	36,340
1,312.0	4,495	1,327.0	18,130	1,339.0	45,340
1,316.0	6,980	1,330.0	22,950	1,342.0	56,050

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23950	23320	22900	22930	22690	22470	21800	21130	22450	20860	19690	e18430
2	23890	23320	22950	22930	22640	22470	21780	21130	22420	20830	e19660	e18400
3	23840	23280	23190	22930	22640	22470	21780	21130	22400	20810	e19620	e18380
4	23820	23250	23150	22900	22640	22470	e21750	21120	22350	20780	e19570	e18370
5	23800	23230	23150	22860	22610	22470	e21710	21050	22300	20650	e19540	e18340
6	23760	23120	23130	22850	22550	22430	e21680	21040	22260	20640	e19500	e18320
7	23690	23120	23130	22850	22520	22420	e21640	21020	22230	20610	e19450	e18290
8	23600	23120	23120	22850	22490	22400	e21610	20990	22180	20570	e19420	e18280
9	23600	23120	23120	22850	22470	22380	e21570	21090	22140	20560	e19380	e18250
10	23560	23120	23120	22830	22450	22360	e21540	21170	22070	20540	e19330	e18230
11	23580	23100	23120	22830	22430	22350	e21500	21320	22020	20530	e19280	e18220
12	23560	23150	23210	22830	22400	22350	e21470	21470	21990	20510	e19240	e18190
13	23600	23130	23170	22810	22360	22330	e21450	21750	21850	20490	e19200	e18170
14	23580	23130	23150	22780	22350	22310	e21440	22040	21820	20460	e19160	e18140
15	23540	23130	23130	22740	22330	22310	e21420	22120	21760	20410	e19120	e18130
16	23500	23130	23130	22740	22310	22310	e21400	22120	21710	20380	e19080	e18100
17	23500	23130	23120	22740	22280	22310	e21380	22120	21680	20330	e19040	e18090
18	23520	23100	23120	22730	22450	22300	e21370	22090	21640	20250	e19000	e18080
19	23760	23060	23080	22710	22490	22300	e21370	22060	21610	20160	e18970	e18050
20	23710	23040	23080	22690	22520	22280	e21350	22000	21590	20090	e18940	e18030
21	23710	23010	23080	22690	22570	22240	21330	21940	21540	20060	e18910	e18010
22	23690	23010	23080	22730	22550	22210	21300	21900	21490	20030	e18860	e17990
23	23650	23010	23060	22730	22490	22160	21230	21880	21450	19980	e18820	e17970
24	23630	22900	23040	22730	22420	22110	21210	21900	21330	19950	e18790	e17950
25	23580	22900	23020	22730	22420	22090	21200	22160	21260	19900	e18730	e17920
26	23520	22880	22970	22730	22360	22070	21150	22140	21180	19850	e18680	e17910
27	23500	22860	22970	22710	22350	22000	21050	22470	21150	19840	e18640	e17900
28	23490	22850	22970	22690	22490	21940	21120	22470	21100	19770	e18600	e17870
29	23380	22830	22970	22690	---	21920	21170	22540	21050	19740	e18550	e17860
30	23380	22800	22930	22690	---	21880	21150	22500	20960	19740	e18500	e17830
31	23360	---	22930	22690	---	21850	---	22490	---	19740	18440	---
MAX	23950	23320	23210	22930	22690	22470	21800	22540	22450	20860	19690	18430
MIN	23360	22800	22900	22690	22280	21850	21050	20990	20960	19740	18440	17830
(+)	1330.22	1329.91	1329.99	1329.85	1329.73	1329.36	1328.95	1329.73	1328.83	1328.07	1327.21	1326.78
(@)	-610	-560	+130	-240	-200	-640	-700	+1340	-1530	-1220	-1300	-610
CAL YR 1993	MAX	29690	MIN	22800	(@)	-5020						
WTR YR 1994	MAX	23950	MIN	17830	(@)	-6140						

e Estimated
(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

08083100 CLEAR FORK BRAZOS RIVER NEAR ROBY, TX

LOCATION---Lat 32°47'15", long 100°23'18", Fisher County, Hydrologic Unit 12060102, on right bank at downstream side of pile bent of bridge on State Highway 70, 3.0 mi north of Roby, 3.2 mi upstream from Cottonwood Creek, and 255.7 mi upstream from mouth.

DRAINAGE AREA---228 mi².

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

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

GAGE---Water-stage recorder. Datum of gage is 1,885.09 ft above National Geodetic Vertical Datum of 1929.

REMARKS---No estimated daily discharges. Records good. There are several small diversions above station. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD---Maximum stage since the 1890's, about 22 ft in May and June 1935, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR---Peak discharges greater than base discharge of 300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.2	1.9	2.0	1.7	1.7	1.7	1.3	1.4	.32	.23	.23
2	1.6	1.2	1.9	2.0	1.7	1.7	1.8	1.2	1.4	.29	.26	.26
3	1.6	1.3	2.1	2.0	1.7	1.8	1.7	1.2	1.3	.30	.31	.26
4	1.6	1.3	2.0	1.9	1.7	1.8	1.7	1.1	1.3	.28	.30	.27
5	1.6	1.2	1.9	1.9	1.8	1.8	1.7	1.1	1.3	.23	.31	.30
6	1.6	1.2	1.9	1.9	1.8	1.8	1.6	1.0	1.3	.21	.25	.32
7	1.6	1.3	1.8	1.9	1.8	1.8	1.6	.98	1.2	.17	.19	.34
8	1.7	1.3	1.8	1.9	1.7	1.8	1.7	.95	1.1	.16	.16	.43
9	1.6	1.4	1.8	1.9	1.7	1.7	1.7	.99	1.1	.14	.17	.47
10	1.6	1.5	1.8	2.0	1.6	1.7	1.8	2.2	1.1	.11	.16	.45
11	1.6	1.4	1.8	2.0	1.6	1.8	1.8	25	1.2	.11	.17	.41
12	1.6	1.6	1.8	2.0	1.5	1.7	1.7	8.9	1.3	.11	.17	.38
13	1.7	1.5	1.7	2.0	1.4	1.8	1.7	39	1.1	.11	.18	.35
14	1.7	1.6	1.6	2.0	1.4	1.8	1.7	22	.98	.11	.18	.35
15	1.7	1.6	1.7	2.0	1.7	2.0	1.7	4.4	.99	.11	.21	.72
16	1.6	1.6	1.8	2.0	1.5	2.0	1.7	3.8	.99	.16	.29	.46
17	1.4	1.6	1.8	1.8	1.5	2.0	1.7	3.1	.96	.24	.29	.37
18	1.5	1.7	1.8	1.8	1.6	1.8	1.6	2.6	.91	.29	.22	.33
19	23	1.6	1.8	1.8	1.6	1.8	1.6	2.3	.84	.24	.22	.30
20	13	1.6	1.9	1.9	1.7	1.8	1.4	2.1	.86	.17	.22	.30
21	3.1	1.7	1.8	2.0	1.7	1.6	1.3	1.9	.82	.17	.22	.30
22	2.0	1.8	1.9	2.4	1.8	1.3	1.1	1.7	.79	.17	.22	.28
23	1.6	1.7	1.9	2.4	1.7	1.1	1.1	1.7	.72	.17	.22	.27
24	1.3	1.6	1.9	2.3	1.7	1.2	1.0	1.7	.62	.16	.23	.24
25	1.2	1.6	1.9	2.1	1.6	1.4	1.0	1.6	.47	.11	.23	.26
26	1.2	1.7	2.0	1.9	1.5	1.7	.99	1.4	.44	.11	.23	.27
27	1.0	1.7	2.0	1.9	1.5	1.7	.91	1.6	.43	.11	.22	.30
28	1.1	1.8	2.0	1.8	1.6	1.7	.87	1.5	.42	.12	.22	.30
29	1.1	1.8	2.0	1.7	---	1.6	1.2	1.5	.37	.12	.22	.30
30	1.2	1.8	2.0	1.7	---	1.6	2.1	1.4	.35	.12	.21	.27
31	1.2	---	2.0	1.8	---	1.7	---	1.5	---	.17	.21	---
TOTAL	80.9	45.9	58.0	60.7	45.8	52.7	45.17	142.72	28.06	5.39	6.92	10.09
MEAN	2.61	1.53	1.87	1.96	1.64	1.70	1.51	4.60	.94	.17	.22	.34
MAX	23	1.8	2.1	2.4	1.8	2.0	2.1	39	1.4	.32	.31	.72
MIN	1.0	1.2	1.6	1.7	1.4	1.1	.87	.95	.35	.11	.16	.23
AC-FT	160	91	115	120	91	105	90	283	56	11	14	20
CFSM	.01	.01	.01	.01	.01	.01	.01	.02	.00	.00	.00	.00
IN.	.01	.01	.01	.01	.01	.01	.01	.02	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

	MEAN	11.8	2.83	3.05	2.98	3.77	3.76	6.68	28.1	15.8	6.46	9.86	21.6
MAX	142	17.6	15.8	12.7	23.9	19.6	51.6	257	84.4	60.6	141	249	
(WY)	1966	1987	1987	1987	1992	1987	1981	1982	1981	1975	1971	1969	
MIN	.16	.26	.34	.36	.39	.34	.15	.38	.80	.17	.18	.060	
(WY)	1980	1965	1990	1965	1990	1965	1965	1962	1984	1994	1989	1965	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1962 - 1994

ANNUAL TOTAL	1967.9	582.35	
ANNUAL MEAN	5.39	1.60	
HIGHEST ANNUAL MEAN			9.77
LOWEST ANNUAL MEAN			29.6
HIGHEST DAILY MEAN	719	Jun 10	3860
LOWEST DAILY MEAN	1.0	Oct 27	.00
ANNUAL SEVEN-DAY MINIMUM	1.1	Oct 25	.00
INSTANTANEOUS PEAK FLOW			7050
INSTANTANEOUS PEAK STAGE			21.52
ANNUAL RUNOFF (AC-FT)	3900	1160	7080
ANNUAL RUNOFF (CFSM)	.024	.007	.043
ANNUAL RUNOFF (INCHES)	.32	.10	.58
10 PERCENT EXCEEDS	4.8	2.0	7.3
50 PERCENT EXCEEDS	2.3	1.6	1.8
90 PERCENT EXCEEDS	1.4	.22	.40

Brazos River Basin

08084000 CLEAR FORK BRAZOS RIVER AT NUGENT, TX

LOCATION.--Lat 32°41'24", long 99°40'09", Jones County, Hydrologic Unit 12060102, on right bank 33 ft downstream from bridge on Farm Road 600 at Nugent, 2 mi downstream from Elm Creek, 4 mi upstream from Deadman Creek, and 167.8 mi upstream from mouth.

DRAINAGE AREA.--2,199 mi².

PERIOD OF RECORD.--February 1924 to current year.

Water-quality records.--Chemical analyses: August 1948 to September 1953. Chemical and biochemical analyses: February 1968 to September 1981.

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

GAGE.--Water-stage recorder. Datum of gage is 1,531.91 ft above National Geodetic Vertical Datum of 1929 (levels by Brazos River Authority). Prior to Dec. 12, 1933, nonrecording gage at site 575 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow is affected by four upstream reservoirs with a total capacity of 103,600 acre-ft. There are numerous diversions above station for municipal supply and oil field operation that materially affect streamflow.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--14 years (water years 1925-38) prior to completion of Fort Phantom Hill Reservoir, 186 ft³/s (134,800 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925-38).--Maximum discharge observed, 47,000 ft³/s Sept. 8, 1932 (gage height, 27.05 ft), site then in use, from rating curve extended above 25,000 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 30 ft in 1876; floods in 1900 and May 1923 reached stages of 24 and 24.5 ft, respectively, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	8.9	14	15	15	14	10	87	65	12	3.2	11
2	7.5	9.6	14	14	14	14	12	18	56	12	4.5	52
3	7.2	10	14	14	14	14	11	10	50	13	4.3	143
4	8.1	10	14	14	14	14	11	9.8	45	13	4.1	23
5	7.7	10	14	15	15	14	11	8.1	42	12	3.5	7.9
6	7.0	11	23	14	14	14	10	8.0	38	11	2.7	4.0
7	7.2	11	19	14	14	14	10	6.6	35	11	2.4	4.1
8	7.8	12	16	14	14	15	9.3	5.7	35	11	1.4	21
9	7.2	12	15	14	14	14	8.9	5.4	31	12	.73	182
10	6.8	12	14	15	13	14	9.3	21	30	29	1.3	124
11	6.8	14	13	15	13	14	13	506	29	12	2.2	42
12	7.3	14	13	15	13	14	13	1800	29	8.9	2.3	14
13	7.7	14	13	15	13	14	12	3620	28	8.9	1.9	8.3
14	8.4	14	13	15	13	14	12	2790	28	14	2.3	6.0
15	8.7	14	13	15	13	14	9.2	1530	27	11	2.0	5.6
16	9.1	14	14	15	12	14	7.7	466	26	19	1.9	6.7
17	8.6	15	14	14	13	14	6.8	247	24	17	1.1	37
18	8.9	14	14	14	13	14	6.2	175	21	10	1.9	15
19	19	15	14	14	14	15	5.0	132	23	7.7	1.3	11
20	152	14	14	14	14	15	5.7	105	23	7.0	.92	9.7
21	412	14	14	15	15	14	6.2	89	22	5.4	1.8	6.7
22	132	14	16	17	17	14	6.2	77	20	4.1	2.0	5.1
23	62	14	16	18	21	13	6.0	70	19	5.1	1.7	4.3
24	33	13	16	18	23	14	6.1	64	18	5.1	2.3	4.5
25	21	13	16	24	16	13	6.4	59	17	3.6	2.9	4.2
26	15	13	16	23	16	13	5.5	56	16	4.2	2.5	4.2
27	11	13	15	19	15	12	4.7	69	15	4.3	2.1	4.6
28	9.8	13	15	17	14	12	6.1	308	15	4.4	1.7	5.0
29	9.0	13	16	17	---	11	9.8	148	14	4.8	1.5	5.5
30	8.7	13	15	16	---	11	18	116	13	4.4	1.0	4.8
31	8.0	---	15	17	---	11	---	81	---	3.5	.57	---
TOTAL	1032.1	381.5	462	490	409	421	268.1	12687.6	854	300.4	66.02	776.2
MEAN	33.3	12.7	14.9	15.8	14.6	13.6	8.94	409	28.5	9.69	2.13	25.9
MAX	412	15	23	24	23	15	18	3620	65	29	4.5	182
MIN	6.8	8.9	13	14	12	11	4.7	5.4	13	3.5	.57	4.0
AC-FT	2050	757	916	972	811	835	532	25170	1690	596	131	1540

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1994, BY WATER YEAR (WY)

MEAN	130	35.3	37.3	23.8	61.6	38.6	70.4	253	154	73.0	52.8	102
MAX	1438	516	683	244	1370	389	1159	4694	1385	728	496	610
(WY)	1987	1975	1992	1992	1992	1987	1957	1957	1957	1945	1940	1969
MIN	.000	.56	.090	.032	.046	.010	.017	2.28	1.88	.035	.000	.000
(WY)	1953	1954	1955	1957	1954	1955	1955	1964	1984	1952	1956	1956

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1939 - 1994#

ANNUAL TOTAL	13839.9		18147.92			
ANNUAL MEAN	37.9		49.7		86.2	
HIGHEST ANNUAL MEAN					662	1957
LOWEST ANNUAL MEAN					9.31	1964
HIGHEST DAILY MEAN	1180	Jun 12	3620	May 13	18800	May 26 1957
LOWEST DAILY MEAN	3.1	Aug 15	.57	Aug 31	.00	Aug 10 1946
ANNUAL SEVEN-DAY MINIMUM	3.4	Aug 14	1.5	Aug 17	.00	Aug 10 1946
INSTANTANEOUS PEAK FLOW			3890	May 13	19500	May 26 1957
INSTANTANEOUS PEAK STAGE			12.06	May 13	24.17	May 26 1957
ANNUAL RUNOFF (AC-FT)	27450		36000		62410	
10 PERCENT EXCEEDS	50		40		117	
50 PERCENT EXCEEDS	21		14		12	
90 PERCENT EXCEEDS	6.8		4.2		.70	

* Period of regulated streamflow.

08084800 CALIFORNIA CREEK NEAR STAMFORD, TX

LOCATION.--Lat 32°55'51", long 99°38'32", Jones County, Hydrologic Unit 12060103, near right bank at downstream side of bridge on Farm Road 142, 9 mi east of Stamford, and 19.4 mi upstream from Paint Creek.

DRAINAGE AREA.--478 mi².

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

Water-quality records.--Specific conductance: October 1962 to September 1979. Water temperature: October 1962 to September 1979.

REVISED RECORDS.--WSP 2122: 1965. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,470 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. There are three small diversions upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, 29.6 ft, present datum, on June 10, 1962, from floodmark; second highest flood in July 1961 (stage unknown); third highest flood in May 1957 (stage unknown) was about equal to flood on June 24, 1915; flood of September 1962 reached a stage of 28.1 ft, present datum; from information by local residents. Another large flood is reported to have occurred in June 1909.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1800	2,490	21.33	May 13	1930	1,440	17.09

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	9.6	4.6	4.6	5.9	5.7	3.3	2.9	4.1	.34	.10	.90
2	.71	8.9	4.9	4.7	5.9	5.3	3.5	3.1	3.3	.34	.11	.26
3	.96	8.6	5.4	4.6	5.6	4.8	3.4	3.3	2.5	.34	.11	34
4	1.5	8.3	12	4.7	5.8	4.6	3.2	3.1	2.4	.34	.11	16
5	1.0	7.6	10	4.7	6.2	4.6	3.3	4.3	2.3	.34	.13	6.5
6	.72	7.0	7.3	4.6	5.7	4.9	3.0	3.8	2.0	.34	.14	2.9
7	.74	6.6	7.8	4.6	5.6	4.8	2.8	2.9	1.6	.34	.16	1.3
8	.71	6.4	7.1	4.6	5.4	4.9	2.9	2.6	1.3	.34	.15	.72
9	.53	6.2	6.1	5.0	5.1	5.2	3.3	2.5	.98	.36	.15	.56
10	.57	6.2	5.4	4.7	4.8	5.2	3.0	2.4	.76	.34	.15	2.2
11	.61	6.3	4.9	4.6	4.6	4.9	3.2	5.6	7.7	.36	.16	13
12	.78	6.2	4.9	4.4	4.3	4.7	3.1	447	4.7	.37	.18	4.9
13	.96	6.2	4.1	4.3	4.3	4.8	3.1	1210	.63	.73	.18	2.4
14	1.0	6.7	3.6	4.1	4.0	4.6	3.3	900	1.3	.39	.16	1.2
15	1.4	6.1	4.0	4.2	3.8	4.8	3.1	395	1.0	.30	.15	.72
16	2.0	6.9	4.3	5.1	3.7	5.0	2.9	123	.41	.28	.20	.67
17	2.6	6.7	4.3	5.5	3.6	4.9	2.7	55	.35	.27	.22	.44
18	3.8	6.5	4.6	4.9	3.7	5.0	2.7	36	.42	.22	.23	.25
19	1770	6.5	5.8	4.6	4.7	4.8	2.6	27	5.5	.17	.19	.19
20	1670	6.2	5.4	4.5	5.4	4.7	2.7	20	.84	.13	.17	.18
21	1630	6.0	4.8	4.7	6.5	4.3	2.8	15	.50	.11	.16	.15
22	772	5.6	5.5	5.9	14	4.1	3.0	13	.44	.09	.14	.14
23	184	5.7	5.6	6.0	11	4.1	2.8	11	.37	.08	.14	.12
24	49	5.7	5.3	5.9	12	3.9	2.8	8.6	.32	.05	.13	.11
25	32	5.1	4.8	6.3	9.2	3.7	2.8	7.7	.32	.04	.12	.11
26	24	4.7	4.6	9.1	8.4	3.8	2.4	7.0	.34	.04	.12	.11
27	19	4.6	5.6	7.8	6.8	3.7	1.8	6.8	.34	.06	.13	.11
28	17	4.7	5.3	6.8	5.9	3.5	2.2	6.1	.38	.07	.14	.11
29	14	4.8	5.1	6.3	---	3.3	3.9	5.2	.34	.05	.14	.10
30	12	4.6	5.0	6.3	---	3.2	4.0	4.2	.34	.07	.15	.08
31	10	---	5.0	6.3	---	3.2	---	4.4	---	.10	.25	---
TOTAL	6224.41	191.2	173.1	164.4	171.9	139.0	89.6	3338.5	47.78	7.40	4.77	90.43
MEAN	201	6.37	5.58	5.30	6.14	4.48	2.99	108	1.59	.24	.15	3.01
MAX	1770	9.6	12	9.1	14	5.7	4.0	1210	7.7	.73	.25	.34
MIN	.53	4.6	3.6	4.1	3.6	3.2	1.8	2.4	.32	.04	.10	.08
AC-FT	12350	379	343	326	341	276	178	6620	95	15	9.5	179
CFSM	.42	.01	.01	.01	.01	.01	.01	.23	.00	.00	.00	.01
IN.	.48	.01	.01	.01	.01	.01	.01	.26	.00	.00	.00	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	
MEAN	43.9	16.4	13.3	12.4	39.1	15.2	23.0	87.1	71.9	21.7	65.9	54.6																					
MAX	481	229	169	84.0	750	132	174	741	400	234	930	575																					
(WY)	1967	1973	1968	1968	1973	1973	1985	1982	1991	1992	1971	1980																					
MIN	.002	.11	.10	.081	.15	.092	.25	1.15	.15	.000	.000	.017																					
(WY)	1969	1971	1965	1965	1965	1966	1967	1984	1976	1964	1965	1968																					

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1963 - 1994

	1993	1994	1963-1994
ANNUAL TOTAL	11644.56	10642.49	
ANNUAL MEAN	31.9	29.2	
HIGHEST ANNUAL MEAN			38.7
LOWEST ANNUAL MEAN			156
HIGHEST DAILY MEAN	1770	1770	1.95
LOWEST DAILY MEAN	.34	.04	20400
ANNUAL SEVEN-DAY MINIMUM	.39	.05	.00
INSTANTANEOUS PEAK FLOW		2490	.00
INSTANTANEOUS PEAK STAGE		21.33	40000
ANNUAL RUNOFF (AC-FT)	23100	21110	31.00
ANNUAL RUNOFF (CFSM)	.067	.061	28020
ANNUAL RUNOFF (INCHES)	.91	.83	.081
10 PERCENT EXCEEDS	22	9.0	1.10
50 PERCENT EXCEEDS	6.5	4.0	.31
90 PERCENT EXCEEDS	.61	.15	2.8

Brazos River Basin

08085500 CLEAR FORK BRAZOS RIVER AT FORT GRIFFIN, TX

LOCATION.--Lat 32°56'04", long 99°13'27", Shackleford County, Hydrologic Unit 12060104, on right bank just downstream from pier of bridge on old Fort Griffin-Throckmorton Road, 0.4 mi northeast of Fort Griffin, 1.0 mi upstream from bridge on U.S. Highway 283, 1.7 mi upstream from Mill Creek, and 74.6 mi upstream from mouth.

DRAINAGE AREA.--3,988 mi².

PERIOD OF RECORD.--December 1923 to current year.

Water-quality records: Chemical analysis: November 1949 to September 1951, November 1967 to September 1979.

REVISED RECORDS.--WSP 1392: 1949. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,174.09 ft above National Geodetic Vertical Datum of 1929. Prior to June 23, 1932, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. There are diversions upstream from station for irrigation, municipal supply, and for oil field operations that materially affect low flow. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1900 reached a stage of 38.0 ft.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 11	0900	6,130	17.84	May 14	2100	6,400	18.14

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	51	35	41	1040	51	19	29	154	19	3.8	23
2	26	47	36	43	378	49	20	28	122	14	4.6	8.3
3	27	46	37	44	47	e48	21	133	104	12	4.6	21
4	24	45	38	44	46	e47	17	109	96	9.9	4.1	9.0
5	26	57	37	42	46	e46	14	68	95	8.3	3.6	39
6	26	41	36	43	45	e45	12	44	91	7.8	3.3	89
7	25	40	37	40	44	e44	11	36	73	8.2	3.6	58
8	24	39	35	39	44	e43	11	31	88	7.5	5.3	39
9	22	38	37	39	749	42	9.7	31	88	8.0	4.9	29
10	19	40	41	35	987	42	15	28	82	16	4.3	22
11	21	39	45	35	554	40	17	188	70	29	3.3	93
12	19	36	41	36	61	40	20	1320	62	48	2.9	156
13	18	35	39	37	132	43	23	5740	61	64	2.1	92
14	19	38	35	36	56	44	22	6010	52	33	1.8	67
15	20	35	34	36	58	48	26	5160	71	37	1.3	55
16	21	39	35	36	52	47	39	2360	70	21	1.2	39
17	21	42	35	35	52	50	31	1030	73	15	1.1	30
18	22	43	30	143	49	52	25	521	50	11	.91	25
19	174	41	31	549	47	48	24	367	40	8.5	.90	21
20	2090	41	30	36	51	49	26	282	41	10	.72	30
21	1620	42	31	34	51	47	25	223	36	11	1.8	42
22	1800	42	38	40	58	37	23	187	30	13	3.5	31
23	864	39	38	44	61	36	22	153	25	10	3.5	26
24	335	40	39	45	53	34	20	131	26	8.7	3.6	24
25	186	37	42	49	70	28	18	124	25	7.6	4.2	22
26	129	283	44	53	67	31	16	112	24	6.6	5.1	17
27	98	86	42	49	59	29	19	121	20	5.7	4.1	15
28	82	34	41	48	51	27	20	110	19	4.7	3.0	14
29	70	35	42	61	---	23	24	134	22	3.9	2.4	13
30	62	38	42	50	---	23	29	329	22	4.1	2.4	13
31	55	---	40	48	---	21	---	189	---	4.0	2.7	---
TOTAL	7972	1509	1163	1910	5008	1254	618.7	25328	1832	466.5	94.63	1162.3
MEAN	257	50.3	37.5	61.6	179	40.5	20.6	817	61.1	15.0	3.05	38.7
MAX	2090	283	45	549	1040	52	39	6010	154	64	5.3	156
MIN	18	34	30	34	44	21	9.7	28	19	3.9	.72	8.3
AC-FT	15810	2990	2310	3790	9930	2490	1230	50240	3630	925	188	2310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1994, BY WATER YEAR (WY)

MEAN	275	79.0	90.4	58.2	151	92.9	186	647	466	210	188	351
MAX	2866	1010	1593	689	4268	1066	3098	7312	2992	2278	6071	4665
(WY)	1942	1975	1992	1992	1992	1992	1957	1957	1935	1932	1978	1932
MIN	.000	.000	.000	.000	.000	.000	.000	4.90	.078	.000	.000	.000
(WY)	1935	1944	1944	1950	1950	1928	1952	1960	1974	1952	1934	1931

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1924 - 1994

ANNUAL TOTAL	40024.7		48318.13						
ANNUAL MEAN	110		132			234			
HIGHEST ANNUAL MEAN						1177			1957
LOWEST ANNUAL MEAN						8.78			1952
HIGHEST DAILY MEAN	2100	Jun 12	6010	May 14		72800		Aug 4	1978
LOWEST DAILY MEAN	5.0	Aug 26	.72	Aug 20		.00		May 25	1927
ANNUAL SEVEN-DAY MINIMUM	5.3	Aug 20	1.1	Aug 14		.00		Feb 8	1928
INSTANTANEOUS PEAK FLOW			6400	May 14		149000		Aug 4	1978
INSTANTANEOUS PEAK STAGE			18.14	May 14		38.88		Aug 4	1978
ANNUAL RUNOFF (AC-FT)	79390		95840			169500			
10 PERCENT EXCEEDS	180		130			323			
50 PERCENT EXCEEDS	60		37			23			
90 PERCENT EXCEEDS	16		6.2			.00			

e Estimated

BRAZOS RIVER BASIN

169

08086212 HUBBARD CREEK BELOW ALBANY, TX

LOCATION.--Lat 32°43'58", long 99°08'25", Shackelford County, Hydrologic Unit 12060105, on left bank 0.5 mi downstream from Salt Prong Hubbard Creek, 2.8 mi upstream from Newcomb Creek, 4.5 mi upstream from U.S. Highway 180, 9.1 mi east of Albany, 22.6 mi upstream from Hubbard Creek Reservoir, and 35.2 mi upstream from mouth.

DRAINAGE AREA.--613 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 1,184.99 ft above National Geodetic Vertical Datum of 1929. Prior to June 12, 1968, water-stage recorder at site 2.1 mi downstream at datum 7.63 ft lower.

REMARKS.--No estimated daily discharges. Records good. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	0200	13,300	22.47	May 30	1600	2,480	10.48

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.87	1.9	1.2	1.3	2.1	.16	3.2	58	.00	2.2	.00
2	.00	1.0	1.9	1.1	1.3	1.8	.03	4.0	31	.00	.76	.00
3	.00	1.0	4.8	1.0	1.1	1.5	.02	3.2	21	.00	.26	.00
4	.00	1.0	18	1.1	.94	1.1	.16	2.2	15	.00	.10	.00
5	.00	1.0	8.4	1.1	.89	.73	.28	1.4	11	.00	.10	.00
6	.00	1.1	5.5	.83	.81	.72	.37	.84	8.4	.00	.31	.00
7	.00	1.1	3.9	.68	.84	.72	.38	.66	6.9	.00	.16	.00
8	.00	1.0	2.9	.91	.90	.99	.27	.61	5.3	.00	.01	1.1
9	.00	1.0	2.1	1.6	.90	1.0	.40	.53	3.9	.00	.00	1.4
10	.00	1.0	1.6	1.4	.90	1.1	.41	.65	2.9	.00	.00	.85
11	.00	1.0	1.5	1.6	.90	.78	.85	429	2.4	.00	.00	.55
12	.00	1.0	1.3	1.4	.75	.65	2.1	6390	2.2	.00	.00	.31
13	.00	1.0	1.1	1.2	.72	.67	5.6	1650	1.8	.00	.00	.36
14	.00	1.1	.96	1.2	.72	.72	3.5	473	1.2	.00	.00	.16
15	.00	1.1	1.0	1.1	.79	.61	2.5	146	.98	.25	.00	.11
16	.00	1.9	1.0	.97	.86	.61	1.6	79	.87	1.1	.00	.18
17	.00	2.0	1.0	.78	.64	.49	.92	51	.77	.83	.00	.15
18	.00	2.0	1.0	1.1	.61	.41	.61	35	.61	.40	.00	.14
19	.32	1.7	1.0	.97	1.1	.45	.51	26	.51	.08	.00	.14
20	4.8	1.7	.95	.72	5.1	.61	.45	19	.47	.00	.00	.18
21	29	2.3	.90	.72	3.3	.75	.37	15	.34	.00	.00	.08
22	15	2.4	.98	.84	2.2	.59	.31	11	.20	.00	.00	.03
23	8.6	1.9	1.1	1.5	5.5	.45	.31	9.3	.08	.00	.00	.00
24	4.8	1.9	1.2	1.6	4.9	.41	.31	7.7	.02	.00	.00	.00
25	2.9	1.9	1.3	1.6	5.8	.41	.31	6.8	.01	.00	.00	.01
26	1.9	2.0	1.3	1.9	4.2	.59	.31	33	.00	.00	.00	.45
27	1.4	2.0	1.2	1.9	3.1	.65	.28	44	.00	.00	.00	.06
28	1.1	2.0	1.3	1.7	2.4	.48	.22	70	.00	.00	.00	.00
29	.54	2.0	1.3	1.6	---	.38	.48	43	.00	.00	.00	.00
30	.47	2.0	1.3	1.6	---	.31	.74	988	.00	4.0	.00	.00
31	.45	---	1.3	1.5	---	.28	---	144	---	5.0	.00	---
TOTAL	71.28	44.97	74.99	38.42	53.47	23.06	24.76	10687.09	175.86	11.66	3.90	6.26
MEAN	2.30	1.50	2.42	1.24	1.91	.74	.83	345	5.86	.38	.13	.21
MAX	29	2.4	18	1.9	5.8	2.1	5.6	6390	58	5.0	2.2	1.4
MIN	.00	.87	.90	.68	.61	.28	.02	.53	.00	.00	.00	.00
AC-FT	141	89	149	76	106	46	49	21200	349	23	7.7	12
CFSM	.00	.00	.00	.00	.00	.00	.00	.56	.01	.00	.00	.00
IN.	.00	.00	.00	.00	.00	.00	.00	.65	.01	.00	.00	.00

BRAZOS RIVER BASIN

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994, BY WATER YEAR (WY)

MEAN	105	14.0	54.4	68.8	78.0	40.9	57.5	149	49.1	6.44	130	58.9
MAX	1483	228	1161	1544	1532	243	502	906	268	46.1	3365	1170
(WY)	1982	1975	1992	1968	1992	1992	1968	1969	1989	1992	1978	1974
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1969	1971	1971	1969	1971	1971	1971	1984	1984	1974	1968	1968

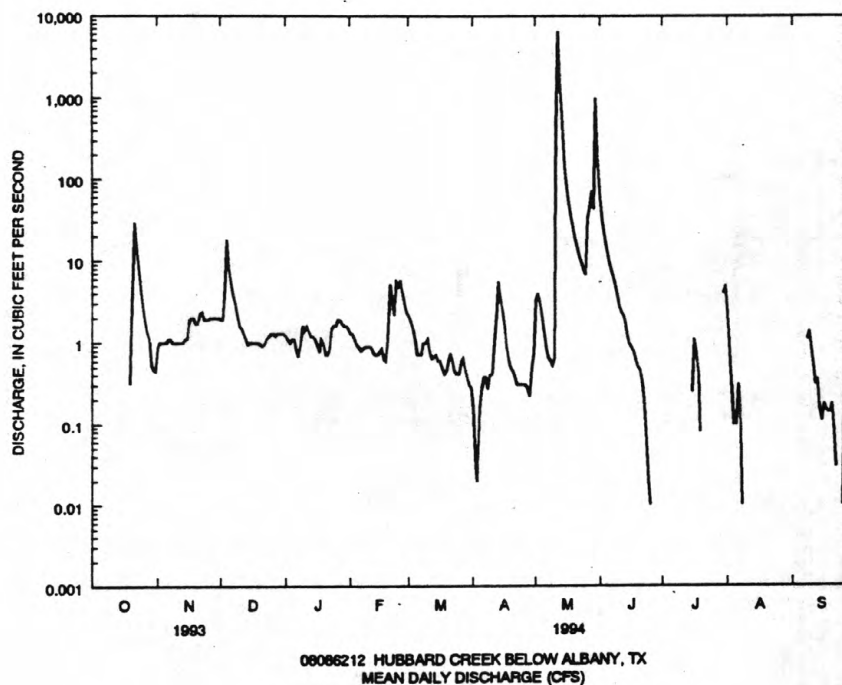
SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1967 - 1994

ANNUAL TOTAL	3116.91	11215.72	
ANNUAL MEAN	8.54	30.7	67.8
HIGHEST ANNUAL MEAN			303
LOWEST ANNUAL MEAN			.49
HIGHEST DAILY MEAN	310	6390	94700
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		13300	330000
INSTANTANEOUS PEAK STAGE		22.47	41.41
ANNUAL RUNOFF (AC-FT)	6180	22250	49130
ANNUAL RUNOFF (CFSM)	.014	.050	.11
ANNUAL RUNOFF (INCHES)	.19	.68	1.50
10 PERCENT EXCEEDS	17	5.5	46
50 PERCENT EXCEEDS	3.8	.83	1.2
90 PERCENT EXCEEDS	.00	.00	.00



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 TEMPERATURE: October 1966 to current year.

INSTRUMENTATION.--Since December 1970, specific conductance is continuously recorded at this station. Since March 1982, specific conductance and water temperature are continuously recorded at this station.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 21,200 microsiemens Feb. 15, 21, 1978; minimum measured, 180 microsiemens Oct. 27, 1984, May 13, 1985 and Oct. 6, 1986; minimum estimated, 129 microsiemens Aug. 4, 1978.

WATER TEMPERATURE (1966-80, 1983-current year): Maximum, 37.5°C July 20, 1986; minimum, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 9,060 microsiemens Oct. 19; minimum, 312 microsiemens May 13, 14.

WATER TEMPERATURE: Maximum, 33.0°C June 24; minimum, 3.0°C Feb. 2.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 23...	0938	1.9	6340	11.5	1200	1100	300	120	890
JAN 13...	1000	1.2	4460	7.5	1000	860	250	100	560
MAR 31...	1200	0.35	4540	14.0	1000	880	250	98	580
MAY 23...	1534	8.8	1430	27.0	370	220	100	28	150
DATE		SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 23...		11	6.4	140	520	1800	0.40	7.5	3730
JAN 13...		8	5.9	170	500	1100	0.40	5.0	2630
MAR 31...		8	5.7	140	430	1200	0.30	1.7	2650
MAY 23...		3	5.6	140	100	300	0.30	14	784
MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1993	71.28	7050	4020	774	2200	428	370	72	1100
NOV. 1993	44.97	6310	3580	434	1900	233	350	42	1100
DEC. 1993	74.99	5010	2810	570	1400	290	290	59	940
JAN. 1994	38.42	4450	2490	258	1200	128	270	28	870
FEB. 1994	53.47	4070	2270	328	1100	160	250	36	820
MAR. 1994	23.06	4080	2270	142	1100	69	250	16	820
APR. 1994	24.76	4380	2450	164	1200	81	260	18	860
MAY 1994	10687.09	762	416	12000	180	5090	53	1520	180
JUNE 1994	175.86	1450	795	378	350	164	98	47	340
JULY 1994	11.66	2780	1540	48	710	22	180	5.7	600
AUG. 1994	5.04	2420	1330	14	600	6.3	160	1.7	540
SEPT 1994	6.26	2360	1300	22	590	9.9	160	2.6	530
TOTAL	11215.72	**	**	15100	**	6680	**	1840	**
4TD.AVG.	31	910	500	**	220	**	61	**	210

BRAZOS RIVER BASIN

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	5640	5440	5510	6200	6080	6160	4720	4620	4690
2	---	---	---	6210	5600	5860	6140	5810	6050	4740	4680	4710
3	---	---	---	6220	6020	6130	5990	5390	5690	4740	4680	4710
4	---	---	---	6320	6060	6150	5390	4730	5090	4740	4660	4710
5	---	---	---	6250	6170	6210	4730	4570	4640	4770	4710	4730
6	---	---	---	6450	6150	6300	4780	4620	4710	4830	4750	4790
7	---	---	---	6550	6350	6440	4860	4780	4810	4850	4770	4820
8	---	---	---	6550	6400	6480	4860	4820	4840	4890	4630	4780
9	---	---	---	6720	6430	6600	4840	4820	4830	4710	4610	4650
10	---	---	---	6880	6650	6760	4920	4800	4850	4650	4520	4600
11	---	---	---	6960	6840	6880	4960	4820	4900	4620	4420	4540
12	---	---	---	7040	6860	6950	4990	4850	4900	4560	4420	4480
13	---	---	---	7110	6310	6670	5120	4910	5050	4580	4400	4500
14	---	---	---	6670	6130	6430	5130	5050	5100	4520	4460	4490
15	---	---	---	6620	6210	6340	5130	4930	5090	4550	4510	4520
16	---	---	---	6290	5950	6170	5070	5030	5050	4590	4510	4540
17	---	---	---	6240	6130	6200	5070	5030	5060	4610	4550	4590
18	---	---	---	6220	6110	6160	5090	5030	5060	4620	4560	4590
19	9060	8670	8810	6260	6060	6170	5090	5020	5050	4640	4580	4600
20	8670	8250	8440	6280	6180	6230	5080	5020	5050	4640	4580	4610
21	8260	7220	7800	6210	6130	6180	5160	5060	5090	4650	4580	4630
22	7220	6390	6760	7010	6150	6490	5220	5100	5140	4770	4610	4670
23	6440	6280	6380	6440	6300	6370	5140	4960	5050	4610	4230	4370
24	6280	5700	6030	6440	6230	6380	5020	4850	4940	4270	4170	4210
25	5830	5600	5750	6390	6240	6320	4890	4750	4830	4200	4080	4140
26	5710	5290	5610	6480	6160	6320	4830	4690	4760	4120	4060	4100
27	5500	5010	5140	6430	6170	6320	4790	4670	4730	4260	4080	4120
28	5010	4940	4970	6420	6170	6300	4770	4670	4730	4230	4140	4210
29	5880	4940	5380	6330	6160	6260	4790	4700	4750	4230	4190	4220
30	5990	5460	5780	6330	6150	6220	4800	4680	4730	4230	4110	4190
31	5890	5380	5480	---	---	---	4700	4640	4660	4200	4090	4150
MONTH	9060	4940	6330	7110	5440	6330	6200	4570	5010	4890	4060	4510

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	4260	4140	4200	3960	3900	3910	4690	4540	4610	4350	4080	4230
2	4200	4080	4160	3980	3900	3950	4760	4550	4690	4090	3940	4000
3	4180	4100	4140	3980	3920	3960	5350	4560	4900	4050	3980	4020
4	4190	4130	4170	3960	3860	3920	5350	4790	5110	4010	3840	3920
5	4210	4130	4190	3960	3860	3920	4910	4770	4840	3880	3840	3860
6	4230	4170	4200	3980	3890	3940	4930	4760	4840	3950	3830	3900
7	4200	4120	4170	4010	3930	3970	4930	4750	4850	3950	3890	3930
8	4180	4080	4130	4030	3990	4010	4900	4770	4840	4020	3930	3970
9	4250	4160	4200	4050	4010	4030	4940	4790	4860	4100	4000	4060
10	4310	4190	4250	4070	3950	4020	5300	4730	4910	4100	3900	4040
11	4250	4190	4220	4050	3990	4010	5260	4940	5150	4680	1020	3310
12	4250	4190	4220	4030	4010	4020	4940	4540	4770	1020	410	721
13	4270	4150	4230	4050	3970	4020	4540	4160	4330	507	312	439
14	4290	4210	4250	4050	4030	4040	4160	4080	4120	468	312	388
15	4270	4160	4230	4090	4030	4070	4110	4070	4080	565	468	520
16	4260	4180	4230	4110	4010	4070	4110	4050	4080	---	---	600
17	4260	4200	4230	4210	4090	4160	4140	4100	4110	---	---	700
18	4280	4220	4250	4350	4210	4310	4190	4090	4140	---	---	750
19	4260	4200	4240	4350	4250	4300	4260	4140	4200	---	---	1000
20	4280	4200	4250	4310	4250	4280	4300	4180	4260	---	---	e1200
21	4220	4110	4160	4270	4110	4200	4380	4270	4320	---	---	e1300
22	4170	4070	4110	4220	4150	4190	4440	4300	4370	---	---	e1400
23	4070	3970	4040	4300	4210	4260	4450	4280	4360	---	---	1450
24	4030	3910	3960	4380	4260	4330	4500	4330	4410	---	---	e1500
25	3930	3850	3880	4400	4300	4340	4750	4460	4550	---	---	1620
26	3890	3830	3860	4400	4240	4340	4750	4530	4640	---	---	1600
27	3930	3890	3910	4260	4200	4220	4800	4550	4670	---	---	e1400
28	3920	3900	3910	4340	4240	4280	4860	4530	4650	---	---	e1200
29	---	---	---	4440	4320	4370	4740	4410	4580	---	---	e1300
30	---	---	---	4580	4400	4470	4510	4310	4420	---	---	e500
31	---	---	---	4580	4440	4520	---	---	---	---	---	e600
MONTH	4310	3830	4140	4580	3860	4140	5350	4050	4560	4680	312	2050

e Estimated

BRAZOS RIVER BASIN

173

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	850	---	---	---	2500	2320	2390	---	---	---
2	---	---	1300	---	---	---	2410	2300	2370	---	---	---
3	---	---	1490	---	---	---	2530	2370	2460	---	---	---
4	---	---	1620	---	---	---	2530	2490	2510	---	---	---
5	---	---	1760	---	---	---	2560	2490	2520	---	---	---
6	---	---	1900	---	---	---	2580	2520	2550	---	---	---
7	---	---	2040	---	---	---	2560	2480	2530	---	---	---
8	---	---	2160	---	---	---	2540	2460	2500	2750	2160	2300
9	---	---	2280	---	---	---	---	---	---	2460	2300	2400
10	---	---	2390	---	---	---	---	---	---	2480	2380	2420
11	---	---	2490	---	---	---	---	---	---	2460	2400	2430
12	---	---	2580	---	---	---	---	---	---	2480	2400	2440
13	---	---	2670	---	---	---	---	---	---	2460	2380	2430
14	---	---	2730	---	---	---	---	---	---	2440	2340	2400
15	---	---	2800	3440	3060	3120	---	---	---	2440	2320	2380
16	---	---	2880	3080	3020	3040	---	---	---	2420	2330	2380
17	---	---	2980	3080	2960	3000	---	---	---	2400	2330	2360
18	---	---	3070	3080	2950	3000	---	---	---	2390	2310	2360
19	---	---	2960	3050	2930	3010	---	---	---	2370	2290	2340
20	---	---	2730	---	---	---	---	---	---	2350	2250	2310
21	---	---	2240	---	---	---	---	---	---	2310	2190	2280
22	---	---	1760	---	---	---	---	---	---	2290	2230	2260
23	---	---	1770	---	---	---	---	---	---	---	---	---
24	---	---	1830	---	---	---	---	---	---	---	---	---
25	---	---	1870	---	---	---	---	---	---	2230	2190	2210
26	---	---	---	---	---	---	---	---	---	2210	2110	2170
27	---	---	---	---	---	---	---	---	---	2150	2060	2110
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	3190	2650	2880	---	---	---	---	---	---
31	---	---	---	2650	2500	2570	---	---	---	---	---	---
MONTH	---	---	2210	3440	2500	2950	2580	2300	2480	2750	2060	2330
YEAR	9060	312	4060									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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

BRAZOS RIVER BASIN

175

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX

LOCATION.--Lat 32°38'54", long 99°00'15", Stephens County, Hydrologic Unit 12060105, on left bank 600 ft downstream from Battle Creek, 1.6 mi upstream from bridge on Farm Road 576, 9.8 mi southwest of Breckenridge, and about 14.6 mi upstream from Hubbard Creek Dam.

DRAINAGE AREA.--280 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1962 to current year. Prior to October 1975, published as "near Breckenridge."

REVISED RECORDS.--WDR TX-76-2: Drainage area at former site.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,185.83 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1975, at site 1.6 mi downstream at datum 7.41 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--According to information from State Department of Highways and Public Transportation, the floods of May 16, 1949, July 20, 1953, and Apr. 29, 1957, each reached a stage of 24.6 ft.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	1330	3,530	a17.76				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.03	.60	.25	.43	.08	6.5	e21	.02	.00	.00
2	.00	.00	.03	.60	.23	.35	.07	1.9	e4.6	.02	.00	.00
3	.00	.00	7.7	.60	.21	.25	.07	.97	e1.5	.01	.00	.00
4	.00	.00	3.0	.60	.16	.24	.07	.54	e.60	.01	.00	.00
5	.00	.00	5.5	.60	.14	.21	.07	.33	e.15	.01	.00	.00
6	.00	.00	1.7	.60	.13	.18	.07	.19	e.11	12	.00	.00
7	.01	.00	1.1	.60	.11	.18	.07	.09	e.09	.33	.00	.00
8	.01	.00	.72	.60	.11	.18	.07	e.07	e.05	.08	.00	.00
9	.01	.00	.51	.60	.09	.17	.07	e.04	e46	.02	.00	.00
10	.01	.00	.43	.59	.08	.15	.07	e10	e41	.02	.00	.00
11	.02	.00	.37	.60	.07	.15	.59	e351	e9.2	.01	.00	.00
12	.02	.00	.34	.60	.07	.15	.42	2580	e3.1	.00	.00	.00
13	.02	.00	.34	.60	.07	.15	.50	1980	e2.0	.01	.00	.00
14	.03	.00	.34	.60	.07	.15	.17	448	e1.3	.01	.00	.00
15	.03	.00	.34	.60	.07	.15	.11	e97	e.69	.01	.00	.00
16	.03	.04	.34	.60	.07	.15	.08	e43	e.52	.01	.00	.00
17	.03	.05	.34	.60	.07	.15	.07	e25	e.34	.01	.00	.00
18	.04	.05	.34	.60	.07	.14	.06	e16	e.25	.00	.00	.00
19	57	.04	.34	.60	.07	.11	.05	e13	e.18	.00	.00	.00
20	157	.04	.37	.58	.07	.10	.05	e10	e.15	.00	.00	.00
21	48	.04	.40	.74	.41	.09	.05	e6.3	e.13	.00	.00	.00
22	12	.04	.53	1.1	181	.09	.05	e3.8	e.11	.00	.00	.00
23	2.1	.04	.60	1.2	44	.09	1.4	3.1	e.09	.00	.00	.00
24	.43	.04	.60	.86	8.8	.09	.77	3.1	e.05	.00	.00	.00
25	.14	.04	.60	.58	2.3	.09	.24	2.8	e.04	.00	.00	.00
26	.04	.04	.60	.51	1.0	.09	.15	e19	e.04	.00	.00	.00
27	.02	.04	.60	.45	.66	.09	.12	e55	e.03	.00	.00	.00
28	.01	.04	.60	.41	.45	.09	.09	e43	e.03	.00	.00	.00
29	.01	.04	.60	.34	---	.09	.18	e9.5	.02	.00	.00	.00
30	.01	.03	.60	.30	---	.09	13	e106	.02	.02	.00	.00
31	.01	---	.60	.28	---	.09	---	e74	---	.01	.00	---
TOTAL	277.03	0.61	30.51	18.74	240.83	4.73	18.86	5909.23	133.39	12.61	0.00	0.00
MEAN	8.94	.020	.98	.60	8.60	.15	.63	191	4.45	.41	.000	.000
MAX	157	.05	7.7	1.2	181	.43	13	2580	46	12	.00	.00
MIN	.00	.00	.03	.28	.07	.09	.05	.04	.02	.00	.00	.00
AC-FT	549	1.2	61	37	478	9.4	37	11720	265	25	.00	.00
CFSM	.03	.00	.00	.00	.03	.00	.00	.68	.02	.00	.00	.00
IN.	.04	.00	.00	.00	.03	.00	.00	.79	.02	.00	.00	.00

BRAZOS RIVER BASIN

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

MEAN	58.1	12.4	18.4	21.1	26.3	26.1	31.6	70.6	33.3	6.03	14.8	21.2
MAX	1151	155	342	547	455	255	209	414	129	51.4	211	109
(WY)	1982	1965	1992	1968	1992	1992	1990	1965	1982	1962	1978	1974
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1969	1971	1971	1971	1962	1966	1980	1984	1964	1964	1980	1968

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1962 - 1994

ANNUAL TOTAL	1878.35	6646.54	28.4
ANNUAL MEAN	5.15	18.2	114
HIGHEST ANNUAL MEAN			2.47
LOWEST ANNUAL MEAN			28100
HIGHEST DAILY MEAN	283 Sep 14	2580 May 12	Oct 13 1981
LOWEST DAILY MEAN	.00 Jul 12	.00 Oct 1	Feb 1 1962
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 12	.00 Nov 1	Feb 1 1962
INSTANTANEOUS PEAK FLOW		3530 May 12	180000 Oct 13 1981
INSTANTANEOUS PEAK STAGE		a17.76 May 12	a28.60 Oct 13 1981
ANNUAL RUNOFF (AC-FT)	3730	13180	20570
ANNUAL RUNOFF (CFSM)	.018	.065	.10
ANNUAL RUNOFF (INCHES)	.25	.88	1.38
10 PERCENT EXCEEDS	7.4	3.4	14
50 PERCENT EXCEEDS	.52	.08	.07
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

a From floodmark.

i From field determination, based on 2-section slope-area measurement of peak flow.

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: November 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1975 to current year.

WATER TEMPERATURE: November 1975 to current year.

INSTRUMENTATION.--Since March 1982, specific conductance and water temperature are continuously recorded at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request. Prior to November 1975, this station was published as 08086300 Big Sandy Creek near Breckenridge.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 28,700 microsiemens Apr. 5, 10, 1976; minimum, 95 microsiemens Oct. 13, 1981.

WATER TEMPERATURE: Maximum, 37.0°C Aug. 9, 1987, July 16, 1989; minimum, 0.0°C Jan. 9, 10, 1977, Dec. 2, 3, 1985.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 16,200 microsiemens Apr. 9; minimum, 205 microsiemens Oct. 20.

WATER TEMPERATURE: Maximum, 35.0°C July 3; minimum, 2.5°C Feb. 10, 11.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 23...	1302	0.04	7720	11.5	1600	1400	490	92	1100
JAN 13...	1217	0.60	11400	7.0	2300	2100	700	140	1700
MAR 31...	0923	0.08	13300	12.5	2500	2400	740	170	2000
MAY 12...	1255	3510	270	19.0	95	20	31	4.2	16
23...	1728	3.0	2160	28.0	510	380	160	28	220
JUN 29...	1012	0.02	9160	28.5	1700	1500	480	110	1400

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINIT WAT DIS FIX END FIELD CACO3 (MG/L)	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 23...	12	6.6	200	430	2400	0.20	5.7	4640
JAN 13...	15	5.1	240	690	3500	0.20	1.6	6880
MAR 31...	17	5.0	150	840	4400	0.10	0.20	8240
MAY 12...	0.7	4.6	75	20	24	0.20	9.3	154
23...	4	6.4	130	130	540	0.20	12	1180
JUN 29...	15	7.1	120	530	2900	0.20	9.5	5510

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1993	277.03	1250	710	531	350	258	79	59	220
NOV. 1993	0.61	7690	4510	7.4	2300	3.8	460	0.8	1300
DEC. 1993	30.51	4960	2880	237	1400	119	300	25	850
JAN. 1994	18.74	11100	6620	335	3500	175	640	33	*
FEB. 1994	240.83	2330	1330	862	650	420	150	96	400
MAR. 1994	4.73	6280	3690	47	1900	24	380	4.8	1100
APR. 1994	18.86	6500	3800	193	1900	98	390	20	1100
MAY 1994	5909.23	393	220	3520	110	1680	25	403	68
JUNE 1994	133.39	1510	850	306	410	148	96	35	260
JULY 1994	12.61	3360	1920	65	940	32	210	7.2	580
AUG. 1994	0.00	*	*	0.00	*	0.00	*	0.00	*
SEPT 1994	0.00	*	*	0.00	*	0.00	*	0.00	*
TOTAL	6646.54	**	**	6100	**	2960	**	683	**
MTD. AVG.	18	600	340	**	170	**	38	**	100

BRAZOS RIVER BASIN

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	9540	9350	9440	9280	8930	9130
2	---	---	---	---	---	---	9670	9520	9590	10000	9190	9530
3	---	---	---	---	---	---	11400	389	3970	10300	9690	9870
4	---	---	---	---	---	---	2850	368	649	10800	9600	10200
5	---	---	---	---	---	---	10800	2500	7490	11400	10600	11100
6	---	---	---	---	---	---	7220	2430	3820	11100	9830	10600
7	3460	3230	3330	---	---	---	2430	2090	2220	10800	9830	10500
8	3680	3370	3460	---	---	---	2330	2100	2240	11100	10700	10800
9	3740	3630	3680	---	---	---	2880	2320	2610	11500	11000	11200
10	3820	3630	3710	---	---	---	3350	2810	3010	11500	11000	11300
11	3900	3710	3790	---	---	---	3540	3170	3230	11400	10300	11000
12	3950	3720	3860	---	---	---	3750	3460	3620	11300	11000	11200
13	4230	3930	4020	---	---	---	3770	3570	3680	11800	11100	11400
14	4400	4150	4220	---	---	---	4060	3680	3830	12300	11400	11900
15	4480	4270	4380	---	---	---	4050	3850	3960	12300	11300	11900
16	4610	4430	4500	5970	5070	5290	5090	4050	4630	12900	12300	12700
17	4850	4570	4650	6550	5460	6140	5110	4210	4840	13100	12500	12800
18	4910	4680	4780	7620	6430	7120	5230	4660	4990	12700	12400	12500
19	8230	246	3660	7730	6840	7440	6110	5230	5680	12800	12400	12600
20	986	205	624	7680	7170	7520	6190	5500	5870	12400	12100	12200
21	945	411	648	7710	7500	7560	8060	6190	7160	12400	11900	12200
22	596	534	580	7870	7710	7800	8300	6110	6940	12300	11800	12100
23	575	534	546	7880	7790	7830	8970	7620	8490	11900	11300	11500
24	678	555	601	7930	7860	7900	7930	7430	7580	11500	10400	11100
25	822	658	702	8060	7910	8010	7750	6960	7470	10800	9460	9990
26	946	822	920	8250	8040	8120	8780	6850	7530	10200	8670	9450
27	1170	945	1000	8590	8210	8360	7300	6920	7160	9560	8180	8640
28	1230	1090	1150	8990	8470	8710	7330	6900	7110	9710	8520	8970
29	1300	1170	1250	9390	8930	9130	7420	7130	7250	10200	9710	9960
30	1380	1250	1320	9580	9380	9450	9000	7420	8290	10500	9440	10000
31	1420	1360	1400	---	---	---	9430	8670	9070	10100	9480	9770
MONTH	8230	205	2510	9580	5070	7760	11400	368	5590	13100	8180	10900

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	11900	10100	10700	2470	2330	2410	14200	13800	14100	8800	5370	6940
2	11800	11100	11400	2690	2450	2530	14400	13900	14100	9100	5130	7370
3	11400	10600	11000	2990	2690	2800	14300	13900	14200	5130	3630	4180
4	10600	10200	10400	3430	2990	3240	14900	14000	14400	3840	3510	3680
5	10800	10300	10600	3900	3430	3710	15400	14900	15200	3920	3510	3800
6	11200	10600	10800	4500	3860	4130	15600	14700	15100	4320	3880	4150
7	11900	10800	11200	5400	4500	4830	16000	15200	15700	4920	4170	4550
8	12000	11100	11700	5570	5230	5360	16000	15700	15900	5380	4920	5140
9	11900	11500	11800	5740	5420	5580	16200	15500	15900	6470	5380	5830
10	12200	11700	11900	5460	4860	5210	16100	15600	15900	10000	5020	6820
11	12300	12100	12200	5620	4800	5000	16100	4120	10700	5020	307	707
12	12300	11700	12100	5440	5040	5170	6090	4260	4870	473	247	304
13	12200	11700	12100	5920	4660	5170	6130	3780	4700	329	216	252
14	12400	12100	12200	6260	5420	5720	3980	3560	3730	422	258	334
15	12600	12000	12300	7560	6180	6550	4630	3780	4140	604	421	519
16	12300	12000	12200	9020	7100	7730	4890	4350	4560	826	604	725
17	12200	12100	12100	8960	8260	8490	5300	4780	5020	1070	825	953
18	12700	12100	12300	9180	8280	8480	5750	5060	5400	1370	1050	1230
19	12700	12100	12400	9120	8620	8880	6610	5690	5960	1530	1350	1450
20	12600	11900	12300	9380	8960	9190	7840	6370	6800	1730	1510	1620
21	12600	5110	12100	10200	9320	9530	9060	7130	7650	1900	1700	1800
22	8960	865	2370	10600	9580	9920	9770	7960	8580	2080	1880	1990
23	2200	1320	1740	10800	10400	10600	9560	3010	6590	2260	2080	2160
24	2280	1870	2100	10700	10400	10600	3010	2750	2890	2560	2200	2340
25	1870	1730	1780	11900	10600	10900	3960	2910	3240	2850	2440	2600
26	1830	1710	1770	12200	11500	11800	4630	3660	3830	2990	1540	1960
27	2010	1830	1900	12800	11800	12200	6120	4630	5440	2270	697	1330
28	2330	2010	2180	13100	12000	12400	7490	5350	6350	2150	1310	1560
29	---	---	---	13500	12800	13100	13800	6560	8890	1590	1150	1310
30	---	---	---	14100	13200	13500	13500	3760	6310	1170	298	761
31	---	---	---	14200	13300	13800	---	---	---	517	398	446
MONTH	12700	865	9270	14200	2330	7690	16200	2750	8870	10000	216	2540

BRAZOS RIVER BASIN

179

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	676	517	604	10800	9570	9950	---	---	---	---	---	---
2	894	676	790	10900	9950	10400	---	---	---	---	---	---
3	1010	894	955	11400	10400	10800	---	---	---	---	---	---
4	1190	993	1070	12100	10800	11300	---	---	---	---	---	---
5	1330	1170	1240	12400	11400	11700	---	---	---	---	---	---
6	1470	1330	1410	12300	495	3400	---	---	---	---	---	---
7	1670	1470	1590	1110	782	926	---	---	---	---	---	---
8	1880	1630	1720	1380	1090	1180	---	---	---	---	---	---
9	2760	853	1680	1610	1360	1430	---	---	---	---	---	---
10	2440	1010	1770	1910	1570	1660	---	---	---	---	---	---
11	2440	1130	1570	2090	1770	1910	---	---	---	---	---	---
12	1230	1110	1150	---	---	---	---	---	---	---	---	---
13	1490	1230	1320	2800	2300	2420	---	---	---	---	---	---
14	1860	1470	1600	3000	2420	2640	---	---	---	---	---	---
15	2200	1860	1950	3060	2580	2780	---	---	---	---	---	---
16	2670	2200	2360	3070	2780	2950	---	---	---	---	---	---
17	3250	2630	2840	3200	2950	3090	---	---	---	---	---	---
18	3920	3250	3450	---	---	---	---	---	---	---	---	---
19	4730	3760	4100	---	---	---	---	---	---	---	---	---
20	5280	4430	4750	---	---	---	---	---	---	---	---	---
21	5900	4950	5290	---	---	---	---	---	---	---	---	---
22	6290	5500	5820	---	---	---	---	---	---	---	---	---
23	7120	5980	6310	---	---	---	---	---	---	---	---	---
24	7580	6530	6910	---	---	---	---	---	---	---	---	---
25	7870	7160	7410	---	---	---	---	---	---	---	---	---
26	8370	7620	7870	---	---	---	---	---	---	---	---	---
27	8600	8050	8350	---	---	---	---	---	---	---	---	---
28	9320	8520	8770	---	---	---	---	---	---	---	---	---
29	9970	8800	9110	---	---	---	---	---	---	---	---	---
30	10100	9160	9500	7690	4710	6860	---	---	---	---	---	---
31	---	---	---	6910	6150	6540	---	---	---	---	---	---
MONTH	10100	517	3780	12400	495	5110	---	---	---	---	---	---
YEAR	16200	205	6440									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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

BRAZOS RIVER BASIN

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	8.5	3.0	5.5	11.0	7.5	9.5	21.0	14.0	17.5	19.0	13.0	15.5
2	8.5	6.5	7.5	15.5	5.5	9.0	23.5	16.5	19.5	17.0	15.5	16.0
3	9.5	7.5	8.5	13.0	8.0	10.0	21.0	14.5	18.0	17.0	14.5	15.5
4	10.5	8.5	9.5	15.0	10.0	12.0	21.0	16.0	18.5	25.0	15.5	19.5
5	10.5	8.0	9.5	16.0	10.5	13.5	21.0	16.5	19.0	24.0	19.0	21.5
6	11.0	6.5	9.5	18.5	13.5	16.0	19.0	11.0	15.5	26.5	20.5	23.0
7	12.5	7.5	10.0	20.0	15.0	17.5	18.5	12.5	16.0	24.5	20.5	22.5
8	14.0	10.0	12.0	19.0	10.5	14.5	21.5	15.0	18.0	24.0	19.0	21.0
9	14.0	4.0	7.5	11.0	7.5	9.0	25.5	19.0	21.5	23.5	21.0	22.5
10	6.0	2.5	4.0	12.0	6.5	9.5	25.0	21.5	23.0	23.0	19.5	21.0
11	8.0	2.5	5.5	15.0	7.5	11.0	23.5	19.5	21.5	20.0	19.0	19.5
12	9.5	7.0	8.0	12.5	11.0	12.0	22.5	14.5	18.5	20.0	19.0	19.5
13	9.5	5.5	7.5	18.0	12.0	14.5	24.0	16.5	20.0	20.0	19.0	19.5
14	8.0	4.0	6.5	17.0	9.0	13.5	26.0	19.5	22.0	22.0	18.5	20.0
15	10.5	6.5	8.5	20.0	13.5	16.5	26.0	19.5	22.5	23.0	20.0	21.5
16	11.5	7.0	9.5	21.0	14.0	17.5	22.5	15.0	19.5	25.0	21.5	23.0
17	13.0	8.5	11.0	21.0	15.5	18.5	23.0	15.5	20.0	25.0	22.0	23.5
18	13.5	11.0	12.0	22.0	16.5	19.5	24.0	16.0	20.0	26.5	22.5	24.5
19	15.0	13.0	13.5	23.0	15.0	19.0	25.5	19.0	22.0	26.5	22.0	24.0
20	15.0	11.5	13.5	24.5	18.5	21.0	25.5	20.5	23.0	26.5	21.5	24.0
21	14.5	11.0	12.5	23.0	16.5	20.0	26.0	20.5	23.0	27.0	21.0	24.0
22	11.0	9.5	10.5	19.5	13.5	17.0	26.0	21.5	23.5	27.0	21.5	24.0
23	11.0	8.0	9.5	22.5	17.0	20.0	25.0	20.0	22.5	28.0	22.0	24.5
24	12.5	7.0	9.5	24.0	19.0	21.0	26.0	20.5	23.0	29.5	22.5	25.5
25	11.5	7.5	9.5	20.5	14.0	17.5	25.5	20.5	22.5	29.5	23.5	26.0
26	9.5	4.5	7.0	22.5	17.5	20.0	25.5	19.0	22.0	25.5	22.0	23.0
27	10.5	6.5	8.5	20.5	15.5	17.5	25.0	20.0	23.0	23.0	20.5	22.0
28	11.0	10.0	10.0	18.0	11.5	15.0	22.5	15.5	19.0	25.0	21.5	23.0
29	---	---	---	19.5	12.0	15.5	21.0	15.5	17.5	27.5	23.0	25.0
30	---	---	---	19.0	12.5	16.0	17.0	14.0	15.5	25.5	23.0	24.0
31	---	---	---	19.5	12.5	16.0	---	---	---	25.5	22.5	24.0
MONTH	15.0	2.5	9.0	24.5	5.5	15.5	26.0	11.0	20.5	29.5	13.0	22.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	27.0	23.5	25.0	34.5	28.5	31.0	---	---	---	---	---	---
2	28.5	24.5	26.0	34.5	29.0	31.5	---	---	---	---	---	---
3	29.0	24.5	26.5	35.0	29.0	31.5	---	---	---	---	---	---
4	29.5	25.0	27.5	34.5	29.0	31.5	---	---	---	---	---	---
5	31.0	25.5	28.5	34.5	28.5	31.5	---	---	---	---	---	---
6	33.0	27.0	29.5	32.5	24.0	28.5	---	---	---	---	---	---
7	34.0	27.5	30.0	33.0	27.0	29.5	---	---	---	---	---	---
8	33.5	27.5	30.0	33.0	27.5	30.0	---	---	---	---	---	---
9	33.5	26.0	28.0	32.0	28.0	30.5	---	---	---	---	---	---
10	29.5	24.5	27.0	32.0	27.0	29.5	---	---	---	---	---	---
11	28.0	24.5	26.0	32.0	28.0	29.5	---	---	---	---	---	---
12	30.0	23.0	26.5	---	---	---	---	---	---	---	---	---
13	31.5	25.0	27.5	31.0	28.0	29.5	---	---	---	---	---	---
14	31.0	25.0	27.5	32.0	27.0	29.5	---	---	---	---	---	---
15	29.5	24.5	26.5	34.0	28.0	30.5	---	---	---	---	---	---
16	32.0	24.5	27.5	34.5	28.5	31.5	---	---	---	---	---	---
17	32.0	25.5	28.5	34.0	28.5	31.0	---	---	---	---	---	---
18	32.5	26.5	29.0	---	---	---	---	---	---	---	---	---
19	32.0	26.5	29.0	---	---	---	---	---	---	---	---	---
20	31.0	26.0	29.0	---	---	---	---	---	---	---	---	---
21	32.5	26.0	29.0	---	---	---	---	---	---	---	---	---
22	32.5	26.0	29.0	---	---	---	---	---	---	---	---	---
23	33.5	27.0	30.0	---	---	---	---	---	---	---	---	---
24	34.0	26.5	30.0	---	---	---	---	---	---	---	---	---
25	34.0	27.5	30.5	---	---	---	---	---	---	---	---	---
26	34.0	28.0	31.0	---	---	---	---	---	---	---	---	---
27	33.5	28.0	30.5	---	---	---	---	---	---	---	---	---
28	33.5	28.0	30.5	---	---	---	---	---	---	---	---	---
29	33.5	28.5	31.0	---	---	---	---	---	---	---	---	---
30	33.5	28.5	31.0	26.0	24.0	25.0	---	---	---	---	---	---
31	---	---	---	26.0	23.5	24.5	---	---	---	---	---	---
MONTH	34.0	23.0	28.5	35.0	23.5	30.0	---	---	---	---	---	---
YEAR	35.0	2.5	16.5									

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 upstream from U.S. Highway 183, 6.5 mi northwest of Breckenridge, and 12.6 mi upstream from mouth.

DRAINAGE AREA.--1,085 mi².

WATER-CONTENT RECORDS

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

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

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

REMARKS.--The reservoir is formed by a rolled earthfill dam 5,630 ft long. There are two additional levees, the north and south, making an overall length of 3.5 mi. Storage began September 1962 and the dam was completed in December 1962. The emergency spillway is a 2,000-foot-wide cut through natural ground near the left end of dam. The service spillway is a partially controlled morning-glory type, with 12 lift gates designed to discharge 30,000 ft³/s with a 17.5-foot head through a 22.0-foot-diameter concrete conduit. The dam is the property of the West Central Texas Municipal Water District. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,208.0	-
Crest of emergency spillway.....	1,194.0	515,800
Top of gates.....	1,185.1	350,900
Top of conservation pool.....	1,183.0	317,800
Crest of spillway.....	1,176.6	230,100
Sill of gate.....	1,138.0	5,580
Lowest gated outlet (invert).....	1,136.0	3,470

COOPERATION.--The diversions and capacity table were furnished by the West Central Texas Municipal Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 441,200 acre-ft Oct. 14, 1981, for several hours (elevation, 1,190.22 ft); minimum since normal operating level was reached in May 1969, 157,400 acre-ft Oct. 1, 1984 (elevation, 1,169.89 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 285,600 acre-ft May 31 at 1200 hours (elevation, 1,180.81 ft); minimum, 247,300 acre-ft Apr. 28 (elevation, 1,177.98 ft).

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

1,169.0	149,100	1,180.0	274,200	1,187.0	382,800
1,174.0	199,700	1,183.0	317,800	1,189.0	418,600
1,177.0	235,000	1,185.0	349,300	1,191.0	456,100

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	263900	262600	259500	257900	256100	255200	251500	248300	285600	277000	269900	262300
2	263100	262600	259500	257800	256100	255600	251100	248000	285600	276500	269300	263100
3	263700	262600	261000	257800	256100	255500	250900	248000	285500	275900	269300	262700
4	263700	262300	260800	257600	256100	255500	250600	248400	285100	275600	268800	262500
5	263700	262000	260800	257400	256100	255500	250400	248400	284800	275200	268300	262200
6	263700	261800	260600	257300	256000	255500	250200	248300	284500	275300	268300	261800
7	263000	261500	260600	257200	256000	255100	250000	248000	284200	275000	267700	261800
8	263000	261200	261000	256900	255300	254800	249800	248000	284100	274800	267700	262000
9	261900	261200	261000	257000	255300	254700	250000	248300	283800	274500	267400	262000
10	261900	261200	260700	257000	255300	254500	250000	248800	283500	275000	267000	261600
11	262000	261400	260400	257000	254900	254400	250500	252700	283600	275300	266800	261600
12	262300	261600	260000	257200	254900	254400	250500	269900	283500	275100	266800	261600
13	262700	261400	259700	257000	254900	254400	250500	278900	283200	274800	266400	261400
14	262700	261100	259500	256600	254900	254700	250200	281400	282500	274300	265600	261000
15	262700	260800	259400	256400	255100	254700	249800	281700	282200	274300	265600	260800
16	262700	261600	259400	256400	255100	254400	249800	282000	282100	273900	265300	260700
17	263500	261600	259100	256400	254900	254500	249800	282000	281800	273400	264900	260700
18	263400	261400	259100	256200	254900	254700	249400	281700	281500	273400	264600	260200
19	265300	261100	259100	256000	254800	254700	249400	281400	281200	273000	264300	260200
20	265800	261100	258900	255700	254800	254300	248900	281200	281100	272400	263500	259800
21	265000	261000	258900	255700	255300	254000	248900	281100	280800	271900	263400	259800
22	265000	260700	258900	256800	255600	254000	248800	280800	280500	271900	263400	258900
23	265000	261000	258700	256800	255900	253900	248800	280700	280300	271500	263100	258300
24	265000	259900	258600	257000	255500	253200	248500	280700	279800	271200	263100	258200
25	264600	259700	258600	257300	255300	252800	248400	280700	279600	270800	262700	258100
26	264300	259700	258600	256900	255200	252600	248100	281500	278900	270000	262500	258100
27	264100	259700	258200	256500	255200	252700	247700	282400	278600	269600	261900	258100
28	263700	259700	258100	256200	255200	252400	248000	282400	278000	269600	261400	257600
29	263100	259700	258100	256200	---	252100	248600	282700	277700	269100	261100	257600
30	262900	259500	258200	256200	---	251800	248300	284500	277300	269900	260800	257200
31	262900	---	258100	256100	---	251900	---	285600	---	269900	261600	---
MAX	265800	262600	261000	257900	256100	255600	251500	285600	285600	277000	269900	263100
MIN	261900	259500	258100	255700	254800	251800	247700	248000	277300	269100	260800	257200
(+)	1179.16	1178.91	1178.80	1178.65	1178.58	1178.33	1178.05	1180.81	1180.22	1179.68	1179.07	1178.73
(@)	-1300	-3400	-1400	-2000	-900	-3300	-3600	+37300	-8300	-7400	-8300	-4400
CAL YR 1993	MAX	306400	MIN	258100	(@)	-41900						
WTR YR 1994	MAX	285600	MIN	247700	(@)	-7000						

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

BRAZOS RIVER BASIN

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1963 to current year.

