HYDROLOGIC DATA FOR URBAN STUDIES IN THE HOUSTON, TEXAS, METROPOLITAN AREA, 1982

By Fred Liscum, J.P. Bruchmiller, J.S. Hutchison, and E.M. Paul

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METRIC CONVERSIONS

For those readers interested in using the metric system, the inch-pound units of measurements used in this report may be converted to metric units by using the following conversion factors:

From		Multiply by	To obtain	
Unit	Abbreviation		Unit	Abbreviation
inch	in	25.4	millimeter	mm
foot	ft	0.3048	meter	m
mile	mi	1.609	kilometer	km
square mile	mi^2	2.590	square kilometer	km^2
cubic foot per second	ft^3/s	0.02832	cubic meter per second	m^3/s
foot per mile	ft/mi	0.189	meter per kilometer	m/km
acre-foot	--	1233	cubic meter	m^3
		0.001233	cubic hectometer	hm^3

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INTRODUCTION

Hydrologic investigations of urban watersheds in Texas were begun by the U.S. Geological Survey in 1954. Studies are now in progress in Austin, and Houston. Studies have been completed in the Dallas-Fort Worth and San Antonio areas.

The U.S. Geological Survey, in cooperation with the city of Houston, began studies in the Houston metropolitan area in 1964. The program was expanded in 1968 to include collection of water-quality data. The objectives of the Houston urban-hydrology study are as follows:

1. To determine, on the basis of historical data and hydrologic analyses, the magnitude and frequency of flood peaks and flood volumes.
2. To determine the effect of urban development on flood peaks and volumes.
3. To ascertain the variation in water quality for different flow conditions and different seasons.

This report, the nineteenth in a series of reports to be published annually, is primarily applicable to objective 2. The report presents hydrologic data collected in the Houston urban area for the 1982 water year (October 1, 1981 to September 30, 1982).

A report by Johnson and Sayre (1973) utilized records collected from 1965 to 1969 to study the effects of urbanization on floods in the Houston area. The report also summarizes various basin parameters. A report by Waddell, Massey, and Jennings (1979) presents data on runoff from the Houston area and computed concentrations and loads of selected water-quality constituents discharged to Galveston Bay. The study utilized a variation of the "STORM" model developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers. A report prepared by Liscum and Massey (1980) presents a technique for estimating the magnitude and frequency of floods in the Houston area from drainage areas, bank-full conveyance, and percentage of urban development.

A definition of terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined in "U.S. Geological Survey, Water-resources data for Texas, water year 1982, volume 2."

To facilitate the publication and distribution of this report some material has been included that does not conform to the formal publications standards of the U.S. Geological Survey.

LOCATION AND DESCRIPTION OF THE AREA

The Houston study area, which is located about 45 miles from the Gulf of Mexico, is on an almost level plain. The land surface in the area increases in altitude from 35 feet above the National Geodetic Vertical Datum of 1929 (NGVD) in the southeast to 135 feet in the northwest.

Records show that the entire Houston urban study area is being developed rapidly. Percent increases in development in various drainage-basin areas in the Houston metropolitan area from 1969 to 1976 are given in table 1.

Soils in the area are predominately clay, clay loams, and fine sandy loams of low permeability.

The major stream draining the area is Buffalo Bayou, a tributary of the San Jacinto River. Buffalo Bayou is regulated by the Barker and Addicks flood-detention reservoirs near the western limits of the area. From these reservoirs, Buffalo Bayou meanders east and is fed by five major tributaries: Whiteoak, Brays, Sims, Hunting, and Greens Bayous. The drainage area of Buffalo Bayou, excluding the area above the flood-detention reservoirs, is about 810 square miles.

The climate of the Houston area is characterized by short mild winters, long hot summers, high relative humidity, and prevailing southeasterly winds. The mean annual temperature (1941-70) is 68.9°F (20.5°C); the lowest temperature recorded was 5°F (-15°C) in 1930; and the maximum recorded was 108°F (42°C) in 1909.

The 30-year average (1941-70) annual rainfall for Houston is 48.19 inches, which is distributed uniformly throughout the year. The maximum annual rainfall was 72.86 inches in 1900; and the minimum was 17.66 inches in 1917.

DATA-COLLECTION METHODS

The drainage basins and locations of hydrologic-instrument installations and water-quality sampling sites in the Houston urban study area are shown on figure 1. The locations of hydrologic instruments and data-collection sites in the individual basins are shown later on figures 4-20.

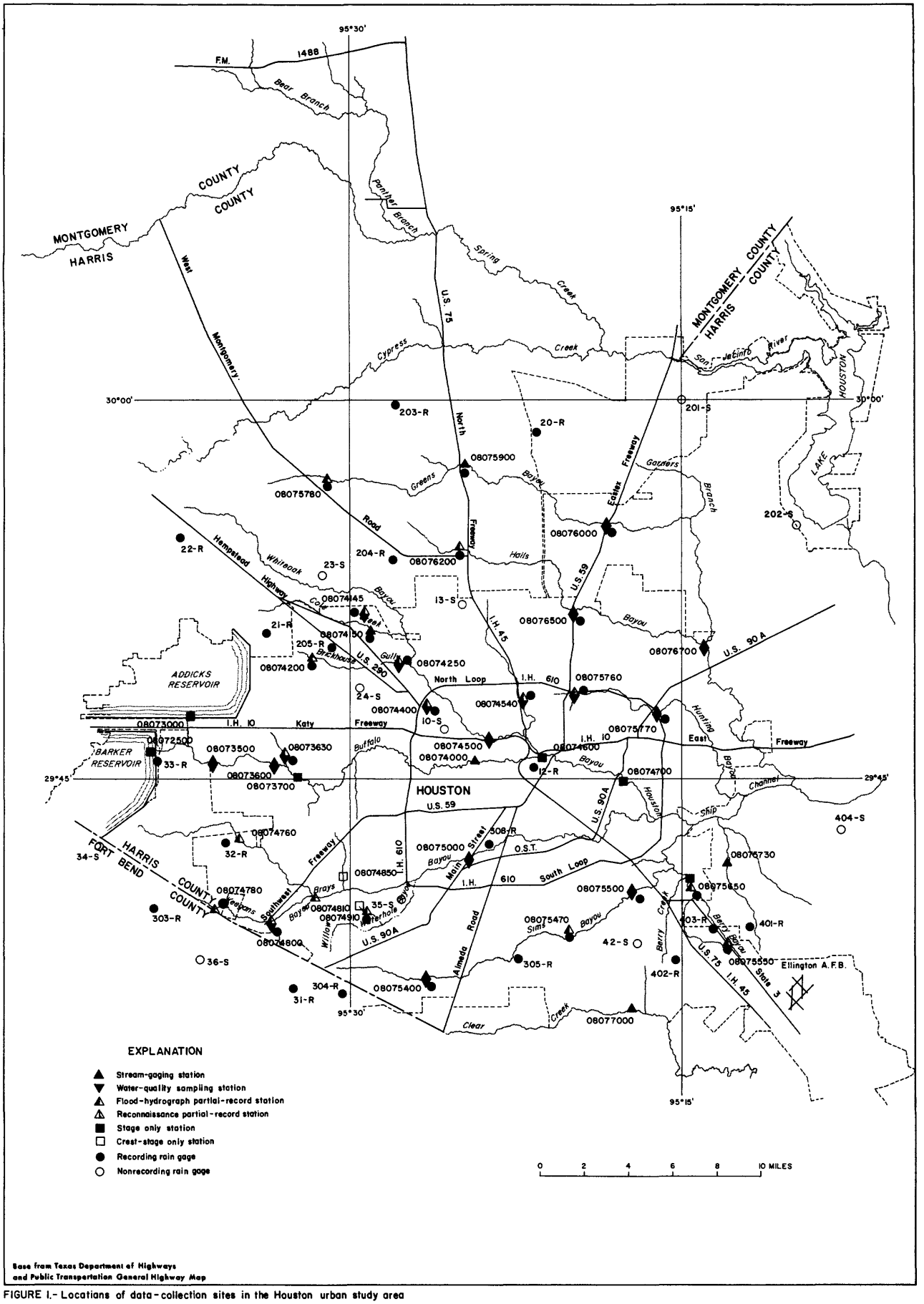
Precipitation Data

Precipitation data are based on 33 recording rain gages maintained by the U.S. Geological Survey in the Houston metropolitan area. The gages are distributed throughout the drainage basins to measure total precipitation and to define rainfall intensities.

Table 1.--Percent increases in development in various drainage areas above stream gaging stations in the Houston metropolitan area from 1969 to 1976

Station no.	Station name	1969 a/	1976 b/	Percent increase
08074150	Cole Creek at Diehl Road	34.3	54.0	19.7
08074200	Brickhouse Gully at Clarblak Street	34.6	54.7	20.1
08074250	Brickhouse Gully at Costa Rica Street	61.0	77.5	16.5
08074500	Whiteoak Bayou at Houston	45.2	57.7	12.5
08074780	Keegans Bayou at Keegan Road	21.0	44.9	23.9
08074800	Keegans Bayou at Roark Road	26.3	55.7	29.4
08075000	Brays Bayou at Houston	44.6	64.4	19.8
08075400	Sims Bayou at Hiram Clarke Street	40.4	69.3	28.9
08075500	Sims Bayou at Houston	50.2	73.7	23.5
08075550	Berry Bayou at Gilpin Street	58.0	71.8	13.8
08075650	Berry Bayou at Forest Oaks Street	72.9	85.3	12.4
08075760	Hunting Bayou at Falls Street	95.9	98.9	3.0
08075770	Hunting Bayou at Interstate Highway 610	83.3	95.0	11.7
08075780	Greens Bayou at Cutten Road	24.4	47.2	22.8
08076000	Greens Bayou near Houston	26.3	43.9	17.6
08076200	Halls Bayou at Deertrail Street	30.4	52.8	22.4
08076500	Halls Bayou at Houston	60.3	74.1	13.8

a/ Johnson and Sayre, 1973.
b/ Liscum and Massey, 1980.



Base from Texas Department of Highways and Public Transportation General Highway Map

FIGURE I.- Locations of data-collection sites in the Houston urban study area

Additional rainfall data are available from rain-gage networks operated by the National Weather Service and are given in the section "Compilation of Data". Locations of recording and nonrecording rain gages at sites other than stream-gaging stations are given later in table 19.

Precipitation at individual gages and weighted precipitation in each study basin is given in the section "Compilation of data." Daily and monthly rainfall amounts are also given in the section "Compilation of data."

Weighted-mean precipitation factors for drainage basins in the Houston area are given in table 2. Weighted-mean precipitation for a study area is determined by the Thiessen method as described by Linsley, Kohler, and Paulhus (1949). All of the rain gages, recording and nonrecording, are used to compute the monthly and annual rainfall amounts. Only the functioning recording gages are used to compute storm rainfall amounts. For example, the monthly and annual weighted-mean precipitation for the drainage basin upstream from the Cole Creek at the Deihl Road gaging station could be computed as follows: Multiply the recorded precipitation at the rain gage at station 08074150 by 0.25; to that value add the recorded precipitation at the rain gage at station 205R multiplied by 0.15; to that value add the recorded precipitation at the rain gage at station 23S multiplied by 0.15; and to that value add the recorded precipitation at the rain gage at station 21R multiplied by 0.45.

Rainfall for the current year was unevenly distributed over the area. Individual station totals ranged from 27.27 inches at the U.S. Geological Survey streamflow station, Greens Bayou at U.S. Highway 75 (station 08075900) in north Houston to 54.06 inches at the U.S. Geological Survey streamflow station, Sims Bayou at Houston (station 08075500) in southeast Houston. Figure 2 shows the comparison of accumulated monthly rainfall for the 1982 water year over five widely separated drainage basins with the 30-year rainfall average (1941-70) of 48.19 inches for Houston. This figure illustrates the deficiency of rainfall in 1982 for the entire metropolitan area. Only the months of October and May had rainfall which exceeded the 30-year average for all basins. Only the Hunting Bayou drainage basin of those shown in figure 2 received rainfall for the 1982 water year, 46.41, which approached that of the 30-year average.

There were eleven storms occurring during the 1982 water year that produced rainfall totals of over 2.0 inches. Six of these were confined to only one or two drainage basins. Only three of the remaining five occurred over the entire metropolitan area, i.e., Oct. 5-7, Nov. 29-30, and May 12-13. The two major storms, in terms of total rainfall and areal coverage, occurred on Oct. 5-7 and May 12-13. The storm of Oct. 5-7 produced rainfall amounts ranging from about 9.0 inches in the Sims Bayou drainage basin of southeast Houston to about 1.5 inches in the upper Brays and Keegans Bayou drainage basins of southwest Houston. This storm also produced rainfall in excess of 2.5 inches in basins located in north Houston. The storm of May 12-13 produced rainfall in excess of 2.5 inches throughout the metropolitan area. The maximum amount was in excess of 6.5 inches in the upper portions of the Whiteoak Bayou drainage basin in northwest Houston. Most of the rainfall for this storm occurrd on May 13. The storm of November 29-30 produced rainfall over the entire area ranging from more than 4.0 inches in northwest Houston to less than 1.0 inch in south Houston.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08073630 Bettina Street Ditch at Houston	Not computed	--	Oct. 6-7, 1981	08073630	1.00
			April 21, 1982	08073630	1.00
			May 13-15, 1982	08073630	1.00
			July 19-20, 1982	08073630	1.00
08074145 Bingle Road Storm Sewer at Houston	Not computed	--	July 13, 1982	08074145	1.00
			July 16, 1982	08074150	1.00
			July 19, 1982	08074145	1.00
			July 30, 1982	08074145	1.00
08074150 Cole Creek at Deihl Road, Houston	08074150	.25	Oct. 5-8, 1981	08074150	.30
	205R	.15		205R	.15
	23S	.15		21R	.55
	21R	.45			
08074200 Brickhouse Gully at Clarblak Street, Houston	Not computed	--	Oct. 6-8, 1981	08074200	.30
				21R	.70
			May 17-18, 1982	08074200	1.00
08074250 Brickhouse Gully at Costa Rica Street, Houston	08074250	.10	Oct. 6-8, 1981	08074250	.15
	08074200	.30		08074200	.30
	08074150	.10		08074150	.05
	205R	.25		205R	.30
	24S	.10		21R	.20
	21R	.15	May 13-15, 1982	08074250	.15
				08074200	.30
				08074150	.05
				205R	.30
				21R	.20
			May 17-19, 1982	08074250	.15
				08074200	.45
				08074150	.10
				205R	.30

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08074400 Lazybrook Street Storm Sewer at Houston	Not computed	--	Oct. 5, 1981	08074400	1.00
			May 13, 1982	08074400	1.00
			June 13, 1982	08074400	1.00
08074500 Whiteoak Bayou at Houston	08074400	.10	Oct. 5-10, 1981	08074200	.05
	08074250	.05		08074250	.20
	08074200	.05		08074150	.10
	08074150	.05		205R	.10
	205R	.05		204R	.20
	204R	.10		21R	.35
	24S	.05	May 6-9, 1982	08074150	.10
	23S	.25		08074200	.10
	22R	.20		08074250	.10
	21R	.05		08074400	.15
	10S	.05		204R	.20
				22R	.20
				21R	.15
			May 12-21, 1982	08074150	.10
				08074200	.05
				08074250	.10
				08074400	.15
				205R	.15
				204R	.20
				22R	.25
08074540 Little Whiteoak Bayou at Trimble St., Houston	Not computed	--	Oct. 5-8, 1981	08074250	.10
				08074540	.60
				08076200	.30
			May 6-7, 1982	08074400	.20
				08074540	.50
				08076200	.30
			May 13-15, 1982	08074400	.35
				08075760	.35
				08076200	.30
			June 22-23, 1982	08074400	1.00