324932098575101 - HUBBARD CR RES SITE P01

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	
JAN													
13...	0937	257000	1.00	1160	8.3	7.5	1.04	10.7	92	290	170	78	
13...	0939	--	10.0	1160	8.3	7.5	--	10.7	92	--	--	--	
13...	0940	--	20.0	1160	8.3	7.5	--	10.6	91	--	--	--	
13...	0943	--	30.0	1160	8.2	7.0	--	10.6	90	--	--	--	
13...	0945	--	40.0	1160	8.2	7.0	--	10.6	90	--	--	--	
13...	0947	--	50.0	1160	8.2	7.0	--	10.5	89	--	--	--	
13...	0949	--	63.0	1160	8.2	7.0	--	10.5	89	290	170	77	
APR													
21...	0942	249000	1.00	1210	8.1	19.5	2.47	7.7	88	290	170	77	
21...	0944	--	10.0	1220	8.1	19.5	--	7.6	87	--	--	--	
21...	0947	--	20.0	1220	8.1	19.0	--	7.6	86	--	--	--	
21...	0950	--	30.0	1220	8.0	17.5	--	7.0	77	--	--	--	
21...	0953	--	40.0	1220	8.0	17.5	--	6.7	73	--	--	--	
21...	0957	--	50.0	1220	8.0	17.0	--	5.8	63	--	--	--	
21...	1001	--	61.0	1220	7.9	16.0	--	3.7	39	290	170	79	
AUG													
11...	1133	267000	1.00	1170	8.1	28.0	0.73	6.9	92	280	180	75	
11...	1138	--	10.0	1170	8.1	27.5	--	6.6	87	--	--	--	
11...	1142	--	20.0	1170	8.0	27.5	--	6.3	83	--	--	--	
11...	1147	--	30.0	1170	7.8	27.0	--	5.2	68	--	--	--	
11...	1152	--	40.0	1160	7.4	26.0	--	2.1	27	--	--	--	
11...	1157	--	50.0	1180	7.2	23.5	--	0.2	2	--	--	--	
11...	1202	--	63.0	1180	7.2	22.0	--	0.3	4	300	170	82	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN													
13...	22	120	3	7.4	110	76	250	0.30	7.6	628	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	23	120	3	7.2	110	78	260	0.30	7.9	642	--	--	--
APR													
21...	23	120	3	7.1	110	85	260	0.30	7.0	647	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	23	120	3	7.1	120	85	260	0.30	7.5	654	0.041	0.041	--
AUG													
11...	23	120	3	7.4	100	84	260	0.30	8.2	639	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	24	120	3	6.9	130	70	260	0.30	11	658	--	--	--

BRAZOS RIVER BASIN

183

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324932098575101 - HUBBARD CR RES SITE P01--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
13...	<0.010	--	<0.050	0.020	--	<0.20	<0.010	<0.010	--	<3	<1
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	0.010	--	<0.050	0.030	0.17	0.20	<0.010	<0.010	--	<3	17
APR											
21...	0.010	--	<0.050	0.020	0.18	0.20	<0.010	<0.010	--	<3	2
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	0.020	0.061	0.061	0.160	0.24	0.40	<0.010	<0.010	--	4	150
AUG											
11...	<0.010	--	<0.050	0.020	0.18	0.20	0.030	<0.010	--	3	13
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	0.020	--	<0.050	0.050	0.25	0.30	0.020	<0.010	--	--	--
11...	<0.010	--	<0.050	0.250	0.25	0.50	0.020	<0.010	--	110	1900
11...	<0.010	--	<0.050	0.530	0.17	0.70	0.030	0.020	0.06	880	1800

324649099000501 - HUBBARD CR RES SITE P09

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
JAN											
13...	0905	1.00	1160	8.2	7.5	1.04	10.8	93	280	170	75
13...	0907	10.0	1160	8.2	7.5	--	10.7	92	--	--	--
13...	0909	20.0	1160	8.2	7.0	--	10.8	92	--	--	--
13...	0911	30.0	1160	8.2	7.0	--	10.5	89	--	--	--
13...	0913	43.0	1170	8.2	7.0	--	10.3	88	280	170	76
APR											
21...	0909	1.00	1220	8.1	19.5	1.16	7.5	86	290	170	77
21...	0912	10.0	1220	8.1	18.5	--	7.4	83	--	--	--
21...	0915	20.0	1220	8.0	18.0	--	7.0	78	--	--	--
21...	0919	30.0	1220	8.0	17.5	--	6.2	68	--	--	--
21...	0922	42.0	1230	8.0	17.5	--	5.5	60	290	170	79
AUG											
11...	1049	1.00	1160	8.0	27.5	0.73	6.1	81	280	180	76
11...	1052	10.0	1160	8.0	27.5	--	5.8	77	--	--	--
11...	1055	20.0	1160	7.8	27.0	--	5.2	68	--	--	--
11...	1058	30.0	1160	7.6	27.0	--	3.6	47	--	--	--
11...	1101	43.0	1170	7.3	26.0	--	0.3	4	290	180	77

BRAZOS RIVER BASIN

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324649099000501 - HUBBARD CR RES SITE P09--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN											
13...	23	120	3	6.9	110	80	260	0.30	7.8	641	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	23	120	3	6.9	120	78	250	0.30	7.9	631	0.032
APR											
21...	23	120	3	7.0	120	86	260	0.30	7.0	650	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	22	120	3	6.9	120	86	260	0.30	7.4	653	0.040
AUG											
11...	23	120	3	7.2	100	82	260	0.30	8.3	639	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	24	120	3	7.3	110	80	260	0.30	8.7	645	--

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
13...	--	0.010	--	<0.050	0.030	0.17	0.20	<0.010	<0.010	<3	<1
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	0.032	0.020	0.052	0.052	0.040	--	<0.20	<0.010	<0.010	<3	5
APR											
21...	--	0.010	--	<0.050	0.010	0.19	0.20	<0.010	<0.010	<3	<1
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	0.040	0.020	0.060	0.060	0.030	0.17	0.20	<0.010	<0.010	<3	9
AUG											
11...	--	<0.010	--	<0.050	0.030	0.27	0.30	0.030	<0.010	4	17
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	0.020	--	<0.050	0.110	0.29	0.40	0.040	<0.010	8	320

324606099000201 - HUBBARD CR RES SITE P10

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
13...	0845	1.00	1170	8.2	7.5	10.8	93
13...	0847	10.0	1170	8.2	7.5	10.8	93
13...	0849	20.0	1170	8.2	7.0	10.6	90
13...	0851	32.0	1170	8.1	7.0	10.5	89
APR							
21...	0851	1.00	1230	8.2	19.5	7.5	86
21...	0853	10.0	1230	8.2	19.0	7.4	84
21...	0856	20.0	1230	8.1	17.5	6.4	70
21...	0859	33.0	1230	8.0	17.5	5.5	60
AUG							
11...	1015	1.00	1160	8.1	27.5	6.5	86
11...	1018	10.0	1160	8.0	27.5	6.1	81
11...	1021	20.0	1160	7.5	27.0	3.4	44
11...	1024	33.0	1160	7.5	27.0	2.5	33

BRAZOS RIVER BASIN

185

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324514099010201 - HUBBARD CR RES SITE P11

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
13...	1230	1.00	1170	8.2	8.0	10.4	91
13...	1232	10.0	1170	8.2	7.5	10.3	89
13...	1234	24.0	1170	8.2	8.0	9.9	86
APR							
21...	0837	1.00	1240	8.2	19.5	7.4	85
21...	0840	10.0	1240	8.2	18.5	7.0	78
21...	0842	23.0	1240	8.0	17.5	4.5	49
AUG							
11...	0938	1.00	1160	7.9	27.5	6.1	81
11...	0940	10.0	1160	7.9	27.5	5.8	77
11...	0943	24.0	1170	7.4	27.0	2.6	34

324301099001701 - HUBBARD CR RES SITE P12

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
JAN										
13...	1256	1.00	1180	8.2	8.5	0.55	10.2	90	290	170
13...	1301	10.0	1180	8.2	8.5	--	10.2	90	290	160
APR										
21...	0817	1.00	1340	8.1	20.0	0.40	6.3	73	310	190
21...	0824	10.0	1250	8.0	18.0	--	5.2	58	290	170
AUG										
11...	0957	1.00	1200	7.9	27.5	0.18	5.8	77	300	190
11...	1002	11.0	1210	7.8	27.5	--	5.4	71	290	180

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN										
13...	81	22	120	3	6.4	120	78	260	0.30	6.1
13...	78	22	120	3	6.4	120	80	250	0.30	6.1
APR										
21...	86	24	130	3	7.5	120	94	300	0.30	6.6
21...	79	23	120	3	7.4	120	87	270	0.30	7.3
AUG										
11...	81	24	130	3	8.1	110	81	270	0.30	9.1
11...	79	23	120	3	7.5	120	82	270	0.30	9.2

DATE	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
13...	646	0.010	<0.050	0.020	0.18	0.20	<0.010	<0.010	<3	2
13...	635	0.010	<0.050	0.030	0.17	0.20	<0.010	<0.010	<3	2
APR										
21...	723	0.010	<0.050	0.020	0.28	0.30	<0.010	<0.010	<3	1
21...	666	0.010	<0.050	0.040	0.36	0.40	0.010	<0.010	<3	16
AUG										
11...	671	<0.010	<0.050	0.020	0.28	0.30	0.020	<0.010	6	3
11...	660	<0.010	<0.050	0.020	0.28	0.30	0.030	<0.010	<3	10

BRAZOS RIVER BASIN

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324949098594301 - HUBBARD CR RES SITE P13

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
13...	1010	1.00	1160	8.2	7.5	10.7	92
13...	1012	10.0	1160	8.3	7.5	10.7	92
13...	1014	20.0	1160	8.2	7.5	10.7	92
13...	1016	30.0	1160	8.2	7.0	10.5	89
13...	1018	40.0	1160	8.2	7.0	10.5	89
13...	1020	50.0	1160	8.2	7.0	10.4	89
13...	1022	56.0	1160	8.2	7.0	10.3	88
APR							
21...	1013	1.00	1210	8.2	20.0	7.8	90
21...	1016	10.0	1210	8.2	19.5	7.7	88
21...	1018	20.0	1220	8.2	18.5	7.5	84
21...	1021	30.0	1220	8.1	17.5	6.9	76
21...	1023	40.0	1220	8.1	17.5	6.4	70
21...	1026	50.0	1220	8.1	17.5	6.1	67
21...	1029	57.0	1220	8.0	17.0	5.1	55
AUG							
11...	1240	1.00	1170	8.2	28.5	7.0	94
11...	1243	10.0	1170	8.1	28.0	7.0	93
11...	1247	20.0	1170	8.1	28.0	6.6	88
11...	1250	30.0	1170	7.9	27.0	5.4	71
11...	1253	40.0	1170	7.4	26.0	2.2	28
11...	1256	50.0	1180	7.2	23.0	0	0
11...	1259	57.0	1190	7.3	22.5	0.2	2

324802099021601 - HUBBARD CR RES SITE P15

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
13...	1037	1.00	1170	8.2	7.5	10.7	92
13...	1039	10.0	1170	8.2	7.5	10.7	92
13...	1041	20.0	1180	8.2	7.0	10.3	88
13...	1043	33.0	1180	8.2	7.0	10.3	88
APR							
21...	1044	1.00	1210	8.1	21.5	7.5	89
21...	1047	10.0	1220	8.1	20.0	7.4	85
21...	1050	20.0	1220	8.0	18.5	6.1	68
21...	1053	33.0	1220	8.0	18.0	5.2	58
AUG							
11...	1325	1.00	1180	8.1	28.5	6.8	91
11...	1328	10.0	1170	8.0	28.0	6.3	84
11...	1330	20.0	1170	7.8	27.5	5.1	67
11...	1332	33.0	1180	7.6	27.5	2.7	36

324653099032401 - HUBBARD CR RES SITE P16

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
JAN											
13...	1055	1.00	1190	8.2	8.0	0.49	10.6	93	280	170	76
13...	1057	10.0	1190	8.2	8.0	--	10.5	92	--	--	--
13...	1058	15.0	1230	8.2	7.5	--	10.2	88	--	--	--
13...	1059	19.0	1680	7.8	7.5	--	8.1	70	410	280	110
APR											
21...	1107	1.00	1220	8.1	21.0	1.00	7.2	85	290	180	80
21...	1111	10.0	1230	8.0	20.0	--	7.0	81	--	--	--
21...	1115	19.0	1240	7.9	19.0	--	4.8	54	290	170	80
AUG											
11...	1347	1.00	1180	8.1	28.5	0.55	6.8	91	290	180	75
11...	1351	10.0	1180	8.0	27.5	--	6.1	81	--	--	--
11...	1356	19.0	1180	8.0	27.5	--	5.7	75	290	180	75

BRAZOS RIVER BASIN

187

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324653099032401 - HUBBARD CR RES SITE P16--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN											
13...	23	120	3	6.7	120	83	260	0.30	7.4	646	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	120	--	--	--	--	--	--
13...	34	190	4	6.5	130	140	390	0.30	6.8	958	0.150
APR											
21...	23	120	3	7.2	120	87	260	0.30	7.0	655	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	23	120	3	7.5	120	87	270	0.30	7.5	668	0.032
AUG											
11...	24	120	3	7.2	100	84	260	0.30	8.8	641	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	24	120	3	7.4	100	84	270	0.30	8.6	651	--
DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
13...	--	0.010	--	<0.050	0.030	0.27	0.30	<0.010	<0.010	<3	<1
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	0.150	0.020	0.170	0.170	0.150	0.25	0.40	<0.010	<0.010	<3	56
APR											
21...	--	0.010	--	<0.050	0.020	0.18	0.20	<0.010	<0.010	<3	1
21...	--	--	--	--	--	--	--	--	--	--	--
21...	0.032	0.020	0.052	0.052	0.040	0.26	0.30	<0.010	<0.010	18	10
AUG											
11...	--	<0.010	--	<0.050	0.020	0.18	0.20	0.020	<0.010	<3	2
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	<0.010	--	<0.050	0.020	0.18	0.20	0.030	<0.010	4	6

324608099042101 - HUBBARD CR RES SITE P17

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
13...	1122	1.00	1320	8.1	9.0	10.3	92
13...	1124	10.0	1440	8.1	8.5	10.2	90
13...	1126	17.0	2060	7.8	8.0	8.0	70
APR							
21...	1139	1.00	1440	8.1	22.5	7.0	85
21...	1141	10.0	1380	7.9	19.0	3.5	40
21...	1144	17.0	1650	7.7	19.0	1.3	15
AUG							
11...	1426	1.00	1170	8.2	29.5	7.0	96
11...	1430	10.0	1190	7.6	27.5	3.9	52
11...	1434	17.0	1190	7.5	27.5	2.9	38

BRAZOS RIVER BASIN

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

324541099053601 - HUBBARD CR RES SITE P18

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	
JAN												
13...	1145	1.00	1720	8.1	8.5	--	10.1	89	420	290	110	
13...	1147	10.0	1920	8.0	8.5	--	9.9	88	--	--	--	
13...	1149	16.0	2630	7.8	8.5	--	8.3	74	640	480	160	
APR												
21...	1158	1.00	1780	8.1	23.0	0.67	6.7	82	420	280	110	
21...	1202	10.0	2180	8.0	21.0	--	5.2	61	--	--	--	
21...	1206	16.0	2390	7.9	20.5	--	2.8	33	610	450	160	
AUG												
11...	1449	1.00	1120	8.1	29.5	0.52	7.3	100	280	160	74	
11...	1453	10.0	1140	7.1	28.0	--	0	0	--	--	--	
11...	1458	16.0	1150	7.1	27.0	--	0	0	280	150	76	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
13...	35	190	4	6.7	130	140	400	0.30	6.5	972	0.970	
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	58	300	5	6.6	160	270	630	0.30	7.0	1530	0.970	
APR												
21...	35	190	4	7.0	130	150	400	0.30	5.5	979	0.160	
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	51	260	5	6.9	160	240	540	0.30	5.8	1360	0.570	
AUG												
11...	23	110	3	7.2	120	75	240	0.30	10	610	--	
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	23	110	3	7.4	140	68	240	0.30	11	622	--	
DATE		NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN												
13...	0.970	0.030	1.00	1.00	0.110	0.39	0.50	<0.010	<0.010	<3	8	
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	0.970	0.030	1.00	1.00	0.110	0.49	0.60	<0.010	<0.010	20	40	
APR												
21...	0.160	0.020	0.180	0.180	0.080	0.32	0.40	<0.010	<0.010	<3	12	
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	0.570	0.060	0.630	0.630	0.410	0.39	0.80	<0.010	<0.010	30	340	
AUG												
11...	--	<0.010	--	<0.050	0.030	0.27	0.30	0.020	<0.010	4	24	
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	<0.010	--	<0.050	0.330	0.67	1.0	0.110	<0.010	840	1400	

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX

LOCATION.--Lat 33°01'27", long 98°38'37", Young County, Hydrologic Unit 12060201, on left bank 225 ft downstream from bridge on State Highway 67, 1.8 mi downstream from Clear Fork Brazos River, 2.0 mi northeast of South Bend, and at mile 758.2.

DRAINAGE AREA.--22,673 mi², of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--September 1938 to current year.

Water-quality records: Chemical analyses: July 1941 to Mar. 1948; Biochemical analyses: Nov. 1977 to Sept. 1991; Pesticide analyses: Mar. 1968 to April 1982; Sediment analyses: May to Sept. 1962 and Nov. 1977 to Sept. 1991.

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 above National Geodetic Vertical Datum of 1929. Prior to Feb. 23, 1939, nonrecording gage at site 255 ft upstream; and Feb. 23, 1939, to Mar. 9, 1961, water-stage recorder at site 225 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. There are many small diversions upstream from station for municipal supply and oil field operations. Flow is also affected at times by discharge from the flood-detention pools of 12 floodwater-retarding structures with a combined detention capacity of 24,710 acre-ft. These structures control runoff from 108 mi² in the Duck Creek basin. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1876 reached a stage of 36.2 ft, from information by State Department of Highways and Public Transportation and U.S. Army Corps of Engineers. Flood of Sept. 24, 1900, reached a stage of 29.5 ft, and flood of June 16, 1930, reached a stage of 35.5 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 13	1300	12,900	18.23				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	137	76	78	e500	135	47	225	621	73	22	7.1
2	37	124	73	73	e200	125	44	131	529	68	18	25
3	37	117	188	73	e100	116	41	126	542	66	16	96
4	38	110	216	78	85	127	43	152	478	63	15	76
5	37	96	233	84	84	121	38	171	383	59	13	56
6	36	88	198	77	83	114	38	149	329	83	12	37
7	35	96	149	e73	82	107	42	112	304	85	11	32
8	34	94	126	73	79	99	40	100	278	62	13	585
9	30	81	110	75	76	95	39	93	249	54	12	182
10	30	80	100	73	80	93	36	91	224	166	9.1	119
11	28	80	94	e73	80	94	37	412	208	680	7.6	124
12	32	78	101	70	74	92	38	6610	260	864	6.7	85
13	148	76	95	69	74	91	39	11700	228	691	5.7	98
14	302	72	96	69	74	87	44	9390	188	208	4.9	134
15	285	67	87	e70	73	86	38	7970	163	154	3.9	99
16	135	78	128	72	71	84	39	6440	149	110	4.2	86
17	89	89	117	e75	73	82	40	3520	141	92	4.3	1000
18	118	88	100	e72	77	76	39	1840	131	82	3.9	879
19	1250	90	93	70	77	72	45	1360	123	69	3.5	481
20	2750	87	82	e100	83	69	47	1020	118	60	2.7	291
21	2370	83	79	e200	107	63	44	825	114	50	108	192
22	1670	81	87	e100	150	63	43	671	111	43	79	138
23	1570	78	85	82	187	62	43	570	111	37	52	116
24	959	72	85	84	184	60	47	497	106	33	34	104
25	495	70	86	85	161	57	51	1480	99	30	23	91
26	297	70	84	84	141	61	46	2770	94	27	16	79
27	259	72	80	e80	130	54	42	2630	88	25	11	70
28	212	72	78	e80	144	52	39	3610	80	24	8.0	63
29	179	71	81	e80	---	51	49	1810	77	22	5.8	58
30	164	74	81	e82	---	48	274	1050	75	27	4.4	47
31	148	---	82	e82	---	48	---	805	---	27	3.8	---
TOTAL	13816	2571	3370	2536	3329	2584	1492	68330	6601	4134	533.5	5450.1
MEAN	446	85.7	109	81.8	119	83.4	49.7	2204	220	133	17.2	182
MAX	2750	137	233	200	500	135	274	11700	621	864	108	1000
MIN	28	67	73	69	71	48	36	91	75	22	2.7	7.1
AC-FT	27400	5100	6680	5030	6600	5130	2960	135500	13090	8200	1060	10810

BRAZOS RIVER MAIN STEM

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1994, BY WATER YEAR (WY)

MEAN	1291	367	299	205	417	337	760	2333	1816	719	643	1026
MAX	11620	2143	6024	1743	8987	4143	7910	22430	8652	4406	9363	7201
(WY)	1942	1975	1992	1968	1992	1992	1957	1957	1982	1961	1978	1955
MIN	.000	1.13	.39	.54	.60	.64	.82	22.1	5.61	1.51	.32	.000
(WY)	1953	1944	1939	1940	1953	1940	1971	1984	1984	1956	1970	1952

SUMMARY STATISTICS

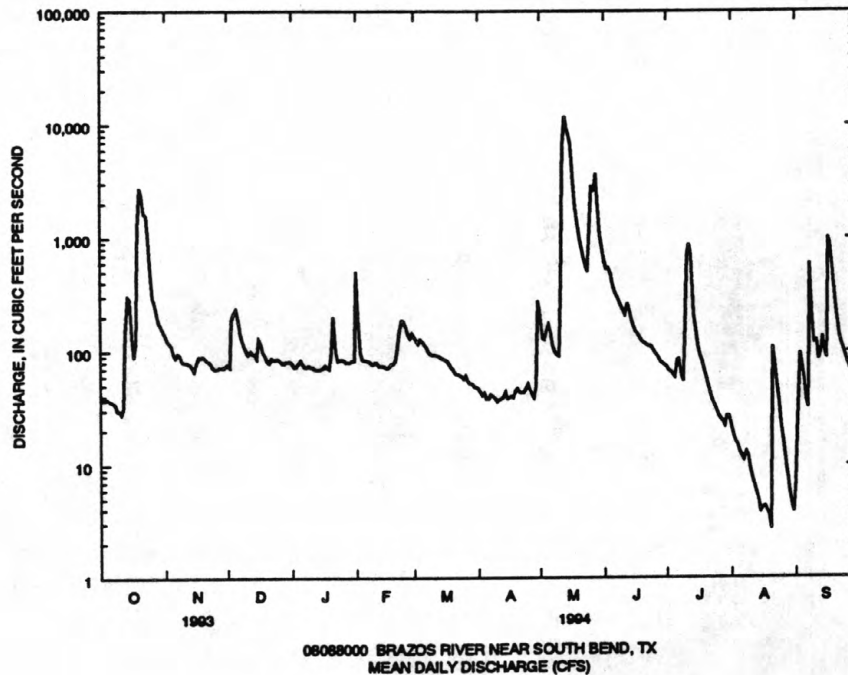
FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1939 - 1994

ANNUAL TOTAL	127054.0	114746.6	853
ANNUAL MEAN	348	314	3399
HIGHEST ANNUAL MEAN			59.9
LOWEST ANNUAL MEAN			1957
HIGHEST DAILY MEAN	4930	11700	84300
LOWEST DAILY MEAN	2.6	2.7	.00
ANNUAL SEVEN-DAY MINIMUM	3.9	3.9	.00
INSTANTANEOUS PEAK FLOW		12900	87400
INSTANTANEOUS PEAK STAGE		18.23	41.50
ANNUAL RUNOFF (AC-FT)	252000	227600	617800
10 PERCENT EXCEEDS	798	496	1500
50 PERCENT EXCEEDS	207	82	117
90 PERCENT EXCEEDS	33	29	6.6

e Estimated



08088400 LAKE GRAHAM NEAR GRAHAM, TX

LOCATION.--Lat 33°08'04", long 98°36'48". Young County, Hydrologic Unit 12060201, near left end of earthen dam on Salt Creek, 2.2 mi northwest of Graham, 5 mi downstream from Briar Creek, and 9.5 mi upstream from mouth.

DRAINAGE AREA.--221 mi².

PERIOD OF RECORD.--March 1958 to September 1963 (unpublished record), October 1963 to current year. Prior to October 1963, monthend contents only.

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

GAGE.--Water-stage recorder. Datum of gage is 1.30 ft above National Geodetic Vertical Datum of 1929. Prior to October 1963, nonrecording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,000 ft long. Lake Graham was connected with Lake Eddleman in 1959 by a cut channel at a gage height of 1,050.0 ft. Deliberate impoundment began Apr. 28, 1958, and dam was completed in July 1958. The uncontrolled emergency spillway is a 1,050-foot-wide cut at the right end of dam. The spillway is designed to discharge 136,500 ft³/s at a gage height of 1,087.5 ft. The dam is the property of the city of Graham and was built to impound water for municipal and industrial uses. In addition, water is used by the Texas Electric Service Co. for operation of their steam generating powerplant. The capacity table is based on an original survey of Lake Eddleman in 1928 and a Salt Creek survey of 1953. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	1,092.0	-
Crest of spillway.....	1,075.0	53,680
Bottom of interconnecting channel.....	1,050.0	8,670
Lowest gated outlet (invert).....	1,050.0	8,670

COOPERATION.--Capacity table was provided by Freese, Nichols, and Endress, Consulting Engineers. Record of diversions provided by the city of Graham.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 63,280 acre-ft May 3, 1990 (gage height, 1,078.52 ft); minimum, 23,390 acre-ft May 1, 1980 (gage height, 1,061.23 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 55,740 acre-ft May 30 at 1600 hours (gage height, 1,075.79 ft); minimum daily, 43,050 acre-ft Apr. 28.

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

1,060.0	21,240	1,069.0	39,180	1,075.0	53,680
1,064.0	28,580	1,071.0	43,820	1,077.0	58,990
1,067.0	34,760	1,073.0	48,660	1,080.0	67,660

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45120	46120	45360	44920	44490	44900	43960	e43420	54930	52130	52380	50370
2	45040	46080	45330	44900	44470	44880	43940	43470	54750	52000	52330	50590
3	45020	46050	45520	44880	44470	44830	43890	43490	54570	51850	52230	50590
4	44950	46030	45570	44830	44470	44780	43840	43470	54440	51770	52160	50500
5	44900	45910	45550	44760	44440	44760	43800	43420	54310	51670	52080	50470
6	44880	45910	45520	44710	44420	44760	43730	43380	54150	51650	51980	50420
7	44800	45860	45500	44680	44400	44730	43700	43330	54120	51570	51930	50400
8	44760	45840	45500	44660	44370	44760	43660	43280	54050	51520	51880	50820
9	44660	45840	45480	44640	44320	44780	43610	43350	53910	51420	51830	50840
10	44560	45810	45430	44610	44300	44780	43560	43470	53840	52640	51720	50820
11	44540	45760	45400	44610	44300	44780	43540	45400	53780	53630	51650	50770
12	44560	45840	45330	44590	44300	44760	43490	47200	53710	53710	51570	50700
13	44590	45760	45280	44560	44300	44760	43450	48170	53580	53840	51500	50640
14	44540	45690	45310	44560	44280	44730	43400	48610	53450	53840	51420	50620
15	44520	45720	45310	44540	44230	44680	e43380	48710	53380	53810	51370	50570
16	44520	45840	45310	44520	44200	44640	43330	48710	53270	53730	51290	50570
17	44610	45810	45280	44540	44180	44590	43330	48680	53250	53680	51140	50520
18	44590	45760	45260	44520	44180	44560	43280	48640	53170	53580	51120	50500
19	46080	45740	45210	44490	44300	44520	43240	48560	53120	53480	51020	50450
20	46590	45740	45190	44520	44300	44470	43210	48490	53070	53380	50940	50370
21	46630	45690	45210	44540	44490	44440	43190	48440	52970	53320	50870	50320
22	46610	45600	45190	44610	44610	44420	43190	48370	52890	53170	50740	50200
23	46610	45600	45160	44640	44730	44400	43190	48320	52840	53100	50740	50120
24	46560	45500	45140	44640	44800	44350	43140	48540	52710	53020	50720	50000
25	46560	45400	45090	44660	44800	44320	43120	51040	52640	52940	50590	49970
26	46440	45450	45070	44660	44830	44320	43090	52790	52540	52820	50520	49920
27	46390	45450	45070	44640	44850	44300	43070	53680	52440	52740	50420	49850
28	46340	45380	45020	44590	44880	44250	43050	53890	52330	52640	50320	49800
29	46240	45380	45000	44520	---	44180	43420	54830	52260	52590	50250	49780
30	46200	45360	44970	44520	---	44080	43450	55640	52180	52560	50170	49680
31	46150	---	44950	44490	---	44010	---	55270	---	52460	50070	---
MAX	46630	46120	45570	44920	44880	44900	43960	55640	54930	53840	52380	50840
MIN	44520	45360	44950	44490	44180	44010	43050	43280	52180	51420	50070	49680
(+)	1071.97	1071.64	1071.47	1071.28	1071.44	1071.08	1070.84	1075.61	1074.41	1074.52	1073.57	1073.41
(e)	+960	-790	-410	-460	+390	-870	-560	+11820	-3090	+280	-2390	-390

CAL YR 1993 MAX 54910 MIN 44520 (e) -5000
WTR YR 1994 MAX 55640 MIN 43050 (e) +4490

e Estimated

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

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

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX

LOCATION.--Lat 32°52'20", long 98°25'32", Palo Pinto County, Hydrologic Unit 12060201, at Morris Sheppard Dam on the Brazos River, 2.6 mi upstream from Loving Creek, 11.3 mi southwest of Grafard, and at mile 687.5.

DRAINAGE AREA.--23,596 mi², approximately, of which 9,566 mi² probably is noncontributing.

WATER-CONTENT RECORDS

PERIOD OF RECORD.--March 1941 to current year. Prior to October 1977, published as Possum Kingdom Reservoir.

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

GAGE.--Water-stage recorder. Datum of gage is 0.10 ft National Geodetic Vertical Datum of 1929 (levels by Brazos River Authority). Prior to Mar. 19, 1968, mercury U-tube in powerhouse at present site and datum.

REMARKS.--The lake is formed by reinforced concrete dam, Ambursen-type, massive buttress with flat-slab deck, a controlled spillway, two bulkhead sections, and an earthen-dike section. Total length of dam is 2,740 ft long. The dam was completed and storage began Mar. 21, 1941. The spillway has nine roof-weir gates (modified bear-trap type) that are 73.66 by 13 ft each and are designed to discharge about 100,000 ft³/s at a gage height of 1,000.0 ft. The outlet works consist of one controlled 54-inch-diameter conduit. Water is used for power development, irrigation, municipal, industrial, and recreational purposes. Two generators located in the powerhouse at dam can produce 22,500 kilowatts at a 1,000-foot gage height. Eleven major reservoirs, with a combined capacity of 607,800 acre-ft, largely regulate the inflow. The capacity curve is based on recomputation of a survey made in 1974. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08080950. Satellite telemeter at station. 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 provided by the Brazos River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 743,700 acre-ft Oct. 5, 1941 (gage height, 1,001.0 ft); maximum gage height, 1,003.60 ft Oct. 13, 1981; minimum contents observed, 273,000 acre-ft Feb. 19 to Mar. 17, 1953 (gage height, 967.0 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 559,800 acre-ft June 6 at 1100 hours (gage height, 999.40 ft); minimum daily, 444,100 acre-ft Oct. 13, 14.

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

970.0	221,100	982.0	328,300	994.0	474,100
973.0	245,100	985.0	360,500	997.0	519,800
976.0	270,900	988.0	395,100	1,000.0	570,200
979.0	298,500	991.0	432,700	1,001.0	743,700

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	451200	471500	466600	469400	468100	471300	470400	464200	557100	541400	526000	496700
2	450600	470600	466700	469400	468100	471400	470400	464700	557800	540500	525500	497600
3	450500	471000	470000	468300	468600	471800	470300	464600	558200	538700	524300	496900
4	450100	471300	470100	467900	468700	472400	470100	464600	559100	537800	523500	496100
5	449400	470600	470300	467900	468700	472400	470000	464200	559600	537700	522600	495500
6	449300	470000	470700	467900	469000	472500	469400	463900	558900	538000	522200	494900
7	449100	469400	471300	466700	469100	473100	469100	464200	557800	536700	521100	494000
8	448200	469400	471700	467000	469300	473200	469000	464200	557300	535000	520100	497000
9	447200	469400	472000	467300	468400	473400	469000	464600	556800	534200	519200	497600
10	446500	469700	471800	467600	467700	473200	469100	465700	556800	539500	518200	498200
11	445300	469700	472100	467600	467400	473100	469100	469300	556800	539500	517000	498100
12	445300	469800	472700	467700	467300	473100	469000	485300	557000	541400	515500	497000
13	444100	470000	470700	467700	467000	473700	468800	509100	556600	541500	515200	497000
14	444100	470100	469700	467900	467300	473700	468600	527400	555600	542400	514400	495900
15	444500	469600	469100	467700	467400	473800	468300	534100	554700	542000	513300	495600
16	445400	469600	469000	467600	467600	473800	468300	535800	554400	541700	512400	496400
17	447600	469700	468700	467100	467900	474100	468300	535200	553800	541500	510600	496400
18	447200	469600	469000	466900	468100	474000	468100	529700	553800	539900	509400	498100
19	451200	469100	469600	466700	468400	474000	468000	521700	553100	538500	508700	498700
20	455600	468400	468600	466700	469000	474000	468000	513600	552300	537200	507800	498500
21	460500	468400	469600	466900	469700	473100	468000	511100	551500	536300	507800	498100
22	465300	468700	469400	468000	471500	473000	467900	512100	551300	535800	507300	497600
23	468800	469800	469300	468100	471400	472800	467700	513000	550800	535200	506200	496900
24	471500	468600	470000	468300	471400	472500	467300	512800	549300	534700	505600	496200
25	473200	468100	469800	468600	471400	472400	467000	522400	548800	533100	504300	496100
26	473800	467300	470000	468600	471500	472200	465900	531500	547600	532100	503100	495800
27	472800	467000	470100	468600	471700	472100	465200	537300	546100	530200	501400	495800
28	473200	466700	469700	468100	471400	471700	465200	542400	544700	528900	500000	495000
29	473700	466300	469600	468100	---	471500	465000	549100	543600	528600	498800	493700
30	472200	466100	469600	468000	---	470800	464900	555100	542600	528400	497300	492600
31	471700	---	469400	468000	---	470800	---	555800	---	527300	496200	---
MAX	473800	471500	472700	469400	471700	474100	470400	555800	559600	542400	526000	498700
MIN	444100	466100	466600	466700	467000	470800	464900	542600	527300	526000	496200	492600
(+)	993.83	993.44	993.67	993.57	993.81	993.77	993.36	999.17	998.39	997.46	995.49	995.25
(@)	+18000	-5600	+3300	-1400	+3400	-600	-5900	+90900	-13200	-15300	-31100	-3600
CAL YR 1993	MAX	545600	MIN	444100	(@)	-32200						
WTR YR 1994	MAX	559600	MIN	444100	(@)	+38900						

e Estimated
(+) Gage height, in feet, at end of month.
(@) Change in contents, in acre-feet.

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: March 1962 to September 1977. Chemical and biochemical analyses: February 1978 to current year.

325208098254201 - POSSUM KINGDOM LK SITE AR

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
12...	1301	1.00	3110	8.2	10.5	9.8	91
12...	1304	10.0	3110	8.2	10.0	9.8	90
12...	1306	20.0	3110	8.2	10.0	9.8	90
12...	1308	30.0	3120	8.2	10.0	9.4	87
12...	1311	40.0	3110	8.2	10.0	9.4	87
12...	1314	50.0	3110	8.2	10.0	9.3	86
12...	1317	60.0	3110	8.2	10.0	9.2	85
12...	1320	70.0	3110	8.1	10.0	9.1	84
APR							
20...	1015	1.00	3150	8.1	18.5	7.9	88
20...	1018	10.0	3150	8.2	17.5	8.2	90
20...	1020	20.0	3160	8.1	17.0	8.0	87
20...	1023	30.0	3160	8.0	16.0	7.7	82
20...	1026	40.0	3170	7.9	14.5	7.1	73
20...	1028	50.0	3170	7.8	13.0	6.8	68
20...	1031	60.0	3180	7.7	11.0	6.4	61
20...	1034	72.0	3180	7.6	11.0	6.4	61
AUG							
10...	1103	1.00	2870	8.3	27.5	6.4	84
10...	1106	10.0	2870	8.2	27.5	6.2	82
10...	1109	20.0	2880	8.1	27.0	5.0	65
10...	1112	30.0	2920	7.7	26.5	2.8	36
10...	1115	40.0	3160	7.3	22.0	0	0
10...	1118	50.0	3240	7.3	19.0	0	0
10...	1121	60.0	3260	7.4	17.5	0	0
10...	1124	70.0	3240	7.4	17.0	0	0
10...	1127	80.0	3200	7.4	16.0	0	0
10...	1130	88.0	3170	7.4	15.5	0	0

325218098254101 - POSSUM KINGDOM LK SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRAN- SPAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
JAN												
12...	1326	468000	1.00	3110	8.2	10.5	3.00	9.8	91	570	450	140
12...	1329	--	10.0	3120	8.3	10.0	--	10.0	92	--	--	--
12...	1332	--	20.0	3110	8.2	10.0	--	9.7	89	--	--	--
12...	1335	--	30.0	3120	8.2	10.0	--	9.6	89	--	--	--
12...	1338	--	40.0	3120	8.2	10.0	--	9.6	89	--	--	--
12...	1341	--	50.0	3120	8.2	10.0	--	9.2	85	--	--	--
12...	1344	--	60.0	3120	8.2	10.0	--	9.2	85	--	--	--
12...	1347	--	70.0	3120	8.2	10.0	--	9.2	85	--	--	--
12...	1350	--	80.0	3120	8.2	10.0	--	9.2	85	--	--	--
12...	1353	--	90.0	3110	8.2	10.0	--	9.2	85	--	--	--
12...	1356	--	95.0	3120	8.2	10.0	--	9.2	85	570	450	140
APR												
20...	0929	468000	1.00	3150	8.1	19.5	7.60	7.8	89	570	460	140
20...	0933	--	10.0	3150	8.0	17.5	--	8.1	89	--	--	--
20...	0937	--	20.0	3160	8.0	17.5	--	8.0	88	--	--	--
20...	0941	--	30.0	3160	7.9	16.5	--	7.8	84	--	--	--
20...	0946	--	40.0	3160	7.8	14.5	--	7.2	74	--	--	--
20...	0950	--	50.0	3170	7.8	14.5	--	7.2	74	--	--	--
20...	0954	--	60.0	3180	7.7	13.0	--	7.0	70	--	--	--
20...	0958	--	70.0	3190	7.6	11.5	--	6.8	65	--	--	--
20...	1002	--	80.0	3200	7.6	10.5	--	6.1	57	--	--	--
20...	1007	--	97.0	3200	7.6	10.5	--	5.2	49	570	450	140
AUG												
10...	1010	518000	1.00	2870	8.2	28.0	2.38	6.4	85	490	380	120
10...	1014	--	10.0	2870	8.2	27.5	--	6.2	82	--	--	--
10...	1018	--	20.0	2880	8.0	27.0	--	4.9	64	--	--	--
10...	1022	--	30.0	2930	7.6	26.0	--	1.9	24	--	--	--
10...	1027	--	40.0	3150	7.3	22.0	--	0	0	--	--	--
10...	1031	--	50.0	3230	7.3	19.5	--	0	0	--	--	--
10...	1035	--	60.0	3250	7.4	17.5	--	0	0	--	--	--
10...	1039	--	70.0	3240	7.4	16.5	--	0	0	--	--	--
10...	1043	--	80.0	3200	7.4	16.0	--	0	0	--	--	--
10...	1047	--	90.0	3170	7.3	15.0	--	0	0	--	--	--
10...	1052	--	98.0	3140	7.3	15.0	--	0.3	3	570	430	140

BRAZOS RIVER MAIN STEM

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325218098254101 - POSSUM KINGDOM LK SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN												
12...	54	440	8	9.0	120	440	720	0.50	7.8	1880	0.130	0.130
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	53	440	8	8.9	120	440	720	0.40	8.0	1880	0.130	0.130
APR												
20...	54	430	8	8.6	120	440	730	0.40	6.6	1880	0.100	0.100
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	54	440	8	8.6	120	440	710	0.40	8.0	1870	0.210	0.210
AUG												
10...	46	380	7	7.8	110	390	640	0.40	6.0	1650	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	53	450	8	8.2	140	420	730	0.40	9.7	1900	--	--

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
12...	0.010	0.140	0.140	0.030	0.27	0.30	<0.010	<0.010	--	20	<10
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	0.020	0.150	0.150	0.050	0.15	0.20	<0.010	0.010	0.03	20	<10
APR											
20...	0.010	0.110	0.110	0.030	0.27	0.30	0.010	<0.010	--	20	20
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	0.040	0.250	0.250	0.040	0.36	0.40	0.020	0.020	0.06	20	120
AUG											
10...	<0.010	--	<0.050	0.020	0.18	0.20	0.020	<0.010	--	10	<10
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	<0.010	--	<0.050	0.030	0.27	0.30	0.020	<0.010	--	--	--
10...	<0.010	--	<0.050	0.030	0.27	0.30	0.020	<0.010	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	<0.010	--	<0.050	0.270	0.23	0.50	0.180	0.190	0.58	100	740

BRAZOS RIVER MAIN STEM

195

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325250098275301 - POSSUM KINGDOM LK SITE BR

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
12...	1250	1.00	3110	8.3	10.5	9.9	92
12...	1253	10.0	3110	8.3	10.0	9.9	91
12...	1256	20.0	3110	8.2	10.0	9.5	88
12...	1259	30.0	3110	8.2	10.0	9.3	86
12...	1302	40.0	3110	8.2	10.0	9.2	85
12...	1305	50.0	3090	8.2	10.0	9.2	85
APR							
20...	1126	1.00	3150	8.2	20.5	7.9	92
20...	1129	10.0	3160	8.2	18.5	8.1	91
20...	1132	20.0	3160	8.1	17.5	8.0	88
20...	1135	30.0	3160	7.9	16.0	7.0	74
20...	1138	40.0	3170	7.8	14.5	6.7	69
20...	1141	51.0	3180	7.6	12.5	5.6	55
AUG							
10...	1218	1.00	2830	8.2	28.0	6.0	80
10...	1221	10.0	2830	8.2	28.0	6.0	80
10...	1224	20.0	2830	8.2	27.5	5.8	76
10...	1227	30.0	2840	8.1	27.0	5.4	71
10...	1230	40.0	3160	7.3	22.5	0	0
10...	1233	53.0	3280	7.3	19.5	0	0

325256098275301 - POSSUM KINGDOM LK SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
12...	1212	1.00	3110	8.2	11.0	10.0	94
12...	1215	10.0	3110	8.3	10.5	10.0	93
12...	1218	20.0	3110	8.2	10.0	9.9	91
12...	1222	30.0	3110	8.2	10.0	9.7	89
12...	1225	40.0	3110	8.2	10.0	9.3	86
12...	1228	50.0	3100	8.2	10.0	9.3	86
12...	1231	60.0	3110	8.2	10.0	9.4	87
12...	1235	70.0	3090	8.2	9.5	9.3	85
12...	1239	80.0	3100	8.2	9.5	9.3	85
12...	1242	88.0	3100	8.2	9.5	9.3	85
APR							
20...	1054	1.00	3150	8.2	20.0	8.0	92
20...	1058	10.0	3150	8.1	19.0	8.1	92
20...	1101	20.0	3160	8.1	17.5	8.0	88
20...	1103	30.0	3160	7.9	16.0	7.1	75
20...	1106	40.0	3160	7.8	14.5	6.7	69
20...	1109	50.0	3170	7.5	12.5	5.5	54
20...	1112	60.0	3180	7.5	11.5	5.5	53
20...	1115	70.0	3180	7.5	11.0	5.4	51
20...	1117	80.0	3180	7.5	11.0	5.2	49
20...	1119	87.0	3180	7.5	11.0	4.8	46
AUG							
10...	1143	1.00	2840	8.2	28.0	6.1	81
10...	1146	10.0	2840	8.2	28.0	6.1	81
10...	1149	20.0	2850	8.2	28.0	6.1	81
10...	1152	30.0	2860	7.9	26.5	4.0	52
10...	1155	40.0	3170	7.3	22.5	0	0
10...	1158	50.0	3280	7.3	19.0	0	0
10...	1201	60.0	3320	7.3	18.0	0	0
10...	1204	70.0	3300	7.3	16.5	0	0
10...	1207	80.0	3230	7.3	16.0	0	0
10...	1210	91.0	3180	7.4	15.5	0.3	3

BRAZOS RIVER MAIN STEM

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325129098311801 - POSSUM KINGDOM LK SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
12...	1055	1.00	3080	8.3	9.5	10.1	92
12...	1057	10.0	3070	8.3	9.5	10.0	91
12...	1101	20.0	3070	8.2	9.0	9.6	86
12...	1104	30.0	3070	8.2	9.0	9.6	86
12...	1107	40.0	3070	8.2	9.0	9.4	85
12...	1111	50.0	3070	8.2	9.0	9.4	85
12...	1114	60.0	3070	8.2	9.0	9.3	84
12...	1117	71.0	3070	8.2	9.0	9.0	81
APR							
20...	1239	1.00	3140	8.3	20.5	8.3	97
20...	1242	10.0	3170	8.3	19.5	8.7	99
20...	1245	20.0	3170	8.2	18.0	8.6	95
20...	1248	30.0	3180	8.1	17.0	7.6	82
20...	1251	40.0	3190	7.7	15.5	5.8	61
20...	1253	50.0	3230	7.4	13.0	3.8	38
20...	1256	60.0	3200	7.4	12.0	3.6	35
20...	1259	71.0	3180	7.5	11.5	3.5	34
AUG							
10...	1341	1.00	2500	8.2	28.5	6.3	84
10...	1345	10.0	2500	8.2	28.0	6.2	82
10...	1348	20.0	2480	8.2	27.5	5.8	76
10...	1351	50.0	2530	8.0	27.0	4.8	63
10...	1354	40.0	3240	7.3	21.0	0	0
10...	1357	50.0	3370	7.3	19.0	0	0
10...	1400	60.0	3360	7.2	18.0	0	0
10...	1403	74.0	3280	7.2	17.0	0	0

325327098314001 - POSSUM KINGDOM LK SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRAN- SPAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
JAN												
12...	0923	1.00	2990	8.3	9.0	1.31	9.9	89	560	450	140	52
12...	0927	10.0	3000	8.3	9.0	--	9.9	89	--	--	--	--
12...	0930	20.0	3010	8.3	9.0	--	9.7	87	--	--	--	--
12...	0934	30.0	3010	8.2	9.0	--	9.5	86	--	--	--	--
12...	0937	40.0	3060	8.2	9.0	--	9.4	85	--	--	--	--
12...	0940	50.0	3060	8.2	9.0	--	9.4	85	--	--	--	--
12...	0943	60.0	3050	8.2	9.0	--	8.7	78	--	--	--	--
12...	0946	66.0	3060	8.1	8.5	--	7.5	66	560	440	140	52
APR												
20...	1420	1.00	3190	8.4	21.5	4.60	8.8	104	580	460	140	56
20...	1424	10.0	3190	8.4	20.0	--	9.0	103	--	--	--	--
20...	1427	20.0	3190	8.1	17.5	--	7.7	84	--	--	--	--
20...	1431	30.0	3210	8.0	16.5	--	6.8	73	--	--	--	--
20...	1435	40.0	3320	7.7	15.0	--	5.2	54	--	--	--	--
20...	1439	50.0	3290	7.4	13.5	--	3.3	33	--	--	--	--
20...	1443	65.0	3240	7.4	12.5	--	1.3	13	570	460	140	54
AUG												
10...	1438	1.00	2440	8.3	28.5	1.46	6.4	86	420	310	110	35
10...	1442	10.0	2440	8.3	28.5	--	6.2	83	--	--	--	--
10...	1447	20.0	2440	8.2	28.0	--	5.5	73	--	--	--	--
10...	1451	30.0	2470	7.8	27.0	--	3.4	44	--	--	--	--
10...	1456	40.0	3200	7.2	21.5	--	0	0	--	--	--	--
10...	1501	50.0	3390	7.2	19.5	--	0	0	--	--	--	--
10...	1505	60.0	3390	7.2	18.5	--	0	0	--	--	--	--
10...	1509	68.0	3340	7.2	17.5	--	0	0	570	420	140	54

BRAZOS RIVER MAIN STEM

197

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325327098314001 - POSSUM KINGDOM LK SITE DC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN											
12...	450	8	8.8	110	430	690	0.40	6.5	1850	0.062	0.062
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	450	8	8.8	120	430	720	0.40	7.0	1880	0.043	0.043
APR											
20...	470	8	8.5	120	440	720	0.40	5.6	1910	0.034	0.034
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	460	8	8.4	120	440	720	0.40	7.6	1900	0.280	0.280
AUG											
10...	340	7	7.7	100	310	530	0.30	7.7	1400	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	510	9	8.0	150	430	790	0.40	9.9	2040	--	--
DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
12...	0.020	0.082	0.082	0.070	0.23	0.30	<0.010	<0.010	--	20	<10
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	0.020	0.063	0.063	0.170	0.23	0.40	<0.010	0.010	0.03	20	60
APR											
20...	0.020	0.054	0.054	0.030	0.27	0.30	<0.010	<0.010	--	20	<10
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	0.030	0.310	0.310	0.180	0.42	0.60	0.040	0.010	0.03	20	430
AUG											
10...	<0.010	--	<0.050	0.020	0.18	0.20	0.020	<0.010	--	<10	<10
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	<0.010	--	<0.050	0.890	0.31	1.2	0.200	0.210	0.64	80	530

BRAZOS RIVER MAIN STEM

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325347098265701 - POSSUM KINGDOM LK SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
12...	0837	1.00	2860	8.3	8.0	10.1	89
12...	0841	10.0	2860	8.3	8.0	10.2	90
12...	0843	20.0	2880	8.2	8.0	9.9	87
12...	0847	30.0	2850	8.2	7.5	9.9	85
12...	0850	40.0	2860	8.2	7.5	9.8	85
12...	0853	49.0	2870	8.2	7.5	9.2	80
APR							
20...	1500	1.00	3370	8.5	22.0	8.6	103
20...	1503	10.0	3300	8.5	19.5	8.3	94
20...	1506	20.0	3340	8.3	18.5	8.1	90
20...	1509	30.0	3380	8.1	18.0	6.9	76
20...	1512	40.0	3450	7.7	16.0	4.4	46
20...	1516	49.0	3350	7.4	15.0	1.4	14
AUG							
10...	1606	1.00	2430	8.3	28.5	6.4	86
10...	1609	10.0	2440	8.1	27.5	5.3	70
10...	1612	20.0	2440	8.0	27.0	4.6	60
10...	1616	30.0	2450	7.9	27.0	4.3	56
10...	1620	40.0	3120	7.2	22.5	0	0
10...	1623	52.0	3360	7.1	20.0	0	0

325557098264401 - POSSUM KINGDOM LK SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
12...	1517	1.00	2870	8.3	9.0	10.8	97
12...	1520	10.0	2880	8.3	8.0	10.4	91
12...	1523	20.0	2880	8.2	8.0	9.6	84
12...	1526	34.0	2960	8.1	7.5	9.0	78
APR							
20...	1535	1.00	3460	8.5	22.0	8.5	101
20...	1537	10.0	3410	8.3	19.5	7.7	87
20...	1540	20.0	3620	8.0	19.0	5.2	58
20...	1542	33.0	3560	7.6	18.0	2.2	24
AUG							
10...	1646	1.00	2430	8.4	29.5	7.3	100
10...	1655	20.0	2450	7.9	28.0	4.0	53
10...	1700	30.0	2490	7.8	27.5	3.3	43
10...	1704	36.0	2630	7.3	26.5	0	0

325715098250501 - POSSUM KINGDOM LK SITE GC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRAN- SPAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
JAN											
12...	1542	1.00	2950	8.3	8.5	0.85	10.9	97	530	410	130
12...	1547	10.0	2970	8.2	8.0	--	10.3	90	--	--	--
12...	1553	21.0	3020	8.1	8.0	--	8.9	78	550	430	140
APR											
20...	1600	1.00	3560	8.5	24.0	0.79	8.2	102	620	510	150
20...	1605	10.0	3800	8.3	21.0	--	7.2	84	--	--	--
20...	1610	21.0	3900	7.9	20.0	--	3.8	44	660	540	160
AUG											
10...	1716	1.00	2450	7.6	27.5	0.43	6.7	88	400	300	110
10...	1721	10.0	2460	8.0	28.0	--	5.2	69	--	--	--
10...	1726	23.0	2450	7.6	27.5	--	2.5	33	410	300	110

BRAZOS RIVER MAIN STEM

199

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325715098250501 - POSSUM KINGDOM LK SITE GC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN											
12...	50	420	8	7.9	120	400	680	0.40	5.1	1770	0.059
12...	--	--	--	--	--	--	--	--	--	--	--
12...	49	430	8	8.1	130	410	700	0.40	5.0	1820	0.071
APR											
20...	60	530	9	8.9	110	480	850	0.40	4.9	2150	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	64	580	10	8.9	120	510	950	0.40	5.7	2350	0.035
AUG											
10...	31	350	8	8.1	110	300	550	0.40	8.9	1420	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	32	350	8	8.0	110	300	560	0.40	9.4	1430	--
DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
12...	0.059	0.020	0.079	0.079	0.050	0.25	0.30	<0.010	<0.010	20	<10
12...	--	--	--	--	--	--	--	--	--	--	--
12...	0.071	0.020	0.091	0.091	0.100	0.20	0.30	<0.010	<0.010	20	10
APR											
20...	--	0.010	--	<0.050	0.030	0.27	0.30	<0.010	<0.010	20	<10
20...	--	--	--	--	--	--	--	--	--	--	--
20...	0.035	0.020	0.055	0.055	0.240	0.46	0.70	0.030	<0.010	20	180
AUG											
10...	--	<0.010	--	<0.050	0.020	0.18	0.20	0.020	<0.010	10	<10
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	<0.010	--	<0.050	0.090	0.21	0.30	0.020	<0.010	20	120

325047098291201 - POSSUM KINGDOM LK SITE P03

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
12...	1136	1.00	3090	8.3	10.5	10.4	97
12...	1139	10.0	3090	8.3	10.0	10.6	98
12...	1142	20.0	3090	8.3	10.0	10.0	92
12...	1145	30.0	3090	8.2	10.0	9.8	90
12...	1148	40.0	3090	8.2	9.5	9.7	88
12...	1151	50.0	3100	8.2	9.5	9.5	87
12...	1154	55.0	3110	8.2	9.5	9.3	85
APR							
20...	1156	1.00	3150	8.2	19.0	8.4	95
20...	1158	10.0	3150	8.2	18.5	8.3	93
20...	1200	20.0	3160	8.2	17.5	8.2	90
20...	1203	30.0	3160	8.0	16.5	7.2	77
20...	1205	40.0	3170	7.8	15.0	5.8	60
20...	1208	55.0	3180	7.5	12.0	3.7	36
AUG							
10...	1259	1.00	2650	8.2	28.5	6.2	83
10...	1303	10.0	2660	8.2	28.0	6.2	82
10...	1306	20.0	2670	8.1	27.5	5.6	74
10...	1309	30.0	2670	7.6	27.0	2.9	38
10...	1312	40.0	3170	7.2	21.5	0	0
10...	1316	50.0	3300	7.3	20.0	0	0
10...	1320	56.0	3300	7.3	18.5	0	0

BRAZOS RIVER MAIN STEM

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued

325125098323701 - POSSUM KINGDOM LK SITE P05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD- UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
12...	1034	1.00	3080	8.4	9.0	10.3	92
12...	1038	10.0	3090	8.3	9.0	10.2	91
12...	1042	21.0	3090	8.2	8.5	9.4	83
APR							
20...	1316	1.00	3160	8.4	20.5	8.7	101
20...	1319	10.0	3170	8.3	20.0	8.6	99
20...	1321	21.0	3170	8.1	18.5	7.2	80
AUG							
10...	1416	1.00	2480	8.3	29.0	6.6	89
10...	1418	10.0	2480	8.2	28.5	6.4	86
10...	1420	23.0	2490	8.1	28.0	5.2	69

325301098342901 - POSSUM KINGDOM LK SITE P07

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD- UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
12...	0958	1.00	3060	8.3	9.0	10.0	89
12...	1001	10.0	3060	8.2	9.0	9.8	88
12...	1003	20.0	3060	8.2	9.0	9.4	84
12...	1006	30.0	3060	8.2	8.5	9.3	82
12...	1009	40.0	3050	8.2	8.5	8.9	79
12...	1013	50.0	3060	8.1	8.5	8.7	77
12...	1016	56.0	3070	8.1	8.5	8.6	76
APR							
20...	1343	1.00	3170	8.4	21.5	8.6	101
20...	1346	10.0	3170	8.4	20.0	8.6	99
20...	1349	20.0	3160	8.1	18.0	7.2	79
20...	1353	30.0	3180	7.9	16.5	4.0	43
20...	1356	40.0	3190	7.6	15.0	4.0	41
20...	1359	55.0	3190	7.3	13.0	0.5	5
AUG							
10...	1523	1.00	2370	8.3	29.0	6.5	88
10...	1526	10.0	2380	8.2	28.5	6.1	82
10...	1529	20.0	2400	8.2	28.0	5.7	76
10...	1532	30.0	2410	8.1	27.5	5.4	71
10...	1535	40.0	3110	7.2	21.5	0	0
10...	1538	50.0	3230	7.2	19.5	0	0
10...	1541	58.0	3300	7.2	19.0	0	0

BRAZOS RIVER MAIN STEM

201

08088600 BRAZOS RIVER AT MORRIS SHEPPARD DAM NEAR GRAFORD, TX

LOCATION.--Lat 32°52'19", long 98°25'32", Palo Pinto County, Hydrologic Unit 1206021, immediately below Morris Sheppard Dam (formerly Possum Kingdom Dam), 2.6 mi upstream from Loving Creek, 11.3 mi southwest of Grafard, and 20 mi upstream from gaging station near Palo Pinto.

DRAINAGE AREA.--23,596 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Datum of gage is 8.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Flow completely regulated by Possum Kingdom Lake (station 08088500).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	429	26	30	21	139	41	40	145	756	751	88
2	399	204	26	30	19	80	43	135	376	82	75	87
3	160	28	29	634	18	29	45	92	374	580	541	566
4	420	27	27	33	17	30	46	276	159	309	312	88
5	333	28	27	378	17	30	47	654	161	489	318	415
6	30	70	27	35	16	31	194	42	580	83	76	359
7	30	165	27	143	16	31	52	40	641	722	76	518
8	483	120	27	36	16	31	54	41	603	785	534	94
9	30	27	27	36	215	31	56	41	333	82	471	514
10	237	27	27	37	204	43	56	42	109	80	500	95
11	518	27	27	38	18	53	56	805	110	586	473	94
12	549	121	27	40	15	54	53	632	256	599	776	523
13	546	27	891	41	15	53	52	94	111	605	75	94
14	37	27	146	42	14	54	52	392	639	78	73	521
15	29	27	506	45	15	55	51	8790	110	472	479	544
16	29	27	83	46	14	57	49	12000	336	77	478	108
17	30	27	27	47	25	56	47	11400	331	78	806	108
18	170	185	27	562	39	57	48	10600	198	657	713	108
19	34	141	27	53	33	57	48	10600	110	595	72	532
20	30	255	28	105	33	385	48	9410	385	598	73	531
21	118	27	28	48	40	35	44	3840	595	457	73	520
22	31	27	29	45	32	238	45	104	109	76	74	113
23	31	27	28	43	254	32	45	104	331	216	481	532
24	196	27	28	42	23	33	343	339	108	77	263	113
25	50	27	29	46	18	35	44	186	321	608	642	113
26	459	290	29	46	115	37	1040	104	325	603	784	274
27	402	248	29	47	21	38	45	1210	796	599	636	107
28	208	114	30	47	357	174	45	1220	731	467	657	468
29	123	361	30	44	---	175	508	1190	376	75	541	486
30	112	135	99	43	---	259	487	1730	325	75	752	497
31	268	---	29	37	---	42	---	1200	---	533	597	---
TOTAL	6125	3272	2447	2899	1640	2454	3784	77353	10084	12099	13172	9210
MEAN	198	109	78.9	93.5	58.6	79.2	126	2495	336	390	425	307
MAX	549	429	891	634	357	385	1040	12000	796	785	806	566
MIN	29	27	26	30	14	29	41	40	108	75	72	87
AC-FT	12150	6490	4850	5750	3250	4870	7510	153400	20000	24000	26130	18270

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1994, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994
MEAN	584	298	1648	609	1916
MAX	1819	656	7172	2197	8659
(WY)	1992	1992	1992	1992	1992
MIN	142	109	78.9	93.5	58.6
(WY)	1993	1994	1994	1994	1994

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1990 - 1994

ANNUAL TOTAL	146650	144539	
ANNUAL MEAN	402	396	
HIGHEST ANNUAL MEAN			1464
LOWEST ANNUAL MEAN			3170
HIGHEST DAILY MEAN	1830	Mar 2	12000
LOWEST DAILY MEAN	26	Dec 1	14
ANNUAL SEVEN-DAY MINIMUM	27	Dec 1	17
INSTANTANEOUS PEAK FLOW			15100
INSTANTANEOUS PEAK STAGE			78.60
ANNUAL RUNOFF (AC-FT)	290900	286700	1060000
10 PERCENT EXCEEDS	877	606	2320
50 PERCENT EXCEEDS	297	87	399
90 PERCENT EXCEEDS	29	27	34

BRAZOS RIVER MAIN STEM

08089000 BRAZOS RIVER NEAR PALO PINTO, TX

LOCATION.--Lat 32°51'45", long 98°18'08", Palo Pinto County, Hydrologic Unit 12060201, on right bank 100 ft upstream from bridge on Farm Road 4, 300 ft downstream from Dark Valley Creek, 6.5 mi north of Palo Pinto, and at mile 667.3.

DRAINAGE AREA.--23,811 mi², of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--January 1924 to current year. Monthly discharge only for some periods, published in WSP 1312.
Published as "near Mineral Wells" 1924-33.

REVISED RECORDS.--WSP 1512: 1924-25, 1929, 1932-34. WSP 1712: 1935-36, 1937-38(M), 1939, 1940(M). WDR TX-76-2:
Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 834.23 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 15, 1933, nonrecording gage at site 19 mi downstream at datum 38.19 ft lower. Nov. 15, 1933 to Apr. 10, 1989 at datum 3.00 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Since 1941, flow largely regulated by Possum Kingdom Lake (station 08088500) 20 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--16 years (water years 1925-40) prior to completion of Possum Kingdom Lake, 1,262 ft³/s (914,300 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925-40).--Maximum discharge, 95,600 ft³/s June 16, 1930, at site 19 mi downstream from Mineral Wells (gage height, 30 ft, present site and datum); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage occurred in 1876, from data by U.S. Army Corps of Engineers, and was several feet higher than the flood of June 16, 1930, which reached a stage of about 30 ft and is the highest since 1876.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	485	e150	70	61	528	76	566	382	314	464	577
2	63	605	e60	49	55	216	34	103	266	686	661	252
3	329	295	e40	400	47	132	23	161	497	120	131	135
4	155	79	e45	307	44	68	22	98	494	493	453	446
5	400	e60	e40	224	46	58	18	256	237	278	301	130
6	338	e40	e40	222	46	55	41	717	214	451	298	327
7	78	e90	38	74	45	53	121	107	685	119	118	311
8	36	e160	35	135	46	52	44	56	736	603	88	476
9	384	e140	35	64	47	51	34	47	695	697	438	233
10	79	e50	34	45	171	50	33	55	395	335	471	429
11	203	e40	33	49	238	44	33	121	151	155	412	131
12	542	e40	33	59	94	49	33	1480	129	498	403	105
13	569	e110	33	58	59	57	30	2930	263	526	643	405
14	576	e50	931	55	44	58	30	741	199	546	127	131
15	105	e40	292	52	37	57	28	3630	584	213	88	414
16	46	e40	459	50	38	54	31	7060	137	390	368	442
17	33	e40	150	48	39	50	30	6790	331	108	418	131
18	52	e40	61	148	36	44	31	6240	432	84	677	103
19	797	e170	42	209	42	43	32	6240	152	529	620	97
20	1270	e140	34	77	57	37	33	5800	115	519	124	394
21	242	e260	33	79	56	292	39	4360	369	520	92	432
22	200	e120	39	88	123	75	46	377	586	394	84	429
23	108	e50	41	69	158	169	39	174	138	119	81	126
24	70	e40	37	68	266	67	34	146	311	209	368	402
25	254	e40	35	71	105	28	295	914	123	100	258	120
26	131	e40	35	73	72	19	182	1330	293	498	645	97
27	696	e280	34	68	139	18	901	717	391	545	573	210
28	375	e260	35	64	69	17	104	1530	662	545	547	119
29	371	e120	37	63	---	110	236	1470	681	419	566	333
30	182	e350	39	61	---	150	356	2230	383	127	462	381
31	228	---	118	60	---	291	---	2560	---	103	637	---
TOTAL	9033	4274	3068	3159	2280	2992	2989	59006	11031	11243	11616	8318
MEAN	291	142	99.0	102	81.4	96.5	99.6	1903	368	363	375	277
MAX	1270	605	931	400	266	528	901	7060	736	697	677	577
MIN	33	40	33	45	36	17	18	47	115	84	81	97
AC-FT	17920	8480	6090	6270	4520	5930	5930	117000	21880	22300	23040	16500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1994#, BY WATER YEAR (WY)

MEAN	1431	529	479	444	540	516	904	2171	1886	911	749	1029
MAX	13140	3020	7800	2254	9064	5280	8881	30210	10540	3971	7486	7650
(WY)	1942	1975	1992	1992	1992	1992	1957	1957	1941	1961	1978	1966
MIN	22.6	34.1	29.5	25.7	12.4	23.0	26.5	26.9	53.8	34.2	78.9	30.4
(WY)	1953	1953	1955	1953	1971	1976	1971	1971	1978	1971	1988	1988

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1941 - 1994#
--------------------	------------------------	---------------------	--------------------------

ANNUAL TOTAL	159635		129009					
ANNUAL MEAN	437		353				968	
HIGHEST ANNUAL MEAN							4145	1957
LOWEST ANNUAL MEAN							98.5	1988
HIGHEST DAILY MEAN	2130	Mar 3	7060	May 16			81700	Apr 29 1957
LOWEST DAILY MEAN	31	Aug 19	17	Mar 28			3.4	Apr 15 1949
ANNUAL SEVEN-DAY MINIMUM	34	Dec 7	30	Apr 13			5.6	Nov 2 1940
INSTANTANEOUS PEAK FLOW			7850	May 16			85400	Apr 29 1957
INSTANTANEOUS PEAK STAGE			9.10	May 16			28.87	Apr 29 1957
ANNUAL RUNOFF (AC-FT)	316600		255900				700900	
10 PERCENT EXCEEDS	929		611				1710	
50 PERCENT EXCEEDS	332		127				217	
90 PERCENT EXCEEDS	41		37				30	

e Estimated

Period of regulated streamflow.

08090800 BRAZOS RIVER NEAR DENNIS, TX

LOCATION.--Lat 32°36'56", long 97°55'32", Parker County, Hydrologic Unit 12060201, on right bank at downstream side of highway embankment of bridge on Farm Road 1189, 0.2 mi south of Dennis, 1.0 mi upstream from Patrick Creek, and at mile 589.98.

DRAINAGE AREA.--25,237 mi², of which 9,566 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1968 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 697.67 ft above National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation benchmark).

REMARKS.--No estimated daily discharges. Records good. Flow is largely regulated by releases from Possum Kingdom Lake (station 08088500) 96 mi upstream on the Brazos River, and by Lake Palo Pinto upstream on Palo Pinto Creek. Flow may be affected at times by discharge from the flood-detention pools of twelve floodwater-retarding structures with a combined detention capacity of 13,840 acre-ft. These structures control runoff from a 53.0 mi² area in the East Keechi and Pollard Creeks drainage basins. There are many diversions above station for irrigation, municipal supply and oil field operations. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1930, 31.8 ft in May 1957, from floodmark, from information by State Department of Highways and Public Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	387	278	204	69	98	145	73	352	2750	397	236	528
2	390	211	277	68	89	141	194	296	1420	286	161	647
3	308	263	250	66	81	254	221	413	634	277	279	579
4	233	377	257	72	79	267	139	265	469	391	438	368
5	223	293	396	88	77	230	100	165	528	181	224	308
6	256	220	403	219	75	180	74	133	502	373	258	329
7	308	164	265	204	71	135	62	129	349	357	266	230
8	335	129	201	225	67	108	51	393	309	408	253	253
9	261	108	162	206	60	99	46	238	557	209	211	580
10	177	97	136	150	55	94	49	165	556	392	152	595
11	161	141	117	135	58	80	85	155	543	1010	203	528
12	252	165	106	154	56	75	69	3100	881	1230	338	467
13	335	133	100	130	49	70	57	13400	506	460	337	257
14	657	109	96	110	168	71	47	13600	306	519	375	177
15	547	92	90	91	152	67	42	3900	265	590	425	246
16	524	88	327	86	115	64	37	2950	258	536	221	602
17	325	167	313	88	91	63	38	6760	392	336	147	1000
18	330	147	361	82	77	63	32	6770	218	363	171	494
19	3970	112	268	80	68	61	27	6130	216	236	356	283
20	19300	86	192	79	60	59	29	5960	294	170	466	196
21	11300	79	146	79	55	56	33	5570	212	326	460	161
22	2620	99	129	197	152	51	32	4920	139	446	233	240
23	1140	164	119	308	319	52	32	1670	204	438	148	412
24	701	183	108	302	294	144	43	696	347	364	111	417
25	519	137	97	209	330	131	45	592	181	234	93	261
26	383	111	88	167	288	157	44	3010	174	170	115	299
27	298	92	85	135	261	173	69	2950	159	169	203	249
28	307	79	80	115	184	137	232	1720	146	279	442	177
29	435	70	75	108	---	108	447	1930	299	418	416	145
30	375	163	74	103	---	81	455	1710	435	428	410	188
31	329	---	70	101	---	73	---	2220	---	381	424	---
TOTAL	47686	4557	5592	4226	3529	3489	2904	92262	14249	12374	8572	11216
MEAN	1538	152	180	136	126	113	96.8	2976	475	399	277	374
MAX	19300	377	403	308	330	267	455	13600	2750	1230	466	1000
MIN	161	70	70	66	49	51	27	129	139	169	93	145
AC-FT	94590	9040	11090	8380	7000	6920	5760	183000	28260	24540	17000	22250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1994, BY WATER YEAR (WY)

MEAN	1771	727	856	525	815	1021	1164	2138	2367	691	819	761
MAX	17690	5000	12240	2835	9530	5970	13320	12090	13490	4376	7600	2666
(WY)	1982	1975	1992	1992	1992	1992	1990	1990	1982	1982	1978	1971
MIN	69.6	78.9	73.0	78.8	33.9	26.7	27.1	30.4	61.7	37.0	56.6	14.9
(WY)	1983	1980	1969	1969	1971	1971	1971	1988	1971	1978	1988	1984

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1969 - 1994

ANNUAL TOTAL	220714	210656	1139
ANNUAL MEAN	605	577	4141
HIGHEST ANNUAL MEAN			120
LOWEST ANNUAL MEAN			1988
HIGHEST DAILY MEAN	19300	19300	87700
LOWEST DAILY MEAN	68	27	1.2
ANNUAL SEVEN-DAY MINIMUM	81	32	3.0
INSTANTANEOUS PEAK FLOW		21100	96600
INSTANTANEOUS PEAK STAGE		17.90	31.85
ANNUAL RUNOFF (AC-FT)	437800	417800	825200
10 PERCENT EXCEEDS	1110	593	2140
50 PERCENT EXCEEDS	387	209	276
90 PERCENT EXCEEDS	136	68	46

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 TEMPERATURE: October 1970 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 5,410 microsiemens Apr. 18, 1984; minimum daily, 200 microsiemens Oct. 13, 1981.

WATER TEMPERATURE: Maximum daily, 38.5°C July 26, 1976; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,120 microsiemens July 30; minimum daily, 351 microsiemens Oct. 20.

WATER TEMPERATURE: Maximum daily, 34.0°C on several days during June, July and Aug.; minimum daily, 4.0°C Feb. 1 and 10.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
NOV 02...	1320	202	1620	8.1	11.0	330	190	90	25	180	4
DEC 13...	1125	102	1440	7.9	10.5	310	170	83	26	170	4
JAN 31...	1402	102	1980	8.1	5.0	460	310	120	40	270	5
MAR 21...	1215	55	2150	7.6	20.5	470	310	120	41	300	6
MAY 18...	0900	6780	2810	7.6	22.0	500	370	120	48	410	8
JUN 27...	1220	166	2750	8.0	31.0	530	400	130	49	390	7

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 02...	4.9	140	200	290	0.40	9.1	--	883	--	--
DEC 13...	6.0	150	190	260	0.30	6.8	--	829	--	--
JAN 31...	5.9	150	280	400	0.40	3.2	--	1210	--	--
MAR 21...	6.4	150	300	450	0.40	1.9	335	1270	36	7
MAY 18...	7.9	130	400	640	0.40	6.9	--	1710	--	--
JUN 27...	8.3	130	390	650	0.50	6.4	--	1700	--	--

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1993	47686	771	466	60000	160	21100	110	13800	140
NOV. 1993	4557	2250	1350	16600	490	6070	310	3760	400
DEC. 1993	5592	2120	1270	19100	460	6970	290	4340	380
JAN. 1994	4226	2210	1320	15100	480	5510	300	3420	400
FEB. 1994	3529	1890	1140	10800	410	3890	260	2470	340
MAR. 1994	3489	1980	1190	11200	430	4040	270	2560	360
APR. 1994	2904	2560	1530	12000	570	4450	340	2690	450
MAY 1994	92262	1690	1010	251000	370	92300	230	56700	300
JUNE 1994	14249	2240	1340	51600	490	18900	300	11700	400
JULY 1994	12374	2410	1430	47900	530	17800	320	10800	430
AUG. 1994	8572	2850	1690	39200	640	14700	380	8740	500
SEPT 1994	11216	2350	1400	42500	520	15700	320	9570	420
TOTAL	210656	**	**	577000	**	212000	**	131000	**
4TD. AVG.	577	1700	1010	**	370	**	230	**	300

BRAZOS RIVER MAIN STEM

205

08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3020	1500	2480	2190	1670	1380	2360	1880	2160	3080	2780	2970
2	2980	1620	2710	2160	2070	e1480	2510	1830	2310	3070	2750	2880
3	2980	1810	2520	2160	e1950	1580	2550	2430	2270	3080	2740	2380
4	2900	2310	2560	2160	1880	2000	2620	2550	e2240	3090	2840	2680
5	2800	2600	2010	2120	2150	1990	2640	2570	2210	3060	2850	2880
6	2650	2630	2550	2320	2210	1960	2590	2570	2230	2080	2830	2790
7	2750	2600	2620	2580	2140	1960	2570	2650	2170	2090	2850	2860
8	2950	2510	2310	2550	2210	1970	2580	2680	2230	2940	e2830	1900
9	3010	2450	1640	2680	2220	1930	2600	2830	2300	2880	2820	2230
10	2950	2370	1420	2720	2220	1990	2570	2780	2460	2780	2820	1780
11	2920	2420	1430	2650	2200	1860	2540	2560	2010	2840	2780	2300
12	2950	2270	1470	2590	2180	1920	2720	607	1240	1060	2810	2640
13	2530	2520	1440	2540	2170	1890	2800	544	1480	1110	2880	2390
14	2240	2450	1520	2340	2140	1990	2760	521	1660	1290	2880	1540
15	2820	2450	1530	2350	2360	2010	2740	647	1860	1470	2870	1690
16	e2850	2310	1560	2390	2380	2040	2730	667	2270	2120	2890	2020
17	2880	2290	1340	2280	2370	2060	2690	2770	2570	2210	2810	926
18	2410	1950	1650	2290	2370	2030	2680	2850	2400	2240	2820	1990
19	674	1930	2400	2240	2420	2090	2680	2890	2490	2720	2860	2200
20	351	2060	2500	2410	2370	2110	2570	e2930	2710	2680	2920	2480
21	516	2050	e2450	e2200	2350	2180	2650	2950	2730	2730	2840	e2550
22	551	2220	2430	2150	1940	2120	2700	2950	2630	2710	2810	2610
23	614	2200	2280	2170	1270	2180	2720	2830	2680	2570	2800	2890
24	685	2490	2300	1680	1260	2220	2770	2680	2900	2950	2730	2950
25	797	2340	2250	1360	1870	2410	2780	2420	2750	3000	2720	2980
26	819	2460	2160	1710	1560	2270	2720	1410	2780	2970	2700	2940
27	856	2470	2240	1900	1980	2230	2710	500	2850	2950	2880	2960
28	873	2410	2220	1960	1640	2130	2250	1100	2870	3010	2930	2860
29	872	2390	2270	2060	---	2000	3030	886	2850	3110	2950	2900
30	752	e2440	2190	2060	---	2100	2060	1380	2970	3120	2880	2870
31	911	---	2220	2030	---	2320	---	2050	---	3090	2890	---
MEAN	1930	2280	2090	2230	2060	2010	2630	2030	2380	2580	2830	2470
MAX	3020	2630	2710	2720	2420	2410	3030	2950	2970	3120	2950	2980
MIN	351	1500	1340	1360	1260	1380	2060	500	1240	1060	2700	926

WTR YR 1994 MEAN 2290 MAX 3120 MIN 351

e Estimated

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	11.5	---	10.0	4.0	10.0	22.0	14.0	26.0	30.0	30.0	27.0
2	27.0	11.5	15.0	10.0	9.0	---	22.0	16.0	28.0	32.0	29.0	28.5
3	24.0	14.5	14.0	9.5	---	12.0	21.0	18.0	30.0	29.0	29.5	30.0
4	26.0	17.0	14.0	10.0	12.0	13.5	22.0	22.0	---	32.5	31.0	27.0
5	26.5	14.0	13.0	11.0	13.0	13.0	20.0	25.0	28.0	31.5	31.0	31.0
6	22.0	7.0	11.5	10.0	15.0	17.0	19.5	25.0	33.0	31.0	32.5	30.0
7	26.0	6.0	12.5	7.0	14.0	23.0	17.0	25.5	33.0	31.0	28.0	28.0
8	22.0	5.0	12.0	6.5	17.0	19.0	19.0	22.0	33.0	33.0	---	26.0
9	20.0	6.0	16.0	8.0	7.0	12.5	20.0	23.0	34.0	30.0	30.0	27.0
10	17.0	16.5	15.0	11.5	4.0	15.0	24.0	22.0	31.5	28.0	31.0	27.5
11	22.0	16.0	12.0	12.0	9.0	16.5	21.0	24.0	26.0	32.0	31.5	28.5
12	22.0	19.0	13.0	11.0	8.0	13.0	24.0	22.5	29.0	32.0	32.0	26.0
13	22.0	20.5	11.0	13.0	11.0	12.0	25.0	20.5	28.0	31.0	33.0	29.5
14	21.0	20.0	11.0	13.5	9.0	20.0	27.0	20.0	30.0	30.0	28.0	28.5
15	22.0	17.0	11.0	10.0	13.0	22.0	25.5	25.0	28.5	32.5	30.0	29.0
16	---	14.0	9.0	9.0	15.0	22.0	25.0	26.0	30.5	28.5	30.5	26.0
17	21.0	14.5	10.5	10.0	15.0	23.0	26.0	23.0	32.0	34.0	33.0	24.0
18	24.0	---	9.0	5.0	14.5	25.0	26.0	22.5	33.0	30.0	32.0	27.0
19	20.0	---	8.0	6.0	13.0	25.0	25.0	23.0	33.0	33.0	32.0	27.0
20	20.0	---	10.0	6.0	17.0	21.0	25.5	---	33.0	34.0	28.0	27.5
21	19.0	---	---	---	15.0	21.5	25.0	22.5	33.0	33.0	32.0	---
22	18.5	---	7.5	7.0	15.0	21.5	28.5	---	34.0	33.5	30.5	20.0
23	19.0	---	6.5	9.0	12.0	25.0	27.0	26.5	33.0	30.0	33.0	22.0
24	15.0	---	8.0	11.0	12.5	23.0	28.0	28.0	34.0	30.0	33.0	22.0
25	19.0	---	5.0	13.5	12.0	20.0	26.5	29.0	33.0	31.0	32.0	22.0
26	19.0	---	14.0	16.0	9.5	20.0	27.5	25.0	30.0	32.0	34.0	24.0
27	17.0	---	11.5	13.5	8.0	17.0	27.5	31.0	28.5	30.0	31.0	26.0
28	17.0	---	8.0	9.0	10.0	17.0	22.0	26.0	32.5	30.0	28.0	27.5
29	15.0	---	9.0	8.0	---	19.0	18.0	28.0	30.0	30.5	32.0	26.0
30	11.0	---	9.0	9.0	---	20.0	17.0	29.0	32.5	25.0	31.0	25.0
31	11.0	---	5.5	5.0	---	17.0	---	28.0	---	24.0	29.0	---
MEAN	20.4	13.5	10.7	9.7	11.6	18.5	23.4	23.9	31.0	30.8	30.9	26.5
MAX	27.0	20.5	16.0	16.0	17.0	25.0	28.5	31.0	34.0	34.0	34.0	31.0
MIN	11.0	5.0	5.0	5.0	4.0	10.0	17.0	14.0	26.0	24.0	28.0	20.0

WTR YR 1994 MEAN 21.3 MAX 34.0 MIN 4.0

BRAZOS RIVER MAIN STEM

08090900 LAKE GRANBURY NEAR GRANBURY, TX

LOCATION.--Lat 32°22'27", long 97°41'20", Hood County, Hydrologic Unit 12060201, at right end of spillway of DeCordova Bend Dam on Brazos River, 2.6 mi upstream from Fall Creek, 7.5 mi southeast of Granbury, and at mile 542.5.

DRAINAGE AREA.--25,679 mi², of which 9,566 mi² probably is noncontributing.

WATER-CONTENT 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 1.11 ft below National Geodetic Vertical Datum of 1929 (levels by Brazos River Authority).

REMARKS.--The lake is formed by an Ambursen-type concrete and earthfill dam 2,256 ft long, including a 932-foot concrete spillway. The dam was completed on Aug. 30, 1969, and deliberate impoundment began Sept. 15, 1969. The spillway consists of sixteen 36- by 35-foot tainter gates and two 7- by 8-foot sluice gates. Outflow through the sluice gates discharges into a bay where the outflow is then controlled by two 4- by 4.5-foot sluice gates with invert at 625.8 ft. Flow is affected at times by discharge from the flood-detention pools of 12 floodwater-retarding structures with a combined detention capacity of 13,940 acre-ft. These structures control runoff from 53.9 mi² in the East Keechi, Kickapoo, and Ruckers Creeks drainage basins. The lake was built by the Brazos River Authority for the conservation of water for irrigation, municipal, and industrial uses. Water is diverted from the lake for municipal, domestic, irrigation, and industrial uses by several lakeside developers, or residents. Water is also diverted into Squaw Creek Reservoir. The city of Granbury returns sewage effluent into Lake Granbury. Satellite telemeter at station. 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.....	706.5	-
Top of tainter gates (design flood).....	693.0	153,500
Crest of spillway.....	658.0	15,440
Lowest gated outlet (invert).....	640.0	2,200

COOPERATION.--The capacity curve, based on data prepared by the Ambursen Engineering Corporation, was provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 158,800 acre-ft Mar. 27, 1977 (gage height, 693.60 ft); minimum since since normal operating level was reached in October 1969, 97,600 acre-ft Aug. 9, 1978 (gage height, 685.28 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 152,500 acre-ft Oct. 19 at 1200 hours (gage height, 692.89 ft); minimum, 145,000 acre-ft May 15 (gage height, 692.00 ft).

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

685.0	96,000	689.0	121,900	693.0	153,500
687.0	108,200	692.0	145,000	694.0	162,400

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150000	149300	150000	148500	147900	148400	148400	148900	151500	150300	150000	148900
2	150600	149400	151000	148300	147900	148000	149800	149000	147800	149600	149600	148800
3	150000	148900	149500	148600	148300	148300	149100	149000	147600	149000	149200	149100
4	149500	149100	148000	148500	148800	148800	148900	149700	147600	148800	149500	148600
5	149400	149100	148900	148400	148800	149000	149700	149800	147900	148000	149900	148300
6	149400	149100	149700	149400	148900	149400	148600	149400	147900	149800	149900	148300
7	149600	149200	150100	148800	149000	148300	148100	149000	147900	150000	150200	148800
8	150000	149400	150100	149200	149400	148200	148100	148800	148000	150000	150200	149200
9	150300	149400	150200	149200	149400	148200	148400	148800	148800	149500	150400	150400
10	150000	148900	150000	149600	149200	148000	148400	148800	149000	149400	150200	148900
11	149700	148600	149900	149700	148800	147700	149500	149700	149800	149800	150000	148300
12	150100	148700	149700	149500	149400	148100	148700	151300	151000	150200	150000	148100
13	149200	148600	149900	149400	149400	148300	148500	148200	150000	148900	150000	147800
14	150000	148600	149400	149500	149300	148300	148500	146500	148800	148900	150000	147900
15	150300	148300	149000	149300	149700	148300	148800	145300	148000	148800	150400	148400
16	150800	148100	149000	150900	149900	148300	148800	148800	147800	148900	150200	148800
17	150600	148300	149500	149700	150000	148000	148800	149900	147800	148600	150600	148400
18	149900	148400	149600	149400	149300	148300	148600	149700	147500	148000	150100	148500
19	149200	148600	149800	149100	149000	148100	148800	149500	147500	147800	149800	149100
20	150600	148600	149700	149500	148500	148400	148900	149900	147900	147800	150500	149400
21	148800	148600	149600	149700	149500	147900	148900	149900	148300	147800	150900	148900
22	149400	148400	149700	150000	149200	147600	148900	151300	148500	148500	150800	149300
23	149100	148900	149600	150300	148300	147700	148900	150800	148500	149000	150200	149600
24	148900	149700	149400	149500	148600	148100	149000	151000	149400	149400	149600	149900
25	149200	149500	149100	148100	149700	148100	148800	148900	149400	149500	149100	149900
26	149700	149400	148800	147800	149900	149600	148500	151000	149500	149900	148400	149700
27	149400	149400	148600	147800	149600	149200	148800	148300	149400	149300	148400	149700
28	149400	149500	148400	147400	149100	148700	148700	148100	149700	149200	148800	149600
29	149500	149500	148300	147600	---	148800	149300	149300	149900	149500	149200	149200
30	148600	149700	148300	148100	---	148500	148700	149800	150200	150300	149900	148800
31	148800	---	148300	148100	---	148400	---	150900	---	150200	150700	---
MAX	150800	149700	151000	150900	150000	149600	149800	151300	151500	150300	150900	150400
MIN	148600	148100	148000	147400	147900	147600	148100	145300	147500	147800	148400	147800
(+)	692.45	692.56	692.39	692.37	692.49	692.41	692.44	692.70	692.62	692.62	692.68	692.46
(#)	-1200	+900	-1400	-200	+1000	-700	+300	+2200	-700	0	+500	-1900
CAL YR 1993	MAX	151000	MIN	143800	(#)	-1100						
WTR YR 1994	MAX	151500	MIN	145300	(#)	-1200						

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

BRAZOS RIVER MAIN STEM

207

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1970 to current year.

322227097412101 - LAKE GRANBURY SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

		RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	
JAN													
05...	1138	148000	1.00	1270	8.1	10.5	1.13	10.1	94	250	150	65	
05...	1143	--	10.0	1270	8.1	10.0	--	10.2	93	--	--	--	
05...	1149	--	20.0	1270	8.1	10.0	--	10.1	93	--	--	--	
05...	1155	--	30.0	1270	8.1	10.0	--	10.2	93	--	--	--	
05...	1200	--	40.0	1270	8.0	10.0	--	10.2	93	--	--	--	
05...	1207	--	50.0	1270	8.0	10.0	--	10.1	93	--	--	--	
05...	1215	--	63.0	1270	8.0	10.0	--	10.2	93	250	150	65	
APR													
07...	1145	148000	1.00	1360	8.3	15.5	1.55	8.1	83	280	150	72	
07...	1148	--	10.0	1360	8.3	15.5	--	8.0	82	--	--	--	
07...	1151	--	20.0	1360	8.3	15.5	--	8.0	82	--	--	--	
07...	1155	--	30.0	1360	8.3	15.5	--	7.9	81	--	--	--	
07...	1159	--	40.0	1360	8.2	15.0	--	7.3	74	--	--	--	
07...	1202	--	50.0	1370	7.8	14.0	--	5.4	53	--	--	--	
07...	1205	--	62.0	1370	7.7	13.5	--	4.6	45	280	150	73	
JUL													
13...	1202	149000	1.00	1620	8.0	29.5	1.65	6.0	82	330	210	84	
13...	1206	--	10.0	1620	8.0	29.0	--	5.8	78	--	--	--	
13...	1211	--	20.0	1630	7.9	28.5	--	5.0	67	--	--	--	
13...	1216	--	30.0	1620	7.7	28.5	--	4.5	60	--	--	--	
13...	1221	--	40.0	1780	7.2	27.0	--	0	0	--	--	--	
13...	1226	--	50.0	2360	7.2	25.5	--	0	0	--	--	--	
13...	1230	--	61.0	2620	7.1	24.5	--	0.3	4	490	350	120	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN													
05...	22	160	4	5.4	100	160	250	0.30	5.6	731	0.290	0.290	
05...	--	--	--	--	--	--	--	--	--	--	--	--	
05...	--	--	--	--	--	--	--	--	--	--	--	--	
05...	--	--	--	--	--	--	--	--	--	--	--	--	
05...	--	--	--	--	--	--	--	--	--	--	--	--	
05...	22	160	4	5.6	100	160	250	0.30	5.7	731	0.220	0.220	
APR													
07...	24	160	4	4.9	130	170	250	0.20	4.8	764	0.130	0.130	
07...	--	--	--	--	--	--	--	--	--	--	--	--	
07...	--	--	--	--	--	--	--	--	--	--	--	--	
07...	--	--	--	--	--	--	--	--	--	--	--	--	
07...	--	--	--	--	--	--	--	--	--	--	--	--	
07...	23	160	4	5.4	130	170	250	0.20	5.9	768	0.160	0.160	
JUL													
13...	28	210	5	6.6	120	210	400	0.30	7.6	1020	--	--	
13...	--	--	--	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	--	--	
13...	47	380	7	8.1	140	340	670	0.40	11	1670	--	--	

BRAZOS RIVER MAIN STEM

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

322227097412101 - LAKE GRANBURY SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
05...	0.010	0.300	0.300	0.040	0.26	0.30	0.050	<0.010	--	3	2
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	0.010	0.230	0.230	0.040	0.16	0.20	0.040	<0.010	--	3	9
APR											
07...	0.030	0.160	0.160	0.050	0.25	0.30	<0.010	<0.010	--	<3	<1
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	0.060	0.220	0.220	0.170	0.33	0.50	0.030	<0.010	--	<3	31
JUL											
13...	<0.010	--	<0.050	<0.010	--	0.30	<0.010	<0.010	--	<3	1
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	<0.010	--	<0.050	<0.010	--	0.30	0.010	<0.010	--	10	10
13...	<0.010	--	<0.050	0.030	0.37	0.40	0.040	<0.010	--	10	20
13...	--	--	--	--	--	--	--	--	--	--	--
13...	<0.010	--	<0.050	0.950	0.35	1.3	0.270	0.250	0.77	310	1300

322231097412001 - LAKE GRANBURY SITE AL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
05...	1227	1.00	1270	8.2	10.5	10.1	94
05...	1230	10.0	1270	8.2	10.5	10.2	95
05...	1233	20.0	1270	8.2	10.0	10.2	93
05...	1236	30.0	1270	8.2	10.0	10.2	93
05...	1238	40.0	1270	8.2	10.5	10.2	95
05...	1240	52.0	1270	8.2	10.5	10.1	94
APR							
07...	1211	1.00	1360	8.3	16.0	8.0	83
07...	1213	10.0	1360	8.3	15.5	8.2	84
07...	1215	20.0	1360	8.3	15.5	8.2	84
07...	1218	30.0	1360	8.2	15.5	8.1	83
07...	1221	40.0	1360	8.1	15.0	7.2	73
07...	1225	53.0	1370	7.7	14.0	4.9	49
JUL							
13...	1236	1.00	1630	8.0	29.5	5.9	80
13...	1239	10.0	1620	8.1	29.0	6.0	81
13...	1242	20.0	1620	7.9	29.0	5.3	71
13...	1246	30.0	1620	7.7	28.5	3.8	51
13...	1249	40.0	1810	7.2	27.0	0	0
13...	1252	52.0	2480	7.2	25.0	0	0

- 08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

322345097421901 - LAKE GRANBURY SITE BR

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
05...	1309	1.00	1250	8.3	10.5	10.0	93
05...	1311	10.0	1250	8.3	10.5	10.0	93
05...	1314	20.0	1250	8.3	10.5	10.1	94
05...	1317	30.0	1250	8.3	10.5	10.1	94
05...	1320	42.0	1250	8.3	10.5	10.1	94
APR							
07...	1258	1.00	1360	8.3	16.0	8.1	84
07...	1301	10.0	1360	8.3	15.5	8.2	84
07...	1304	20.0	1360	8.3	15.5	8.2	84
07...	1307	30.0	1360	8.2	15.5	8.0	82
07...	1311	42.0	1360	8.2	15.5	7.8	80
JUL							
13...	1337	1.00	1640	8.2	30.0	6.7	92
13...	1340	10.0	1650	8.0	29.5	5.6	76
13...	1343	20.0	1650	7.9	29.0	5.0	67
13...	1346	30.0	1660	7.8	29.0	4.1	55
13...	1349	42.0	1800	7.3	28.0	0.3	4

322341097420601 - LAKE GRANBURY SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
05...	1248	1.00	1250	8.2	10.5	0.88	9.9	92
05...	1251	10.0	1250	8.2	10.5	--	10.0	93
05...	1253	20.0	1250	8.2	10.5	--	10.1	94
05...	1255	30.0	1260	8.2	10.5	--	10.0	93
05...	1258	40.0	1260	8.2	10.5	--	9.9	92
05...	1301	50.0	1260	8.2	10.5	--	10.0	93
05...	1304	60.0	1260	8.1	10.0	--	9.6	88
APR								
07...	1236	1.00	1360	8.3	15.5	1.62	8.0	82
07...	1238	10.0	1360	8.3	15.5	--	8.0	82
07...	1241	20.0	1360	8.2	15.5	--	8.0	82
07...	1243	30.0	1360	8.2	15.5	--	7.8	80
07...	1246	40.0	1360	8.2	15.0	--	7.6	77
07...	1250	50.0	1360	7.8	14.0	--	5.5	54
07...	1253	59.0	1380	7.7	13.5	--	4.2	41
JUL								
13...	1309	1.00	1630	8.2	30.0	1.28	6.8	93
13...	1312	10.0	1630	8.1	29.5	--	6.2	84
13...	1316	20.0	1650	8.0	29.0	--	5.4	73
13...	1319	30.0	1690	7.6	29.0	--	2.6	35
13...	1322	40.0	1840	7.3	28.0	--	0	0
13...	1326	50.0	2330	7.2	25.5	--	0	0
13...	1329	58.0	2600	7.2	24.5	--	0	0

322337097415401 - LAKE GRANBURY SITE BL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
05...	1325	1.00	1250	8.3	10.5	10.0	93
05...	1328	10.0	1250	8.3	10.5	10.0	93
05...	1331	20.0	1250	8.3	10.5	10.0	93
05...	1334	31.0	1250	8.3	10.5	9.9	92
APR							
07...	1320	1.00	1360	8.2	16.0	8.1	84
07...	1322	10.0	1360	8.3	16.0	8.1	84
07...	1324	20.0	1360	8.3	15.5	8.0	82
07...	1326	30.0	1360	8.2	15.5	7.8	80
JUL							
13...	1359	1.00	1630	8.2	30.5	6.8	94
13...	1403	10.0	1630	8.2	29.5	6.5	88
13...	1406	20.0	1640	8.1	29.5	5.9	80
13...	1409	30.0	1660	7.7	29.0	3.2	43

BRAZOS RIVER MAIN STEM

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

322537097414501 - LAKE GRANBURY SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
05...	1353	1.00	1240	8.4	10.0	0.67	10.3	94
05...	1356	14.0	1180	8.4	9.5	--	10.6	96
APR								
07...	1340	1.00	1360	8.4	16.0	0.82	8.4	87
07...	1343	5.00	1360	8.4	15.5	--	8.4	86
07...	1346	14.0	1330	8.4	15.0	--	8.7	88
JUL								
13...	1422	1.00	1640	8.2	31.5	0.88	6.7	94
13...	1425	5.00	1650	8.2	31.0	--	6.4	89
13...	1428	13.0	1620	8.1	30.5	--	5.6	78

322422097423901 - LAKE GRANBURY SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
05...	1421	1.00	1240	8.2	13.0	0.88	9.3	91
05...	1424	10.0	1240	8.2	12.5	--	9.5	92
05...	1427	20.0	1240	8.2	11.5	--	9.7	92
05...	1430	30.0	1240	8.1	11.0	--	9.3	87
05...	1433	40.0	1220	8.2	11.0	--	9.3	87
05...	1437	53.0	1220	8.2	11.0	--	8.9	83
APR								
07...	1405	1.00	1380	8.2	16.0	0.94	8.0	83
07...	1407	10.0	1380	8.2	16.0	--	8.0	83
07...	1409	20.0	1380	8.2	16.0	--	8.0	83
07...	1412	30.0	1380	8.1	15.5	--	7.3	75
07...	1415	40.0	1390	7.7	14.0	--	4.5	45
07...	1417	53.0	1390	7.5	13.5	--	3.1	30
JUL								
13...	1445	1.00	1670	8.0	32.5	1.16	5.4	77
13...	1448	10.0	1700	7.8	29.5	--	3.7	50
13...	1451	20.0	1770	7.6	29.5	--	2.3	31
13...	1454	30.0	1950	7.6	29.0	--	1.6	22
13...	1458	40.0	1990	7.4	28.5	--	0.7	9
13...	1502	53.0	2430	7.2	27.5	--	0.4	5

322437097423901 - LAKE GRANBURY SITE DL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
05...	1446	1.00	1240	8.2	14.5	9.3	94
05...	1452	10.0	1240	8.2	13.0	9.4	92
05...	1459	19.0	1240	8.2	12.5	9.5	92
APR							
07...	1422	1.00	1380	8.3	16.0	8.1	84
07...	1424	10.0	1380	8.2	16.0	8.2	85
07...	1426	19.0	1380	8.3	16.0	8.3	86
JUL							
13...	1509	1.00	1670	8.0	32.5	5.3	76
13...	1512	10.0	1680	8.0	30.0	4.8	66
13...	1515	19.0	1770	7.6	30.0	2.3	32

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

322458097443101 - LAKE GRANBURY SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
05...	1458	1.00	1220	8.3	11.0	9.8	92
05...	1502	10.0	1220	8.3	11.0	9.9	93
05...	1506	20.0	1220	8.3	11.0	9.8	92
05...	1510	30.0	1220	8.3	11.0	9.8	92
05...	1514	40.0	1220	8.3	11.0	9.8	92
05...	1518	50.0	1220	8.3	11.0	9.7	91
APR							
07...	1436	1.00	1410	8.2	16.0	7.9	82
07...	1438	10.0	1410	8.2	15.5	7.8	80
07...	1441	20.0	1410	8.2	15.5	7.7	79
07...	1443	30.0	1410	8.2	15.5	7.5	77
07...	1446	40.0	1410	8.1	15.0	7.1	72
07...	1448	50.0	1410	7.7	14.5	4.2	42
JUL							
13...	1528	1.00	1660	8.3	32.5	7.3	105
13...	1531	10.0	1660	8.2	31.0	6.2	87
13...	1535	20.0	1860	7.7	29.0	2.5	34
13...	1538	30.0	1990	7.6	29.0	1.8	24
13...	1541	40.0	2080	7.5	28.5	1.3	17
13...	1544	51.0	2370	7.2	26.0	0	0

322619097463301 - LAKE GRANBURY SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
JAN											
05...	1532	1.00	1200	8.4	10.0	10.1	93	260	130	69	21
05...	1536	10.0	1200	8.4	10.0	10.2	93	--	--	--	--
05...	1540	20.0	1200	8.4	10.0	10.2	93	--	--	--	--
05...	1544	30.0	1200	8.4	9.5	10.2	92	--	--	--	--
05...	1548	38.0	1200	8.4	9.5	10.0	91	260	130	69	21
APR											
07...	1509	1.00	1480	8.3	16.5	8.0	84	310	160	81	27
07...	1512	10.0	1480	8.3	16.5	7.8	82	--	--	--	--
07...	1515	20.0	1470	8.2	16.0	7.4	77	--	--	--	--
07...	1518	30.0	1470	8.3	16.0	7.3	76	--	--	--	--
07...	1521	38.0	1460	8.0	15.5	6.4	65	300	160	79	26
JUL											
13...	1559	1.00	1670	8.4	32.0	7.8	110	320	210	82	29
13...	1602	10.0	1670	8.3	30.5	7.2	100	--	--	--	--
13...	1606	20.0	1820	8.1	29.5	5.4	74	--	--	--	--
13...	1609	30.0	2280	7.7	29.0	2.7	36	--	--	--	--
13...	1613	37.0	2280	7.7	29.0	2.6	35	410	290	100	40

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN											
05...	140	4	5.2	130	150	220	0.30	5.7	690	0.130	0.130
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	140	4	4.6	130	140	220	0.30	5.7	679	0.120	0.120
APR											
07...	180	4	5.4	150	190	270	0.30	4.6	850	0.065	0.065
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	180	4	5.3	150	180	260	0.30	4.9	824	0.080	0.080
JUL											
13...	230	6	6.9	120	210	440	0.30	11	1080	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	330	7	7.7	120	300	610	0.40	8.3	1470	--	--

BRAZOS RIVER MAIN STEM

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

322619097463301 - LAKE GRANBURY SITE FC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
05...	0.020	0.150	0.150	0.040	0.16	0.20	<0.010	<0.010	<3	<1
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	0.010	0.130	0.130	0.040	0.26	0.30	0.050	<0.010	<3	4
APR										
07...	0.030	0.095	0.095	0.040	0.16	0.20	<0.010	<0.010	<3	2
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	0.040	0.120	0.120	0.100	0.20	0.30	0.020	<0.010	3	110
JUL										
13...	<0.010	--	<0.050	<0.010	--	0.30	<0.010	<0.010	<10	<10
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	<0.010	--	<0.050	0.040	0.46	0.50	0.030	<0.010	<10	70

322703097451401 - LAKE GRANBURY SITE GC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
05...	1601	1.00	1190	8.3	9.5	10.2	92
05...	1604	10.0	1180	8.4	9.5	10.2	92
05...	1606	24.0	1180	8.4	9.5	10.2	92
APR							
07...	1537	1.00	1500	8.4	17.0	8.4	89
07...	1539	10.0	1500	8.3	17.0	8.5	90
07...	1541	24.0	1500	8.3	16.0	7.7	80
JUL							
13...	1631	1.00	1680	8.4	31.0	8.7	121
13...	1634	10.0	1680	8.3	29.5	7.2	98
13...	1637	22.0	1840	7.5	29.0	1.3	18

322834097470801 - LAKE GRANBURY SITE HC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
05...	1626	1.00	1310	8.4	9.0	10.2	91
05...	1629	10.0	1330	8.4	9.0	10.1	90
05...	1632	20.0	1350	8.3	9.0	10.1	90
05...	1636	30.0	1430	8.3	9.0	9.9	89
APR							
07...	1601	1.00	1600	8.4	16.5	8.1	85
07...	1603	10.0	1620	8.4	15.5	7.8	80
07...	1605	20.0	1630	8.3	15.5	7.3	75
07...	1608	31.0	1630	8.3	15.5	7.4	76
JUL							
13...	1701	1.00	1940	8.4	31.0	8.3	116
13...	1704	10.0	2060	8.1	29.5	6.5	89
13...	1708	20.0	2360	7.7	29.5	3.6	49
13...	1711	32.0	2460	7.4	29.0	1.3	18

BRAZOS RIVER MAIN STEM

213

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

322819097483201 - LAKE GRANBURY SITE IC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
05...	1649	1.00	1410	8.4	9.0	10.2	91
05...	1655	14.0	1410	8.3	9.0	10.2	91
APR							
07...	1620	1.00	1600	8.4	16.5	8.6	91
07...	1622	5.00	1600	8.4	16.0	8.4	88
07...	1625	13.0	1620	8.3	15.0	7.6	78
JUL							
13...	1725	1.00	2120	8.3	31.5	8.3	117
13...	1730	5.00	2050	8.3	30.5	8.4	116
13...	1734	14.0	2160	7.4	29.0	0.9	12

323318097480101 - LAKE GRANBURY SITE JC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
05...	1713	1.00	1790	8.2	9.0	10.0	90
05...	1716	10.0	1790	8.2	9.0	10.0	90
05...	1720	22.0	1810	8.2	9.0	10.1	91
APR							
07...	1644	1.00	1820	8.3	17.0	8.0	85
07...	1646	10.0	1850	8.2	16.5	7.5	79
07...	1649	21.0	1770	8.1	15.0	6.4	65
JUL							
13...	1759	1.00	2530	8.2	32.0	7.2	103
13...	1802	10.0	2590	7.8	30.5	4.7	65
13...	1805	21.0	2750	7.5	29.5	1.8	25

323435097492001 - LAKE GRANBURY SITE KC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CaCO3)	HARD- NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS Ca)
JAN										
05...	1735	1.00	2010	8.2	8.5	10.4	92	460	270	120
05...	1740	10.0	2000	8.2	8.5	10.4	92	--	--	--
05...	1745	17.0	2000	8.2	8.5	10.3	91	460	270	120
APR										
07...	1703	1.00	2170	8.3	18.0	8.0	87	450	280	110
07...	1707	10.0	2230	8.2	17.5	7.8	84	--	--	--
07...	1711	17.0	2270	8.2	17.0	7.5	80	460	290	110
JUL										
13...	1821	1.00	1800	8.4	32.0	8.9	126	300	200	77
13...	1826	10.0	2660	7.9	30.5	5.5	76	--	--	--
13...	1832	17.0	2690	7.8	30.5	4.2	58	440	330	110

BRAZOS RIVER MAIN STEM

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued

323435097492001 - LAKE GRANBURY SITE KC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)
JAN										
05...	39	270	5	5.6	190	270	430	0.40	5.5	1260
05...	--	--	--	--	--	--	--	--	--	--
05...	40	270	5	5.5	190	270	420	0.30	5.5	1250
APR										
07...	43	290	6	6.2	180	290	450	0.40	2.5	1300
07...	--	--	--	--	--	--	--	--	--	--
07...	44	290	6	6.3	170	300	460	0.40	2.4	1310
JUL										
13...	27	250	6	6.5	110	240	490	0.30	6.2	1160
13...	--	--	--	--	--	--	--	--	--	--
13...	41	390	8	7.9	110	370	740	0.40	5.4	1730

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
05...	<0.010	<0.050	0.040	0.16	0.20	0.040	<0.010	<10	<10
05...	--	--	--	--	--	--	--	--	--
05...	<0.010	<0.050	0.040	0.16	0.20	0.020	<0.010	10	20
APR									
07...	0.030	<0.050	0.040	--	<0.20	0.010	<0.010	10	<10
07...	--	--	--	--	--	--	--	--	--
07...	0.030	<0.050	0.030	0.27	0.30	0.020	<0.010	10	10
JUL									
13...	<0.010	<0.050	<0.010	--	0.30	<0.010	<0.010	<10	<10
13...	--	--	--	--	--	--	--	--	--
13...	<0.010	<0.050	0.050	0.35	0.40	<0.010	<0.010	20	120

08091000 BRAZOS RIVER NEAR GLEN ROSE, TX

LOCATION.--Lat 32°16'18", long 97°39'48", Somervell County, Hydrologic Unit 12060201, at downstream side of bridge on U.S. Highway 67, 600 ft downstream from Georges Creek, 4.1 mi upstream from Paluxy River, 6 mi northeast of Glen Rose, and at mile 511.2.

DRAINAGE AREA.--25,818 mi², of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1923 to current year.

Water-quality records.--Chemical analyses: August to November 1946. Chemical and biochemical analyses: October 1980 to June 1987.

REVISED RECORDS.--WSP 1058: 1932. WSP 1512: 1946-47, 1949. WSP 1712: 1928(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 567.82 ft above National Geodetic Vertical Datum of 1929. Prior to May 7, 1931, nonrecording gage at site 2.5 mi downstream at same datum. May 7, 1931, to Sept. 30, 1957, water-stage recorder at site 2.4 mi downstream at same datum, used as supplementary gage Oct. 1, 1957, to Apr. 1, 1959. Apr. 27, 1950, to Sept. 30, 1957, water-stage recorder, present gage, used as supplementary gage.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since September 1969, flow largely regulated by Lake Granbury (station 08090900) 31 mi upstream. There are many diversions above station for irrigation and municipal supplies, and for oil field operations. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--46 years (water years 1924-69) prior to regulation by Lake Granbury, 1,567 ft³/s (1,135,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1924-69).--Maximum discharge, 97,600 ft³/s May 18, 1935 (gage height, 23.68 ft, from floodmarks); no flow at times prior to construction of Morris Sheppard Dam (1941) on the Brazos River, forming Possum Kingdom Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Second highest known flood since at least 1876 occurred in May 1922 and reached a stage of 29.5 ft, and flood in May 1908 reached a stage of 27 ft, each at site 2.4 mi downstream, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	102	35	40	50	1310	49	694	2300	150	103	1170
2	182	69	36	32	42	425	35	291	3150	459	194	1770
3	108	71	358	29	41	236	35	813	2860	473	199	581
4	521	336	1900	30	38	176	32	335	683	477	197	488
5	261	394	348	33	37	80	40	109	593	467	157	494
6	93	330	106	33	35	53	209	82	549	531	70	476
7	59	115	68	29	32	43	115	435	528	369	36	254
8	43	65	66	67	35	747	61	529	357	290	24	88
9	36	53	171	68	35	404	40	565	286	476	15	1290
10	34	52	196	60	33	101	36	1000	325	470	13	1610
11	33	170	215	76	38	55	33	552	457	478	10	1660
12	33	200	215	255	43	47	44	738	641	520	9.9	831
13	568	215	232	233	36	44	182	9280	571	1490	139	615
14	528	215	276	236	33	45	79	17500	1600	1350	193	488
15	111	215	228	187	28	42	52	10200	835	576	185	265
16	194	215	209	84	27	39	42	2900	504	486	190	e2180
17	234	459	209	43	27	39	33	3510	494	479	193	e1110
18	1540	114	209	33	27	38	33	6480	493	469	181	e428
19	1250	62	172	37	172	39	37	6730	480	478	75	e151
20	16200	46	168	146	423	35	49	5460	258	250	169	e61
21	19800	39	168	109	422	30	55	5520	88	78	210	e36
22	6680	39	168	81	244	30	67	5340	59	46	210	e28
23	2230	38	168	176	862	28	60	3130	59	34	202	e24
24	e1530	37	168	193	312	25	47	1860	46	23	198	e34
25	e705	35	176	1040	66	25	35	1050	34	17	197	e164
26	426	35	185	1250	40	60	36	2140	33	13	201	192
27	291	36	185	377	33	60	50	4600	29	12	161	215
28	276	37	191	263	130	46	66	3280	24	9.8	70	208
29	271	36	191	241	---	51	381	1830	22	8.6	42	202
30	1010	35	153	110	---	174	1150	1890	22	8.0	28	198
31	295	---	60	67	---	85	---	1790	---	11	21	---
TOTAL	55584	3865	7230	5658	3341	4612	3183	100633	18380	10998.4	3892.9	17311
MEAN	1793	129	233	183	119	149	106	3246	613	355	126	577
MAX	19800	459	1900	1250	862	1310	1150	17500	3150	1490	210	2180
MIN	33	35	35	29	27	25	32	82	22	8.0	9.9	24
AC-FT	110300	7670	14340	11220	6630	9150	6310	199600	36460	21820	7720	34340

continued

08091000 BRAZOS RIVER NEAR GLEN ROSE, TX

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1994#, BY WATER YEAR (WY)

MEAN	1854	842	1040	584	997	1185	1281	2256	2658	619	682	676
MAX	17860	6209	14960	3099	11290	6684	14360	13920	13660	4873	6621	2957
(WY)	1982	1975	1992	1992	1992	1992	1990	1990	1982	1982	1978	1972
MIN	22.3	13.7	25.1	34.4	15.9	34.3	9.99	30.5	145	12.1	17.2	20.7
(WY)	1989	1989	1989	1989	1984	1974	1974	1988	1972	1978	1984	1984

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1970 - 1994#	
ANNUAL TOTAL	234408		234688.3		1223	
ANNUAL MEAN	642		643		4605	
HIGHEST ANNUAL MEAN					115	
LOWEST ANNUAL MEAN					82100	
HIGHEST DAILY MEAN	19800	Oct 21	19800	Oct 21	Dec 21 1991	
LOWEST DAILY MEAN	17	Aug 16	8.0	Jul 30	Jul 14 1984	
ANNUAL SEVEN-DAY MINIMUM	18	Aug 16	11	Jul 25	Apr 19 1974	
INSTANTANEOUS PEAK FLOW			23400	Oct 20	Dec 21 1991	
INSTANTANEOUS PEAK STAGE			18.10	Oct 20	Apr 28 1990	
INSTANTANEOUS LOW FLOW					Jul 14 1984	
ANNUAL RUNOFF (AC-FT)	464900		465500		886000	
10 PERCENT EXCEEDS	1370		1300		2300	
50 PERCENT EXCEEDS	337		169		236	
90 PERCENT EXCEEDS	36		33		27	

e Estimated

Period of regulated streamflow.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1877, 27.2 ft Apr. 17, 1908, present site and datum (discharge, 59,000 ft³/s), from rating curve extended as explained above. Flood of May 21, 1922, reached a stage of 26.0 ft, present site and datum (discharge, 53,000 ft³/s), from rating curve extended as explained above. Flood in November 1918 reached about the same stage as flood of May 21, 1922, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	17	16	19	25	32	23	63	43	11	4.2	157
2	21	17	17	19	25	32	23	41	39	9.8	4.5	349
3	24	17	26	19	25	32	23	35	37	8.9	3.8	128
4	37	18	30	18	25	30	22	32	37	8.9	3.4	64
5	68	17	24	18	25	29	22	28	34	8.2	3.4	36
6	44	16	19	20	25	30	21	26	31	15	3.4	26
7	35	16	18	19	25	29	21	24	29	144	3.4	22
8	31	16	17	18	25	29	21	23	26	55	3.3	21
9	29	16	17	18	25	29	21	28	25	32	3.0	52
10	27	16	16	19	24	27	21	124	38	25	3.0	62
11	26	16	15	21	24	26	21	1900	63	21	2.8	41
12	26	17	16	20	24	26	21	2210	100	17	2.7	31
13	120	17	19	20	24	27	20	2070	85	16	2.5	24
14	156	21	16	20	23	26	20	1020	57	15	2.2	21
15	69	19	15	20	23	26	19	456	40	16	1.7	20
16	50	23	14	20	23	26	18	294	33	14	1.3	356
17	46	26	15	22	23	25	17	220	29	12	1.4	324
18	87	22	16	20	23	25	17	159	26	10	2.6	125
19	83	19	15	20	23	24	17	123	24	9.0	1.6	72
20	1060	17	15	22	24	24	19	102	23	7.5	1.3	47
21	268	16	15	25	24	24	21	86	20	7.0	4.3	34
22	102	16	22	32	48	23	21	74	20	6.7	6.3	29
23	53	17	21	41	59	23	20	66	20	6.4	4.0	26
24	36	16	20	52	47	24	19	61	19	5.8	2.8	22
25	30	17	19	38	36	24	19	55	18	5.3	2.2	20
26	26	19	18	33	30	29	23	55	16	5.0	1.8	19
27	23	18	19	30	28	33	169	63	15	4.1	1.4	18
28	21	18	18	27	28	27	116	65	13	3.7	1.2	16
29	20	16	17	26	---	26	58	61	12	3.3	.95	15
30	18	16	17	27	---	25	43	53	11	3.3	.88	14
31	17	---	18	27	---	24	---	46	---	3.8	7.2	---
TOTAL	2675	532	560	750	783	836	916	9663	983	509.7	88.53	2191
MEAN	86.3	17.7	18.1	24.2	28.0	27.0	30.5	312	32.8	16.4	2.86	73.0
MAX	1060	26	30	52	59	33	169	2210	100	144	7.2	356
MIN	17	16	14	18	23	23	17	23	11	3.3	.88	14
AC-FT	5310	1060	1110	1490	1550	1660	1820	19170	1950	1010	176	4350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1994, BY WATER YEAR (WY)

MEAN	64.2	28.2	55.6	44.3	68.6	79.3	121	249	93.3	29.5	14.7	29.9
MAX	724	211	1382	380	933	487	827	1191	890	133	106	335
(WY)	1960	1992	1992	1992	1992	1968	1990	1949	1989	1968	1968	1955
MIN	.000	1.05	3.47	4.70	5.49	5.84	6.46	3.34	1.48	.000	.000	.000
(WY)	1979	1984	1989	1984	1984	1956	1986	1988	1974	1978	1978	1984

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1925 - 1994

ANNUAL TOTAL	28768.1		20487.23			
ANNUAL MEAN	78.8		56.1		73.4	
HIGHEST ANNUAL MEAN					361	1992
LOWEST ANNUAL MEAN					6.24	1984
HIGHEST DAILY MEAN	1060	Oct 20	2210	May 12	26600	May 17 1949
LOWEST DAILY MEAN	7.1	Aug 24	.88	Aug 30	.00	Jul 13 1925
ANNUAL SEVEN-DAY MINIMUM	7.9	Sep 6	1.6	Aug 24	.00	Jul 20 1925
INSTANTANEOUS PEAK FLOW			3950	May 11	50000	Oct 4 1959
INSTANTANEOUS PEAK STAGE			7.76	May 11	25.40	Oct 4 1959
ANNUAL RUNOFF (AC-FT)	57060		40640		53180	
10 PERCENT EXCEEDS	202		64		98	
50 PERCENT EXCEEDS	39		22		14	
90 PERCENT EXCEEDS	15		5.6		1.4	

08091730 SQUAW CREEK RESERVOIR NEAR GLEN ROSE, TX

LOCATION.--Lat 32°18'00", long 97°47'12". Somervell County, Hydrologic Unit 12060202, on upstream side of intake structure near power house on Squaw Creek, 1.8 mi upstream from dam, 3.9 mi north of Glen Rose, and 6.1 mi upstream from mouth.

DRAINAGE AREA.--64.0 mi².

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

Water-quality records.--Chemical analyses: October 1982 to September 1984.

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 long. Deliberate impoundment began in February 1977, and the dam was completed in June 1977. The flood-control outlet works consist of an ungated 100-foot-long concrete ogee spillway located at right end of dam. The low-flow outlet works consist of a concrete outlet tower with three 4- X 6-foot slide gates and a 6- X 6-foot slide gate, which feed into a 6-foot inside diameter concrete conduit that extends through the dam. Water can be diverted by pipeline from Lake Granbury into this reservoir. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	796.0	228,100
Crest of spillway.....	783.0	178,100
Crest of spillway (normal operating level).....	775.0	151,100
Invert of slide gate (No. 1).....	764.0	117,300
Invert of slide gate (No. 2).....	715.0	24,670
Invert of slide gate (No. 3).....	666.5	380
Lowest gated outlet (invert).....	653.0	0

COOPERATION.--The capacity table, provided by Texas Utilities Services, Inc., was prepared by Freese and Nichols, Inc., Consulting Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 164,700 acre-ft Dec. 19, 1991 (elevation, 779.14 ft); minimum since normal operating level was reached in 1979, 141,200 acre-ft Sep. 16, 1992 (elevation, 771.98 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 150,000 acre-ft Dec. 3 at 0800 hours (elevation, 774.71 ft); minimum, 144,500 acre-ft Feb. 28 (elevation, 773.02 ft).

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

771.0	138,200	774.0	147,700	777.0	157,600
772.0	141,300	775.0	151,000	778.0	160,900
773.0	144,500	776.0	154,200	780.0	167,700

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147000	149300	149700	148300	146200	144700	147400	145400	147400	146400	146400	147200
2	147100	149300	149900	148200	146100	144700	147400	145300	147400	146400	146500	147200
3	147300	149300	150000	148100	146000	144800	147400	145200	147400	146300	146500	147200
4	147400	149300	149800	148000	146000	145000	147400	145200	147400	146300	146500	147200
5	147500	149200	149800	147900	145900	145100	147500	145200	147400	146300	146400	147200
6	147700	149100	149700	147800	145800	145200	147400	145200	147300	146600	146400	147300
7	147800	149000	149700	147600	145900	145400	147400	145300	147200	146600	146300	147400
8	147900	149000	149700	147500	145800	145500	147300	145400	147100	146600	146300	147600
9	147800	149100	149700	147500	145600	145400	147200	146300	147000	146600	146300	148100
10	147900	149100	149600	147500	145500	145500	147200	147500	146900	146600	146300	148100
11	148000	149200	149600	147400	145500	145600	147100	147700	146800	146600	146300	147900
12	148100	149200	149500	147400	145400	145700	147100	147700	146600	146700	146300	147800
13	148500	149300	149500	147300	145300	145800	146900	147700	146500	146700	146300	147700
14	148600	149400	149500	147200	145200	146000	146800	147900	146400	146900	146300	147600
15	148700	149400	149400	147100	145200	146100	146700	147900	147000	147000	146200	147600
16	148800	149600	149300	147100	145200	146200	146600	147900	147300	147000	146200	148200
17	149200	149600	149300	147000	145100	146300	146400	147900	147300	147000	146300	148000
18	149600	149700	149200	146800	145100	146400	146300	147800	147200	147000	146300	147900
19	149900	149600	149200	146700	145000	146500	146300	147700	147100	147000	146300	147800
20	149900	149600	148900	146700	145000	146600	146200	147500	147100	146900	146300	147600
21	149800	149600	149100	146700	145000	146600	146200	147400	147200	146900	146300	147400
22	149800	149600	149100	146800	145200	146700	146100	147300	147200	146900	146300	147200
23	149800	149700	149000	146900	145000	147100	146000	147400	147200	146900	146300	147000
24	149800	149700	148900	146900	144900	147300	145800	147300	147200	146900	146300	146700
25	149800	149600	148800	146900	144800	147300	145700	147400	147100	146800	146300	146600
26	149800	149600	148700	146800	144700	147400	145700	147400	147000	146800	146300	146400
27	149700	149600	148700	146700	144600	147400	145600	147400	146800	146600	146400	146300
28	149700	149600	148600	146500	144600	147300	145600	147400	146500	146600	146400	146200
29	149600	149700	148500	146500	---	147300	145600	147400	146400	146500	146400	146000
30	149400	149700	148400	146500	---	147300	145400	147400	146400	146500	146400	145900
31	149400	---	148300	146300	---	147300	---	147400	---	146400	147000	---
MAX	149900	149700	150000	148300	146200	147400	147500	147900	147400	147000	147000	148200
MIN	147000	149000	148300	146300	144600	144700	145400	145200	146400	146300	146200	145900
(+)	774.53	774.61	774.19	773.58	773.05	773.89	773.30	773.91	773.60	773.61	773.78	773.43
(@)	+2400	+300	-1400	-2000	-1700	+2700	-1900	+2000	-1000	0	+600	-1100

CAL YR 1993 MAX 151300 MIN 144400 (@) 0
WTR YR 1994 MAX 150000 MIN 144600 (@) -1100

(+) 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 highway embankment 25 ft left of left end of bridge on State Highway 144, 2.1 mi upstream from mouth, 2.5 mi downstream from Squaw Creek Dam, and 2.8 mi northeast of Glen Rose.

DRAINAGE AREA.--70.3 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 599.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. 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 were sustained by releases from a 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 FOR PERIOD PRIOR TO REGULATION.--4 years (1974-77) prior to regulation by Squaw Creek Reservoir 8.41 ft³/s (6,090 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1974-77).--Maximum discharge, 9,030 ft³/s Apr. 8, 1975 (gage height, 11.90 ft), from rating curve extended above 1,000 ft³/s on basis of area-velocity study; minimum, 0.02 ft³/s Aug. 28, 29, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1934, about 20.5 ft in May 1957, from information by State Department of Highways and Public Transportation (discharge not determined).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.8	6.6	1.9	2.6	3.2	1.9	2.8	2.4	2.4	3.1	2.8
2	3.5	3.8	8.3	2.5	2.6	3.1	1.9	2.6	2.4	2.4	3.0	2.0
3	3.7	3.8	7.6	2.3	2.6	3.0	1.9	2.6	2.4	2.2	2.8	2.0
4	3.8	3.8	5.9	1.8	2.8	2.9	1.9	2.6	2.4	3.3	3.0	2.0
5	3.6	4.3	5.4	1.6	2.8	2.8	2.1	2.5	2.2	3.0	3.0	1.9
6	3.5	4.7	5.3	1.6	2.8	2.8	1.9	2.4	2.0	4.3	3.0	1.9
7	3.5	5.0	4.9	1.7	2.8	2.8	1.7	2.4	1.8	3.1	3.0	1.9
8	3.5	5.4	4.7	1.8	2.8	2.8	1.9	2.4	1.8	3.1	3.0	2.0
9	3.5	5.4	4.7	1.9	3.0	2.8	1.9	3.1	2.4	3.1	3.0	3.4
10	3.5	5.1	4.7	1.9	3.0	2.7	1.9	5.3	2.0	3.2	3.0	2.0
11	3.5	5.0	4.8	1.9	3.0	2.8	1.7	9.3	5.0	3.2	2.9	1.8
12	3.5	5.3	18	1.9	3.0	2.6	1.6	26	2.9	3.2	2.9	1.7
13	5.5	6.1	4.0	1.9	3.0	2.4	1.7	5.6	2.6	3.5	2.8	1.7
14	3.8	8.7	4.2	1.9	3.1	2.5	1.7	3.5	2.6	3.3	2.8	1.6
15	3.8	8.1	3.8	1.9	3.2	2.4	1.7	2.9	2.6	3.7	2.7	1.6
16	3.8	9.8	3.8	1.9	3.2	2.3	1.7	2.8	2.6	3.0	8.5	2.2
17	4.7	9.2	3.7	2.0	3.2	2.2	1.9	2.8	2.6	3.0	2.3	2.0
18	6.5	9.1	3.5	2.4	3.2	2.2	1.8	2.4	2.5	2.8	1.1	1.7
19	4.9	9.0	3.5	2.4	3.2	2.2	1.7	2.4	2.7	2.7	.74	1.7
20	5.8	8.9	3.3	2.4	3.1	2.2	1.7	2.4	2.7	3.0	.85	1.7
21	4.8	8.7	2.2	2.9	3.0	2.2	2.3	2.4	2.4	3.0	1.0	1.6
22	4.0	8.7	2.6	3.4	5.7	2.3	2.4	2.4	2.2	2.6	1.7	1.8
23	4.0	8.6	2.5	3.3	3.4	2.4	2.4	2.4	2.4	3.4	4.4	2.0
24	3.8	8.1	2.4	2.8	3.2	2.0	2.2	2.4	2.6	3.8	2.2	1.9
25	3.8	8.1	2.4	2.8	3.0	2.2	2.3	2.4	2.6	3.4	1.9	1.8
26	3.8	7.6	2.4	2.8	3.0	5.3	2.4	2.6	2.4	3.0	1.7	1.8
27	3.8	7.1	2.9	2.8	3.0	2.5	3.2	2.7	2.4	3.0	1.6	1.7
28	3.8	7.1	2.6	2.8	3.0	2.0	2.9	2.6	2.3	3.0	1.6	1.7
29	3.8	7.0	2.5	2.8	---	1.9	3.0	2.6	2.2	2.9	1.6	1.7
30	4.2	6.6	1.9	2.8	---	1.9	3.0	2.5	2.3	3.1	1.6	1.7
31	4.0	---	1.9	2.6	---	1.9	---	2.4	---	3.2	2.2	---
TOTAL	125.2	201.9	137.0	71.4	86.3	79.3	62.3	116.2	74.4	95.9	78.99	57.3
MEAN	4.04	6.73	4.42	2.30	3.08	2.56	2.08	3.75	2.48	3.09	2.55	1.91
MAX	6.5	9.8	18	3.4	5.7	5.3	3.2	26	5.0	4.3	8.5	3.4
MIN	3.5	3.8	1.9	1.6	2.6	1.9	1.6	2.4	1.8	2.2	.74	1.6
AC-FT	248	400	272	142	171	157	124	230	148	190	157	114

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1994#, BY WATER YEAR (WY)

	MEAN	11.1	9.03	29.0	8.66	15.6	26.6	23.3	59.4	49.1	6.08	4.83	5.29
MAX	110	81.5	416	66.0	162	132	169	336	362	29.5	10.7	14.8	
(WY)	1992	1992	1992	1992	1992	1992	1990	1989	1989	1982	1989	1986	
MIN	1.54	1.95	2.36	2.30	2.46	1.61	1.78	2.39	1.28	1.59	1.47	1.91	
(WY)	1993	1993	1978	1994	1978	1978	1978	1978	1978	1978	1992	1994	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1978 - 1994#

ANNUAL TOTAL	2419.0	1186.19	
ANNUAL MEAN	6.63	3.25	20.7
HIGHEST ANNUAL MEAN			89.9
LOWEST ANNUAL MEAN			2.18
HIGHEST DAILY MEAN	36	26	4380
LOWEST DAILY MEAN	1.9	.74	.64
ANNUAL SEVEN-DAY MINIMUM	2.4	1.7	.70
INSTANTANEOUS PEAK FLOW		76	8940
INSTANTANEOUS PEAK STAGE		3.11	11.85
ANNUAL RUNOFF (AC-FT)	4800	2350	15000
10 PERCENT EXCEEDS	13	5.3	20
50 PERCENT EXCEEDS	5.0	2.8	4.2
90 PERCENT EXCEEDS	2.8	1.8	2.3

Period of regulated streamflow.

BRAZOS RIVER BASIN

08092000 NOLAN RIVER AT BLUM, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 32°09'02", long 97°24'09", Hill County, Hydrologic Unit 12060202, on right bank 60 ft upstream from bridge on Farm Road 933, 0.6 mi northwest of Blum 2.8 mi downstream from Mustang Creek, 3.0 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.2 mi upstream from Rock Creek, and 8.5 mi upstream from mouth.

DRAINAGE AREA.--282 mi².

PERIOD OF RECORD.--July 1924 to September 1925. November 1947 to September 1985. October 1985 to current year, (peaks above base discharge).

REVISED RECORDS.--WSP 1312: 1925(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 551.48 ft above National Geodetic Vertical Datum of 1929. July 29, 1924, to Sept. 30, 1925, and Nov. 14, 1947, to May 28, 1949, nonrecording gage at railway bridge (now abandoned) 0.5 mi upstream at datum 5.00 ft higher. May 29 to July 7, 1949, nonrecording gage at present site and datum then in use (5.00 ft higher than present datum).

REMARKS.--Records good. Peak discharges less than 1,200 ft³/s, and daily values are not published. Since August 1984, flow from 100 mi² above this station has been affected by storage in Lake Pat Cleburne (station 08091900) located 13 mi upstream. The city of Cleburne diverts water from Lake Pat Cleburne and returns sewage effluent to a tributary upstream from the station. Satellite telemeter at station.

AVERAGE DISCHARGE.--18 years (water years 1925, 1949-64) prior to regulation by Lake Pat Cleburne, 66.1 ft³/s (47,890 acre-ft/yr); 21 years (water years 1965-85) regulated, 81.2 ft³/s (58,830 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 62,200 ft³/s May 7, 1969 (gage height, 31.23 ft), from rating curve extended above 22,200 ft³/s on basis of contracted-opening measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, 35.0 ft May 8, 1922, present site and datum, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 1,200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	1200	2,210	6.20				

08092500 LAKE WHITNEY NEAR WHITNEY, TX

LOCATION.--Lat 31°51'55", long 97°22'18", Bosque County, Hydrologic Unit 12060202, on State Highway 22, in intake structure of Whitney Dam on Brazos River, 2.4 mi upstream from Coon Creek, 3.5 mi upstream from Iron Creek, 7.4 mi southwest of Whitney, and at mile 442.4.

DRAINAGE AREA.--27,189 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--December 1951 to current year. Prior to October 1970, published as Whitney Reservoir. Prior to October 1980, published as Whitney Lake.

Water-quality records.--Chemical analyses: March 1960 to September 1987. Chemical and biochemical analyses: September 1970 to August 1987.

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

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

REMARKS.--The lake is formed by a concrete-gravity and rolled earthfill dam 17,695 ft long, including spillway. The dam was completed in April 1951, and deliberate impoundment began Dec. 10, 1951. Concrete spillway is 680 ft long and includes 17 tainter gates 38.0 by 40.0 ft each. Outlet works are comprised of 16 gate-operated conduits that are 5.0- by 9.0 ft each. The space between elevations 522.0 and 571.0 ft is reserved for flood-control storage. At maximum design elevation of 573.0 ft the spillway is designed to discharge 684,000 ft³/s. The capacity table is based on a survey made in April and May 1959. Satellite 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.....	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 of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,980,000 acre-ft May 29, 1957 (elevation, 570.25 ft); minimum daily since power pool elevation first reached in April 1954, 250,200 acre-ft Nov. 1, 1956 (elevation 509.52 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 646,400 acre-ft May 27, (elevation, 533.80 ft); minimum daily, 447,300 acre-ft Feb. 18 (elevation, 524.19 ft).

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

524.0	444,100	544.0	925,700	558.0	1,420,000
525.0	461,200	548.0	1,053,000	560.0	1,501,000
530.0	559,400	551.0	1,156,000	561.0	1,542,000
535.0	675,300	554.0	1,266,000	571.0	2,000,000
540.0	807,600	556.0	1,342,000		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	485800	560700	543100	487300	455000	463300	461500	452700	629900	599700	567500	537400
2	485500	561400	543700	484000	453800	464000	464300	454300	627300	598100	567300	541800
3	486400	560700	545000	479000	452100	463800	462400	454600	629700	597000	566200	543100
4	484200	560100	545800	475000	452900	464700	461900	456000	628700	595600	565300	542700
5	483600	561400	546700	469800	452900	465400	464000	455100	627100	593600	564400	541200
6	482500	559600	545800	472700	452900	465600	459800	454300	625400	593100	563500	542000
7	481600	558500	545400	468200	453100	466300	458200	454600	624000	591800	563300	540700
8	479700	557400	544600	465600	453100	469800	458100	454500	622100	590200	562000	541600
9	479900	558100	542900	464200	451000	471200	458200	456500	620500	590400	561100	541400
10	478800	558100	543300	464000	448800	470200	458400	456600	618600	590900	559800	542400
11	477900	557400	537600	463600	447300	469600	460500	479000	618600	590000	558700	543300
12	477700	557900	533400	462600	448500	471200	459500	489200	617700	588800	557700	543700
13	478500	558100	527200	462400	448000	472100	459100	512200	617000	591100	556600	543100
14	479600	560700	526600	462600	447500	471600	459500	549900	617500	593600	555900	542700
15	479200	560500	524900	461400	448000	471100	460100	578300	619600	593100	555100	542900
16	477000	562000	524300	465200	448000	470000	459300	589500	617900	592400	553800	543300
17	478800	562200	525100	461000	448000	468600	458800	595800	617700	591500	553300	547300
18	483200	562000	525300	460000	447300	468400	457200	609300	617500	590400	552300	548600
19	488200	561600	525500	458600	448500	466800	456300	624200	617900	589300	550300	548200
20	508800	559600	523300	458400	452700	467500	455700	633900	617500	587700	550800	546900
21	540500	558300	521900	457700	453800	467000	454600	640800	616500	586600	551000	545200
22	560500	557000	520600	457900	462200	465700	453900	644400	615600	585200	548600	544100
23	563800	556100	519200	458600	460000	465400	452700	644000	614400	582600	547300	543300
24	565300	558100	518000	459100	461200	466400	450700	640600	613700	580800	545400	541600
25	566200	554200	515600	460100	462900	466100	449500	633700	611200	578800	544100	541600
26	567700	550100	511800	462800	460700	468400	449700	635800	609600	578800	541800	537000
27	567000	548200	508800	462900	460700	467000	449800	646400	607500	575000	539500	536100
28	566000	546300	504500	462600	462100	465200	449300	646100	605400	572800	537400	535300
29	569200	543900	499300	460100	---	464500	451200	643000	603800	572100	535100	533800
30	565100	543300	494700	458900	---	462800	451500	638400	601800	571900	532100	533000
31	564000	---	490900	456500	---	461900	---	634400	---	569900	533800	---
MAX	569200	562200	546700	487300	462900	472100	464300	646400	629900	599700	567500	548600
MIN	477000	543300	490900	456500	447300	461900	449300	452700	601800	569900	532100	533000
(+)	530.21	529.25	526.64	524.73	525.05	525.04	524.44	533.30	531.90	530.48	528.80	528.76
(@)	+7710	-20700	-52400	-34400	+5600	-200	-10400	+182900	-32600	-31900	-36100	-800
CAL YR 1993	MAX 639300	MIN 477000	(@)	-70500								
WTR YR 1994	MAX 646400	MIN 447300	(@)	+46100								

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX

LOCATION.--Lat 31°52'00", long 97°22'00", Hill County, Hydrologic Unit 12060202, immediately below Whitney Dam, 3.4 mi upstream from gaging station near Whitney, 4.0 mi upstream from Iron Creek, and 7.4 mi southwest of Whitney.

DRAINAGE AREA.--27,189 mi², of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: August 1946 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1947 to current year.

WATER TEMPERATURE: October 1947 to current year.

INSTRUMENTATION.--From July 1953 to September 1966, water temperature was continuously recorded at this station.

REMARKS.--Records of discharge are given for gaging station 08093100. No appreciable inflow between dam and gaging station except during periods of heavy local rains. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,620 microsiemens Aug. 24, 1978; minimum daily, 203 microsiemens May 23, 1952.

WATER TEMPERATURES: Maximum daily, 33.5°C July 3, 1973; minimum daily, 0.0°C Jan. 28, 29, 1948.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,810 microsiemens Feb. 10; minimum daily, 1,320 microsiemens Aug. 24-27.

WATER TEMPERATURE: Maximum daily, 25.5°C Aug. 24-26, and 30; minimum daily, 8.0°C Feb. 2.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

		DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	
JAN	28...	1100	290	1710	8.2	7.0	340	200	84	31
MAY	18...	1439	54	1600	7.7	25.0	330	210	86	29
JUN	28...	1500	107	1480	8.4	--	290	190	72	27
AUG	31...	1231	320	1500	8.5	33.0	300	190	74	27
SEP	01...	1002	240	1500	7.6	22.0	310	160	79	27
DATE		SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
JAN	28...	210	5	5.4	130	220	340	0.30	8.6	980
MAY	18...	200	5	6.0	130	210	320	0.30	7.1	934
JUN	28...	200	5	5.0	100	190	320	0.30	9.7	885
AUG	31...	190	5	4.6	110	190	300	0.30	9.3	862
SEP	01...	190	5	5.3	150	180	290	0.30	9.6	870
MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1993	19687	1560	874	46500	310	16400	190	10100	310
NOV.	1993	16947	1670	942	43100	340	15400	200	9370	330
DEC.	1993	37780	1720	971	99000	350	35400	210	21500	330
JAN.	1994	28295	1730	975	74400	350	26600	210	16200	330
FEB.	1994	10616	1710	965	27600	340	9860	210	6000	330
MAR.	1994	15380	1660	937	38900	330	13800	200	8450	330
APR.	1994	12421	1640	925	31000	330	11000	200	6740	320
MAY	1994	51549	1550	866	121000	310	42700	190	26300	310
JUNE	1994	36134	1540	865	84400	310	29900	190	18400	310
JULY	1994	27761	1530	856	64200	300	22700	190	14000	310
AUG.	1994	21994	1350	747	44400	260	15500	160	9720	280
SEPT	1994	19272	1420	791	41200	280	14500	170	9000	290
TOTAL		297836	**	**	715000	**	254000	**	156000	**
WTD.AVG.		816	1580	889	**	320	**	190	**	320

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1560	1580	1680	e1720	1710	1680	1650	e1630	1510	1560	1380	1440
2	1590	1600	1690	e1720	1700	1680	e1650	1620	1510	e1560	1380	1410
3	1540	1600	1700	1720	e1700	1680	e1650	1620	1570	e1560	1380	e1410
4	1560	1660	e1700	1720	1710	1680	1650	1620	e1550	e1550	1370	e1410
5	1560	1630	e1700	1720	e1700	e1680	1650	1620	e1530	1550	1370	e1420
6	1550	e1640	1700	1720	e1700	e1680	1650	1620	1520	1560	e1370	1420
7	1550	e1650	1710	1720	1700	1680	1650	e1610	1580	1540	e1380	1420
8	1550	1650	1710	e1720	1710	1670	1650	e1600	1580	1550	1380	1410
9	1590	1660	1730	e1730	1710	1670	e1650	1590	1580	e1540	1370	1410
10	1570	1690	1730	1730	1810	1670	e1650	1620	e1580	e1540	1360	e1410
11	1570	e1700	e1730	1720	1700	1670	1650	1580	e1580	1540	1360	e1420
12	1560	1710	e1730	1730	e1700	e1670	1650	1590	e1570	1540	1360	1420
13	1550	e1710	1720	1730	e1700	e1670	1640	1600	1570	1540	e1360	1420
14	1560	e1700	1710	1730	1700	1660	e1640	e1600	1560	1520	e1350	1420
15	1560	1700	1710	e1730	1700	1670	1640	e1610	1560	1520	1350	1410
16	1570	1640	1720	e1730	1700	1660	e1640	1620	1560	1520	1350	1410
17	1570	1660	1720	e1730	1700	1660	e1640	1610	1560	e1520	1360	e1410
18	1450	1690	e1720	1730	1700	1660	1640	1620	e1560	e1520	1360	e1410
19	1570	1720	e1720	1730	e1700	e1660	1640	1620	e1560	1520	1370	1410
20	1540	e1710	1720	1730	e1690	e1660	1640	1620	1550	1520	e1360	1420
21	1560	e1700	1720	1730	e1630	1660	1640	e1600	1550	1520	e1350	1420
22	1560	1690	1710	e1730	1630	1660	1640	e1590	1550	1520	1340	1430
23	1560	1690	1710	e1730	1680	1660	e1640	1580	1540	1510	1330	1420
24	e1560	1690	e1710	1730	1690	1660	e1640	1520	1550	e1510	1320	e1420
25	1560	e1690	e1720	1730	e1690	1660	1640	1570	e1550	e1510	1320	e1420
26	1560	1690	e1720	1740	e1690	e1660	1650	1600	e1500	1510	1320	1430
27	1560	e1690	1720	1740	e1690	e1650	e1640	1490	1540	1490	e1320	1420
28	1610	e1690	1720	1730	1690	1650	1640	e1490	1540	1480	e1330	1430
29	1610	1690	1720	e1730	---	1650	e1640	e1490	1540	1510	1340	1430
30	e1590	1690	1720	e1730	---	1660	e1630	e1500	1540	e1470	1320	1430
31	e1590	---	e1720	1740	---	1650	---	1510	---	e1430	1340	---
MEAN	1560	1670	1710	1730	1700	1670	1640	1590	1550	1520	1350	1420
MAX	1610	1720	1730	1740	1810	1680	1650	1630	1580	1560	1380	1440
MIN	1450	1580	1680	1720	1630	1650	1630	1490	1500	1430	1320	1410

WTR YR 1994 MEAN 1590 MAX 1810 MIN 1320

e Estimated

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	16.0	13.0	---	8.5	10.5	14.5	---	21.5	21.0	22.0	24.5
2	24.0	17.0	13.0	---	8.0	10.0	---	18.5	21.5	---	22.0	24.5
3	23.5	17.0	14.0	10.0	---	10.0	---	18.0	21.5	---	22.0	---
4	23.5	17.0	---	10.0	9.5	10.5	14.5	18.5	---	---	22.0	---
5	23.5	16.0	---	10.0	---	---	11.5	19.0	---	21.5	23.0	---
6	23.5	---	12.0	10.5	---	---	14.5	19.0	21.0	21.0	---	24.5
7	23.5	---	12.0	9.5	9.0	10.5	14.5	---	21.0	21.5	---	24.5
8	23.5	15.0	12.0	---	10.5	12.0	16.0	---	21.0	21.5	23.0	24.5
9	22.5	15.0	13.5	---	10.5	10.5	---	19.5	21.0	---	22.5	24.0
10	21.5	15.5	12.5	10.0	10.5	10.5	---	19.5	---	---	22.5	---
11	22.0	---	---	10.5	10.0	10.5	16.5	19.5	---	21.5	22.5	---
12	23.0	16.0	---	10.0	---	---	16.0	19.5	---	22.0	23.0	24.0
13	23.0	---	12.5	10.0	---	---	16.0	19.5	21.0	20.5	---	24.0
14	22.0	---	12.0	9.5	8.5	11.5	---	---	21.0	22.0	---	24.0
15	22.5	15.0	12.0	---	9.0	11.5	18.0	---	21.0	22.0	23.0	24.0
16	22.5	15.0	12.0	---	9.0	12.0	---	19.5	21.5	21.5	23.5	24.0
17	22.0	15.0	12.0	---	9.0	12.5	---	20.0	21.0	---	23.0	---
18	22.0	15.0	---	9.0	14.0	13.5	17.0	19.5	---	---	23.0	---
19	22.5	14.5	---	9.0	---	---	17.5	19.0	---	21.5	23.0	24.0
20	22.0	---	11.5	9.5	---	---	17.5	19.0	21.0	21.5	---	24.5
21	20.5	---	11.0	9.0	---	12.5	17.5	---	21.0	22.0	---	24.0
22	20.5	13.5	11.5	---	11.0	12.5	18.0	---	21.0	22.0	23.0	24.0
23	20.5	14.0	10.5	---	10.5	14.0	---	20.5	21.0	22.0	25.0	24.0
24	---	14.0	---	9.5	10.0	13.5	---	20.5	21.0	---	25.5	---
25	20.0	---	---	11.0	---	14.5	18.0	21.5	---	---	25.5	---
26	20.0	12.5	---	11.0	---	---	18.5	21.0	---	21.5	25.5	23.0
27	19.5	---	10.5	10.5	---	---	---	21.0	21.5	22.0	---	23.0
28	19.5	---	10.0	9.0	10.0	14.5	17.5	---	21.5	22.0	---	23.0
29	19.5	12.0	9.5	---	---	14.5	19.5	---	21.5	21.5	24.0	22.5
30	---	12.0	10.0	---	---	14.5	---	---	21.0	---	25.5	22.5
31	---	---	---	9.0	---	14.5	---	22.0	---	---	24.5	---
MEAN	22.0	14.8	11.8	9.8	9.9	12.2	16.5	19.7	21.2	21.6	23.4	23.9
MAX	24.0	17.0	14.0	11.0	14.0	14.5	19.5	22.0	21.5	22.0	25.5	24.5
MIN	19.5	12.0	9.5	9.0	8.0	10.0	11.5	18.0	21.0	20.5	22.0	22.5

WTR YR 1994 MEAN 17.5 MAX 25.5 MIN 8.0

Brazos River Main Stem

08093100 BRAZOS RIVER NEAR AQUILLA, TX

LOCATION.--Lat 31°48'44", long 97°17'51", Bosque County, Hydrologic Unit 12060202, on right bank at downstream side of highway embankment near right end of bridge on Farm Road 2114, 2.0 mi downstream from Tener Creek, 4.9 mi downstream from Iron Creek, 5.4 mi southwest of Aquilla, 9.0 mi downstream from Whitney Dam, and at mile 434.0.

DRAINAGE AREA.--27,244 mi², of which 9,566 mi², probably is noncontributing.

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1974, published as Brazos River near Whitney.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 404.29 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1948, nonrecording gage at site 13.9 mi upstream at datum 27.77 ft higher. Oct. 1, 1948, to Feb. 12, 1975, at site 5.6 mi upstream at datum 13.10 ft higher.

REMARKS.--No estimated daily discharges. Records good. Most flow occurs as releases from Lake Whitney (station 08092500) 9.0 mi upstream. The 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 during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--13 years (water years 1939-51) prior to regulation by Lake Whitney, 1,802 ft³/s (1,306,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1939-51).--Maximum discharge, 71,800 ft³/s May 18, 1949 (gage height, 31.03 ft), at site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1853, 45 ft May 9, 1922, at site and datum then in use, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	709	1270	212	2230	978	519	378	24	4510	1020	1310	298
2	664	498	241	2250	741	838	49	24	4510	1110	276	58
3	215	172	76	2540	670	491	45	209	2630	1260	326	41
4	874	478	177	2270	349	72	38	30	1560	1270	634	440
5	1040	305	532	2500	42	53	42	507	1560	1620	440	1120
6	608	507	592	590	35	52	1130	601	1550	1080	451	529
7	595	568	385	1230	35	51	1260	369	916	1150	227	765
8	813	549	394	1470	37	170	86	292	1340	1370	293	495
9	385	45	733	1100	1640	992	43	390	1350	1170	461	594
10	19	21	607	444	1230	899	41	303	1300	578	469	835
11	132	19	2610	241	893	762	45	1140	1150	1150	424	878
12	544	230	3310	1160	73	80	44	736	1140	666	435	887
13	675	286	3300	250	38	64	36	423	970	499	449	887
14	520	202	1130	562	167	540	37	133	857	278	460	891
15	413	213	664	251	54	338	37	68	392	612	455	926
16	1140	786	925	317	34	958	311	280	991	882	447	297
17	535	478	592	684	35	853	346	186	650	864	470	25
18	876	388	49	612	36	669	519	140	651	835	518	446
19	691	626	28	675	35	660	759	294	428	824	897	740
20	1430	733	953	562	41	467	806	940	425	847	547	804
21	2010	576	1280	961	50	464	770	2470	423	882	228	805
22	537	440	1020	310	429	458	674	4500	436	906	970	475
23	400	381	1090	37	956	832	739	4480	438	1470	1040	334
24	580	498	1120	33	734	207	930	4510	454	963	939	360
25	401	1240	1140	33	355	44	857	4520	820	957	918	724
26	345	1420	1900	33	782	41	944	2940	841	966	1430	1360
27	29	1080	2580	241	89	322	663	2840	1120	889	1260	780
28	180	1130	2490	921	58	1030	460	4560	919	727	1220	735
29	444	1260	2680	1490	---	655	291	4530	899	303	1400	924
30	897	548	2700	998	---	1050	41	4590	904	26	1500	819
31	986	---	2270	1300	---	749	---	4520	---	587	1100	---
TOTAL	19687	16947	37780	28295	10616	15380	12421	51549	36134	27761	21994	19272
MEAN	635	565	1219	913	379	496	414	1663	1204	896	709	642
MAX	2010	1420	3310	2540	1640	1050	1260	4590	4510	1620	1500	1360
MIN	19	19	28	33	34	41	36	24	392	26	227	25
AC-FT	39050	33610	74940	56120	21060	30510	24640	102200	71670	55060	43630	38230

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1994#, BY WATER YEAR (WY)

MEAN	1527	1022	846	1237	1047	1329	1274	3588	3608	1415	890	1011
MAX	12300	7201	7148	18010	11190	13700	7285	29670	35640	8110	3879	8249
(WY)	1982	1975	1992	1992	1992	1992	1990	1957	1957	1982	1962	1966
MIN	24.5	20.5	29.0	9.92	15.6	26.7	12.5	13.0	286	28.6	61.5	32.7
(WY)	1989	1984	1984	1953	1984	1953	1953	1988	1983	1978	1988	1984

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1952 - 1994#

ANNUAL TOTAL	384635		297836				
ANNUAL MEAN	1054		816			1568	
HIGHEST ANNUAL MEAN						6566	1992
LOWEST ANNUAL MEAN						141	1953
HIGHEST DAILY MEAN	4670	Mar 28	4590	May 30		55700	May 28 1957
LOWEST DAILY MEAN	19	Jun 24	19	Oct 10		.40	May 9 1953
ANNUAL SEVEN-DAY MINIMUM	145	Nov 9	40	Apr 9		.80	May 4 1953
INSTANTANEOUS PEAK FLOW			5830	May 26		58200	May 28 1957
INSTANTANEOUS PEAK STAGE			12.75	May 26		27.34	May 28 1957
ANNUAL RUNOFF (AC-FT)	762900		590800			1136000	
10 PERCENT EXCEEDS	2260		1480			3090	
50 PERCENT EXCEEDS	774		612			599	
90 PERCENT EXCEEDS	267		45			41	

Period of regulated streamflow.

08093350 AQUILLA LAKE ABOVE AQUILLA, TX

LOCATION.--Lat 31°53'59", long 97°12'09", Hill County, Hydrologic Unit 12060202, 450 ft upstream from Farm Road 310 that runs along top of Aquilla Dam on Aquilla Creek, and 3.4 miles north-northeast of Aquilla.

DRAINAGE AREA.--255 mi².

PERIOD OF RECORD.--October 1983 to current year.

Water Quality records.--Chemical and biochemical analyses: February 1984 to July 1992.

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

REMARKS.--The lake is formed by an earthfill dam with a crest length of 11,890 ft and a top width of 38.0 ft. A reinforced concrete inlet structure, near center of dam, houses the flood-control gates and operating equipment. Closure of the dam began Mar. 20, 1982, and the dam was completed in January 1983. The dam was built and is owned by the U.S. Army Corps of Engineers. Deliberate impoundment began Apr. 29, 1983. The lake was built for water supply, flood control, and recreation purposes. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-ft)
Top of dam.....	582.5	-
Spillway crest (uncontrolled).....	564.5	213,700
Top of flood-control pool.....	556.0	146,000
Top of conservation pool.....	537.5	52,400
Invert, lowest gated outlet.....	503.0	932

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 119,000 acre-ft, Dec. 23, 1991 (elevation, 551.89 ft); minimum observed, 4,600 acre-ft Oct. 6-10, 1983 (elevation, 511.31 ft Oct. 6, 7, 9, 10 and 511.30 ft Oct. 8).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 69,000 acre-ft Oct. 21 (elevation, 542.06 ft); minimum daily, 47,550 acre-ft Oct. 11 (elevation, 535.98 ft).

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

535.0	44,620	544.0	77,250	550.0	107,800
536.0	47,610	546.0	86,560	551.0	113,700
539.0	57,450	548.0	96,730	552.0	119,700
542.0	68,760				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47670	60900	52590	52530	53050	59590	55270	53220	58020	56300	51610	50450
2	47760	60280	52660	52490	53050	58760	55200	53420	57840	56030	51510	50520
3	48010	59520	52790	52390	52990	57910	55030	53590	57630	55680	51450	50450
4	47950	58830	52790	52360	53050	57380	54830	53620	57420	55340	51290	50390
5	47920	58120	52790	52200	53090	57100	54800	53590	57210	55000	51250	50290
6	47850	57310	52790	52460	53090	56820	54530	53490	56960	54760	51220	50260
7	47820	56510	52790	52300	53090	56580	54290	53520	56690	54390	51130	50200
8	47760	56030	52690	52260	53150	56750	54090	53450	56440	54190	51060	50200
9	47700	55680	52790	52160	53220	60680	53950	54090	56230	54050	50960	50170
10	47580	55340	52720	52330	53320	60820	53850	56300	56030	53920	50900	50070
11	47550	54860	52660	52390	53390	60680	54090	61190	55890	53750	50840	50040
12	47640	54660	52720	52430	53550	60570	53790	63920	55610	53720	50770	49980
13	48250	54320	52860	52490	53550	60490	53650	66400	55340	55350	50710	49910
14	48190	54260	52860	52530	53520	60310	53620	66750	55070	53450	50640	49880
15	48190	53950	52820	52460	53490	60130	53590	66320	54930	53390	50580	49850
16	48190	54760	52760	52790	53450	59840	53520	65850	54690	53220	50480	49980
17	48440	54930	52790	52530	53420	59480	53420	65070	54490	53090	50420	49910
18	51350	54690	52720	52490	53390	59190	53320	64190	54320	52950	50320	49790
19	57000	54420	52660	52430	53390	58480	53250	63240	54050	52790	50200	49690
20	68880	54050	52620	52560	55340	57980	53450	62190	53850	52660	50200	49630
21	69000	53690	52620	52590	55920	57380	53450	61190	53720	52560	50230	49560
22	68390	53420	52790	52660	63310	56790	53420	60200	53620	52490	50130	49470
23	67790	53250	52820	52690	64230	56550	53420	59230	53490	52390	50070	49380
24	67110	53190	52860	52760	63620	56300	53320	58190	58440	52300	50010	49280
25	66400	53090	52820	52820	62900	55920	53250	57140	58160	52230	49940	49190
26	65660	52860	52760	52950	61930	55750	53220	57100	57840	52130	49880	49160
27	64800	52720	52760	53050	60970	56370	53150	58260	57490	52030	49790	49060
28	64000	52590	52720	53050	60200	56170	53150	58090	57210	51940	49690	49060
29	63540	52560	52660	53090	---	55860	53420	58050	56930	51810	49630	48970
30	62490	52530	52590	53090	---	55650	53320	58370	56620	51740	49560	48940
31	61710	---	52490	53090	---	55480	---	58230	---	51640	49790	---
MAX	69000	60900	52860	53090	64230	60820	55270	66750	58440	56300	51610	50520
MIN	47550	52530	52490	52160	52990	55480	53150	53220	53490	51640	49560	48940
(+)	540.18	537.55	537.54	537.72	539.77	538.43	537.79	539.22	538.76	537.28	536.70	536.43
(@)	+13920	-9180	-40	+600	+7110	-4720	-2160	+4910	-1610	-4980	-1850	-850
CAL YR 1993	MAX 69000	MIN 47550	(@)	-8300								
WTR YR 1994	MAX 69000	MIN 47550	(@)	+1150								

(+) Elevation, in feet, at end of month.

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

BRAZOS RIVER BASIN

08093500 AQUILLA CREEK NEAR AQUILLA, TX

LOCATION.--Lat 31°50'40", long 97°12'04", Hill County, Hydrologic Unit 12060202, at downstream side of highway embankment near left end of bridge on Farm Road 1304, 1.0 mi southeast of Aquilla, 1.2 mi downstream from Cobb Creek, 4.7 mi below Aquilla Dam, and 18.2 mi upstream from mouth.

DRAINAGE AREA.--308 mi².

PERIOD OF RECORD.--December 1938 to current year. Records of daily discharges for December 1924 to August 1925, published in WSP 608, are unreliable, and should not be used.

Water-quality records.--Chemical analysis: March 1960 to June 1966, October 1967 to September 1993. Chemical and biochemical analysis: January 1968 to September 1992. Specific conductance: May 1965 to June 1966, November 1967 to September 1982. Water temperature: May 1965 to June 1966, November 1967 to September 1982.

REVISED RECORDS.--WSP 1712: 1944(M), 1957-58. WDR TX-76-2: Drainage area. See PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 451.48 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good except those for daily discharges below 5 ft³/s, which are poor. Since May 1983, flow from 252 mi² above this station has been regulated by Aquilla Lake(station 08093350), 4.7 mi upstream. Deliberate impoundment of water began Apr. 24, 1983. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--43 years (water years 1940-82) 119 ft³/s (5.25 in/yr), 86,220 acre-ft/yr.

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1940-82).--Maximum discharge, 53,300 ft³/s June 16, 1981 (gage height, 31.35 ft), from rating curve extended above 25,900 ft³/s on basis of slope-area measurement of 74,200 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 31, 1887, reached a stage of 34 ft, from information by local resident. Flood of Sept. 27, 1936, was the highest since 1887 and reached a stage of 33 ft, from floodmark; discharge 84,500 ft³/s (by slope-area measurements at site 9 mi downstream) and 74,200 ft³/s (adjusted to gage site).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	370	.47	20	.62	530	75	31	93	89	1.6	1.3
2	.11	365	.47	20	.62	524	72	39	89	88	1.4	2.0
3	.17	364	.56	20	.73	520	72	104	88	89	1.1	1.3
4	.31	364	.72	10	.77	388	72	36	89	89	1.0	.66
5	.34	362	.60	1.4	.93	219	72	32	85	88	1.1	.64
6	.30	353	.45	.89	.86	213	73	31	82	88	1.3	.58
7	.31	349	5.7	2.1	.82	209	72	30	83	89	1.7	.49
8	.30	226	20	2.1	.96	209	70	30	87	69	1.5	.62
9	.32	68	22	2.0	1.0	315	70	531	86	24	1.3	.59
10	.34	69	22	2.1	1.6	234	70	164	82	23	1.1	.69
11	.38	72	23	2.5	4.0	222	71	1370	80	25	1.1	.55
12	.39	71	24	2.9	7.6	215	71	278	83	25	.71	.64
13	3.8	69	27	2.7	1.8	220	53	509	83	25	.49	.63
14	.40	88	24	2.3	5.7	220	32	286	83	26	.41	.56
15	.67	81	22	1.8	13	207	32	64	82	26	.34	.50
16	.55	260	22	1.7	10	205	31	375	80	26	.33	.61
17	120	119	22	1.8	7.9	201	30	596	82	26	.52	.82
18	534	80	22	1.5	5.5	248	31	580	80	27	.72	.84
19	574	67	22	1.0	5.2	361	30	568	78	27	.74	.75
20	2090	62	22	.98	8.3	361	30	563	65	16	.59	.80
21	139	76	22	1.5	65	360	32	563	27	.86	.51	.72
22	404	48	25	1.6	1150	311	32	555	27	1.0	.75	.64
23	400	21	26	1.3	210	189	31	553	27	1.1	.96	.59
24	391	22	23	1.2	470	186	31	553	26	1.3	.97	.63
25	392	22	23	1.6	540	179	30	547	38	1.7	.83	.44
26	390	23	21	1.4	532	176	31	571	86	1.9	.87	.39
27	381	23	21	1.3	529	178	31	1050	88	1.8	.88	.34
28	374	22	20	1.1	525	177	31	127	88	2.4	.70	.30
29	376	14	20	.82	---	174	46	131	89	1.9	.63	.25
30	378	.53	21	.73	---	121	37	365	88	1.4	.74	.21
31	381	---	20	.67	---	74	---	105	---	1.4	.69	---
TOTAL	7332.84	4130.53	544.97	112.99	4098.91	7946	1461	11337	2244	1001.76	27.58	20.08
MEAN	237	138	17.6	3.64	146	256	48.7	366	74.8	32.3	.89	.67
MAX	2090	370	27	20	1150	530	75	1370	93	89	1.7	2.0
MIN	.11	.53	.45	.67	.62	74	30	30	26	.86	.33	.21
AC-FT	14540	8190	1080	224	8130	15760	2900	22490	4450	1990	55	40

BRAZOS RIVER BASIN

227

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1994#, BY WATER YEAR (WY)

MEAN	50.2	56.1	121	148	158	222	72.2	173	217	29.6	8.85	5.90
MAX	237	392	640	1221	589	1054	277	568	717	111	95.5	39.8
(WY)	1994	1992	1992	1992	1992	1992	1990	1990	1987	1987	1991	1991
MIN	.000	.15	.32	.59	.18	3.25	1.00	.021	.043	.000	.000	.000
(WY)	1983	1983	1990	1984	1984	1986	1984	1984	1984	1984	1984	1983
SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR					FOR 1994 WATER YEAR					WATER YEARS 1983 - 1994#	
ANNUAL TOTAL	44092.95					40257.66						
ANNUAL MEAN	121					110						
HIGHEST ANNUAL MEAN											105	
LOWEST ANNUAL MEAN											396	1992
HIGHEST DAILY MEAN	2090					2090					2.24	1984
LOWEST DAILY MEAN	.07					.11					3990	Dec 21 1991
ANNUAL SEVEN-DAY MINIMUM	.12					.24					.00	Oct 1 1982
INSTANTANEOUS PEAK FLOW						4390					.00	Oct 1 1982
INSTANTANEOUS PEAK STAGE						24.11					53300	Jun 16 1981
ANNUAL RUNOFF (AC-FT)	87460					79850					31.35	Jun 16 1981
10 PERCENT EXCEEDS	385					375					75980	
50 PERCENT EXCEEDS	33					26					350	
90 PERCENT EXCEEDS	.18					.59					5.0	
											.00	

Period of regulated streamflow.