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08074760 Brays Bayou at Alief	Not computed	--	Oct. 31-Nov. 2, 1981	32R	1.00
			May 13-15, 1982	303R	.30
				33R	.25
				32R	.45
08074780 Keegans Bayou at Keegan Road, Houston	Not computed	--	Nov. 29-30, 1981	08074780	.40
				303R	.60
			May 13-17, 1982	08074780	.40
				303R	.60
08074800 Keegans Bayou at Roark Road, Houston	08074800	0.10	Nov. 29-Dec. 1, 1981	08074780	.45
	08074780	.45		08074800	.10
	303R	.35		303R	.45
	34S	.10	May 13-17, 1982	08074780	.45
				08074800	.10
				303R	.45
			June 18-10, 1982	08074780	.45
				08074800	.10
				303R	.45
			July 15-17, 1982	08074780	.45
				08074800	.10
				303R	.45
			July 30-31, 1982	08074780	.90
				08074800	.10
			Aug. 8-11, 1982	08074780	.45
				08074800	.10
				303R	.45
08074810 Brays Bayou at Gessner Drive, Houston	Not computed	--	Oct. 31-Nov. 2, 1981	08074800	.35
				32R	.65
			Nov. 29-Dec. 1, 1981	08074780	.15
				08074800	.30
				303R	.15
				33R	.05
				32R	.35
			May 13-16, 1982	08074780	.15
				08074800	.30
				303R	.15
				33R	.05
				32R	.35

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/	Date of storm	Rain gage 1/	Weighted-mean precipitation factors 2/
08074910 Hummingbird Street Ditch at Houston	Not computed	--	Nov. 29, 1981	08074910	1.00
			May 13-14, 1982	08074910	1.00
08075000 Brays Bayou at Houston	08074910	.15	Oct. 31-Nov. 3, 1981	08074800	.20
	08074800	.10		08074910	.25
	08074780	.10		308R	.10
	308R	.10		32R	.40
	303R	.05		31R	.05
	35S	.15	Nov. 29-Dec. 2, 1981	08074780	.10
	34S	.05		08074800	.15
	32R	.25		08074910	.25
	31R	.05		308R	.10
				303R	.10
				33R	.05
				32R	.25
			May 13-17, 1982	08074780	.15
				08074800	.15
				08074910	.40
				33R	.05
				32R	.25
08075400 Sims Bayou at Hiram Clarke Street, Houston	08075400	0.60	Oct. 5-7, 1981	08075400	0.60
	31R	.40		31R	.40
			May 13-16, 1982	08075400	.60
				31R	.40
08075470 Sims Bayou at Martin Luther King Blvd., Houston	Not computed	--	No storms published	--	--

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08075500 Sims Bayou at Houston	08075500	0.05	Oct. 5-9, 1981	08075400	0.35
	08075400	.45		08075470	.20
	08075470	.20		08075500	.05
	305R	.25		305R	.25
	42S	.05		31R	.15
			May 13-16, 1982	08075400	.35
				08075470	.20
				08075500	.05
				305R	.25
				31R	.15
08075550 Berry Bayou at Gilpin Street, Houston	Not computed	--	May 13-14, 1982	08075550	.95
				402R	.05
08075650 Berry Bayou at Forest Oaks Street, Houston	Not computed	--	May 13-14, 1982	08075550	.30
				08075650	.20
				403R	.20
				402R	.15
				401R	.15
08075730 Vince Bayou at Pasadena	08075650	.20	May 13-14, 1982	08075650	.20
	401R	.80		401R	.80
			Aug. 9-10, 1982	08075650	.20
				401R	.80
08075760 Hunting Bayou at Falls Street, Houston	Not computed	--	July 25-26, 1982	08075760	1.00

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08075770 Hunting Bayou at Interstate Highway 610, Houston	08075770	0.20	May 12-19, 1982	08075770	0.20
	08075760	.80		08075760	.80
			July 25-26, 1982	08075770	.20
				08075760	.80
08075780 Greens Bayou at Cutten Road near Houston	Not computed	--	Nov. 29-Dec. 2, 1981	08075780	1.00
08075900 Greens Bayou at U.S. Highway 75, Houston	08075900	.20	Nov. 29-Dec. 2, 1981	08075780	.50
	08075780	.50		08075900	.25
	204R	.05		203R	.25
	203R	.25	May 13-16, 1982	08075780	.45
				08076200	.05
				203R	.50
08076000 Greens Bayou near Houston	08076200	.05	May 12-21, 1982	08075780	.25
	08076000	.15		08076000	.10
	08075900	.25		08076200	.15
	08075780	.20		203R	.30
	203R	.20		20R	.20
	20R	.15			
08076200 Halls Bayou at Deertrail Street near Houston	Not computed	--	Nov. 29-Dec. 2, 1981	08075780	.10
				08075900	.05
				08076200	.85
			May 12-15, 1982	08076200	.60
				204R	.40
08076500 Halls Bayou at Houston	08076500	.35	Nov. 29-Dec. 2, 1981	08076200	.60
	08076200	.35		08076500	.40
	08076000	.05	May 12-21, 1982	08076000	.25
	204R	.15		08076200	.60
	13S	.10		204R	.15

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08076700 Greens Bayou at Ley Road, Houston	Not computed	--	Nov. 29-Dec. 2, 1981	08075780	0.10
				08075900	.10
				08076000	.35
				08076200	.10
				08076500	.15
				203R	.05
				20R	.15
			May 12-16, 1982	08075770	.05
				08075780	.10
				08076000	.40
				08076200	.20
				203R	.10
				20R	.15

1/ See table 19 for locations of stations other than stream-gaging stations.
2/ See section on "Precipitation Data" for explanation of use of weighted-mean precipitation factors.

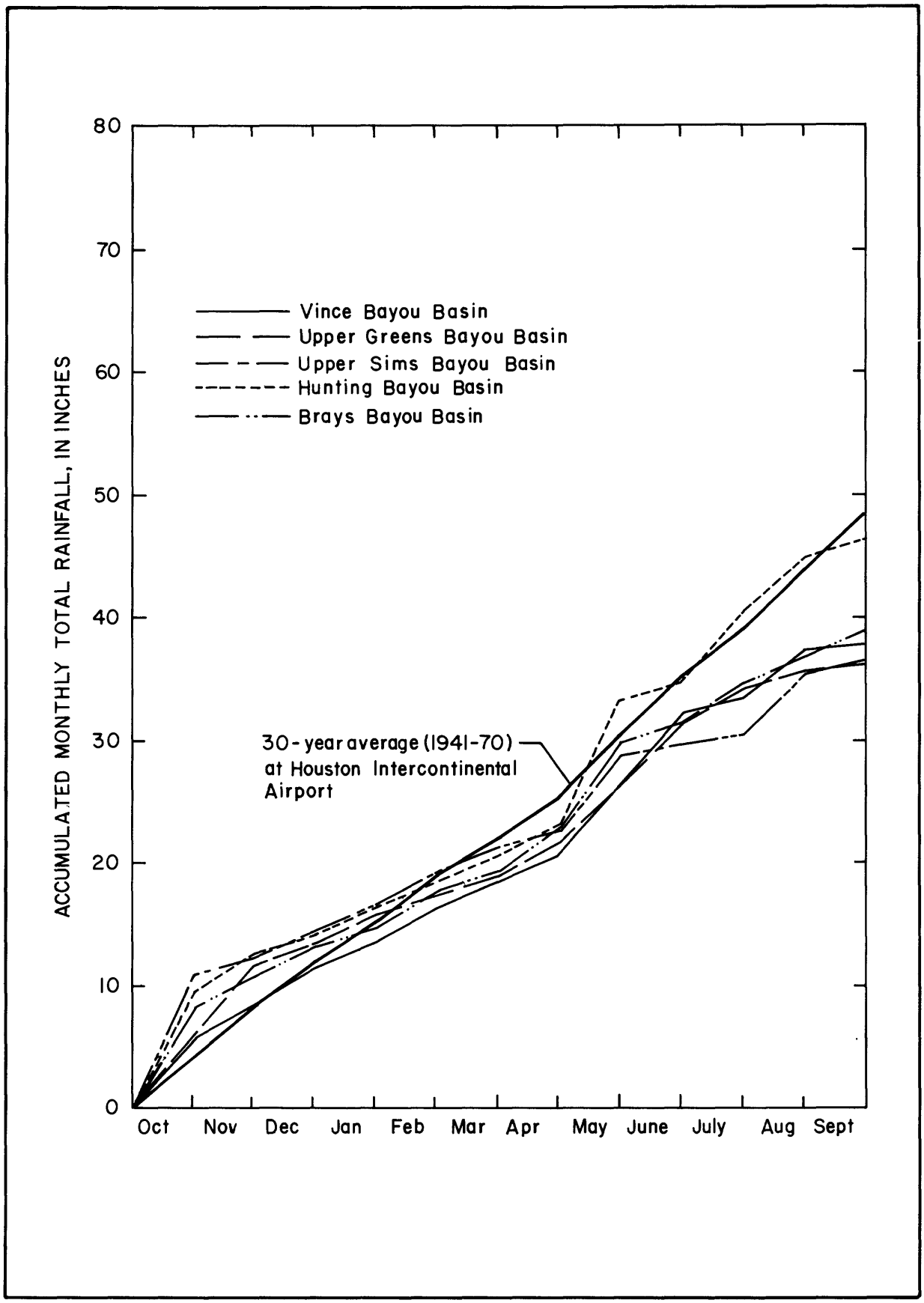


Figure 2.-Rainfall at five drainage basins in the Houston metropolitan area, 1982 water year

The storm of May 12-13, or in most cases, May 13, was analyzed for all stations except those where rainfall distribution was suspect, where the quality of recorded data was poor, or where the stage-discharge relationship was poorly defined. The storms of Oct. 5-7 and Nov. 29-30 were analyzed for a selected number of stations based on the total amount of rainfall produced by the storm and the quality of recorded data. Other storms were selected for analysis based on discharge, total rainfall amount, quality of recorded data, distribution of rainfall, and availability of water quality data.

Runoff Data

Runoff data are based on discharge measurements and stage records at 15 continuous-record stream-gaging stations, and 16 flood-hydrograph partial-record stations.

Annual records of either daily discharge or maximum gage height at continuous-record stream-gaging stations, and maximum discharge at flood-hydrograph partial-record stations are given in the section "Compilation of data." Tables of storm runoff data, including accumulated rainfall totals, are also given for selected storms in the section "Compilation of data."

Figure 3 shows the accumulated monthly runoff from six basins for the 1982 water year and the average runoff for the period 1953-70. The average annual rainfall for the 1953-70 period was 46 inches or approximately equal to the 30-year (1941-70) rainfall average of 48.19 inches at Houston. Figure 3 shows that runoff for the 1982 water year is appreciably greater than the average runoff for the period 1953-70 even through rainfall for the basins averaged from about 9 percent to almost 24 percent less during 1982 than the 46-inch average during 1953-70. This high ratio of runoff to rainfall is one of the effects of the continual urban development in the metropolitan area, i.e., not only increased storm runoff due to increased impervious area but also increased low flow sustained by sewage treatment plant releases. The figure also illustrates the effects of the October and May rains on total runoff.

The most significant storms of the 1982 water year were those of Oct. 5-7, Nov. 29-30, and May 12-13. Data published in the section "Compilation of data" show computed storm runoff from the storm of May 12-13 ranging from more than 5.0 inches to about 1.5 inches in the metropolitan area. This storm was the major producer of the annual peak discharge for the 1982 water year. The storm of Oct. 5-7 produced runoff ranging from 0.4 to 3.5 inches. The storm of Nov. 29-30 produced runoff ranging from 0.4 to 2.3 inches. Both of these storms covered the metropolitan area and produced several annual peak discharges at U.S. Geological Survey sites.

The ratio of runoff to rainfall was determined for all storms selected for analysis. The range of this ratio was 0.2 to 0.5 for the storms of Oct. 5-7 and Nov. 29-30. The storm of May 12-13 resulted in higher ratio values, ranging from 0.5 to 0.8. For this storm the ratio exceeded 0.65 for 10 sites. A high ratio of runoff to rainfall may result from saturated soil moisture conditions, high intenstiy rainfall, and long duration rainfall in conjunction with highly developed drainage basins which include a large portion of impervious land

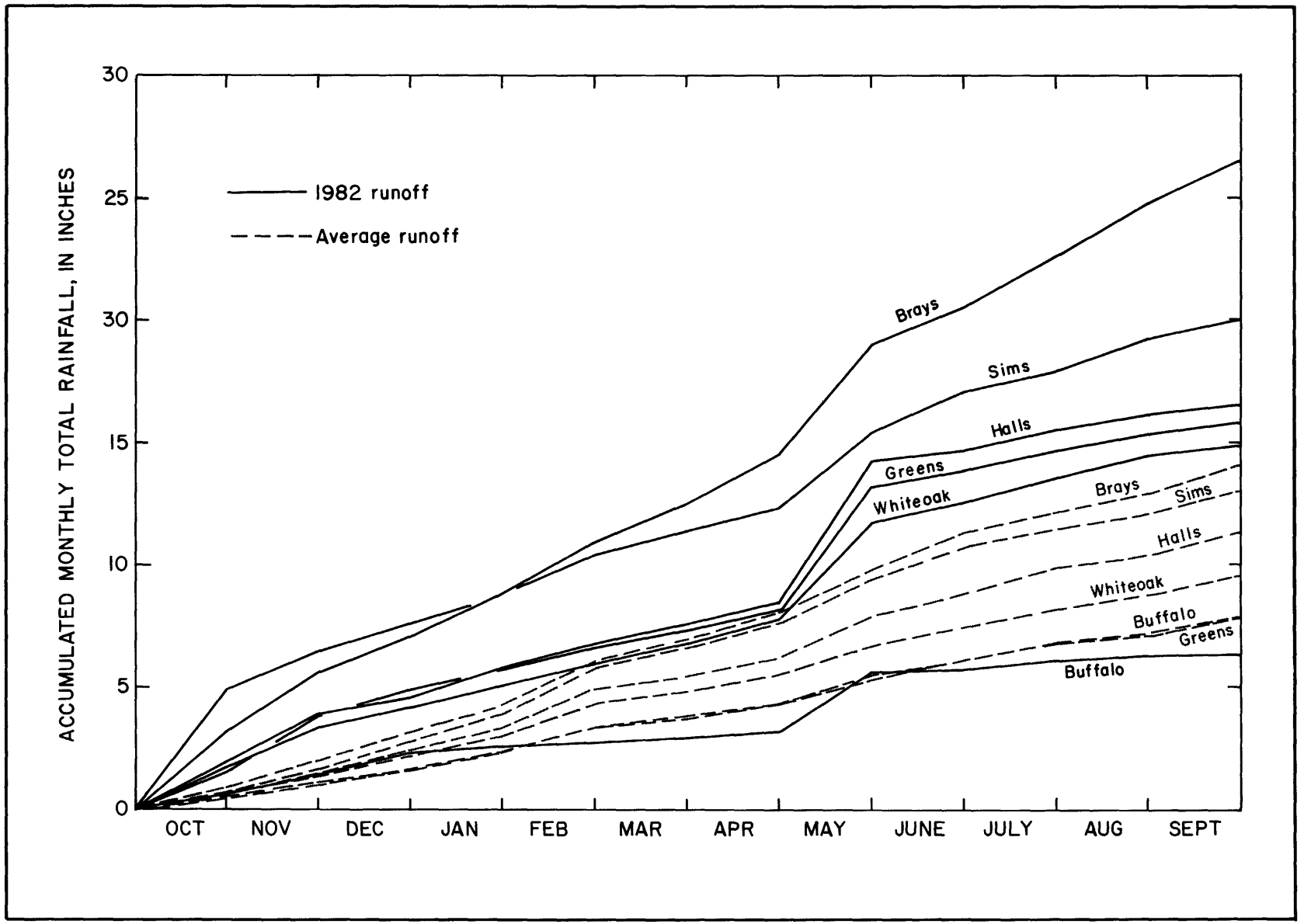


Figure 3.–Runoff from six drainage basins in the Houston metropolitan area, 1982 water year, and average runoff for the period 1953–70

cover and efficient storm drainage systems. However, caution is urged in the use of these computed values as the accuracies of the ratios may be adversely effected by inadequate rain gage coverage, indeterminate drainage area boundaries, basin exchange, and indefinite stage-discharge relationships.

Values for total storm runoff, storm peak discharge, ratio of runoff to rainfall, and other pertinent data for all storms analyzed in the 1982 water year are given in tables 3-18. A total of 27 storms have been analyzed for the 1982 water year resulting in a total of 63 separate storm-data listings. The storm rainfall dates and the number of stream-gaging stations for which data are published in the section "Compilation of data" are:

No.	Storm rainfall date	Number of stations for which data is published
1	October 5	1
2	October 5-7	7
3	October 6-7	1
4	October 31-November 1	3
5	November 29	1
6	November 29-30	7
7	November 29-December 2	2
8	April 21	1
9	May 6-7	2
10	May 12-13	2
11	May 12-18	1
12	May 12-19	3
13	May 13	10
14	May 13-14	3
15	May 13-17	3
16	May 17-18	2
17	June 13	1
18	June 18-20	1
19	June 22	1
20	July 13	1
21	July 15-17	1
22	July 16	1
23	July 19	2
24	July 25-26	2
25	July 30-31	2
26	Aug. 8-11	1
27	Aug. 9	1

Water-Quality Data

Water-quality data were collected at 18 locations in the study area during the 1982 water year. The locations of the water-quality data collection sites are shown on figure 1. Water-quality data and streamflow data are presented in downstream order in the section "Compilation of data." Time and discharge values for water-quality data may vary slightly from those published in the Water Resources Data for Texas, water year 1982 report, due to the correction of some previously published values.

Water-quality data are collected from a wide range of discharge representing various flow and seasonal conditions, and include determinations for physical, chemical, and biological parameters. Physical determinations include measurements of temperature, pH, turbidity, suspended and volatile solids, and color. Chemical analyses include specific conductance, dissolved oxygen, standard inorganic chemical (major ions), selected nutrient determinations of total oganic carbon, nitrogen, and phosphorus. Chemical analyses of trace substances include minor elements, and pesticides. Biological analyses include measurements of BOD (biochemical oxygen demand) and bacteriological analyses for total coliform, fecal coliform, and fecal streptococci.

Water samples were also collected during selected storms to determine the quality of storm runoff in the Houston metropolitan area. Storm dates and stations where at least three water-quality samples were collected during the storms are:

Station no.	Station name	Date of storm
08073630	Bettina Street Ditch at Houston, Tex.	April 21, 1982 May 13-15, 1982
08074145	Bingle Road Storm Sewer at Houston, Tex.	July 13, 1982 July 16, 1982 July 19, 1982 July 30, 1982
08074400	Lazybrook Street Storm Sewer at Houston, Tex.	October 5, 1981
08074500	Whiteoak Bayou at Houston, Tex.	May 6-9, 1982
08074540	Little Whiteoak Bayou at Trimble Street, Houston, Tex.	May 6-7, 1982 June 22-23, 1982
08074800	Keegans Bayou at Roark Road near Houston, Tex.	June 18-20, 1982 July 15-17, 1982 July 30-31, 1982 August 8-11, 1982
08075770	Hunting Bayou at Interstate Highway 610, Houston, Tex.	May 12-19, 1982
08076000	Greens Bayou near Houston, Tex.	May 12-21, 1982
08076500	Halls Bayou at Houston, Tex.	May 12-21, 1982

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C O M P I L A T I O N O F D A T A

SAN JACINTO RIVER BASIN

08073500 BUFFALO BAYOU NEAR ADDICKS, TX

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

DRAINAGE AREA.--293 mi^2 (759 km^2), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1922: Drainage area.

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

REMARKS.--Water-discharge records fair except those for periods of no gage-height record, which are poor. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 3.2 and 3.0 mi (5.1 and 4.8 km) upstream, respectively, total capacity 315,900 acre-ft (390 hm^3). Extreme low flow is sustained by drainage from irrigated lands.

AVERAGE DISCHARGE.--37 years, 208 ft^3/s (5.891 m^3/s), 150,700 acre-ft/yr (186 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft^3/s (317 m^3/s) Aug. 29, 1945, gage height, 81.23 ft (24.759 m), former site; no flow at times.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,050 ft^3/s (58.1 m^3/s) May 13 at 1700 hours, gage height, 64.84 ft (19.763 m); minimum daily, 15 ft^3/s (0.42 m^3/s) Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	500	750	55	120	100	37	31	162	29	157	23
2	85	200	720	45	50	70	30	29	35	28	71	22
3	80	700	710	45	45	50	28	29	34	28	54	23
4	100	900	696	45	35	41	26	26	32	25	43	23
5	200	550	680	42	30	44	25	23	29	27	37	23
6	400	124	664	40	27	37	25	132	28	25	34	23
7	450	93	642	38	25	46	23	356	26	26	37	23
8	300	120	597	40	27	34	23	182	28	28	110	23
9	280	231	420	35	27	27	26	54	27	29	195	23
10	260	271	282	35	25	25	44	36	27	30	154	24
11	150	167	163	35	23	23	51	30	27	31	117	24
12	110	102	60	150	22	24	35	64	26	36	86	27
13	90	81	55	120	22	28	28	803	27	134	49	29
14	100	71	53	70	25	28	27	584	40	187	35	39
15	70	63	52	50	23	26	26	560	36	190	30	33
16	120	58	47	40	22	25	26	498	31	96	25	28
17	400	52	41	35	21	21	26	527	35	109	24	30
18	450	51	60	30	20	22	26	690	32	66	24	29
19	300	48	45	27	20	22	28	1020	30	76	25	40
20	200	46	55	36	70	21	27	1450	29	75	27	32
21	130	46	55	36	80	21	109	1500	37	92	25	23
22	100	46	50	32	50	30	88	1470	34	141	24	22
23	80	44	45	25	35	157	67	1450	30	162	24	24
24	60	44	42	23	30	190	222	1340	28	133	21	24
25	90	44	40	20	100	69	387	1100	29	115	17	24
26	80	43	40	19	300	41	281	1320	28	103	16	25
27	75	40	40	18	200	68	110	1340	37	177	16	28
28	65	41	42	17	150	152	51	934	35	84	15	30
29	60	335	40	30	---	67	39	550	29	76	17	29
30	60	800	55	200	---	42	32	512	30	84	45	36
31	300	---	70	250	---	39	---	444	---	181	22	---
TOTAL	5335	5911	7311	1683	1624	1590	1973	19084	1058	2623	1576	806
MEAN	172	197	236	54.3	58.0	51.3	65.8	616	35.3	84.6	50.8	26.9
MAX	450	900	750	250	300	190	387	1500	162	190	195	40
MIN	60	40	40	17	20	21	23	23	26	25	15	22
AC-FT	10580	11720	14500	3340	3220	3150	3910	37850	2100	5200	3130	1600

CAL YR 1981 TOTAL 105965 MEAN 290 MAX 2820 MIN 11 AC-FT 210200
WTR YR 1982 TOTAL 50574 MEAN 139 MAX 1500 MIN 15 AC-FT 100300

NOTE.--No gage-height record Oct. 1 to Nov. 5, Dec. 18 to Jan. 19, and Jan. 29 to Mar. 4.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: August 1970 to September 1982 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN 18...	1410	30	620	7.4	11.0	40	28	9.4	85	6.3	3000	680
JUL 13...	1045	39	640	7.6	28.0	40	40	5.0	64	5.2	720	950

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN 18...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 13...	140	0	45	7.5	72	2.7	7.5	160	26	74	.4	23

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 18...	--	39	19	2.2	.200	2.4	2.70	.80	3.50	2.30	10
JUL 13...	352	89	15	1.5	.200	1.7	.360	1.8	2.20	.420	8.9

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
JUL 13...	1045	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
JUL 13...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

SAN JACINTO RIVER BASIN

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX

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

DRAINAGE AREA.--307 mi^2 (795 km^2), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

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

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

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

AVERAGE DISCHARGE.--11 years, 309 ft^3/s (8.751 m^3/s), 223,900 acre-ft/yr (276 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,350 ft^3/s (152 m^3/s) Aug. 31, 1981, gage height, 64.58 ft (19.684 m); minimum daily, 25 ft^3/s (0.71 m^3/s) Nov. 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,580 ft^3/s (44.7 m^3/s) May 23 at 2100 hours, gage height, 51.69 ft (15.755 m); minimum daily, 51 ft^3/s (1.44 m^3/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	700	820	70	176	180	70	87	213	55	175	59
2	100	300	786	61	99	140	63	68	68	53	108	58
3	94	1000	760	60	96	100	59	63	68	53	89	73
4	131	1400	742	60	73	81	57	59	66	51	75	62
5	277	620	725	57	60	76	56	57	63	52	70	58
6	517	148	716	55	58	80	56	274	60	51	68	58
7	601	107	698	51	58	85	53	357	59	51	75	59
8	500	229	662	63	62	72	55	206	60	51	198	59
9	320	258	469	55	59	66	54	89	59	54	201	58
10	330	288	304	55	57	63	100	72	58	53	184	59
11	220	194	202	56	57	61	87	65	58	52	155	59
12	140	120	75	197	55	63	66	104	58	56	129	65
13	110	90	68	184	52	65	58	1000	57	241	94	63
14	130	76	69	114	52	64	57	800	71	270	76	73
15	90	67	67	86	60	64	55	700	71	371	68	72
16	160	64	62	69	55	65	55	600	62	268	63	67
17	600	61	58	64	52	68	56	648	64	173	62	66
18	620	59	86	63	51	63	55	704	59	119	62	67
19	450	57	60	59	51	61	57	961	57	150	62	71
20	330	56	74	68	120	60	55	1450	55	130	64	122
21	180	55	77	69	130	59	242	1550	64	131	62	62
22	120	54	66	65	90	77	155	1520	63	169	61	60
23	100	55	61	60	70	294	106	1530	57	179	61	61
24	80	54	58	58	60	209	340	1460	57	161	59	61
25	150	54	55	57	200	109	352	1120	56	145	54	61
26	120	53	53	55	500	73	273	1330	54	131	54	61
27	90	52	54	55	300	143	148	1430	61	189	54	62
28	80	51	58	56	220	179	90	1030	61	120	53	64
29	75	380	57	88	---	106	71	534	55	109	54	65
30	70	879	73	254	---	77	63	492	56	113	80	72
31	500	---	94	299	---	75	---	425	---	177	60	---
TOTAL	7390	7581	8209	2663	2973	2978	3064	20785	1970	3978	2730	1957
MEAN	238	253	265	85.9	106	96.1	102	670	65.7	128	88.1	65.2
MAX	620	1400	820	299	500	294	352	1550	213	371	201	122
MIN	70	51	53	51	51	59	53	57	54	51	53	58
AC-FT	14660	15040	16280	5280	5900	5910	6080	41230	3910	7890	5410	3880

CAL YR 1981 TOTAL 123871 MEAN 339 MAX 3820 MIN 40 AC-FT 245700
WTR YR 1982 TOTAL 66278 MEAN 182 MAX 1550 MIN 51 AC-FT 131500

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1979 to current year.
WATER TEMPERATURES: June 1979 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 922 micromhos June 25, 1979; minimum daily, 78 micromhos Aug. 31, 1981.
WATER TEMPERATURES (1979-80): Maximum daily, 30.5°C July 1, 1978; minimum daily, 8.5°C Jan. 23, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV											
09...	1255	272	288	7.3	18.5	--	160	7.7	81	4.4	46
JAN											
06...	0855	53	780	7.5	19.0	--	6.7	6.2	67	7.4	30
18...	1325	64	720	7.5	16.0	40	20	8.2	83	13	K1
MAR											
29...	1110	104	525	7.6	16.5	--	110	8.4	85	7.5	40
MAY											
17...	1045	417	170	6.9	23.0	--	54	6.9	81	4.7	76
JUL											
13...	1135	62	720	7.6	29.0	15	15	5.1	66	9.0	K2
AUG											
02...	1145	111	520	7.7	29.0	--	62	6.1	79	5.4	2500
SEP											
21...	1000	65	750	7.4	26.5	--	9.9	6.3	78	.8	K6

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV											
09...	260	73	0	23	3.7	27	1.4	5.5	77	15	32
JAN											
06...	K32	150	0	47	8.9	100	3.7	8.1	240	27	87
18...	K18	--	--	--	--	--	--	--	--	--	--
MAR											
29...	700	120	0	37	6.3	59	2.5	7.1	140	26	59
MAY											
17...	650	43	0	13	2.6	15	1.0	3.5	49	7.0	13
JUL											
13...	K16	130	0	42	6.7	97	3.8	6.9	200	23	86
AUG											
02...	600	110	0	36	5.6	63	2.7	8.9	150	18	58
SEP											
21...	60	130	0	41	7.6	110	4.3	7.5	207	27	92

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
NOV										
09...	.3	11	177	164	--	--	--	--	--	.74
JAN										
06...	.4	20	437	442	--	--	--	--	--	1.7
18...	--	--	--	--	32	23	1.0	.270	1.3	--
MAR										
29...	.4	15	308	294	--	--	--	--	--	1.2
MAY										
17...	.2	7.2	100	91	--	--	--	--	--	.31
JUL										
13...	.4	22	--	405	10	2	.97	.830	1.8	--
AUG										
02...	.3	21	317	301	--	--	--	--	--	1.8
SEP										
21...	.4	25	436	435	--	--	--	--	--	3.9

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (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, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 09...	--	.570	--	.00	.590	.470	--	260	191	98
JAN 06...	--	8.80	--	8.40	4.00	3.60	--	11	1.6	95
18...	<.070	--	--	9.50	2.60	--	13	--	--	--
MAR 29...	--	2.70	--	4.90	2.10	2.00	--	175	49	93
MAY 17...	--	.780	--	2.20	.600	.540	--	86	97	97
JUL 13...	3.00	--	1.7	4.70	3.20	--	7.7	--	--	--
AUG 02...	--	1.50	--	2.90	1.10	.920	--	95	28	91
SEP 21...	--	1.20	--	3.80	2.50	2.40	--	11	1.9	99

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
NOV 09...	1255	4	0	4	200	100	100	1	<1	10
MAR 29...	1110	4	0	4	300	200	140	<1	<1	10
JUL 13...	1135	--	--	5	--	--	150	--	<1	--
AUG 02...	1145	5	0	5	100	0	160	<1	<1	<10
SEP 21...	1000	5	0	5	<100	--	140	<1	<1	<10

DATE	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
NOV 09...	<10	2	--	<3	60	53	7	3900	3700	200
MAR 29...	<10	2	1	1	9	5	4	2900	2800	140
JUL 13...	<10	--	--	--	--	--	2	--	--	16
AUG 02...	10	1	--	<1	7	3	4	1300	1300	50
SEP 21...	10	4	--	<1	9	6	3	280	260	22

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)
NOV 09...	17	15	2	130	110	19	.6	.5	.1	5
MAR 29...	20	17	3	130	60	68	.2	--	<.1	3
JUL 13...	--	--	3	--	--	40	--	--	.1	--
AUG 02...	6	--	<1	70	50	16	.3	.2	.1	2
SEP 21...	10	6	4	50	20	26	.2	--	<.1	1

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NICKEL, SUS-PENDED RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, SUS-PENDED RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 09...	3	2	<1	<1	<1	<1	50	40	9
MAR 29...	0	<1	<1	<1	<1	<1	30	5	25
JUL 13...	--	--	--	<1	--	<1	--	--	31
AUG 02...	--	<1	<1	<1	<1	<1	30	0	31
SEP 21...	--	<1	<1	<1	<1	<1	50	30	23

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
JUL 13...	1135	<.10	<.10	.30	<.10	<.10	<2.0	.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
JUL 13...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

BETTINA STREET DITCH DRAINAGE BASIN

The locations of data-collection sites in the Bettina Street Ditch drainage basin are shown in figure 4.