BRAZOS RIVER BASIN

08093675 NORTH FORK NORTH BOSQUE RIVER NEAR STEPHENVILLE, TX

LOCATION.--Lat 32°18'25", long 98°16'03", Erath County, Hydrologic Unit 12060204, at center of bridge on an unnamed road, 0.75 mi west of state highway 108, and 7.1 miles north of Stephenville.

DRAINAGE AREA.--18.6 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1991 to October 1993 (discontinued).

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from sites at mouths of agricultural basins. This study is in cooperation with the Texas Agriculture Extension Service, Texas Stabilization and Conservation Service, Texas State Soil and Water Conservation Board, and the United States Soil Conservation Service to evaluate the effectiveness of agricultural demonstration projects utilizing new or improved management practices aimed at reducing nonpoint pollution.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
OCT									
19...	1255	126	255	8.2	20.5	70	0.200	0.200	0.030
20...	1022	201	331	8.3	19.0	90	0.230	0.230	0.020

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, 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)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT								
19...	0.230	0.230	0.230	1.4	0.97	1.2	0.600	0.730
20...	0.250	0.250	0.400	1.3	0.70	1.1	0.890	0.890

08093685 SOUTH FORK NORTH BOSQUE RIVER NEAR STEPHENVILLE, TX

LOCATION.--Lat 32°14'11", long 98°17'06", Erath County, Hydrologic Unit 12060204, at center of bridge on an unnamed road, 1.5 miles north of Farm to Market Road 8, and 5.0 miles west of Stephenville.

DRAINAGE AREA.--31.4 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1991 to October 1993 (discontinued).

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from sites at mouths of agricultural basins. This study is in cooperation with the Texas Agriculture Extension Service, Texas Stabilization and Conservation Service, Texas State Soil and Water Conservation Board, and the United States Soil Conservation Service to evaluate the effectiveness of agricultural demonstration projects utilizing new or improved management practices aimed at reducing nonpoint pollution.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
OCT 19...	1325	1050	333	8.4	21.0	120	0.260	0.260	0.040
20...	0940	399	311	8.2	19.0	88	0.200	0.200	0.040
DATE		NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, 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)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT 19...		0.300	0.300	0.210	1.7	1.2	1.4	0.640	0.500
20...		0.240	0.240	0.380	1.7	1.1	1.5	0.900	0.900

BRAZOS RIVER BASIN

08093695 NORTH BOSQUE RIVER ABOVE STEPHENVILLE, TX

LOCATION.--Lat 32°14'06", long 98°12'14", Erath County, Hydrologic Unit 12060204, on Farm to Market Road 108 bridge at center of upstream side of bridge, and about 1.0 mi north of Stephenville.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1991 to October 1993 (discontinued).

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from sites at mouths of agricultural basins. This study is in cooperation with the Texas Agriculture Extension Service, Texas Stabilization and Conservation Service, Texas State Soil and Water Conservation Board, and the United States Soil Conservation Service to evaluate the effectiveness of agricultural demonstration projects utilizing new or improved management practices aimed at reducing nonpoint pollution.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
OCT									
19...	1350	1250	309	8.4	20.5	98	0.290	0.290	0.020
20...	0855	600	309	8.4	19.0	80	0.150	0.150	0.030

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, 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)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT								
19...	0.310	0.310	0.140	1.8	1.4	1.5	0.890	0.790
20...	0.180	0.180	0.340	1.6	1.1	1.4	0.730	0.730

08093800 NORTH BOSQUE RIVER BELOW STEPHENVILLE

LOCATION.--Lat 32°06'02", long 98°09'18", Erath County, Hydrologic Unit 12060204, at center of bridge, on an unnamed road, about 1.0 mi west of State Highway 6, and 8.0 mi south of Stephenville.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1991 to March 1994 (discontinued).

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from sites at mouths of agricultural basins. This study is in cooperation with the Texas Agriculture Extension Service, Texas Stabilization and Conservation Service, Texas State Soil and Water Conservation Board, and the United States Soil Conservation Service to evaluate the effectiveness of agricultural demonstration projects utilizing new or improved management practices aimed at reducing nonpoint pollution.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	
OCT												
19...	1437	374	365	8.1	21.0	--	--	--	--	--	100	
20...	0820	636	19	--	--	--	--	--	--	--	200	
DEC												
09...	1345	7.4	780	8.1	14.5	12.0	122	--	--	--	250	
JAN												
20...	1252	4.0	1120	8.3	6.0	11.9	99	0.3	K100	K90	350	
FEB												
02...	1300	4.1	902	8.0	6.0	13.2	110	0.9	<33	K160	270	
MAR												
23...	1430	4.3	1190	8.2	19.0	10.5	117	--	--	--	320	
DATE		NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, 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)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT												
19...	3.01	3.01	0.090	3.10	3.10	1.40	5.5	1.0	2.4	0.450	0.330	
20...	0.240	0.240	0.020	0.260	0.260	0.320	1.6	0.98	1.3	0.870	0.820	
DEC												
09...	0.200	--	<0.010	0.200	0.200	0.030	0.80	0.57	0.60	0.390	0.350	
JAN												
20...	2.24	2.24	0.060	2.30	2.30	0.030	3.0	0.67	0.70	0.840	0.730	
FEB												
02...	1.56	1.56	0.040	1.60	1.60	0.030	2.4	0.77	0.80	0.540	0.460	
MAR												
23...	0.082	--	<0.010	0.082	0.082	0.050	0.88	0.75	0.80	0.630	0.500	

08094800 NORTH BOSQUE RIVER AT HICO, TX

LOCATION---Lat 31°58'41", long 98°02'04", Hamilton County, Hydrologic Unit 12060204, on left bank at downstream side of bridge on U.S. Highway 281 near south boundary of Hico, 2.6 mi downstream from Gilmore Creek, 5.0 mi upstream from Honey Creek, and 92.4 mi upstream from mouth.

DRAINAGE AREA---359 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE---Water-stage recorder and crest-stage gage. Datum of gage is 982.46 ft above National Geodetic Vertical Datum of 1929.

REMARKS---Records good except those for estimated daily discharges, which are fair. Flow is affected at times by discharge from the flood-detention pools of 40 floodwater-retarding structures with a combined detention capacity of 65,720 acre-ft. These structures control runoff from 202 mi² in the North Bosque River and Green Creek drainage basins. The city of Stephenville discharges sewage effluent into the river above this station. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION---11 years (1963-73) 50.5 ft³/s (36,590 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1963-73)---Maximum discharge, 16,800 ft³/s May 16, 1965 (gage height, 21.83 ft); no flow at times in 1962-65, 1967-68, and 1971.

EXTREMES OUTSIDE PERIOD OF RECORD---Maximum stage since at least 1880, 27.6 ft May 23, 1952, from floodmarks (discharge, 87,800 ft³/s, by contracted-opening measurement).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	20	e1.3	7.0	19	34	14	89	168	e12	13	71
2	2.6	20	e1.4	7.1	18	32	15	69	125	e8.6	9.8	55
3	5.6	21	e9.1	6.5	17	28	14	58	104	e4.9	5.3	44
4	24	20	e21	6.1	18	24	15	50	92	e2.9	2.8	26
5	16	20	e7.2	6.1	17	24	14	40	81	e49	4.9	14
6	11	19	e9.0	6.7	17	22	14	37	71	129	9.6	10
7	6.9	19	e9.5	6.7	17	21	14	35	63	56	8.3	13
8	4.8	19	e5.6	5.6	18	20	14	34	54	38	7.8	11
9	3.9	19	e7.0	6.0	17	20	14	189	130	29	7.8	56
10	2.8	19	e6.4	7.1	17	19	14	1060	297	52	7.6	75
11	2.8	19	e5.4	7.1	17	19	13	4510	305	33	6.0	37
12	2.8	19	e5.6	7.1	17	19	13	3890	282	24	6.0	24
13	191	19	7.5	7.1	17	19	12	2850	191	19	6.0	19
14	192	19	8.0	9.6	16	19	11	1890	107	22	5.0	14
15	117	21	7.3	10	16	19	11	1290	78	20	4.5	58
16	67	18	6.2	10	16	19	12	963	66	19	4.5	132
17	33	18	6.1	10	17	18	11	735	56	19	4.8	130
18	372	16	6.1	10	18	18	11	596	49	19	6.2	38
19	154	13	6.2	8.5	17	18	11	466	45	19	8.1	24
20	826	12	7.1	9.2	19	18	13	358	40	19	8.2	19
21	379	e7.2	6.5	11	19	17	21	309	35	17	50	18
22	210	e5.9	8.3	23	61	17	17	256	32	15	35	17
23	111	e4.7	12	90	125	15	21	220	28	15	14	16
24	65	e3.2	12	67	85	15	16	194	24	15	8.8	16
25	43	e2.9	11	48	57	14	15	158	24	15	5.7	15
26	32	e2.5	10	37	47	14	26	510	22	15	4.6	15
27	26	e2.5	8.5	27	41	28	1370	645	20	16	4.2	18
28	23	e2.3	7.2	23	36	17	225	277	e19	16	5.6	15
29	22	e2.2	7.1	21	---	15	130	199	e16	17	4.8	13
30	21	e1.5	7.1	19	---	14	117	624	e14	17	4.2	12
31	20	---	6.8	19	---	14	---	252	---	15	9.3	---
TOTAL	2990.0	404.9	239.5	538.5	816	610	2218	22853	2638	767.4	282.4	1025
MEAN	96.5	13.5	7.73	17.4	29.1	19.7	73.9	737	87.9	24.8	9.11	34.2
MAX	826	21	21	90	125	34	1370	4510	305	129	50	132
MIN	2.6	1.5	1.3	5.6	16	14	11	34	14	2.9	2.8	10
AC-FT	5930	803	475	1070	1620	1210	4400	45330	5230	1520	560	2030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1994#, BY WATER YEAR (WY)

	MEAN	37.5	18.3	72.8	31.6	69.8	59.5	82.4	192	130	12.7	19.7	21.9
MAX	348	189	1288	410	754	261	507	768	740	51.4	221	138	
(WY)	1992	1992	1992	1992	1992	1977	1990	1990	1986	1987	1991	1991	
MIN	.000	.000	.42	1.06	1.59	1.59	1.06	1.25	.57	.000	.000	.000	
(WY)	1979	1981	1979	1986	1976	1976	1981	1981	1974	1974	1978	1981	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1974 - 1994#

ANNUAL TOTAL	29625.1	35382.7	62.3
ANNUAL MEAN	81.2	96.9	303
HIGHEST ANNUAL MEAN			3.42
LOWEST ANNUAL MEAN			
HIGHEST DAILY MEAN	1740	Feb 25	13500
LOWEST DAILY MEAN	1.3	Dec 1	.00
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 19	.00
INSTANTANEOUS PEAK FLOW			27000
INSTANTANEOUS PEAK STAGE			23.27
ANNUAL RUNOFF (AC-FT)	58760	70180	45120
10 PERCENT EXCEEDS	184	156	100
50 PERCENT EXCEEDS	24	18	5.1
90 PERCENT EXCEEDS	3.3	5.7	.28

e Estimated

Period of regulated streamflow.

08094800 NORTH BOSQUE RIVER AT HICO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1991 to March 1994 (discontinued).

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from sites at mouths of agricultural basins. This study is in cooperation with the Texas Agriculture Extension Service, Texas Stabilization and Conservation Service, Texas State Soil and Water Conservation Board, and the United States Soil Conservation Service to evaluate the effectiveness of agricultural demonstration projects utilizing new or improved management practices aimed at reducing nonpoint pollution.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	ALKA-LINITY, WAT DIS FIELD CAC03 (MG/L)	
OCT 13...	1020	4.5	794	7.7	21.0	--	--	--	--	--	250	
NOV 17...	1040	16	571	8.3	11.0	--	--	1.7	930	K280	--	
DEC 09...	1200	9.1	795	8.4	14.0	14.8	148	--	--	--	270	
JAN 20...	1030	9.1	840	8.2	6.5	11.2	94	1.3	<33	K150	310	
FEB 02...	1055	18	791	8.4	5.0	13.0	105	0.6	<33	K140	260	
MAR 23...	1040	16	910	8.2	19.5	8.2	92	--	--	--	290	
DATE		NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, 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)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
OCT 13...	--	--	--	<0.010	--	<0.050	0.050	0.70	0.65	0.70	0.140	0.100
NOV 17...	0.200	--	--	<0.010	0.200	0.200	0.060	0.90	0.64	0.70	0.300	0.310
DEC 09...	0.200	--	--	<0.010	0.200	0.200	0.030	0.80	0.57	0.60	0.100	0.070
JAN 20...	0.090	0.090	0.030	0.120	0.120	0.050	0.92	0.75	0.80	0.110	0.060	0.060
FEB 02...	0.440	0.440	0.030	0.470	0.470	0.030	1.1	0.57	0.60	0.200	0.190	0.190
MAR 23...	--	--	--	<0.010	--	<0.050	0.020	0.40	0.38	0.40	0.140	0.100

BRAZOS RIVER BASIN

08095000 NORTH BOSQUE RIVER NEAR CLIFTON, TX

LOCATION.--Lat 31°47'09", long 97°34'04", Bosque County, Hydrologic Unit 12060204, near right bank at downstream side of bridge on Farm Road 219, 0.5 mi northeast of Clifton, 2.5 mi downstream from Meridian Creek, and 42.0 mi upstream from mouth.

DRAINAGE AREA.--968 mi².

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 788: 1924-26, 1928, 1930. WSP 1058: 1945(M). WSP 1512: 1924(M), 1927, 1928(M), 1929, 1930(M), 1931-33, 1934(M), 1935-37, 1939. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder, and crest-stage gages. Datum of gage is 605.43 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1955, and from Apr. 23, 1957, to Mar. 26, 1958, nonrecording gage at site 1.1 mi upstream at datum 17.02 ft higher; Oct. 1, 1955, to Apr. 22, 1957, and Mar. 27, 1958, to Sept. 30, 1959, water-stage recorder destroyed by floods of Apr. 27, 1957, and Oct. 4, 1959; and Oct. 1, 1959, to Jan. 1, 1961, nonrecording gage at present site and datum.

REMARKS.--Records good. The city of Clifton diverts water from the river upstream from this station for municipal use. The cities of Clifton and Meridian discharge sewage effluent into the river upstream and downstream, respectively, from the station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08094800. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--44 years (water years 1924-67), 195 ft³/s (141,300 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEAR, 1924-67).--Maximum discharge, 92,800 ft³/s Oct. 4, 1959 (gage height, 34.88 ft), from rating curve extended above 34,000 ft³/s on basis of contracted-opening measurement of 92,800 ft³/s; and step back water computation of 200,000 ft³/s; no flow at times. Maximum stage since at least 1854, that of Dec. 20, 1991.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 9, 1922, reached a stage of about 32 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 11	1200	32,500	24.85	May 27	1330	9,580	11.46
May 12	1900	15,300	15.07				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	35	21	20	35	61	48	152	419	48	18	27
2	9.4	33	21	19	34	61	49	127	327	47	17	187
3	13	33	22	18	32	57	50	109	275	46	17	93
4	16	32	38	18	31	54	46	91	239	44	17	70
5	13	32	44	18	30	51	47	83	217	43	16	54
6	13	31	28	19	30	47	43	74	196	41	17	45
7	17	28	33	18	29	45	40	66	179	77	14	34
8	23	27	32	17	30	46	39	61	162	155	14	363
9	18	27	29	17	35	123	37	70	142	94	14	480
10	14	27	25	18	38	75	36	199	249	71	14	118
11	12	27	22	19	41	64	35	e23900	335	63	14	103
12	11	29	21	20	43	55	33	10100	469	62	13	82
13	17	29	25	24	40	53	31	7660	353	58	13	59
14	42	40	22	22	36	53	30	4690	281	62	13	48
15	214	30	22	21	35	54	29	2460	209	52	13	74
16	153	49	21	21	30	54	25	1700	168	40	14	40
17	119	33	21	20	28	51	23	1380	139	38	13	239
18	591	33	21	20	27	49	21	1010	122	37	14	184
19	443	33	21	20	28	47	20	791	113	33	14	114
20	312	29	20	20	41	45	20	613	100	29	14	79
21	713	29	18	24	52	44	20	502	90	28	17	61
22	350	26	24	25	348	42	19	424	84	28	34	48
23	228	24	24	28	261	42	31	366	77	33	40	42
24	151	22	25	37	145	44	35	324	74	26	47	39
25	109	20	25	87	100	48	31	297	71	25	34	35
26	81	21	25	72	75	52	34	366	66	24	26	34
27	64	21	27	62	67	51	526	5260	62	21	22	33
28	55	21	26	53	61	74	636	1270	56	20	19	33
29	48	22	23	47	---	73	283	635	53	17	18	31
30	43	21	22	42	---	61	180	826	51	17	15	29
31	38	---	21	38	---	52	---	666	---	18	14	---
TOTAL	3940.2	864	769	904	1782	1728	2497	66272	5378	1397	579	2878
MEAN	127	28.8	24.8	29.2	63.6	55.7	83.2	2138	179	45.1	18.7	95.9
MAX	713	49	44	87	348	123	636	23900	469	155	47	480
MIN	9.4	20	18	17	27	42	19	61	51	17	13	27
AC-FT	7820	1710	1530	1790	3530	3430	4950	131500	10670	2770	1150	5710

08095000 NORTH BOSQUE RIVER NEAR CLIFTON, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994#, BY WATER YEAR (WY)

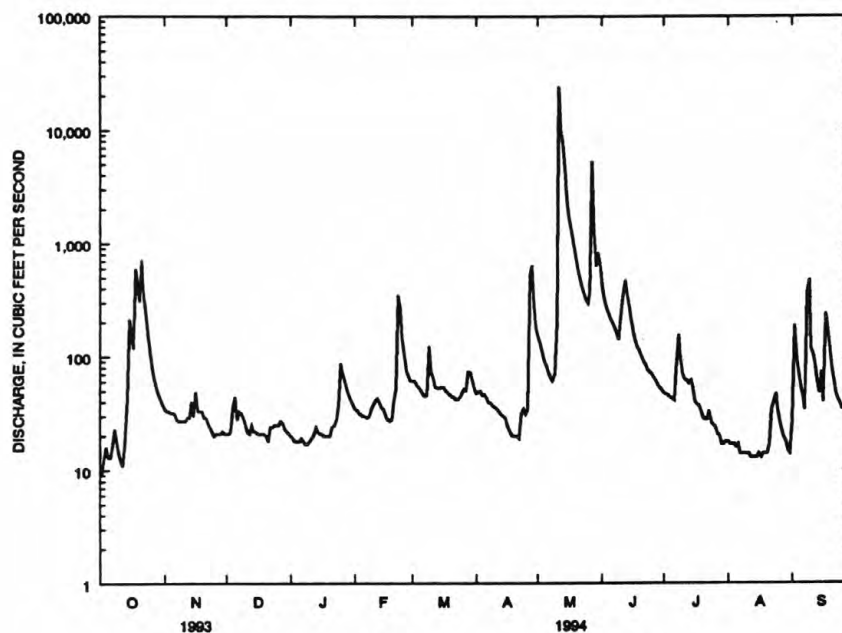
MEAN	124	48.8	346	155	283	299	356	554	316	77.0	36.0	56.7
MAX	1206	430	7330	1405	3738	1316	2340	2412	1517	799	234	449
(WY)	1972	1992	1992	1992	1992	1992	1990	1968	1989	1968	1991	1986
MIN	.79	.58	.85	2.93	9.77	6.30	2.74	1.40	.44	.17	.16	.088
(WY)	1979	1984	1984	1984	1976	1986	1983	1984	1984	1984	1984	1984

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1968 - 1994#
ANNUAL TOTAL	69710.2	88988.2	
ANNUAL MEAN	191	244	221
HIGHEST ANNUAL MEAN			1366
LOWEST ANNUAL MEAN			11.7
HIGHEST DAILY MEAN	2890 Feb 4	23900 May 11	96800 Dec 21 1991
LOWEST DAILY MEAN	5.0 Sep 12	9.4 Oct 2	.01 Oct 28 1983
ANNUAL SEVEN-DAY MINIMUM	5.6 Sep 8	13 Oct 1	.03 Oct 28 1983
INSTANTANEOUS PEAK FLOW		32500 May 11	200000 Dec 20 1991
INSTANTANEOUS PEAK STAGE		24.85 May 11	838.30 Dec 20 1991
ANNUAL RUNOFF (AC-FT)	138300	176500	159900
10 PERCENT EXCEEDS	445	289	340
50 PERCENT EXCEEDS	78	38	26
90 PERCENT EXCEEDS	10	17	2.9

e Estimated

a From floodmark.

Period of regulated streamflow.

08095000 NORTH BOSQUE RIVER NEAR CLIFTON, TX
MEAN DAILY DISCHARGE (CFS)

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX

LOCATION.--Lat 31°40'10", long 97°28'09", Bosque County, Hydrologic Unit 12060204, on right bank at downstream side of bridge on Farm Road 56, about 0.8 mi downstream from Thompson Hollow, 0.8 mi north of intersection of State Highway 6 and Farm Road 56 in Valley Mills, and 28.0 mi upstream from mouth.

DRAINAGE AREA.--1,146 mi².

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

Water-quality records.--Chemical and biochemical analyses: October 1980, to September 1982.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 524.55 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 29, 1959, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow is affected at times by discharge from the flood-detention pools of 42 floodwater-retarding structures with a combined detention capacity of 66,800 acre-ft. These structures control runoff of 207 mi². There are several small diversions above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--8 years (water years 1960-67), 263 ft³/s (190,500 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1960-67).--Maximum discharge, 107,000 ft³/s Oct. 4, 1959, (gage height, 40.22 ft, from floodmarks), from rating curve extended above 28,200 ft³/s on basis of slope-area measurement of 107,000 ft³/s; no flow Oct. 5-12, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1868, 44.6 ft (from floodmark) on Dec. 21, 1991. Flood in May 1908, reached a stage of 43 ft, floods in September 1936, and April 1945, reached a stage of about 38 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 11	1400	36,600	30.55	May 27	1600	10,900	16.75

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	46	33	40	42	77	57	158	555	38	18	22
2	70	45	33	40	41	76	54	134	419	36	17	171
3	82	45	33	40	40	72	56	124	350	34	17	133
4	77	44	36	40	41	68	52	108	308	33	17	85
5	77	41	54	40	41	64	47	89	276	31	17	56
6	69	39	45	42	39	60	45	80	245	31	18	53
7	67	39	42	43	39	58	43	72	223	32	18	39
8	80	38	43	42	40	60	39	69	187	163	16	175
9	80	38	43	42	39	172	38	77	161	116	16	721
10	73	38	43	42	44	130	36	84	191	87	17	167
11	70	38	43	44	45	99	35	20600	45	67	16	105
12	67	39	43	47	48	79	34	11800	503	57	16	99
13	72	39	43	47	46	71	32	9800	454	58	15	64
14	58	51	39	47	43	69	32	6320	337	55	14	51
15	209	44	36	47	42	69	32	3180	253	61	14	57
16	203	56	36	47	39	70	28	2240	190	42	14	70
17	151	51	36	48	36	70	26	1840	148	35	15	191
18	527	43	36	48	34	70	26	1380	122	35	14	271
19	407	42	36	48	33	69	27	1110	117	32	14	143
20	228	38	36	50	39	69	28	926	100	28	14	92
21	792	34	36	51	50	69	30	760	86	26	16	62
22	375	34	38	51	457	67	30	661	77	26	19	49
23	231	34	39	52	443	66	32	560	71	29	36	41
24	148	33	39	54	244	65	38	504	64	27	51	36
25	108	32	40	83	163	66	37	460	61	23	38	33
26	80	32	40	78	118	69	35	407	55	23	29	31
27	65	32	40	64	94	67	323	5410	51	22	23	30
28	58	32	40	57	82	92	764	1750	46	21	20	28
29	53	32	42	52	---	98	344	843	43	20	18	27
30	51	32	40	47	---	80	203	891	41	17	17	26
31	48	---	40	44	---	66	---	814	---	18	15	---
TOTAL	4746	1181	1223	1517	2462	2377	2603	73251	5779	1323	599	3128
MEAN	153	39.4	39.5	48.9	87.9	76.7	86.8	2363	193	42.7	19.3	104
MAX	792	56	54	83	457	172	764	20600	555	163	51	721
MIN	48	32	33	40	33	58	26	69	41	17	14	22
AC-FT	9410	2340	2430	3010	4880	4710	5160	145300	11460	2620	1190	6200

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994#, BY WATER YEAR (WY)

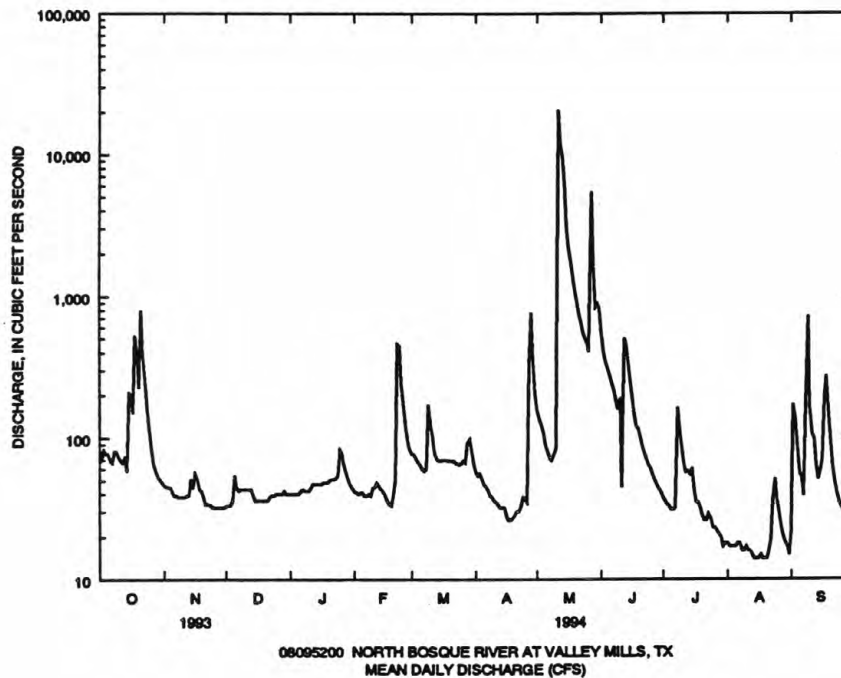
MEAN	145	67.8	368	190	374	386	397	658	390	92.4	46.8	68.2
MAX	1349	549	7469	1760	5156	2126	2392	2776	1609	712	232	344
(WY)	1972	1992	1992	1992	1992	1992	1977	1968	1989	1968	1991	1986
MIN	1.35	2.69	4.10	6.78	14.5	15.4	6.02	2.94	.63	.11	1.43	.000
(WY)	1979	1984	1979	1984	1984	1986	1984	1984	1984	1984	1978	1984

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994#	
ANNUAL TOTAL	96680		100189			
ANNUAL MEAN	265		274			
HIGHEST ANNUAL MEAN					265	
LOWEST ANNUAL MEAN					1664	1992
HIGHEST DAILY MEAN	7860	Feb 4	20600	May 11	14.6	1984
LOWEST DAILY MEAN	15	Aug 30	14	Aug 14	.00	Jun 1 1984
ANNUAL SEVEN-DAY MINIMUM	17	Aug 24	14	Aug 14	.00	Jun 17 1984
INSTANTANEOUS PEAK FLOW			36600	May 11	220000	Dec 21 1991
INSTANTANEOUS PEAK STAGE			30.55	May 11	a/b44.60	Dec 21 1991
INSTANTANEOUS LOW FLOW			13	Aug 14	.00	Oct 1 1984
ANNUAL RUNOFF (AC-FT)	191800		198700		191900	
10 PERCENT EXCEEDS	602		329		425	
50 PERCENT EXCEEDS	117		47		39	
90 PERCENT EXCEEDS	31		26		6.3	

Period of regulated streamflow.

a From floodmark.

b Maximum stage since at least 1868.



BRAZOS RIVER BASIN

08095300 MIDDLE BOSQUE RIVER NEAR MCGREGOR, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 31°30'34", long 97°21'55", McLennan County, Hydrologic Unit 12060203, at left downstream side of bridge on Farm Road 3047, 1,100 ft downstream from Pecan Creek, 5.0 mi upstream from mouth, and 5.2 mi northeast of McGregor.

DRAINAGE AREA.--182 mi².

PERIOD OF RECORD.--August 1959 to September 1985. October 1985 to current year (peaks above base or annual maximum).

GAGE.--Water-stage recorder, and concrete control. Datum of gage is 530.51 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records good. No known diversions above station. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE.--26 years (1960-1985), 78.4 ft³/s (56,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,300 ft³/s Oct. 31, 1974 (gage height, 24.62 ft); no flow at times in 1960-64, 1967, 1971, 1978-79, 1981-84, and 1994.

EXTREMES OUTSIDE PERIOD OF RECORD.--Historical flood information begins with a flood in 1889, which reached a stage of 28.5 ft. A flood in 1957 reached a stage of 28.2 ft; and floods in 1913 and 1942 or 1943 reached a stage of about 28 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 10	2230	11,500	12.88				

BRAZOS RIVER BASIN

239

08095400 HOG CREEK NEAR CRAWFORD, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 31°33'20", long 97°21'22", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on Farm Road 185, 5.6 mi east of Crawford, and 9.8 mi upstream from South Bosque River.

DRAINAGE AREA.--78.2 mi².

PERIOD OF RECORD.--August 1959 to September 1985, October 1985 to current year (peaks above base or annual maximum).

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 560.54 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flow affected at times by discharge from the flood-detention pools of two floodwater-retarding structures with a detention capacity of 9,600 acre-ft. These structures control runoff from 42.0 mi² in the Hog Creek drainage basin. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE.--26 years (1959-1985), 32.3 ft³/s (23,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft³/s Oct. 4, 1959 (gage height, 14.31 ft); no flow at times in 1959, 1963-64, 1971, 1978-79, and 1983-85.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 17.5 ft Sept. 26, 1936. Flood in April or May 1957 reached a stage of 15.7 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peak greater than base discharge.

08095550 WACO LAKE NEAR WACO, TX

LOCATION.--Lat 31°34'46", long 97°11'51", McLennan County, Hydrologic Unit 12060203, in intake structure at Waco Dam on Bosque River, at northwest edge of city limits of Waco, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--1,652 mi².

PERIOD OF RECORD.--February 1965 to current year. Prior to October 1970, published as Waco Reservoir.
Water-quality records.--Chemical analyses: October 1969 to September 1982

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

REMARKS.--The lake is formed by a rolled earthfill dam 24,618 ft long, including spillway. The lake was built for flood control and water conservation. From Oct. 1, 1964, to Feb. 26, 1965, the lake was operated as a detention basin only. On Feb. 26, 1965, old Lake Waco was breached and deliberate impoundment began. The spillway is controlled by fourteen 40.0- by 35.0-foot tainter gates. The outlet works consists of three gate-controlled outlets, 6.7 by 20.0 ft, opening into a 20.0-foot-diameter concrete conduit and two 54-inch concrete pipes. Low-flow releases are made through two 54-inch butterfly valves. Flow into two wet wells is controlled by four 5.0- by 6.0-foot slide gates that are used to release water downstream for the city of Waco municipal water supply. Capacity table No. 2-C is based on a sedimentation survey completed in December 1970. Flow is affected at times by discharge from the flood-detention pools of 44 floodwater-retarding structures with a combined detention capacity of 76,460 acre-ft. These structures control runoff from 248 mi² in the Bosque River and Hog Creek drainage basins. An unknown amount of water was diverted for municipal and industrial uses. Satellite 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.....	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 of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 521,100 acre-ft Dec. 24, 1991 (elevation, 488.48 ft); minimum since normal operating level was reached, 86,360 acre-ft Oct. 8, 1984 (elevation, 445.10 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 198,100 acre-ft May 13 (elevation, 461.34 ft); minimum daily, 131,600 acre-ft Sept. 30 (elevation, 452.51 ft).

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

452.0	128,100	464.0	220,900	479.0	384,800
453.0	135,000	468.0	258,800	482.0	425,100
454.0	142,000	472.0	300,800	484.0	453,500
459.0	179,200	476.0	347,100	486.0	483,000

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133800	141500	143700	145800	147700	150100	150100	150900	150000	149300	141800	133600
2	133500	141700	143900	145800	147700	149800	150200	150900	149700	149000	141500	133500
3	134200	142000	144200	145700	147700	149700	150300	150600	150000	148800	141200	133600
4	134100	142000	144000	145700	147700	149800	150400	150000	150000	148500	140900	133500
5	134100	141900	144000	145700	147800	150100	150300	149700	150000	148200	140600	133200
6	134000	141700	144100	145700	147900	150500	149800	149800	150200	148000	140300	133100
7	133800	141700	144100	145700	148000	150600	149600	150100	150300	147700	140000	132900
8	133800	141600	144200	145700	148000	151200	149600	150000	150600	147600	139800	132900
9	133400	141600	144300	145600	148000	151700	149700	151100	150800	147500	139500	134200
10	133300	141700	144400	145700	148300	151700	149600	155000	150900	147500	139300	134300
11	133100	141700	144400	145900	148400	151000	150000	182500	151900	147500	139000	134400
12	133100	141900	144700	146100	148500	150600	150300	189900	152300	147200	138700	134300
13	133500	142000	144800	146200	148500	150300	150100	198100	152300	147000	138400	134200
14	133500	142200	144700	146200	148500	149700	149800	196200	152000	147000	138100	134200
15	133500	142200	144700	146200	148500	149700	149600	188500	151400	147000	137900	134000
16	133800	143100	144700	146500	148500	149900	149600	182800	151000	146700	137600	134000
17	134000	143200	145000	146200	148500	150100	149500	178200	150900	146500	137400	133800
18	134500	143300	145000	146200	148500	150400	149400	172400	150600	146200	137000	134000
19	136600	143300	145100	146200	148500	150600	149400	166700	150300	145900	136700	134000
20	139100	143300	145100	146400	148600	150900	149800	162400	150000	145500	136500	134000
21	140000	143300	145100	146500	148600	150900	149800	158300	150000	145200	136400	133800
22	140800	143200	145500	146500	159400	150600	149800	154100	149900	145000	136100	133500
23	141300	143300	145600	146700	159700	150000	149800	151300	150300	144700	135800	133200
24	141700	143300	145600	147000	157900	149900	149700	150300	150600	144400	135700	132900
25	141800	143700	145600	147100	155800	149600	149800	150300	150500	144200	135500	132700
26	142000	143500	145600	147400	153700	150000	149800	150300	150300	143700	135200	132500
27	141900	143500	145700	147500	151400	150800	149800	157700	150100	143400	134900	132200
28	141800	143500	145700	147600	150300	150400	151000	157600	149900	143100	134700	132000
29	142000	143500	145700	147700	---	150000	151900	151900	149800	142700	134400	131800
30	141800	143500	145700	147700	---	150000	151400	151600	149500	142400	134000	131600
31	141700	---	145700	147700	---	150100	---	150600	---	142200	133800	---
MAX	142000	143700	145700	147700	159700	151700	151900	198100	152300	149300	141800	134400
MIN	133100	141500	143700	145600	147700	149600	149700	149500	142200	142200	131600	131600
(+)	453.96	454.21	454.52	454.80	455.16	455.12	455.30	455.20	455.04	454.02	453.54	452.51
(e)	+7700	+1800	+2200	+2000	+2600	-200	+1300	-800	-1100	-7300	-8400	-2200
CAL YR 1993	MAX 145700	MIN 43500	(e) -4600									
WTR YR 1994	MAX 198100	MIN 131600	(e) -2400									

(+) Elevation, in feet, at end of month.

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

BRAZOS RIVER MAIN STEM

241

08096500 BRAZOS RIVER AT WACO, TX

LOCATION.--Lat 31°32'06", long 97°04'22", McLennan County, Hydrologic Unit 12060202, on left bank 2.2 mi downstream from bridge on LaSalle Avenue and at mile 400.7.

DRAINAGE AREA.--29,573 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--September 1898 to current year (January 1912 to September 1914 monthly records only, published in WSP 1312).

REVISED RECORDS.--WSP 850 and 878: 1899-1900, 1907-9 (monthly and yearly summaries only). WSP 1512: 1901-5, 1910, 1915, 1925-26(M), 1927-29. WSP 1922: 1957. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 349.34 ft above National Geodetic Vertical Datum of 1929. Sept. 14, 1898, to Mar. 28, 1918, May 6, 1922, to Feb. 12, 1925, nonrecording gage, and May 28, 1918, to May 5, 1922, Feb. 13, 1925, to Aug. 14, 1969, water-stage recorder. Prior to Aug. 14, 1969, at site 3.9 mi upstream at datum 7.46 ft higher.

REMARKS.--Records fair. Flow is largely regulated by Lake Whitney and by Waco Lake (stations 08092500 and 08095550). The combined capacity for 18 reservoirs above station is 4,135,000 acre-ft, of which 2,194,000 acre-ft is flood-control storage in Lake Whitney and in Waco Lake. The City of Waco diverts water above station for municipal use, and the Brazos River Authority returns treated sewage effluent to the river above station. There are many other small diversions above station for municipal supply, irrigation, and for oil field operations that will not appreciably affect flow. Flow is affected at times by discharge from the flood-detention pools of eleven floodwater-retarding structures with a combined detention capacity of 6,420 acre-ft. These structures control runoff from 20.4 mi² in the Aquilla and Hackberry Creeks drainage basins. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--42 years (water years 1899-1940), 2,560 ft³/s (1,855,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEAR 1899-1940).--Maximum discharge since at least 1847, 246,000 ft³/s Sept. 27, 1936 (gage height, 40.90 ft), at former site and datum, levee on left bank was overtopped and broken by flood; no flow Aug. 20, 21, 1918, and probably for several days in August 1923.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage for 1847-98, 34.63 ft May 28, 1885, from floodmark at site 3.9 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	595	1090	61	2450	1400	2120	1130	978	5640	1160	562	449
2	689	1370	89	2410	1060	1810	660	1500	5310	1380	760	420
3	904	532	192	2640	715	1600	617	1210	3750	1190	64	237
4	289	369	109	2470	963	1240	534	1140	3210	1350	348	181
5	1090	795	77	2570	345	673	673	861	2590	1130	259	639
6	952	371	592	1880	191	602	1030	1130	2450	1470	231	1270
7	686	705	286	840	177	583	2160	1180	2240	982	216	373
8	660	812	290	1510	172	593	1220	790	1500	1140	91	1160
9	998	491	305	1620	504	1530	650	3340	2300	1740	163	488
10	214	194	953	856	1910	1810	583	1910	1930	446	272	826
11	146	133	691	590	1290	1880	649	2950	2400	929	229	958
12	472	188	2830	876	715	1440	592	5970	2150	984	230	981
13	988	382	3030	1000	292	1150	636	8170	2170	732	219	975
14	644	377	2400	650	194	1200	756	10000	2110	621	309	981
15	295	197	408	518	354	1170	662	8410	2050	371	551	1000
16	546	811	800	652	203	1280	445	7140	1190	805	19	1020
17	1350	1140	664	515	225	1370	690	6620	1940	1400	182	333
18	1220	527	285	840	178	1280	901	5740	1500	927	216	529
19	1690	608	101	836	186	1440	1200	5480	1260	293	256	711
20	5100	687	153	689	476	1160	1350	4640	1060	789	509	1050
21	1670	671	1590	1080	240	1120	1490	5270	887	703	314	476
22	2280	557	1470	927	4870	1300	1160	7100	833	625	56	941
23	469	485	1210	362	3880	1440	1170	6690	1040	586	721	834
24	864	358	1300	225	3590	1790	1220	5860	994	891	572	363
25	790	828	1350	331	2900	838	1510	5370	849	533	533	752
26	605	1400	1530	893	2990	577	1360	4250	1190	522	530	1080
27	389	1070	2700	68	2870	1670	1300	7350	1350	505	883	1540
28	298	1140	2680	215	2140	1780	1490	7770	1320	527	866	679
29	569	1080	2670	1110	---	1620	1770	7220	1230	476	1500	922
30	863	1230	2800	1260	---	1640	1360	8130	1220	97	613	989
31	956	---	2680	1340	---	1350	---	6600	---	45	1310	---
TOTAL	29281	20598	36296	34223	35030	41056	30968	150769	59663	25349	13584	23157
MEAN	945	687	1171	1104	1251	1324	1032	4864	1989	818	438	772
MAX	5100	1400	3030	2640	4870	2120	2160	10000	5640	1740	1500	1540
MIN	146	133	61	68	172	577	445	790	833	45	19	181
AC-FT	58080	40860	71990	67880	69480	81430	61430	299100	118300	50280	26940	45930

BRAZOS RIVER MAIN STEM

08096500 BRAZOS RIVER AT WACO, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1994#, BY WATER YEAR (WY)

MEAN	2063	1468	1436	1855	2020	2196	2803	5637	4502	1733	1015	1250
MAX	13540	11150	15070	28140	16860	20260	22470	36340	37140	9427	4376	9492
(WY)	1960	1975	1992	1992	1992	1992	1942	1957	1957	1982	1962	1966
MIN	46.6	55.8	40.8	44.6	28.0	77.3	160	43.5	386	49.2	98.3	97.5
(WY)	1984	1984	1955	1955	1984	1971	1955	1988	1971	1978	1988	1983

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1941 - 1994#	
ANNUAL TOTAL	586076		499974		2332	
ANNUAL MEAN	1606		1370		9611	
HIGHEST ANNUAL MEAN					322	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	7550	Mar 2	10000	May 14	121000	Apr 22 1945
LOWEST DAILY MEAN	37	May 15	19	Aug 16	.12	Aug 7 1988
ANNUAL SEVEN-DAY MINIMUM	201	Dec 1	196	Aug 3	4.4	May 13 1988
INSTANTANEOUS PEAK FLOW			11300	May 13	144000	Apr 22 1945
INSTANTANEOUS PEAK STAGE			12.98	May 13	36.70	Apr 22 1945
INSTANTANEOUS LOW FLOW			.83	Aug 17	.12	Aug 7 1988
ANNUAL RUNOFF (AC-FT)	1162000		991700		1689000	
10 PERCENT EXCEEDS	3660		2740		4740	
50 PERCENT EXCEEDS	966		929		828	
90 PERCENT EXCEEDS	367		227		140	

Period of regulated streamflow.

08098290 BRAZOS RIVER NEAR Highbank, TX
(National stream-quality accounting network)

LOCATION.--Lat 31°08'02", long 96°49'29", Falls County, Hydrologic Unit 12070101, near right bank 45 ft downstream from bridge on Farm Road 413, 1.4 mi downstream from Highbank Slough and Spring Branch, 2.6 mi south of Highbank, and at mile 346.6.

DRAINAGE AREA.--30,436 mi², of which 9,566 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 279.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Many diversions above station for municipal supply, irrigation, and industrial uses. Flow is affected by 20 upstream reservoirs with a total combined capacity of 4,181,000 acre-ft. Water is diverted from the river about 52 miles upstream from this station by Texas Power and Light Co. to Tradinghouse Reservoir. Flow is affected at times by discharge from the flood-detention pools of 76 floodwater-retarding structures with a total combined detention capacity of 83,290 acre-ft. These structures control runoff from 238 mi² in the Aquilla, Tehuacana, Castelman Creeks, and Cow Bayou basins. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1909, 42 ft in December 1913 and 40 ft in September 1936, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1410	1280	1660	2670	1040	2240	1130	1280	9000	862	297	1210
2	723	1420	706	2420	1160	2360	938	772	6870	855	455	679
3	791	1710	329	2410	930	2000	686	938	5990	960	1060	600
4	1020	990	407	2660	762	1840	524	1390	3920	882	581	393
5	619	798	389	2470	744	1140	433	971	2940	967	356	291
6	1020	1030	355	2590	523	824	389	768	2400	868	563	311
7	1110	807	621	1870	306	654	483	702	2170	1060	483	1090
8	749	967	806	792	252	619	1390	753	1910	767	473	674
9	710	1100	654	1260	209	615	976	1030	1140	838	453	926
10	1030	956	651	1460	184	1260	495	6310	1800	1350	276	838
11	576	580	1110	947	1400	1770	375	8400	1480	648	406	687
12	296	441	1220	668	1050	1730	333	7360	2020	582	485	934
13	349	405	3500	621	795	1320	366	9160	1770	793	471	979
14	969	512	3680	1020	419	993	341	16500	1710	590	452	983
15	788	682	2870	559	292	988	383	14100	1670	504	473	1000
16	580	644	1110	621	256	1080	376	12400	1690	464	962	1020
17	438	970	1170	457	291	940	315	11200	1040	486	341	1040
18	1380	1750	1140	522	240	1080	276	8250	1440	1070	206	692
19	1510	1100	914	657	210	1030	388	6740	1070	1200	401	379
20	2680	968	574	691	572	1120	604	6070	934	385	481	813
21	6180	1050	376	748	802	926	824	5020	799	648	1340	952
22	3550	1080	1360	726	5570	874	963	6270	651	839	790	621
23	2950	991	1350	890	12500	951	797	8250	581	837	548	831
24	1310	859	1120	551	9570	1150	725	7250	1100	836	816	838
25	1370	754	1150	360	6980	1960	756	6340	1060	1160	954	721
26	1270	995	1170	296	4010	1080	903	5860	678	864	914	541
27	1060	1640	1390	632	3430	716	839	6100	835	816	900	1040
28	884	1470	2590	454	3000	2320	821	10200	955	780	1260	1520
29	740	1430	2590	221	---	2260	827	11700	946	771	1220	875
30	835	1410	2670	584	---	1700	1280	10200	878	758	1840	873
31	1170	---	2810	1120	---	1440	---	10600	---	555	1300	---
TOTAL	40067	30789	42442	33947	57497	40980	19936	202884	61447	24995	21557	24351
MEAN	1292	1026	1369	1095	2053	1322	665	6545	2048	806	695	812
MAX	6180	1750	3680	2670	12500	2360	1390	16500	9000	1350	1840	1520
MIN	296	405	329	221	184	615	276	702	581	385	206	291
AC-FT	79470	61070	84180	67330	114000	81280	39540	402400	121900	49580	42760	48300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994#, BY WATER YEAR (WY)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	1830	2161	2175	2661	2873	3403	3333	6224	5389	1872	1087	1265																	
MAX	13740	18050	16830	31930	21820	22730	15700	30140	17520	10050	2545	9865																	
(WY)	1982	1975	1992	1992	1992	1992	1977	1990	1989	1982	1991	1966																	
MIN	93.6	72.6	163	167	30.8	84.7	196	179	382	84.4	167	127																	
(WY)	1984	1984	1984	1984	1984	1971	1978	1988	1984	1978	1988	1983																	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1966 - 1994#

ANNUAL TOTAL	844397	600892	
ANNUAL MEAN	2313	1646	
HIGHEST ANNUAL MEAN			2854
LOWEST ANNUAL MEAN			11320
HIGHEST DAILY MEAN	13100	16500	70300
LOWEST DAILY MEAN	296	184	23
ANNUAL SEVEN-DAY MINIMUM	509	326	23
INSTANTANEOUS PEAK FLOW		18000	78700
INSTANTANEOUS PEAK STAGE		12.21	30.78
INSTANTANEOUS LOW FLOW		142	23
ANNUAL RUNOFF (AC-FT)	1675000	1192000	2068000
10 PERCENT EXCEEDS	5690	3170	6260
50 PERCENT EXCEEDS	1240	938	1030
90 PERCENT EXCEEDS	656	389	225

Period of regulated streamflow.

BRAZOS RIVER MAIN STEM

08098290 BRAZOS RIVER NEAR Highbank, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: November 1967 to current year. Pesticide analyses: November 1976 to June 1981. Sediment analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1967 to current year.

WATER TEMPERATURES: November 1967 to February 1984, and December 1989 to current year.

INSTRUMENTATION.--Since September 1980, specific conductance is recorded continuously at this station. From October 1980, to February 1984, and since December 1989, water temperature is recorded continuously at this station.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,000 microsiemens Aug. 24, 1978; minimum daily, 140 microsiemens Mar. 8, 1984. WATER TEMPERATURES (1980-84, 1989-90): Maximum daily, 35.5°C July 15, 16, 1978; minimum daily, 0.0°C on several days during December 1983 and December 1989.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,790 microsiemens Oct. 4; minimum daily, 290 microsiemens May 11. WATER TEMPERATURES: Maximum daily, 33.5°C on several days in June and July, and Aug. 14; minimum daily, 5.5°C on several days during Jan.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
OCT 13...	1335	364	1360	7.8	23.0	--	--	--	--	--	--	290
DEC 01...	1304	1740	1540	8.2	14.5	27	10.9	108	1.0	88	100	310
FEB 15...	1115	130	1460	8.2	14.5	5.5	13.5	133	1.5	K14	K9	320
MAY 17...	1107	11200	341	7.6	23.5	190	7.2	86	1.9	9600	17000	170
JUL 26...	1035	926	1350	7.8	27.0	1.8	6.1	78	3.0	K16	K24	290
DATE		HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 13...		140	74	25	160	4	5.2	--	--	--	150	160
DEC 01...		190	81	27	180	4	6.1	0	155	126	130	200
FEB 15...		170	85	26	180	4	5.4	0	183	150	150	190
MAY 17...		19	44	15	4.2	0.1	2.0	0	188	154	150	29
JUL 26...		170	76	24	160	4	5.4	0	150	123	120	170
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 CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
OCT 13...		240	0.40	10	--	765	--	--	--	--	--	--
DEC 01...		280	0.30	6.7	896	860	0.300	0.300	0.020	0.320	0.320	0.080
FEB 15...		260	0.20	0.80	878	840	0.160	--	<0.010	0.160	0.160	<0.010
MAY 17...		21	0.20	10	222	223	0.750	0.750	0.060	0.810	0.810	0.070
JUL 26...		250	0.30	7.8	810	769	0.073	--	<0.010	0.073	0.073	0.020

BRAZOS RIVER MAIN STEM

245

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, 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)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 13...	--	--	--	--	--	--	--	--	--	--	--
DEC 01...	0.82	0.42	0.50	0.110	0.050	0.040	0.12	67	315	91	<10
FEB 15...	0.56	0.40	0.40	0.040	0.060	0.020	0.06	7	2.5	93	<10
MAY 17...	1.8	0.93	1.0	0.310	0.090	0.090	0.28	635	19200	66	50
JUL 26...	0.57	0.48	0.50	0.080	0.040	0.010	0.03	35	88	98	<10
DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
OCT 13...	--	--	--	--	--	--	--	--	--	--	--
DEC 01...	110	<3	5	20	2	<10	<1	<1	<1.0	1200	<6
FEB 15...	110	<3	3	17	25	<10	<1	<1	<1.0	1200	<6
MAY 17...	34	4	28	<4	3	<10	<1	<1	<1.0	1400	<6
JUL 26...	120	<3	4	20	3	<10	<1	<1	<1.0	1100	<6
MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)		
OCT. 1993	40067	1080	612	66200	180	19900	120	13300	250		
NOV. 1993	30789	1120	633	52600	180	15200	120	10400	270		
DEC. 1993	42442	1480	852	97600	280	31700	180	20300	320		
JAN. 1994	33947	1690	973	89200	330	30700	210	19000	340		
FEB. 1994	57497	748	422	65600	120	18200	82	12700	180		
MAR. 1994	40980	768	431	47700	110	12200	81	8940	200		
APR. 1994	19936	1110	629	33900	180	9860	120	6700	260		
MAY 1994	202884	500	278	153000	65	35400	50	27500	140		
JUNE 1994	61447	1050	593	98300	170	27900	120	19200	250		
JULY 1994	24995	1240	704	47500	210	14300	140	9510	290		
AUG. 1994	21557	796	448	26100	120	6970	85	4980	200		
SEPT 1994	24351	477	265	17400	59	3890	47	3100	130		
TOTAL	600892	**	**	795000	**	226000	**	156000	**		
WTD.AVG.	1646	865	490	**	140	**	96	**	210		

BRAZOS RIVER MAIN STEM

08098290 BRAZOS RIVER NEAR Highbank, TX--Continued
(National stream-quality accounting network)

MINI #2 SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	1660	1360	1510	1070	1010	1060	1430	1410	1420	1720	1700	1710
2	1690	1650	1670	1010	---	e1050	1430	1390	1400	1720	1710	1710
3	1680	1650	1660	1040	---	e1040	1400	1390	1390	1720	1700	1710
4	1790	1670	1720	1130	1040	1090	1410	1390	1400	1710	1670	1710
5	1720	1550	1600	1130	1100	1110	1410	1380	1390	1730	1700	1720
6	1590	1530	1560	1220	1120	1170	1390	1350	1370	1730	1720	1720
7	1560	1450	1510	1210	1110	1160	1360	1300	1330	1730	1710	1720
8	1470	1420	1450	1250	1200	1230	1330	1280	1310	1710	1710	1710
9	1490	1450	1470	1250	1120	1210	1340	1310	1320	1720	1680	1710
10	1520	1480	1500	---	---	e1210	1370	1340	1360	1740	1670	1720
11	1520	1440	1490	---	---	e1100	1370	1350	1360	1730	1700	1720
12	1510	1300	1380	---	---	e1050	1370	1330	1360	1710	1650	1680
13	1340	1230	1280	1150	1080	1120	1410	1300	1360	1660	1640	1650
14	1430	1330	1400	1140	1040	1090	1470	1410	1440	1670	1640	1650
15	1400	1340	1370	1050	1020	1040	1530	1470	1510	1690	1630	1660
16	1450	1400	1440	---	---	e1010	1520	1490	1510	1700	1680	1690
17	1460	1430	1450	1090	1030	1070	1490	1470	1480	1680	1650	1670
18	1460	1260	1350	---	---	e1000	1490	1470	1480	1770	1600	1680
19	1490	1360	1440	---	---	e1020	1490	1460	1480	---	---	e1550
20	1480	1150	1260	---	---	e1020	1470	1440	1460	---	---	e1580
21	1300	523	911	---	---	e1050	1450	1420	1440	---	---	e1580
22	684	352	461	---	---	e1050	1430	1350	1390	1730	1700	1720
23	352	322	332	---	---	e1050	1430	1350	1390	1720	1660	1690
24	413	332	376	---	---	e1060	1460	1430	1440	1670	1660	1670
25	646	413	484	---	---	e1100	1450	1270	1360	1670	1630	1650
26	1100	646	873	1150	1030	1080	1470	1300	1410	---	---	e1660
27	1200	1100	1180	1230	1150	1200	1590	1460	1530	---	---	e1500
28	1200	1160	1190	1240	1180	1210	1650	1580	1620	---	---	e1600
29	1160	1020	1100	1310	1240	1280	1700	1650	1670	---	---	e1650
30	---	---	e1100	1420	1310	1370	1710	1690	1700	---	---	e1600
31	---	---	e1000	---	---	---	1710	1700	1710	---	---	e1650
MONTH	1790	322	1240	1420	1010	1110	1710	1270	1440	1770	1600	1670

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	e1660	653	574	622	709	652	688	1490	1330	1450
2	---	---	e1670	672	583	632	766	709	728	1330	920	1040
3	---	---	e1660	691	622	661	870	766	810	1070	960	1020
4	---	---	e1660	681	592	645	1030	870	948	1110	1070	1090
5	---	---	e1640	611	582	596	1070	1030	1060	1080	710	889
6	1660	1630	1640	630	600	615	1090	1060	1070	710	540	584
7	1650	1580	1620	816	630	737	1080	1060	1070	680	580	652
8	1660	1630	1650	874	816	851	---	951	1070	730	680	710
9	1680	1630	1650	874	844	861	1240	1170	1230	750	440	683
10	1650	1590	1610	902	873	881	1240	1140	1190	770	460	615
11	1640	1480	1560	883	823	860	1150	1120	1140	810	290	458
12	1660	1600	1650	823	724	776	1150	1110	1140	620	380	465
13	1640	1600	1620	763	685	724	1140	1060	1110	610	340	443
14	1600	1500	1560	850	762	814	1070	1000	1040	440	310	356
15	1500	1450	1470	888	840	864	1010	976	991	---	---	e368
16	1490	1460	1470	927	838	896	1100	1010	1060	---	---	e350
17	1520	1490	1510	867	828	849	1140	1090	1120	---	---	e341
18	1520	1490	1510	920	857	900	1130	1060	1100	---	---	e360
19	1520	1460	1490	885	836	870	1130	1060	1090	---	---	e400
20	1480	677	1230	874	835	852	1200	1040	1120	---	---	e400
21	1000	538	781	921	874	896	1220	1110	1180	---	---	e400
22	975	398	635	1040	921	969	1200	1050	1140	---	---	e410
23	726	397	570	1040	969	1000	1050	940	998	---	---	e410
24	546	377	415	1100	1030	1070	990	940	968	---	---	424
25	595	397	461	1120	907	1050	1180	960	1050	520	440	490
26	515	436	450	936	907	920	1370	1180	1280	550	500	533
27	713	515	646	926	857	889	1380	1320	1350	570	410	535
28	693	574	644	876	693	801	1380	1360	1380	---	---	e540
29	---	---	---	693	423	487	1450	1380	1410	---	---	e645
30	---	---	---	528	442	484	1490	1440	1470	---	---	e770
31	---	---	---	652	528	579	---	---	---	---	---	884
MONTH	1680	377	1290	1120	423	795	1490	652	1100	1490	290	604

e Estimated

BRAZOS RIVER MAIN STEM

247

08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued
(National stream-quality accounting network)

DAY	MINI #2 SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994											
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1000	670	809	1290	1040	1150	1230	1210	1220	457	435	444
2	1090	1000	1040	1240	1080	1210	1220	1160	1190	441	424	433
3	1240	1040	1190	1240	1080	1160	1210	1130	1170	424	408	417
4	1290	1030	1230	1230	1200	1210	1200	1120	1170	419	409	414
5	1290	1200	1240	1250	1090	1210	1190	1120	1150	432	407	416
6	1270	1200	1220	1250	1070	1180	1300	1150	1220	431	409	420
7	1280	1030	1160	1230	1090	1200	1160	1130	1140	425	412	418
8	1240	1010	1140	1240	1200	1220	1130	1060	1090	422	412	416
9	1220	1010	1120	1270	1200	1230	1080	1060	1070	418	403	411
10	1280	1060	1170	1270	1210	1230	1090	1070	1080	540	405	420
11	1290	1200	1240	1290	1200	1270	1100	1060	1080	540	492	513
12	1250	1210	1230	1290	1200	1240	1080	1040	1060	507	417	474
13	1290	1080	1230	1290	1200	1240	1050	1020	1040	523	496	511
14	1090	1020	1060	1220	1090	1160	1070	1010	1040	519	492	508
15	1090	1000	1070	1280	1210	1240	1020	1010	1010	516	409	499
16	1090	850	1000	1290	1200	1240	1040	1010	1030	518	488	503
17	890	800	845	1290	1200	1210	1170	1020	1110	515	477	496
18	1040	800	909	1290	1200	1270	1180	1110	1140	515	484	504
19	1070	800	925	1290	1200	1240	1160	1130	1140	501	469	488
20	890	800	845	1290	1200	1230	1250	1140	1190	505	457	481
21	1010	800	878	1290	1210	1240	1250	473	862	502	458	487
22	1040	1010	1020	1290	1250	1270	635	480	581	463	383	432
23	1030	1010	1020	1290	1220	1250	633	501	560	491	441	462
24	1030	870	985	1290	1200	1250	512	461	497	471	435	449
25	880	600	675	1280	1210	1240	510	482	493	440	431	436
26	840	600	718	1290	1270	1280	494	481	488	452	362	398
27	890	800	857	1240	1220	1230	492	458	481	570	355	462
28	890	800	863	1290	1220	1250	484	456	476	672	427	538
29	1070	800	947	1420	1250	1330	566	471	509	643	524	584
30	1090	1000	1030	1420	1370	1400	483	459	471	841	526	655
31	---	---	---	1380	1240	1310	467	448	457	---	---	---
MONTH	1290	600	1020	1420	1040	1240	1300	448	910	841	355	470
YEAR	1790	290	1070									

DAY	MINI #2 WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994											
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	26.5	20.0	24.0	13.0	10.0	11.5	---	---	---	10.5	7.5	9.0
2	28.0	20.0	24.0	13.5	12.5	13.0	---	---	---	9.0	6.5	8.0
3	26.5	20.0	22.5	15.0	10.0	12.0	---	---	---	---	---	---
4	26.5	20.0	24.0	17.5	10.0	13.5	---	---	---	---	---	---
5	28.0	20.0	24.5	16.5	10.0	15.0	---	---	---	---	---	---
6	28.0	20.0	25.5	13.5	10.0	12.5	---	---	---	---	---	---
7	27.0	20.5	25.5	12.5	10.0	11.5	---	---	---	---	---	---
8	27.5	20.0	24.5	11.5	10.5	11.5	---	---	---	9.5	6.0	8.0
9	26.5	20.0	24.0	12.5	11.5	12.0	---	---	---	9.0	6.5	8.0
10	23.0	20.0	21.5	13.5	12.5	13.0	---	---	---	11.5	5.5	9.0
11	22.0	20.0	20.5	15.5	12.0	13.5	14.5	10.5	12.5	15.0	11.5	13.0
12	23.5	20.0	21.5	18.5	14.5	16.5	13.5	11.5	12.5	12.0	5.5	9.0
13	24.0	21.0	22.5	20.5	14.5	19.0	14.0	12.0	13.5	12.5	5.5	8.0
14	23.0	21.0	22.0	20.0	14.5	16.5	13.0	11.0	12.0	---	---	---
15	23.5	20.0	21.0	18.5	14.5	17.5	---	---	---	---	---	---
16	25.0	20.0	22.5	17.0	12.5	14.5	---	---	---	---	---	---
17	27.0	20.0	24.0	15.0	10.0	12.0	11.0	10.5	11.0	11.5	5.5	9.0
18	27.0	20.5	24.0	15.0	10.0	12.5	---	---	---	9.5	7.0	8.0
19	26.0	20.5	24.5	14.0	10.0	12.5	11.5	10.5	11.0	9.0	6.0	7.5
20	25.0	20.0	22.5	13.0	10.0	11.5	---	---	---	9.0	8.0	8.5
21	21.5	20.5	21.5	---	---	---	---	---	---	9.5	5.5	7.5
22	20.5	15.0	17.0	---	---	---	9.0	8.0	8.5	10.0	6.0	7.5
23	18.5	15.0	17.0	---	---	---	8.5	6.5	7.5	11.5	6.0	8.5
24	18.5	16.5	17.5	---	---	---	9.0	7.0	8.0	15.0	6.0	12.0
25	18.5	15.0	16.5	---	---	---	---	---	---	---	---	---
26	20.0	15.0	17.5	---	---	---	---	---	---	---	---	---
27	18.5	15.0	18.0	---	---	---	11.5	8.0	10.0	---	---	---
28	18.5	15.5	17.0	---	---	---	11.0	9.0	10.0	---	---	---
29	17.5	10.0	16.0	---	---	---	9.0	8.0	8.5	---	---	---
30	13.5	10.0	11.5	---	---	---	9.0	7.0	8.0	---	---	---
31	13.0	10.0	11.5	---	---	---	9.0	7.5	8.5	---	---	---
MONTH	28.0	10.0	21.0	20.5	10.0	13.5	14.5	6.5	10.0	15.0	5.5	9.0

MINI #2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	20.0	13.5	17.0	22.5	19.0	20.5
2	---	---	---	---	---	---	20.0	14.0	18.0	21.5	19.5	20.5
3	---	---	---	---	---	---	21.0	16.5	19.0	20.0	18.0	19.0
4	---	---	---	---	---	---	19.5	15.5	18.0	22.5	19.0	20.5
5	---	---	---	18.0	13.5	16.0	19.5	16.0	18.0	25.5	20.5	23.0
6	---	---	---	20.0	16.5	18.0	17.5	13.0	15.5	25.5	22.0	24.0
7	---	---	---	21.0	18.5	19.5	19.0	13.5	16.0	27.0	24.0	25.5
8	---	---	---	20.0	16.5	19.0	20.5	15.0	17.5	27.5	24.0	26.0
9	---	---	---	---	---	---	22.0	19.0	20.5	26.5	23.0	25.5
10	---	---	---	---	---	---	25.0	20.5	22.5	24.5	22.5	23.5
11	---	---	---	---	---	---	23.5	21.5	22.5	24.0	22.5	23.0
12	---	---	---	12.5	11.5	12.0	23.0	19.0	21.0	25.0	23.0	24.0
13	---	---	---	15.0	11.0	12.5	24.5	17.5	21.5	24.5	22.0	23.5
14	---	---	---	17.0	12.0	14.5	25.0	21.0	23.0	23.0	21.5	22.0
15	---	---	---	17.0	15.0	16.0	23.5	21.0	22.5	24.0	22.5	23.0
16	14.5	11.0	13.0	19.5	16.5	17.5	23.5	18.5	21.0	25.0	24.0	24.5
17	16.0	11.0	14.0	20.5	16.0	18.0	24.5	18.0	21.5	25.0	23.5	24.5
18	16.0	12.5	14.5	22.5	17.5	20.0	25.5	19.5	23.0	26.5	24.0	25.5
19	17.0	14.5	16.0	23.0	19.0	21.0	26.0	22.0	24.0	26.0	24.5	25.0
20	17.0	16.0	16.5	23.0	20.0	21.5	25.0	23.0	24.0	26.0	24.0	25.0
21	16.5	15.5	16.0	22.5	19.5	21.0	27.5	23.0	25.0	26.5	24.0	25.5
22	16.5	14.0	15.5	22.0	17.5	20.0	26.5	24.0	25.5	26.0	24.5	25.0
23	15.0	12.0	13.5	21.5	20.0	20.5	28.0	23.0	25.5	25.5	24.0	25.0
24	---	---	---	21.0	19.5	20.5	27.5	24.0	25.5	26.0	23.5	24.5
25	13.5	11.5	12.5	20.0	18.5	19.0	26.0	24.0	25.0	26.5	24.0	25.0
26	---	---	---	20.5	17.5	19.5	28.0	24.0	26.0	25.5	24.5	25.0
27	---	---	---	20.0	16.5	18.5	28.0	25.5	26.5	25.5	23.5	24.5
28	---	---	---	17.5	15.0	16.5	27.0	23.5	25.0	25.0	24.0	24.5
29	---	---	---	17.5	14.5	16.0	26.0	23.5	24.5	26.5	25.0	25.5
30	---	---	---	18.0	15.0	16.5	25.0	20.5	21.5	26.5	25.0	26.0
31	---	---	---	18.0	14.5	16.5	---	---	---	26.5	25.5	26.0
MONTH	17.0	11.0	14.5	23.0	11.0	18.0	28.0	13.0	22.0	27.5	18.0	24.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	27.5	26.0	26.5	32.5	28.0	30.0	30.5	25.5	28.5	29.5	27.0	28.0
2	28.0	26.0	27.0	31.5	28.5	30.0	31.5	26.5	29.0	28.5	27.0	28.0
3	27.5	25.5	26.5	32.5	28.0	30.0	32.0	27.0	29.5	30.0	26.0	28.0
4	29.0	25.0	27.0	32.5	28.0	30.0	31.0	28.0	29.5	30.5	27.0	29.0
5	30.5	26.5	28.0	32.0	28.0	30.0	32.0	27.0	29.5	30.5	27.0	29.0
6	31.5	27.5	29.5	31.0	28.0	29.5	32.0	28.0	30.0	31.5	28.0	30.0
7	32.0	29.0	30.5	31.5	27.0	29.0	32.5	28.0	30.0	31.5	28.5	30.0
8	32.5	29.0	30.5	32.5	28.0	30.0	31.0	27.5	29.0	30.5	28.0	29.5
9	33.0	29.0	31.0	32.0	28.0	30.0	29.0	27.0	28.0	29.0	26.5	27.5
10	31.5	29.0	30.5	32.0	28.5	30.0	31.0	26.0	28.5	28.5	25.5	27.0
11	31.5	27.0	29.0	33.0	28.0	30.5	32.5	27.0	30.0	28.5	26.0	27.0
12	30.0	27.0	28.5	32.5	28.0	30.5	32.5	28.0	30.5	29.0	26.0	27.5
13	29.5	27.0	28.5	32.5	28.0	30.0	33.0	28.0	30.5	29.5	27.0	28.0
14	29.0	27.0	28.0	31.5	28.5	30.0	33.5	28.0	31.0	30.5	27.0	28.5
15	28.5	26.5	27.5	32.5	28.0	30.0	32.5	28.0	30.5	30.5	27.0	29.0
16	29.0	26.0	27.5	32.5	28.0	30.5	31.5	28.5	30.0	30.5	27.0	28.5
17	31.5	26.5	28.5	33.5	28.0	30.5	32.0	27.0	30.0	28.5	26.0	27.5
18	32.5	28.0	30.0	33.5	29.0	31.0	32.5	28.0	30.5	27.5	24.5	26.0
19	32.5	28.5	30.5	32.5	29.0	31.0	32.5	28.0	30.5	27.5	23.5	25.5
20	33.5	29.0	31.0	32.5	28.0	30.5	31.5	27.5	29.5	27.5	24.5	26.0
21	32.5	28.0	30.0	32.5	27.5	30.0	29.5	25.0	27.0	27.5	24.0	26.0
22	33.5	28.5	31.0	31.5	28.0	30.0	29.5	27.0	28.0	26.5	22.0	24.5
23	33.5	29.0	31.0	33.0	28.0	30.5	31.0	27.0	29.0	23.5	20.0	22.0
24	33.5	29.0	31.0	33.5	29.0	31.0	31.5	27.0	29.5	23.0	21.0	22.0
25	33.5	29.0	31.0	32.0	29.0	30.5	32.5	28.0	30.0	23.0	20.0	21.5
26	33.0	29.0	31.0	32.5	28.0	30.0	32.5	28.5	30.5	24.5	21.0	22.5
27	32.5	28.5	30.5	31.5	28.0	29.5	32.5	29.0	30.5	25.0	22.0	23.5
28	31.5	28.0	30.0	31.0	26.0	28.5	32.5	29.0	30.5	25.5	23.0	24.5
29	30.5	28.0	29.5	30.5	26.0	28.5	32.5	29.0	30.5	26.0	23.5	25.0
30	31.5	28.0	29.5	28.5	26.0	27.0	31.5	29.0	30.0	25.5	24.0	24.5
31	---	---	---	29.5	25.0	27.5	30.5	28.0	29.0	---	---	---
MONTH	33.5	25.0	29.5	33.5	25.0	30.0	33.5	25.0	29.5	31.5	20.0	26.5
YEAR	33.5	5.5	22.5									

249

[illegible]

08099100 LEON RIVER NEAR DE LEON, TX--Continued
(Flood-hydrograph partial-record station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1982, and October 1990 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)
OCT 21...	1355	1760	570	7.7	18.5	38	76	7.6	84	1.0	160	75
FEB 02...	1052	11	1790	8.0	2.5	13	1.5	14.5	111	1.3	540	220
MAR 29...	1110	7.4	1940	8.0	11.5	13	1.0	11.2	108	0.4	540	240
JUN 02...	1040	77	854	7.9	24.0	23	21	7.3	92	1.0	250	120
JUN 28...	0955	2.2	1970	8.0	25.5	14	1.5	5.2	67	0.4	600	350

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINIT- WAT DIS FIX END FIELD CAC03 (MG/L)	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)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)
OCT 21...	48	10	46	2	6.2	86	52	86	0.20	6.5	307	138
FEB 02...	160	33	160	3	4.3	310	140	330	0.30	14	1030	5
MAR 29...	160	33	180	3	4.4	300	160	350	0.40	12	1080	6
JUN 02...	77	15	71	2	6.0	130	72	140	0.20	7.4	470	42
28...	180	36	190	3	6.5	250	170	390	0.30	15	1140	16

DATE	RESIDUE VOLATILE, SUSPENDED (MG/L)	RESIDUE FIXED NON FILTER- ABLE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORG- ANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT 21...	42	96	0.052	0.052	0.020	0.072	0.072	0.050	0.25	0.30	0.070
FEB 02...	5	0	0.120	0.120	0.010	0.130	0.130	0.040	--	<0.20	0.010
MAR 29...	5	1	--	--	0.020	--	<0.050	0.020	0.28	0.30	<0.010
JUN 02...	19	23	--	--	<0.010	--	<0.050	0.020	0.48	0.50	0.020
28...	7	9	--	--	<0.010	--	<0.050	0.060	0.24	0.30	0.010

[illegible][illegible]

251

LOCATION.--Lat 32°06'50", long 98°36'19", Comanche County, Hydrologic Unit 12070201, on left bank at downstream end of bridge on Farm Road 587, 0.6 mi downstream from Spring Branch, 4.0 mi west of De Leon, 4.2 mi upstream from Turkey Creek, and 12.2 mi upstream from mouth.

WATER-DISCHARGE RECORDS

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

REMARKS.--No estimated daily discharges. Records good. Beginning Oct. 1, 1985, only daily discharges greater than 250 ft³/s are published. Flow may be slightly affected by Nabors Lake 0.4 mi upstream on Spring Branch. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft³/s Apr. 26, 1990 (gage height, 23.65 ft), from floodmark, from rating curve extended above 17,000 ft³/s; prior to Apr. 26, 1990, maximum discharge, 10,400 ft³/s June 5, 1986, (gage height, 21.99 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 24 ft in May 1908, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0700	7,160	20.48	July 10	1730	2,520	217.45
May 11	0700	13,300*	21.31				

a From floodmark.

[illegible]

BRAZOS RIVER BASIN

08099300 SABANA RIVER NEAR DE LEON, TX--Continued
(Flood-hydrograph partial-record station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1990 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
OCT 21...	1115	156	293	7.7	16.0	100	230	8.5	89	1.8	99	31
FEB 02...	1403	6.4	1350	8.0	5.5	24	1.0	15.0	124	1.7	460	180
MAR 29...	1425	4.0	1390	8.0	15.0	18	1.5	13.8	144	0.5	460	160
JUN 02...	1510	59	702	7.9	25.0	90	76	7.4	95	1.6	230	67
28...	1418	4.3	1300	8.0	29.5	18	1.3	9.8	136	1.8	440	150
AUG 29...	1517	0.27	1130	8.1	30.0	14	1.0	6.6	93	1.2	390	110

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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 S102)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 21...	30	5.7	18	0.8	5.0	68	23	30	0.20	6.4	161	348
FEB 02...	130	33	110	2	4.8	280	210	160	0.30	14	833	4
MAR 29...	130	32	110	2	4.3	300	180	170	0.40	13	818	4
JUN 02...	64	17	51	1	6.6	160	55	82	0.30	15	391	82
28...	120	34	110	2	4.4	290	170	160	0.40	17	791	14
AUG 29...	110	28	90	2	5.4	280	130	130	0.30	18	683	<1

DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
OCT 21...	84	264	0.180	0.180	0.010	0.190	0.190	0.030	0.27	0.30	0.100
FEB 02...	2	2	0.430	0.430	0.020	0.450	0.450	0.020	0.18	0.20	<0.010
MAR 29...	2	2	0.023	0.023	0.030	0.053	0.053	0.020	0.18	0.20	<0.010
JUN 02...	16	66	0.190	0.190	0.020	0.210	0.210	0.070	0.53	0.60	0.110
28...	5	9	0.079	0.079	0.010	0.089	0.089	0.020	0.28	0.30	<0.010
AUG 29...	<1	--	--	--	<0.010	--	<0.050	0.060	0.24	0.30	0.040

DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 21...	0.120	0.37	12	1	53	0.5	<1.0	<5	<3	<10	38
FEB 02...	<0.010	--	5.3	--	--	--	--	--	--	--	--
MAR 29...	<0.010	--	4.6	--	--	--	--	--	--	--	--
JUN 02...	0.100	0.31	11	3	110	<0.5	<1.0	<5	<3	<10	19
28...	<0.010	--	5.5	--	--	--	--	--	--	--	--
AUG 29...	0.020	0.06	4.9	4	130	<0.5	<1.0	<5	<3	<10	39

08099300 SABANA RIVER NEAR DE LEON, TX--Continued
(Flood-hydrograph partial-record station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LT)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	<10	<4	6	<0.1	<10	<10	<1	<1.0	180	<6	11
FEB 02...	--	--	--	--	--	--	--	--	--	--	--
MAR 29...	--	--	--	--	--	--	--	--	--	--	--
JUN 02...	<10	13	41	<0.1	<10	<10	<1	<1.0	520	<6	<3
JUN 28...	--	--	--	--	--	--	--	--	--	--	--
AUG 29...	<10	40	310	<0.1	<10	<10	<1	<1.0	890	<6	7

BRAZOS RIVER BASIN

08099400 PROCTOR LAKE NEAR PROCTOR, TX

LOCATION.--Lat 31°58'07", long 98°29'09", Comanche County, Hydrologic Unit 12070201, in intake structure at Proctor Lake on Leon River, 2.0 mi upstream from U.S. Highways 67 and 377, 3.5 mi west of Proctor, and 228.1 mi upstream from mouth.

DRAINAGE AREA.--1,259 mi².

WATER-CONTENT 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, non-recording gage at same site and datum.

REMARKS.--The lake is formed by a reinforced concrete gated structure and rolled earthfill dam, total length 13,460 ft. The lake was operated as a detention basin from Jan. 30 to July 5, 1963. The gates were closed July 6, 1963, but the lake was operated to elevation 1,156.0 ft until construction was completed. Deliberate impoundment began Sept. 30, 1963. The spillway is a gated concrete gravity structure located on the left bank, with an ogee weir section and stilling basin. The spillway is controlled by eleven 40.0- by 35.0-foot tainter gates. The spillway was designed to discharge 431,800 ft³/s at an elevation of 1,201.0 ft. The lake is operated for flood control and water conservation. Inflow is partly regulated by one major reservoir (see station 08099000). Inflow is also affected at times by discharge from the flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 43,690 acre-ft. These structures control runoff from 172 mi² in the Leon River and Rush Creek drainage basins. The capacity table is based on a survey made in 1946. Borrow is not included in capacity totals. Satellite height telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,206.0	-
Design flood.....	1,201.0	433,000
Top of gates.....	1,197.0	374,200
Crest of spillway (top of conservation pool).....	1,162.0	59,400
Lowest gated outlet (invert).....	1,128.0	68

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 383,100 acre-ft May 2, 1990 (elevation, 1,197.63 ft); minimum since first filling of lake, 18,900 acre-ft Oct. 4, 1984 (elevation, 1,149.37 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 150,900 acre-ft May 16 (elevation, 1,176.56 ft); minimum daily, 42,570 acre-ft Oct. 11 (elevation, 1,157.94 ft).

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

1,157.0	32,210	1,172.0	116,900	1,184.0	218,100
1,158.0	42,793	1,175.0	138,700	1,186.0	238,900
1,161.0	54,890	1,178.0	162,700	1,188.0	260,800
1,164.0	69,060	1,181.0	189,200	1,190.0	283,900
1,168.0	91,170				

BRAZOS RIVER BASIN

255

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43350	73670	59480	59530	60410	59850	58980	58470	136000	73510	59210	53670
2	43310	72770	59670	59480	60320	59850	59070	58610	133700	72150	58930	53630
3	43420	71830	59850	59390	60230	59850	59070	58570	131500	71060	58750	53540
4	43310	71010	59760	59350	60270	59900	59020	58570	129100	69930	58520	53370
5	43240	70030	59760	59160	60270	59900	59250	58570	126500	68710	58290	53240
6	43090	69010	59720	59440	60230	59900	58840	58570	123900	68510	58020	53160
7	43010	68000	59720	59210	60230	59850	58700	58610	121000	68000	57790	53370
8	42980	67100	59720	59160	60320	59990	58610	58660	118500	67200	57570	53280
9	42870	66260	59810	59120	60180	59810	58610	59160	116800	66110	57340	53240
10	42680	65330	59810	59210	59990	59720	58610	64160	114600	69210	56980	53160
11	42570	64450	59670	59160	59950	59530	58800	90040	113200	73140	56760	53030
12	42870	63730	59850	59160	59950	59670	58610	110000	112800	72820	56530	52900
13	44630	62910	59850	59210	59850	59670	58470	131700	110700	71830	56350	52810
14	45850	62150	59760	59210	59810	59720	58430	145100	108300	71010	56170	52730
15	46120	61300	59670	59020	59810	59720	58430	149900	105700	70390	55910	52680
16	46360	60690	59670	59480	59810	59670	58340	150900	103100	69620	55600	53200
17	46590	60130	59720	59020	59720	59620	58250	150400	100400	68660	55240	53160
18	48340	59950	59670	58980	59760	59620	58160	149400	97640	67650	55160	53070
19	49510	59850	59620	58890	59850	59620	58110	148000	94990	66610	54850	52980
20	65130	59720	59620	59020	59810	59620	58520	146300	92310	65620	54890	52900
21	77030	59670	59620	59120	59950	59530	58430	144300	89740	64600	55200	52730
22	80160	59620	59810	59580	60930	59390	58430	141900	87330	63530	54980	52640
23	80650	59580	59760	59950	60690	59440	58380	139300	84890	62670	54850	52510
24	80540	59850	59720	60230	60320	59530	58340	136800	82620	61820	54630	52300
25	79990	59670	59720	60370	59990	59440	58250	134700	80320	60970	54410	52170
26	79270	59530	59670	60460	59720	59480	58290	134400	78890	60460	54150	52050
27	78450	59530	59720	60510	59670	59390	58290	137000	77680	60320	53980	51880
28	77580	59480	59670	60510	59850	59250	58380	137300	76650	59950	53760	51710
29	76930	59480	59580	60460	---	59210	58570	136500	75470	59810	53500	51540
30	75630	59440	59530	60510	---	59120	58380	136700	74040	59620	53280	51330
31	74570	---	59530	60510	---	59070	---	137700	---	59440	53630	---
MAX	80650	73670	59850	60510	60930	59990	59250	150900	136000	73510	59210	53670
MIN	42570	59440	59480	58890	59670	59070	58110	58470	74040	59440	53280	51330
(+)	1165.06	1162.01	1162.03	1162.04	1162.10	1161.93	1161.78	1174.87	1164.96	1162.01	1160.71	1160.17
(@)	+31070	-15130	+90	+980	-660	-780	-690	+79320	-63660	-14600	-5810	-2300
CAL YR 1993	MAX 80650	MIN 42570	(@) -650									
WTR YR 1994	MAX 150900	MIN 42570	(@) +7830									

(+) 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 and biochemical analyses: January 1964 to July 1982, January 1990 to current year.

REVISED RECORDS.--TX-93-2 Phytoplankton.

315814098291201 - PROCTOR LAKE SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
JAN										
11...	1030	59200	1.00	706	8.6	8.5	0.50	10.0	.88	39
11...	1035	--	10.0	706	8.6	8.0	--	9.9	.86	--
11...	1040	--	20.0	705	8.5	8.0	--	9.8	.85	--
11...	1043	--	29.0	707	8.5	8.0	--	9.6	.84	--
MAY										
04...	0902	58600	1.00	829	7.9	18.5	0.60	7.1	.79	K1
04...	0904	--	10.0	829	7.8	18.5	--	6.6	.73	--
04...	0906	--	15.0	829	7.8	18.5	--	6.5	.72	--
04...	0908	--	20.0	829	7.7	18.5	--	6.1	.68	--
04...	0910	--	27.0	832	7.6	18.5	--	5.0	.55	--
AUG										
03...	0821	58800	1.00	559	8.3	27.5	0.61	7.3	.96	K1
03...	0823	--	10.0	563	7.9	27.0	--	5.0	.65	--
03...	0825	--	15.0	564	7.6	27.0	--	2.5	.33	--
03...	0827	--	20.0	567	7.2	26.5	--	0	0	--
03...	0829	--	26.0	581	7.1	26.0	--	0	0	--

DATE	STREP- TOCOCCEI FECAL KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)
JAN									
11...	K2	200	96	50	18	64	2	7.3	100
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	200	94	50	18	65	2	7.2	100
MAY									
04...	K4	240	120	59	22	74	2	6.2	120
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	240	120	59	22	74	2	6.4	120
AUG									
03...	K1	170	47	46	14	43	1	7.0	130
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	180	40	48	14	42	1	7.0	140

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
JAN									
11...	62	120	0.20	3.1	387	0.140	0.140	0.020	0.160
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	62	120	0.20	3.2	389	0.140	0.140	0.020	0.160
MAY									
04...	78	140	0.20	2.2	451	--	--	<0.010	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	<0.010	--
04...	--	--	--	--	--	--	--	--	--
04...	78	140	0.30	2.8	454	--	--	<0.010	--
AUG									
03...	37	73	0.30	5.8	302	--	--	<0.010	--
03...	--	--	--	--	--	--	--	<0.010	--
03...	--	--	--	--	--	--	--	<0.010	--
03...	--	--	--	--	--	--	--	--	--
03...	31	74	0.30	8.7	312	--	--	<0.010	--

BRAZOS RIVER BASIN

257

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

315814098291201 - PROCTOR LAKE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
11...	0.160	0.020	0.28	0.30	0.010	<0.010	--	11	<1
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	0.160	0.030	0.37	0.40	0.010	<0.010	--	<3	2
MAY									
04...	<0.050	0.130	0.37	0.50	0.020	<0.010	--	<3	1
04...	--	--	--	--	--	--	--	--	--
04...	<0.050	0.150	0.45	0.60	0.020	<0.010	--	<10	20
04...	--	--	--	--	--	--	--	--	--
04...	<0.050	0.270	0.33	0.60	0.020	0.020	0.06	<3	200
AUG									
03...	<0.050	0.020	0.38	0.40	<0.010	<0.010	--	<3	36
03...	<0.050	0.040	0.36	0.40	0.030	0.010	0.03	<10	180
03...	<0.050	0.100	0.40	0.50	0.050	0.020	0.06	40	390
03...	--	--	--	--	--	--	--	--	--
03...	<0.050	0.670	0.33	1.0	0.170	0.150	0.46	380	2100

315823098282801 - PROCTOR LAKE SITE AL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
11...	1009	1.00	700	8.6	8.5	10.0	88
11...	1012	10.0	700	8.6	8.0	9.9	86
11...	1015	20.0	699	8.6	8.0	9.9	86
11...	1020	29.0	700	8.6	8.0	9.8	85
MAY							
04...	0926	1.00	828	7.8	18.5	6.5	72
04...	0928	10.0	828	7.7	18.5	6.0	67
04...	0930	20.0	826	7.7	18.5	5.8	64
04...	0932	28.0	828	7.5	18.0	4.1	45
AUG							
03...	0909	1.00	559	8.1	27.0	6.4	84
03...	0911	10.0	559	7.8	26.5	4.3	56
03...	0913	20.0	559	7.6	26.5	3.2	41
03...	0915	27.0	594	7.2	25.0	0.1	1

315832098302301 - PROCTOR LAKE SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
11...	1053	1.00	754	8.6	8.5	9.8	86
11...	1057	10.0	760	8.6	8.5	9.6	85
11...	1101	17.0	766	8.6	8.5	9.6	85
MAY							
04...	0942	1.00	832	8.0	19.0	7.4	83
04...	0944	10.0	834	7.8	18.5	6.8	75
04...	0946	17.0	846	7.8	18.0	5.6	61
AUG							
03...	0923	1.00	566	8.3	28.0	7.3	97
03...	0925	10.0	570	8.2	27.5	6.5	86
03...	0927	17.0	574	7.5	27.0	0.9	12

BRAZOS RIVER BASIN
08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

315837098314201 - PROCTOR LAKE SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
11...	1112	1.00	807	8.7	9.0	9.8	88
11...	1115	6.00	807	8.7	9.0	9.8	88
MAY							
04...	0958	1.00	859	8.3	18.0	9.1	100
04...	1000	6.00	857	8.3	18.0	8.8	97
AUG							
03...	0940	1.00	574	8.4	28.0	8.4	112
03...	0942	6.00	575	8.3	28.0	7.0	93

315943098273101 - PROCTOR LAKE SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
11...	0846	1.00	707	8.8	9.0	10.5	94
11...	0849	11.0	704	8.8	8.5	10.3	91
MAY							
04...	1016	1.00	829	7.9	18.0	7.1	78
04...	1018	10.0	827	7.8	18.0	7.0	77
AUG							
03...	1000	1.00	561	7.5	27.0	2.4	31
03...	1002	10.0	565	7.5	26.5	1.8	23

315924098285501 - PROCTOR LAKE SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
JAN												
11...	0905	1.00	700	8.8	8.0	0.40	10.4	91	K4	<2	200	89
11...	0910	10.0	700	8.8	8.0	--	10.4	91	--	--	--	--
11...	0915	20.0	706	8.7	8.0	--	9.9	86	--	--	210	99
MAY												
04...	1029	1.00	854	7.9	19.0	0.52	7.1	80	K1	K5	240	130
04...	1031	10.0	839	7.8	18.5	--	6.8	75	--	--	--	--
04...	1033	20.0	843	7.7	18.5	--	5.7	63	--	--	240	130
AUG												
03...	1013	1.00	554	8.4	28.0	0.61	8.2	109	<1	K2	170	48
03...	1015	5.00	555	8.3	27.5	--	7.4	98	--	--	--	--
03...	1017	10.0	569	7.3	27.0	--	0.6	8	--	--	--	--
03...	1019	19.0	565	7.3	26.5	--	0	0	--	--	170	43

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END CACO3 (MG/L)	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 CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
11...	53	17	63	2	7.1	110	61	110	0.20	2.9	382	0.052
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	56	17	61	2	7.1	110	61	110	0.20	3.0	382	0.051
MAY												
04...	61	22	77	2	7.6	120	81	150	0.30	2.4	470	--
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	61	22	77	2	7.6	120	80	140	0.30	2.9	460	--
AUG												
03...	48	13	42	1	6.9	120	36	76	0.30	5.8	303	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	47	13	44	1	6.8	130	34	75	0.30	6.8	305	--

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

315924098285501 - PROCTOR LAKE SITE EC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN												
11...	0.052	0.010	0.062	0.062	0.020	0.38	0.40	<0.010	<0.010	--	<3	<1
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	0.051	0.010	0.061	0.061	0.020	0.28	0.30	<0.010	<0.010	--	<3	3
MAY												
04...	--	<0.010	--	<0.050	0.130	0.27	0.40	0.020	<0.010	--	3	<1
04...	--	<0.010	--	<0.050	0.140	0.46	0.60	0.020	<0.010	--	<10	<10
04...	--	<0.010	--	<0.050	0.210	0.39	0.60	0.030	0.010	0.03	5	60
AUG												
03...	--	<0.010	--	<0.050	0.020	0.58	0.60	0.020	<0.010	--	8	15
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	<0.010	--	<0.050	0.030	0.37	0.40	0.020	<0.010	--	30	100
03...	--	<0.010	--	<0.050	0.110	0.39	0.50	0.070	0.050	0.15	120	740

320040098293501 - PROCTOR LAKE SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
JAN											
11...	0944	1.00	784	8.6	8.5	0.40	9.8	86	K6	<2	250
11...	0950	9.00	788	8.6	8.0	--	9.9	86	--	--	250
MAY											
04...	1053	1.00	952	8.0	18.0	0.30	7.5	82	K1	K5	270
04...	1055	9.00	953	8.0	18.0	--	7.5	82	--	--	270
AUG											
03...	1038	1.00	565	8.4	28.0	0.30	8.3	110	<1	K2	170
03...	1040	4.00	567	8.2	27.5	--	7.0	92	--	--	--
03...	1042	8.00	567	8.2	27.5	--	6.6	87	--	--	170

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN											
11...	100	70	18	65	2	6.7	150	69	120	0.20	4.3
11...	100	70	18	64	2	6.8	150	69	120	0.20	4.4
MAY											
04...	140	70	23	88	2	6.5	130	91	170	0.30	2.7
04...	120	70	23	88	2	6.4	150	91	160	0.30	2.7
AUG											
03...	52	48	13	46	2	6.8	120	39	77	0.30	5.8
03...	--	--	--	--	--	--	--	--	--	--	--
03...	52	48	13	44	1	6.9	120	39	79	0.30	5.8

DATE	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
11...	442	<0.010	<0.050	0.020	0.28	0.30	0.020	<0.010	--	<3	<1
11...	441	<0.010	<0.050	0.020	0.28	0.30	<0.010	<0.010	--	<3	<1
MAY											
04...	529	<0.010	<0.050	0.170	0.33	0.50	0.010	0.010	0.03	<3	1
04...	530	<0.010	<0.050	0.170	0.33	0.50	0.020	0.010	0.03	<3	3
AUG											
03...	309	<0.010	<0.050	0.020	0.58	0.60	0.040	0.020	0.06	160	31
03...	--	<0.010	<0.050	0.020	0.58	0.60	0.040	0.030	0.09	260	50
03...	309	<0.010	<0.050	0.020	0.48	0.50	0.030	0.020	0.06	150	24

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

Proctor Lake Site AC (315814098291201)

Phytoplankton Analyses October 1993 to September 1994

Date	1-11-94
Time	1030

TOTAL CELLS/mL	18,201
NUMBER OF SPECIES	18
DEPTH COLLECTED (ft.)	0.8

OrganismsCells/mL

BACILLARIOPHYTA

Order Centrales

Cyclotella ocellata

149

Order Pennales

Diatoma hiemale

67

Fragilaria crotonensis var. *prolongata*

932

Navicula gracilis

200

Syndera ulna

200

CHLOROPHYTA

Ankistrodesmus falcatus

1,011

Chlamydomonas sp.

327

Closterium diana

30

Cosmarium sp.

30

Elakatothrix gelatinosa

59

Pediastrum duplex

89

Scenedesmus bijuga

59

Scenedesmus opoliensis

357

Selenastrum Westii

892

CYANOPHYTA

Aphanocapsa delicatissima

10,409

Chroococcus limneticus

2,974

EUGLENOPHYTA

Trachelomonas spp.

89

CRYPTOPHYTA

Cryptomonas erosa

327

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

Proctor Lake Site FC (320040098293501)

Phytoplankton Analyses October 1993 to September 1994

Date	1-11-94
Time	0944

TOTAL CELLS/mL	12,162
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	0.7

OrganismsCells/mL

BACILLARIOPHYTA

Order Centrales

Cyclotella ocellata

59

Order Pennales

Cocconeis placentula

102

Fragilaria crotonensis var. *prolongata*

1,533

CHLOROPHYTA

Ankistrodesmus falcatus

1,963

Chlamydomonas sp.

119

Cosmarium sp.

59

Pediastrum duplex

89

Scenedesmus opoliensis

119

Selenastrum Westii

327

CYANOPHYTA

Aphanizomenon flos-aquae

1,190

Aphanocapsa delicatissima

5,651

Chroococcus limneticus

238

Merismopedia tenuissima

476

EUGLENOPHYTA

Phacus sp.

59

Trachelomonas spp.

78

08099400 PROCTOR LAKE NEAR PROCTOR, TX-Continued

Proctor Lake Site AC (315814098291201)

Phytoplankton Analyses October 1993 to September 1994

Date	5-4-94
Time	0902

TOTAL CELLS/mL	7,910
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	1.0

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	119
Order Pennales	
<i>Fragilaria crotonensis</i>	357
CHLOROPHYTA	
<i>Actinastrum hantzschii</i>	89
<i>Ankistrodesmus falcatus</i>	89
<i>Cosmarium</i> sp.	89
<i>Pediastrum duplex</i>	89
<i>Scenedesmus bijuga</i>	119
<i>Scenedesmus opoliensis</i>	535
<i>Selenastrum Westii</i>	119
<i>Staurastrum</i> sp.	59
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	3,569
<i>Chroococcus limneticus</i>	1,487
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	744
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	446

BRAZOS RIVER BASIN

263

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

Proctor Lake Site FC (320040098293501)

Phytoplankton Analyses October 1993 to September 1994

Date	5-4-94
Time	1053

TOTAL CELLS/mL	6,512
NUMBER OF SPECIES	9
DEPTH COLLECTED (ft.)	0.50

<u>Organisms</u>	<u>Cells/mL</u>
------------------	-----------------

BACILLARIOPHYTA

Order Pennales

Fragilaria crotonensis

416

CHLOROPHYTA

Ankistrodesmus falcatus

268

Pediastrum duplex

238

Scenedesmus bijuga

30

Scenedesmus opoliensis

59

CYANOPHYTA

Aphanocapsa delicatissima

3,271

Chroococcus limneticus

119

Merismopedia tenuissima

1,903

EUGLENOPHYTA

Trachelomonas sp.

208

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

Proctor Lake Site AC (315814098291201)

Phytoplankton Analyses October 1993 to September 1994

Date	8-3-94
Time	821
TOTAL CELLS/mL	62,602
NUMBER OF SPECIES	13
DEPTH COLLECTED (ft.)	1.0

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	119
Order Pennales	
<i>Cymbella parva</i>	89
<i>Fragilaria crotonensis</i>	119
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	892
<i>Cosmarium</i> sp.	149
<i>Mougeotia</i> sp.	297
<i>Scenedesmus quadricauda</i>	89
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	53,532
<i>Aphanocapsa delicatissima</i>	5,056
<i>Chroococcus limneticus</i>	1,071
<i>Merismopedia tenuissima</i>	1,071
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	59
PYRRHOPHYTA	
<i>Peridinium pusillum</i>	59

BRAZOS RIVER BASIN

265

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued

Proctor Lake Site FC (320040098293501)

Phytoplankton Analyses October 1993 to September 1994

Date	8-3-94
Time	

TOTAL CELLS/mL	37,442
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	0.50

OrganismsCells/mL

BACILLARIOPHYTA

Order Centrales

Cyclotella ocellata

238

Order Pennales

Cocconeis placentula

42

Cymbella parva

42

Fragilaria crotonensis

212

CHLOROPHYTA

Ankistrodesmus falcatus

268

Mougeotia sp.

535

Pediastrum duplex

59

Scenedesmus bijuga

30

Scenedesmus quadricauda

59

CYANOPHYTA

Aphanizomenon flos-aquae

28,848

Aphanocapsa delicatissima

5,056

Chroococcus limneticus

238

Merismopedia tenuissima

1,190

Oscillatoria angustissima

595

PYRRHOPHYTA

Peridinium pusillum

30

BRAZOS RIVER BASIN

08099500 LEON RIVER NEAR HASSE, TX

LOCATION.--Lat 31°57'28", long 98°27'32", Comanche County, Hydrologic Unit 12070201, at left bank near upstream end of bridge on U.S. Highways 67 and 377, 500 ft upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 0.3 mi upstream from Walnut Creek, 2.0 mi downstream from Proctor Lake, 2.1 mi northeast of Hasse, and 225.2 mi upstream from mouth.

DRAINAGE AREA.--1,261 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1982, October 1990 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	
JAN 11...	1250	48	765	8.2	10.5	25	20	10.5	97	2.8	210	92	
MAY 04...	1330	28	900	7.8	19.5	14	9.7	8.8	100	1.6	260	120	
AUG 03...	1150	121	580	7.7	26.5	22	26	5.5	71	1.5	170	46	
DATE		CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CaCO3 (MG/L)	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)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
JAN 11...	52	19	66	2	7.2	120	68	130	0.20	2.6	417	50	
MAY 04...	66	23	80	2	6.6	150	83	150	0.30	3.3	501	28	
AUG 03...	48	13	41	1	6.8	130	38	77	0.30	6.2	308	61	
DATE		RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	
JAN 11...	11	39	0.150	0.150	0.020	0.170	0.170	0.040	0.26	0.30	<0.010		
MAY 04...	12	16	0.140	0.140	0.010	0.150	0.150	0.080	0.32	0.40	0.030		
AUG 03...	6	55	0.072	0.072	0.010	0.082	0.082	0.080	0.42	0.50	0.040		
DATE		PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	
JAN 11...	<0.010	--	7.8	<1	100	0.8	<1.0	<5	<3	<10	<3		
MAY 04...	0.020	0.06	7.1	1	110	<0.5	<1.0	<5	<3	<10	16		
AUG 03...	0.030	0.09	8.5	3	81	<0.5	<1.0	<5	<3	<10	<3		
DATE		LEAD, DIS-SOLVED (UG/L AS Pb)	LITHIUM DIS-SOLVED (UG/L AS Li)	MANGA-NESE, DIS-SOLVED (UG/L AS Mn)	MERCURY DIS-SOLVED (UG/L AS Hg)	MOLYB-DENUM, DIS-SOLVED (UG/L AS Mo)	NICKEL, DIS-SOLVED (UG/L AS Ni)	SELE-NIUM, DIS-SOLVED (UG/L AS Se)	SILVER, DIS-SOLVED (UG/L AS Ag)	STRON-TIUM, DIS-SOLVED (UG/L AS Sr)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS Zn)	
JAN 11...	<10	5	27	<0.1	<10	<10	<1	<1.0	450	<6	<3		
MAY 04...	<10	9	15	<0.1	<10	<10	<1	<1.0	540	<6	15		
AUG 03...	<10	<4	84	<0.1	<10	<10	<1	<1.0	330	<6	<3		

BRAZOS RIVER BASIN

267

08100000 LEON RIVER NEAR HAMILTON, TX

LOCATION.--Lat 31°47'19", long 98°07'16", Hamilton County, Hydrologic Unit 12070201, at downstream side of bridge on U.S. Highway 281, 2.2 mi upstream from Mesquite Creek, 3.6 mi downstream from Bear Creek, 5.9 mi north of Hamilton, and 172.9 mi upstream from mouth.

DRAINAGE AREA.--1,891 mi².

PERIOD OF RECORD.--January 1925 to September 1931, September 1960 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 955.38 ft above National Geodetic Vertical Datum of 1929. Jan. 7, 1925, to Sept. 30, 1931, nonrecording gage 1.4 mi downstream at datum 1.87 ft higher. Sept. 1 to Nov. 22, 1960, nonrecording gage at same site and at 5.00-foot higher datum. Nov. 22, 1960, to Sept. 30, 1972, recording gage at same site and at 5.00-foot higher datum.

REMARKS.--No estimated daily discharges. Records good. Since 1960 this station has been regulated by Proctor Lake (station 08099400) 54 miles upstream and by several other smaller reservoirs. There are numerous diversions above station for irrigation, municipal supply, and for industrial uses. Flow is affected at times by discharge from the flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 11,610 acre-ft. These structures control runoff from 43.9 mi². Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION 9 years (water years 1926-31, 1961-63) prior to regulation by Proctor Lake 148 ft³/s (107,500 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1926-31, 1961-63).--Maximum discharge, 18,600 ft³/s Sept. 9, 1962 (gage height, 26.93 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1858, 38.4 ft in May 1908 and December 1913; flood in September 1911 reached a stage of 37.0 ft, all at present site and datum, from information by local residents. The flood in October 1959 reached a stage of 34.1 ft, present datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	510	42	42	55	80	36	35	1660	560	55	26
2	6.2	513	42	42	56	73	37	36	1560	533	56	72
3	6.8	515	45	42	57	78	35	36	1530	529	50	472
4	8.9	514	44	42	63	78	35	33	1540	510	43	148
5	13	506	45	43	64	74	39	31	1520	497	42	77
6	14	497	45	42	63	71	40	31	1510	700	36	48
7	14	500	44	42	64	70	35	29	1520	1290	37	40
8	12	498	43	42	64	69	44	27	1550	662	40	170
9	11	503	42	42	63	75	40	31	1530	554	41	114
10	12	499	42	42	63	73	33	92	1590	549	36	95
11	12	496	41	43	66	77	32	2980	1620	1550	31	60
12	11	490	41	41	65	68	28	5960	1900	997	28	47
13	238	490	43	42	60	63	27	6480	1590	673	27	39
14	124	497	42	42	58	60	25	3960	1490	625	25	36
15	87	491	42	43	59	60	24	1910	1390	750	30	92
16	32	484	42	41	57	61	20	1510	1400	568	32	82
17	21	446	42	44	52	59	17	1710	1410	542	26	69
18	337	425	42	44	49	59	14	1910	1400	530	26	51
19	298	244	41	46	54	57	14	1740	1470	496	27	42
20	616	126	41	48	88	56	17	1660	1490	479	22	36
21	698	75	41	45	88	55	27	1610	1450	459	21	33
22	127	63	42	42	203	53	116	1480	1390	442	27	30
23	417	50	45	45	176	53	68	1420	1330	430	61	29
24	534	47	47	54	138	53	52	1520	1280	375	45	29
25	546	46	49	58	263	50	40	1560	1230	355	42	29
26	538	46	46	51	309	48	34	1590	1180	314	42	35
27	527	45	44	49	293	49	32	2240	1100	170	36	35
28	521	46	43	46	141	46	29	2350	680	96	31	29
29	519	44	43	46	---	47	29	1490	534	61	26	27
30	513	43	42	45	---	48	33	1750	572	44	27	27
31	515	---	42	52	---	42	---	1920	---	37	24	---
TOTAL	7335.1	9749	1335	1388	2831	1905	1052	49131	41416	16377	1092	2119
MEAN	237	325	43.1	44.8	101	61.5	35.1	1585	1381	528	35.2	70.6
MAX	698	515	49	58	309	80	116	6480	1900	1550	61	472
MIN	6.2	43	41	41	49	42	14	27	534	37	21	26
AC-FT	14550	19340	2650	2750	5620	3780	2090	97450	82150	32480	2170	4200

BRAZOS RIVER BASIN

08100000 LEON RIVER NEAR HAMILTON, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994#, BY WATER YEAR (WY)

MEAN	81.3	80.5	138	140	194	180	232	502	386	267	122	111
MAX	719	823	2581	1839	2121	1036	1127	4284	1780	1395	977	961
(WY)	1965	1992	1992	1992	1992	1992	1968	1990	1990	1992	1992	1986
MIN	.044	.041	.040	1.49	1.43	.58	.38	1.16	2.09	.26	3.76	2.41
(WY)	1968	1983	1979	1981	1981	1986	1984	1984	1971	1964	1981	1969

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1964 - 1994#
ANNUAL TOTAL	75767.04	135730.1	
ANNUAL MEAN	208	372	203
HIGHEST ANNUAL MEAN			1219
LOWEST ANNUAL MEAN			3.92
HIGHEST DAILY MEAN	1440	6480	21200
LOWEST DAILY MEAN	.68	6.2	.00
ANNUAL SEVEN-DAY MINIMUM	2.8	9.9	.00
INSTANTANEOUS PEAK FLOW		7330	32100
INSTANTANEOUS PEAK STAGE		26.07	35.02
INSTANTANEOUS LOW FLOW		5.6	.00
ANNUAL RUNOFF (AC-FT)	150300	269200	146900
10 PERCENT EXCEEDS	527	1470	548
50 PERCENT EXCEEDS	69	55	15
90 PERCENT EXCEEDS	7.1	27	.70

Period of regulated streamflow.

BRAZOS RIVER BASIN

269

08100500 LEON RIVER AT GATESVILLE, TX

LOCATION.--Lat 31°25'58", long 97°45'42", Coryell County, Hydrologic Unit 12070201, on right bank at upstream side of county road bridge, 800 ft downstream from U.S. Highway 84 bridge in Gatesville, 0.3 mi downstream from Dodds Creek, 5.2 mi upstream from Cottonwood Creek, and 99.0 mi upstream from mouth.

DRAINAGE AREA.--2,342 mi².

PERIOD OF RECORD.--October 1950 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 723.85 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1950, to Feb. 8, 1951, nonrecording gage; Feb. 9, 1951, to Jan. 21, 1969, water-stage recorder; all at site 800 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Some upstream regulation by Proctor Lake (08099400) since July 6, 1963, and other smaller reservoirs. Flow at times is slightly affected by discharge from 18 floodwater-retarding structures with a combined detention capacity of 12,600 acre-ft. These structures control runoff from 47.0 mi² in the northeast tributaries and Pecan Creek drainage basins. There are numerous diversions above station for irrigation, municipal supply, and oil field operation. The city of Hamilton, located about 70 mi upstream from this station, diverts flow from the river for municipal use and returned sewage effluent to the stream. The city of Gatesville obtains all of their municipal water supply from ground-water wells, but discharges sewage effluent back to the Leon River downstream from this station. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--13 years, (water year 1951-1963), 267 ft³/s (193,400 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1951-1963).--Maximum discharge, 51,200 ft³/s Oct. 4, 1959 (gage height, 34.14 ft), from rating curve extended above 41,000 ft³/s; no flow at times in 1951-52 and 1954-55.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, about 35 ft in May 1908, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	516	61	50	50	322	56	40	2040	635	83	78
2	11	516	61	48	51	186	52	41	1830	645	67	278
3	15	517	61	47	64	126	50	43	1570	623	69	58
4	15	518	58	47	66	109	47	45	1470	614	82	228
5	9.9	510	60	46	67	114	46	46	1470	603	78	385
6	8.1	502	59	46	76	115	41	45	1440	596	66	195
7	8.1	491	58	46	82	105	43	40	1430	617	60	118
8	7.6	495	60	46	83	101	48	38	1410	1140	57	76
9	9.8	498	58	45	84	189	46	72	1430	812	52	64
10	10	495	56	44	90	136	46	193	1420	641	52	310
11	10	491	53	45	90	133	53	399	1520	622	54	163
12	9.4	487	53	46	91	114	45	2000	1560	1140	53	143
13	18	484	59	55	90	118	35	4530	1880	1200	46	97
14	41	486	54	56	88	106	34	5240	1670	751	40	73
15	199	480	52	51	80	93	33	5830	1440	689	35	65
16	148	508	50	49	75	88	32	4300	1330	762	35	69
17	107	489	50	48	77	87	28	1850	1300	657	32	154
18	58	467	51	46	76	85	26	1760	1320	621	36	237
19	91	440	51	44	72	81	23	2020	1300	609	42	120
20	416	400	51	48	67	80	20	1900	1350	589	36	80
21	313	271	50	53	70	75	19	1750	1380	567	27	62
22	789	182	57	55	491	69	20	1650	1360	554	31	54
23	390	122	55	55	434	69	23	1490	1310	533	29	47
24	242	101	54	51	354	68	134	1350	1280	521	26	43
25	492	83	54	50	264	65	101	1400	1230	487	49	38
26	543	73	57	53	233	65	70	1470	1180	441	62	36
27	543	67	61	73	371	62	57	1730	1130	433	51	36
28	532	65	60	66	371	57	47	2300	1070	345	47	35
29	527	63	55	58	---	56	48	2670	829	238	47	42
30	519	62	51	53	---	54	47	2110	643	156	39	41
31	514	---	50	51	---	53	---	2010	---	109	32	---
TOTAL	6603.1	10879	1720	1571	4107	3181	1370	50362	41592	18950	1515	3425
MEAN	213	363	55.5	50.7	147	103	45.7	1625	1386	611	48.9	114
MAX	789	518	61	73	491	322	134	5830	2040	1200	83	385
MIN	7.2	62	50	44	50	53	19	38	643	109	26	35
AC-FT	13100	21580	3410	3120	8150	6310	2720	99890	82500	37590	3010	6790

BRAZOS RIVER BASIN

08100500 LEON RIVER AT GATESVILLE, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994#, BY WATER YEAR (WY)

MEAN	110	124	236	204	337	313	366	724	537	320	138	139
MAX	714	907	4580	2517	3752	1939	1501	4899	2191	1472	1055	868
(WY)	1965	1992	1992	1992	1992	1992	1977	1990	1987	1992	1992	1986
MIN	.42	1.18	.39	1.50	5.02	7.06	.64	4.66	2.22	.17	.041	.000
(WY)	1979	1979	1984	1984	1984	1986	1984	1984	1978	1978	1984	1984

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1964 - 1994#	
ANNUAL TOTAL	118858.8		145275.1		295	
ANNUAL MEAN	326		398		1758	
HIGHEST ANNUAL MEAN					6.22	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	2580	Feb 4	5830	May 15	49100	Dec 21 1991
LOWEST DAILY MEAN	3.1	Aug 22	7.2	Oct 1	.00	Jul 21 1971
ANNUAL SEVEN-DAY MINIMUM	4.3	Aug 21	9.0	Oct 6	.00	Aug 13 1984
INSTANTANEOUS PEAK FLOW			6130	May 15	68000	Dec 21 1991
INSTANTANEOUS PEAK STAGE			22.23	May 15	35.00	Dec 21 1991
INSTANTANEOUS LOW FLOW			6.4	Oct 1	.00	Jul 21 1971
ANNUAL RUNOFF (AC-FT)	235800		288200		214000	
10 PERCENT EXCEEDS	830		1350		726	
50 PERCENT EXCEEDS	157		76		34	
90 PERCENT EXCEEDS	10		36		1.6	

Period of regulated streamflow.

PERIOD OF RECORD.--Chemical and biochemical analyses: December 1993 to August 1994.

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)
DEC 03...	1116	68	852	7.8	13.0	17	7.4	7.6	74	1.3	260	87
JAN 18...	1227	49	983	8.2	7.5	13	1.7	12.5	105	0.6	330	110
MAR 23...	1024	73	860	8.3	20.0	14	10	7.1	81	1.6	300	79
MAY 23...	1236	1630	573	7.9	21.5	35	230	7.4	86	0.8	190	58
JUL 27...	1058	489	597	7.5	28.0	14	5.9	6.2	81	1.0	190	54
AUG 31...	1025	36	839	7.6	28.0	11	6.2	5.9	78	0.7	270	54

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	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)	RESIDUE TOTAL AT 105 DEG. C SUS- PENDE (MG/L)
DEC 03...	67	22	66	2	6.7	170	64	120	0.30	7.2	461	28
JAN 18...	78	32	75	2	5.8	220	84	130	0.40	0.50	538	4
MAR 23...	77	26	59	1	5.6	220	68	100	0.40	3.6	476	35
MAY 23...	52	14	41	1	7.0	130	45	71	0.20	6.9	317	560
JUL 27...	51	16	47	1	6.7	140	40	77	0.30	7.5	332	168
AUG 31...	72	23	47	1	5.5	220	56	100	0.40	9.5	450	7

DATE	RESIDUE VOLATILE, SUSPENDED (MG/L)	RESIDUE FIXED NON FILTERABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
DEC 03...	11	17	0.770	0.770	0.010	0.780	0.780	0.160	0.34	0.50	0.230
JAN 18...	2	2	0.450	0.450	0.020	0.470	0.470	0.040	0.26	0.30	0.110
MAR 23...	6	29	0.520	0.520	0.040	0.560	0.560	0.120	0.28	0.40	0.140
MAY 23...	64	496	0.310	0.310	0.040	0.350	0.350	<0.010	--	0.40	0.360
JUL 27...	31	137	0.580	--	<0.010	0.580	0.580	0.060	0.84	0.90	0.100
AUG 31...	4	3	0.680	0.680	0.020	0.700	0.700	0.040	0.26	0.30	0.210

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

BRAZOS RIVER BASIN

273

08101000 COWHOUSE CREEK AT PIDCOKE, TX

LOCATION.--Lat 31°17'05", long 97°53'05", Coryell County, Hydrologic Unit 12070202, on left bank 125 ft downstream from bridge on Farm Road 116, 0.1 mi downstream from Bee House Creek, 0.6 mi northeast of Pidcoke, 4.9 mi upstream from Table Rock Creek, and 34.6 mi upstream from mouth.

DRAINAGE AREA.--455 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1712: 1955. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 736.71 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No known diversion above station. Several observations of water temperatures were made during the year. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	2000	4,220	11.97				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.8	11	8.8	5.6	20	12	12	118	4.1	.36	1.0
2	1.6	2.8	11	8.7	5.5	18	12	11	93	3.3	.24	.29
3	2.2	3.3	11	7.7	5.4	16	13	10	79	2.9	.22	.297
4	2.7	3.2	11	7.5	5.6	16	12	10	70	2.2	.22	.45
5	3.0	2.7	11	7.3	5.4	16	12	9.7	61	2.0	.22	.11
6	2.7	2.3	11	7.2	5.5	16	11	9.4	55	6.8	7.7	4.0
7	2.4	2.2	11	7.1	5.3	15	11	9.2	49	8.5	1.1	1.7
8	2.2	2.5	14	6.9	5.3	16	11	8.7	43	6.7	.54	1.4
9	2.1	2.5	11	6.6	5.3	26	10	68	38	4.0	.54	6.6
10	2.0	2.7	11	6.6	6.1	27	10	92	460	2.8	.54	.34
11	2.1	2.9	11	6.8	6.5	25	10	279	133	2.0	.54	.19
12	2.1	3.0	11	6.8	7.2	21	10	1590	128	1.8	.54	7.2
13	82	3.0	12	7.7	6.9	20	9.2	1920	75	1.8	.54	3.2
14	52	7.1	12	7.9	6.5	20	8.8	1180	56	1.6	.54	1.7
15	17	5.5	11	8.1	6.7	19	8.8	297	44	1.6	.54	2.4
16	9.8	14	11	7.3	6.4	18	8.7	242	37	1.3	.54	.18
17	6.7	29	12	7.2	6.4	17	8.1	236	31	1.2	.54	.16
18	5.3	17	12	6.4	6.1	18	8.0	143	26	1.2	.54	3.2
19	44	14	12	5.9	6.0	16	7.7	110	23	1.2	.54	1.7
20	22	12	11	5.8	6.2	15	7.4	92	20	1.1	.54	1.2
21	12	11	11	6.5	26	15	8.5	81	18	1.0	10	1.0
22	8.0	11	13	6.3	171	14	9.2	71	16	1.0	5.5	1.0
23	6.4	11	13	6.4	112	14	9.8	66	16	1.0	1.5	.80
24	5.9	11	13	6.6	49	14	11	60	20	1.0	.62	.75
25	5.0	11	12	6.4	32	14	11	54	13	1.0	.69	.75
26	4.5	12	11	6.3	25	14	32	55	9.6	.81	.63	.75
27	3.4	11	11	6.1	21	14	17	371	8.2	.54	.58	.72
28	3.2	11	10	5.9	20	14	12	202	6.8	.54	.75	.54
29	3.6	11	9.7	5.6	---	13	22	99	5.9	.38	.75	.54
30	3.2	12	9.1	5.3	---	12	19	1050	5.0	.36	.94	.54
31	2.9	---	8.9	5.4	---	12	---	218	---	.36	1.0	---
TOTAL	323.6	246.5	349.7	211.1	575.9	525	352.2	8656.0	1757.5	66.09	40.04	511.69
MEAN	10.4	8.22	11.3	6.81	20.6	16.9	11.7	279	58.6	2.13	1.29	17.1
MAX	82	29	14	8.8	171	27	32	1920	460	8.5	10	297
MIN	1.6	2.2	8.9	5.3	5.3	12	7.4	8.7	5.0	.36	.22	.54
AC-FT	642	489	694	419	1140	1040	699	17170	3490	131	79	1010
CFSM	.02	.02	.02	.01	.05	.04	.03	.61	.13	.00	.00	.04
IN.	.03	.02	.03	.02	.05	.04	.03	.71	.14	.01	.00	.04

BRAZOS RIVER BASIN

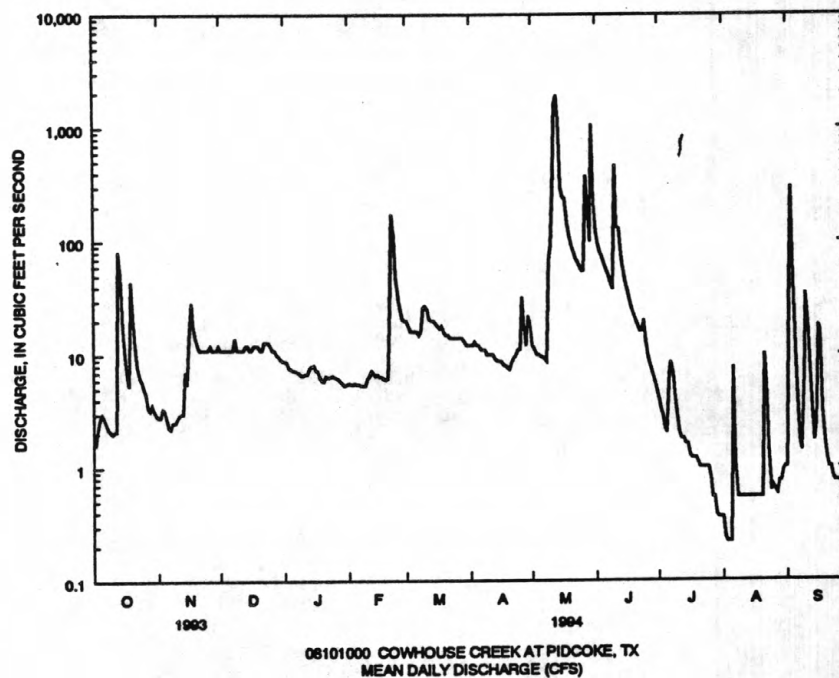
08101000 COWHOUSE CREEK AT PIDCOKE, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1994, BY WATER YEAR (WY)

MEAN	86.4	36.8	84.7	73.8	118	104	121	233	113	36.4	17.2	34.7
MAX	1416	425	1894	767	1573	637	1033	2116	702	399	240	433
(WY)	1960	1966	1992	1961	1992	1970	1957	1965	1987	1976	1966	1970
MIN	.000	.000	.000	.000	.000	.010	.000	.76	.073	.000	.000	.000
(WY)	1952	1952	1952	1952	1952	1952	1956	1978	1956	1954	1951	1952

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1951 - 1994
ANNUAL TOTAL	35254.2	13615.32	88.2
ANNUAL MEAN	96.6	37.3	482
HIGHEST ANNUAL MEAN			1.18
LOWEST ANNUAL MEAN			1992
HIGHEST DAILY MEAN	1580 Feb 4	1920 May 13	35200 Oct 4 1959
LOWEST DAILY MEAN	1.6 Oct 1	.22 Aug 3	.00 May 21 1951
ANNUAL SEVEN-DAY MINIMUM	2.2 Oct 6	.28 Jul 30	.00 Jul 6 1951
INSTANTANEOUS PEAK FLOW		4220 May 12	a110000 Dec 20 1991
INSTANTANEOUS PEAK STAGE		11.97 May 12	b44.30 Dec 20 1991
INSTANTANEOUS LOW FLOW		.22 Aug 2	.00 May 21 1951
ANNUAL RUNOFF (AC-FT)	69930	27010	63910
ANNUAL RUNOFF (CFSM)	.21	.082	.19
ANNUAL RUNOFF (INCHES)	2.88	1.11	2.63
10 PERCENT EXCEEDS	236	55	138
50 PERCENT EXCEEDS	33	8.7	5.8
90 PERCENT EXCEEDS	3.0	.78	.00

- a From rating curve extended above 30,000 ft³/s on basis of slope-area measurement of 55,800 ft³/s and field measurement (flow over roadway and straight line extension) of 110,000 ft³/s.
- b From floodmark.



WATER-QUALITY RECORDS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)
DEC 03...	1238	13	523	8.1	17.0	8	0.40	8.1	86	0.9	250	23
JAN 18...	1408	4.0	538	8.2	8.5	8	0.50	12.3	106	0.2	260	41
MAR 23...	1126	15	500	8.0	21.0	8	0.60	8.5	99	1.1	230	24
MAY 23...	1407	37	488	8.1	25.0	13	2.5	9.4	117	0.8	230	20
JUL 27...	1207	1.4	453	8.2	29.0	8	0.50	9.0	120	0.8	210	18
AUG 31...	1140	2.3	388	8.4	30.0	7	0.20	10.7	145	1.0	180	16

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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 03...	60	25	13	0.4	2.4	230	29	18	0.20	6.2	295
JAN 18...	62	26	16	0.4	1.9	220	34	20	0.30	4.2	298
MAR 23...	55	22	16	0.5	1.9	210	32	23	0.40	6.2	281
MAY 23...	63	18	16	0.5	3.0	210	28	19	0.30	12	287
JUL 27...	46	23	19	0.6	3.0	190	24	22	0.30	14	267
AUG 31...	42	19	16	0.5	3.0	170	18	17	0.30	14	229

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L)	RESIDUE FIXED NON FILTER- ABLE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
DEC 03...	<1	3	--	0.270	<0.010	0.270	0.270	0.020	--	<0.20	0.040
JAN 18...	1	2	0	0.270	<0.010	0.270	0.270	0.030	--	<0.20	<0.010
MAR 23...	4	3	1	0.057	<0.010	0.057	0.057	0.020	--	<0.20	0.040
MAY 23...	7	4	3	--	<0.010	--	<0.050	<0.010	--	<0.20	0.050
JUL 27...	2	6	0	0.100	<0.010	0.100	0.100	0.030	0.77	0.80	<0.010
AUG 31...	<1	1	--	--	<0.010	--	<0.050	0.020	0.38	0.40	0.020

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

08102000 BELTON LAKE NEAR BELTON, TX

LOCATION.--Lat 31°06'22", long 97°28'28", Bell County, Hydrologic Unit 12070201, in intake structure at Belton Dam on Leon River, 1.6 mi upstream from bridge on State Highway 317, 3.5 mi north of Belton, 8.9 mi upstream from Nolan Creek, and 16.7 mi upstream from mouth.

DRAINAGE AREA.--3,531 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--March 1954 to current year. Prior to October 1970, published as Belton Reservoir.

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Feb. 20, 1955, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,524 ft long, including a 1,300-foot uncontrolled broad-crested spillway in a saddle near left end of dam and a 418-foot-long dike. Deliberate impoundment began Mar. 8, 1954, and the dam was completed in December 1954. The lake was built for flood control and conservation storage. The controlled outlet works consist of a 22.0-foot-diameter conduit that is controlled by three 7.0- by 22.0-foot broome-type gates. The service outlet consists of a 36- by 36-inch gated outlet that discharges into the flood-control conduit. Beginning January 1976, the capacity table is based on a sedimentation survey made in 1966. There are many small diversions upstream for irrigation, municipal supply, and oil field operations. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08100500. Satellite telemeter 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 of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,168,000 acre-ft Mar. 6, 1992 (elevation, 634.36 ft); minimum since initial filling, 113,400 acre-ft Dec. 16, 1956 (elevation, 553.06 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 486,900 acre-ft May 17 (elevation, 597.50 ft); minimum daily, 417,800 acre-ft Oct. 12 (elevation, 592.11 ft).

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

591.0	405,800	611.0	685,600	627.0	994,100
594.0	448,200	616.0	773,100	630.0	1,063,000
600.0	520,500	620.0	848,600	632.0	1,110,000
606.0	606,100	624.0	928,900	634.0	1,159,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	419800	429800	443700	444000	444000	449200	445700	445300	458600	453000	455800	446100
2	419700	431100	443500	444100	443800	446500	446500	445700	458000	453900	455600	447100
3	420000	431800	444700	443600	443800	444800	446100	445200	457000	454500	455200	447600
4	420000	432600	444000	443500	443800	445000	446100	445200	455300	455300	454700	447300
5	419800	433300	444000	443000	444000	445000	447000	444800	453500	455700	454400	447100
6	419500	433600	443700	443700	444000	445100	445600	444800	451900	457000	454000	447300
7	419300	434100	443700	443200	443800	445000	445100	445000	449700	457500	453800	446800
8	419100	434800	443700	443000	444000	445300	445100	444600	447700	458500	453400	446100
9	418800	435600	444000	442700	444500	444800	445200	453000	445700	460400	453400	445500
10	418300	436300	444000	443100	444800	444500	445300	456300	445200	461500	453300	444600
11	418000	437000	443700	443100	444500	444200	446100	458000	445300	462100	452900	444200
12	417800	437800	444300	443400	445500	444600	445500	456800	444600	462600	452600	444100
13	420100	438800	444300	443400	445000	444500	445500	467300	444100	464500	452300	443800
14	420100	439600	444100	443400	445000	444600	445300	476600	444000	466300	452000	443400
15	419900	440400	444000	443000	445200	444600	445500	480000	443800	466400	451600	443500
16	420000	442500	444100	443600	445300	444200	445100	485000	442900	465700	451000	443500
17	420000	443600	444100	443200	445200	444500	444800	486900	441900	465000	450700	443100
18	420300	444200	444000	443000	445100	444600	444800	482300	441600	464400	450100	442900
19	422300	445200	443800	442900	445300	444600	444800	477100	442400	463700	449500	442900
20	423500	445600	443800	443400	447000	444800	444800	472300	442700	463100	449400	442900
21	423900	446100	443800	443200	447300	444700	445200	467500	444200	463000	449700	442600
22	424100	446000	444500	443400	446300	444600	444600	462800	446500	462800	449400	442000
23	425200	446000	444500	443500	446100	445000	444200	457700	451400	462200	449100	441500
24	425700	446300	444500	443700	446150	446000	444000	453000	452000	460800	448700	441100
25	425800	445500	444200	444000	446000	445500	444200	448700	449900	460000	448400	440900
26	426600	444800	444000	444000	456400	446200	444200	446600	447600	460300	447900	440600
27	426900	444300	444100	444200	453500	446600	444300	449600	447300	460000	447300	439500
28	427300	443800	444500	444000	451800	446100	444600	453400	449200	459500	447100	439300
29	428700	443600	444000	444300	---	446200	445700	455000	451200	458700	446600	438800
30	428800	443600	444000	444100	---	446000	445300	458900	452400	457700	446200	437900
31	429200	---	444000	444200	---	445800	---	459100	---	456400	446000	---
MAX	429200	446300	444700	444300	464100	449200	447000	486900	458600	466400	455800	447600
MIN	417800	429800	443500	442700	443800	444200	444000	444600	441600	453000	446000	437900
(+)	592.96	594.13	594.16	594.18	594.78	594.31	594.27	594.79	594.83	595.15	594.32	593.67
(#)	+9100	+14400	+400	+200	+7600	-6000	-500	+13800	-6700	+4000	-10400	-8100

CAL YR 1993 MAX 620200 MIN 417600 (#) -38300
WTR YR 1994 MAX 486900 MIN 417800 (#) +17800

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

BRAZOS RIVER BASIN

08102000 BELTON LAKE NEAR BELTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1961 to September 1984, January to September 1994.

310640097283701 - BELTON LAKE SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
JAN										
19...	0925	443000	1.00	494	8.1	10.5	2.10	9.7	87	K2
19...	0927	--	10.0	494	8.1	10.5	--	9.7	87	--
19...	0929	--	20.0	496	8.1	10.5	--	9.8	88	--
19...	0931	--	30.0	496	8.1	10.5	--	9.7	87	--
19...	0933	--	40.0	495	8.1	10.5	--	9.8	88	--
19...	0935	--	50.0	495	8.1	10.5	--	9.8	88	--
19...	0937	--	60.0	495	8.1	10.5	--	9.8	88	--
19...	0939	--	70.0	494	8.1	10.5	--	9.8	88	--
19...	0941	--	80.0	494	8.1	10.5	--	9.8	88	--
19...	0943	--	90.0	495	8.2	10.5	--	9.8	88	--
19...	0945	--	100	495	8.2	10.5	--	9.8	88	--
19...	0947	--	108	495	8.2	10.5	--	9.7	87	--
APR										
26...	0915	444000	1.00	500	8.3	18.0	2.50	8.7	94	<1
26...	0917	--	10.0	500	8.3	18.0	--	8.5	92	--
26...	0919	--	20.0	501	8.2	17.5	--	7.9	85	--
26...	0921	--	30.0	502	8.2	17.0	--	7.5	80	--
26...	0923	--	40.0	503	8.1	17.0	--	7.2	77	--
26...	0925	--	50.0	505	8.0	16.0	--	6.8	71	--
26...	0927	--	60.0	504	7.9	14.5	--	6.3	63	--
26...	0929	--	70.0	505	7.8	14.0	--	5.8	58	--
26...	0931	--	80.0	505	7.8	13.5	--	5.4	53	--
26...	0933	--	90.0	506	7.8	13.5	--	4.6	45	--
26...	0935	--	100	507	7.7	13.5	--	4.3	42	--
26...	0937	--	108	506	7.7	13.5	--	4.3	42	--
AUG										
02...	0803	456000	1.00	454	8.0	28.0	2.53	5.4	70	K6
02...	0805	--	10.0	453	7.9	28.0	--	5.3	69	--
02...	0807	--	20.0	454	7.9	28.0	--	5.3	69	--
02...	0809	--	30.0	454	7.9	28.0	--	5.2	68	--
02...	0811	--	40.0	455	7.8	27.5	--	5.1	66	--
02...	0813	--	45.0	466	7.4	26.5	--	0.1	1	--
02...	0815	--	50.0	477	7.2	23.5	--	0	0	--
02...	0817	--	60.0	485	7.3	23.0	--	0	0	--
02...	0819	--	70.0	489	7.2	22.0	--	0	0	--
02...	0821	--	80.0	496	7.2	21.5	--	0	0	--
02...	0823	--	90.0	504	7.1	21.0	--	0	0	--
02...	0825	--	100	511	7.1	21.0	--	0	0	--
02...	0827	--	106	521	7.0	20.5	--	0	0	--

BRAZOS RIVER BASIN

279

08102000 BELTON LAKE NEAR BELTON, TX--Continued

310640097283701 - BELTON LAKE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)
JAN									
19...	K2	180	46	49	14	31	1	4.2	130
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	180	45	50	14	31	1	4.1	140
APR									
26...	K3	180	39	50	14	31	1	4.0	140
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	190	39	51	14	31	1	4.0	150
AUG									
02...	K3	160	60	43	13	31	1	4.8	100
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	200	27	55	14	32	1	4.4	170

BRAZOS RIVER BASIN

08102000 BELTON LAKE NEAR BELTON, TX--Continued

310640097283701 - BELTON LAKE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
JAN									
19...	38	53	0.30	7.3	278	0.180	--	<0.010	0.180
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	38	52	0.30	7.4	280	0.180	--	<0.010	0.180
APR									
26...	38	50	0.30	6.5	281	0.130	--	<0.010	0.130
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	0.190	0.190	0.010	0.200
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	38	51	0.30	7.7	286	0.280	--	<0.010	0.280
AUG									
02...	32	47	0.30	7.0	239	--	--	<0.010	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	<0.010	--
02...	--	--	--	--	--	--	--	<0.010	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	23	50	0.30	12	294	--	--	<0.010	--

BRAZOS RIVER BASIN

281

08102000 BELTON LAKE NEAR BELTON, TX--Continued

310640097283701 - BELTON LAKE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
19...	0.180	0.030	0.17	0.20	<0.010	<0.010	--	<3	2
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	0.180	0.040	0.26	0.30	0.020	<0.010	--	<3	5
APR									
26...	0.130	0.020	0.18	0.20	0.010	<0.010	--	<3	<1
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	0.200	0.030	0.27	0.30	0.020	<0.010	--	<10	<10
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
26...	0.280	0.040	0.26	0.30	0.020	<0.010	--	<3	52
AUG									
02...	<0.050	0.020	0.28	0.30	0.020	<0.010	--	12	1
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	<0.050	0.030	0.27	0.30	0.010	<0.010	--	<10	10
02...	--	--	--	--	--	--	--	--	--
02...	<0.050	0.120	0.18	0.30	<0.010	<0.010	--	40	80
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	<0.050	1.40	0.20	1.6	0.170	0.180	0.55	140	310

310829097312201 - BELTON LAKE SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
JAN											
19...	1140	1.00	493	8.2	10.5	1.50	10.1	91	0.180	--	<0.010
19...	1142	10.0	493	8.2	10.0	--	10.2	91	--	--	--
19...	1144	20.0	493	8.2	10.0	--	10.2	91	--	--	--
19...	1146	30.0	493	8.2	10.0	--	10.2	91	--	--	--
19...	1148	40.0	493	8.2	10.0	--	10.2	91	--	--	--
19...	1150	50.0	493	8.2	10.0	--	10.1	90	--	--	--
19...	1152	58.0	494	8.2	10.0	--	9.9	88	0.180	--	<0.010
APR											
26...	1105	1.00	491	8.2	22.5	--	8.6	102	0.057	0.057	0.010
26...	1107	10.0	491	8.2	22.5	--	8.7	103	--	--	--
26...	1109	20.0	503	8.1	18.0	--	7.3	79	--	--	--
26...	1111	30.0	503	8.1	18.0	--	7.3	79	--	--	--
26...	1113	40.0	505	8.0	16.5	--	6.6	69	--	--	--
26...	1115	50.0	510	7.7	15.5	--	4.7	48	--	--	--
26...	1117	55.0	514	7.6	15.5	--	2.7	28	0.210	0.210	0.020
AUG											
02...	1013	1.00	453	8.1	29.0	1.98	6.4	85	--	--	<0.010
02...	1015	10.0	452	8.0	29.0	--	6.0	79	--	--	--
02...	1017	20.0	452	7.9	28.5	--	5.3	70	--	--	--
02...	1019	30.0	453	7.8	28.5	--	4.7	62	--	--	--
02...	1021	40.0	458	7.5	27.5	--	1.9	25	--	--	--
02...	1023	50.0	478	7.2	24.5	--	0	0	--	--	--
02...	1025	60.0	492	7.2	23.5	--	0	0	--	--	--
02...	1027	68.0	497	7.2	23.0	--	0	0	--	--	<0.010

BRAZOS RIVER BASIN

08102000 BELTON LAKE NEAR BELTON, TX--Continued

310829097312201 - BELTON LAKE SITE CC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
19...	0.180	0.180	0.030	--	<0.20	<0.010	<0.010	--	<10	<10
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
19...	0.180	0.180	0.030	--	<0.20	<0.010	<0.010	--	<10	<10
APR										
26...	0.067	0.067	0.020	0.18	0.20	0.010	<0.010	--	<10	<10
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	0.230	0.230	0.080	0.22	0.30	0.010	<0.010	--	<10	90
AUG										
02...	--	<0.050	0.020	0.28	0.30	0.010	<0.010	--	<10	<10
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	<0.050	0.950	0.25	1.2	0.060	0.040	0.12	120	160

310923097332601 - BELTON LAKE SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
JAN												
19...	1225	1.00	493	8.2	10.0	1.30	9.7	86	--	--	--	--
19...	1227	10.0	493	8.2	10.0	--	10.2	91	--	--	--	--
19...	1229	24.0	492	8.2	9.5	--	10.2	90	--	--	--	--
APR												
26...	1144	1.00	488	8.2	23.0	1.00	8.2	98	<1	<1	180	39
26...	1146	10.0	488	8.2	23.0	--	8.1	97	--	--	--	--
26...	1148	24.0	491	8.1	23.0	--	7.5	90	--	--	180	37
AUG												
02...	1043	1.00	449	8.1	29.0	1.22	6.5	86	<1	<1	160	36
02...	1045	10.0	449	8.1	29.0	--	6.3	83	--	--	--	--
02...	1047	20.0	450	8.1	29.0	--	6.1	81	--	--	--	--
02...	1049	25.0	450	8.0	29.0	--	5.8	77	--	--	160	38

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END CAC03 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
19...	--	--	--	--	--	--	--	--	--	--	--	0.190
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	0.170
APR												
26...	47	14	30	1	3.9	140	38	51	0.30	6.3	272	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
26...	47	14	31	1	3.9	140	38	50	0.30	6.4	274	0.047
AUG												
02...	41	13	31	1	4.7	120	32	47	0.30	7.1	248	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	42	13	29	1	4.7	120	32	47	0.30	7.1	247	--

BRAZOS RIVER BASIN

283

08102000 BELTON LAKE NEAR BELTON, TX--Continued

310923097332601 - BELTON LAKE SITE DC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
19...	--	<0.010	0.190	0.190	0.030	--	<0.20	<0.010	<0.010	<10	<10
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	<0.010	0.170	0.170	0.020	--	<0.20	<0.010	<0.010	<10	<10
APR											
26...	--	0.010	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	<3	1
26...	--	--	--	--	--	--	--	--	--	--	--
26...	0.047	0.010	0.057	0.057	0.040	0.26	0.30	<0.010	<0.010	<3	9
AUG											
02...	--	<0.010	--	<0.050	0.030	0.27	0.30	<0.010	<0.010	5	1
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	<0.010	--	<0.050	0.040	0.26	0.30	0.020	<0.010	<3	4

310829097294301 - BELTON LAKE SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
19...	1250	1.00	497	8.1	11.0	9.6	88
19...	1252	10.0	496	8.1	11.0	9.7	88
19...	1254	20.0	495	8.1	10.5	9.7	87
19...	1256	30.0	496	8.1	10.5	9.8	88
19...	1258	40.0	496	8.1	10.5	9.7	87
19...	1300	50.0	494	8.1	10.5	9.8	88
19...	1302	60.0	494	8.1	10.5	9.7	87
19...	1304	70.0	494	8.1	10.5	9.7	88
19...	1306	80.0	496	8.1	10.5	9.7	87
19...	1308	90.0	496	8.1	10.5	9.5	86
19...	1310	98.0	496	8.0	10.5	9.0	81
APR							
26...	1210	1.00	492	8.3	21.5	8.4	98
26...	1212	10.0	494	8.3	21.0	8.5	98
26...	1214	20.0	494	8.3	20.5	8.4	96
26...	1216	30.0	503	8.2	19.0	8.5	94
26...	1218	40.0	520	7.7	16.0	5.8	60
26...	1220	50.0	520	7.7	16.0	6.0	62
26...	1222	60.0	515	7.6	15.0	5.5	56
26...	1224	70.0	514	7.6	14.5	5.0	50
26...	1226	80.0	512	7.6	14.5	4.6	46
26...	1228	90.0	511	7.6	14.0	2.5	25
26...	1230	97.0	510	7.6	14.0	2.5	25
AUG							
02...	1109	1.00	457	8.1	29.0	6.3	83
02...	1111	10.0	461	8.0	28.5	5.6	74
02...	1113	20.0	462	8.0	28.5	5.2	68
02...	1115	30.0	459	7.8	28.0	5.0	65
02...	1117	40.0	460	7.4	27.5	1.5	19
02...	1119	50.0	478	7.3	24.5	0	0
02...	1121	60.0	481	7.2	23.0	0	0
02...	1123	70.0	485	7.2	22.5	0	0
02...	1125	80.0	493	7.1	22.0	0	0
02...	1127	90.0	499	7.1	21.5	0	0
02...	1129	96.0	505	7.2	21.5	0.1	1

BRAZOS RIVER BASIN

08102000 BELTON LAKE NEAR BELTON, TX--Continued

310938097300201 - BELTON LAKE SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
19...	1330	1.00	504	8.1	11.0	9.8	89
19...	1332	10.0	504	8.1	10.5	9.7	88
19...	1334	20.0	504	8.1	10.5	9.6	87
19...	1336	30.0	505	8.0	10.5	9.4	85
19...	1338	40.0	505	8.0	10.5	9.4	85
19...	1340	50.0	505	8.0	10.5	9.5	86
19...	1342	60.0	504	8.1	10.5	9.5	86
19...	1344	70.0	505	8.1	10.5	9.4	85
19...	1346	77.0	505	8.0	10.5	9.4	85
APR							
26...	1303	1.00	496	8.3	22.0	8.7	102
26...	1305	10.0	497	8.3	22.0	8.7	102
26...	1307	20.0	498	8.2	21.0	8.6	99
26...	1309	30.0	534	7.8	18.5	6.2	68
26...	1311	40.0	529	7.7	17.5	5.4	58
26...	1313	50.0	528	7.6	16.5	4.8	51
26...	1315	60.0	529	7.4	15.0	2.8	29
26...	1317	70.0	527	7.4	15.0	2.9	30
26...	1319	75.0	527	7.4	15.0	2.9	30
AUG							
02...	1149	1.00	475	8.2	29.5	6.7	90
02...	1151	10.0	473	8.1	29.0	6.3	83
02...	1153	20.0	472	7.8	28.5	4.8	63
02...	1155	30.0	480	7.6	28.0	3.4	44
02...	1157	40.0	480	7.3	27.5	0	0
02...	1159	50.0	483	7.2	25.0	0	0
02...	1201	60.0	490	7.1	23.0	0	0
02...	1203	74.0	501	7.1	22.5	0	0

311004097275601 - BELTON LAKE SITE GC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRAN- SPAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
JAN												
19...	1420	1.00	513	8.1	10.5	1.20	9.5	86	180	46	49	15
19...	1422	10.0	513	8.1	10.5	--	9.5	86	--	--	--	--
19...	1424	20.0	514	8.1	10.5	--	9.4	85	--	--	--	--
19...	1426	30.0	513	8.1	10.5	--	9.4	85	--	--	--	--
19...	1428	40.0	513	8.1	10.5	--	9.4	85	--	--	--	--
19...	1430	50.0	512	8.1	10.0	--	9.3	83	--	--	--	--
19...	1432	62.0	513	8.1	10.5	--	9.2	83	190	44	51	14
APR												
26...	1400	1.00	503	8.3	22.5	--	9.4	112	--	--	--	--
26...	1402	10.0	509	8.3	22.0	--	9.2	108	--	--	--	--
26...	1404	20.0	540	8.0	21.0	--	6.9	80	--	--	--	--
26...	1406	30.0	554	7.6	19.0	--	3.7	41	--	--	--	--
26...	1408	40.0	552	7.7	18.0	--	4.1	45	--	--	--	--
26...	1410	50.0	540	7.4	16.5	--	4.0	42	--	--	--	--
26...	1412	62.0	536	7.4	15.5	--	0	0	--	--	--	--
AUG												
02...	1223	1.00	480	8.0	29.0	1.98	5.9	78	--	--	--	--
02...	1225	10.0	481	7.9	28.5	--	5.1	67	--	--	--	--
02...	1227	20.0	483	7.8	28.5	--	4.5	59	--	--	--	--
02...	1229	30.0	484	7.8	28.0	--	4.5	59	--	--	--	--
02...	1231	40.0	486	7.6	28.0	--	3.6	47	--	--	--	--
02...	1233	50.0	498	7.1	25.0	--	0	0	--	--	--	--
02...	1235	60.0	506	7.1	23.5	--	0	0	--	--	--	--

BRAZOS RIVER BASIN

285

08102000 BELTON LAKE NEAR BELTON, TX--Continued

311004097275601 - BELTON LAKE SITE GC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN											
19...	34	1	4.4	140	40	57	0.30	7.5	291	0.160	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	34	1	4.2	140	40	56	0.30	7.7	293	0.170	--
APR											
26...	--	--	--	--	--	--	--	--	--	0.080	0.080
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	0.240	0.240
AUG											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
19...	<0.010	0.160	0.160	0.070	0.13	0.20	<0.010	<0.010	--	<3	2
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	<0.010	0.170	0.170	0.080	0.12	0.20	<0.010	<0.010	--	<3	10
APR											
26...	0.010	0.090	0.090	0.030	0.27	0.30	<0.010	<0.010	--	<10	10
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	0.030	0.270	0.270	0.180	0.32	0.50	0.020	<0.010	--	220	550
AUG											
02...	<0.010	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	--	<10	30
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	<0.010	--	<0.050	2.00	0.20	2.2	0.370	0.390	1.2	270	680

BRAZOS RIVER BASIN

08102000 BELTON LAKE NEAR BELTON, TX--Continued

311042097300701 - BELTON LAKE SITE HC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
19...	1500	1.00	525	8.2	10.0	10.0	89
19...	1502	10.0	527	8.2	10.0	10.0	89
19...	1504	20.0	526	8.2	10.0	9.9	88
19...	1506	30.0	527	8.2	10.0	9.6	86
19...	1508	38.0	529	8.1	10.0	9.5	85
APR							
26...	1431	1.00	528	8.2	22.5	9.1	108
26...	1433	10.0	531	8.2	22.0	8.6	101
26...	1435	20.0	550	8.0	21.5	7.2	84
26...	1437	30.0	555	7.7	20.0	4.7	53
26...	1439	37.0	560	7.4	18.5	1.5	16
AUG							
02...	1247	1.00	487	8.2	29.5	7.2	96
02...	1249	10.0	490	8.0	28.5	5.3	70
02...	1251	20.0	491	7.9	28.5	5.0	66
02...	1253	30.0	492	7.9	28.5	4.9	64
02...	1255	35.0	493	7.9	28.5	4.7	62

311254097291301 - BELTON LAKE SITE IC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ANCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
JAN												
19...	1525	1.00	571	8.3	9.5	0.70	10.2	90	<1	K3	200	54
19...	1527	10.0	571	8.3	9.5	--	10.1	89	--	--	--	--
19...	1529	20.0	572	8.3	9.5	--	9.9	87	--	--	--	--
19...	1531	27.0	592	8.2	9.5	--	9.7	86	--	--	200	55
APR												
26...	1455	1.00	570	8.1	23.5	0.70	7.8	95	<1	K4	210	50
26...	1457	10.0	570	8.0	23.0	--	7.6	91	--	--	--	--
26...	1459	20.0	573	7.8	22.5	--	5.8	69	--	--	--	--
26...	1501	27.0	581	7.4	21.0	--	1.8	21	--	--	200	51
AUG												
02...	1305	1.00	495	8.5	29.5	0.76	8.9	119	<1	<1	160	47
02...	1307	10.0	500	8.1	28.5	--	6.1	80	--	--	--	--
02...	1309	20.0	526	7.6	28.0	--	2.6	34	--	--	--	--
02...	1311	26.0	527	7.6	28.0	--	2.3	30	--	--	170	65

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
19...	53	16	41	1	4.8	140	46	71	0.30	6.4	325	0.097
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	55	16	42	1	4.7	150	46	70	0.30	6.4	330	0.095
APR												
26...	56	16	39	1	4.3	160	45	64	0.30	7.9	327	0.150
26...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	0.120
26...	53	16	39	1	4.4	150	47	64	0.30	6.2	319	0.100
AUG												
02...	42	14	37	1	6.4	120	34	65	0.30	6.3	275	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	44	14	39	1	6.7	100	35	69	0.30	7.2	277	--

BRAZOS RIVER BASIN

287

08102000 BELTON LAKE NEAR BELTON, TX--Continued

311254097291301 - BELTON LAKE SITE IC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
19...	--	<0.010	0.097	0.097	0.040	0.26	0.30	0.080	<0.010	<3	1
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	<0.010	0.095	0.095	0.050	0.15	0.20	<0.010	<0.010	<3	5
APR											
26...	0.150	0.030	0.180	0.180	0.180	0.52	0.70	0.030	<0.010	4	160
26...	--	--	--	--	--	--	--	--	--	--	--
26...	0.120	0.020	0.140	0.140	0.120	0.28	0.40	0.020	<0.010	<10	40
26...	0.100	0.020	0.120	0.120	0.050	0.25	0.30	0.010	<0.010	<3	2
AUG											
02...	--	<0.010	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	5	<1
02...	--	<0.010	--	<0.050	0.030	0.27	0.30	<0.010	<0.010	<10	<10
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	<0.010	--	<0.050	0.140	0.26	0.40	0.020	<0.010	7	45

08102000 BELTON LAKE NEAR BELTON, TX--Continued

Belton Lake Site AC (310640097283701)

Phytoplankton Analyses October 1993 to September 1994

Date	1-19-94
Time	0925

TOTAL CELLS/mL	6,780
NUMBER OF SPECIES	12
DEPTH COLLECTED (ft.)	3.5

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Pennales	
<i>Diatoma hiemale</i>	83
<i>Fragilaria crotonensis</i>	42
<i>Navicula gracilis</i>	83
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	89
<i>Botryococcus sudeticus</i>	30
<i>Chlamydomonas</i> sp.	59
<i>Closterium diana</i>	1,190
<i>Cosmarium</i> sp.	208
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	4,461
<i>Chroococcus limneticus</i>	297
EUGLENOPHYTA	
<i>Trachelomonas</i> spp.	119
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	119

08102000 BELTON LAKE NEAR BELTON, TX--Continued

Belton Lake Site IC (311254097291301)

Phytoplankton Analyses October 1993 to September 1994

Date	1-19-94
Time	1525

TOTAL CELLS/mL	43,568
NUMBER OF SPECIES	21
DEPTH COLLECTED (ft.)	1.1

OrganismsCells/mL

BACILLARIOPHYTA

Order Pennales

<i>Diatoma hiemale</i>	149
<i>Navicula gracilis</i>	149
<i>Nitzschia denticula</i>	149
<i>Pinnularia brevicostata</i>	149
<i>Synedra ulna</i>	149

CHLOROPHYTA

<i>Ankistrodesmus falcatus</i>	3,569
<i>Botryococcus sudeticus</i>	2,379
<i>Chlamydomonas</i> sp.	327
<i>Cosmarium</i> sp.	59
<i>Pediastrum</i> sp.	59
<i>Scenedesmus bijuga</i>	30
<i>Scenedesmus opoliensis</i>	59
<i>Selenastrum Westii</i>	535

CYANOPHYTA

<i>Anabaena spiroides</i>	416
<i>Aphanocapsa delicatissima</i>	30,632
<i>Aphanocapsa elachista</i>	892
<i>Chroococcus limneticus</i>	714
<i>Merismopedia tenuissima</i>	2,498
<i>Oscillatoria angustissima</i>	476

EUGLENOPHYTA

<i>Trachelomonas</i> spp.	89
---------------------------	----

CRYPTOPHYTA

<i>Cryptomonas erosa</i>	89
--------------------------	----

08102000 BELTON LAKE NEAR BELTON, TX--Continued

Belton Lake Site AC (310640097283701)

Phytoplankton Analyses October 1993 to September 1994

Date	4-26-94
Time	0915
TOTAL CELLS/mL	27,538
NUMBER OF SPECIES	11
DEPTH COLLECTED (ft)	4.1

<u>Organisms</u>	<u>Cells/mL</u>
CHLOROPHYTA	
<i>Closterium diana</i>	89
<i>Oocystis gloeocystiformis</i>	59
CYANOPHYTA	
<i>Anabaena planctonica</i>	595
<i>Aphanocapsa delicatissima</i>	892
<i>Aphanocapsa elachista</i>	1,190
<i>Lyngbya limnetica</i>	7,732
<i>Oscillatoria Agardhii</i>	16,595
CHRYSTOPHYTA	
<i>Dinobryon sociale</i>	178
EUGLENOPHYTA	
<i>Euglena</i> sp.	30
<i>Phacus</i> sp.	59
<i>Trachelomonas</i> sp.	119

08102000 BELTON LAKE NEAR BELTON, TX--Continued

Belton Lake Site DC (310923097332601)

Phytoplankton Analyses October 1993 to September 1994

Date	4-26-94
Time	1144

TOTAL CELLS/mL	7,524
NUMBER OF SPECIES	6
DEPTH COLLECTED (ft.)	0.8

OrganismsCells/mL

CHLOROPHYTA

Chlamydomonas sp.

119

Closterium dianae

59

Scenedesmus quadricauda

30

CYANOPHYTA

Aphanizomenon flos-aquae

5,948

CHRYSTOPHYTA

Dinobryon sociale

1,338

EUGLENOPHYTA

Trachelomonas sp.

30

08102000 BELTON LAKE NEAR BELTON, TX--Continued

Belton Lake Site IC (311254097291301)

Phytoplankton Analyses October 1993 to September 1994

Date	4-26-94
Time	1455

TOTAL CELLS/mL	24776
NUMBER OF SPECIES	12
DEPTH COLLECTED (ft.)	1.1

<u>Organisms</u>	<u>Cells/mL</u>
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	238
<i>Chlamydomonas</i> sp.	30
<i>Closterium diana</i>	30
<i>Cosmarium</i> sp.	30
<i>Scenedesmus quadricauda</i>	30
CYANOPHYTA	
<i>Anabaena planctonica</i>	595
<i>Aphanizomenon flos-aquae</i>	19,034
<i>Aphanocapsa delicatissima</i>	2,677
<i>Chroococcus limneticus</i>	952
<i>Merismopedia tenuissima</i>	952
CHRYSOPHYTA	
<i>Dinobryon sociale</i>	30
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	178

08102000 BELTON LAKE NEAR BELTON, TX--Continued

Belton Lake Site AC (310640097283701)

Phytoplankton Analyses October 1993 to September 1994

Date	8-2-94
Time	803

TOTAL CELLS/mL	9,099
NUMBER OF SPECIES	8
DEPTH COLLECTED (ft.)	4.15

OrganismsCells/mL

BACILLARIOPHYTA

Order Pennales

Fragilaria crotonensis

604

Navicula rhyncocephala

55

Pinnularia brevicostata

55

CHLOROPHYTA

Chlamydomonas sp.

59

Staurastrum sp.

297

CYANOPHYTA

Aphanocapsa delicatissima

7,732

Chroococcus limneticus

238

EUGLENOPHYTA

Trachelomonas sp.

59

BRAZOS RIVER BASIN

08102000 BELTON LAKE NEAR BELTON, TX--Continued

Belton Lake Site DC (310923097332601)

Phytoplankton Analyses October 1993 to September 1994

Date	8-2-94
Time	1043

TOTAL CELLS/mL	15,764
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	2.0

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	30
Order Pennales	
<i>Cocconeis placentula</i>	173
<i>Cymbella parva</i>	346
<i>Fragilaria crotonensis</i>	2,247
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	506
<i>Closterium diana</i>	30
<i>Cosmarium</i> sp.	59
<i>Scenedesmus bijuga</i>	30
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	595
<i>Aphanocapsa delicatissima</i>	9,517
<i>Chroococcus limneticus</i>	952
<i>Oscillatoria angustissima</i>	1,190
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	30
PYRRHOPHYTA	
<i>Peridinium pusillum</i>	59

08102000 BELTON LAKE NEAR BELTON, TX--Continued

Belton Lake Site IC (311254097291301)

Phytoplankton Analyses October 1993 to September 1994

Date	8-2-94
Time	1305

TOTAL CELLS/mL	18,973
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	1.25

OrganismsCells/mL

BACILLARIOPHYTA

Order Centrales

Cyclotella ocellata

387

Order Pennales

Fragilaria crotonensis

297

Navicula rhyncocephala

59

CHLOROPHYTA

Ankistrodesmus falcatus

178

Chlamydomonas sp.

30

Pediastrum duplex

59

Scenedesmus bijuga

59

Scenedesmus quadricauda

119

Staurastrum sp.

30

CYANOPHYTA

Aphanocapsa delicatissima

11,004

Chroococcus limneticus

952

Merismopedia tenuissima

5,472

EUGLENOPHYTA

Trachelomonas sp.

119

PYRRHOPHYTA

Ceratium hirundinella

30

Peridinium pusillum

178

BRAZOS RIVER BASIN

08102500 LEON RIVER NEAR BELTON, TX

LOCATION.--Lat 31°04'12", long 97°26'28", Bell County, Hydrologic Unit 12070201, on left bank 1,400 ft upstream from bridge on Farm Road 817, 2,000 ft upstream from concrete dam, 1.0 mi upstream from bridge on Interstate Highway 35 and U.S. Highway 81, 1.6 mi northeast of Belton, 3.2 mi downstream from Belton Dam, 5.2 mi upstream from Nolan Creek, and 13.1 mi upstream from mouth.

DRAINAGE AREA.--3,542 mi².

WATER-DISCHARGE RECORDS

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 and concrete dam. Datum of gage is 476.68 ft above National Geodetic Vertical Datum of 1929. Prior to May 21, 1931, nonrecording gage.