Weighted-mean rainfall for the 1982 water year was not determined.

The storms of October 6-7, April 21, May 13-15, and July 19-20 were selected for analysis at station 08073630, Bettina Street Ditch at Houston.

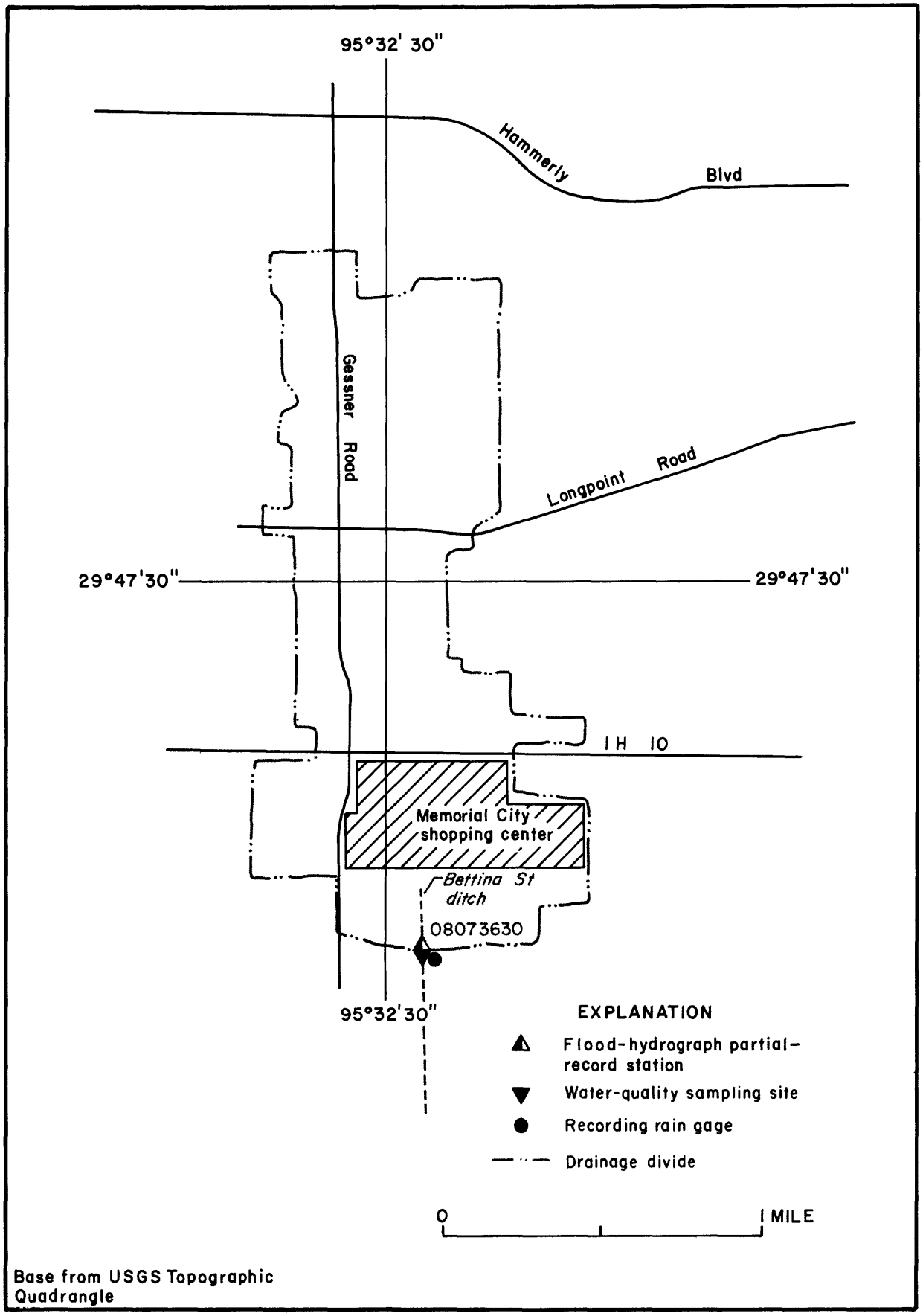

Figure 4.-Locations of data-collection sites in and near Bettina Street Ditch drainage basin

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 3.--Storm rainfall-runoff data, 1982 Water Year, Bettina Street Ditch

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Bettina Street Ditch at Houston, Tx. (Drainage area -- 1.37 mi^2)								
Oct. 6-7, 1981	25.8	3.40	0.98	1.53	2.05	1.32	0.39	433
April 21, 1982	16.0	1.80	0.37	0.46	0.61	0.23	0.13	108
May 13-15, 1982	3.00	3.43	1.16	1.35	1.66	2.61	0.76	442
July 19-20, 1982	0.5	1.68	0.81	1.38	1.63	1.13	0.67	432

SAN JACINTO RIVER BASIN

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

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

DRAINAGE AREA.--1.37 mi² (3.55 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1981."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 562 ft³/s (15.9 m³/s) Aug. 31, 1981, elevation, 81.69 ft (24.899 m).

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

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 6	1725	433	12.3	80.97	24.680	July 13	1815	*468	13.3	81.33	24.789
Oct. 31	1430	402	11.4	80.52	24.542	July 15	1700	403	11.4	80.65	24.582
May 13	1630	442	12.5	81.06	24.707	July 19	1825	432	12.3	80.96	24.677
May 17	1735	368	10.4	80.26	24.463						

Minimum discharge, not determined.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1981 to September 1982.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	1225	.05	582	8.4	16.0	10	2.5	13.0	131	3.3	60	K6
APR												
21...	1911	8.2	61	--	--	--	--	--	--	--	--	--
21...	1918	56	84	--	--	--	--	--	--	--	--	--
21...	1926	87	94	--	--	--	--	--	--	--	--	--
21...	1934	94	188	--	--	--	--	--	--	--	--	--
21...	1941	102	90	--	--	--	--	--	--	--	--	--
21...	2004	104	66	--	--	--	--	--	--	--	--	--
MAY												
01...	1606	8.2	213	--	--	--	--	--	--	--	--	--
01...	1614	80	159	--	--	--	--	--	--	--	--	--
01...	1621	124	166	--	--	--	--	--	--	--	--	--
01...	1629	164	146	--	--	--	--	--	--	--	--	--
01...	1636	187	135	--	--	--	--	--	--	--	--	--
01...	1644	200	135	--	--	--	--	--	--	--	--	--
01...	1651	201	121	--	--	--	--	--	--	--	--	--
01...	1659	195	117	--	--	--	--	--	--	--	--	--
06...	1100	20	106	8.5	22.0	40	17	7.2	82	9.3	11000	10000
06...	1305	38	96	8.8	22.0	40	24	7.7	88	14	13000	9800
12...	0550	9.7	420	--	--	--	--	--	--	--	--	--
12...	0605	15	244	--	--	--	--	--	--	--	--	--
12...	0620	15	166	--	--	--	--	--	--	--	--	--
12...	0635	14	200	--	--	--	--	--	--	--	--	--
12...	0650	12	293	--	--	--	--	--	--	--	--	--
12...	0705	10	337	--	--	--	--	--	--	--	--	--
12...	0720	8.8	238	--	--	--	--	--	--	--	--	--
12...	0735	8.2	240	--	--	--	--	--	--	--	--	--
12...	1135	1.2	--	--	--	--	--	--	--	--	--	--
13...	1304	50	64	6.7	--	20	11	--	--	10	6700	14000
13...	1328	389	85	6.9	19.0	30	90	8.6	93	12	16000	13000
13...	1451	359	57	6.9	19.0	40	41	8.5	92	6.4	20000	16000
14...	0930	3.6	243	6.2	22.0	90	45	7.1	82	9.3	--	--
18...	1941	8.2	305	--	--	--	--	--	--	--	--	--
18...	1956	14	199	--	--	--	--	--	--	--	--	--
18...	2011	9.4	203	--	--	--	--	--	--	--	--	--
18...	2026	7.4	191	--	--	--	--	--	--	--	--	--
18...	2041	5.3	197	--	--	--	--	--	--	--	--	--
18...	2056	4.6	193	--	--	--	--	--	--	--	--	--
18...	2111	4.4	197	--	--	--	--	--	--	--	--	--
18...	2126	4.4	218	--	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUN												
18...	1933	8.5	177	--	--	--	--	--	--	--	--	--
18...	1941	99	176	--	--	--	--	--	--	--	--	--
18...	1948	158	141	--	--	--	--	--	--	--	--	--
18...	1956	189	114	--	--	--	--	--	--	--	--	--
18...	2003	192	98	--	--	--	--	--	--	--	--	--
18...	2011	184	117	--	--	--	--	--	--	--	--	--
18...	2018	170	119	--	--	--	--	--	--	--	--	--
18...	2026	148	125	--	--	--	--	--	--	--	--	--
22...	1115	8.5	148	9.1	27.5	60	30	6.0	76	18	14000	11000
23...	1816	8.2	169	--	--	--	--	--	--	--	--	--
23...	1824	60	160	--	--	--	--	--	--	--	--	--
23...	1831	71	171	--	--	--	--	--	--	--	--	--
23...	1838	67	169	--	--	--	--	--	--	--	--	--
23...	1846	58	182	--	--	--	--	--	--	--	--	--
23...	1854	47	175	--	--	--	--	--	--	--	--	--
23...	1901	39	167	--	--	--	--	--	--	--	--	--
23...	1908	33	190	--	--	--	--	--	--	--	--	--
JUL												
13...	1750	8.2	120	--	--	--	--	--	--	--	--	--
13...	1758	345	149	--	--	--	--	--	--	--	--	--
13...	1805	436	90	--	--	--	--	--	--	--	--	--
13...	1812	465	114	--	--	--	--	--	--	--	--	--
13...	1820	455	100	--	--	--	--	--	--	--	--	--
13...	1828	421	106	--	--	--	--	--	--	--	--	--
13...	1835	389	93	--	--	--	--	--	--	--	--	--
13...	1842	358	85	--	--	--	--	--	--	--	--	--
14...	1525	8.5	207	--	--	55	40	--	--	--	--	--
14...	1532	72	92	--	--	--	--	--	--	--	--	--
14...	1540	133	103	--	--	--	--	--	--	--	--	--
14...	1548	157	116	--	--	30	11	--	--	--	--	--
14...	1555	167	86	--	--	--	--	--	--	--	--	--
14...	1604	170	85	--	--	30	8.7	--	--	--	--	--
14...	1610	168	82	--	--	--	--	--	--	--	--	--
14...	1618	162	79	--	--	25	3.6	--	--	--	--	--
16...	1419	8.5	223	--	--	--	--	--	--	--	--	--
16...	1427	90	107	--	--	--	--	--	--	--	--	--
16...	1434	143	84	--	--	--	--	--	--	--	--	--
16...	1442	171	97	--	--	--	--	--	--	--	--	--
16...	1449	186	96	--	--	--	--	--	--	--	--	--
16...	1457	195	92	--	--	--	--	--	--	--	--	--

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
01...	--	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--	--
06...	38	2	14	.8	6.8	.5	2.7	36	7.0	5.5	.2	3.3
06...	36	0	13	.8	4.5	.3	2.6	36	6.0	3.9	.2	3.5
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
13...	23	2	8.7	.4	3.1	.3	1.2	21	6.0	4.4	<.1	1.1
13...	35	2	13	.6	4.5	.3	1.3	33	5.0	3.9	<.1	2.7
13...	26	0	9.5	.5	2.0	.2	1.6	25	6.0	1.9	<.1	2.1
14...	74	0	25	2.8	17	.9	5.0	85	6.0	12	.2	9.0
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JUN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	55	12	21	.6	3.9	.2	1.4	43	14	4.3	<.1	1.9
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	55	9	21	.7	4.9	.3	1.7	46	13	4.0	.1	2.0
13...	47	8	18	.5	4.0	.3	1.7	39	12	2.7	<.1	2.5
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	47	8	18	.5	4.0	.3	1.7	39	12	2.7	<.1	2.5
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
18...	--	1	2	--	<.020	<.09	.190	.70	.89	1.20	6.3
APR											
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
06...	62	40	8	.41	.070	.48	.410	1.2	1.60	.350	19
06...	56	60	12	.28	.060	.34	.340	.96	1.30	.270	15
12...	--	--	--	.84	.360	1.2	.160	2.2	2.40	.520	39
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	1.3	.130	1.4	.550	2.1	2.60	.360	25
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	1.1	.100	1.2	1.10	1.9	3.00	2.10	25
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	.96	.140	1.1	.390	1.9	2.30	.940	39
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
13...	38	178	42	.31	.020	.33	.440	1.9	2.30	.480	33
13...	51	479	69	.15	.040	.19	.240	1.1	1.30	.500	32
13...	39	106	23	.17	.030	.20	.180	.92	1.10	.230	10
14...	138	59	12	.19	.070	.26	1.00	2.7	3.70	.550	11
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--

08073630 BETTINA STREET DITCH AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN											
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
22...	--	90	27	.88	.060	.94	.420	3.7	4.10	1.30	30
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
JUL											
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	73	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	75	--	--	--	--	--	--	--	--	--	--
13...	64	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	73	--	--	--	--	--	--	--	--	--	--
14...	--	31	7	--	--	--	--	--	--	--	10
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	14	4	--	--	--	--	--	--	--	10
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	22	5	--	--	--	--	--	--	--	12
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	4	3	--	--	--	--	--	--	--	11
16...	--	--	--	.44	.190	.63	.370	2.2	2.60	.440	20
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	.66	.050	.71	.150	1.9	2.00	.180	11
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	.67	.050	.72	.140	2.0	2.10	.250	13

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUL											
16...	1504	193	87	--	--	--	--	--	--	--	--
16...	1512	184	84	.66	.050	.71	.140	3.0	3.10	.210	13
SEP											
18...	2048	8.2	447	--	--	--	--	--	--	--	--
18...	2103	32	253	--	--	--	--	--	--	--	--
18...	2118	32	227	--	--	--	--	--	--	--	--
18...	2133	32	516	--	--	--	--	--	--	--	--
18...	2148	32	336	--	--	--	--	--	--	--	--
18...	2203	30	318	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY							
12...	1135	3	<100	<1	<10	9	60
13...	1304	2	15	<3	<10	3	40
JUN							
22...	1115	3	100	<1	<10	8	100

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY						
12...	3	<10	<.1	<1	<1	110
13	4	6	<.1	<1	<1	94
JUN						
22...	16	20	.1	<1	<1	30

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAY								
12...	1135	<.10	<.10	.10	<.10	<.10	<2.0	.2
13...	1304	<.10	<.10	.30	<.10	<.10	<2.0	.2
JUN								
22...	1115	<.10	<.10	<.10	<.10	<.10	<2.0	.3

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAY							
12...	<.1	.10	<2.0	<2.0	<.10	<.10	<.1
13...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
JUN							
22...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08073630	STORM RAINFALL AND RUNOFF RECORD	1982 WATER YEAR
BETTINA STREET DITCH AT HOUSTON, TEX.	STORM OF OCT. 6 -7 ,1981	