REMARKS.--No estimated daily discharges. Records good. The city of Temple diverts water from the pool at gage and returns sewage effluent to Little Elm Creek downstream from station. The Brazos River Authority returns sewage effluent to the Leon River downstream from station for their Temple-Belton plant. Flow regulated by Belton Lake (station 08102000) since Mar. 8, 1954. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--30 years (water years 1924-53) prior to regulation by Belton Lake, 659 ft³/s (477,400 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1924-53).--Maximum discharge, 56,500 ft³/s Apr. 22, 1945 (gage height, 24.41 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1913 reached a stage of 25 ft, and a flood in September 1921 reached a stage of 21 ft, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	28	30	34	25	1590	69	117	2380	44	240	76
2	20	25	33	36	17	1580	69	120	2380	41	58	113
3	23	27	32	28	19	1060	70	119	2380	52	64	115
4	24	25	33	32	21	209	75	113	2380	38	55	114
5	22	25	33	33	20	250	72	119	2380	39	61	104
6	22	25	31	28	20	253	137	117	2380	44	69	93
7	22	26	34	33	20	255	152	117	2380	50	67	196
8	23	25	43	30	21	254	64	115	2380	45	56	388
9	22	27	47	35	20	260	73	123	2370	45	77	370
10	24	27	41	29	20	251	69	118	2040	44	74	370
11	20	29	45	28	19	253	68	1110	1800	43	72	289
12	23	26	48	22	19	252	66	2330	1810	39	71	182
13	25	28	49	28	21	261	70	2350	1790	34	67	192
14	26	26	49	26	21	260	61	2350	1810	35	75	187
15	27	23	46	29	20	257	65	3070	1810	303	61	120
16	26	24	51	29	16	264	64	4400	1800	626	73	33
17	24	25	49	27	42	152	62	4690	1800	840	68	35
18	26	24	54	22	82	69	58	4900	1290	570	65	33
19	26	26	56	29	82	67	57	4900	821	518	62	25
20	27	23	50	29	86	69	55	4890	964	477	68	31
21	22	23	29	27	86	70	59	4610	520	416	79	26
22	20	87	29	28	106	66	58	4390	71	376	80	27
23	22	223	32	30	607	70	67	4380	184	537	82	34
24	22	222	29	30	1590	72	61	4120	794	775	76	28
25	21	223	33	30	1580	69	44	3850	2150	531	74	28
26	22	229	34	27	1590	75	5.1	3310	2160	266	71	36
27	21	230	30	27	1580	70	.96	1680	997	114	71	93
28	21	231	34	24	1590	76	43	397	50	257	65	146
29	23	124	29	24	---	70	112	1550	46	389	62	139
30	23	30	34	25	---	75	108	2360	47	503	64	249
31	23	---	31	25	---	71	---	2370	---	508	61	---
TOTAL	714	2136	1198	884	9340	8650	2034.06	69185	46164	8599	2288	3872
MEAN	23.0	71.2	38.6	28.5	334	277	67.8	2232	1539	277	73.8	129
MAX	27	231	56	36	1590	1590	152	4900	2380	840	240	388
MIN	20	23	29	22	16	66	.96	113	46	34	55	25
AC-FT	1420	4240	2380	1750	18530	17160	4030	137200	91570	17060	4540	7680

BRAZOS RIVER BASIN

297

08102500 LEON RIVER NEAR BELTON, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1994#, BY WATER YEAR (WY)

MEAN	353	319	272	470	433	692	651	1057	1137	816	316	174
MAX	3918	3058	1924	5066	2902	6134	5170	4560	6002	6287	3084	1657
(WY)	1960	1960	1961	1992	1961	1992	1992	1990	1957	1957	1992	1986
MIN	2.79	1.07	.67	2.51	2.19	2.56	1.70	.87	.053	.26	1.86	.25
(WY)	1969	1955	1955	1955	1981	1955	1954	1954	1954	1954	1954	1954

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1954 - 1994#	
ANNUAL TOTAL	262646.15		155064.06		558	
ANNUAL MEAN	720		425		3067	
HIGHEST ANNUAL MEAN					4.71	
LOWEST ANNUAL MEAN					10200	
HIGHEST DAILY MEAN	4060	Apr 27	4900	May 18	.00	Mar 6 1992
LOWEST DAILY MEAN	.00	Sep 19	.96	Apr 27	.00	Mar 17 1954
ANNUAL SEVEN-DAY MINIMUM	2.2	Sep 15	19	Feb 10	.00	Mar 17 1954
INSTANTANEOUS PEAK FLOW			4900	May 17	56500	Apr 22 1945
INSTANTANEOUS PEAK STAGE			7.59	May 17	24.41	Apr 22 1945
INSTANTANEOUS LOW FLOW			.96	Apr 27	.00	Mar 17 1954
ANNUAL RUNOFF (AC-FT)	521000		307600		404500	
10 PERCENT EXCEEDS	3630		1720		2060	
50 PERCENT EXCEEDS	47		64		36	
90 PERCENT EXCEEDS	18		23		4.1	

Period of regulated streamflow

BRAZOS RIVER BASIN

08102500 LEON RIVER NEAR BELTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1961 to August 1964; January 1994 to August 1994.
 Water temperature: March 1957 to October 1972; recorded continuously from March 1957 to September 1964.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	
JAN 19...	1025	33	518	8.2	9.5	8	2.0	11.7	103	0.3	190	45	
APR 26...	0941	7.9	520	8.1	17.5	8	1.0	10.2	109	0.2	190	39	
AUG 02...	0950	62	500	7.5	22.0	8	0.50	8.7	101	0.3	180	31	
DATE		CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
JAN 19...	54	14	29	0.9	3.8	150	36	48	0.30	5.8	282	5	
APR 26...	52	14	29	0.9	4.0	150	37	50	0.30	7.0	285	1	
AUG 02...	50	13	28	0.9	4.2	150	31	49	0.30	9.2	275	6	
DATE		RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	
JAN 19...		2	3	0.430	--	<0.010	0.430	0.430	0.030	--	<0.20	<0.010	
APR 26...		<1	--	0.410	--	<0.010	0.410	0.410	0.040	--	<0.20	0.020	
AUG 02...		4	2	0.100	0.100	0.030	0.130	0.130	0.400	0.20	0.60	0.030	
DATE		PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	
JAN 19...		<0.010	--	3.5	2	67	<0.5	<1.0	<5	<3	<10	4	
APR 26...		<0.010	--	3.8	1	68	<0.5	<1.0	<5	<3	<10	<3	
AUG 02...		0.030	0.09	3.9	4	68	<0.5	<1.0	<5	<3	<10	17	
DATE		LEAD, DIS-SOLVED (UG/L AS Pb)	LITHIUM DIS-SOLVED (UG/L AS Li)	MANGA-NESE, DIS-SOLVED (UG/L AS Mn)	MERCURY DIS-SOLVED (UG/L AS Hg)	MOLYB-DENUM, DIS-SOLVED (UG/L AS Mo)	NICKEL, DIS-SOLVED (UG/L AS Ni)	SELE-NIUM, DIS-SOLVED (UG/L AS Se)	SILVER, DIS-SOLVED (UG/L AS Ag)	STRON-TIUM, DIS-SOLVED (UG/L AS Sr)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS Zn)	
JAN 19...		<10	7	9	<0.1	<10	<10	<1	1.0	440	<6	32	
APR 26...		<10	4	6	<0.1	<10	<10	<1	<1.0	470	<6	4	
AUG 02...		<10	<4	10	<0.1	<10	<10	<1	<1.0	410	<6	<3	

08103800 LAMPASAS RIVER NEAR KEMPNER, TX

LOCATION.--Lat 31°04'54", long 98°00'59", Lampasas County, Hydrologic Unit 12070203, on left bank 800 ft upstream from centerline of U.S. Highway 190, 0.6 mi upstream from Mesquite Creek, 0.8 mi west of Kempner, 0.9 mi downstream from Sulphur Creek, and 72.3 mi upstream from mouth.

DRAINAGE AREA.--818 mi².

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

Water-quality records.--Chemical analyses: March to June 1964, October 1980 to September 1982, October 1987 to August 1990. Biochemical analyses: October 1980 to September 1982, October 1987 to August 1990.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 828.38 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 4, 1967, at site 800 ft downstream at present datum.

REMARKS.--No estimated daily discharges. 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. These structures control runoff from 131 mi² in the Sulphur and Bennett Creeks drainage basins. There are many small diversions above station for irrigation and for municipal supply. The city of Lampasas diverts water upstream from this station and returns sewage effluent to Sulphur Creek, upstream from this station. Several observations of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1871, occurred in September 1873 (stage about 45 ft). Flood of May 13, 1957, reached a stage of 37 ft, and flood of Oct. 4, 1959, reached a stage of 34 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 27	0100	9,100	10.91	June 10	0930	4,270	8.02

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	29	29	30	31	41	26	28	146	25	12	21
2	33	29	30	31	31	37	26	28	125	25	12	33
3	38	31	32	30	28	34	25	28	112	25	12	21
4	45	31	31	30	29	36	21	26	105	20	12	22
5	40	29	29	30	30	39	22	26	95	20	12	22
6	37	28	31	30	29	39	22	26	88	22	12	23
7	36	29	30	30	27	40	25	26	79	25	12	25
8	38	29	30	30	28	40	26	28	70	22	11	27
9	35	30	30	28	21	44	26	99	65	24	20	27
10	27	43	32	30	28	40	26	64	858	25	20	29
11	28	27	30	30	31	45	25	387	184	96	13	29
12	32	28	30	31	29	45	24	514	114	37	12	28
13	35	30	33	30	28	44	25	831	119	23	12	32
14	36	41	29	30	27	37	26	895	137	22	13	51
15	34	29	29	28	27	35	26	339	93	23	14	72
16	33	43	29	28	27	35	24	243	80	18	17	331
17	30	37	29	29	27	34	21	348	65	18	17	120
18	30	31	27	28	27	33	26	179	53	18	17	74
19	27	29	28	28	27	33	25	136	49	18	18	42
20	31	27	28	33	41	32	23	119	45	18	17	35
21	28	28	27	50	34	29	26	101	43	18	21	33
22	26	28	34	42	305	17	27	91	43	19	18	30
23	27	30	31	39	105	18	35	86	41	20	18	29
24	28	31	29	38	93	28	32	80	43	18	16	30
25	28	29	27	33	62	30	33	79	36	18	18	31
26	28	30	29	33	47	30	32	1340	35	15	16	30
27	32	31	29	32	40	30	28	2280	32	14	18	31
28	30	30	28	32	37	27	31	348	30	13	18	33
29	29	30	27	31	---	27	47	174	30	14	17	32
30	31	29	28	31	---	27	36	418	24	13	15	33
31	29	---	30	30	---	27	---	228	---	14	17	---
TOTAL	994	926	915	985	1296	1053	817	9595	3039	700	477	1376
MEAN	32.1	30.9	29.5	31.8	46.3	34.0	27.2	310	101	22.6	15.4	45.9
MAX	45	43	34	50	305	45	47	2280	858	96	21	331
MIN	26	27	27	28	21	17	21	26	24	13	11	21
AC-FT	1970	1840	1810	1950	2570	2090	1620	19030	6030	1390	946	2730

BRAZOS RIVER BASIN

08103800 LAMPASAS RIVER NEAR KEMPNER, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

MEAN	92.1	63.8	168	119	232	210	179	315	234	63.1	46.1	65.3
MAX	453	398	3193	1107	3526	1502	1106	2995	1716	365	378	417
(WY)	1986	1987	1992	1992	1992	1970	1977	1965	1987	1976	1966	1970
MIN	6.73	11.0	11.5	10.3	10.9	13.5	8.86	6.57	5.98	5.78	4.18	8.12
(WY)	1964	1990	1964	1984	1984	1984	1984	1984	1984	1964	1963	1984

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	67857		22173		149	
ANNUAL MEAN	186		60.7		949	
HIGHEST ANNUAL MEAN					10.7	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	2390	Mar 20	2280	May 27	42500	Dec 21 1991
LOWEST DAILY MEAN	11	Aug 25	11	Aug 8	1.4	Jul 17 1971
ANNUAL SEVEN-DAY MINIMUM	11	Aug 24	12	Aug 2	2.2	Jul 18 1963
INSTANTANEOUS PEAK FLOW			9100	May 27	78000	Dec 20 1991
INSTANTANEOUS PEAK STAGE			10.91	May 27	35.00	Dec 20 1991
INSTANTANEOUS LOW FLOW			9.9	Feb 9	1.4	Jul 17 1971
ANNUAL RUNOFF (AC-FT)	134600		43980		107600	
10 PERCENT EXCEEDS	462		89		265	
50 PERCENT EXCEEDS	70		30		32	
90 PERCENT EXCEEDS	24		18		11	

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX
(Hydrologic benchmark station)

LOCATION.--Lat 30°54'41", long 98°02'12", Burnet County, Hydrologic Unit 12070203, at upstream side of bridge on Ranch Road 963, 6 mi above confluence with North Fork Rocky Creek, 7 mi west of Briggs, and 12.9 mi above mouth.

DRAINAGE AREA.--33.3 mi².

WATER-DISCHARGE RECORDS

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, concrete control, and crest-stage gages. Datum of gage is 955.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.41	.82	1.6	3.4	1.9	2.6	3.7	.00	.00	.00
2	.00	.02	.54	.72	1.6	3.3	1.8	1.9	3.5	.00	.00	.00
3	.00	.50	1.1	.71	1.6	3.2	1.7	1.8	5.7	.00	.00	.00
4	.00	.39	.66	.71	1.6	3.2	1.7	1.7	7.9	.00	.00	.00
5	.00	.25	.52	.65	1.6	3.5	1.7	1.5	4.6	.00	.00	.00
6	.00	.17	.48	.68	1.5	3.2	1.5	1.5	3.5	.00	.00	.00
7	.00	.13	.41	.64	1.5	3.1	1.4	1.4	3.0	.00	.00	.00
8	.00	.13	.41	.61	1.5	2.9	1.3	1.1	2.6	.00	.00	.00
9	.00	.15	.41	.65	1.4	4.9	1.3	1.0	2.3	.00	.00	.00
10	.00	.17	.45	.68	2.2	4.0	1.3	.94	1.7	.00	.00	.00
11	.00	.18	.41	.71	2.3	3.5	1.3	.87	1.6	.00	.00	.00
12	.00	.18	.41	.65	2.5	3.2	1.3	1.8	1.5	.00	.00	.00
13	.00	.18	.51	1.0	2.0	3.7	1.2	8.4	1.4	.00	.00	.00
14	.00	.35	.41	.71	1.9	3.9	1.1	9.3	1.2	.00	.00	.00
15	.00	.24	.41	.67	1.8	3.7	1.1	4.9	1.2	.00	.00	.00
16	.00	.95	.41	.65	1.7	3.7	1.0	56	1.1	.00	.00	.78
17	.00	.91	.58	.64	1.6	3.5	.94	23	.92	.00	.00	.06
18	.00	.53	.52	.58	1.5	3.2	.94	11	.72	.00	.00	.00
19	9.2	.48	.46	.55	1.3	2.9	.87	8.9	.57	.00	.00	.00
20	52	.38	.45	.66	1.3	2.9	.88	7.4	.48	.00	.00	.00
21	.96	.33	.47	2.2	1.2	2.9	.92	6.9	.39	.00	.00	.00
22	.40	.35	1.2	1.7	21	2.6	.74	6.1	.28	.00	.00	.00
23	.24	.41	1.1	1.6	6.4	2.6	.75	5.6	.26	.00	.00	.00
24	.18	.39	1.0	1.7	3.9	2.8	.72	5.2	.37	.00	.00	.00
25	.15	.35	.94	1.7	3.6	3.3	.71	5.1	.23	.00	.00	.00
26	.12	.35	.88	1.7	3.3	2.9	.70	4.7	.12	.00	.00	.00
27	.01	.36	.86	1.7	3.3	3.1	.63	6.7	.02	.00	.00	.00
28	.00	.35	.78	1.5	3.3	2.9	.84	7.3	.00	.00	.00	.00
29	.00	.41	.71	1.6	---	2.3	24	5.0	.00	.00	.00	.00
30	.00	.37	.71	1.6	---	2.2	5.9	7.4	.00	.00	.00	.00
31	.00	---	.71	1.6	---	1.9	---	5.1	---	.00	.00	---
TOTAL	63.26	9.96	19.32	32.29	80.0	98.4	62.14	212.11	50.86	0.00	0.00	0.84
MEAN	2.04	.33	.62	1.04	2.86	3.17	2.07	6.84	1.70	.000	.000	.028
MAX	52	.95	1.2	2.2	21	4.9	24	56	7.9	.00	.00	.78
MIN	.00	.00	.41	.55	1.2	1.9	.63	.87	.00	.00	.00	.00
AC-FT	125	20	38	64	159	195	123	421	101	.00	.00	1.7
CFSM	.06	.01	.02	.03	.09	.10	.06	.21	.05	.00	.00	.00
IN.	.07	.01	.02	.04	.09	.11	.07	.24	.06	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	3.93	3.85	7.97	9.69	17.8	17.3	13.0	24.6	20.5	4.99	2.17	3.83																			
MAX	34.0	55.3	103	81.9	189	93.1	78.4	118	106	43.9	51.2	69.6																			
(WY)	1975	1975	1992	1968	1992	1977	1965	1981	1974	1974	1974	1974																			
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000																			
(WY)	1968	1968	1971	1971	1971	1971	1971	1978	1967	1964	1964	1965																			

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1964 - 1994

ANNUAL TOTAL	3382.38	629.18	10.8
ANNUAL MEAN	9.27	1.72	49.2
HIGHEST ANNUAL MEAN			.036
LOWEST ANNUAL MEAN			1992
HIGHEST DAILY MEAN	466	56	1510
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		638	31200
INSTANTANEOUS PEAK STAGE		4.40	22.70
INSTANTANEOUS LOW FLOW		.00	.00
ANNUAL RUNOFF (AC-FT)	6710	1250	7790
ANNUAL RUNOFF (CFSM)	.28	.052	.32
ANNUAL RUNOFF (INCHES)	3.78	.70	4.39
10 PERCENT EXCEEDS	20	3.6	25
50 PERCENT EXCEEDS	2.4	.64	.68
90 PERCENT EXCEEDS	.00	.00	.00

BRAZOS RIVER BASIN

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX--Continued
(Hydrologic benchmark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1961 to January 1964. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: July 1971 to July 1982. Sediment analyses: May to June 1963, February 1968 to current year. Radiochemical analyses: January 1968 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CaCO3)
DEC 02...	0903	0.41	543	8.1	14.5	0.20	8.3	84	240	K2500	270
FEB 14...	1058	1.7	470	7.9	9.5	0.20	11.4	102	88	620	250
MAY 17...	1450	14	331	8.0	24.5	3.5	8.0	99	880	1100	140
DATE	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3)	ALKA-LINITY WAT DIS FIX END FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
DEC 02...	5	63	26	13	0.3	1.6	0	319	261	260	18
FEB 14...	20	61	24	9.3	0.3	1.0	0	284	232	230	19
MAY 17...	0	46	5.2	18	0.7	4.4	0	202	166	160	9.9
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
DEC 02...	19	0.30	8.6	307	308	<0.010	<0.050	<0.010	--	--	<0.20
FEB 14...	12	0.30	6.9	274	275	<0.010	<0.050	<0.010	--	--	<0.20
MAY 17...	6.1	0.30	9.5	195	199	0.020	<0.050	0.030	0.30	0.27	0.30
DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	BARIUM, DIS-SOLVED (UG/L AS BA)	COBALT, DIS-SOLVED (UG/L AS CO)	IRON, DIS-SOLVED (UG/L AS FE)	
DEC 02...	0.010	<0.010	<0.010	18	0.02	63	<10	45	<3	<3	
FEB 14...	<0.010	0.030	<0.010	12	0.05	49	<10	42	<3	<3	
MAY 17...	0.020	<0.010	<0.010	10	0.38	72	20	56	<3	20	
DATE	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)	
DEC 02...	8	<1	<10	<1	<1	<1.0	1800	<6	0.07	0.89	
FEB 14...	9	<1	<10	<1	<1	<1.0	1800	<6	--	--	
MAY 17...	<4	2	<10	2	<1	<1.0	310	<6	--	--	

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX

LOCATION.--Lat 31°01'20", long 97°31'57", Bell County, Hydrologic Unit 12070203, in intake structure at Stillhouse Hollow Dam on Lampasas River, 5 mi southwest of Belton, and 16.0 mi upstream from mouth.

DRAINAGE AREA.--1,313 mi².

WATER-CONTENT 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 long, including a 1,650-foot spillway and 5,894-foot dike. The lake was operated as a temporary detention basin from Sept. 2, 1966, to Feb. 19, 1968. Deliberate impoundment began Feb. 19, 1968. The lake was built for flood control and water conservation. The spillway is an uncontrolled broad-crested weir 1,650 ft long located near right end of dam. The flood-control outlet consists of a 12.0-foot-diameter conduit controlled by two 5.67- by 12.0-foot slide gates at an invert elevation of 515.0 ft. The capacity curve is based on maps prepared by Brazos River Authority in 1937 and supplemented by contour maps prepared by the U.S. Army Corps of Engineers in 1958. There are many small diversions upstream for irrigation, municipal supply and for oil field operations. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08103800. Satellite 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 of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 654,000 acre-ft Mar. 4, 1992 (elevation, 667.97 ft); minimum since conservation storage was reached on Apr. 12, 1969, 178,300 acre-ft Oct. 5, 1984 (elevation, 612.18 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 252,700 acre-ft May 29 (elevation, 624.58 ft); minimum daily, 226,900 acre-ft Sept. 30 (elevation, 620.62 ft).

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

620.0	223,100	625.0	255,500	628.0	276,500
621.0	229,300	626.0	262,300	629.0	283,500
622.0	235,700	627.0	269,300	630.0	290,800
623.0	242,200	624.0	248,800		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	234700	234700	235100	236000	236100	237000	236400	236200	252100	237200	232400	229300
2	234600	234800	235200	235900	236000	236600	236500	236300	251700	237000	232300	229200
3	234700	234900	235400	236000	236000	236500	236600	236300	251100	236900	232200	229200
4	234600	235000	235300	236000	236100	236400	236700	236300	250600	236700	232000	229000
5	234600	234900	235300	236000	236200	236300	236900	236300	250100	236500	231900	228900
6	234600	234700	235200	236000	236200	236200	236700	236500	249500	236500	231700	228800
7	234600	234600	235200	236000	236300	236200	236700	236500	248800	236300	231500	228600
8	234500	234500	235300	235900	236500	236200	236700	236500	248100	236200	231400	228600
9	234400	234600	235400	235900	236500	236000	236900	236800	247900	236100	231500	228400
10	234200	234600	235400	236000	236900	236000	237100	237200	247200	236000	231400	228300
11	234100	234600	235400	236000	236800	236100	237200	237400	246600	235900	231300	228200
12	234100	234800	235800	236200	236900	236300	237200	238000	245300	235800	231200	228300
13	234900	234900	235600	236300	236900	236700	237100	240100	244100	235700	231100	228200
14	234800	234900	235600	236300	236900	236900	237000	242200	242900	235600	231000	228100
15	234800	234900	235500	236300	237000	236900	236800	243200	241700	235500	230800	228300
16	234800	235300	235500	236600	237100	236700	236500	244900	240800	235300	230800	228400
17	234800	235300	235700	236300	237100	236500	236300	245900	240600	235300	230700	228600
18	234800	235400	235700	236300	237200	236300	236200	246600	240200	235100	230500	228500
19	235200	235300	235700	236300	237300	236000	236200	247000	239900	234900	230300	228400
20	235900	235300	235700	236400	237600	236000	236500	246900	239500	234600	230200	228400
21	235800	235300	235900	236500	238000	236100	236600	246300	239200	234500	230500	228300
22	235700	235200	236200	236700	242100	236200	236700	245700	238700	234400	230600	228100
23	235600	235200	236100	236900	242400	236300	236700	245100	240100	234200	230500	227900
24	235600	235300	236200	237100	241400	236600	236800	244400	240000	234000	230400	227600
25	235500	235200	236100	237200	240400	236700	236900	243800	239600	233800	230300	227500
26	235400	235100	236100	237400	239100	236900	236800	244900	239200	233700	230200	227400
27	235300	235100	236100	237600	237900	237200	236900	251300	238700	233400	230000	227200
28	235100	235000	236100	237400	237300	236900	236900	252200	238200	233200	229900	227100
29	235300	235000	236100	237100	---	236500	236700	252700	237800	233000	229700	227000
30	235000	235000	236100	236700	---	236300	236500	252400	237400	232800	229600	226900
31	234800	---	236100	236200	---	236300	---	252500	---	232600	229500	---
MAX	235900	235400	236200	237600	242400	237200	237200	252700	252100	237200	232400	229300
MIN	234100	234500	235100	235900	236000	236000	236200	236200	237400	232600	229500	226900
(+)	621.36	621.89	622.06	622.08	622.25	622.10	622.12	624.56	622.27	621.52	621.03	620.62
(#)	0	+200	+1100	+100	+1100	-1000	+200	+16000	-15100	-4800	-3100	-2600
CAL YR 1993	MAX 284100	MIN 232700	(#) -600									
WTR YR 1994	MAX 252700	MIN 226900	(#) -7900									

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

BRAZOS RIVER BASIN

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1969 to September 1982, January 1988 to current year.

REVISED RECORDS.--TX-93-2 Phytoplankton.

310129097315901 - STILLHOUSE HOLLOW LAKE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)
JAN												
18...	1045	236000	1.00	491	8.3	10.5	1.80	10.9	98	K2	<1	190
18...	1047	--	10.0	491	8.3	10.5	--	10.8	97	--	--	--
18...	1049	--	20.0	492	8.3	10.5	--	10.8	97	--	--	--
18...	1051	--	30.0	492	8.3	10.5	--	10.8	97	--	--	--
18...	1053	--	40.0	492	8.3	10.5	--	10.8	97	--	--	--
18...	1055	--	50.0	492	8.3	10.5	--	10.8	97	--	--	--
18...	1057	--	60.0	492	8.3	10.5	--	10.8	97	--	--	--
18...	1059	--	70.0	492	8.3	10.5	--	10.8	97	--	--	--
18...	1101	--	80.0	492	8.3	10.5	--	10.8	97	--	--	--
18...	1103	--	90.0	492	8.3	10.5	--	10.8	97	--	--	--
18...	1105	--	100	492	8.3	10.5	--	10.8	97	--	--	--
18...	1107	--	110	492	8.3	10.5	--	10.8	97	--	--	--
18...	1109	--	117	492	8.3	10.5	--	10.8	97	--	--	190
MAY												
03...	1015	236000	1.00	501	8.3	19.5	3.30	8.2	91	K1	K1	190
03...	1017	--	10.0	501	8.3	19.5	--	8.2	91	--	--	--
03...	1019	--	20.0	501	8.3	19.5	--	8.1	90	--	--	--
03...	1021	--	30.0	501	8.3	19.0	--	8.2	90	--	--	--
03...	1023	--	40.0	506	8.1	17.0	--	6.6	69	--	--	--
03...	1025	--	50.0	504	8.0	14.5	--	6.2	62	--	--	--
03...	1027	--	60.0	498	7.9	13.0	--	6.0	58	--	--	--
03...	1029	--	70.0	497	7.9	13.0	--	5.9	57	--	--	--
03...	1031	--	80.0	496	7.8	12.5	--	5.4	51	--	--	--
03...	1033	--	90.0	496	7.8	12.5	--	5.0	48	--	--	--
03...	1035	--	100	496	7.8	12.5	--	4.8	46	--	--	--
03...	1037	--	113	497	7.7	12.5	--	4.4	42	--	--	200
AUG												
01...	1054	232000	1.00	519	8.3	28.0	3.35	6.8	89	<1	<1	180
01...	1056	--	10.0	519	8.3	27.5	--	6.8	88	--	--	--
01...	1058	--	20.0	518	8.3	27.5	--	6.6	85	--	--	--
01...	1100	--	30.0	519	8.2	27.0	--	6.4	82	--	--	--
01...	1102	--	40.0	546	7.7	20.5	--	3.2	36	--	--	--
01...	1104	--	50.0	546	7.6	18.5	--	1.2	13	--	--	--
01...	1106	--	60.0	545	7.6	17.0	--	0.6	6	--	--	--
01...	1108	--	70.0	543	7.6	16.0	--	0.4	4	--	--	--
01...	1110	--	80.0	542	7.5	15.0	--	0	0	--	--	--
01...	1112	--	90.0	541	7.5	15.0	--	0	0	--	--	--
01...	1114	--	100	541	7.5	15.0	--	0	0	--	--	--
01...	1116	--	113	541	7.5	15.0	--	0	0	--	--	220
01...	1209	--	108	542	7.6	15.5	--	0	0	--	--	--

Brazos River Basin

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310129097315901 - STILLHOUSE HOLLOW LAKE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310033097333001 - STILLHOUSE HOLLOW LAKE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
18...	1130	1.00	491	8.4	10.5	11.0	98
18...	1132	10.0	491	8.4	10.5	11.0	98
18...	1134	20.0	491	8.4	10.5	11.0	98
18...	1136	30.0	491	8.4	10.5	11.1	99
18...	1138	40.0	492	8.4	10.5	11.1	99
18...	1140	50.0	491	8.4	10.5	11.0	98
18...	1142	60.0	491	8.4	10.5	10.9	98
18...	1144	70.0	491	8.4	10.5	11.0	98
18...	1146	80.0	490	8.4	10.5	11.0	98
18...	1148	90.0	491	8.4	10.5	11.0	98
18...	1150	100	490	8.4	10.5	11.0	98
18...	1152	110	491	8.3	10.5	10.9	98
MAY							
03...	1104	1.00	502	8.3	19.5	8.3	92
03...	1106	10.0	502	8.3	19.5	8.2	91
03...	1108	20.0	503	8.3	19.5	8.2	91
03...	1110	30.0	503	8.3	19.0	8.2	90
03...	1112	40.0	509	8.1	17.0	6.7	70
03...	1114	50.0	503	7.9	14.5	5.7	57
03...	1116	60.0	503	7.8	13.5	5.1	50
03...	1118	70.0	499	7.8	13.0	5.0	48
03...	1120	80.0	497	7.8	13.0	4.9	47
03...	1122	90.0	497	7.8	13.0	4.6	44
03...	1124	100	497	7.8	13.0	4.5	43
03...	1126	111	497	7.8	13.0	4.3	41
AUG							
01...	1147	1.00	518	8.3	28.5	6.6	87
01...	1149	10.0	518	8.2	28.0	6.6	86
01...	1151	20.0	517	8.2	27.5	6.3	81
01...	1153	30.0	523	7.8	26.5	3.5	44
01...	1155	40.0	546	7.5	20.0	0.9	10
01...	1157	50.0	542	7.5	18.5	0	0
01...	1159	60.0	543	7.5	17.0	0	0
01...	1201	70.0	544	7.5	16.0	0	0
01...	1203	80.0	544	7.5	15.5	0	0
01...	1205	90.0	542	7.5	15.5	0	0
01...	1207	100	542	7.5	15.5	0	0
01...	1209	108	542	7.6	15.5	0	0

310128097353601 - STILLHOUSE HOLLOW LAKE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
JAN												
18...	1220	1.00	500	8.4	10.5	2.00	11.1	99	<1	<1	190	25
18...	1222	10.0	500	8.4	10.5	--	11.2	100	--	--	--	--
18...	1224	20.0	500	8.4	10.5	--	11.0	99	--	--	--	--
18...	1226	30.0	500	8.4	10.5	--	11.0	99	--	--	--	--
18...	1228	40.0	499	8.4	10.5	--	11.0	99	--	--	--	--
18...	1230	50.0	499	8.4	10.5	--	11.0	99	--	--	--	--
18...	1232	60.0	498	8.3	10.0	--	10.9	97	--	--	--	--
18...	1234	70.0	504	8.3	10.0	--	10.8	96	--	--	--	--
18...	1236	80.0	584	8.2	10.5	--	9.4	84	--	--	--	--
18...	1238	89.0	605	8.1	10.0	--	9.3	82	--	--	210	40
MAY												
03...	1156	1.00	510	8.2	20.0	2.00	8.1	91	K1	K1	190	56
03...	1158	10.0	510	8.2	20.0	--	8.0	90	--	--	--	--
03...	1200	20.0	510	8.2	19.5	--	8.0	89	--	--	--	--
03...	1202	30.0	517	8.1	19.0	--	7.0	77	--	--	--	--
03...	1204	40.0	519	8.0	16.0	--	4.4	45	--	--	--	--
03...	1206	50.0	511	7.9	14.5	--	3.5	35	--	--	--	--
03...	1208	60.0	506	7.7	13.5	--	3.3	32	--	--	--	--
03...	1210	70.0	504	7.7	13.5	--	3.4	33	--	--	--	--
03...	1212	80.0	502	7.7	13.0	--	3.3	32	--	--	--	--
03...	1214	89.0	502	7.7	13.5	--	3.2	31	--	--	190	51
AUG												
01...	1237	1.00	515	8.3	29.5	2.19	6.8	91	<1	<1	180	40
01...	1239	10.0	515	8.3	28.5	--	6.7	88	--	--	--	--
01...	1241	20.0	517	8.2	28.0	--	6.2	81	--	--	--	--
01...	1243	30.0	522	7.6	26.5	--	1.8	23	--	--	--	--
01...	1245	35.0	524	7.4	23.0	--	0	0	--	--	--	--
01...	1247	40.0	523	7.4	20.0	--	0	0	--	--	--	--
01...	1249	50.0	527	7.4	18.0	--	0	0	--	--	--	--
01...	1251	60.0	533	7.4	17.0	--	0	0	--	--	--	--
01...	1253	70.0	540	7.4	16.0	--	0	0	--	--	--	--
01...	1255	80.0	545	7.5	16.0	--	0	0	--	--	--	--
01...	1257	86.0	543	7.5	16.0	--	0	0	--	--	210	31

BRAZOS RIVER BASIN

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310128097353601 - STILLHOUSE HOLLOW LAKE CC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
JAN											
18...	43	20	31	1	2.8	170	23	53	0.30	9.2	282
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	48	23	48	1	3.0	170	24	87	0.30	8.6	348
MAY											
03...	42	21	34	1	2.5	130	24	66	0.30	8.0	279
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	43	21	30	0.9	2.4	140	24	55	0.30	9.7	272
AUG											
01...	34	22	40	1	3.0	140	22	68	0.30	7.4	278
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	48	22	34	1	2.7	180	19	58	0.30	12	304

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
18...	0.095	<0.010	0.095	0.095	0.040	--	<0.20	<0.010	<0.010	<3	<1
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	0.120	<0.010	0.120	0.120	0.110	0.09	0.20	<0.010	<0.010	<3	15
MAY											
03...	--	<0.010	--	<0.050	0.020	--	<0.20	<0.010	<0.010	<3	<1
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	0.190	<0.010	0.190	0.190	0.020	--	<0.20	0.010	<0.010	<10	<10
03...	0.230	<0.010	0.230	0.230	0.020	--	<0.20	<0.010	<0.010	10	<10
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	0.230	<0.010	0.230	0.230	0.030	--	<0.20	<0.010	<0.010	<3	26
AUG											
01...	--	<0.010	--	<0.050	0.010	0.19	0.20	<0.010	<0.010	7	2
01...	--	<0.010	--	<0.050	0.020	0.28	0.30	0.010	<0.010	<10	10
01...	--	<0.010	--	<0.050	0.040	0.26	0.30	<0.010	<0.010	<10	70
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	<0.010	--	<0.050	0.310	0.19	0.50	0.010	<0.010	320	410

BRAZOS RIVER BASIN

309

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310130097371701 - STILLHOUSE HOLLOW LAKE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
18...	1300	1.00	511	8.4	10.5	11.0	99
18...	1302	10.0	511	8.4	10.5	11.0	99
18...	1304	20.0	514	8.4	10.5	11.0	99
18...	1306	30.0	518	8.3	10.5	10.9	98
18...	1308	40.0	522	8.3	10.0	10.9	97
18...	1310	50.0	530	8.3	10.5	10.7	96
18...	1312	60.0	542	8.3	10.5	10.3	92
18...	1314	74.0	726	8.0	10.5	8.3	75
MAY							
03...	1249	1.00	526	8.2	20.5	7.7	87
03...	1251	10.0	527	8.2	20.5	7.6	86
03...	1253	20.0	526	8.2	20.5	7.6	86
03...	1255	30.0	521	8.2	20.0	7.4	83
03...	1257	40.0	524	7.6	16.0	2.7	28
03...	1259	50.0	515	7.6	14.5	1.9	19
03...	1301	60.0	512	7.6	14.0	1.5	15
03...	1303	72.0	510	7.6	14.0	1.6	16
AUG							
01...	1334	1.00	523	8.2	29.0	6.4	85
01...	1336	10.0	524	8.2	28.5	6.3	83
01...	1338	20.0	523	8.1	28.0	5.8	76
01...	1340	30.0	530	7.6	27.0	0	0
01...	1342	40.0	513	7.4	20.0	0	0
01...	1344	50.0	518	7.4	18.0	0	0
01...	1346	60.0	531	7.4	17.5	0	0
01...	1348	69.0	535	7.4	17.0	0	0

310037097383201 - STILLHOUSE HOLLOW LAKE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
JAN												
18...	1330	1.00	579	8.4	10.0	1.40	11.1	99	<1	K2	210	40
18...	1332	10.0	579	8.4	10.0	--	11.1	99	--	--	--	--
18...	1334	20.0	579	8.3	10.0	--	11.0	98	--	--	--	--
18...	1336	30.0	622	8.3	10.5	--	10.7	96	--	--	--	--
18...	1338	37.0	785	8.2	10.5	--	9.8	88	--	--	240	50
MAY												
03...	1332	1.00	607	8.0	21.0	0.80	6.9	79	K2	K1	210	63
03...	1334	10.0	619	8.0	20.5	--	6.6	75	--	--	--	--
03...	1336	20.0	620	8.0	20.5	--	6.5	74	--	--	--	--
03...	1338	30.0	622	8.0	20.5	--	6.4	72	--	--	--	--
03...	1340	36.0	621	8.0	20.5	--	6.3	71	--	--	210	61
AUG												
01...	1415	1.00	542	8.2	29.5	1.22	6.7	90	K1	<1	190	38
01...	1417	10.0	548	8.1	28.5	--	6.0	79	--	--	--	--
01...	1419	20.0	566	7.9	28.0	--	4.2	55	--	--	--	--
01...	1421	30.0	563	7.8	28.0	--	4.1	53	--	--	--	--
01...	1423	34.0	566	7.9	28.0	--	4.1	53	--	--	200	38

BRAZOS RIVER BASIN

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

310037097383201 - STILLHOUSE HOLLOW LAKE EC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)
JAN											
18...	46	23	41	1	3.1	170	23	73	0.30	9.0	321
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	54	26	68	2	3.7	190	25	130	0.30	7.0	430
MAY											
03...	46	23	47	1	2.8	150	24	85	0.30	7.3	324
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	47	23	48	1	2.8	150	24	92	0.30	7.4	335
AUG											
01...	39	22	40	1	3.3	150	21	67	0.30	8.4	291
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	42	22	41	1	3.6	160	20	72	0.30	9.5	305
DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
18...	0.098	<0.010	0.098	0.098	0.040	--	<0.20	<0.010	<0.010	<3	<1
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	0.150	<0.010	0.150	0.150	0.080	--	<0.20	<0.010	<0.010	<3	4
MAY											
03...	--	<0.010	--	<0.050	0.060	0.54	0.60	0.020	<0.010	<3	1
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	<0.010	--	<0.050	0.070	--	<0.20	<0.010	<0.010	<10	<10
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	<0.010	--	<0.050	0.080	--	<0.20	<0.010	<0.010	5	11
AUG											
01...	--	<0.010	--	<0.050	0.020	0.28	0.30	0.020	<0.010	8	1
01...	--	<0.010	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	<10	<10
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	<0.010	--	<0.050	0.070	0.23	0.30	<0.010	<0.010	12	25

BRAZOS RIVER BASIN

311

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX—Continued

Stillhouse Hollow Lake Site AC (310129097315901)

Phytoplankton Analyses October 1993 to September 1994

Date	1-18-94
Time	1045

TOTAL CELLS/mL	3,569
NUMBER OF SPECIES	10
DEPTH COLLECTED (ft.)	3.0

OrganismsCells/mL

BACILLARIOPHYTA

Order Pennales

Diatoma hiemale

67

Navicula gracilis

22

CHLOROPHYTA

Ankistrodusmus falcatus

30

Chlamydomonas sp.

89

Cosmarium sp.

149

Pediastrum duplex

59

Pediastrum simplex

30

CYANOPHYTA

Aphanocapsa delicatissima

2,974

Chroococcus limneticus

119

EUGLENOPHYTA

Trachelomonas spp.

30

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

Stillhouse Hollow Lake Site EC (310037097383201)

Phytoplankton Analyses October 1993 to September 1994

Date	1-18-94
Time	1330

TOTAL CELLS/mL	4,254
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	2.2

OrganismsCells/mL

BACILLARIOPHYTA

Order Pennales

<i>Cocconeis placentula</i>	20
<i>Fragilaria crotonensis</i>	20
<i>Fragilaria vaucheriae</i>	20
<i>Gomphonema acuminatum</i>	20
<i>Navicula gracilis</i>	79
<i>Synedra ulna</i>	20

CHLOROPHYTA

<i>Chlamydomonas</i> sp.	30
<i>Cosmarium</i> sp.	30
<i>Elakatothrix gelatinosa</i>	119

CYANOPHYTA

<i>Aphanocapsa delicatissima</i>	2974
<i>Chroococcus limneticus</i>	59

CHRYSTOPHYTA

<i>Dinobryon sociale</i>	714
--------------------------	-----

EUGLENOPHYTA

<i>Trachelomonas</i> spp.	119
---------------------------	-----

CRYPTOPHYTA

<i>Cryptomonas erosa</i>	30
--------------------------	----

BRAZOS RIVER BASIN

313

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

Stillhouse Hollow Lake Site AC (310129097315901)

Phytoplankton Analyses October 1993 to September 1994

Date	5-3-94
Time	1015

TOTAL CELLS/mL	5,027
NUMBER OF SPECIES	9
DEPTH COLLECTED (ft.)	5.4

OrganismsCells/mL

BACILLARIOPHYTA

Order Pennales

Fragilaria crotonensis

15

Fragilaria virescens

30

Navicula rhyncocephala

15

CHLOROPHYTA

Scenedesmus quadricauda

30

Selenastrum Westii

30

Volvox aureus

178

CYANOPHYTA

Aphanocapsa delicatissima

3,569

CHRYSOPHYTA

Dinobryon sociale

1,041

EUGLENOPHYTA

Trachelomonas sp.

119

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

Stillhouse Hollow Lake Site EC (310129097315901)

Phytoplankton Analyses October 1993 to September 1994

Date	5-3-94
Time	1332

TOTAL CELLS/mL	4,609
NUMBER OF SPECIES	12
DEPTH COLLECTED (ft)	1.25

OrganismsCells/mL

BACILLARIOPHYTA

Order Pennales

<i>Amphora ovalis</i>	37
<i>Fragilaria crotonensis</i>	37
<i>Navicula rhyncocephala</i>	37
<i>Pinnularia brevicostata</i>	37

CHLOROPHYTA

<i>Ankistrodesmus falcatus</i>	30
<i>Scenedesmus bijuga</i>	30
<i>Scenedesmus quadricauda</i>	30

CYANOPHYTA

<i>Aphanocapsa delicatissima</i>	3,569
<i>Chroococcus limneticus</i>	357

CHRYSTOPHYTA

<i>Dinobryon sociale</i>	59
--------------------------	----

EUGLENOPHYTA

<i>Trachelomonas</i> sp.	297
--------------------------	-----

CRYPTOPHYTA

<i>Cryptomonas erosa</i>	89
--------------------------	----

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

Stillhouse Hollow Lake Site AC (3101129097315901)

Phytoplankton Analyses October 1993 to September 1994

Date	8-1-94
Time	1054

TOTAL CELLS/mL	11,122
NUMBER OF SPECIES	11
DEPTH COLLECTED (ft.)	5.5

OrganismsCells/mL

BACILLARIOPHYTA

Order Centrales

Cyclotella ocellata

59

Order Pennales

Cocconeis placentula

290

Fragilaria crotonensis

725

Pinnularia brevicostata

145

CHLOROPHYTA

Chlamydomonas sp.

30

Cosmarium sp.

59

Pediastrum duplex

30

Staurostrum sp.

327

CYANOPHYTA

Aphanocapsa delicatissima

9,219

Chroococcus limneticus

119

PYRRHOPHYTA

Peridinium pusillum

119

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued

Stillhouse Hollow Lake Site EC (310037097383201)

Phytoplankton Analyses October 1993 to September 1994

Date	8-1-94
Time	1415

TOTAL CELLS/mL	5,472
NUMBER OF SPECIES	5
DEPTH COLLECTED (ft.)	2.0

<u>Organisms</u>	<u>Cell/mL</u>
BACILLARIOPHYTA	
Order Pennales	
<i>Fragilaria crotonensis</i>	773
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	833
<i>Scenedesmus bijuga</i>	59
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	3,569
<i>Chroococcus limneticus</i>	238

BRAZOS RIVER BASIN

317

08104500 LITTLE RIVER NEAR LITTLE RIVER

LOCATION.--Lat 30°57'59", long 97°20'45", Bell County, Hydrologic Unit 12070204, on right bank 25 ft downstream from State Highway 95, 2.4 mi southeast of Little River, 5 mi downstream from confluence of Leon and Lampasas Rivers, and 95.8 mi upstream from mouth.

DRAINAGE AREA.--5,228 mi².

PERIOD OF RECORD.--October 1923 to May 1929, August 1962 to current year.

Water-quality records.--Chemical analyses: October 1964 to September 1982.

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

GAGE.--Water-stage recorder. Datum of gage is 400.11 ft above National Geodetic Vertical Datum of 1929. From Oct. 5, 1923, to May 27, 1929, nonrecording gage at railroad bridge 0.5 mi upstream at same datum.

REMARKS.--Records fair. Many small diversions upstream 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. Sewage effluent from Fort Hood military installation and by the cities of Killeen, Nolanville, and Harker Heights. Flow is affected at times by discharge from the flood-detention pools of 13 floodwater-retarding structures with a combined detention capacity of 15,430 acre-ft. These structures control runoff from 47.4 mi². Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--5 years (water years 1924-28), 709 ft³/s (513,700 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1924-28).--Maximum discharge, 28,400 ft³/s Oct. 2, 1927, (gage height 43.3 ft); minimum, 8.9 ft³/s Aug. 12, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 46.8 ft in September 1921, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	99	105	94	273	2420	151	339	2900	242	453	128
2	98	101	102	96	126	2360	143	219	2890	163	137	549
3	96	149	118	94	98	2020	158	214	2890	149	121	200
4	127	133	109	92	96	509	147	178	2890	144	118	159
5	103	104	97	94	95	565	147	160	2880	136	118	171
6	96	96	94	94	92	559	151	148	2870	160	144	160
7	93	93	92	91	93	556	269	150	2860	204	121	147
8	95	96	94	90	91	557	141	146	2860	148	118	430
9	91	99	97	94	93	617	139	192	2850	133	127	424
10	89	99	95	96	99	563	136	245	2760	128	178	433
11	92	99	91	97	138	410	135	614	2670	128	149	376
12	94	101	94	94	129	376	144	2590	2700	126	133	231
13	282	100	157	106	102	387	131	2870	2650	120	132	238
14	160	106	122	108	98	375	194	3110	2700	135	127	228
15	125	118	100	91	99	367	212	2800	2650	144	130	299
16	e114	214	94	93	99	553	216	4340	2620	749	134	173
17	e107	234	103	92	93	527	214	4340	2180	905	135	165
18	96	126	107	87	133	364	210	4400	1910	757	123	108
19	93	110	99	86	144	357	139	4370	1150	626	117	98
20	564	103	95	91	196	348	126	4380	1210	586	112	89
21	168	100	96	104	245	184	126	4510	1130	531	160	92
22	114	102	155	115	1720	161	126	4270	330	481	202	87
23	102	249	164	103	752	154	182	4250	328	488	202	90
24	101	273	111	116	2730	159	126	4180	1350	888	145	90
25	101	274	102	122	2750	206	123	3860	2420	718	136	86
26	97	281	101	110	2740	162	95	3690	2450	473	130	87
27	95	276	98	99	2720	180	78	3690	1880	165	127	96
28	92	276	102	111	2620	189	73	630	340	217	127	182
29	94	249	103	243	---	330	334	1780	312	439	120	173
30	136	112	100	274	---	326	359	3350	306	513	119	149
31	103	---	98	275	---	170	---	2940	---	562	114	---
TOTAL	3915	4572	3295	3552	18664	17011	4925	72955	61936	11358	4509	5938
MEAN	126	152	106	115	667	549	164	2353	2065	366	145	198
MAX	564	281	164	275	2750	2420	359	4510	2900	905	453	549
MIN	89	93	91	86	91	154	73	146	306	120	112	86
AC-FT	7770	9070	6540	7050	37020	33740	9770	144700	122900	22530	8940	11780

BRAZOS RIVER BASIN

08104500 LITTLE RIVER NEAR LITTLE RIVER--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994#, BY WATER YEAR (WY)

MEAN	450	462	513	866	962	1175	1319	2038	1878	1223	514	382
MAX	2760	2136	2697	7252	6123	10200	9237	6833	7264	6205	3818	2009
(WY)	1975	1975	1992	1992	1992	1992	1992	1992	1965	1992	1992	1986
MIN	43.0	57.8	47.7	59.3	60.7	102	59.4	150	165	85.2	12.1	41.3
(WY)	1979	1990	1964	1971	1984	1967	1984	1978	1967	1972	1963	1972

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994#	
ANNUAL TOTAL	477946		212630		982	
ANNUAL MEAN	1309		583		5054	
HIGHEST ANNUAL MEAN					179	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	6600	Mar 20	4510	May 21	62000	May 17 1965
LOWEST DAILY MEAN	77	Sep 12	73	Apr 28	8.2	Aug 6 1963
ANNUAL SEVEN-DAY MINIMUM	81	Sep 6	89	Sep 20	9.5	Aug 3 1963
INSTANTANEOUS PEAK FLOW			4840	May 27	79600	May 17 1965
INSTANTANEOUS PEAK STAGE			17.52	May 27	42.85	May 17 1965
INSTANTANEOUS LOW FLOW			69	Apr 28	8.2	Aug 6 1963
ANNUAL RUNOFF (AC-FT)	948000		421800		711100	
10 PERCENT EXCEEDS	4400		2630		3140	
50 PERCENT EXCEEDS	369		146		244	
90 PERCENT EXCEEDS	95		94		63	

e Estimated

Period of regulated streamflow.

08104650 LAKE GEORGETOWN NEAR GEORGETOWN, TX

LOCATION.--Lat 30°40'03", long 97°43'38", Williamson County, Hydrologic Unit 12070205, at North San Gabriel Dam, on North Fork San Gabriel River, 2.5 mi upstream from Middle Fork San Gabriel River, 3.7 mi northwest of Georgetown, and 4.4 mi upstream from confluence with South Fork San Gabriel River.

DRAINAGE AREA.--247 mi².

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

Water-quality records.--Chemical and biochemical analyses: October 1980 to August 1989.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 13, 1980, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam, 6,700 ft long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Mar. 3, 1980. The spillway is an ungated broad-crested weir 1,000 ft long, located near right end of dam. The spillway for normal flood releases is a gated, 11-foot-diameter conduit, controlled by two 5- by 11 foot slide gates, located near the center of dam. The invert for the floodgate is 720.0 ft. A low-flow outlet, consisting of four 3- by 4-foot gates is located near the center of dam. These gates are inverts of 735.0, 749.0, 763.0, and 777.0 ft. Satellite telemeter at station. Figures given herein represent total content. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	861.0	246,700
Design flood.....	856.2	221,200
Crest of spillway.....	834.0	130,800
Top of conservation pool.....	791.0	37,080
Lowest gated outlet (invert of 11-foot conduit).....	720.0	0

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 136,900 acre-ft Mar. 4, 1992 (elevation, 835.86 ft); minimum, 466 acre-ft Mar. 4, 1980 (elevation, 724.46 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 34,370 acre-ft Oct. 1 (elevation, 788.86 ft); minimum daily, 23,800 acre-ft Sept. 30 (elevation, 778.98 ft).

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

778.0	22,900	785.0	29,890	801.0	51,990
779.0	23,820	786.0	31,000	811.0	70,730
780.0	24,760	787.0	32,150	816.0	81,600
781.0	25,730	788.0	33,327	828.0	112,500
782.0	26,720	789.0	34,540	831.0	121,400
783.0	27,750	795.0	42,570	834.0	130,800
784.0	28,800				

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34370	33340	32530	31820	30900	29750	28720	27100	28780	28180	25960	24920
2	34310	33350	32500	31780	30830	29710	28660	27080	28780	28120	25900	24880
3	34270	33360	32500	31770	30780	29680	28600	27050	28810	28050	25820	24840
4	34220	33350	32470	31730	30730	29650	28550	27030	28910	27980	25770	24790
5	34170	33300	32400	31710	30680	29610	28480	27020	28940	27910	25700	24730
6	34140	33250	32410	31680	30630	29580	28430	27030	28950	27840	25630	24690
7	34090	33220	32380	31670	30570	29540	28370	27010	28950	27750	25550	24650
8	34050	33190	32360	31640	30530	29510	28300	27010	28940	27730	25480	24670
9	33990	33170	32340	31630	30460	29480	28250	27010	28910	27650	25530	24620
10	33930	33150	32320	31600	30440	29440	28210	27000	28910	27610	25480	24580
11	33880	33120	32290	31590	30370	29380	28160	26990	28880	27540	25440	24530
12	33830	33120	32320	31580	30310	29370	28110	26960	28840	27470	25400	24530
13	33830	33110	32290	31570	30260	29340	28040	27860	28820	27400	25350	24500
14	33810	33110	32240	31550	30210	29320	27990	28100	28860	27330	25300	24480
15	33770	33060	32220	31520	30150	29380	27930	28160	28840	27270	25320	24470
16	33740	33090	32170	31510	30110	29360	27860	28330	28810	27210	25280	24450
17	33710	33050	32150	31480	30040	29330	27790	28420	28790	27130	25230	24400
18	33680	33020	32130	31460	30010	29300	27700	28480	28760	27050	25190	24350
19	33680	32980	32100	31410	29950	29260	27660	28510	28720	26970	25140	24310
20	33870	32940	32070	31420	29930	29230	27610	28530	28670	26890	25100	24260
21	33850	32910	32080	31410	29900	29190	27540	28530	28650	26820	25200	24210
22	33820	32870	32100	31400	29970	29130	27580	28550	28610	26760	25300	24160
23	33760	32840	32070	31390	29970	29100	27560	28550	28600	26680	25290	24100
24	33720	32800	32040	31380	29950	29080	27500	28550	28580	26620	25260	24050
25	33690	32740	32010	31340	29900	29030	27420	28550	28550	26530	25230	24020
26	33640	32710	31980	31280	29850	29020	27360	28550	28490	26450	25180	23970
27	33590	32670	31960	31260	29810	28990	27300	28550	28420	26360	25140	23920
28	33540	32630	31930	31180	29790	28930	27250	28560	28350	26280	25100	23890
29	33510	32590	31900	31110	---	28880	27220	28660	28290	26200	25040	23840
30	33430	32570	31870	31050	---	28820	27150	28710	28240	26120	24990	23800
31	33390	---	31850	30970	---	28760	---	28760	---	26040	24950	---
MAX	34370	33360	32530	31820	30900	29750	28720	28760	28950	28180	25960	24920
MIN	33390	32570	31850	30970	29790	28760	27150	26960	28240	26040	24950	23800
(+)	788.05	787.36	786.74	785.97	784.91	783.96	782.42	783.96	783.47	781.32	780.20	778.98
(#)	-1030	-820	-720	-880	-1180	-1030	-1610	+1610	-520	-2200	-1090	-1150
CAL YR 1993	MAX 51220	MIN 31850	(#) -3610									
WTR YR 1994	MAX 34370	MIN 23800	(#) -10620									

(+) Elevation, in feet, at end of month.

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

08104700 NORTH FORK SAN GABRIEL RIVER NEAR GEORGETOWN, TX

LOCATION.--Lat 30°39'42", long 97°42'40", Williamson County, Hydrologic Unit 12070205, on left bank 5,000 ft downstream from North Fork dam, 1.5 mi upstream from Middle Fork San Gabriel River, 2.7 mi upstream from Interstate Highway 35, 2.7 mi northwest of Georgetown, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--248 mi².

PERIOD OF RECORD.--June 1968 to current year.

Water-quality records.--Chemical and biochemical analyses: October 1980 to August 1989.

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

GAGE.--Water-stage recorder. Datum of gage is 689.06 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Beginning Mar. 3, 1980, flow largely regulated by Lake Georgetown (station 08104650) located about 1.0 mi upstream from gage. Several measurements of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--11 years (water years 1969-79) prior to regulation by Lake Georgetown, 88.1 ft³/s (63,830 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1969-79).--Maximum discharge, 35,000 ft³/s Sept. 17, 1974 (gage height, 26.20 ft); no flow July 23-25, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 39.5 ft in September 1921. Flood in April 1957 reached a stage of 34.5 ft, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	8.4	9.3	8.3	31	28	28	28	5.1	6.0	5.4	5.9
2	9.0	8.5	9.3	8.4	31	27	28	28	5.1	5.4	5.3	5.9
3	8.8	8.7	9.3	8.5	30	28	28	18	5.1	5.3	5.5	5.3
4	8.7	9.0	9.3	7.7	30	28	28	6.3	5.1	5.1	5.4	5.0
5	9.3	8.5	9.1	4.8	29	28	28	6.3	5.6	5.5	5.3	5.2
6	9.3	8.6	8.9	1.3	29	29	29	6.3	5.5	5.5	5.3	5.5
7	9.3	8.6	8.9	1.2	29	28	29	6.3	5.3	5.2	5.5	5.4
8	9.1	8.6	9.5	2.8	29	28	30	6.1	5.5	5.9	6.0	6.0
9	8.9	8.6	9.6	5.2	28	27	30	5.3	5.6	6.2	5.4	5.4
10	9.0	8.6	8.8	5.4	28	28	29	5.0	6.7	6.5	4.5	5.1
11	9.3	8.7	8.9	5.6	28	29	30	5.1	6.3	6.6	4.2	4.8
12	9.9	9.3	9.1	6.0	28	29	30	5.1	6.4	6.5	4.2	5.6
13	10	9.2	9.1	6.1	27	30	30	6.6	7.0	6.2	4.2	5.8
14	9.7	8.7	8.6	6.2	27	30	30	5.9	6.1	5.4	4.2	6.2
15	11	9.0	8.4	6.1	27	32	30	5.8	6.7	5.7	4.4	5.4
16	10	9.3	8.1	5.8	27	31	30	6.1	6.3	6.3	4.4	4.9
17	9.7	8.6	8.0	5.6	27	30	30	5.3	6.6	6.2	4.3	5.1
18	9.6	8.5	8.0	5.4	27	30	30	4.8	6.3	6.2	4.2	4.4
19	9.7	8.2	8.0	5.2	27	29	30	4.8	6.0	6.3	4.2	4.4
20	13	8.7	8.6	5.5	28	29	29	4.6	6.1	5.8	4.2	4.4
21	9.9	9.1	8.8	5.4	27	28	29	4.6	5.2	4.8	5.1	4.2
22	10	8.4	8.7	5.5	29	28	30	4.6	6.3	4.8	5.4	4.7
23	9.6	8.3	8.4	5.4	27	28	30	4.6	6.6	5.1	5.2	4.2
24	10	8.5	8.1	13	28	29	30	4.6	5.9	5.1	4.8	4.4
25	10	8.9	8.2	28	28	29	30	4.6	5.7	5.3	4.5	4.2
26	9.8	8.9	8.1	29	28	28	30	4.4	5.7	5.3	5.0	4.3
27	10	8.7	8.1	28	28	28	30	4.4	5.2	4.9	4.4	4.6
28	10	9.0	8.3	28	28	28	29	4.4	5.1	5.2	4.4	4.5
29	10	9.6	8.3	27	---	28	29	4.5	5.1	5.1	4.3	4.4
30	9.6	9.3	8.0	27	---	28	29	6.1	5.2	5.3	5.7	4.7
31	8.9	---	8.0	30	---	28	---	5.1	---	5.3	5.8	---
TOTAL	300.4	263.0	267.8	337.4	790	888	882	221.6	174.4	174.0	150.7	149.9
MEAN	9.69	8.77	8.64	10.9	28.2	28.6	29.4	7.15	5.81	5.61	4.86	5.00
MAX	13	9.6	9.6	30	31	32	30	28	7.0	6.6	6.0	6.2
MIN	8.7	8.2	8.0	1.2	27	27	28	4.4	5.1	4.8	4.2	4.2
AC-FT	596	522	531	669	1570	1760	1750	440	346	345	299	297

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1994#, BY WATER YEAR (WY)

	17.8	23.4	48.0	52.7	86.7	124	73.7	91.1	172	188	9.30	38.0
MEAN	17.8	23.4	48.0	52.7	86.7	124	73.7	91.1	172	188	9.30	38.0
MAX	153	171	254	343	485	832	574	323	938	962	27.2	461
(WY)	1982	1982	1986	1992	1986	1992	1992	1992	1992	1987	1992	1981
MIN	1.18	1.72	1.97	1.39	4.06	1.30	.44	.71	.60	4.47	1.30	1.37
(WY)	1983	1986	1984	1986	1990	1980	1980	1980	1980	1989	1982	1982

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1980 - 1994#

ANNUAL TOTAL	27844.0	4599.2	77.0
ANNUAL MEAN	76.3	12.6	358
HIGHEST ANNUAL MEAN			4.00
LOWEST ANNUAL MEAN			1992
HIGHEST DAILY MEAN	1430	32	4500
LOWEST DAILY MEAN	3.8	1.2	.00
ANNUAL SEVEN-DAY MINIMUM	3.9	3.8	.01
INSTANTANEOUS PEAK FLOW		38	3500
INSTANTANEOUS PEAK STAGE		4.93	26.20
INSTANTANEOUS LOW FLOW		2.1	.00
ANNUAL RUNOFF (AC-FT)	55230	9120	55790
10 PERCENT EXCEEDS	179	29	169
50 PERCENT EXCEEDS	9.7	8.3	6.3
90 PERCENT EXCEEDS	5.1	4.6	2.0

Period of regulated streamflow.

08104900 SOUTH FORK SAN GABRIEL RIVER AT GEORGETOWN, TX

LOCATION.--Lat 30°37'32", long 97°41'27", Williamson County, Hydrologic Unit 12070205, on right bank at downstream side of downstream bridge of two bridges on Interstate Highway 35, 1.1 mi southwest of the courthouse at Georgetown, and 2.4 mi upstream from mouth.

DRAINAGE AREA.--133 mi².

PERIOD OF RECORD.--Water years 1948, 1962-67 (occasional low-flow measurements), December 1967 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 687.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, about 41 ft Apr. 24, 1957, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 13	2000	8,310	11.51				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	2.1	1.8	3.1	3.6	5.7	1.7	2.4	8.9	1.2	.12	.21
2	.42	2.0	2.0	3.2	3.1	4.1	1.9	2.7	7.6	.76	.12	1.6
3	1.1	3.4	1.8	3.2	2.9	4.1	2.9	2.0	6.9	.78	.12	.40
4	2.0	2.6	1.7	2.4	2.8	3.7	2.6	1.8	12	.68	.12	.37
5	1.7	2.8	2.2	2.1	4.6	4.2	1.3	1.7	13	.66	.12	.27
6	.86	3.0	2.6	2.0	5.6	5.5	1.1	1.4	10	.28	.12	.19
7	.60	3.0	2.0	1.8	5.7	5.7	1.1	1.2	7.3	.23	.12	.25
8	.44	2.6	2.1	1.8	5.2	3.6	1.0	2.2	5.9	.19	.12	2.5
9	.41	2.2	2.3	3.0	3.7	6.3	1.2	2.2	5.4	.21	1.0	1.6
10	.33	2.5	2.1	3.3	5.4	3.9	2.5	1.2	5.6	.22	.26	1.5
11	1.1	2.3	1.7	2.6	7.1	4.5	2.8	1.0	5.0	.19	.32	1.0
12	1.4	2.3	1.9	2.4	6.3	4.8	1.3	.95	5.5	.19	.33	1.4
13	1.2	2.6	4.7	3.0	7.2	6.5	1.2	884	4.7	.19	.30	2.0
14	.89	3.0	3.3	2.5	6.3	6.4	1.9	295	3.3	.19	.22	1.3
15	.63	3.0	2.2	2.8	4.0	21	1.6	38	5.8	.18	.81	1.1
16	.44	3.0	2.5	3.2	4.3	15	1.5	46	3.8	.15	.95	1.7
17	.80	3.2	2.8	4.1	4.1	9.1	2.8	41	2.1	.15	1.7	1.4
18	2.5	3.8	2.7	2.8	4.1	5.6	2.4	21	1.0	.12	1.5	1.0
19	1.7	3.1	3.3	2.0	4.8	3.4	1.2	16	2.0	.12	.86	.96
20	15	2.6	3.8	2.6	9.9	4.0	1.0	14	2.6	.12	.43	.85
21	5.6	3.0	3.4	5.4	8.7	3.7	1.1	12	.96	.12	3.3	.79
22	1.7	3.0	6.1	4.1	12	2.2	1.5	11	.36	.21	4.0	.64
23	1.7	2.1	4.5	6.2	11	1.9	1.9	11	1.2	.15	1.8	.48
24	2.1	2.2	4.8	9.4	9.3	2.4	2.9	10	2.0	.12	3.3	.58
25	2.0	1.9	4.9	7.8	7.5	2.0	4.1	11	1.6	.12	2.2	.56
26	2.1	2.6	4.8	5.8	5.4	3.5	2.2	10	2.9	.12	1.1	.55
27	1.5	2.7	4.5	7.3	5.8	5.7	1.7	10	3.8	.12	.73	.50
28	1.3	2.7	3.8	4.8	5.8	4.2	1.5	11	2.7	.12	.53	.54
29	1.3	2.5	3.1	4.2	---	2.6	2.3	12	2.1	.12	.23	.47
30	1.5	1.9	2.7	5.1	---	1.7	1.9	17	2.3	.12	.19	.42
31	1.9	---	2.8	4.9	---	1.6	---	10	---	.13	.19	---
TOTAL	56.78	79.7	94.9	118.9	166.2	158.6	56.1	1500.75	138.32	8.26	27.21	27.13
MEAN	1.83	2.66	3.06	3.84	5.94	5.12	1.87	48.4	4.61	.27	.88	.90
MAX	15	3.8	6.1	9.4	12	21	4.1	884	13	1.2	4.0	2.5
MIN	.33	1.9	1.7	1.8	2.8	1.6	1.0	.95	.36	.12	.12	.19
AC-FT	113	158	188	236	330	315	111	2980	274	16	54	54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	35.5	21.2	45.0	51.7	80.4	62.8	66.2	99.5	122	25.7	14.8	20.9
MEAN	35.5	21.2	45.0	51.7	80.4	62.8	66.2	99.5	122	25.7	14.8	20.9
MAX	221	124	489	441	711	367	337	247	851	85.8	131	306
(WY)	1974	1975	1992	1968	1992	1977	1975	1975	1981	1976	1974	1981
MIN	.069	.16	.22	.34	.81	1.61	1.04	.24	.37	.13	.036	.022
(WY)	1979	1989	1989	1990	1990	1976	1984	1984	1971	1978	1980	1984

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1968 - 1994

ANNUAL TOTAL	19426.47	2432.85	50.9
ANNUAL MEAN	53.2	6.67	203
HIGHEST ANNUAL MEAN			2.15
LOWEST ANNUAL MEAN			7830
HIGHEST DAILY MEAN	2160	884	7830
LOWEST DAILY MEAN	.33	.12	.00
ANNUAL SEVEN-DAY MINIMUM	.73	.12	.00
INSTANTANEOUS PEAK FLOW		8310	33400
INSTANTANEOUS PEAK STAGE		11.51	24.60
INSTANTANEOUS LOW FLOW		.12	.00
ANNUAL RUNOFF (AC-FT)	38530	4830	36900
10 PERCENT EXCEEDS	93	7.4	98
50 PERCENT EXCEEDS	34	2.2	12
90 PERCENT EXCEEDS	1.7	.22	.31

BRAZOS RIVER BASIN

08105100 BERRY CREEK NEAR GEORGETOWN, TX

LOCATION.--Lat 30°41'28", long 97°39'21", Williamson County, Hydrologic Unit 12070205, on right bank at upstream side of upstream service road on Interstate Highway 35, 2.9 mi north of the county courthouse at Georgetown, and 3.6 mi upstream from mouth.

DRAINAGE AREA.--83.1 mi².

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

Water-quality records.--Sediment records: October 1976 to September 1981.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 659.97 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No known regulation or diversions. Several observations of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1921 occurred September 1921, 25 ft, from information by State Department of Highways and Public Transportation and local residents (discharge not determined).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	.94	.94	.74	.53	.98	.55	.55	2.7	.94	.00	.00
2	1.9	1.0	.94	.74	.40	.94	.93	.88	2.2	.76	.00	.00
3	1.9	1.7	.94	.74	.40	.74	.93	1.2	1.5	.71	.00	.00
4	1.9	1.4	.94	.72	.40	.74	.67	1.3	1.5	.56	.00	.00
5	1.8	1.7	.94	.65	.49	.74	.54	2.1	1.5	.55	.00	.00
6	1.6	2.0	.99	.74	.56	.74	.38	2.6	1.4	.37	.00	.00
7	1.6	1.9	.94	.74	.50	.58	.66	2.7	1.4	.24	.00	.00
8	1.5	1.9	.94	.74	.40	.45	.68	2.7	1.4	.13	.00	.00
9	1.4	1.8	.94	.74	.35	.57	.61	2.7	1.3	.06	.00	.00
10	1.4	.95	.94	.74	.40	.58	.66	2.8	1.5	.00	.00	.00
11	1.4	1.3	.94	.47	.40	.53	.55	2.6	1.4	.00	.00	.00
12	1.4	.91	.99	.40	.40	.40	.27	2.0	1.4	.00	.00	.00
13	1.5	1.1	1.5	.54	.40	.40	.19	7.0	1.4	.00	.00	.00
14	1.4	1.2	.92	.68	.40	.40	.16	43	1.4	.00	.00	.00
15	1.4	1.2	.85	.74	.40	1.9	.16	3.2	1.6	.00	.00	.00
16	1.4	1.6	.88	.61	.27	.46	.08	54	1.6	.00	.00	.00
17	1.4	1.2	.74	.56	.31	1.0	.08	41	1.6	.00	.00	.00
18	1.4	1.2	.74	.43	.33	1.6	.12	8.4	1.6	.00	.00	.00
19	1.4	1.2	.91	.40	.34	1.5	.16	6.4	1.5	.00	.00	.00
20	4.0	.98	.94	.40	.49	1.4	.11	4.3	1.4	.00	.00	.00
21	.81	.94	.86	.36	.52	.95	.10	1.9	1.4	.00	.00	.00
22	.74	.94	.94	.40	.78	.49	.49	1.4	1.4	.00	1.2	.00
23	.74	.94	.94	.47	.74	.42	.60	1.4	1.5	.00	.02	.00
24	.74	.94	.94	.77	.86	.44	.25	1.5	2.2	.00	.00	.00
25	.74	.94	.84	.69	.78	.46	.16	1.6	2.4	.00	.00	.00
26	.86	.94	.74	.67	.67	.54	.19	1.4	1.8	.00	.00	.00
27	.94	.94	.85	.57	.56	.70	.11	1.5	1.8	.00	.00	.00
28	.94	.94	.77	.44	.55	.55	.14	1.8	1.4	.00	.00	.00
29	.94	.94	.69	.47	---	.58	.88	2.5	1.2	.00	.00	.00
30	.94	.94	.65	.54	---	.64	.69	4.2	1.1	.00	.00	.00
31	.94	---	.74	.54	---	.56	---	2.8	---	.00	.00	---
TOTAL	43.03	36.58	27.82	18.44	13.83	22.98	12.10	213.43	47.5	4.32	1.22	0.00
MEAN	1.39	1.22	.90	.59	.49	.74	.40	6.88	1.58	.14	.039	.000
MAX	4.0	2.0	1.5	.77	.86	1.9	.93	54	2.7	.94	1.2	.00
MIN	.74	.91	.65	.36	.27	.40	.08	.55	1.1	.00	.00	.00
AC-FT	85	73	55	37	27	46	24	423	94	8.6	2.4	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	16.2	9.14	23.0	28.6	51.2	33.9	34.0	48.1	55.0	13.8	5.12	8.26															
MAX	158	74.2	238	264	409	172	168	148	321	45.9	18.3	82.4															
(WY)	1975	1975	1992	1968	1992	1992	1977	1979	1981	1973	1975	1974															
MIN	.000	.000	.000	.000	.019	.010	.005	.003	.025	.000	.000	.000															
(WY)	1979	1989	1989	1990	1984	1984	1984	1971	1978	1978	1978	1978															

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1968 - 1994

ANNUAL TOTAL	15193.93	441.25	27.0
ANNUAL MEAN	41.6	1.21	106
HIGHEST ANNUAL MEAN			.047
LOWEST ANNUAL MEAN			
HIGHEST DAILY MEAN	3480	54	4670
LOWEST DAILY MEAN	.65	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.75	.00	.00
INSTANTANEOUS PEAK FLOW		319	15500
INSTANTANEOUS PEAK STAGE		3.73	19.33
INSTANTANEOUS LOW FLOW		.00	.00
ANNUAL RUNOFF (AC-FT)	30140	875	19580
10 PERCENT EXCEEDS	62	1.8	49
50 PERCENT EXCEEDS	13	.74	4.6
90 PERCENT EXCEEDS	.94	.00	.00

08105600 GRANGER LAKE NEAR GRANGER, TX

LOCATION.--30°41'34", long 97°19'34", Williamson County, Hydrologic Unit 12070205, at Granger Dam on San Gabriel River, 1.5 mi south of Friendship, 2.2 mi upstream from Willis Creek, 7.1 mi east of Granger, and at mile 31.9.

DRAINAGE AREA.--730 mi².

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

Water-quality records.--Chemical and biochemical analyses: October 1980 to August 1989.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Mar. 27, 1980, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam, 16,320 ft long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Jan. 21, 1980. The spillway is an ungated 950-foot long ogee weir, located near right end of dam. The spillway for normal flood releases is a gated 18-foot-diameter conduit, controlled by two 8- by 18-foot slide gates, located near the center of dam. The invert for the floodgate is 457.0 ft. A low-flow outlet consists of three 3- by 4-foot gated openings, with invert elevations of 486.0, 494.0, and 502.0 ft. Figures given herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	555.0	674,500
Designed flood.....	550.3	580,000
Crest of spillway.....	528.0	244,200
Top of conservation pool.....	504.0	65,510
Lowest gated outlet (invert of 18-foot conduit).....	457.0	0

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 268,200 acre-ft Mar. 5, 1992 (elevation, 530.11 ft); minimum, 615 acre-ft Jan. 21, 1980 (elevation, 462.60 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 70,690 acre-ft May 16 (elevation, 505.16 ft); minimum daily, 60,650 acre-ft Aug. 20 (elevation, 502.85 ft).

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

502.0	57,280	518.0	149,900	528.0	244,200
503.0	61,260	521.0	174,900	529.0	255,400
507.0	79,510	524.0	202,700	530.0	266,900
511.0	101,600	526.0	222,800	531.0	278,800
515.0	127,500				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65860	66970	65770	66120	67320	65990	65900	66430	66480	65290	61840	61260
2	65860	67140	65860	66040	67320	66040	65990	66520	66480	65160	61750	61260
3	65860	67410	65990	65900	67320	66170	66040	66480	66520	65070	61670	61260
4	65860	67370	65900	65860	67370	66260	66120	66430	66570	64980	61550	61220
5	65860	67050	65900	65860	67320	66300	66210	66340	66570	64890	61470	61100
6	65860	66920	65860	65860	67320	66430	66120	66340	66520	64810	61380	61100
7	65860	66740	65860	65730	67370	66480	66170	66260	66570	64630	61260	60930
8	65950	66570	65950	65680	67140	66610	66210	66170	66520	64500	61140	61550
9	65770	66480	66040	65640	66880	66830	66340	66080	66390	64420	61100	61550
10	65680	66390	65990	65680	66790	66880	66390	65990	66390	64330	61100	61550
11	65680	66300	65990	65770	66570	66920	66520	65950	66390	64290	61060	61510
12	65860	66260	66520	65770	66300	67050	66520	65860	66300	64110	61020	61670
13	66040	66210	66300	65950	66120	67100	66390	66570	66300	64030	60930	61750
14	66040	66120	66260	65950	66120	67100	66170	68480	66260	63940	60850	61710
15	66040	65860	66260	65950	66120	67230	65900	68660	66260	63860	60850	61750
16	66120	65860	66260	66080	66120	66880	65640	70690	66210	63730	60930	61750
17	66170	65770	66390	66040	66120	66520	65640	70330	66210	63640	60930	61710
18	66170	65810	66390	66040	66120	66120	65640	68890	66120	63560	60850	61590
19	66210	65770	66430	66120	66210	66040	65770	67630	66040	63430	60770	61550
20	67050	65730	66430	66260	66300	65860	65810	67010	65990	63260	60650	61510
21	67010	65730	66570	66300	66430	65730	65900	66300	65950	63180	61180	61430
22	67010	65770	66740	66430	66740	65810	65990	66040	65860	63050	61470	61300
23	66970	65770	66650	66520	66650	65950	66120	65950	66040	62920	61590	61260
24	66920	65770	66650	66650	66390	66040	66210	65860	65990	62840	61590	61100
25	67010	65770	66570	66830	66120	66170	66260	65770	65950	62710	61590	61060
26	67010	65730	66480	67010	65770	66300	66260	65680	65860	62590	61510	61020
27	66920	65730	66430	67100	65730	66390	66260	65900	65680	62420	61470	60930
28	67010	65730	66340	67140	65810	66210	66210	65900	65590	62340	61430	60890
29	67100	65730	66300	67190	---	65950	66520	66570	65460	62250	61340	60850
30	67050	65730	66210	67280	---	65770	66480	66390	65330	62000	61260	60770
31	66970	---	66120	67280	---	65810	---	66480	---	61920	61300	---
MAX	67100	67410	66740	67280	67370	67230	66520	70690	66570	65290	61840	61750
MIN	65680	65730	65770	65640	65730	65730	65640	65680	65330	61920	60650	60770
(+)	504.33	504.05	504.14	504.40	504.07	504.07	504.22	504.22	503.96	503.16	503.01	502.88
(@)	+980	-1240	+390	+1160	-1470	0	+670	0	-1150	-4130	-620	-530
CAL YR 1993	MAX 89150	MIN 65240	(@)	-450								
WTR YR 1994	MAX 70690	MIN 60650	(@)	+5220								

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

08105700 SAN GABRIEL RIVER AT LANEPOR, TX

LOCATION.--Lat 30°41'39", long 97°16'43", Williamson County, Hydrologic Unit 12070205, on right bank at upstream side of county bridge, 0.2 mi north of Lanepor, 3.4 mi downstream from Willis Creek, 7.5 mi northwest of Thrall, and 26.2 mi upstream from mouth.

DRAINAGE AREA.--738 mi².

PERIOD OF RECORD.--July 1965 to current year.

Water-quality records.--Chemical and biochemical analyses: July 1972 to August 1989. Continuous daily water temperature records: December 1976 to March 1982.