DATE & TIME	GAGE NUMBER 3630	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 6				
0000	0.0	0.0	1.0	0.0034
0600	0.0	0.0	1.0	0.0069
0615	0.0	0.0	1.0	0.0098
1100	0.0	0.0	1.0	0.0130
1200	0.02	0.02	1.0	0.0161
1630	0.02	0.02	1.0	0.0188
1645	0.57	0.57	18.0	0.0239
1700	1.55	1.55	198.0	0.0799
1715	2.06	2.06	408.0	0.1760
1725	2.07	2.07	433.0	0.2372
1730	2.07	2.07	432.0	0.3798
1800	2.07	2.07	389.0	0.5998
1830	2.07	2.07	313.0	0.7768
1900	2.07	2.07	235.0	0.9097
1930	2.07	2.07	175.0	1.0086
2000	2.07	2.07	123.0	1.0608
2015	2.07	2.07	97.0	1.0882
2030	2.07	2.07	74.0	1.1092
2045	2.07	2.07	56.0	1.1488
2145	2.07	2.07	26.0	1.1671
2200	2.09	2.09	24.0	1.1739
2215	2.12	2.12	24.0	1.1807
2230	2.16	2.16	27.0	1.1883
2245	2.19	2.19	35.0	1.1982
2300	2.20	2.20	40.0	1.2265
2400	2.20	2.20	24.0	1.2571
OCT. 7				
0000	2.20	2.20	24.0	1.2571
0115	2.21	2.21	12.0	1.2978
0600	2.21	2.21	1.0	1.3039
1200	2.21	2.21	1.0	1.3089
1500	2.22	2.22	1.0	1.3109
1530	2.24	2.24	1.0	1.3115
1600	2.38	2.38	1.0	1.3129
1800	2.39	2.39	1.0	1.3142
1815	2.71	2.71	1.0	1.3145
1830	3.31	3.31	1.0	1.3152
1930	3.32	3.32	1.0	1.3160
2000	3.40	3.40	1.0	1.3186
2400	3.40	3.40	1.0	1.3208

STA. NO. 08073630 | STORM RAINFALL AND RUNOFF RECORD | 1982 WATER YEAR

BETTINA STREET DITCH AT HOUSTON, TEX. | STORM OF APRIL 21, 1982

DATE & TIME	GAGE NUMBER 3630	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
APR. 21				
0000	0.0	0.0	1.0	0.0017
0300	0.0	0.0	1.0	0.0035
0315	0.01	0.01	1.0	0.0038
0330	0.38	0.38	1.0	0.0041
0345	0.45	0.45	1.0	0.0044
0400	0.48	0.48	1.0	0.0047
0415	0.52	0.52	1.0	0.0049
0430	0.83	0.83	1.0	0.0052
0445	0.92	0.92	1.0	0.0055
0500	0.97	0.97	1.0	0.0058
0515	1.01	1.01	1.0	0.0061
0530	1.03	1.03	1.0	0.0064
0545	1.07	1.07	1.0	0.0066
0600	1.10	1.10	1.0	0.0069
0615	1.11	1.11	1.0	0.0072
0630	1.14	1.14	1.0	0.0075
0645	1.15	1.15	1.0	0.0078
0700	1.16	1.16	1.0	0.0107
1200	1.16	1.16	1.0	0.0141
1300	1.16	1.16	1.0	0.0148
1315	1.17	1.17	1.0	0.0177
1800	1.17	1.17	1.0	0.0209
1900	1.17	1.17	1.0	0.0216
1915	1.51	1.51	34.0	0.0312
1930	1.63	1.63	91.0	0.0570
1945	1.76	1.76	108.0	0.0875
2000	1.78	1.78	108.0	0.1181
2015	1.78	1.78	91.0	0.1438
2030	1.79	1.79	69.0	0.1633
2045	1.79	1.79	51.0	0.1777
2100	1.79	1.79	38.0	0.1885
2115	1.79	1.79	27.0	0.1961
2130	1.79	1.79	21.0	0.2050
2200	1.79	1.79	13.0	0.2142
2245	1.79	1.79	8.5	0.2190
2300	1.80	1.80	7.1	0.2240
2400	1.80	1.80	4.3	0.2265

STA. NO. 08073630 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

BETTINA STREET DITCH AT HOUSTON, TEX. — STORM OF MAY 13-15, 1982

DATE & TIME	GAGE NUMBER 3630	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13				
0000	0.0	0.0	1.0	0.0034
0600	0.0	0.0	1.0	0.0102
1200	0.0	0.0	1.0	0.0139
1230	0.0	0.0	1.0	0.0143
1245	0.01	0.01	1.0	0.0146
1300	0.20	0.20	4.0	0.0157
1315	1.36	1.36	245.0	0.0850
1330	1.51	1.51	397.0	0.1972
1345	1.67	1.67	412.0	0.3137
1400	1.82	1.82	414.0	0.4308
1415	1.89	1.89	395.0	0.5425
1430	2.02	2.02	387.0	0.6519
1445	2.12	2.12	376.0	0.7583
1500	2.20	2.20	354.0	0.8584
1515	2.28	2.28	330.0	0.9517
1530	2.35	2.35	309.0	1.0390
1545	2.64	2.64	357.0	1.1400
1600	2.88	2.88	399.0	1.2528
1615	3.16	3.16	428.0	1.3738
1630	3.38	3.38	442.0	1.4988
1645	3.40	3.40	418.0	1.6170
1700	3.42	3.42	383.0	1.7795
1730	3.42	3.42	300.0	1.9491
1800	3.42	3.42	234.0	2.0815
1830	3.42	3.42	179.0	2.1827
1900	3.42	3.42	133.0	2.2579
1930	3.42	3.42	92.0	2.2969
1945	3.42	3.42	73.0	2.3176
2000	3.42	3.42	55.0	2.4498
2400	3.42	3.42	7.0	2.4894
MAY 14				
0000	3.42	3.42	7.0	2.4894
0600	3.42	3.42	4.0	2.5075
0800	3.43	3.43	3.8	2.5333
1800	3.43	3.43	2.7	2.5577
2400	3.43	3.43	2.0	2.5713
MAY 15				
0000	3.43	3.43	2.0	2.5713
0600	3.43	3.43	1.8	2.5835
1200	3.43	3.43	1.5	2.5987
2400	3.43	3.43	1.0	2.6055

STA. NO. 08073630 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BETTINA STREET DITCH AT HOUSTON, TEX. STORM OF JULY 19-20, 1982

DATE & TIME	GAGE NUMBER 3630	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JULY19				
0000	0.0	0.0	1.0	0.0034
0600	0.0	0.0	1.0	0.0102
1200	0.0	0.0	1.0	0.0165
1715	0.0	0.0	1.0	0.0197
1730	0.19	0.19	1.0	0.0199
1745	1.00	1.00	42.0	0.0318
1800	1.57	1.57	236.0	0.0985
1815	1.63	1.63	416.0	0.1966
1825	1.65	1.65	432.0	0.2576
1830	1.67	1.67	431.0	0.3389
1845	1.68	1.68	402.0	0.5094
1915	1.68	1.68	305.0	0.6819
1945	1.68	1.68	224.0	0.8086
2015	1.68	1.68	159.0	0.8985
2045	1.68	1.68	100.0	0.9409
2100	1.68	1.68	75.0	0.9621
2115	1.68	1.68	55.0	1.0554
2400	1.68	1.68	9.4	1.1020
JULY20				
0000	1.68	1.68	9.4	1.1020
0600	1.68	1.68	1.0	1.1087
1200	1.68	1.68	1.0	1.1155
1800	1.68	1.68	1.0	1.1223
2400	1.68	1.68	1.0	1.1257

SAN JACINTO RIVER BASIN

08073700 BUFFALO BAYOU AT PINEY POINT, TX

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

DRAINAGE AREA.--317 mi^2 (821 km^2).

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

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

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

AVERAGE DISCHARGE.--13 years (water years 1963-76), 265 ft^3/s (7.505 m^3/s), 192,000 acre-ft/yr (237 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, 5,700 ft^3/s (161 m^3/s) Aug. 31, 1981 gage height, 57.20 ft (17.435 m), from floodmark; minimum daily, 6.0 ft^3/s (0.17 m^3/s) Dec. 6, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 50.12 ft (15.277 m) May 13 at 1800 hours, from floodmark; minimum, 32.69 ft (9.964 m) Aug. 29.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.46	---	40.47	34.25	36.15	36.30	33.70	36.24	37.60	33.43	35.37	33.27
2	34.28	39.00	40.04	33.20	34.40	36.50	33.60	35.00	34.55	33.38	34.71	33.21
3	34.18	42.80	39.87	33.20	34.20	35.20	---	33.48	33.83	33.41	34.18	34.64
4	35.16	43.20	39.74	33.56	33.90	34.00	---	33.43	33.72	33.30	33.86	34.49
5	39.45	42.40	39.62	33.62	33.70	33.75	33.22	33.33	33.64	33.41	33.58	33.28
6	42.09	36.00	39.63	33.43	---	34.35	33.20	40.61	33.55	33.30	33.45	33.28
7	42.20	34.69	39.67	33.29	---	34.05	33.20	39.13	33.41	33.28	34.04	33.30
8	42.16	39.00	39.57	34.15	33.60	33.88	33.20	37.03	33.44	33.32	38.28	33.24
9	37.15	38.40	39.10	33.90	33.54	33.62	33.30	34.72	33.43	33.59	35.78	33.20
10	36.65	36.51	37.12	33.39	33.50	33.50	35.94	34.02	33.39	33.59	35.75	33.19
11	36.44	36.23	36.53	33.40	33.50	33.42	34.24	33.74	33.34	33.41	35.91	33.22
12	35.24	35.09	34.34	37.65	33.40	---	33.78	35.38	33.34	33.51	34.85	33.82
13	34.66	34.33	33.85	35.93	---	---	33.40	50.12	33.36	41.49	34.42	33.54
14	36.24	34.00	33.80	35.20	---	---	33.30	48.35	34.04	40.75	33.84	33.71
15	35.12	33.86	33.80	34.31	---	---	33.21	---	34.04	42.67	33.68	33.64
16	39.07	33.78	33.63	34.02	33.40	---	33.19	---	33.50	39.69	33.46	33.59
17	39.69	33.67	33.63	33.72	33.40	---	33.30	---	33.69	36.95	33.35	33.39
18	40.57	33.53	35.06	33.61	33.40	---	33.22	41.00	35.05	35.37	33.37	33.56
19	38.40	33.54	34.37	33.57	33.30	---	33.25	43.00	34.45	38.22	33.36	36.00
20	37.70	33.50	34.98	33.88	---	---	33.25	44.10	33.73	36.60	33.39	37.80
21	36.28	33.50	34.95	33.88	---	---	39.46	44.20	33.80	35.65	33.33	33.41
22	34.80	33.50	34.00	33.74	34.00	---	36.98	---	33.82	35.65	33.32	33.25
23	34.38	33.50	33.72	33.64	33.70	39.87	35.18	---	34.02	35.35	33.31	33.29
24	34.12	33.50	33.58	33.50	33.40	---	40.40	44.30	35.00	36.92	33.28	33.28
25	34.20	33.45	33.55	33.50	---	---	37.75	43.00	34.15	35.15	33.08	33.29
26	34.20	33.45	33.45	33.42	---	33.90	37.29	43.56	33.35	34.86	33.08	33.25
27	33.80	33.44	33.46	33.37	---	---	35.95	43.74	33.68	35.66	33.10	33.27
28	33.60	33.38	33.58	33.47	---	---	34.59	43.17	33.67	34.78	33.09	33.36
29	33.60	41.08	33.58	35.36	---	34.90	33.95	39.91	33.42	34.38	33.12	33.37
30	33.60	41.04	35.45	40.32	---	34.00	33.62	38.68	33.50	34.65	34.78	33.60
31	---	---	35.54	37.85	---	33.90	---	38.35	---	35.49	34.28	---
MAX	---	---	40.47	40.32	---	---	---	---	37.60	42.67	38.28	37.80
MIN	---	---	33.45	33.20	---	---	---	---	33.34	33.28	33.08	33.19

08074000 BUFFALO BAYOU AT HOUSTON, TX

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

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

PERIOD OF RECORD.--May 1936 to September 1957, October 1957 to December 1961 (high-water records and discharge measurements) January 1962 to September 1975, October 1975 to current year (high-water records and discharge measurements).
Water-quality records: Chemical, brochemical, and pesticide analysis: October 1968 to September 1981.

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

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

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maxmum discharge, 5,770 ft³/s (163 m³/s) May 13 at 1800 hours, gage height, 19.60 ft (5.974 m); minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1450						---		---		
2	---	349						---		---		
3	---	986						---		---		
4	---	1430						---		---		
5	562	1210						---		---		
6	926	316						---		---		
7	1180	---						---		---		
8	1020	---						---		---		
9	---	---						---		---		
10	---	---						---		---		
11	---	---						---		---		
12	---	---						---		---		
13	---	---						2760		---		
14	---	---						2800		---		
15	---	---						777		---		
16	---	---						670		---		
17	---	---						1220		---		
18	---	---						1280		---		
19	---	---						1040		---		
20	---	---						1540		---		
21	---	---						1770		---		
22	---	---						1770		---		
23	---	---						1940		---		
24	---	---						1790		---		
25	---	---						1380		---		
26	---	---						1430		---		
27	---	---						1670		---		
28	---	---						1540		---		
29	---	800						932		---		
30	---	1110						---		420		
31	768	---						---		---		
TOTAL	---	---						---		---		
MEAN	---	---						---		---		
MAX	---	---						---		---		
MIN	---	---						---		---		
AC-FT	---	---						---		---		

WHITEOAK BAYOU DRAINAGE BASIN

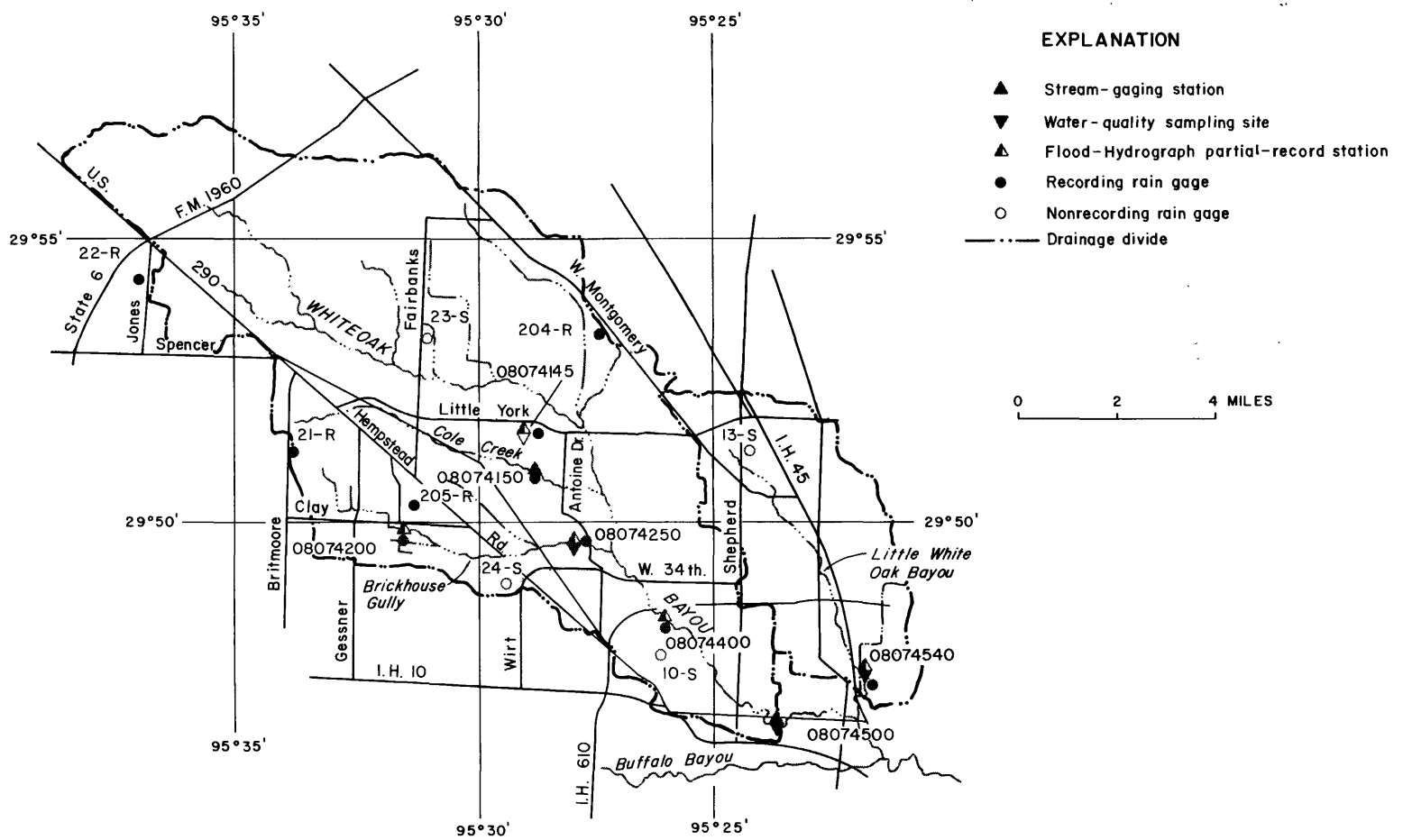
The locations of data-collection sites in and near the Whiteoak Bayou drainage basin are shown in figure 5.

Cole Creek (including Bingle Road Storm Sewer), Brickhouse Gully, Lazybrook Street Storm Sewer, and Little Whiteoak Bayou are shown as separate drainage basins within the Whiteoak Bayou section.

Weighted-mean rainfall in the drainage basin, based on eleven rain gages, for the 1982 water year was 35.06 inches or 13.13 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals in inches for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
5.80	4.01	1.21	1.87	1.98	1.66	2.62	7.49	1.73	3.70	2.34	0.65	35.06

The storms of Oct. 5-10, May 6-9 and May 12-21 were selected for analysis at the Whiteoak Bayou at Houston (08074500) gaging station.



Base from Texas Department of Highways
and Public Transportation General Highway Map

Figure 5.– Locations of data-collection sites in and near the Whiteoak Bayou drainage basin

COLE CREEK DRAINAGE BASIN

The locations of data-collection sites in and near the Cole Creek drainage basin are shown in figure 6.

Bingle Road Storm Sewer is shown as a separate drainage basin within the Cole Creek section.

Weighted-mean rainfall in the drainage basin, based on four rain gages, for the 1982 water year was 33.00 inches, or 15.19 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
6.12	3.66	0.88	1.88	1.92	1.65	2.15	6.79	1.98	3.53	1.87	0.57	33.00

The storm of Oct. 5-8 was selected for analysis at station 08074150, Cole Creek at Deihl Road.

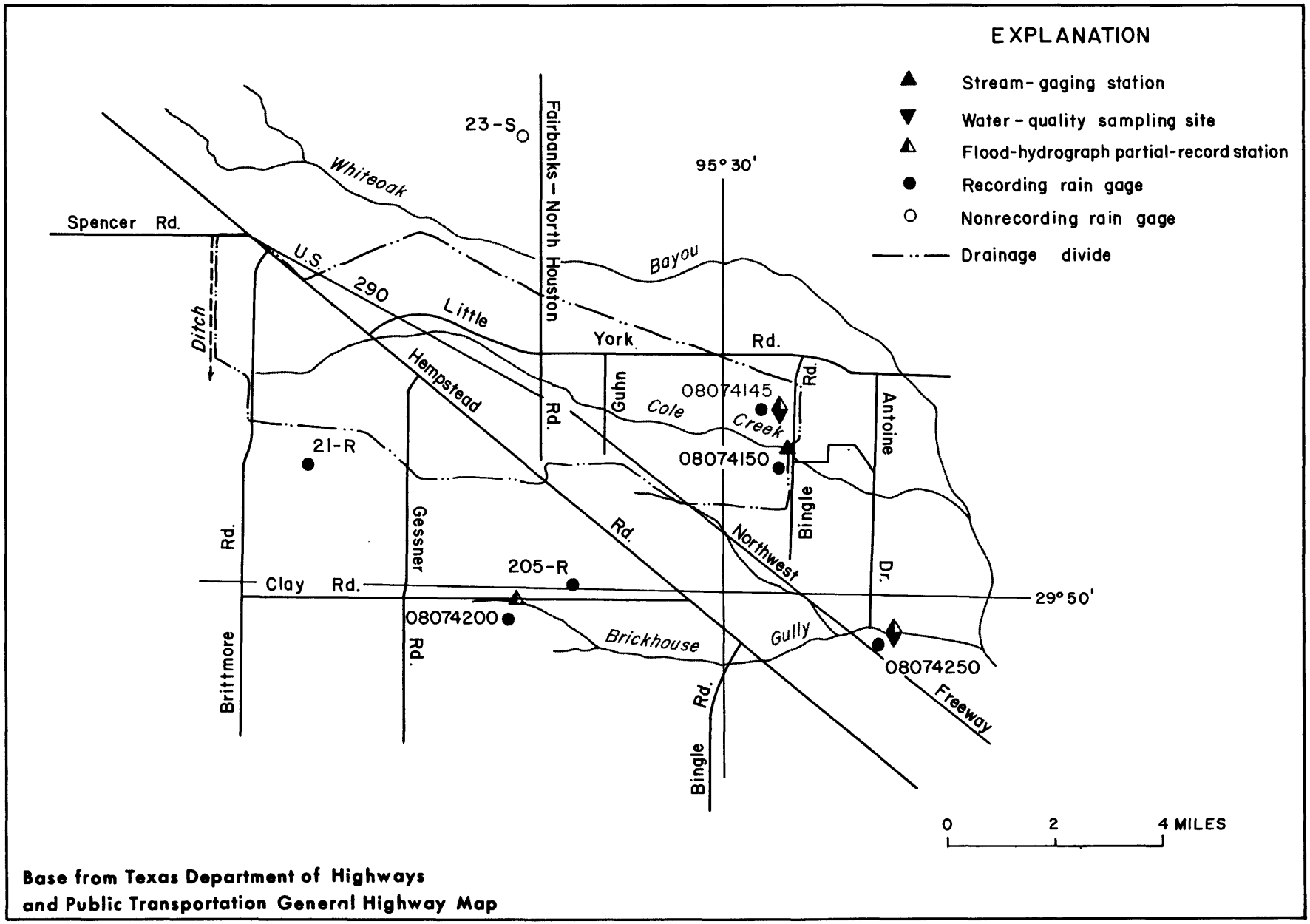


Figure 6.-Locations of data-collection sites in and near the Cole Creek drainage basin

BINGLE ROAD STORM SEWER DRAINAGE BASIN

The location of data-collection sites in and near the Bingle Road Storm Sewer drainage basin are shown in figure 7.

Weighted-mean rainfall for the 1982 water year was not determined.

The storms of July 13, 16, 19, and 30 were selected for analysis at station 08074145, Bingle Road Storm Sewer at Houston, Tex.

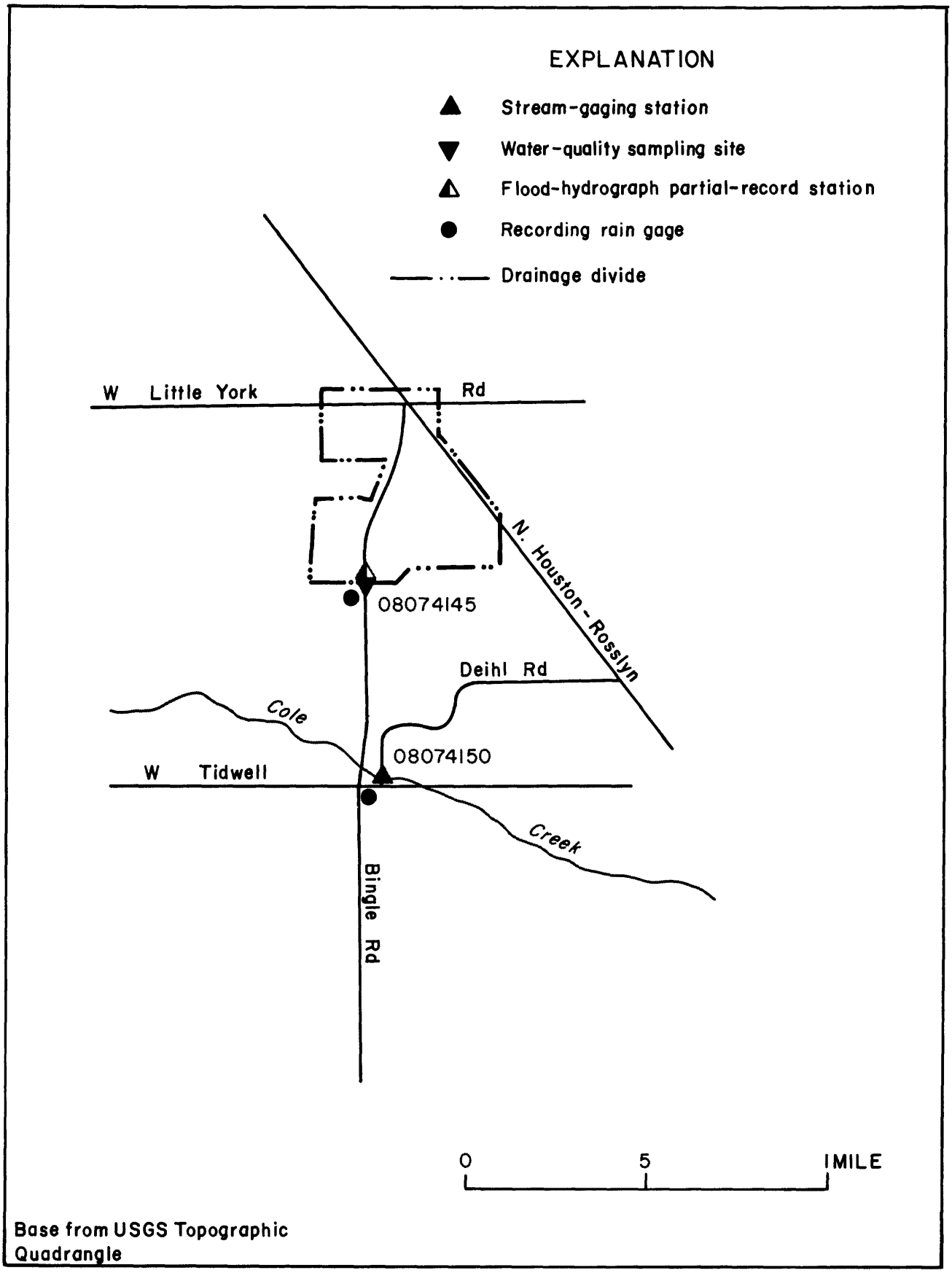


Figure 7.–Locations of data-collection sites in and near the Bingle Road storm sewer drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 4.--Storm rainfall-runoff data, 1982 Water Year, Bingle Road Storm Sewer

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Bingle Road Storm Sewer at Houston, Tx. (Drainage area -- 0.21 mi^2)								
July 13, 1982	0.5	1.03	0.54	0.87	1.02	0.55	0.46	88
July 13, 1982	.7	.16	.07	.11	.16			11
July 16, 1982	0.9	0.26	0.08	0.14	0.24	0.14	0.56	16
July 19, 1982	0.2	0.45	0.42	0.44	0.45	0.33	0.73	61
July 30, 1982	0.8	0.66	0.40	0.55	0.58	0.35	0.53	88

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

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

DRAINAGE AREA.--0.21 mi² (0.54 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1981".

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 11.56 ft (3.523 m) Oct. 6 at 1710 hours is a recorded pressure head and exceeds gage height for full pipe flow, no other peak stages above base of 11.00 ft (3.353 m). Maximum discharge not determined, rating definition pending.

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
05...	1501	3.4	143	--	--	--	--	--	--	--	--	--
05...	1516	23	104	--	--	--	--	--	--	--	--	--
05...	1531	13	141	--	--	--	--	--	--	--	--	--
05...	1546	7.2	106	--	--	--	--	--	--	--	--	--
05...	1601	4.3	119	--	--	--	--	--	--	--	--	--
05...	1616	2.5	128	--	--	--	--	--	--	--	--	--
05...	1631	1.5	134	--	--	--	--	--	--	--	--	--
05...	1646	1.1	144	--	--	--	--	--	--	--	--	--
JAN												
12...	0935	7.3	87	8.0	5.0	40	39	12.3	96	10	8300	13000
12...	1943	4.9	222	--	--	--	--	--	--	--	2600	30000
MAR												
22...	1958	7.4	247	--	--	--	--	--	--	--	14000	64000
22...	2013	3.8	161	--	--	--	--	--	--	--	--	--
22...	2028	2.1	168	--	--	--	--	--	--	--	7600	39000
22...	2043	1.4	175	--	--	--	--	--	--	--	--	--
APR												
22...	1105	.34	361	7.6	--	20	17	--	--	5.4	3800	14000
MAY												
06...	0842	4.9	103	--	--	--	--	--	--	--	--	--
06...	0857	6.4	156	--	--	--	--	--	--	--	--	--
06...	0912	7.2	138	--	--	--	--	--	--	--	--	--
06...	0927	10	139	--	--	--	--	--	--	--	--	--
06...	0942	8.5	127	--	--	--	--	--	--	--	--	--
06...	0957	6.6	130	--	--	--	--	--	--	--	--	--
06...	1012	5.2	127	--	--	--	--	--	--	--	--	--
06...	1027	4.0	131	--	--	--	--	--	--	--	--	--
06...	1330	6.2	108	8.0	21.0	50	68	8.3	94	11	5000	40000
12...	0544	4.9	177	--	--	--	--	--	--	--	--	--
12...	0559	6.4	181	--	--	--	--	--	--	--	--	--
12...	0614	6.3	261	--	--	--	--	--	--	--	--	--
12...	0629	5.4	120	--	--	--	--	--	--	--	--	--
12...	0644	97	71	--	--	--	--	--	--	--	--	--
12...	0659	--	63	--	--	--	--	--	--	--	--	--
12...	0714	83	71	--	--	--	--	--	--	--	--	--
12...	0729	39	89	--	--	--	--	--	--	--	--	--
12...	1035	2.7	134	7.8	22.5	60	58	8.7	100	7.5	140000	91000
JUN												
14...	1426	4.5	214	--	--	--	--	--	--	--	--	--
14...	1441	27	208	--	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
OCT												
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
12...	29	2	10	.9	5.8	.5	2.4	27	6.0	4.2	.0	3.5
12...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	-	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
22...	110	0	39	4.2	29	1.2	5.2	130	11	24	.3	12
MAY												
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	39	0	14	.9	6.5	.5	2.9	41	6.0	4.3	.2	4.9
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	47	1	16	1.8	8.5	.6	3.4	46	10	6.1	.1	7.1
JUN												
14...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT											
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
JAN											
12...	49	64	20	.21	.050	.26	.310	.64	.95	.170	16
12...	--	--	--	--	--	--	--	--	--	--	--
MAR											
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
22...	203	33	33	--	<.020	.25	.100	4.1	4.20	.210	17
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	65	170	20	.23	.070	.30	.260	1.5	1.80	.180	23
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	81	64	16	.33	.090	.42	.330	1.4	1.70	.420	18
JUN											
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982 SOLIDS,