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow partly regulated by Granger Lake (station 08105600) since Jan. 21, 1980. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--14 years (water years 1966-79) prior to regulation by Granger Lake, 289 ft³/s (209,400 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1966-79).--Maximum discharge, 31,200 ft³/s Oct. 31, 1974 (gage height, 30.80 ft); minimum daily, 0.28 ft³/s Aug. 25-28, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1910, 39.6 ft, occurred September 1921. Other significant flood occurred April 1957, 34.6 ft; and October 1959, 33.8 ft; from floodmarks at present site and datum. Discharges not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	7.0	22	59	32	13	7.6	36	10	6.3	5.2	4.8
2	5.6	7.2	22	59	34	13	7.3	37	10	5.9	5.4	5.3
3	5.5	28	22	60	41	13	6.8	37	11	5.5	5.4	5.1
4	5.5	82	22	50	49	13	6.8	38	10	5.5	5.3	4.6
5	5.3	84	22	33	50	13	7.1	38	10	5.8	5.3	4.7
6	5.4	82	22	33	51	13	7.0	38	10	5.9	5.3	4.7
7	5.2	84	21	33	79	13	6.9	38	10	5.9	5.4	4.9
8	5.4	84	21	33	153	13	6.9	38	9.9	6.2	5.7	9.1
9	5.7	84	21	33	153	13	6.9	38	10	6.3	5.6	5.8
10	5.8	86	21	26	151	12	6.9	31	11	6.2	5.2	5.5
11	5.9	88	21	10	150	12	6.7	39	10	6.3	5.2	5.7
12	6.1	90	21	10	150	12	6.6	39	10	6.2	5.1	6.8
13	7.7	91	23	11	130	12	57	41	10	6.3	5.1	6.9
14	6.2	95	22	11	48	49	122	40	11	6.3	5.0	5.8
15	6.4	95	22	11	47	167	123	40	10	6.3	5.0	5.9
16	6.4	96	22	11	48	254	109	45	10	6.3	5.3	5.6
17	6.2	68	22	11	47	254	9.0	418	10	6.2	5.8	4.8
18	6.2	22	22	11	47	202	7.1	895	10	6.1	5.0	4.9
19	6.2	22	22	11	45	104	7.1	730	10	6.1	5.0	4.7
20	9.3	22	22	11	44	103	6.9	313	10	5.8	5.0	2.2
21	6.3	22	31	11	43	81	6.6	309	9.9	5.5	6.6	1.3
22	6.0	22	44	11	45	9.2	7.0	166	10	5.7	6.1	1.0
23	5.8	22	49	11	77	8.3	6.9	39	10	5.5	5.3	1.0
24	6.2	22	61	11	136	8.2	6.5	38	10	5.8	5.1	1.2
25	6.4	22	61	11	139	7.9	7.8	38	10	5.7	5.2	1.3
26	6.4	22	61	11	139	7.5	17	28	9.9	5.7	5.1	1.4
27	6.4	22	61	11	90	7.8	17	10	9.8	5.9	5.0	3.0
28	6.5	22	60	11	32	60	20	9.9	10	5.8	4.8	4.5
29	7.1	22	59	11	---	131	37	9.9	7.3	6.0	4.7	4.6
30	7.0	22	59	10	---	71	37	10	6.5	5.8	4.8	5.1
31	6.8	---	59	19	---	8.0	---	10	---	5.6	4.8	---
TOTAL	192.7	1537.2	1040	655	2250	1697.9	687.4	3636.8	296.3	184.4	162.8	132.2
MEAN	6.22	51.2	33.5	21.1	80.4	54.8	22.9	117	9.88	5.95	5.25	4.41
MAX	9.3	96	61	60	153	254	123	895	11	6.3	6.6	9.1
MIN	5.2	7.0	21	10	32	7.5	6.5	9.9	6.5	5.5	4.7	1.0
AC-FT	382	3050	2060	1300	4460	3370	1360	7210	588	366	323	262

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1994#, BY WATER YEAR (WY)

	73.9	99.6	191	241	293	385	275	394	494	504	36.9	78.9
MEAN	73.9	99.6	191	241	293	385	275	394	494	504	36.9	78.9
MAX	464	378	953	1233	1334	2210	1685	1153	1732	2196	134	922
(WY)	1982	1982	1986	1987	1992	1992	1992	1992	1981	1992	1992	1981
MIN	3.21	3.99	3.06	5.25	2.62	3.24	3.53	2.87	9.88	.19	.018	.000
(WY)	1983	1983	1983	1981	1980	1980	1984	1984	1994	1984	1984	1984

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1980 - 1994#

ANNUAL TOTAL	115917.9	12472.7	255
ANNUAL MEAN	318	34.2	1015
HIGHEST ANNUAL MEAN			21.4
LOWEST ANNUAL MEAN			6870
HIGHEST DAILY MEAN	2590	Jul 1	895
LOWEST DAILY MEAN	5.2	Oct 7	1.0
ANNUAL SEVEN-DAY MINIMUM	5.4	Oct 2	1.3
INSTANTANEOUS PEAK FLOW			915
INSTANTANEOUS PEAK STAGE			8.64
INSTANTANEOUS LOW FLOW			.95
ANNUAL RUNOFF (AC-FT)	229900	24740	185100
10 PERCENT EXCEEDS	837	84	829
50 PERCENT EXCEEDS	157	10	29
90 PERCENT EXCEEDS	6.6	5.2	3.2

Period of regulated streamflow.

BRAZOS RIVER BASIN

325

08106350 LITTLE RIVER NEAR ROCKDALE, TX

LOCATION.--Lat 30°45'38", long 97°00'49", Milam County, Hydrologic Unit 12070204, on right bank downstream from Alcoa pumping station, 200 ft downstream from mouth of San Gabriel River, and 6.8 mi north of Rockdale.

DRAINAGE AREA.--6,959 mi².

PERIOD OF RECORD.--February 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is 299.12 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Daily discharges are not published above 1,000 ft³/s. There are numerous diversions for irrigation and municipal supply above station. For statement regarding regulations by Soil Conservation Service floodwater-retarding structures in the Little River basin, see station number 08104500. Flow from the San Gabriel river is largely regulated by Granger Lake (station 08105600). Flow in the San Gabriel may be affected at times by discharge from the flood-detention pools of 46 flood water-retarding structures with a combined detention capacity of 46,140 acre-ft. These structures control runoff from 144 mi², in the Brushy Creek drainage basin. The Aluminum Company of America diverts water from Little River to their plant reservoir. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 38.34 ft Dec. 21, 1991 (maximum discharge not determined); minimum daily discharge 13 ft³/s May 9, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 21.30 ft May 17 at 1700 hours (maximum discharge not determined); minimum daily discharge, 71 ft³/s Sept. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	193	253	197	390	---	308	595	---	343	594	106
2	135	172	202	193	398	---	232	602	---	304	522	109
3	127	174	200	189	293	---	219	402	---	246	195	428
4	124	222	192	188	210	---	214	354	---	184	139	234
5	128	345	205	178	193	967	218	299	---	185	124	154
6	140	286	191	167	186	791	210	243	---	179	109	136
7	128	255	182	165	185	779	206	225	---	171	140	130
8	119	248	182	159	239	768	290	210	---	240	144	134
9	126	246	182	158	319	774	247	217	---	188	141	---
10	111	246	183	165	326	828	193	225	---	143	141	---
11	110	248	186	160	320	823	190	337	---	134	175	745
12	116	249	180	145	314	636	188	733	---	126	152	579
13	152	253	192	168	378	533	188	---	---	125	121	404
14	222	252	201	176	301	518	276	---	---	123	115	331
15	288	251	262	187	193	622	359	---	---	125	114	246
16	170	264	208	184	183	873	466	---	---	131	112	381
17	154	272	193	173	200	---	486	---	---	722	164	220
18	150	447	192	168	205	---	285	---	---	---	173	167
19	143	236	200	166	208	757	261	---	---	959	136	138
20	190	185	194	164	249	627	226	---	---	696	122	97
21	686	165	161	166	321	612	178	---	---	627	119	87
22	532	157	180	169	603	408	173	---	---	575	173	83
23	262	156	202	204	---	252	169	---	494	492	304	76
24	205	209	327	201	---	215	230	---	524	462	393	78
25	188	335	253	198	---	207	218	---	---	971	254	74
26	179	352	218	216	---	243	175	---	---	912	181	73
27	172	337	207	227	---	220	173	---	---	535	156	73
28	166	347	202	208	---	210	153	---	---	214	145	71
29	163	347	195	196	---	348	134	---	526	173	136	94
30	165	345	197	260	---	500	260	---	371	396	115	132
31	175	---	197	377	---	467	---	---	---	471	103	---
TOTAL	5871	7794	6319	5872	---	---	7125	---	---	---	5712	---
MEAN	189	260	204	189	---	---	237	---	---	---	184	---
MAX	686	447	327	377	---	---	486	---	---	---	594	---
MIN	110	156	161	145	---	---	134	---	---	---	103	---
AC-FT	11650	15460	12530	11650	---	---	14130	---	---	---	11330	---

BRAZOS RIVER BASIN

08106500 LITTLE RIVER AT CAMERON, TX

LOCATION (REVISED).--Lat 30°50'06", long 96°56'47", Milam County, Hydrologic Unit 12070204, on right bank at bridge on U.S. Highway 77, 2,020 ft downstream from old McCowan bridge, 0.7 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2 mi southeast of Cameron, and 33.2 mi upstream from mouth.

DRAINAGE AREA.--7,065 mi².

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. Period Aug. 14, to Oct. 21, 1992, non-recording gage at site. Datum of gage is 281.89 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Nov. 2, 1916, to Sept. 30, 1922, nonrecording gage at site 2.2 mi upstream at different datum. Oct. 1, 1922, to Apr. 8, 1926, nonrecording gage at McCowan bridge 1,990 ft upstream at same datum. Apr. 9, 1926, to Oct. 9, 1933, nonrecording gage at same location but at 1.58 ft lower datum. Oct. 10, 1933, to Aug. 13, 1992, recording gage at site 2,020 ft upstream at same datum.

REMARKS.--Records good. Many small diversions for irrigation and municipal supply affect low flows. Since Mar. 8, 1954, 50 percent of the drainage area has been regulated by Belton Lake (station 08102000) on the Leon River, since Sept. 21, 1966, an additional 19 percent of the drainage area by Stillhouse Hollow Lake (station 08104050) on the Lampasas River, and since Jan. 21, 1980, an additional 10 percent of the drainage area by Granger Lake (station 08105700) on the San Gabriel River. The Aluminum Co. of America diverts water 10.9 mi upstream from the gage for use at their Rockdale plant. The City of Cameron diverts water for municipal use 2.1 mi upstream from gage. Treated effluent is returned to the river upstream from gage. Flow is slightly affected at times by discharge from the flood-detention pools of 65 floodwater-retarding structures with a combined detention capacity of 68,500 acre-ft. These structures control runoff from 209 mi² in the Nolan, Donahoe, and Brushy Creeks drainage basins. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--36 years (water years 1918-53), prior to regulation by Belton Lake, 1,807 ft³/s (1,309,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1918-53).--Maximum discharge since 1852, 647,000 ft³/s Sept. 10, 1921 (gage height, 53.2 ft, present datum, from floodmark), from rating curve extended above 110,000 ft³/s on basis of slope-area measurement of 647,000 ft³/s.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1852 reached about the same stage as that of Sept. 10, 1921. Flood in December 1913, reached a stage of 49.0 ft. Stages based on information furnished by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	239	353	216	473	2550	422	580	3160	512	561	34
2	140	199	215	214	488	2340	262	703	3050	461	538	35
3	126	199	216	204	408	2280	234	518	3010	381	200	274
4	124	227	206	200	251	2060	219	412	2980	240	72	247
5	121	421	216	192	212	1060	231	365	3160	214	58	93
6	155	389	205	167	192	808	214	276	3140	224	35	63
7	132	341	187	162	196	803	209	244	3070	205	47	55
8	119	330	184	154	235	790	276	214	3020	289	78	54
9	121	327	186	151	381	800	321	218	2970	266	69	1040
10	108	324	187	163	402	809	198	236	2970	172	67	1770
11	103	324	189	159	404	838	187	349	3080	134	84	817
12	106	323	184	137	370	742	183	419	2780	128	99	647
13	190	324	218	149	450	632	181	2200	2790	126	50	467
14	215	325	217	183	429	613	255	3280	2750	115	38	407
15	431	322	313	195	225	661	389	3790	2790	109	44	273
16	231	331	260	205	202	814	e450	3160	2750	113	29	377
17	185	343	227	183	214	968	e500	5410	2700	672	53	271
18	177	508	224	174	240	1020	e350	5820	2340	959	127	160
19	166	346	222	172	237	832	300	5390	2100	1060	65	151
20	325	227	240	169	306	684	269	5070	1470	767	45	69
21	555	185	173	173	349	656	182	4910	1430	644	54	50
22	666	160	200	177	740	552	168	5030	1480	565	68	42
23	367	151	227	221	2080	314	164	4640	790	467	204	41
24	264	170	375	245	1580	234	213	4520	608	408	380	32
25	221	392	348	232	2380	213	260	4430	1400	796	238	34
26	205	433	269	250	2670	247	174	4100	2250	914	126	32
27	195	420	242	274	2650	262	165	3970	2490	541	91	27
28	183	432	230	241	2610	220	144	3850	2140	223	73	28
29	184	432	221	216	---	328	120	1370	831	89	63	35
30	182	428	221	256	---	519	160	1990	567	297	48	107
31	181	---	220	449	---	569	---	3540	---	404	29	---
TOTAL	6641	9572	7175	6283	21374	26218	7400	81004	70066	12495	3733	7732
MEAN	214	319	231	203	763	846	247	2613	2336	403	120	258
MAX	666	508	375	449	2670	2550	500	5820	3160	1060	561	1770
MIN	103	151	173	137	192	213	120	214	567	89	29	21
AC-FT	13170	18990	14230	12460	42400	52000	14680	160700	139000	24780	7400	15340

BRAZOS RIVER BASIN

327

08106500 LITTLE RIVER AT CAMERON, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1994#, BY WATER YEAR (WY)

MEAN	1278	1004	1302	1614	2055	1886	2123	3254	2680	1672	615	591
MAX	10140	5063	8579	9662	13030	14420	10560	12970	11330	9426	5106	3141
(WY)	1960	1975	1992	1992	1992	1992	1992	1965	1957	1992	1992	1974
MIN	17.2	18.4	23.0	34.5	50.2	22.8	16.5	132	15.1	1.58	6.24	4.40
(WY)	1955	1956	1955	1956	1957	1956	1956	1984	1954	1956	1954	1956

SUMMARY STATISTICS FOR 1993 CALENDAR YEAR FOR 1994 WATER YEAR WATER YEARS 1954 - 1994#

ANNUAL TOTAL	735502		259693									
ANNUAL MEAN	2015		711							1671		
HIGHEST ANNUAL MEAN										7759		1992
LOWEST ANNUAL MEAN										174		1956
HIGHEST DAILY MEAN	15800	May 11	5820	May 18	84200	May 18	1965					
LOWEST DAILY MEAN	39	Sep 6	27	Sep 27	.00	Jul 12	1956					
ANNUAL SEVEN-DAY MINIMUM	49	Sep 2	33	Sep 23	.00	Jul 12	1956					
INSTANTANEOUS PEAK FLOW			6260	May 17	116000	Apr 5	1957					
INSTANTANEOUS PEAK STAGE			14.89	May 17	39.56	Apr 5	1957					
INSTANTANEOUS LOW FLOW			24	Sep 27	.00	Jul 12	1956					
ANNUAL RUNOFF (AC-FT)	1459000		515100		1210000							
10 PERCENT EXCEEDS	5440		2570		4710							
50 PERCENT EXCEEDS	810		250		465							
90 PERCENT EXCEEDS	113		.87		62							

e Estimated

Period of regulated streamflow.

08106500 LITTLE RIVER AT CAMERON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1959 to September 1974 and February to August 1994.
 Chemical and biochemical analyses: January 1968 to July 1993. Sediment analyses: February 1978 to July 1993.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1959 to current year.

WATER TEMPERATURES: October 1959 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,280 microsiemens Sept. 25, 26, 1963; minimum daily, 154 microsiemens Sept. 13, 1974.

WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 6, 1964, Aug. 1, 1969; minimum daily, 0.0°C Dec. 25, 26, 29, 30, 1983.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 937 microsiemens Aug. 19; minimum daily, 350 microsiemens Feb. 24.

WATER TEMPERATURE: Maximum daily, 30.0°C on many days during July and Aug.; minimum daily, 7.0°C on many days in Nov., Jan. and Feb.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	
	FEB 07...	1045	179	616	--	14.0	220	28	61	17	
	APR 30...	0830	102	694	8.2	20.0	250	40	73	17	
	AUG 31...	1200	28	621	8.1	29.0	210	33	60	15	
	DATE		SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	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 07...	41	1	3.1	190	42	55	0.30	8.0	344	
	APR 30...	52	1	4.2	210	53	62	0.40	9.8	399	
	AUG 31...	50	1	5.2	180	48	59	0.40	12	357	
MONTH YEAR		DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)	
OCT. 1993		6641	615	343	6150	50	903	43	775	220	
NOV. 1993		9572	632	352	9100	52	1340	45	1160	220	
DEC. 1993		7175	679	378	7330	57	1100	50	976	230	
JAN. 1994		6283	706	394	6680	60	1010	54	914	240	
FEB. 1994		21374	528	294	17000	42	2410	34	1950	200	
MAR. 1994		26218	556	310	21900	44	3140	36	2570	200	
APR. 1994		7400	643	358	7160	53	1060	46	921	220	
MAY 1994		81004	512	285	62400	40	8770	32	6950	190	
JUNE 1994		70066	515	287	54300	40	7640	32	6060	190	
JULY 1994		12495	577	321	10800	46	1560	38	1300	210	
AUG. 1994		3733	627	349	3520	52	521	45	452	220	
SEPT 1994		7732	491	273	5710	38	799	30	626	190	
TOTAL		259693	**	**	212000	**	30300	**	24600	**	
MTD.AVG.		711	543	302	**	43	**	35	**	200	

BRAZOS RIVER BASIN

329

08106500 LITTLE RIVER AT CAMERON, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	410	650	600	590	680	520	590	655	510	586	562	609
2	440	660	610	610	640	520	620	841	524	588	539	616
3	480	690	650	620	600	530	625	545	523	608	554	606
4	510	700	650	630	600	530	633	524	525	620	567	628
5	560	720	660	640	620	550	631	547	542	630	593	623
6	600	720	660	650	610	560	648	569	512	628	619	612
7	620	650	680	680	610	570	669	593	516	614	618	385
8	640	610	690	680	620	570	677	589	516	614	620	392
9	670	580	710	680	580	570	663	583	517	620	638	447
10	680	580	710	680	550	570	667	580	517	623	657	395
11	710	600	710	690	550	570	680	605	505	638	684	490
12	710	610	730	680	560	580	680	607	514	632	680	492
13	680	590	720	690	580	610	682	487	517	635	688	492
14	700	570	700	720	590	590	667	493	521	638	679	503
15	660	570	680	730	600	580	646	471	519	610	642	537
16	660	590	710	730	660	580	583	508	519	658	669	532
17	680	600	730	740	670	540	704	509	515	617	664	539
18	680	611	740	750	660	570	559	469	520	647	859	560
19	690	660	720	750	660	520	592	501	516	529	937	567
20	690	700	710	750	660	540	585	507	540	531	637	589
21	540	710	750	740	630	540	590	517	532	544	598	597
22	600	700	720	750	620	540	612	518	526	548	586	639
23	750	720	670	730	600	560	639	524	539	551	600	680
24	700	610	650	750	350	600	656	525	545	557	830	637
25	600	600	680	750	380	620	650	527	570	540	577	615
26	520	650	690	750	510	640	745	527	368	528	532	604
27	490	650	650	740	510	660	704	526	502	541	583	595
28	520	610	640	760	510	660	709	459	505	547	588	613
29	560	610	640	750	---	680	691	515	527	568	591	622
30	590	610	640	750	---	630	694	492	532	595	616	644
31	620	---	640	690	---	590	---	520	---	594	625	---
MEAN	612	638	682	705	586	577	650	543	518	593	640	562
MAX	750	720	750	760	680	680	745	841	570	658	937	680
MIN	410	570	600	590	350	520	559	459	368	528	532	385

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	10.0	11.0	8.0	8.0	12.0	16.0	19.0	21.0	27.0	26.0	29.0
2	23.0	11.0	13.0	9.0	7.0	10.0	17.0	19.0	21.0	28.0	26.0	28.0
3	23.0	13.0	15.0	9.0	7.0	11.0	17.0	18.0	21.0	28.0	26.0	28.0
4	22.0	14.0	14.0	9.0	9.0	12.0	17.0	18.0	21.0	28.0	27.0	28.0
5	22.0	15.0	13.0	8.0	11.0	12.0	19.0	19.0	22.0	29.0	27.0	28.0
6	23.0	12.0	13.0	10.0	11.0	15.0	15.0	20.0	22.0	29.0	28.0	29.0
7	23.0	12.0	12.0	10.0	13.0	17.0	15.0	22.0	22.0	29.0	28.0	29.0
8	24.0	11.0	13.0	8.0	15.0	19.0	17.0	22.0	23.0	29.0	28.0	28.0
9	23.0	11.0	15.0	8.0	15.0	15.0	19.0	23.0	23.0	30.0	28.0	27.0
10	20.0	12.0	16.0	10.0	10.0	13.0	20.0	23.0	23.0	29.0	28.0	25.0
11	20.0	12.0	14.0	11.0	7.0	13.0	21.0	24.0	23.0	30.0	28.0	26.0
12	20.0	15.0	13.0	12.0	8.0	13.0	20.0	24.0	22.0	30.0	29.0	25.0
13	21.0	18.0	13.0	12.0	8.0	13.0	18.0	23.0	22.0	30.0	29.0	26.0
14	21.0	18.0	12.0	11.0	8.0	13.0	20.0	22.0	22.0	30.0	29.0	26.0
15	20.0	17.0	11.0	10.0	10.0	15.0	22.0	24.0	22.0	30.0	30.0	27.0
16	22.0	16.0	10.0	11.0	11.0	15.0	20.0	18.0	22.0	29.0	30.0	27.0
17	23.0	14.0	11.0	10.0	11.0	16.0	19.0	18.0	22.0	29.0	29.0	25.0
18	24.0	14.0	11.0	9.0	13.0	17.0	19.0	20.0	24.0	29.0	30.0	25.0
19	24.0	15.0	12.0	7.0	15.0	19.0	21.0	18.0	24.0	27.0	30.0	24.0
20	23.0	12.0	12.0	8.0	16.0	19.0	21.0	18.0	25.0	27.0	30.0	25.0
21	20.0	12.0	10.0	8.0	16.0	20.0	21.0	18.0	25.0	27.0	28.0	25.0
22	19.0	10.0	10.0	9.0	17.0	18.0	22.0	19.0	25.0	27.0	28.0	24.0
23	17.0	11.0	8.0	10.0	15.0	20.0	22.0	18.0	25.0	28.0	28.0	22.0
24	16.0	13.0	8.0	10.0	14.0	20.0	23.0	18.0	28.0	28.0	28.0	20.0
25	16.0	10.0	8.0	12.0	13.0	18.0	23.0	19.0	27.0	29.0	29.0	21.0
26	16.0	8.0	8.0	14.0	10.0	19.0	23.0	19.0	27.0	27.0	29.0	22.0
27	16.0	7.0	9.0	15.0	10.0	19.0	23.0	19.0	25.0	26.0	29.0	22.0
28	15.0	7.0	10.0	12.0	11.0	16.0	24.0	20.0	25.0	26.0	29.0	24.0
29	16.0	8.0	9.0	10.0	---	15.0	24.0	20.0	26.0	27.0	29.0	24.0
30	13.0	10.0	8.0	10.0	---	15.0	20.0	23.0	26.0	27.0	30.0	24.0
31	11.0	---	8.0	9.0	---	15.0	---	23.0	---	27.0	29.0	---
MEAN	19.9	12.3	11.3	10.0	11.4	15.6	19.9	20.3	23.5	28.3	28.5	25.4
MAX	24.0	18.0	16.0	15.0	17.0	20.0	24.0	24.0	28.0	30.0	30.0	29.0
MIN	11.0	7.0	8.0	7.0	7.0	10.0	15.0	18.0	21.0	26.0	26.0	20.0

BRAZOS RIVER MAIN STEM

08108700 BRAZOS RIVER AT SH 21 NR BRYAN, TX

LOCATION.--Lat 30°37'36", long 96°32'38", Brazos-Burleson County line, Hydrologic Unit 12070101, on right bank, 8 ft downstream from bridge on State Highway 21, 2.1 mi upstream from Little Brazos River, 4.8 mi upstream from discontinued station 08109000 Brazos River near Bryan, Texas, 10.5 mi west of Bryan, and at mile 285.9.

DRAINAGE AREA.--39,049 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--August 1899 to December 1902, February 1918 to current year. Monthly figures only for some periods, published in WSP 1312. Prior to September 1925, published as "near College Station".

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

GAGE.--Water-stage recorder. Datum of gage is 192.33 ft above National Geodetic Vertical Datum of 1929, from topographic map. Aug. 1, 1899, to Dec. 31, 1902, and Feb. 23, 1918, to Sept. 17, 1925, nonrecording gage at site 12.3 mi downstream at different datum. Sept. 11, 1925, to Oct. 24, 1932 nonrecording a gage at site 4.2 mi downstream at different datum. Oct. 25, 1932, to Sept. 30, 1993, recording gage at site 4.8 mi downstream at different datum.

REMARKS.--Records good. Flow is partly regulated by six upstream reservoirs with a combined capacity of 4,828,600 acre-ft, of which 3,482,690 acre-ft is for flood control. Many small diversions above station for irrigation, municipal, industrial, and oil field operation. Flow is affected at times by discharge from the flood-detention pools of 145 floodwater-retarding structures with a combined detention capacity of 152,800 acre-ft. These structures control runoff from 450 mi². Since 1941, at least 10 percent of drainage area is regulated by upstream reservoirs. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--24 years (water years 1900-1902, 1919-25, 1927-40), 5,652 ft³/s (4,095,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION.--Maximum stage since at least 1854, 54 ft Sept. 12 1921, present site and datum (discharge not determined); minimum daily discharge, 89 ft³/s Aug. 24, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 5, 1913, reached a stage of 51 ft, present site and datum, from information by Texas and New Orleans Railroad Co. at their bridge 200 ft 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1280	1240	1760	2560	1260	5430	1890	1190	13200	1320	1050	1450
2	1230	1490	2000	2450	1350	4750	1690	1620	11200	1230	924	996
3	1090	1720	1330	2230	1500	4560	1430	1500	9450	1200	804	1110
4	850	2000	797	2210	1380	4200	1200	1280	8540	1210	1070	741
5	940	1550	572	2320	1230	3880	985	1620	6690	1150	1020	788
6	968	1250	636	2330	1030	2420	812	1370	6150	1120	597	497
7	773	1270	591	2270	1040	1880	694	1190	5530	1110	517	343
8	1090	1310	586	2040	763	1610	648	992	5330	1140	563	479
9	940	1190	988	1270	593	1520	1190	1050	5080	1060	583	855
10	783	1370	873	1320	586	1480	1450	1210	4450	1020	613	1060
11	875	1360	800	1610	673	1700	980	5430	5190	1200	544	2050
12	926	1110	987	1380	1240	2330	712	8170	4840	1030	413	1180
13	764	905	1310	1070	1470	2280	624	8610	4800	594	562	1130
14	890	1010	2630	890	1360	2010	595	14200	4630	737	584	1140
15	1130	881	3000	1200	1090	1690	610	20300	4500	758	538	1070
16	1140	1040	2620	1010	799	1630	690	17200	4520	592	508	982
17	991	1090	1570	946	617	1850	826	16500	4500	525	787	960
18	680	1020	1320	826	570	1770	876	17400	4040	545	701	1030
19	1040	1910	1370	792	592	2020	692	13600	3740	1170	450	847
20	1750	1590	1240	822	587	1870	624	12100	3250	1800	385	526
21	3750	1240	990	979	645	1690	746	11000	2540	1150	541	449
22	5820	1240	997	1030	3190	1620	1030	10200	2310	896	1120	573
23	3870	1270	1370	986	14500	1490	1230	11300	2210	1160	1320	671
24	3080	1190	1660	1160	17200	1370	1160	12400	1690	1160	1070	423
25	1870	1070	1470	1100	11400	1480	1030	11300	1570	1130	928	609
26	1570	1060	1460	822	9180	1900	1030	10400	2560	1410	1090	576
27	1540	1140	1490	688	6520	1580	1080	9740	2770	1480	971	408
28	1380	1790	1520	686	5820	1280	1070	10400	2820	1240	881	450
29	1260	1880	2190	986	---	1850	1050	13500	2660	1090	1030	950
30	1070	1740	2380	678	---	2250	982	12000	1660	889	1070	885
31	970	---	2420	531	---	2120	---	12100	---	886	1270	---
MEAN	1494	1331	1449	1329	3149	2242	988	8738	4747	1065	790	841
MAX	5820	2000	3000	2560	17200	5430	1890	20300	13200	1800	1320	2050
MIN	680	881	572	531	570	1280	595	992	1570	525	385	343

BRAZOS RIVER MAIN STEM

331

08108700 BRAZOS RIVER AT SH 21 NR BRYAN, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1994, BY WATER YEAR (WY)

MEAN	1494	1331	1449	1329	3149	2242	988	8738	4747	1065	912	964
MAX	1494	1331	1449	1329	3149	2242	988	8738	4747	1065	1034	1086
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1993	1993
MIN	1494	1331	1449	1329	3149	2242	988	8738	4747	1065	790	841
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS

FOR 1994 WATER YEAR

WATER YEARS 1993 - 1994

ANNUAL MEAN	2344		2344	
HIGHEST ANNUAL MEAN	2344		2344	1994
LOWEST ANNUAL MEAN	2344		2344	1994
HIGHEST DAILY MEAN	20300	May 15	20300	May 15 1994
LOWEST DAILY MEAN	343	Sep 7	343	Sep 7 1994
ANNUAL SEVEN-DAY MINIMUM	530	Sep 21	530	Sep 21 1994
INSTANTANEOUS PEAK FLOW	20900	May 15	20900	May 15 1994
INSTANTANEOUS PEAK STAGE	22.30	May 15	22.30	May 15 1994
INSTANTANEOUS LOW FLOW	281	Sep 8	281	Sep 8 1994
10 PERCENT EXCEEDS	5370		4540	
50 PERCENT EXCEEDS	1200		1160	
90 PERCENT EXCEEDS	596		640	

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 upstream from centerline of State Highway 21, 4.5 mi upstream from West Yegua Creek, 5.0 mi southwest of Dime Box, and 17.5 mi upstream from mouth.

DRAINAGE AREA.--236 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 295.4 ft above State Department of Highways and Public Transportation datum. June 30 to July 21, 1970, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records fair. Several observations of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1851, 16 ft in December 1913, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peaks greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.87	2.8	5.8	7.0	18	7.6	2.9	43	1.6	.00	1.9
2	.00	.93	2.9	5.9	6.6	40	7.6	3.7	26	1.3	.00	4.4
3	.00	1.1	3.3	5.9	6.6	23	7.6	7.7	20	1.1	.00	9.1
4	.00	1.2	3.5	8.9	6.6	16	7.6	12	17	2.3	.00	13
5	.00	1.3	3.7	9.4	6.6	13	7.9	14	16	2.9	.21	8.6
6	.00	1.2	3.8	7.4	7.2	8.9	8.6	14	15	2.9	.47	3.2
7	.00	1.2	3.8	9.1	7.6	7.6	7.6	12	14	2.5	.54	2.2
8	.00	1.2	3.8	7.2	7.6	7.6	7.6	12	13	2.1	.68	1.7
9	.00	1.3	4.1	7.0	7.6	7.6	7.6	8.0	12	1.6	1.0	1.9
10	.00	1.4	4.5	10	9.6	7.6	4.9	7.6	12	1.1	1.9	3.8
11	.00	1.6	4.5	12	12	7.6	3.3	6.6	12	1.3	1.4	6.2
12	.00	1.8	4.4	12	12	7.6	3.3	3.7	12	1.4	1.4	7.0
13	.00	1.9	5.1	12	12	7.6	5.2	7.5	14	.98	1.3	5.7
14	.00	2.1	5.1	12	13	7.6	6.4	26	14	.84	.86	5.1
15	.00	2.3	4.6	12	13	8.5	8.2	57	13	.79	1.0	3.5
16	.00	2.4	4.5	12	12	15	13	80	12	.64	1.5	2.6
17	.00	2.5	4.6	12	12	18	13	64	12	.68	2.6	2.3
18	.00	2.7	5.0	8.5	7.9	19	12	96	13	.42	4.0	1.9
19	.00	2.8	5.7	6.8	7.6	17	12	63	12	.20	3.0	1.5
20	.19	2.7	9.8	6.2	7.6	16	10	29	11	.05	2.7	1.4
21	.80	2.7	5.6	6.1	7.7	14	8.9	25	12	.01	2.7	1.5
22	2.1	2.7	7.9	5.5	16	13	7.6	19	10	.00	20	1.3
23	1.6	2.8	13	5.6	24	12	11	16	3.9	.00	51	1.1
24	1.2	2.8	14	6.2	33	12	17	13	3.4	.00	37	.83
25	.95	2.6	13	11	30	12	15	13	4.7	.00	19	.55
26	.88	2.5	11	13	15	12	13	13	4.0	.00	13	.45
27	.88	2.6	6.1	13	11	12	9.2	13	3.3	.00	6.1	.32
28	.86	2.6	5.7	12	7.6	12	4.3	13	2.1	.00	2.9	.35
29	.85	2.5	5.2	12	---	12	2.9	18	1.7	.00	2.3	.68
30	.82	2.6	6.1	8.5	---	12	2.9	18	1.6	.00	2.0	1.0
31	.81	---	6.5	7.6	---	11	---	34	---	.00	1.7	---
TOTAL	11.94	60.90	183.6	282.6	326.4	407.2	252.8	721.7	359.7	26.71	182.26	95.08
MEAN	.39	2.03	5.92	9.12	11.7	13.1	8.43	23.3	12.0	.86	5.88	3.17
MAX	2.1	2.8	14	13	33	40	17	96	43	2.9	51	13
MIN	.00	.87	2.8	5.5	6.6	7.6	2.9	2.9	1.6	.00	.00	.32
AC-FT	24	121	364	561	647	808	501	1430	713	53	362	189

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

MEAN	18.8	41.7	75.6	66.0	95.8	61.7	61.4	130	104	6.67	1.47	16.8
MAX	245	415	694	481	891	280	355	662	1052	67.7	18.2	368
(WY)	1974	1975	1992	1991	1992	1970	1969	1975	1987	1975	1974	1974
MIN	.000	.000	.000	.006	.007	.65	.72	.000	.000	.000	.000	.000
(WY)	1964	1964	1964	1964	1964	1971	1971	1984	1984	1963	1962	1963

SUMMARY STATISTICS

	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1962 - 1994
ANNUAL TOTAL	22519.66	2910.89	
ANNUAL MEAN	61.7	7.98	56.3
HIGHEST ANNUAL MEAN			256
LOWEST ANNUAL MEAN			.55
HIGHEST DAILY MEAN	1210	96	9470
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		121	12500
INSTANTANEOUS PEAK STAGE		4.84	15.39
INSTANTANEOUS LOW FLOW		.00	.00
ANNUAL RUNOFF (AC-FT)	44670	5770	40800
10 PERCENT EXCEEDS	143	15	88
50 PERCENT EXCEEDS	13	5.7	4.5
90 PERCENT EXCEEDS	.00	.20	.00

08109800 EAST YEGUA CREEK NEAR DIME BOX, TX

LOCATION.--Lat 30°24'26", long 96°49'02", Burleson County, Hydrologic Unit 12070102, on left bank 49 ft upstream from centerline of State Highway 21, 0.8 mi downstream from Buffalo Creek, 3.5 mi north of Dime Box, and 12.2 mi upstream from mouth.

DRAINAGE AREA.--244 mi².

PERIOD OF RECORD.--August 1962 to current year

Water-quality records.--Chemical and biochemical analyses: November 1980 to August 1987.

Sediment analyses: June 1966 to September 1975.

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

GAGE.--Water-stage recorder. Datum of gage is 284.00 ft State Department of Highways and Public Transportation datum. Nov. 6 to Dec. 10, 1970, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Diversions above station for irrigation. Several observations of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1886, 17 ft in 1899 and 1957, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peaks greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	23	24	29	26	54	27	22	25	20	19	19
2	18	24	24	29	23	55	28	22	23	20	19	20
3	19	26	24	29	22	41	29	27	22	20	19	21
4	21	27	24	29	22	35	29	33	24	20	19	20
5	21	28	24	25	22	33	31	32	24	20	19	18
6	20	26	23	24	22	33	31	30	25	20	19	18
7	18	29	24	24	21	32	28	28	25	20	19	15
8	19	30	26	27	21	32	24	29	24	22	20	15
9	18	33	23	27	21	32	21	27	24	22	20	18
10	17	33	21	28	22	38	19	26	25	22	20	21
11	17	32	20	29	23	37	19	25	29	22	20	20
12	17	34	17	25	25	34	23	25	40	22	20	20
13	24	35	17	24	25	33	24	39	30	20	20	21
14	29	36	18	24	23	33	24	63	27	19	19	20
15	26	34	20	24	20	36	25	114	28	19	20	20
16	24	38	23	24	22	49	26	144	28	18	20	20
17	21	35	24	24	23	50	24	161	29	18	20	19
18	19	35	27	24	23	40	22	153	28	18	21	19
19	18	33	30	23	24	36	22	60	26	18	19	18
20	29	29	29	24	24	34	22	33	26	18	18	19
21	67	29	29	23	25	32	21	27	25	18	19	19
22	76	29	33	22	89	31	22	26	24	18	39	18
23	42	29	46	23	155	30	31	26	22	18	52	18
24	31	30	48	24	158	31	48	26	22	18	37	18
25	29	30	38	25	69	31	29	25	21	18	21	18
26	28	29	30	24	50	35	24	23	21	18	20	20
27	28	27	29	23	42	33	23	23	20	17	20	20
28	22	28	33	23	36	32	23	24	20	17	20	20
29	22	29	32	23	---	29	23	24	20	17	20	19
30	23	28	30	25	---	28	22	23	20	17	19	19
31	22	---	28	26	---	26	---	23	---	18	18	---
TOTAL	802	908	838	777	1078	1105	764	1363	747	592	675	570
MEAN	25.9	30.3	27.0	25.1	38.5	35.6	25.5	44.0	24.9	19.1	21.8	19.0
MAX	76	38	48	29	158	55	48	161	40	22	52	21
MIN	17	23	17	22	20	26	19	22	20	17	18	15
AC-FT	1590	1800	1660	1540	2140	2190	1520	2700	1480	1170	1340	1130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

	MEAN	21.1	40.3	70.8	71.8	109	76.7	78.3	130	115	17.6	7.08	23.4
MAX	242	347	651	418	934	276	364	656	813	221	67.1	506	
(WY)	1985	1975	1992	1991	1992	1992	1976	1975	1987	1968	1974	1974	
MIN	.000	.023	.77	2.55	3.65	3.89	1.00	2.98	.91	.001	.000	.000	
(WY)	1964	1964	1964	1990	1990	1972	1972	1984	1971	1967	1962	1963	

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1962 - 1994
ANNUAL TOTAL	41088	10219	
ANNUAL MEAN	113	28.0	63.1
HIGHEST ANNUAL MEAN			245
LOWEST ANNUAL MEAN			3.93
HIGHEST DAILY MEAN	1510	Apr 6	9490
LOWEST DAILY MEAN	14	Aug 27	.00
ANNUAL SEVEN-DAY MINIMUM	15	Aug 27	.00
INSTANTANEOUS PEAK FLOW			14000
INSTANTANEOUS PEAK STAGE			13.91
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (AC-FT)	81500	20270	45730
10 PERCENT EXCEEDS	261	36	77
50 PERCENT EXCEEDS	34	24	8.3
90 PERCENT EXCEEDS	17	18	.14

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 Vegua Creek, at the southwest edge of the city limits of Somerville, and 20.0 mi upstream from mouth.

DRAINAGE AREA.--1,007 mi².

PERIOD OF RECORD.--February 1966 to current year. Prior to October 1970, published as Somerville Reservoir.

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

REMARKS.--The lake is formed by a rolled earthfill dam 20,210 ft long, with a 4,715-foot-long dike and a 1,250-foot long uncontrolled spillway. Deliberate impoundment began Jan. 3, 1967, and the dam was completed Oct. 27, 1967. The spillway is an uncontrolled ogee weir 1,250 ft wide located near right end of dam. The low-flow outlet consists of one 10.0-foot-diameter conduit that is controlled by two 5.0- by 10.0-foot tractor-type gates. Capacity table is based on Geological Survey topographic maps dated 1959. The lake was designed for flood control and water conservation. Satellite telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	280.0	-
Design flood.....	274.5	1,028,800
Crest of spillway.....	258.0	507,500
Top of conservation pool.....	238.0	160,100
Lowest gated outlet (invert of 10-foot conduit).....	206.0	200

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 547,600 acre-ft Mar. 6, 1992 (elevation, 259.60 ft); minimum, 88,800 acre-ft Oct. 5, 1984 (elevation, 230.70 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 169,100 acre-ft May 16 (elevation, 238.75 ft); minimum daily, 138,700 acre-ft Oct. 11 (elevation, 236.05 ft).

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

236.0	138,200	246.0	268,800	254.0	416,100
237.0	148,900	248.0	301,600	256.0	460,300
240.0	184,000	250.0	336,900	258.0	507,500
243.0	223,900	252.0	375,000	259.0	532,300

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140100	142200	146200	147700	148800	158500	160000	160000	161400	159400	146900	155600
2	139900	142400	146300	148000	148800	159000	159900	161700	161500	159100	146600	155700
3	139900	142700	146200	147800	148800	159400	159800	161600	161800	159000	146600	155600
4	139800	142700	146600	147600	148800	159700	159000	161500	161800	158600	146600	155600
5	139900	143100	146600	147700	148900	159800	161000	161700	161700	158500	146600	155300
6	139500	142900	146400	147900	148900	159900	159800	161700	161700	158300	146500	154900
7	139400	142300	146400	147600	149100	160000	159700	161800	161600	158100	146300	154800
8	139400	142200	146600	147500	149200	160800	159700	161800	161500	157800	146100	154600
9	139100	142400	146900	147500	149600	161700	159800	161800	161300	157700	146700	154800
10	138900	142500	146700	147600	149800	161700	159800	161800	161000	157600	147300	154600
11	138700	142400	146700	147800	149600	161600	160100	161900	161100	157400	147200	154300
12	138900	142800	146900	147800	149800	161700	160000	161800	161500	157000	147000	154200
13	139700	143200	147000	147900	149700	161900	159900	165400	161500	156800	146900	154000
14	139400	145700	146700	147900	149700	162200	160000	167800	161400	156600	146900	153800
15	139400	145500	146600	147400	149800	163000	161700	168400	161400	155900	146800	153500
16	139400	146500	146600	147900	149800	163100	162400	169100	161400	154800	147800	153300
17	139400	146400	146700	147700	149800	163100	162400	169000	161400	153800	147600	153000
18	139300	146600	146800	147800	149900	162200	162300	168700	161300	152700	147500	152400
19	139300	146500	147200	147600	150100	161500	162200	167800	161300	151500	147400	152100
20	142400	146300	147000	147600	151100	160900	161900	166800	161000	150500	147200	151800
21	142900	146300	147000	146700	151300	160600	161700	165700	160900	150100	147300	151400
22	142900	146300	147700	146800	154100	160600	161400	164500	160900	149600	152000	150300
23	142900	146300	147500	147900	155600	160800	161100	163300	160900	149400	155500	148700
24	142900	146500	147400	148100	156200	160800	160700	162100	161100	149200	157000	148000
25	142900	146300	147200	148200	156600	160800	160500	161300	160900	149000	157100	147700
26	142900	146200	147200	148400	156600	161000	160600	161000	160800	148800	157000	147400
27	142800	146200	147200	148900	156600	160700	160600	160900	160300	148100	156700	147200
28	142800	146200	147200	149400	156800	160500	160500	160900	160100	147800	156500	146800
29	142900	146000	147200	148800	---	160500	160600	160900	159900	147700	156200	146500
30	142600	146000	147200	148800	---	160100	160200	161700	159500	147400	155900	146300
31	142400	---	147400	148800	---	160100	---	161700	---	147000	155800	---
MAX	142900	146600	147700	149400	156800	163100	162400	169100	161800	159400	157100	155700
MIN	138700	142200	146200	146700	148800	158500	159000	160000	159500	147000	146100	146300
(+)	236.40	236.73	236.86	236.99	237.71	238.00	238.01	238.14	237.95	236.83	237.62	236.76
(@)	+2200	+3600	+1400	+1400	+8000	+3300	+100	+1500	-2200	-12500	+8800	-9500

CAL YR 1993 MAX 221800 MIN 138700 (@) +17700
WTR YR 1994 MAX 169100 MIN 138700 (@) +6100

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

08110100 DAVIDSON CREEK NEAR LYONS, TX

LOCATION.--Lat 30°25'10", long 96°32'24", Burleson County, Hydrologic Unit 12070102, on left bank 83 ft downstream from Farm Road 60, 1.2 mi downstream from Berry Creek, 2.8 mi northeast of Lyons, and 10.7 mi upstream from mouth.

DRAINAGE AREA.--195 mi².

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

Water-quality records.--Sediment records: June 1966 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 220.26 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. The city of Caldwell discharges sewage effluent into creek above station. Several observations of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1947 reached a stage of 17 ft, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peaks above base discharge

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	.16	.15	1.4	5.1	368	2.7	.78	7.0	.12	.00	.00
2	.33	.17	.18	.99	4.2	312	3.0	.69	7.6	.06	.00	.00
3	.24	.16	.21	.87	3.6	54	2.8	9.5	9.9	.04	.00	.00
4	.17	.13	.19	.51	3.3	26	2.8	7.6	6.9	.02	.00	.00
5	.14	.23	.18	.49	2.9	16	2.5	12	3.8	.01	.00	.00
6	.13	.74	.36	.73	2.9	12	2.4	4.9	2.1	.00	.00	.00
7	.17	.53	4.0	.61	2.8	9.5	9.9	4.4	1.2	.00	.00	.00
8	.23	.70	5.4	.51	2.8	8.1	6.5	5.6	.81	.00	.00	.00
9	.19	.69	1.6	.83	3.0	63	4.1	4.4	.48	.00	.00	.04
10	.13	.70	.58	1.1	2.8	29	3.2	2.8	.41	.00	1.8	.22
11	.12	.78	.41	1.1	3.1	13	2.5	1.4	.28	.00	.31	.20
12	.13	.86	.37	1.0	6.4	10	2.4	.86	79	.00	.00	.27
13	.66	.90	.21	.96	7.4	9.0	1.8	5.1	29	.00	.02	.30
14	.88	27	.19	.78	7.3	7.2	1.5	66	9.2	.00	.00	.41
15	1.6	11	.19	.80	6.9	7.7	12	69	3.8	.00	.00	.39
16	1.3	24	.34	.97	6.4	8.8	115	63	1.7	.00	.00	.26
17	.65	29	.49	1.0	5.8	10	22	49	1.1	.00	.00	.19
18	.36	6.5	.50	.86	5.0	11	9.0	78	1.0	.00	.00	.11
19	.24	2.5	.58	.86	4.5	10	4.2	42	.96	.00	.00	.00
20	33	1.1	.67	1.0	5.0	7.7	1.8	22	.71	.00	.00	.00
21	65	1.1	.63	1.1	5.4	6.5	.93	12	5.0	.00	.04	.00
22	20	1.1	13	1.6	192	5.7	.92	7.6	2.4	.00	.35	.00
23	5.6	.75	48	1.5	576	4.9	1.4	6.4	1.1	.00	.16	.00
24	1.7	.45	26	1.6	168	4.5	1.1	3.4	1.4	.00	.10	.00
25	.68	.26	11	1.5	44	3.9	.79	2.0	18	.00	.04	.00
26	.29	.21	7.5	31	24	3.6	1.7	1.5	8.7	.00	.14	.00
27	.26	.20	5.2	95	15	3.4	2.7	1.3	2.5	.00	.11	.00
28	.22	.18	3.6	18	11	3.3	1.6	.97	.65	.00	.05	.00
29	.15	.17	2.3	9.7	---	3.1	1.5	.77	.26	.00	.02	.00
30	.10	.15	1.6	7.4	---	2.9	.92	2.8	.17	.00	.00	.00
31	.15	---	1.6	6.2	---	2.7	---	2.3	---	.00	.00	---
TOTAL	135.19	112.42	137.23	191.97	1126.6	1036.5	225.66	490.07	207.13	0.25	3.14	2.39
MEAN	4.36	3.75	4.43	6.19	40.2	33.4	7.52	15.8	6.90	.008	.10	.080
MAX	65	29	48	95	576	368	115	78	79	.12	1.8	.41
MIN	.10	.13	.15	.49	2.8	2.7	.79	.69	.17	.00	.00	.00
AC-FT	268	223	272	381	2230	2060	448	972	411	.5	6.2	4.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	29.3	39.4	76.5	88.5	128	81.2	113	138	127	8.18	3.71	21.5																				
MAX	445	350	646	687	948	357	692	451	841	61.5	36.1	428																				
(WY)	1974	1975	1992	1991	1992	1979	1977	1992	1968	1968	1983	1974																				
MIN	.000	.000	.000	.19	1.20	.44	.23	1.16	.060	.000	.000	.000																				
(WY)	1964	1968	1968	1971	1967	1971	1972	1978	1971	1964	1964	1963																				

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1963 - 1994

ANNUAL TOTAL	45936.76	3668.55	70.6
ANNUAL MEAN	126	10.1	237
HIGHEST ANNUAL MEAN			1.42
LOWEST ANNUAL MEAN			1992
HIGHEST DAILY MEAN	4480	576	12000
LOWEST DAILY MEAN	.10	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.14	.00	.00
INSTANTANEOUS PEAK FLOW		739	23200
INSTANTANEOUS PEAK STAGE		13.20	18.67
INSTANTANEOUS LOW FLOW		.00	.00
ANNUAL RUNOFF (AC-FT)	91120	7280	51180
10 PERCENT EXCEEDS	188	14	76
50 PERCENT EXCEEDS	8.8	.96	2.5
90 PERCENT EXCEEDS	.20	.00	.00

BRAZOS RIVER MAIN STEM

08110200 BRAZOS RIVER AT WASHINGTON, TX

LOCATION.--Lat 30°21'40", long 96°09'18", Washington County, Hydrologic Unit 12070101, near right bank beneath floor of bridge on State Highway 105, 2.4 mi upstream from Navasota River, 2.5 mi north of Washington, and at mile 228.8.

DRAINAGE AREA.--41,192 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--November 1965 to September 1983. Stage only site October 1983 to current year. Gage heights collected in this vicinity since 1915 are contained in reports of the National Weather Service.

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

GAGE.--Water-stage recorder. Datum of gage is 140.13 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated gage-height record, which are poor. Backwater at times from the Navasota River. There are many diversions above station for irrigation, municipal, industrial, and oil field operations. At times, flow affected by five upstream reservoirs with a combined capacity of 4,955,000 acre-ft. Flow is also affected by discharge from the flood-detention pools of 147 floodwater-retarding structures with a combined detention capacity of 153,200 acre-ft. These structures control runoff from 451 mi² above station. satellite telemeter at station.

AVERAGE DISCHARGE.--17 years (1965-83), 5,153 ft³/s (3,733,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded discharge, 82,500 ft³/s Jan. 24, 1968 (gage height, 33.60 ft); maximum gage height, 48.00 ft Dec. 26, 1991; minimum discharge, 170 ft³/s Oct. 22, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1856, 62.0 ft Dec. 6, 1913, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 18.46 ft May 16 at 0900 hours; minimum, 2.18 ft Aug. 21.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.98	3.31	4.36	5.48	3.05	11.00	4.78	3.34	13.96	4.45	3.04	4.34
2	3.80	3.78	4.44	5.52	4.01	10.84	4.64	4.09	13.08	4.07	3.09	4.04
3	3.80	4.08	4.54	5.24	4.11	10.82	4.23	4.58	11.82	3.88	2.94	3.81
4	3.28	4.34	3.60	5.13	4.21	10.23	3.88	4.20	11.31	3.78	2.87	3.33
5	3.15	4.41	3.02	5.13	3.91	9.59	e3.58	4.21	10.41	3.79	3.45	3.08
6	3.33	3.82	2.78	5.36	3.57	7.83	e3.21	4.35	9.97	3.55	2.94	2.97
7	3.09	3.60	2.85	5.14	3.46	6.27	e2.96	4.03	9.70	3.59	2.50	2.60
8	3.18	3.82	2.77	5.23	3.23	5.56	e2.82	3.76	9.51	3.43	2.50	2.41
9	3.43	3.58	2.86	4.46	2.82	6.71	e2.51	3.58	8.96	3.65	2.51	3.29
10	3.09	3.66	3.28	3.68	2.76	5.99	e3.24	3.57	8.13	3.35	2.61	3.22
11	2.99	3.80	3.04	4.18	2.90	5.60	e3.68	6.80	8.20	3.40	2.61	4.87
12	3.33	3.70	3.08	4.23	2.95	6.04	e3.00	9.89	8.17	3.79	2.43	4.30
13	3.38	3.36	3.61	3.73	4.21	5.90	e2.54	10.91	7.74	3.17	2.27	3.62
14	3.18	4.22	4.48	3.36	4.08	5.53	e2.33	13.63	7.74	2.77	2.51	3.69
15	3.44	4.06	5.95	3.14	3.83	5.08	e5.05	18.21	7.38	3.02	2.48	3.55
16	3.61	4.28	6.03	3.69	3.39	4.90	e3.60	17.93	7.36	3.36	2.39	3.42
17	3.52	4.48	5.00	3.17	2.97	4.92	e3.25	17.14	7.27	3.33	2.41	3.29
18	3.21	3.92	4.25	3.23	2.75	5.21	e3.27	17.99	7.18	3.28	2.92	3.36
19	2.83	3.88	4.22	2.97	2.69	5.42	e3.42	16.34	6.81	3.46	2.49	3.31
20	5.53	4.58	4.08	3.02	2.86	5.40	3.20	14.98	6.64	4.78	2.21	2.98
21	6.50	3.95	3.78	3.12	3.51	4.99	3.23	14.30	5.99	4.36	2.19	2.60
22	8.68	3.64	3.68	3.29	7.47	4.63	3.45	13.32	5.52	3.59	2.77	2.60
23	7.62	3.65	4.30	3.37	15.48	4.34	3.74	13.65	5.49	3.23	3.95	3.70
24	6.49	3.64	4.86	3.29	17.79	4.15	4.06	14.55	5.34	3.53	3.55	2.98
25	5.24	3.53	4.74	3.63	14.73	4.07	3.76	14.05	4.57	3.39	3.28	2.55
26	4.25	3.36	4.44	3.35	13.05	4.37	3.43	12.94	5.09	3.31	3.42	2.73
27	4.21	3.39	4.27	5.02	11.31	4.62	3.46	12.00	5.65	4.06	3.45	2.69
28	4.00	3.72	4.18	3.87	10.13	4.08	3.54	11.68	6.04	3.78	3.25	2.41
29	3.80	4.49	4.59	4.02	---	3.71	3.42	13.77	6.19	3.46	3.15	2.67
30	3.58	4.36	5.30	4.22	---	5.10	3.37	13.37	5.36	3.16	3.49	3.42
31	3.32	---	5.30	3.47	---	5.15	---	12.69	---	2.98	3.49	---
MAX	8.68	4.58	6.03	5.52	17.79	11.00	5.05	18.21	13.96	4.78	3.95	4.87
MIN	2.83	3.31	2.77	2.97	2.69	3.71	2.33	3.34	4.57	2.77	2.19	2.41

e Estimated

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX

LOCATION.--Lat 31°34'27", long 96°31'14", Limestone County, Hydrologic Unit 12070103, in city of Groesbeck at water supply pumping plant, 1.2 mi downstream from Springfield Lake, 3.7 mi north of Groesbeck, and 161.4 mi upstream from mouth.

DRAINAGE AREA.--239 mi².

PERIOD OF RECORD.--July 1975 to May 1978 (periodic gage-height and low-flow measurements only), June 1978 to current year.

Water-quality records.--Chemical analyses: November 1967 to June 1989.

GAGE.--Water-stage recorder, rainfall recorder, and concrete control. Datum of gage is 396.65 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow is partly regulated by Lake Mexia 7.4 mi upstream (capacity, 9,400 acre-ft) and by Springfield Lake 1.2 mi upstream (approximate capacity, 3,100 acre-ft). There are several diversions above station for irrigation, municipal supply, and oil field operation (total amount is unknown). The city of Groesbeck diverts water from pool at gage for municipal use, and returns washwater and sewage effluent into river downstream from gage. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1910, 26 ft in 1910 and 1944, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.9	.50	.71	.76	257	32	1.1	146	.75	.00	.00
2	.00	2.2	.57	3.9	.54	657	20	2.8	61	.22	.00	.00
3	.00	4.9	1.1	5.0	.41	286	20	23	41	.08	.00	.00
4	.00	4.6	6.0	1.8	.43	112	11	183	27	.04	.00	.00
5	.00	6.8	1.3	.73	.52	61	10	131	17	.03	.00	.00
6	.00	4.2	.63	.66	.53	41	9.3	59	11	.01	.00	.00
7	.00	1.4	.57	2.0	.40	33	3.4	38	7.1	.01	.00	.00
8	.00	.79	.65	.82	.54	27	2.2	27	3.7	.01	.00	.00
9	.00	.73	.64	.34	1.6	50	1.5	25	2.2	.01	.00	.00
10	.00	.53	.94	.09	2.0	41	1.3	239	1.3	.01	.00	.00
11	.00	.81	1.2	.33	.94	33	1.9	453	.94	.02	.00	.00
12	4.2	.93	.62	.44	.79	28	3.5	190	.73	.05	.00	.00
13	15	1.0	7.8	1.1	1.4	25	1.7	158	.37	.00	.00	.00
14	4.6	3.7	3.7	.79	.55	21	.87	597	.31	.00	.00	.00
15	3.5	2.5	.86	.28	.41	15	1.1	633	3.8	.00	.00	.00
16	2.2	5.7	.48	.24	.30	12	.71	243	12	.00	.00	.00
17	1.8	4.4	.36	2.5	.25	9.4	.35	96	42	.00	.00	.00
18	1.1	2.5	.47	.62	.17	7.5	.26	52	49	.00	.00	.00
19	.61	3.4	.47	.30	.29	5.9	.31	32	38	.00	.00	.00
20	556	2.4	2.6	.18	8.4	6.0	.14	20	25	.00	.00	.00
21	1530	1.1	.90	.11	.63	6.2	.78	12	16	.00	.00	.00
22	584	.78	1.2	.19	3800	3.0	6.3	7.1	9.4	.00	.00	.00
23	162	.33	1.2	.15	6100	2.5	19	4.4	7.5	.00	.00	.00
24	75	1.0	2.5	.36	1590	4.8	12	2.6	24	.00	.00	.00
25	50	2.6	2.4	.44	341	5.7	7.4	1.5	30	.00	.00	.00
26	35	2.9	1.0	.45	112	6.8	5.4	46	21	.00	.00	.00
27	23	.72	.72	2.3	64	10	3.3	1790	11	.00	.00	.00
28	13	.49	2.9	2.4	45	212	3.3	1970	5.9	.00	.00	.00
29	13	.52	2.8	1.0	---	293	2.4	794	3.1	.00	.00	.00
30	15	.65	1.0	.62	---	110	4.5	408	1.4	.00	.00	.00
31	5.4	---	.42	.60	---	50	---	286	---	.00	.00	---
TOTAL	3094.41	67.48	48.50	31.45	12136.23	2431.8	185.92	8524.5	618.75	1.24	0.00	0.00
MEAN	99.8	2.25	1.56	1.01	433	78.4	6.20	275	20.6	.040	.000	.000
MAX	1530	6.8	7.8	5.0	6100	657	32	1970	146	.75	.00	.00
MIN	.00	.33	.36	.09	.17	2.5	.14	1.1	.31	.00	.00	.00
AC-FT	6140	134	96	62	24070	4820	369	16910	1230	2.5	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1994, BY WATER YEAR (WY)

MEAN	41.7	44.9	199	88.0	262	178	76.6	321	122	3.89	7.92	.79
MAX	347	450	1154	518	909	1109	541	1384	554	51.4	103	5.24
(WY)	1982	1986	1992	1991	1986	1990	1979	1979	1981	1981	1983	1979
MIN	.000	.031	.075	.35	.65	.72	.61	.19	.13	.009	.000	.000
(WY)	1993	1989	1990	1989	1981	1981	1981	1984	1984	1984	1994	1993

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1978 - 1994

ANNUAL TOTAL	27548.63	27140.28	112
ANNUAL MEAN	75.5	74.4	270
HIGHEST ANNUAL MEAN			17.8
LOWEST ANNUAL MEAN			17300
HIGHEST DAILY MEAN	1870	Mar 23	May 11 1979
LOWEST DAILY MEAN	.00	Jul 20	Jun 14 1978
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 20	Jun 14 1978
INSTANTANEOUS PEAK FLOW		7120	May 11 1979
INSTANTANEOUS PEAK STAGE		9.39	May 11 1979
INSTANTANEOUS LOW FLOW		.00	Oct 5 1978
ANNUAL RUNOFF (AC-FT)	54640	53830	81360
10 PERCENT EXCEEDS	121	61	103
50 PERCENT EXCEEDS	3.6	1.0	1.5
90 PERCENT EXCEEDS	.00	.00	.00

BRAZOS RIVER BASIN

08110430 BIG CREEK NEAR FREESTONE, TX

LOCATION.--Lat 31°30'24", long 96°19'28", Limestone County, Hydrologic Unit 12070103, 12 ft to left and 25 ft downstream from left end of bridge on State Highway 164, 5.1 mi southwest of Freestone, and 8.2 mi upstream from mouth.

DRAINAGE AREA.--97.2 mi².

PERIOD OF RECORD.--July 1975 to June 1978 (periodic gage-height and low-flow measurements only), July 1978 to current year.

REVISED RECORDS.--WDR TX-92-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 362.94 ft above National Geodetic Vertical Datum of 1929. Apr. 25, 1985, to Aug. 17, 1987, at site 62 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1950, 19 ft in April 1957, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 22	2300	2,770	13.90	May 27	1830	2,260	13.65
May 15	0500	715	12.54				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.04	.59	2.9	3.6	102	8.8	4.9	31	5.1	.02	.00
2	.00	.04	.27	2.9	3.7	200	8.7	9.6	17	4.3	.02	2.6
3	.00	.69	.36	2.9	3.3	72	9.1	158	13	3.7	.01	5.9
4	.00	3.2	.55	2.8	3.2	35	9.9	232	11	3.3	.00	4.7
5	.00	1.8	.85	2.6	3.2	25	9.9	48	9.2	2.9	.00	3.4
6	.00	.80	.52	2.6	3.2	21	9.2	18	7.9	2.6	.00	1.5
7	.00	.27	.27	2.6	3.2	19	8.6	11	7.0	2.1	.00	.29
8	.00	.11	.21	2.6	3.0	17	7.9	8.2	6.2	1.6	.07	1.04
9	.00	.07	.21	2.6	3.2	29	7.7	6.7	5.4	1.6	1.3	.02
10	.00	.07	1.2	2.5	3.9	48	7.7	129	5.6	1.8	3.2	.01
11	.00	.09	.63	2.7	7.3	27	12	150	70	1.9	1.4	.00
12	4.9	.44	.33	3.0	23	19	192	41	20	1.7	.44	.00
13	97	1.0	5.3	4.0	18	16	159	42	8.7	1.7	.11	.00
14	222	2.0	13	4.1	8.4	15	26	349	6.2	1.3	.04	.00
15	80	2.5	7.5	4.0	5.6	14	13	638	16	.91	.03	.00
16	14	2.1	5.2	3.5	4.6	14	9.6	290	162	.88	.02	.00
17	6.5	2.8	4.0	3.2	4.1	13	7.4	45	285	1.1	.02	.00
18	3.9	3.1	3.2	3.2	3.8	13	5.9	21	79	.74	.01	.00
19	2.0	1.9	2.8	3.1	3.7	12	5.1	12	22	.49	.01	.00
20	37	1.5	3.1	3.0	62	12	4.9	7.7	17	1.1	.00	.00
21	95	1.3	3.3	3.1	77	11	5.2	5.9	11	1.4	.04	.00
22	22	.99	5.0	3.2	1520	11	6.0	4.4	8.7	.92	18	.00
23	3.9	.67	13	3.8	1610	10	74	3.9	7.1	.48	5.7	.00
24	1.3	.39	12	4.1	521	10	226	3.3	87	.28	2.4	.00
25	.32	.39	6.6	5.5	148	10	62	2.9	226	.14	1.2	.00
26	.05	.76	4.7	6.1	43	11	19	17	65	.08	.33	.00
27	.01	.93	3.9	6.4	27	12	12	1260	15	.07	.06	.00
28	.00	1.1	3.3	7.1	20	14	8.5	1170	8.5	.07	.03	.00
29	.00	1.5	3.0	5.5	---	13	6.8	517	6.2	.05	.02	.00
30	.00	1.6	3.0	4.3	---	11	5.5	177	5.4	.04	.01	.00
31	.02	---	3.0	3.7	---	9.6	---	91	---	.03	.00	---
TOTAL	589.90	34.15	110.89	113.6	4140.0	845.6	947.4	5473.5	1239.1	44.38	34.49	18.46
MEAN	19.0	1.14	3.58	3.66	148	27.3	31.6	177	41.3	1.43	1.11	.62
MAX	222	3.2	13	7.1	1610	200	226	1260	285	5.1	18	5.9
MIN	.00	.04	.21	2.5	3.0	9.6	4.9	2.9	5.4	.03	.00	.00
AC-FT	1170	68	220	225	8210	1680	1880	10860	2460	88	68	37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1994, BY WATER YEAR (WY)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	26.4	29.5	90.7	52.0	98.3	74.9	41.6	111	47.4	5.79	2.05	3.99					
MAX	205	150	609	262	274	209	192	335	159	62.0	11.8	33.4					
(WY)	1985	1986	1992	1991	1992	1990	1979	1990	1989	1981	1991	1991					
MIN	.000	.001	.056	.20	3.36	4.50	3.31	.26	.43	.012	.000	.000					
(WY)	1990	1989	1981	1981	1981	1986	1984	1984	1984	1986	1984	1984					

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1978 - 1994

	1993 CALENDAR YEAR	1994 WATER YEAR	WATER YEARS 1978 - 1994
ANNUAL TOTAL	17351.45	13591.47	48.5
ANNUAL MEAN	47.5	37.2	138
HIGHEST ANNUAL MEAN			4.58
LOWEST ANNUAL MEAN			8390
HIGHEST DAILY MEAN	1270 Jun 22	1610 Feb 23	.00 Dec 21 1991
LOWEST DAILY MEAN	.00 Jul 27	.00 Oct 1	.00 Sep 24 1978
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 27	.00 Oct 1	.00 Sep 29 1983
INSTANTANEOUS PEAK FLOW		2770 Feb 22	17500 Dec 21 1991
INSTANTANEOUS PEAK STAGE		13.90 Feb 22	16.33 Dec 21 1991
INSTANTANEOUS LOW FLOW		.00 Oct 1	.00 Sep 24 1978
ANNUAL RUNOFF (AC-FT)	34420	26960	35120
10 PERCENT EXCEEDS	114	62	85
50 PERCENT EXCEEDS	5.0	3.5	3.0
90 PERCENT EXCEEDS	.00	.00	.00

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX

LOCATION.--Lat 31°19'30", long 96°19'08", Leon County, Hydrologic Unit 12070103, in left end bypass pier of Sterling C. Robertson Dam on the Navasota River, 7.5 mi northwest of Marquez, and 124 mi upstream from mouth.

DRAINAGE AREA.--675 mi².

WATER-CONTENT RECORDS

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

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

REMARKS.--The lake is formed by a rolled earthfill dam 11,395 ft long, including the spillway. The lake was built for water conservation. Deliberate impoundment began on Oct. 16, 1978. The spillway is an uncontrolled broad-crested weir 3,000 ft long located near left end of dam. The spillway for normal flood releases is a gated concrete gravity structure with an ogee weir section and stilling basin located near center of dam. It is controlled by five 40- by 28-foot tainter gates. There are two 4- by 8-foot slide gates located in each of the two center piers of the spillway that discharge into the stilling basin. These gates can also be opened during extreme floods. A low-flow outlet, consisting of a 10-inch-diameter cast iron pipe, is located in the left end of pier. In addition, there are two 36-inch (outside diameter) steel cylinder pipes located in the right end pier for water supply releases. The lowest invert for low flow and water supply releases is at elevation 325.50 ft. The city of Mexia releases various amounts of sewage effluent into stream above lake. Satellite telemeter at station. Figures given herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	380.0	-
Design flood.....	370.0	334,735
Crest of spillway.....	369.6	327,760
Top of gates.....	365.0	253,905
Top of conservation pool.....	363.0	225,445
Concrete gated spillway.....	337.0	21,125
Lowest gated outlet (invert).....	322.0	265

COOPERATION.--Records of daily lake elevations are obtained in cooperation with the Brazos River Authority. Area and capacity tables were furnished by the Brazos River Authority and are based on U.S. Geological Survey topographic maps.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 245,000 acre-ft Dec. 21, 1991 (elevation, 364.38 ft); minimum, 10,740 acre-ft Nov. 30, 1978, (elevation, 332.63 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 230,800 acre-ft May 28, at 0400 hours (elevation, 363.38 ft); minimum, 187,700 acre-ft Oct. 11, at 1300 hours (elevation, 360.06 ft).

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

332	9,580	348	72,900	360	187,000
336	18,400	352	103,800	364	239,600
340	31,300	356	141,900	365	254,000
344	49,200				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190300	202300	201600	200600	198500	227000	225600	224300	225800	223400	210500	205400
2	189300	203100	201900	202000	198200	226100	226000	226500	224700	223200	210200	205100
3	190300	203300	203100	200400	198200	225300	226000	225000	224500	222700	209700	204700
4	190000	203300	201900	200100	198200	224600	225400	224600	224500	222400	209600	204400
5	189700	203900	201900	199200	198200	224100	227200	224700	224300	222000	209400	204200
6	189400	202900	201600	201000	198200	224100	225400	224900	224300	221700	208900	203800
7	189000	202400	201500	199700	197800	224300	224900	226000	224100	221100	208700	203400
8	188800	202600	201400	199200	198000	227000	224900	225400	223900	221200	209900	203400
9	189000	202600	201600	199000	199200	225300	224900	226000	223500	220800	209700	203100
10	188100	202600	201700	199300	199000	225200	224900	226300	224500	220200	209400	202900
11	187700	202000	201200	199500	198200	225000	226300	226400	224700	220000	209200	202400
12	190100	202500	200900	199600	199700	225400	226100	225600	224300	219300	208900	202300
13	194200	202100	202000	199600	198600	225600	225600	227800	224300	219000	208700	201700
14	195200	203400	201700	199900	198300	225400	225300	230000	223900	218600	208400	201400
15	195300	203400	201500	199100	198500	225700	226100	228500	227100	218100	208100	201200
16	195300	203700	201500	199200	198500	225600	224600	227000	228600	217700	207600	201200
17	195100	203500	201700	199300	198300	225200	223900	225800	228500	217400	207100	200600
18	195100	203300	201500	199100	198300	225600	223400	224900	227800	217000	206900	200000
19	194700	204000	201500	198500	198600	225300	223500	224500	226700	216200	206200	199500
20	198600	203100	201400	199000	200400	225400	225200	224300	225300	215700	207400	199100
21	201200	202900	201200	198800	201700	225600	224900	224100	224600	215200	208000	198700
22	203300	202500	201900	198800	220000	225200	224600	223900	224300	215000	207600	198200
23	203900	202500	201600	198800	227100	225300	224900	223700	225200	214600	207400	197500
24	203900	203800	201500	199100	226500	226100	224300	223400	226400	214100	207100	197200
25	203900	203300	201400	199300	226500	225200	225200	223100	225700	213200	206600	196700
26	204300	202400	201000	199300	225400	225400	225300	224700	224600	213500	206300	196200
27	203700	201900	201200	199700	225500	226300	225300	230700	224300	212800	206000	195800
28	203000	201900	201700	199300	226700	225300	225400	230000	224100	212300	205600	195700
29	206200	201700	201000	199300	---	225700	225000	229700	223900	211500	205300	195500
30	203100	201600	200700	199100	---	226100	225400	229600	223700	211200	204800	195500
31	202800	---	200700	199100	---	225800	---	227500	---	210900	205700	---
MAX	206200	204000	203100	202000	227100	227000	227200	230700	228600	223400	210500	205400
MIN	187700	201600	200700	198500	197800	224100	223400	223100	223500	210900	204800	195500
(+)	361.27	361.18	361.11	360.98	363.08	362.02	362.99	363.14	362.86	361.90	361.50	360.69
(#)	+12300	-1200	-900	-1600	+27,600	-900	-400	+2100	-3800	-12800	-5,200	-10,200

CAL YR 1993 MAX 233900 MIN 187700 (#) -8000
WTR YR 1994 MAX 230700 MIN 187000 (#) +5000

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

BRAZOS RIVER BASIN

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1980 to current year.

311937096194601 - LAKE LIMESTONE SITE AR

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
20...	1105	1.00	262	7.9	9.0	10.5	90
20...	1107	10.0	262	7.9	9.0	10.3	89
20...	1109	20.0	262	7.8	9.0	10.4	89
20...	1111	30.0	262	7.8	9.0	10.3	89
20...	1113	38.0	263	7.8	9.0	10.3	89
MAY							
05...	0857	1.00	254	7.8	21.0	8.6	97
05...	0859	10.0	254	7.6	21.0	8.2	92
05...	0901	20.0	255	7.3	20.0	7.2	79
05...	0903	30.0	255	7.2	20.0	7.0	77
05...	0905	37.0	256	7.2	19.5	7.0	76
AUG							
08...	1114	1.00	261	7.1	27.5	4.6	59
08...	1116	10.0	261	7.1	27.5	4.3	55
08...	1118	20.0	261	7.1	27.5	4.4	56
08...	1120	30.0	261	7.0	27.5	4.4	56
08...	1122	36.0	269	6.8	27.0	2.0	25

311941096191401 - LAKE LIMESTONE SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
JAN												
20...	1130	199000	1.00	263	7.9	9.0	0.90	10.5	90	85	26	26
20...	1132	--	10.0	263	7.8	9.0	--	10.3	89	--	--	--
20...	1134	--	20.0	263	7.8	9.0	--	10.3	89	--	--	--
20...	1136	--	30.0	263	7.8	9.0	--	10.3	89	--	--	--
20...	1138	--	41.0	263	7.8	9.0	--	10.3	89	85	23	26
MAY												
05...	0917	225000	1.00	254	7.8	21.5	0.46	8.5	97	73	16	22
05...	0919	--	10.0	255	7.4	20.0	--	7.2	79	--	--	--
05...	0921	--	20.0	255	7.4	20.0	--	7.4	82	--	--	--
05...	0923	--	30.0	255	7.4	20.0	--	7.3	81	--	--	--
05...	0925	--	41.0	259	7.1	19.5	--	5.9	64	79	18	24
AUG												
08...	1133	210000	1.00	261	7.2	28.0	1.40	4.9	63	76	13	23
08...	1135	--	10.0	261	7.2	27.5	--	4.6	59	--	--	--
08...	1137	--	20.0	261	7.2	27.5	--	4.4	56	--	--	--
08...	1139	--	30.0	266	6.9	27.0	--	1.2	15	--	--	--
08...	1141	--	42.0	325	7.0	24.5	--	0	0	88	0	27

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN												
20...	4.9	19	0.9	4.3	59	22	27	0.10	3.0	142	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	4.9	19	0.9	4.2	62	22	27	0.10	3.0	143	--	--
MAY												
05...	4.4	17	0.9	4.6	57	22	26	0.20	4.1	137	0.420	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	0.450	--
05...	4.6	18	0.9	4.6	61	22	27	0.20	5.6	145	0.380	0.380
AUG												
08...	4.4	18	0.9	4.7	62	18	26	0.20	3.4	135	0.073	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	0.066	--
08...	5.0	18	0.8	4.7	100	9.1	26	0.20	17	185	0.065	--

BRAZOS RIVER BASIN

341

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

311941096191401 - LAKE LIMESTONE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
20...	<0.010	--	<0.050	0.030	0.27	0.30	0.020	<0.010	--	3	3
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	<0.010	--	<0.050	0.040	0.36	0.40	0.020	<0.010	--	<3	10
MAY											
05...	<0.010	0.420	0.420	0.020	0.28	0.30	0.010	<0.010	--	8	1
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	<0.010	0.450	0.450	0.020	0.28	0.30	0.030	0.010	0.03	<10	20
05...	0.010	0.390	0.390	0.150	0.65	0.80	0.030	<0.010	--	12	190
AUG											
08...	<0.010	0.073	0.073	0.020	0.28	0.30	<0.010	<0.010	--	5	25
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	<0.010	0.066	0.066	0.140	0.76	0.90	0.010	0.020	0.06	130	1000
08...	<0.010	0.065	0.065	1.80	0.80	2.6	0.610	0.590	1.8	5100	5800

312458096205101 - LAKE LIMESTONE SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SEC/KI DISK)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
JAN												
20...	1202	1.00	263	8.0	9.0	0.80	10.7	92	85	29	26	4.9
20...	1204	10.0	263	8.0	8.5	--	10.6	90	--	--	--	--
20...	1206	20.0	264	7.9	8.5	--	10.5	89	--	--	--	--
20...	1208	27.0	263	7.8	9.0	--	10.3	89	85	23	26	4.8
MAY												
05...	0943	1.00	250	7.6	21.0	0.46	7.9	89	73	15	22	4.3
05...	0945	10.0	251	7.4	20.5	--	7.2	80	--	--	--	--
05...	0947	15.0	250	7.3	20.5	--	6.7	75	--	--	--	--
05...	0949	20.0	252	7.1	20.0	--	5.6	62	--	--	--	--
05...	0951	29.0	252	7.1	20.0	--	5.2	57	73	16	22	4.4
AUG												
08...	1213	1.00	259	7.9	29.0	0.70	6.7	88	75	13	23	4.3
08...	1215	10.0	259	7.6	28.5	--	5.7	74	--	--	--	--
08...	1217	20.0	258	7.6	28.5	--	5.8	75	--	--	--	--
08...	1219	26.0	259	7.5	28.5	--	5.5	71	76	13	23	4.4

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	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)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN											
20...	19	0.9	4.2	56	22	27	0.10	0.90	138	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	19	0.9	4.2	62	22	27	0.10	0.80	141	--	--
MAY											
05...	17	0.9	4.8	57	21	27	0.20	3.6	136	0.390	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	0.430	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	17	0.9	4.5	57	21	26	0.20	4.8	136	0.420	0.420
AUG											
08...	18	0.9	3.9	62	18	26	0.20	2.8	134	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	17	0.9	5.0	62	18	26	0.20	3.0	134	--	--

BRAZOS RIVER BASIN

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312458096205101 - LAKE LIMESTONE SITE BC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
20...	<0.010	--	<0.050	0.010	0.29	0.30	<0.010	<0.010	--	<3	2
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	<0.010	--	<0.050	0.020	0.28	0.30	0.020	<0.010	--	<3	12
MAY											
05...	<0.010	0.390	0.390	0.020	0.38	0.40	0.040	0.010	0.03	23	2
05...	--	--	--	--	--	--	--	--	--	--	--
05...	<0.010	0.430	0.430	0.010	0.29	0.30	0.020	0.010	0.03	30	<10
05...	--	--	--	--	--	--	--	--	--	--	--
05...	0.010	0.430	0.430	0.050	0.25	0.30	0.020	0.010	0.03	19	21
AUG											
08...	<0.010	--	<0.050	0.010	0.29	0.30	<0.010	<0.010	--	9	19
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	<0.010	--	<0.050	0.050	0.35	0.40	0.020	0.010	0.03	8	57

312625096205901 - LAKE LIMESTONE SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
20...	1226	1.00	265	8.0	8.5	10.8	93
20...	1228	10.0	265	8.0	8.5	10.7	92
20...	1230	16.0	265	8.0	8.5	10.7	92
MAY							
05...	1007	1.00	268	8.2	21.0	9.5	107
05...	1009	10.0	257	7.4	20.0	7.1	78
05...	1101	18.0	259	7.2	20.0	5.8	64
AUG							
08...	1234	1.00	259	8.0	29.0	6.7	88
08...	1236	10.0	259	7.9	28.5	6.1	79
08...	1238	16.0	259	7.7	28.5	5.5	71

312622096224201 - LAKE LIMESTONE SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
20...	1255	1.00	273	8.2	8.5	11.1	94
20...	1257	10.0	286	8.0	8.0	10.8	91
20...	1259	18.0	290	8.0	8.0	10.7	90
MAY							
05...	1024	1.00	252	7.8	21.0	8.2	92
05...	1026	10.0	257	7.3	19.5	6.2	68
05...	1028	21.0	257	7.3	19.5	6.0	66
AUG							
08...	1250	1.00	260	7.8	28.5	6.1	79
08...	1252	10.0	260	7.8	28.5	5.7	74
08...	1254	20.0	261	7.6	28.5	5.3	69

BRAZOS RIVER BASIN

343

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX--Continued

312726096240001 - LAKE LIMESTONE SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
JAN												
20...	1320	1.00	283	8.1	8.0	0.50	11.0	92	92	26	29	4.8
20...	1322	5.00	281	8.0	8.0	--	10.9	92	--	--	--	--
20...	1324	12.0	281	8.0	8.0	--	10.8	91	89	20	28	4.7
MAY												
05...	1045	1.00	259	7.9	22.0	0.30	8.6	99	82	15	26	4.2
05...	1047	7.00	275	7.2	19.5	--	5.6	61	--	--	--	--
05...	1049	14.0	279	7.2	19.5	--	5.1	56	82	9	26	4.2
AUG												
08...	1307	1.00	267	7.8	29.0	0.40	6.4	84	79	14	25	4.1
08...	1309	5.00	261	7.6	28.5	--	5.7	74	--	--	--	--
08...	1311	12.0	261	7.5	28.5	--	5.5	72	77	11	24	4.1

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN											
20...	21	1	4.1	66	21	29	0.10	<0.10	149	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	21	1	4.1	69	21	29	0.10	0.20	150	--	--
MAY											
05...	18	0.9	4.7	67	19	26	0.20	4.3	145	0.410	0.410
05...	--	--	--	--	--	--	--	--	--	0.350	0.350
05...	19	0.9	4.8	73	20	27	0.20	5.2	152	0.300	0.300
AUG											
08...	18	0.9	5.4	66	17	26	0.20	6.0	141	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	17	0.8	5.5	66	17	25	0.20	4.7	137	--	--

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
20...	<0.010	--	<0.050	0.030	0.37	0.40	0.020	0.010	0.03	3	<1
20...	--	--	--	--	--	--	--	--	--	--	--
20...	<0.010	--	<0.050	0.030	0.37	0.40	0.020	<0.010	--	6	3
MAY											
05...	0.020	0.430	0.430	0.020	0.38	0.40	0.030	0.020	0.06	7	2
05...	0.020	0.370	0.370	0.100	0.40	0.50	0.040	0.030	0.09	10	20
05...	0.020	0.320	0.320	0.130	0.37	0.50	0.040	0.030	0.09	10	28
AUG											
08...	<0.010	--	<0.050	0.010	0.39	0.40	0.040	0.030	0.09	20	16
08...	--	--	--	--	--	--	--	--	--	--	--
08...	<0.010	--	<0.050	0.020	0.28	0.30	0.020	0.020	0.06	27	74

BRAZOS RIVER BASIN

08110500 NAVASOTA RIVER NEAR EASTERLY, TX

LOCATION.--Lat 31°10'12", long 96°17'51", Leon-Robertson County line, Hydrologic Unit 12070103, at left downstream end of bridge on U.S. Highway 79, 1.0 mi upstream from Missouri Pacific Railroad Co. bridge, 7 mi northeast of Easterly, and 105.7 mi upstream from mouth.

DRAINAGE AREA.--968 mi².

PERIOD OF RECORD.--March 1924 to current year.

Water-quality records.--Chemical analyses: December 1941 to September 1947, February 1966 to August 1985.

Sediment records: October 1968 to September 1973.

REVISED RECORDS.--WSP 898: 1924, 1926-27, 1928(M), 1929-30, 1931(M). WSP 1512: 1932(M), 1936. WDR TX-76-2: Drainage area. WDR TX-78-2: 1974(M), 1977.

GAGE.--Water-stage recorder. Datum of gage is 271.46 ft above National Geodetic Vertical Datum of 1929. Prior to June 11, 1932, nonrecording gage at railroad bridge 1.0 mi downstream at 19.86-foot higher datum. June 11, 1932, to Sept. 30, 1978, water-stage recorder 46 ft upstream at 5.00-foot higher datum.

REMARKS.--No estimated daily discharges. Records good. Flow is largely regulated by Lake Mexia (capacity, 9,400 acre-ft) and Lake Limestone (station 08110470). There are numerous diversions above station for irrigation, municipal supply, and oil field operation. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--36 years (water years 1925-60), 406 ft³/s (5.70 in/yr), 294,100 acre-ft/yr.

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925-60).--Maximum discharge, 60,300 ft³/s May 2, 1944 (gage height, 27.13 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1845, 29 ft in June 1899, from information by local residents (discharge, 90,000 ft³/s), from rating curve extended above 60,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	9.1	15	13	15	222	20	16	2380	24	41	51
2	48	8.2	16	13	15	893	18	18	1550	22	40	51
3	48	12	17	12	15	1020	17	346	549	18	41	53
4	48	13	18	13	15	985	18	897	103	15	41	55
5	49	12	17	12	14	520	18	507	40	15	41	53
6	48	9.4	15	13	17	317	17	97	31	14	41	52
7	48	7.6	15	13	16	101	27	39	28	13	41	51
8	48	6.9	16	13	16	44	17	27	24	13	44	49
9	48	7.3	17	13	15	50	16	148	21	13	45	51
10	47	11	18	13	20	55	16	1650	19	12	43	51
11	48	11	18	14	26	42	15	3000	19	12	43	51
12	49	12	18	16	30	38	15	2010	29	12	43	50
13	59	12	27	18	27	35	150	1230	41	12	43	46
14	56	17	31	18	22	32	198	1640	28	41	43	44
15	52	21	19	17	21	31	201	2560	25	73	43	43
16	53	26	14	16	19	30	199	3470	304	66	42	43
17	59	27	15	17	17	29	197	3270	789	66	43	43
18	56	23	19	16	16	28	196	1500	827	66	42	43
19	54	18	19	16	17	27	92	589	582	65	46	43
20	67	15	16	16	20	27	26	122	546	65	48	44
21	77	14	15	17	33	26	49	47	523	65	62	44
22	54	13	29	17	487	23	168	37	175	59	62	43
23	40	14	32	18	1710	23	72	33	37	45	64	43
24	14	15	22	19	9060	24	25	31	39	40	60	44
25	9.8	15	17	20	6310	23	24	29	353	41	53	45
26	9.0	16	15	21	3340	23	22	28	549	42	50	45
27	8.7	16	14	21	548	23	20	97	230	41	49	48
28	8.5	15	14	20	77	26	18	1650	41	41	49	50
29	8.7	15	14	22	---	25	17	6380	26	41	48	29
30	10	15	13	18	---	24	16	4920	22	41	47	10
31	18	---	12	16	---	22	---	3070	---	41	48	---
TOTAL	1290.7	426.5	557	501	21938	4788	1904	39458	9930	1134	1446	1368
MEAN	41.6	14.2	18.0	16.2	783	154	63.5	1273	331	36.6	46.6	45.6
MAX	77	27	32	22	9060	1020	201	6380	2380	73	64	55
MIN	8.5	6.9	12	12	14	22	15	16	19	12	40	10
AC-FT	2560	846	1100	994	43510	9500	3780	78260	19700	2250	2870	2710

BRAZOS RIVER BASIN

345

08110500 NAVASOTA RIVER NEAR EASTERLY, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994#, BY WATER YEAR (WY)

MEAN	212	306	662	500	725	608	638	971	526	69.3	42.5	124
MAX	2427	4059	5244	2974	3322	2386	3761	5195	2794	474	486	1614
(WY)	1974	1975	1992	1961	1992	1993	1966	1965	1973	1961	1966	1974
MIN	1.20	1.73	4.63	9.52	15.1	17.8	8.36	6.88	1.88	.37	.81	1.20
(WY)	1964	1964	1964	1964	1967	1972	1972	1972	1971	1964	1963	1972

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1961 - 1994#	
ANNUAL TOTAL	159587.3		84741.2		447	
ANNUAL MEAN	437		232		1172	
HIGHEST ANNUAL MEAN					15.4	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	10100	Mar 24	9060	Feb 24	57400	Dec 22 1991
LOWEST DAILY MEAN	6.9	Nov 8	6.9	Nov 8	.19	Aug 11 1980
ANNUAL SEVEN-DAY MINIMUM	9.3	Nov 5	9.3	Nov 5	.26	Jul 12 1964
INSTANTANEOUS PEAK FLOW			11800	Feb 24	61800	Dec 22 1991
INSTANTANEOUS PEAK STAGE			22.04	Feb 24	27.22	Dec 22 1991
INSTANTANEOUS LOW FLOW			6.8	Nov 8	.19	Aug 11 1980
ANNUAL RUNOFF (AC-FT)	316500		168100		323900	
10 PERCENT EXCEEDS	1310		349		959	
50 PERCENT EXCEEDS	59		30		27	
90 PERCENT EXCEEDS	14		13		2.5	

Period of regulated steamflow.

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 upstream from Shepard Creek, 17 mi northeast of Bryan, and 68.4 mi upstream from mouth.

DRAINAGE AREA.--1,454 mi².

PERIOD OF RECORD.--January 1951, to current year.

Water-quality records.--Chemical and biochemical analyses: October 1958, to September 1981. Sediment records: October 1973, to September 1981.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 224.64 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Flow partially regulated by Lake Mexia since June 1961, and now largely regulated by Lake Limestone (station 08110470) since October 1978. There are numerous diversions above station for irrigation, municipal, and oil field operations. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--27 years (water years 1952-78), 557 ft³/s (403,400 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEAR 1952-78).--Maximum discharge, 38,200 ft³/s Apr. 29, 1966, (gage height, 16.57 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1840, that of Dec. 23, 1991; next highest stage was about 19.5 ft in June 1899, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	26	35	49	69	3090	56	38	3340	63	41	59
2	58	28	35	47	60	1580	53	37	3950	46	42	60
3	63	32	37	47	55	861	52	184	3470	41	42	64
4	60	35	41	47	53	983	50	250	2770	38	41	68
5	59	49	44	47	52	1100	50	614	1810	33	41	69
6	59	48	45	46	52	1090	48	809	655	28	46	69
7	59	40	42	45	49	795	48	544	272	25	49	65
8	58	33	39	45	49	449	48	215	155	22	46	60
9	57	29	38	45	51	309	50	106	102	21	48	58
10	55	26	45	44	57	280	49	87	81	19	50	75
11	55	26	56	44	70	242	49	894	76	16	54	80
12	56	27	66	46	107	202	79	1500	95	15	55	71
13	60	29	74	47	131	162	57	2440	75	15	54	65
14	72	35	107	49	129	136	58	4170	72	15	50	62
15	93	36	114	53	107	124	211	3690	88	14	48	56
16	89	59	105	56	85	115	271	3140	71	26	48	50
17	75	117	84	54	74	108	272	2950	105	75	49	48
18	69	127	165	47	68	102	272	3130	487	78	46	47
19	71	112	123	44	65	96	273	3370	883	78	46	45
20	84	80	79	42	66	92	246	3210	832	78	45	43
21	96	54	65	42	80	89	140	2410	706	77	52	43
22	149	42	98	42	631	83	87	1210	626	76	86	43
23	166	36	216	43	2210	77	158	410	499	75	171	44
24	116	34	143	46	1800	72	234	242	288	68	141	44
25	73	35	119	51	1770	70	141	155	154	53	111	44
26	41	35	97	69	3370	68	77	115	240	41	93	43
27	27	38	75	123	6460	68	57	97	502	38	74	44
28	22	38	62	160	4610	68	50	111	520	38	62	45
29	22	37	57	150	---	68	44	460	273	39	56	48
30	24	36	54	100	---	64	40	1010	112	39	55	52
31	24	---	52	80	---	59	---	1770	---	39	57	---
TOTAL	2071	1379	2412	1850	22380	12702	3320	39368	23309	1329	1899	1664
MEAN	66.8	46.0	77.8	59.7	799	410	111	1270	777	42.9	61.3	55.5
MAX	166	127	216	160	6460	3090	273	4170	3950	78	171	80
MIN	22	26	35	42	49	59	40	37	71	14	41	43
AC-FT	4110	2740	4780	3670	44390	25190	6590	78090	46230	2640	3770	3300

BRAZOS RIVER BASIN

347

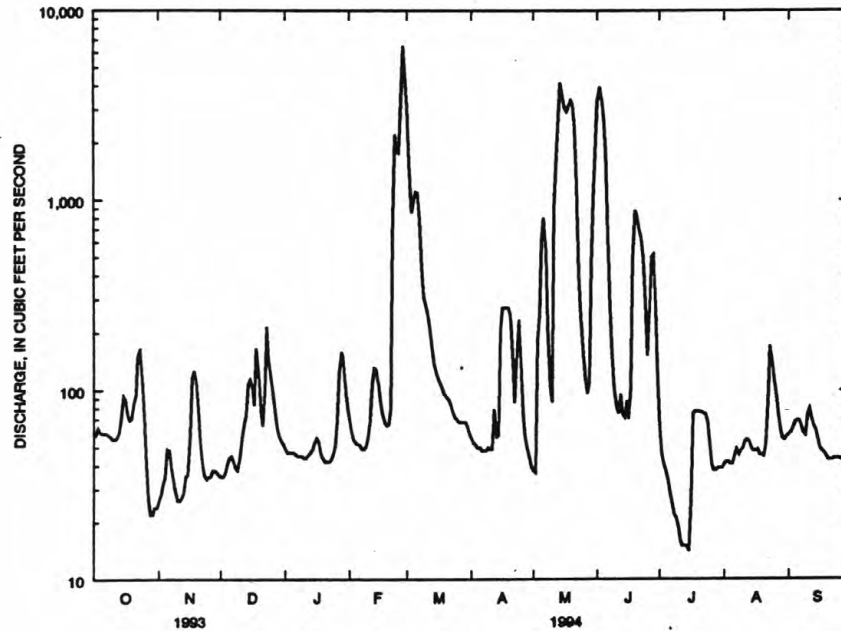
08111000 NAVASOTA RIVER NEAR BRYAN, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1994#, BY WATER YEAR (WY)

MEAN	250	279	919	633	1185	982	425	1209	897	84.7	69.1	56.9
MAX	2234	2182	6075	3788	4625	2967	1533	2718	3228	608	408	254
(WY)	1985	1986	1992	1991	1992	1993	1979	1989	1979	1979	1983	1981
MIN	1.38	2.95	2.81	21.8	36.4	38.7	22.1	29.0	21.3	3.93	3.95	5.54
(WY)	1989	1989	1990	1990	1990	1989	1989	1984	1988	1991	1980	1982

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1979 - 1994#
ANNUAL TOTAL	241285	113683	
ANNUAL MEAN	661	311	580
HIGHEST ANNUAL MEAN			1476
LOWEST ANNUAL MEAN			94.1
HIGHEST DAILY MEAN	10700	6460	58700
LOWEST DAILY MEAN	16	14	.00
ANNUAL SEVEN-DAY MINIMUM	20	16	.02
INSTANTANEOUS PEAK FLOW		6860	66600
INSTANTANEOUS PEAK STAGE		13.81	19.97
INSTANTANEOUS LOW FLOW		13	.00
ANNUAL RUNOFF (AC-FT)	478600	225500	420100
10 PERCENT EXCEEDS	1910	675	1520
50 PERCENT EXCEEDS	133	63	57
90 PERCENT EXCEEDS	37	37	7.7

Period of regulated streamflow.



08111000 NAVASOTA RIVER NEAR BRYAN, TX
MEAN DAILY DISCHARGE (CFS)

08111500 BRAZOS RIVER NEAR HEMPSTEAD, TX

LOCATION.--Lat 30°07'44", long 96°11'15", Washington-Waller County line, Hydrologic Unit 12070101, at downstream side of bridge on U.S. Highway 290, 6,000 ft upstream from Texas and New Orleans Railroad Co. bridge, 6.5 mi northwest of Hempstead, 10.5 mi upstream from Caney Creek, and at mile 193.8.

DRAINAGE AREA.--43,880 mi², approximately, of which 9,566 mi² probably is non-contributing.

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 107.90 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 1, 1940, nonrecording gage at railroad bridge 6,000 ft downstream at datum 4.20 ft higher. Nov. 1, 1940, to Sept. 30, 1963, nonrecording gage at site 1,500 ft downstream at datum 10.00 ft higher. Oct. 1, 1964, to July 31, 1974, water-stage recorder 1,500 ft downstream at datum 10.00 ft higher. Aug. 1, 1974, to Dec. 31, 1988, water-stage recorder at present site at datum 10.00 ft higher.

REMARKS.--Records good. There are many diversions above station for irrigation, municipal and industrial uses, and for oil field operations. At times, flow is affected by reservoirs on the Brazos River above Waco (see station 08096500) and by reservoirs on the Lampasas and Little Rivers above Cameron. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08110200. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 66.1 ft Dec. 8, 1913, at site 1,500 ft downstream at present datum, from information by Texas and New Orleans Railroad Co., obtained at bridge 6,000 ft downstream. Flood of July 4, 1899, reached a stage of 63.6 ft, at site 1,500 ft downstream at present datum, from information by Texas and New Orleans Railroad Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2140	1470	2100	2890	2350	9700	2810	1630	12000	3610	1370	1590
2	1850	1390	2050	2970	1830	10800	2660	1710	13300	2800	1340	2070
3	1690	1590	2130	3030	1950	10600	2520	2830	12600	2310	1420	2550
4	1630	1840	2430	2870	2000	10700	2310	2950	11000	2030	1340	1890
5	1470	2050	2030	2730	2080	9980	2040	2560	10100	1910	1290	1680
6	1270	2170	1480	2730	1940	8830	1800	2350	9290	1850	1510	1340
7	1300	1810	1180	2820	1740	6830	1610	2490	8790	1730	1490	1290
8	1290	1590	1130	2770	1560	5010	1540	2330	8690	1670	1170	1090
9	1180	1620	1110	2760	1480	4640	1480	2200	8440	1630	1140	1110
10	1360	1610	1120	2380	1290	5550	1410	2100	7670	1680	1170	1780
11	1280	1560	1310	1830	1390	4760	1890	2040	6550	1590	1180	1560
12	1190	1670	1270	1870	1340	4240	2010	3280	6150	1520	1210	2200
13	1380	1670	1210	2040	1330	4200	1600	6670	6130	1700	1150	2640
14	1500	1650	1400	1810	1790	4000	1370	11000	5710	1560	1050	1860
15	1330	2030	1990	1530	2040	3570	1720	15600	5590	1230	1070	1630
16	1390	3090	3150	1390	1950	3210	3660	22300	5290	1220	1140	1550
17	1520	4080	3440	1570	1700	3030	2000	22000	5190	1420	1220	e1500
18	1520	2930	2930	1430	1450	2960	1630	20400	5110	1490	1160	e1450
19	1370	2300	2400	1340	1260	3060	1630	20900	5270	1470	1370	e1450
20	2390	2000	2170	1270	1700	3050	1730	18600	4790	1500	1260	1460
21	5690	2290	2120	1220	2240	3100	1710	16400	4730	2190	990	1320
22	4340	1990	2030	1240	3740	2860	1730	15000	4320	2470	947	1080
23	5810	1710	1960	1350	9280	2580	1780	13700	3920	1880	1150	962
24	5520	1640	2330	1420	16700	2420	1920	14000	4920	1530	1770	1300
25	4220	1620	2710	1400	19200	2260	2100	15100	4330	1600	1910	1500
26	3300	1530	2790	1560	15600	2140	1970	14400	3320	1600	1670	1030
27	2370	1440	2530	2990	13200	2270	1800	12600	3250	1550	1490	1050
28	2080	1400	2270	4920	11000	2510	1720	11000	3740	1860	1570	1050
29	1950	1520	2110	2980	---	2230	1710	10500	3930	1940	1490	947
30	1770	2030	2230	2640	---	1980	1670	12800	4030	1700	1400	918
31	1640	---	2750	2840	---	2580	---	12700	---	1530	1510	---
TOTAL	68740	57290	63860	68590	125130	145650	57530	314140	198150	55770	40947	44847
MEAN	2217	1910	2060	2213	4469	4698	1918	10130	6605	1799	1321	1495
MAX	5810	4080	3440	4920	19200	10800	3660	22300	13300	3610	1910	2640
MIN	1180	1390	1110	1220	1260	1980	1370	1630	3250	1220	947	918
AC-FT	136300	113600	126700	136000	248200	288900	114100	623100	393000	110600	81220	88950

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1994, BY WATER YEAR (WY)

	MEAN	4416	4724	5961	6864	8031	7543	8672	14640	11220	4909	2318	2884
MAX	24830	29490	41590	55990	54750	50450	42860	69860	51960	19000	8250	18030	
(WY)	1960	1975	1941	1992	1992	1992	1945	1957	1957	1940	1992	1974	
MIN	181	318	299	386	572	426	922	1145	1027	1175	726	454	
(WY)	1953	1989	1955	1940	1971	1954	1954	1988	1956	1971	1963	1954	

SUMMARY STATISTICS

	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1939 - 1994
ANNUAL TOTAL	3048240	1240644	
ANNUAL MEAN	8351	3399	6839
HIGHEST ANNUAL MEAN			26170
LOWEST ANNUAL MEAN			1216
HIGHEST DAILY MEAN	45600	Jun 23	138000
LOWEST DAILY MEAN	1110	Dec 9	137
ANNUAL SEVEN-DAY MINIMUM	1190	Dec 7	140
INSTANTANEOUS PEAK FLOW			143000
INSTANTANEOUS PEAK STAGE			54.21
ANNUAL RUNOFF (AC-FT)	6046000	2461000	4955000
10 PERCENT EXCEEDS	19800	8810	17600
50 PERCENT EXCEEDS	4900	1950	2490
90 PERCENT EXCEEDS	1430	1270	680

e Estimated

BRAZOS RIVER MAIN STEM

349

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 upstream bridge on U.S. Highway 90 in Richmond, 850 ft downstream from Texas and New Orleans Railroad Co. bridge, and at mile 92.0.

DRAINAGE AREA.--45,007 mi², approximately, of which 9,566 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1903 to June 1906, 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 27.94 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1922, various types of nonrecording gages at railroad bridge 925 ft upstream at different datums. Oct. 1, 1922, to Sept. 30, 1931, nonrecording chain gage at Rosenberg 7.6 mi upstream at datum about 17 ft higher; Oct. 1, 1931, to Sept. 30, 1975, water-stage recorder at present site at datum 13.00 ft higher; Oct. 1, 1975 to Dec. 31, 1988, water-stage recorder at present site and at datum 10.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Considerable water is diverted above station for irrigation and for municipal supply. For statement regarding regulation by upstream reservoirs and by Soil Conservation Service Floodwater-retarding structures, see station 08110200. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--20 years (water years 1904-05, 1923-40) 7,209 ft³/s (5,223,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1904-05, 1923-40).--Maximum discharge, 123,000 ft³/s June 6, 1929 (gage height, 53.6 ft, from floodmark), present site and datum; minimum daily, 35 ft³/s Aug. 23, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 61.2 ft Dec. 10, 1913, present datum, from floodmarks on right bank 1,000 ft upstream from gage. From information by Texas and New Orleans Railroad Co., stages of other floods at railroad bridge, present datum, are as follows: May 1884, 56.7 ft; June 13, 1885, 57.7 ft; July 1899, 58.6 ft; May 2, 1915, 56.3 ft; and May 9, 1922, 53.9 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1600	1840	1610	2310	2930	11800	1550	2280	11400	3910	1430	1380
2	2090	1780	2010	2860	2910	10400	1980	2310	12200	3870	1270	1440
3	2170	1580	2260	2990	2560	10500	2360	2940	12500	3390	1210	1560
4	1890	1370	2620	3020	2050	10900	2250	2980	13000	2680	1110	1860
5	1700	1410	3130	3120	2020	11200	2140	3690	11800	2200	1270	2400
6	1670	1690	3170	2920	2070	10200	2040	3330	10800	1900	1390	1960
7	1480	1840	2500	2850	2130	9700	1930	2640	10200	1710	1300	1690
8	1130	2050	1910	2860	2020	8050	1810	2330	9440	1620	1300	1410
9	1100	1830	1590	2980	1780	6860	1490	2390	9210	1530	1410	1880
10	1200	1630	1410	2860	2560	6080	1320	2250	9050	1410	1380	2170
11	1070	1480	1430	3030	2550	6260	1230	2170	8770	1500	1210	2410
12	1370	1490	1410	2690	1810	6210	1170	2010	7850	1450	1120	3200
13	1900	1480	1440	2200	1640	4950	1420	2000	6900	1380	1050	2340
14	1750	1510	1420	2080	1560	4300	1600	4320	6850	1260	984	2300
15	1590	1630	1250	2200	1480	4290	1300	11800	6520	1350	870	2710
16	1540	2910	1290	2070	1710	4000	1130	25100	6140	1240	890	2130
17	1360	4750	2040	1750	1990	3560	2950	33500	5890	1020	890	1850
18	1350	5790	3500	1570	1920	3160	4720	29800	5600	866	990	1740
19	1380	5030	3710	1590	1700	2960	2790	24500	5560	946	870	1610
20	1660	3650	3250	1540	1510	3000	2060	22700	5540	1100	775	1500
21	2380	2900	2610	1440	5080	3040	1750	19800	5410	1120	755	1440
22	4990	2550	2530	1450	6910	3090	1680	16800	5120	1120	980	1390
23	5840	2620	2570	1400	6770	3090	1670	15400	5020	1570	920	1310
24	4820	2440	2520	1320	12800	2710	1650	14000	4620	2030	920	1120
25	5880	2140	2440	1410	19100	2330	1660	13900	4550	1650	988	939
26	5290	2020	2460	1450	20900	2120	1760	14900	5350	1280	1350	999
27	4170	1970	2790	1800	17000	2030	1930	14800	4270	1170	1730	1350
28	3340	1890	2900	1880	13800	1990	1930	13000	3420	1180	1720	1060
29	2490	1790	2680	5360	---	2070	1840	11900	3330	1140	1350	900
30	2190	1630	2470	5750	---	2220	1770	10900	3720	1320	1480	912
31	1970	---	2220	3460	---	1810	---	12100	---	1560	1490	---
TOTAL	74360	68690	71140	76210	143260	164880	56880	342540	220030	51472	36402	50960
MEAN	2399	2290	2295	2458	5116	5319	1896	11050	7334	1660	1174	1699
MAX	5880	5790	3710	5750	20900	11800	4720	33500	13000	3910	1730	3200
MIN	1070	1370	1250	1320	1480	1810	1130	2000	3330	866	755	900
AC-FT	147500	136200	141100	151200	284200	327000	112800	679400	436400	102100	72200	101100

BRAZOS RIVER MAIN STEM

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1994#, BY WATER YEAR (WY)

MEAN	4848	5512	6844	7865	8903	8465	9188	15730	12340	5032	2482	3238
MAX	28760	32360	52860	60500	54410	54050	41900	77200	58350	17100	9013	19850
(WY)	1958	1975	1941	1992	1992	1992	1945	1957	1957	1968	1992	1974
MIN	203	366	480	543	702	445	829	1100	786	717	550	414
(WY)	1953	1989	1955	1952	1971	1954	1954	1978	1956	1956	1963	1954

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1941 - 1994#	
ANNUAL TOTAL	3409370		1356824			
ANNUAL MEAN	9341		3717		7526	
HIGHEST ANNUAL MEAN					26620	
LOWEST ANNUAL MEAN					1403	
HIGHEST DAILY MEAN	58900	Jun 23	33500	May 17	118000	May 5 1957
LOWEST DAILY MEAN	1070	Sep 17	755	Aug 21	55	Jul 5 1956
ANNUAL SEVEN-DAY MINIMUM	1200	Sep 11	863	Aug 15	93	Jul 4 1956
INSTANTANEOUS PEAK FLOW			34000	May 17	119000	May 5 1957
INSTANTANEOUS PEAK STAGE			30.15	May 17	49.68	Jan 1 1992
ANNUAL RUNOFF (AC-FT)	6762000		2691000		5453000	
10 PERCENT EXCEEDS	22300		9540		19000	
50 PERCENT EXCEEDS	5780		2050		2890	
90 PERCENT EXCEEDS	1350		1210		772	

Period of regulated streamflow.

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1941 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: October 1967 to May 1982. Sediment analyses: April 1957 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1941 to current year.

WATER TEMPERATURE: November 1950 to current year.

SUSPENDED-SEDIMENT DISCHARGE: January 1966 to September 1986.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,600 microsiemens Sept. 4, 1978; minimum daily, 172 microsiemens Oct. 31, 1984.

WATER TEMPERATURE: Maximum daily, 33.0°C Aug. 5, 1951; minimum daily, 1.0°C Jan. 8, 1970 and Dec. 23-24, 1989.

SEDIMENT CONCENTRATION: Maximum daily mean, 13,500 mg/L Apr. 4, 1979; minimum daily mean, 8 mg/L Nov. 29, 1967, Sept. 20, and Oct. 6, 7, 1980.

SEDIMENT LOAD: Maximum daily, 1,860,000 tons Apr. 4, 1979; minimum daily, 9.8 tons Oct. 11, 1983.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,450 microsiemens Jan. 8-10; minimum daily 329 microsiemens May 18.

WATER TEMPERATURE: Maximum daily, 30.0°C several days during Jun., Jul., and Aug.; minimum daily, 8.0°C Feb. 11.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB	03...	1010	2610	450	8.1	9.5	100	11.0	95	1.4	170	190
MAR	29...	1040	2050	645	8.5	17.0	15	11.4	117	6.0	44	40
MAY	26...	1100	14400	415	7.7	25.0	110	7.7	94	1.6	80	150
JUL	13...	0915	1410	890	7.8	30.5	28	8.2	110	1.3	36	80
SEP	07...	1035	1730	1060	8.3	27.0	8.0	8.0	101	2.7	80	28
	DATE	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CAC03	SULFATE DIS- SOLVED (MG/L AS SO4)
FEB	03...	120	28	37	6.7	41	2	4.7	0	113	93	42
MAR	29...	170	47	48	13	62	2	4.2	1	152	126	74
MAY	26...	140	45	45	7.8	23	0.8	4.0	0	122	100	35
JUL	13...	250	73	70	18	91	3	5.0	0	215	176	89
SEP	07...	220	99	57	19	120	4	4.8	2	145	123	120
	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
FEB	03...	54	0.20	7.9	278	253	0.620	0.620	0.030	0.650	0.650	0.070
MAR	29...	85	0.30	0.30	364	363	--	--	<0.010	--	<0.050	0.020
MAY	26...	35	0.20	8.6	250	222	0.530	--	<0.010	0.530	0.530	<0.010
JUL	13...	120	0.30	12	524	511	--	--	<0.010	--	<0.050	0.020
SEP	07...	190	0.30	6.9	624	592	--	--	<0.010	--	<0.050	0.020

BRAZOS RIVER MAIN STEM
08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, 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)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
FEB 03...	1.4	0.73	0.80	0.200	0.100	0.090	0.28	139	980	87	40
MAR 29...	0.60	0.58	0.60	0.080	<0.010	<0.010	--	76	421	100	--
MAY 26...	1.3	0.80	0.80	0.320	0.050	0.050	0.15	574	22300	94	40
JUL 13...	0.40	0.38	0.40	0.080	0.050	<0.010	--	74	282	96	--
SEP 07...	0.50	0.48	0.50	0.060	<0.010	<0.010	--	47	220	98	<10
DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
FEB 03...	68	<3	39	9	3	<10	1	<1	<1.0	300	<6
MAR 29...	--	--	--	--	--	--	--	--	--	--	--
MAY 26...	84	<3	17	8	2	<10	1	<1	<1.0	340	<6
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 07...	140	<3	<3	18	2	<10	<1	<1	<1.0	760	6
ONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)		
CT. 1993	74360	864	484	97300	130	26600	88	17700	220		
OV. 1993	68690	695	390	72300	95	17600	67	12400	190		
EC. 1993	71140	862	483	92800	130	25800	89	17000	210		
AN. 1994	76210	1140	638	131000	200	40800	120	25500	250		
EB. 1994	143260	525	294	114000	68	26100	49	19100	150		
AR. 1994	164880	435	244	109000	51	22800	39	17500	130		
PR. 1994	56880	620	347	53300	84	12900	60	9150	170		
AY 1994	342540	474	265	245000	58	53600	44	40300	140		
UNE 1994	220030	659	369	219000	89	52900	63	37600	180		
JULY 1994	51472	811	455	63200	120	16400	81	11200	210		
UG. 1994	36402	951	533	52400	150	14300	97	9520	240		
EPT 1994	50960	743	417	57300	110	14800	74	10200	190		
JTAL	1356824	**	**	1307000	**	324000	**	227000	**		
TD.AVG.	3717	636	357	**	89	**	62	**	170		

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	550	850	900	690	360	720	719	890	582	947	960
2	1120	520	820	1060	820	330	800	721	874	683	887	1010
3	1220	520	810	1130	490	360	940	687	534	743	985	707
4	1240	550	840	1210	440	380	1010	640	724	559	1010	747
5	1260	580	---	1300	500	400	820	642	762	529	958	801
6	1290	610	---	1380	600	400	750	619	619	572	915	977
7	1260	660	810	1420	670	390	730	602	691	594	931	1080
8	1210	830	890	1450	900	400	610	832	781	606	877	1020
9	1130	1010	920	1450	1020	410	550	1000	795	677	970	783
10	1020	1010	910	1450	---	400	580	1040	727	779	996	870
11	1080	920	780	1440	780	420	610	1010	698	723	1010	---
12	1120	900	890	1440	810	420	690	946	---	854	1070	902
13	890	940	940	1440	---	430	740	861	635	896	1010	666
14	980	920	1010	1420	1020	410	710	768	674	936	914	639
15	1040	790	1010	1390	990	420	670	694	682	982	812	844
16	1070	830	1040	---	940	420	690	470	658	1020	745	738
17	---	690	1030	1380	970	500	---	336	681	1040	795	776
18	1070	630	900	1360	1020	580	440	329	716	1060	907	---
19	1070	700	1080	1300	1090	640	440	377	---	1060	998	---
20	1120	510	1110	1270	1020	---	420	353	765	1070	1020	721
21	830	440	1250	1290	910	670	400	363	784	1030	990	700
22	910	520	---	1270	360	630	600	359	695	1030	966	742
23	600	570	1280	---	600	640	810	379	714	1090	997	759
24	410	570	1200	1230	470	660	---	391	653	1040	956	803
25	670	590	1140	1190	330	670	780	398	611	936	1010	875
26	840	730	1080	1160	460	650	800	410	610	932	1000	938
27	960	840	980	1180	420	630	770	420	530	952	926	940
28	1010	820	1030	1110	410	620	700	506	437	964	867	971
29	650	900	990	1110	---	650	700	689	554	973	971	1020
30	690	880	830	500	---	660	690	719	563	910	1090	1010
31	---	---	770	580	---	670	---	815	---	956	919	---
MEAN	997	718	971	1230	720	507	685	616	681	864	950	852
MAX	1290	1010	1280	1450	1090	670	1010	1040	890	1090	1090	1080
MIN	410	440	770	500	330	330	400	329	437	529	745	639

WTR YR 1994 MEAN 816 MAX 1450 MIN 329

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	14.0	13.0	10.0	11.0	15.0	18.0	22.0	26.0	29.0	27.0	29.0
2	25.0	14.0	14.0	10.0	9.0	13.0	18.0	21.0	26.0	29.0	28.0	29.0
3	25.0	16.0	15.0	10.0	10.0	13.0	20.0	21.0	26.0	30.0	28.0	29.0
4	25.0	16.0	15.0	10.0	11.0	13.0	19.0	21.0	26.0	30.0	28.0	29.0
5	25.0	18.0	---	9.0	13.0	15.0	20.0	22.0	27.0	30.0	28.0	29.0
6	25.0	14.0	---	11.0	13.0	15.0	17.0	22.0	27.0	30.0	27.0	29.0
7	25.0	13.0	14.0	11.0	15.0	17.0	17.0	25.0	27.0	30.0	28.0	30.0
8	25.0	14.0	14.0	10.0	17.0	18.0	18.0	25.0	29.0	30.0	29.0	29.0
9	25.0	14.0	15.0	9.0	19.0	16.0	20.0	25.0	29.0	30.0	29.0	29.0
10	23.0	14.0	17.0	10.0	---	14.0	22.0	26.0	30.0	30.0	28.0	27.0
11	24.0	15.0	15.0	11.0	8.0	14.0	23.0	26.0	28.0	30.0	28.0	---
12	23.0	17.0	17.0	12.0	14.0	15.0	22.0	26.0	---	30.0	28.0	27.0
13	23.0	19.0	16.0	12.0	---	15.0	21.0	26.0	29.0	30.0	28.0	27.0
14	22.0	21.0	14.0	11.0	10.0	15.0	22.0	24.0	28.0	30.0	28.0	27.0
15	21.0	18.0	13.0	14.0	12.0	16.0	24.0	24.0	28.0	30.0	30.0	28.0
16	23.0	18.0	13.0	---	12.0	17.0	23.0	24.0	28.0	30.0	30.0	28.0
17	---	15.0	13.0	14.0	13.0	16.0	---	24.0	29.0	30.0	30.0	28.0
18	25.0	15.0	13.0	11.0	15.0	17.0	22.0	24.0	28.0	30.0	30.0	---
19	25.0	15.0	14.0	10.0	17.0	19.0	22.0	24.0	---	30.0	30.0	---
20	25.0	15.0	18.0	12.0	18.0	---	23.0	24.0	29.0	30.0	30.0	26.0
21	22.0	12.0	10.0	12.0	19.0	22.0	22.0	24.0	28.0	30.0	29.0	26.0
22	19.0	12.0	---	12.0	19.0	20.0	22.0	25.0	28.0	30.0	28.0	26.0
23	18.0	13.0	9.0	---	17.0	22.0	22.0	25.0	29.0	30.0	28.0	23.0
24	17.0	15.0	9.0	14.0	15.0	22.0	---	25.0	28.0	30.0	28.0	24.0
25	18.0	13.0	9.0	16.0	15.0	21.0	25.0	25.0	29.0	30.0	29.0	23.0
26	18.0	16.0	9.0	17.0	15.0	22.0	25.0	25.0	30.0	30.0	29.0	23.0
27	18.0	8.0	10.0	18.0	14.0	22.0	25.0	25.0	30.0	30.0	29.0	24.0
28	18.0	9.0	12.0	15.0	14.0	18.0	25.0	25.0	30.0	30.0	29.0	24.0
29	18.0	---	9.0	12.0	---	17.0	25.0	25.0	30.0	30.0	29.0	25.0
30	18.0	11.0	9.0	12.0	---	17.0	26.0	25.0	30.0	30.0	30.0	25.0
31	---	---	9.0	11.0	---	17.0	---	26.0	---	30.0	30.0	---
MEAN	22.0	14.5	13.0	12.0	14.0	17.0	21.5	24.0	28.5	30.0	28.5	27.0
MAX	25.0	21.0	18.0	18.0	19.0	22.0	26.0	26.0	30.0	30.0	30.0	30.0
MIN	17.0	8.0	9.0	9.0	8.0	13.0	17.0	21.0	26.0	29.0	27.0	23.0

WTR YR 1994 MEAN 21.0 MAX 30.0 MIN 8.0

Brazos River Basin

08115000 BIG CREEK NEAR NEEDVILLE, TX

LOCATION.--Lat 29°28'35", long 95°48'45", Fort Bend County, Hydrologic Unit 12070104, near center of stream at downstream side of bridge on State Highway 36, 1.5 mi downstream from Coon Creek, 5.5 mi north of Needville, and 10.5 mi upstream from Fairchild Creek, and 33.0 mi upstream from mouth.

DRAINAGE AREA.--42.8 mi².

PERIOD OF RECORD.--May 1947 to June 1950, March 1952 to current year.

REVISED RECORDS.--WSP 1148: 1947. WSP 1712: 1957-58, 1959(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 59.39 ft above National Geodetic Vertical Datum of 1929. Prior to June 30, 1950, and May 29, 1959, to Mar. 29, 1960, nonrecording gage at datum 10.00 ft higher. March 1952 to May 28, 1959, and Mar. 30, 1960, to Sept. 30, 1967, water-stage recorder at datum 10.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Channel was rectified in 1956. No diversions above station. Low flow supplemented by drainage from irrigated fields.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1913, 24.4 ft in August 1945 before channel rectification, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 16	1600	1,560	20.02	May 16	0600	1,960	21.26

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.3	e1.0	1.9	1.4	4.1	1.7	1.6	319	2.1	1.6	1.2	2.6
2	e1.3	e.96	4.4	1.3	2.8	1.7	1.6	259	1.5	1.4	1.4	2.3
3	e1.3	20	44	1.3	2.3	1.7	1.7	103	1.9	1.3	1.4	5.5
4	e1.2	9.4	263	1.3	3.0	1.7	1.7	41	23	1.2	7.2	2.4
5	e1.2	2.6	50	1.1	2.4	1.7	1.9	21	62	1.3	68	1.3
6	e1.1	1.6	22	1.3	2.0	1.8	10	12	5.3	1.2	46	1.3
7	e1.1	1.5	14	1.3	2.0	1.8	5.3	6.2	2.2	1.3	2.6	1.2
8	e1.1	1.8	7.9	1.2	1.8	1.6	2.5	3.3	1.9	1.3	.92	4.7
9	e1.1	6.8	5.4	1.2	1.9	103	2.0	2.2	1.7	1.3	3.0	41
10	e1.2	3.4	4.1	1.3	34	54	1.7	1.8	1.4	2.0	2.9	467
11	e1.2	1.7	3.3	1.3	231	23	1.6	1.6	1.5	1.3	1.7	302
12	e1.3	1.5	2.2	1.3	91	12	1.6	1.6	3.8	1.3	1.2	116
13	e1.3	1.5	1.9	1.9	43	7.2	1.6	14	2.1	1.4	.86	83
14	e1.3	1.9	1.5	1.5	22	4.2	1.7	76	2.4	1.4	.80	63
15	e1.2	4.3	1.3	1.2	15	3.1	1.6	264	2.1	1.3	.68	14
16	e1.1	788	1.2	1.3	9.0	3.7	1.6	1370	1.8	1.2	2.3	6.3
17	e1.2	307	1.7	1.3	5.8	3.0	1.6	463	2.3	1.2	3.3	2.5
18	e1.3	86	25	1.2	4.0	2.6	1.6	310	2.4	1.2	1.0	1.2
19	e1.2	37	27	1.1	3.1	2.1	1.6	117	1.9	1.2	.76	.81
20	e1.2	19	17	1.2	2.5	1.8	1.5	50	1.4	1.2	.67	.63
21	e1.2	12	12	1.1	2.2	1.7	1.6	27	3.7	1.2	.59	.59
22	e1.1	7.2	18	1.2	2.0	1.7	1.6	16	20	1.3	19	.60
23	e1.0	4.6	30	1.2	2.0	1.6	1.6	9.5	123	1.3	24	.58
24	e1.0	3.0	16	1.2	1.8	1.6	1.8	5.4	183	1.2	4.2	.58
25	e1.0	2.2	10	1.2	1.7	1.7	1.9	3.3	40	1.1	.78	.62
26	e.96	1.7	6.4	1.1	1.7	1.6	1.7	2.4	17	1.2	.65	.63
27	e.96	1.6	3.9	58	1.8	1.7	1.6	2.1	7.9	1.2	.75	.57
28	e.94	1.6	2.7	33	1.8	1.7	2.0	1.7	3.8	1.1	3.2	.60
29	e.98	1.5	2.0	29	---	1.6	1.6	1.8	2.3	1.2	2.8	.59
30	e1.1	1.4	1.6	25	---	1.6	326	1.9	1.9	1.1	1.6	.60
31	e1.2	---	1.5	9.1	---	1.6	---	1.8	---	1.1	2.3	---
TOTAL	35.64	1333.76	602.9	187.1	497.7	251.5	387.4	3508.6	527.3	39.6	207.76	1124.70
MEAN	1.15	44.5	19.4	6.04	17.8	8.11	12.9	113	17.6	1.28	6.70	37.5
MAX	1.3	788	263	58	231	103	326	1370	183	2.0	68	467
MIN	.94	.96	1.2	1.1	1.7	1.6	1.5	1.6	1.4	1.1	.59	.57
AC-FT	71	2650	1200	371	987	499	768	6960	1050	79	412	2230

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1994, BY WATER YEAR (WY)

MEAN	41.5	35.6	39.2	36.3	47.3	20.0	34.9	42.9	50.4	15.4	25.7	42.5
MAX	254	298	194	186	223	130	218	224	467	166	284	399
(WY)	1960	1986	1987	1974	1959	1957	1973	1982	1960	1961	1983	1979
MIN	.000	.000	.000	.000	.039	.000	.000	.33	.023	.019	.000	.000
(WY)	1948	1956	1949	1957	1962	1954	1954	1963	1948	1956	1948	1948

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1947 - 1994

ANNUAL TOTAL	19966.60		8703.96				
ANNUAL MEAN	54.7		23.8			35.9	
HIGHEST ANNUAL MEAN						91.1	1973
LOWEST ANNUAL MEAN						3.18	1947
HIGHEST DAILY MEAN	1590	Jun 20	1370	May 16	7080		Jun 26 1960
LOWEST DAILY MEAN	.94	Oct 28	.57	Sep 27	.00		Jun 13 1947
ANNUAL SEVEN-DAY MINIMUM	.98	Oct 23	.60	Sep 21	.00		Jun 13 1947
INSTANTANEOUS PEAK FLOW			1960	May 16	10400		Jun 26 1960
INSTANTANEOUS PEAK STAGE			21.26	May 16	24.03		Oct 31 1959
ANNUAL RUNOFF (AC-FT)	39600		17260		25980		
10 PERCENT EXCEEDS	155		38		49		
50 PERCENT EXCEEDS	3.7		1.7		1.6		
90 PERCENT EXCEEDS	1.3		1.1		.00		

e Estimated

08116650 BRAZOS RIVER NEAR ROSHARON, TX

LOCATION.--Lat 29°20'58", long 95°34'56", Fort Bend-Brazoria County line, Hydrologic Unit 12070104, on right bank at downstream side of bridge on Farm Road 1462, 2.0 mi downstream from Big Creek, 2.1 mi upstream from Cow Creek, and 7.3 mi west of Rosharon and at mile 56.7.

DRAINAGE AREA.--45,339 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--April 1967 to September 1980, Apr. 25, 1984, to current year.

Water-quality records.--Chemical and biochemical analyses: October 1967 to September 1980.

Specific Conductance: October 1967 to September 1980. Water Temperature: October 1967 to September 1980.

Sediment analyses: October 1974 to September 1980.

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

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

REMARKS.--Records poor. Water is diverted above station for irrigation, industrial, and municipal supply and materially affect low flows. For regulation by upstream reservoirs and by Soil Conservation Service floodwater-retarding structures, see Brazos River at Washington (station 08110200). Satellite telemeter installed on Sept. 23, 1994.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1884, 56.4 ft about Dec. 11, 1913, from information by the Texas Department of Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	2280	2370	2370	3330	14300	1850	2960	12500	3470	1100	1470
2	1730	2180	2300	2590	3020	12100	1770	3680	12800	3510	1050	1510
3	2140	2140	2300	3030	2870	11200	2200	3580	12600	3380	980	1720
4	2130	2050	2530	3100	2500	11700	2370	3270	13900	2910	1020	1820
5	1900	1970	3230	3170	2150	11700	2270	3560	13600	2380	1080	2090
6	1780	e1870	3240	3120	2140	11600	2270	3040	11900	1990	1270	2260
7	1740	e2000	3240	3030	2190	10900	2110	2450	10700	1700	1400	1900
8	1540	e2100	3140	2930	2210	9870	1880	2240	9780	1460	1250	1670
9	1320	e2100	2570	2990	2110	9080	1640	2180	9010	1310	1850	1600
10	1300	e2000	2290	3110	2050	7860	1440	2010	8740	1240	2330	2840
11	1320	e1900	2140	3080	4800	6980	1320	1780	8800	1070	1690	3540
12	1130	e1800	2120	3140	3770	7010	1270	1680	8150	1070	1310	4130
13	1880	e1900	2080	2760	2400	6130	1270	1980	7080	976	1170	4010
14	2510	e1950	2070	2220	2030	5290	1590	5740	6330	841	1030	2670
15	1950	1990	2070	2140	1830	4960	1590	16900	6220	737	925	2810
16	1760	5870	2070	2190	1760	4630	1460	32800	5780	755	835	2710
17	1640	13600	2070	2030	2000	4200	1480	36000	5520	593	858	2020
18	1480	12600	2250	1730	2130	3800	3830	31300	5260	452	779	1770
19	1490	9500	3070	1600	2040	3560	3270	28300	5290	330	783	1620
20	1670	6460	e4000	1630	1840	3520	2020	24600	5260	462	676	1490
21	5070	4820	e3200	1560	1910	3600	1750	22200	5700	601	563	1390
22	5730	3790	2810	1460	6190	3590	1770	19100	5430	676	538	1370
23	5870	3230	2860	1450	6560	3460	1710	16800	5220	663	820	1320
24	5850	3150	2790	1400	8490	3100	1520	15200	5500	1130	787	1230
25	5110	3070	2710	1360	15500	2770	1540	13900	5080	1350	759	1060
26	5730	3070	2600	1450	20900	2580	1620	14000	5030	1040	805	942
27	5090	3070	2740	1520	20200	e2560	1660	14700	4930	771	1130	1030
28	4100	2940	3020	1890	16700	2250	1710	14000	3840	698	1420	1210
29	3430	2580	2990	2510	---	2110	1620	12400	3190	695	1390	1010
30	2820	2400	2770	5870	---	2170	1680	11200	3250	680	1310	906
31	2520	---	2560	5000	---	2230	---	10900	---	922	1450	---
TOTAL	85190	110380	82200	77430	145620	190810	55480	374450	226390	39862	34358	57118
MEAN	2748	3679	2652	2498	5201	6155	1849	12080	7546	1286	1108	1904
MAX	5870	13600	4000	5870	20900	14300	3830	36000	13900	3510	2330	4130
MIN	1130	1800	2070	1360	1760	2110	1270	1680	3190	330	538	906
AC-FT	169000	218900	163000	153600	288800	378500	110000	742700	449000	79070	68150	113300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	MEAN	4178	5714	7413	10400	10940	11210	10910	14590	14320	5024	2529	3201
MAX	24240	33580	23360	70560	60530	60170	32050	39370	41010	18200	8669	19370	
(WY)	1974	1975	1992	1992	1992	1992	1977	1990	1987	1968	1992	1974	
MIN	369	290	866	1119	596	498	540	312	367	246	596	504	
(WY)	1989	1989	1989	1971	1971	1971	1971	1978	1971	1971	1985	1988	

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1968 - 1994
ANNUAL TOTAL	3557610	1479288	
ANNUAL MEAN	9747	4053	8476
HIGHEST ANNUAL MEAN			29050
LOWEST ANNUAL MEAN			1634
HIGHEST DAILY MEAN	64900	36000	82500
LOWEST DAILY MEAN	909	330	67
ANNUAL SEVEN-DAY MINIMUM	1010	540	78
INSTANTANEOUS PEAK FLOW		37300	82700
INSTANTANEOUS PEAK STAGE		34.83	51.89
ANNUAL RUNOFF (AC-FT)	7057000	2934000	6140000
10 PERCENT EXCEEDS	24100	10800	21700
50 PERCENT EXCEEDS	5870	2250	3470
90 PERCENT EXCEEDS	1280	1050	725

e Estimated

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 U.S. Geological Survey collects limited streamflow data at sites other than continuous stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage of those events. The data collected for special reasons are called measurements at miscellaneous sites.

Streamflow data collected at partial-record stations where water-quality data other than observations of water temperature are not obtained are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations; the second is a table of annual maximum stage and (or) discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low and high flows are given in a third table. Discharge measurements and water-quality data collected at partial-record stations are presented in downstream order in the section of this report entitled "Gaging-station records."

Low-flow partial-record stations

Measurements of streamflow at low-flow partial-record stations that are not published in the gaging-station section are given in the following table. Most of the measurements of low flow were made during periods when streamflow was sustained primarily by ground-water discharge. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will indicate the low-flow potential of the stream. The years listed in the column headed "Period of record" identifies the water years in which measurements were made at the same or at practically the same site.

Discharge measurements made at low-flow partial-record station during water year 1994

Station no.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
Brazos River Basin						
08084100	Deadman Creek near Nugent, Tex.	Lat 32°40'36", long 99°37'00", Jones County, at low-water crossing on county road, 3.2 mi east of Nugent, and 4.4 mi upstream from Clear Fork Brazos River.	—	1967-94	12-09-93	12.0
					02-09-94	16.3
					04-01-94	129
					05-26-94	28.8
					07-15-94	14.4
08104290	Salado Creek above Salado, Tex.	Lat 30°56'42", long 97°32'30", Bell County, 0.2 mi upstream from I.H. 35, at Salado.	—	1984-88, 1990-94	03-18-94	11.1
					05-20-94	10.2
					07-06-94	1.51
					07-28-94	0.40
					09-06-94	1.31
08104310	Salado Creek below Salado Springs, at Salado, Tex.	Lat 30°57'07", long 92°21'26", Bell County, on right bank downstream from low-water crossing in the Mill Creek Country Club and subdivision at Salado.	—	1984-87† 1988, 1990-94	03-18-94	26.1
					05-20-94	22.5
					07-06-94	12.0
					07-28-94	9.64
					09-06-94	9.67
08104795	North Fork San Gabriel River upstream from State Highway 418 at Georgetown, Tex.	Lat 30°38'44", long 97°40'49", Williamson County, 0.2 mi upstream from State Highway 418 at Georgetown.	—	1984-88, 1990-94	03-18-94	36.5
					05-20-94	9.75
					07-06-94	4.65
					07-28-94	4.42
					09-06-94	5.03
08104950	South Fork San Gabriel River upstream from State Highway 418 at Georgetown, Tex.	Lat 30°38'38", long 97°40'50", Williamson County, 0.2 mi upstream from State Highway 418 at Georgetown.	—	1984-88, 1990-94	03-18-94	6.63
					05-20-94	16.1
					07-06-94	0.13
					07-27-94	0
					09-07-94	0.01
08105000	San Gabriel River at Georgetown, Tex.	Lat 30°39'14", long 97°39'18", Williamson County, on left bank 100 ft downstream from Missouri-Kansas Railroad bridge, 1.2 mi below confluence of North and South Forks, about 1.5 mi northeast of Williamson County Courthouse in Georgetown.	399	1924-25† 1934-73† 1984-87† 1988, 1990-94	03-18-94	51.7
					05-20-94	43.8
					07-06-94	13.7
					07-29-94	8.30
					09-07-94	14.1
08105095	Berry Creek upstream from I.H. 35 near Georgetown, Tex.	Lat 30°42'11", long 97°39'58", Williamson County, about 1.4 mi upstream from I.H. 35 near Georgetown.	—	1984-88, 1990-94	03-18-94	0
					05-20-94	23.3
					07-06-94	0
					07-27-94	0
					09-06-94	0
08105160	Dry Berry Creek near Georgetown, Tex.	Lat 30°41'28", long 97°38'14", Williamson County, at downstream side of county road, 0.4 mi upstream from mouth, and 4.0 mi northeast of Georgetown.	—	1986-88, 1990-94	03-18-94	0.12
					05-20-94	0.38
					07-06-94	0
					07-27-94	0
					09-06-94	0
08105200	Berry Creek at State Highway 971 near Georgetown, Tex.	Lat 30°40'33", long 97°36'52", Williamson County, at downstream side of State Highway 971 bridge and 4.7 mi northeast of Georgetown.	—	1964-73 1984-87† 1988, 1990-94	03-18-94	4.02
					05-20-94	7.96
					07-06-94	1.59
					07-27-94	0
					09-06-94	0
					09-26-94	0.17

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record station during water year 1994—Continued

Station no.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Dis-charge (ft ³ /s)
Brazos River Basin—Continued						
08105300	San Gabriel River near Weir, Tex.	Lat 30°38'45", long 97°35'06", Williamson County, on left bank at downstream side of State Highway 29 bridge, 0.5 mi upstream from Manske Branch, 4.7 mi east of Georgetown, and 54.8 mi upstream from mouth.	563	1976-90† 1991-94	03-18-94	58.5
					05-20-94	46.0
					07-06-94	11.8
					07-29-94	55.7
					09-06-94	10.6
					09-26-94	17.1

† Operated as a continuous-record station.

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), the data are generally collected for use in stage-frequency studies of flood-profile definition. Gages at these stations usually consist of a device that will register the peak stage occurring between inspections of the gage. The years used in the column "Period of record" identify the years in which the annual maximum has been determined.

Annual maximum stage and (or) discharge during water year 1994

Station name	Location	Drainage area (mi ²)	Period of record	Water Year 1994 maximum			Period of record maximum		
				Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
San Jacinto River Basin									
Goose Creek at Baytown, Tex. 08067525	Lat 29°46'14", long 94°59'58", Harris County, at bridge on Baker Road in Baytown, 1.1 mi upstream from West Fork Goose Creek, and 2.0 mi upstream from East Fork Goose Creek.	15.8	1984-94	05-16-94	*17.73	—	06-26-89	*21.43	—
Willow Creek near Tomball, Tex. 08068325	Lat 30°06'19", long 95°32'47", Harris County, at bridge on Kuykendahl Road, 0.6 mi upstream from Cannon Gully, and 4.0 mi east of Tomball.	41.0	1984-94	03-09-94	26.11	885	05-18-89	31.54	—
Cypress Creek at Sharp Road near Hockley, Tex. 08068700	Lat 29°55'15", long 95°50'24", Harris County, at bridge on Sharp Road and 7.4 mi south of Hockley.	80.7	1976-78, 1979-94	05-17-94	*64.42	—	09-21-79	67.75	—
Buffalo Bayou near Fulshear, Tex. 08072350	Lat 29°43'22", long 95°46'01", Harris County, at proposed location of Peek Road bridge, about 200 ft downstream from Little Prong Bayou, 4,300 ft upstream from Mason Road, 8.3 mi east-northeast of Fulshear.	81.7	1986-94	02-21-94	15.84	—	02-21-94	b15.84	—
South Mayde Creek near Addicks, Tex. 08072700	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	1974-94	02-20-94	*107.56	—	08-31-81	108.76	4,080
Langham Creek near Addicks, Tex. 08072800	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	1974-94	02-20-94	*100.47	—	08-31-81	102.25	3,360
Whiteoak Bayou at Alabonson Road at Houston, Tex. 08074020	Lat 29°52'14", long 95°28'49", Harris County, at bridge on Alabonson Road, in northwest Houston, 1.0 mi upstream from Vogel Creek, and 2.5 mi upstream from Cole Creek.	34.5	1984-94	05-16-94	*40.45	1,890	03-04-92	49.58	8,610
Little Whiteoak Bayou at Trimble Street at Houston, Tex. 08074540	Lat 29°47'33", long 95°22'06", Harris County, at bridge on Trimble Street, Houston.	18.0	1979-94	11-07-93	*36.54	—	03-04-92	43.17	—
Brays Bayou at Alief Road, Alief, Tex. 08074760	Lat 29°42'39", long 95°35'13", Harris County, at bridge on High Star Street in Alief.	14.1	1977-94	09-09-94	12.30	—	03-04-92	21.16	—
Keegans Bayou at Keegan Road near Houston, Tex. 08074780	Lat 29°39'55", long 95°35'42", Harris County, at bridge on Keegan Road and about 16 mi southwest of Houston.	8.63	1965-71, 1975-94	11-16-93	*76.14	—	04-14-66	83.55	—
Brays Bayou at Gessner Drive, Houston, Tex. 08074810	Lat 29°40'21", long 95°31'41", Harris County, at bridge on Gessner Drive in southwest Houston and 0.10 mi below mouth of Keegans Bayou.	53.2	1977-94	11-16-93	*57.35	7,900	03-04-92	65.42	16,900
Greens Bayou at Cutten Road near Houston, Tex. 08075780	Lat 29°56'56", long 95°31'10", Harris County, at bridge on Cutten Road and about 16.5 mi northwest of Houston.	8.65	1965-94	06-20-94	*113.54	740	02-21-69 10-25-84	*118.04 *116.85	508 2,110
Carpenters Bayou at IH-10 near Channelview, Tex. 08076902	Lat 29°46'18", long 95°08'56", Harris County, at bridge on eastbound access road to IH-10, at western boundary of Channelview, 4.4 mi upstream from mouth.	25.9	1991-94	05-16-94	*9.23	—	03-04-92	12.33	—

Annual maximum stage and (or) discharge during water year 1994—Continued

Station name	Location	Drainage area (mi ²)	Period of record	Water Year 1994 maximum			Period of record maximum		
				Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
Clear Creek Basin									
Beamer Street Ditch at Houston, Tex. 08077505	Lat 29°35'30", long 95°13'19", Harris County, at bridge on Hughes Road in southeast Houston.	5.19	1984-94	10-20-93	*30.66	—	06-26-89	31.27	—
Turkey Creek near Friendswood, Tex. 08077520	Lat 29°35'02", long 95°11'13", Harris County, at bridge on Dixie Farm Road in southern Harris County, 2.4 mi upstream from Clear Creek, and 3.9 mi north-northeast of Friendswood.	6.78	1985-94	06-24-94	*24.79	—	06-25-89	*27.22	—
Clear Creek near Friendswood, Tex. 08077600	Lat 29°31'02", long 95°10'42", Galveston County, at bridge on Farm Road 528 and 1.5 mi southeast of Friendswood.	—	1966-94	10-21-93	12.38	—	07-26-79	e25.9	—
Horsepen Bayou at Bay Area Blvd., Houston, Tex. 08077630	Lat 29°35'00", long 95°06'12", Harris County, at upstream bridge on Bay Area Blvd., in southeast Houston, and 2.0 mi upstream from Armand Bayou.	17.8	1985-94	10-20-93	*7.40	—	08-01-89	*12.35	—
Brazos River Basin									
Blackwater Draw tributary near Floyd, N. Mex. 08079300	Lat 34°14'52", long 103°44'51", Roosevelt County, 0.5 mi below section road and 10 mi west of Floyd.	10	1963-94	06-19-93	n	—	1969	5.96	3,400
Running Water Draw near Clovis, N. Mex. 08080600	Lat 34°31'55", long 103°12'05", CurryCounty, 0.25 mi upstream from State Highway 18 and 8 mi west of Clovis.	109	1953-56, 1957-64† 1965-94	08-03-94	6.32	4,220	07-24-92	—	8,000

* Elevation, in feet.

† Operated as a continuous-record station.

b Revised.

c Gage height not determined.

d Discharge not determined.

e Estimated.

n No evidence of any flow during water year.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

361

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table:

Discharge measurements made at miscellaneous sites during water year 1994

Station no.	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Brazos River Basin						
Catclaw Creek	Clear Fork Brazos River	Lat 32°28'31", long 99°44'56", Taylor County, in Sear Park 320 ft downstream from bridge on Ambler Street in Abilene, and 1.8 mi upstream from mouth.	13.0	1971-79	06-16-83	0.02
					06-22-83	10.9
					08-31-83	40.6
					08-31-83	25.7
					09-01-83	1.96
					09-27-83	0.07
					10-05-83	0.07
					10-21-83	1.09
					04-13-84	0.03
					05-10-84	0.04
					05-26-84	10.2
					09-01-84	31.5
Cedar Creek at I-20 at Abilene	Clear Fork Brazos River	Lat 32°29'58", long 99°42'57", Taylor County, on Cedar Creek bridge on IH-20 Service Road.	—	—	05-27-83	0.26
					06-22-83	17.8
					08-31-83	24.1
					09-01-83	4.36
					10-21-83	8.42
					12-09-83	0.36
					02-15-84	0.18
					03-28-84	0.22
					05-26-84	201
					09-01-84	119
Leon River	—	Lat 31°23'01", long 97°42'06", Coryell County, on downstream side of State Highway 36, 9.8 mi downstream from City of Gatesville Sewage Disposal Plant.	—	1994	12-03-83	68.4
					01-18-84	49.0
					03-23-84	73.1
					05-23-84	1,630
					07-27-84	492
					08-31-84	36.4
Yegua Creek nr Sommerville, Tex.	Brazos River	Lat 30°19'18", long 96°30'26", Burleson County, on left bank 40 ft downstream from bridge on State Highway 36, 1.0 mi downstream from Sommerville Lake, 2.0 mi south of Sommerville, and 5.0 mi upstream from Davidson Creek.	1,009	1924-91† 1992-94	07-20-84	440
					07-21-84	206

† Operated as a continuous-record station.

INDEX

	Page		Page
Access to WATSTORE data	16	Clear Creek Basin, crest-stage partial-record stations in	360
Accuracy of the records	12	gaging-station records in	142
Acre-foot, definition of	17	Clear Fork Brazos River, at Fort Griffin	168
Addicks Reservoir near Addicks	81	at Nugent	166
Adenosine triphosphate (ATP), definition of	17	near Roby	165
Algae, definition of	17	Coastal Basin, gaging-station records in	143-144
Algal growth potential (AGP), definition of	17	Cole Creek at Deihl Road, Houston	93
Aquila Creek near Aquila	226-227	Color Unit, definition of	18
Aquila Lake above Aquila	225	Contents, definition of	18
Arrangement of records	13	Continuing-record station, definition of	13
Artificial substrate, definition of	23	Control, definition of	18
Ash mass, definition of	17	structure	18
		Cooperation	2
Bacteria, definition of	17	Cowhouse Creek at Pidcocke	273-276
Barker Reservoir near Addicks	78	Crest-stage partial-record stations	359
Beamer Street Ditch at Houston	360	definition of	8
Bear Creek near Barker	79	Cubic-foot-per-second day, definition of	18
Bed load, definition of	22	Cubic foot per second (FT ³ /s, ft ³ /s), definition of	18
discharge, definition of	22	Cubic foot per second per square mile (CFSM), definition of	18
Bed material, definition of	17	Cypress Creek at Grant Road near Cypress	49
Belton Lake near Belton	277-295	at House and Hahl Road near Cypress	47
Berry Bayou at Forest Oaks Street, Houston	130-131	at Katy-Hockley Road near Hockley	46
Berry Creek, at State Highway 971 near Georgetown	357	at Sharp Road near Hockley	359
near Georgetown	322	at Stubner-Airline Road near Westfield	50
upstream from Interstate Highway 35 near Georgetown	357	near Westfield	51-52
Big Creek, near Freestone	338	Data, collection and computation	7
near Needville	354	presentation	9,15
Big Sandy Creek above Breckenridge	175-180	table of daily mean values	10
Biochemical oxygen demand (BOD), definition of	17	Davidson Creek near Lyons	335
Biomass, definition of	17	Deadman Creek near Nugent	357
Blackwater Draw tributary near Floyd, N. Mex.	360	Definition of terms	17
Blue-green algae, definition of	21	Diatoms, definition of	21
Bottom material, definition of	18	Discharge, at partial-record stations	357
Brays Bayou, at Alief Road, Alief	359	definition of	18
at Gessner Drive, Houston	359	Dissolved, definition of	18
at Houston	120-121	Dissolved-solids concentration, definition of	18
Brazos River, at Morris Sheppard Dam near Graford	201	Diversity index, definition of	18
at Richmond	349-353	Double Mountain Fork Brazos River, at Justiceburg	149-152
at Seymour	160-162	near Aspermont	153-155
at State Highway 21 near Bryan	330-331	Downstream order numbering	7
at Waco	241-242	Drainage area, definition of	19
at Washington	336	Drainage basin, definition of	19
at Whitney Dam near Whitney	222-223	Dry Berry Creek near Georgetown	357
near Aquila	224	Dry mass, definition of	17
near Dennis	203-205		
near Glen Rose	215-216	East Fork San Jacinto River, near New Caney	54-58
near Hempstead	348	near Cleveland	53
near Highbank	243-248	East Yegua Creek near Dime Box	333
near Palo Pinto	202	Explanation of the records	7
near Rosharon	355		
near South Bend	189-190	Fecal coliform bacteria, definition of	17
Brazos River Basin, crest-stage partial-record stations in	360	Fecal streptococcal bacteria, definition of	17
gaging-station records in	149-355		
low-flow partial-record stations in	357-358	Gage height, definition of	19
Brickhouse Gully at Costa Rica Street, Houston	94	Gaging station, definition of	19
Buffalo Bayou, at Houston	87-92	Gaging-station records	29-356
at Main Street, Houston	103-104	Garners Bayou near Humble	139
at McKee Street, Houston	105-111	Goose Creek at Baytown	359
at Piney Point	86	Granger Lake near Granger	323
at Turning Basin, Houston	112-118	Green algae, definition of	21
at West Belt Drive, Houston	83-85	Greens Bayou, at Cutten Road near Houston	359
near Addicks	82	at Ley Road at Houston	141
near Fulshear	359	at U.S. Highway 75 near Houston	136
near Katy	77	near Houston	137-138
		Halls Bayou at Houston	140
California Creek near Stamford	177	Hardness, definition of	19
Caney Creek near Splendora	59-61	Highland Bayou Basin, gaging-station records in	145-147
Carpenters Bayou at IH-10 near Channelview	359	Hog Creek near Crawford	239
Cat Claw Creek at Abilene	361	Horsepen Bayou at Bay Area Blvd., Houston	360
Cedar Creek at I-20 at Abilene	360	Hubbard Creek below Albany	169-174
Cells/volume, definition of	18	Hubbard Creek Reservoir near Breckenridge	181-188
Chemical oxygen demand (COD), definition of	18	Hunting Bayou at Interstate Highway 610 at Houston	133-135
Chlorophyll, definition of	18	Hydrographs:	
Chocolate Bayou near Alvin	148	Brazos River near South Bend	190
Chocolate River Basin, gaging-station records in	148	Buffalo Bayou at West Belt Drive, Houston	84
Classification of records	13	Cowhouse Creek at Pidcocke	274
Clear Creek, near Friendswood	360	Hubbard Creek below Albany	170
near Pearland	142	Hunting Bayou at Interstate 610, Houston	134

	Page		Page
Hydrographs:		Middle Yegua Creek near Dime Box	332
Navasota River near Bryan	347	Millers Creek near Munday	163
North Bosque River at Valley Mills	237	Millers Creek Reservoir near Bomartin	164
North Bosque River near Clifton	235	Milligrams of carbon per area or volume per unit time	21
Whiteoak Bayou at Houston	96	Milligrams of oxygen per area or volume per unit time	21
Hydrologic Benchmark Network	6, 19	Milligrams per liter, definition of	19
Hydrologic conditions	2	Miscellaneous sampling sites	13
Hydrologic unit	19	Moses Lake-Galveston Bay near Texas City	143-144
Identifying estimated daily discharge	12	National Geodetic Vertical Datum (NGVD), definition of	19
Illustrations	4, 5	National Stream-quality accounting network (NASQAN), definition of	19
Instantaneous discharge, definition of	18	National Trends Network (NTN), definition of	20
Introduction	1	Natural substrate, definition of	23
Keegans Bayou, at Keegan Road near Houston	359	Navasota River, above Groesbeck	337
at Roark Road near Houston	119	near Bryan	346-347
Laboratory measurements	15	near Easterly	344-345
Lake Conroe near Conroe	29-35	Nolan River at Blum	220
Lake Georgetown near Georgetown	319	North Bosque River, above Stephenville	230
Lake Graham near Graham	191	at Hico	232-233
Lake Granbury near Granbury	206-214	at Valley Mills	236-237
Lake Houston near Sheldon	64-74	below Stephenville	231
Lake Limestone near Marquez	339-343	near Clifton	234-235
Lake Whitney near Whitney	221	North Fork North Bosque River near Stephenville	228
Lake Surveys (Water Quality):		North Fork San Gabriel River, near Georgetown	320
Belton Lake near Belton	278-295	upstream from State Highway 418 at Georgetown	357
Conroe, Lake, near Conroe	30-35	On-site measurements and sample collection	13
Granbury, Lake, near Granbury	207-214	Organic mass, definition of	18
Houston, Lake, near Sheldon	65-74	Organism, definition of	20
Hubbard Creek Reservoir near Breckenridge	182-188	Organism count/area, definition of	20
Limestone, Lake, near Marquez	340-343	Organism count/volume, definition of	20
Possum Kingdom Lake near Grafard	193-200	Other records available	13
Proctor Lake near Proctor	256-265		
Stillhouse Hollow Lake near Belton	304-316	Paluxy River at Glen Rose	217
Lakes and reservoirs:		Parameter code, definition of	20
Addicks Reservoir near Addicks	81	Partial-record station, definition of	13,20
Aquilla Lake above Aquilla	226-227	Partial-record stations, crest-stage	359
Barker Reservoir near Addicks	78	low-flow	357
Belton Lake near Belton	277-295	Particle size, definition of	20
Conroe, Lake, near Conroe	29-35	Particle-size classification, definition of	20
Georgetown, Lake, near Georgetown	319	Percent composition, definition of	20
Graham, Lake, near Graham	191	Periphyton, definition of	20
Granbury, Lake, near Granbury	206-214	Pesticides, definition of	20
Granger Lake near Granger	323	Phytoplankton, definition of	21
Houston, Lake, near Sheldon	64-74	Picocurie, definition of	20
Hubbard Creek Reservoir near Breckenridge	181-188	Plankton, definition of	21
Limestone, Lake, near Marquez	339-343	Polychlorinated biphenyls (PCBs), definition of	21
Millers Creek Reservoir near Bomartin	164	Possum Kingdom Lake near Grafard	192-200
Moses Lake-Galveston Bay near Texas City	143-144	Primary productivity, definition of	21
Possum Kingdom Lake near Grafard	192-200	Proctor Lake near Proctor	254
Proctor Lake near Proctor	254-265	Publication of techniques of water-resources investigations	25-27
Somerville Lake near Somerville	334		
Squaw Creek Reservoir near Glen Rose	218	Radiochemical program	7,21
Stillhouse Hollow Lake near Belton	303-316	Records, accuracy of	12
Waco Lake near Waco	240	arrangement of	13
Whitney, Lake, near Whitney	221	classification of	13
LaMarque Levee Pump Station near LaMarque	145-147	explanation of	7
Lampasas River near Kempner	299-300	of stage and water discharge	7
Langham Creek, at West Little York Road near Addicks	80	of surface-water quality	13
near Addicks	359	other available	13
Leon River	361	Recoverable from bottom material, definition of	21
at Gatesville	269-270	Remark codes	16
at north Fort Hood	271-272	Reservoirs. See Lakes and reservoirs.	
near Belton	296-298	Return period, definition of	22
near De Leon	249-250	Running Water Draw near Clovis, N. Mex.	360
near Hamilton	267-268	Runoff in inches, definition of	22
near Hasse	266		
Little Cypress Creek near Cypress	48	Sabana River near De Leon	251-253
Little River, at Cameron	326-329	Salado Creek, above Salado	357
near Little River	317-318	below Salado Springs	357
near Rockdale	325	Salt Fork Brazos River near Aspermont	156
Little Whiteoak Bayou at Trimble Street at Houston	359	San Bernard River Basin, gaging-stations records in	356
Low-flow partial-record stations	357	San Bernard River near Boling	356
definition of	8	San Gabriel River, at Georgetown	357
Luce Bayou above Lake Houston near Huffman	62-63	at Laneport	324
Mean concentration, definition of	22	near Weir	358
Mean discharge, definition of	18	San Jacinto River near Sheldon	75-76
Metamorphic stage, definition of	19	San Jacinto River Basin, crest-stage partial-record stations in	359
Methylene blue active substance (MBAS), definition of	19	gaging-station records in	29-141
Micrograms per gram, definition of	19	Sediment, collection and examination	14
Micrograms per liter, definition of	19	definition of	22
Middle Bosque River near McGregor	238		

	Page		Page
Sims Bayou, at Hiram Clarke Street, Houston	122	Taxonomy, definition of	23
at Houston	123-129	Thermograph, definition of	24
Sodium adsorption ratio (SAR), definition of	22	Time-weighted average, definition of	24
Solute, definition of	22	Tons per acre-foot, definition of	24
Somerville Lake near Somerville	334	Tons per day, definition of	24
South Fork North Bosque River near Stephenville	229	Total coliform bacteria, definition of	17
South Fork Rocky Creek near Briggs	301-302	Total (in tables of chemical analyses), definition of	24
South Fork San Gabriel River at Georgetown	321	Total discharge, definition of	24
upstream from State Highway 418 at Georgetown	357	Total organism count, definition of	20
South Mayde Creek near Addicks	359	Total, recoverable, definition of	24
Special networks and programs	6	Total sediment discharge, definition of	22
Specific conductance, definition of	22	Total sediment load, definition of	22
Spring Creek at Spring	43-45	Tritium network	24
Squaw Creek near Glen Rose	219	Turkey Creek near Friendwood	360
Squaw Creek Reservoir near Glen Rose	218	Vince Bayou at Pasadena	132
Stage-discharge relation, definition of	22	Waco Lake near Waco	240
Station identification numbers	7	Water quality yearly summary	3
Station manuscript	9	Water temperature	14
Statistics of monthly mean data	10	Water year, definition of	24
Stillhouse Hollow Lake near Belton	303-316	WATSTORE data, access to	16
Streamflow, definition of	23	WDR, definition of	24
yearly summary	2	Weighted average, definition of	24
Substrate, definition of	23	West Fork San Jacinto River, above Lake Houston near Porter	41-42
Summary statistics	11	below Lake Conroe near Conroe	36
Surface area, definition of	23	near Conroe	37-40
Surficial bed material, definition of	23	Wet mass, definition of	18
Suspended (as used in tables of chemical analyses),		Whiteoak Bayou, at Alabonson Road at Houston	359
definition of	23	at Houston	95-97
Suspended, recoverable, definition of	23	at Main Street, Houston	98-102
Suspended sediment, definition of	22	Willow Creek near Tomball	359
Suspended-sediment, concentration, definition of	22	WSP, definition of	24
discharge, definition of	22	Yegua Creek near Somerville	361
load, definition of	22	Zooplankton, definition of	21
Suspended, total, definition of	23		

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
<i>Area</i>		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
<i>Volume</i>		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
<i>Mass</i>		
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

USGS LIBRARY - RESTON



3 1818 00156054 7

U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey
8011 Cameron Road, Building 1
Austin, TX 78753