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
JUN								
14...	1456	8.4	135	--	--	--	--	--
14...	1511	3.4	136	--	--	--	--	--
14...	1526	2.0	171	--	--	--	--	--
14...	1541	1.3	205	--	--	--	--	--
26...	1914	4.9	1060	--	--	--	--	--
26...	1929	8.7	123	--	--	--	--	--
26...	1944	16	153	--	--	--	--	--
26...	1959	5.8	119	--	--	--	--	--
26...	2014	3.0	128	--	--	--	--	--
26...	2029	1.8	146	--	--	--	--	--
26...	2044	1.3	152	--	--	--	--	--
JUL								
13...	1751	4.9	174	--	--	--	--	--
13...	1806	78	128	--	--	--	--	--
13...	1821	70	103	--	--	--	--	--
13...	1836	28	112	--	--	--	--	--
13...	1851	11	127	--	--	--	--	--
13...	1906	7.8	133	--	--	--	--	--
13...	1921	4.2	141	--	--	--	--	--
13...	1936	2.4	152	--	--	--	--	--
16...	1456	4.9	134	--	--	--	--	1.3
16...	1511	15	176	--	--	--	--	.95
16...	1526	8.8	156	--	--	--	--	.92
16...	1541	12	156	--	--	--	--	.85
16...	1556	6.0	162	--	--	--	--	.74
16...	1611	3.6	170	--	--	--	--	--
16...	1626	2.4	185	--	--	--	--	--
16...	1641	1.7	180	--	--	--	--	1.1
19...	1808	4.9	103	--	--	--	--	--
19...	1823	51	140	--	--	--	--	--
19...	1838	15	128	--	--	--	--	--
19...	1853	6.2	150	--	--	--	--	--
19...	1908	3.8	171	--	--	--	--	--
19...	1923	2.6	172	--	--	--	--	--
30...	1717	4.9	132	5	11	134	31	--
30...	1732	84	103	20	42	297	45	--
30...	1747	30	106	15	41	177	37	--
30...	1802	14	116	--	--	--	--	--
30...	1817	10	117	--	--	--	--	--
30...	1832	6.9	125	30	34	121	35	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN							
14...	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
JUL							
13...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
16...	.090	1.4	.160	1.8	2.00	.180	14
16...	.150	1.1	.070	2.8	2.90	.250	28
16...	.180	1.1	.060	2.0	2.10	.210	29
16...	.150	1.0	.060	2.1	2.20	.200	27
16...	.120	.86	<.060	--	.70	.150	30
16...	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--
16...	.100	1.2	.080	2.4	2.50	.190	25
19...	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	14
30...	--	--	--	--	--	--	17
30...	--	--	--	--	--	--	17
30...	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	18

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
AUG			
30...	1409	5.0	181
30...	1424	49	138
30...	1439	18	111
30...	1454	6.0	122
30...	1509	3.1	139
30...	1524	2.0	160

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN							
12...	1943	1	<100	<1	<10	3	90
MAR							
22...	1958	2	<100	<1	<10	6	150
22...	2028	2	<100	<1	<10	10	20
APR							
22...	1105	2	110	<3	<10	4	26
MAY							
06...	1330	4	23	<3	<10	6	82
12...	1035	4	41	<3	<10	4	180
JUL							
13...	1751	3	54	<1	<10	4	3
13...	1806	6	32	<1	<10	4	5
13...	1851	15	29	<1	<10	6	17
13...	1936	14	36	<1	<10	8	21
19...	1823	2	49	<1	<10	3	7
19...	1908	10	40	<1	<10	5	17
AUG							
30...	1409	2	53	<1	<10	5	7
30...	1424	8	35	<1	<10	10	18
30...	1439	5	25	<1	<10	9	27
30...	1524	40	37	<1	<10	11	41

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN						
12...	2	10	<.1	<1	<1	50
MAR						
22...	8	70	<.1	<1	<1	160
22...	5	10	<.1	<1	<1	180
APR						
22...	<1	<3	<.1	<1	<1	38
MAY						
06...	8	<3	<.1	<1	<1	21
12...	1	<3	<.1	<1	<1	18
JUL						
13...	6	2	.1	<1	<1	210
13...	<1	<1	.1	<1	<1	88
13...	<1	<1	<.1	<1	<1	39
13...	3	<1	<.1	<1	<1	38
19...	<1	2	<.1	<1	<1	53
19...	<1	<1	<.1	<1	<1	11
AUG						
30...	<1	<1	<.1	<1	<1	86
30...	3	1	<.1	<1	<1	37
30...	<1	<1	<.1	<1	<1	38
30...	2	1	<.1	<1	<1	44

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
APR								
22...	1105	<.10	<.10	<.10	<.10	<.10	<2.0	.8
MAY								
12...	1035	<.10	<.10	<.10	<.10	<.10	<2.0	.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
APR							
22...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
MAY							
12...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08074145 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BINGLE ROAD STORM SEWER AT HOUSTON, TEX. STORM OF JULY 13, 1982

DATE & TIME	GAGE NUMBER 4145	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JULY13				
0000	0.0	0.0	0.0	0.0
0600	0.0	0.0	0.0	0.0
1200	0.0	0.0	0.0	0.0
1730	0.0	0.0	0.0	0.0
1735	0.01	0.01	0.0	0.0
1740	0.03	0.03	0.0	0.0
1745	0.05	0.05	0.1	0.0001
1750	0.16	0.16	3.1	0.0020
1755	0.27	0.27	21.0	0.0149
1800	0.38	0.38	60.0	0.0518
1805	0.56	0.56	75.0	0.0979
1810	0.74	0.74	88.0	0.1520
1815	0.92	0.92	86.0	0.2049
1820	0.95	0.95	72.0	0.2492
1825	0.98	0.98	58.0	0.2848
1830	1.02	1.02	43.0	0.3113
1835	1.02	1.02	30.0	0.3297
1840	1.02	1.02	20.0	0.3420
1845	1.03	1.03	15.0	0.3512
1850	1.03	1.03	12.0	0.3623
1900	1.03	1.03	9.0	0.4121
2020	1.03	1.03	1.3	0.4189
2025	1.04	1.04	1.2	0.4196
2030	1.05	1.05	1.2	0.4204
2035	1.07	1.07	2.3	0.4218
2040	1.09	1.09	4.8	0.4248
2045	1.12	1.12	6.3	0.4286
2050	1.13	1.13	9.5	0.4345
2055	1.14	1.14	11.0	0.4412
2100	1.16	1.16	11.0	0.4480
2105	1.17	1.17	11.0	0.4548
2110	1.18	1.18	9.8	0.4608
2115	1.19	1.19	7.4	0.5381
2400	1.19	1.19	0.8	0.5463

STA. NO. 08074145 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BINGLE ROAD STORM SEWER AT HOUSTON, TEX. STORM OF JULY 16, 1982

DATE & TIME	GAGE NUMBER 4145	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JULY16				
0000	0.0	0.0	0.1	0.0022
0600	0.0	0.0	0.1	0.0066
1200	0.0	0.0	0.1	0.0098
1435	0.0	0.0	0.1	0.0108
1440	0.01	0.01	0.1	0.0109
1445	0.02	0.02	0.1	0.0109
1450	0.04	0.04	0.5	0.0112
1455	0.07	0.07	4.2	0.0138
1500	0.10	0.10	8.2	0.0188
1505	0.12	0.12	14.0	0.0275
1510	0.14	0.14	16.0	0.0373
1515	0.16	0.16	12.0	0.0447
1520	0.18	0.18	8.7	0.0500
1525	0.20	0.20	8.2	0.0551
1530	0.22	0.22	11.0	0.0618
1535	0.23	0.23	13.0	0.0698
1540	0.24	0.24	13.0	0.0778
1545	0.26	0.26	11.0	0.0846
1550	0.26	0.26	8.2	0.0896
1555	0.26	0.26	6.3	0.0954
1605	0.26	0.26	4.3	0.1007
1615	0.26	0.26	3.1	0.1045
1625	0.26	0.26	2.4	0.1075
1635	0.26	0.26	1.9	0.1186
1800	0.26	0.26	0.8	0.1405
2400	0.26	0.26	0.2	0.1449

STA. NO. 08074145 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BINGLE ROAD STORM SEWER AT HOUSTON, TEX. STORM OF JULY 19, 1982

DATE & TIME	GAGE NUMBER 4145	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JULY19				
0000	0.0	0.0	0.2	0.0044
0600	0.0	0.0	0.2	0.0133
1200	0.0	0.0	0.4	0.0310
1800	0.0	0.0	0.3	0.0377
1805	0.14	0.14	0.4	0 0380
1810	0.28	0.28	9.5	0.0438
1815	0.42	0.42	47.0	0.0727
1820	0.42	0.42	61.0	0.1102
1825	0.43	0.43	46.0	0.1385
1830	0.44	0.44	29.0	0.1563
1835	0.44	0.44	19.0	0.1680
1840	0.44	0.44	13.0	0.1760
1845	0.45	0.45	9.3	0.1817
1850	0.45	0.45	7.2	0.3212
2400	0.45	0.45	0.5	0.3307

STA. NO. 08074145	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR		
BINGLE ROAD STORM SEWER AT HOUSTON, TEX.	STORM OF JULY 30, 1982							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	4145									
JULY30										
0000	0.0							0.0	0.1	0.0022
0600	0.0							0.0	0.1	0.0066
1200	0.0							0.0	0.1	0.0107
1700	0.0							0.0	0.1	0.0126
1705	0.05							0.05	0.2	0.0127
1710	0.10							0.10	0.2	0.0128
1715	0.15							0.15	0.8	0.0133
1720	0.28							0.28	20.0	0.0256
1725	0.41							0.41	67.0	0.0668
1730	0.55							0.55	88.0	0.1480
1740	0.55							0.55	57.0	0.2006
1745	0.56							0.56	35.0	0.2221
1750	0.56							0.56	23.0	0.2362
1755	0.57							0.57	17.0	0.2467
1800	0.58							0.58	14.0	0.2553
1805	0.58							0.58	13.0	0.2633
1810	0.59							0.59	12.0	0.2707
1815	0.60							0.60	11.0	0.2808
1825	0.60							0.60	8.4	0.2885
1830	0.61							0.61	7.3	0.2953
1840	0.61							0.61	5.5	0.3004
1845	0.62							0.62	5.0	0.3050
1855	0.62							0.62	4.1	0.3087
1900	0.63							0.63	3.7	0.3122
1910	0.63							0.63	3.2	0.3151
1915	0.64							0.64	2.9	0.3231
1955	0.64							0.64	1.3	0.3267
2000	0.65							0.65	1.2	0.3278
2010	0.65							0.65	1.1	0.3289
2015	0.66							0.66	1.1	0.3444
2400	0.66							0.66	0.3	0.3486

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 5.--Storm rainfall-runoff data, 1982 Water Year, Cole Creek

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Cole Creek at Deihl Road, Houston, Tx. (Drainage area -- 7.50 mi^2)								
Oct. 5, 1981	3.5	0.82	0.21	0.42	0.76	0.63	0.20	36
Oct. 6, 1981	3.0	1.51	.71	1.42	2.16			427
Oct. 7-8, 1981	6.0	.75	.08	.15	.30			61

SAN JACINTO RIVER BASIN

08074150 COLE CREEK AT DEIHL ROAD, HOUSTON, TX

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

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

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

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

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

REMARKS.--Records fair except those for Apr. 18 to May 23, which are poor. No diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 7.61 ft³/s (0.216 m³/s), 5,510 acre-ft/yr (6.79 hm³/yr).

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

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

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 6	1800	427	12.1	74.66	22.756	May 13	unknown	*800	22.7	unknown	-
Nov. 29	1730	424	12.0	74.65	22.753	May 17	unknown	600	17.0	unknown	-

Minimum daily discharge, 0.26 ft³/s (0.007 m³/s) July 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	17	10	2.0	2.3	2.3	1.2	1.4	2.0	.26	.82	.67
2	3.0	1.7	3.4	2.0	4.0	1.9	1.4	1.4	1.5	.59	.87	.58
3	2.9	.98	2.3	2.0	2.0	1.7	1.1	1.3	1.6	.37	1.0	1.1
4	1.2	1.0	5.2	1.6	1.6	1.5	1.3	1.3	1.2	.61	.56	1.7
5	9.6	2.0	5.8	1.6	1.6	1.5	1.2	1.3	1.2	.34	.42	.75
6	73	1.9	2.9	1.7	1.3	1.5	1.0	60	1.1	.42	.58	.66
7	32	.93	2.5	1.4	1.0	1.7	1.1	35	1.2	.37	1.2	.66
8	5.2	10	1.9	1.4	4.0	2.0	1.0	5.0	1.1	.39	62	.71
9	2.8	3.8	4.2	1.4	2.0	1.5	2.0	2.0	1.8	.59	3.0	.66
10	2.6	1.2	3.1	1.4	1.8	1.3	5.8	1.5	1.9	.66	.81	.59
11	1.4	.74	1.9	1.4	1.7	1.2	1.8	1.4	1.4	.80	.88	.55
12	.93	.88	1.4	16	1.6	1.3	1.2	30	1.2	.64	.75	.51
13	5.5	.70	1.2	4.8	1.4	1.1	1.1	150	3.6	15	.66	.66
14	5.3	.67	1.6	2.4	1.4	1.0	1.2	200	12	24	.53	.52
15	2.7	.71	1.6	1.8	1.7	1.1	1.3	25	1.7	7.3	.40	.47
16	2.7	.67	1.7	1.6	1.5	1.4	1.2	10	1.1	8.9	.50	.47
17	5.9	.85	1.6	1.4	1.4	1.3	1.4	30	.94	1.6	.48	.73
18	6.0	.89	1.6	1.6	1.4	1.3	1.2	70	9.8	.82	.38	1.4
19	2.0	1.3	1.4	2.1	1.5	3.6	1.2	15	4.4	2.9	.57	2.6
20	1.2	.83	2.4	1.7	8.0	1.4	1.2	8.0	2.9	.90	.49	.97
21	1.0	.65	3.0	1.5	2.3	1.3	20	5.0	7.9	.80	.36	.67
22	1.2	.42	1.6	1.7	1.5	2.0	5.0	3.0	3.7	.80	.58	.73
23	1.3	.52	1.8	1.7	1.6	6.0	2.0	2.5	.84	.93	.63	.56
24	1.1	.67	1.6	1.5	1.4	2.7	45	2.7	.85	.73	.56	.54
25	2.3	.47	1.6	1.5	12	1.5	15	2.4	.68	.79	.44	.53
26	2.8	.37	1.4	1.5	38	1.0	5.0	2.0	.84	.90	.51	.49
27	2.1	.33	1.4	1.4	5.8	13	2.0	1.9	1.1	.87	.53	.50
28	1.6	.34	1.5	1.3	2.3	3.5	1.6	1.9	.54	.57	.50	.50
29	1.1	129	1.8	2.0	---	1.8	1.4	1.6	.44	.69	.54	.68
30	1.2	64	6.0	25	---	1.9	1.4	1.4	.29	4.0	3.7	.82
31	49	---	5.6	5.0	---	2.4	---	1.1	---	4.0	1.2	---
TOTAL	232.73	245.52	85.0	95.4	108.1	68.7	128.3	675.1	70.82	82.54	86.45	22.98
MEAN	7.51	8.18	2.74	3.08	3.86	2.22	4.28	21.8	2.36	2.66	2.79	.77
MAX	73	129	10	25	38	13	45	200	12	24	62	2.6
MIN	.93	.33	1.2	1.3	1.0	1.0	1.0	1.1	.29	.26	.36	.47
AC-FT	462	487	169	189	214	136	254	1340	140	164	171	46

CAL YR 1981 TOTAL 3591.25 MEAN 9.84 MAX 641 MIN .20 AC-FT 7120
WTR YR 1982 TOTAL 1901.64 MEAN 5.21 MAX 200 MIN .26 AC-FT 3770

NOTE.--No gage-height record Apr. 18 to May 23.

STA. NO. 08074150 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

COLE CREEK AT DEIHL ROAD, HOUSTON, TEX. STORM OF OCT. 5 -8 , 1981

DATE & TIME	GAGE NUMBER 4150	205R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 5						
0000	0.0	0.0	0.0	0.0	1.0	0.0006
0600	0.0	0.0	0.0	0.0	0.8	0.0014
1000	0.0	0.0	0.0	0.0	0.9	0.0019
1030	0.0	0.09	0.0	0.01	0.9	0.0021
1200	0.0	0.09	0.0	0.01	0.9	0.0022
1230	0.0	0.11	0.0	0.02	0.9	0.0024
1400	0.0	0.11	0.0	0.02	1.0	0.0026
1430	0.0	0.11	0.02	0.03	1.0	0.0027
1500	0.0	0.45	0.36	0.27	1.0	0.0028
1530	0.08	0.50	0.78	0.53	24.0	0.0053
1600	0.11	0.50	0.80	0.55	19.0	0.0073
1630	0.11	0.50	0.80	0.55	14.0	0.0087
1700	0.11	0.50	0.81	0.55	12.0	0.0100
1730	0.13	0.53	0.82	0.57	12.0	0.0112
1800	0.17	0.84	0.93	0.69	15.0	0.0128
1830	0.30	0.91	1.03	0.79	29.0	0.0157
1900	0.32	0.99	1.04	0.82	36.0	0.0288
2200	0.32	0.99	1.04	0.82	29.0	0.0437
2400	0.32	0.99	1.04	0.82	22.0	0.0619
OCT. 6						
0000	0.32	0.99	1.04	0.82	22.0	0.0619
0600	0.32	0.99	1.04	0.82	8.5	0.0725
1200	0.32	0.99	1.04	0.82	3.7	0.0755
1400	0.32	0.99	1.04	0.82	3.1	0.0763
1430	0.32	0.99	1.20	0.90	3.0	0.0766
1500	0.32	0.99	1.22	0.92	2.8	0.0769
1530	0.32	0.99	1.22	0.92	2.7	0.0772
1600	0.32	0.99	1.23	0.92	2.6	0.0775
1630	0.32	0.99	1.23	0.92	2.5	0.0777
1700	0.32	2.37	1.28	1.16	2.4	0.0780
1730	1.74	3.15	1.82	2.00	121.0	0.0905
1800	2.22	3.16	1.91	2.19	427.0	0.1346
1830	2.22	3.16	1.91	2.19	394.0	0.1753
1900	2.22	3.20	1.91	2.20	361.0	0.2126
1930	2.22	3.20	1.91	2.20	328.0	0.2465
2000	2.22	3.21	1.91	2.20	289.0	0.2912
2100	2.22	3.21	1.91	2.20	212.0	0.3241
2130	2.22	3.21	1.91	2.20	185.0	0.3432
2200	2.22	3.23	1.91	2.20	158.0	0.3595
2230	2.25	3.29	1.97	2.25	131.0	0.3731

STA. NO. 08074150 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

COLE CREEK AT DEIHL ROAD, HOUSTON, TEX. STORM OF OCT. 5 -8 , 1981

DATE & TIME	GAGE NUMBER 4150	205R	21R					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 6										
2300	2.32	3.33	2.06					2.33	117.0	0.3912
2400	2.32	3.33	2.06					2.33	90.0	0.4098
OCT. 7										
0000	2.32	3.33	2.06					2.33	90.0	0.4098
0100	2.32	3.33	2.06					2.33	71.0	0.4245
0200	2.32	3.33	2.06					2.33	56.0	0.4534
0600	2.32	3.33	2.06					2.33	23.0	0.4771
1200	2.32	3.33	2.06					2.33	10.0	0.4844
1300	2.32	3.33	2.06					2.33	8.9	0.4862
1400	2.32	3.33	2.25					2.43	7.7	0.4878
1500	2.32	3.33	2.25					2.43	6.6	0.4892
1600	2.62	3.51	2.26					2.56	6.4	0.4905
1700	2.92	3.51	2.26					2.65	8.6	0.4923
1800	2.92	3.52	2.54					2.80	40.0	0.5005
1900	3.22	3.65	2.64					2.97	59.0	0.5127
2000	3.22	3.71	2.64					2.97	61.0	0.5253
2100	3.27	3.71	2.64					2.99	57.0	0.5371
2200	3.27	3.71	2.69					3.02	51.0	0.5529
2400	3.27	3.71	2.69					3.02	38.0	0.5647
OCT. 8										
0000	3.27	3.71	2.69					3.02	38.0	0.5647
0100	3.29	3.76	2.77					3.07	35.0	0.5864
0600	3.29	3.76	2.77					3.07	20.0	0.6091
1200	3.29	3.76	2.77					3.07	10.0	0.6163
1300	3.31	3.76	2.77					3.08	9.1	0.6220
1800	3.31	3.76	2.77					3.08	4.7	0.6273
2400	3.31	3.76	2.77					3.08	3.1	0.6292

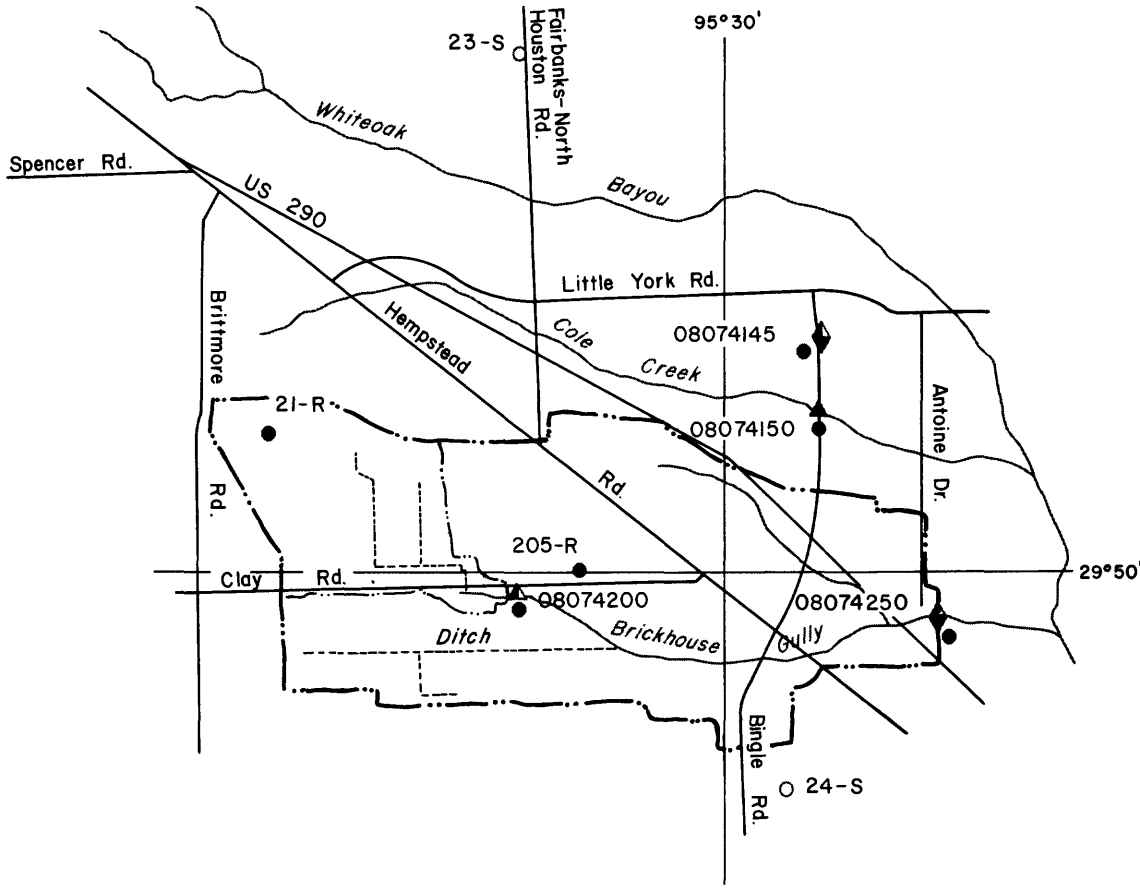
BRICKHOUSE GULLY DRAINAGE BASIN

The location of data-collection sites in and near the Brickhouse Gully drainage basin are shown in figure 8.

Weighted-mean rainfall in the drainage basin based on six rain gages for the 1982 water year was 32.50 inches or 15.69 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
6.36	2.71	1.07	2.19	2.01	1.64	2.45	7.04	1.44	3.15	1.91	0.53	32.50

The storms of Oct. 6-8 and May 17-18 were selected for analysis at station 08074200, Brickhouse Gully at Clarblak Street, and station 08074250, Brickhouse Gully at Costa Rica Street. The storm of May 13-15 was also selected for analysis at Costa Rica Street station.



Base from Texas Department of Highways and Public Transportation General Highway Map

Figure 8.- Locations of data-collection sites in and near the Brickhouse Gully drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 6.--Storm rainfall-runoff data, 1982 Water Year, Brickhouse Gully

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brickhouse Gully at Clarblak St., Houston, Tx. (Drainage area -- 2.56 mi^2)								
Oct. 6, 1981	3.3	1.47	1.32	2.16	2.28	0.70	0.34	247 *,r
Oct. 7, 1981	8.5	.60	.23	.28	.33			26
May 17-18, 1982	0.5	2.04	0.96	1.56	1.92	0.31	0.15	151
Brickhouse Gully at Costa Rica St., Houston, Tx. (Drainage area -- 11.4 mi^2)								
Oct. 6, 1981	1.0	2.02	1.32	2.16	2.28	1.00	0.39	1,850
Oct. 7, 1981	2.5	.32	.37	.53	.59			447
Oct. 7-8, 1981	8.5	.23	.18	.22	.33			212
May 13-15, 1982	3.5	2.86	0.98	1.09	1.44	1.99	0.69	2,540*

* - Annual peak discharge for 1982 WY,
r - Peak discharge value has been revised from that published in USGS Water Resources Data for Texas, Vol. 2, 1982.

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 6.--Storm rainfall-runoff data, 1982 Water Year, Brickhouse Gully -- Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brickhouse Gully at Costa Rica St., Houston, Tx. (Drainage area -- 11.4 mi^2)								
May 17-19, 1982	3.5	1.84	1.09	1.75	2.16	0.87	0.47	2,100

08074200 Brickhouse Gully at Clarblak Street, Houston, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°49'53", long 95°31'42", Harris County, Hydrologic Unit 12040104 at bridge on Clarblak Street, in northwest Houston, and 4.0 miles upstream from station at Costa Rica Street.

DRAINAGE AREA.--2.56 mi^2. Drainage area, effective for period, April 1964 to current year. The boundary of the basin is poorly defined due to flat ground slopes.

PERIOD OF RECORD--April 1964 to July 6, 1976, Jan. 26, 1977 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 7, 1978, a flood-hydrograph rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 409 ft^3/s, Oct. 15, 1980 (elevation 89.57 ft) after concrete lining of channel. Maximum elevation 94.28 ft, March 20, 1972 prior to concrete lining of channel. Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 6	1815	*247 a/	87.81

Minimum discharge not determined.

a/ Peak discharge value has been revised from that published in U.S. Geological Survey Water Resources Data for Texas, water year 1982, volume 2.

STA. NO. 08074200 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK ST., HOUSTON, TEX. STORM OF OCT. 6 -8 , 1981

DATE & TIME	GAGE NUMBER 4200	GAGE NUMBER 21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 6					
0000	0.0	0.0	0.0	1.0	0.0018
0600	0.0	0.0	0.0	1.0	0.0054
1200	0.0	0.0	0.0	1.0	0.0079
1415	0.0	0.0	0.0	1.0	0.0087
1430	0.0	0.16	0.11	1.0	0.0089
1445	0.0	0.18	0.13	1.0	0.0092
1545	0.0	0.18	0.13	1.0	0.0096
1600	0.0	0.19	0.13	1.0	0.0098
1630	0.0	0.19	0.13	1.0	0 0101
1645	0.0	0.20	0.14	1.0	0.0102
1700	0.0	0.24	0.17	1.0	0.0104
1715	1.32	0.52	0.76	10.0	0.0119
1730	2.16	0.78	1.19	48.0	0.0191
1745	2.28	0.87	1.29	142.0	0.0406
1800	2.28	0.87	1.29	213.0	0.0729
1815	2.40	0.87	1.33	247.0	0.1476
1900	2.40	0.87	1.33	191.0	0.2199
1930	2.40	0.87	1.33	140.0	0.2622
2000	2.40	0.87	1.33	106.0	0.2943
2030	2.40	0.87	1.33	85.0	0.3201
2100	2.40	0.87	1.33	69.0	0.3462
2145	2.40	0.87	1.33	53.0	0.3622
2200	2.40	0.87	1.33	49.0	0.3696
2215	2.40	0.90	1.35	46.0	0.3766
2230	2.40	0.93	1.37	43.0	0.3831
2245	2.40	0.98	1.41	42.0	0.3894
2300	2.52	1.02	1.47	40.0	0.4046
2400	2.52	1.02	1.47	40.0	0.4197
OCT. 7					
0000	2.52	1.02	1.47	40.0	0.4197
0015	2.52	1.02	1.47	40.0	0.4409
0145	2.52	1.02	1.47	32.0	0.4675
0300	2.52	1.02	1.47	25.0	0.4997
0600	2.52	1.02	1.47	15.0	0.5405
1200	2.52	1.02	1.47	4.0	0.5490
1300	2.52	1.02	1.47	3.4	0.5503
1315	2.52	1.19	1.59	3.3	0.5508
1330	2.52	1.21	1.60	3.1	0.5524
1500	2.52	1.21	1.60	2.3	0.5537
1515	2.52	1.22	1.61	2.1	0.5540

STA. NO. 08074200 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK ST., HOUSTON, TEX. STORM OF OCT. 6 -8 ,1981

DATE & TIME	GAGE NUMBER 4200	GAGE NUMBER 21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 7					
1530	2.52	1.22	1.61	2.0	0.5543
1545	2.64	1.22	1.65	10.0	0.5558
1600	2.76	1.22	1.68	15.0	0.5615
1700	2.76	1.22	1.68	20.0	0.5705
1730	2.76	1.22	1.68	19.0	0.5749
1745	2.76	1.45	1.84	18.0	0.5776
1800	2.76	1.50	1.88	17.0	0.5802
1815	2.76	1.50	1.88	16.0	0.5826
1830	2.76	1.55	1.91	15.0	0.5848
1845	2.88	1.60	1.98	15.0	0.5917
2000	2.88	1.60	1.98	25.0	0.6125
2130	2.88	1.60	1.98	26.0	0.6262
2145	2.88	1.62	2.00	24.0	0.6299
2200	2.88	1.65	2.02	22.0	0.6448
2400	2.88	1.65	2.02	12.0	0.6539
OCT. 8					
0000	2.88	1.65	2.02	12.0	0.6539
0030	2.88	1.70	2.05	11.0	0.6573
0100	2.88	1.73	2.07	10.0	0.6739
0600	2.88	1.73	2.07	4.0	0.6872
1200	2.88	1.73	2.07	2.0	0.6945
1800	2.88	1.73	2.07	1.5	0.6999
2400	2.88	1.73	2.07	1.0	0.7017

STA. NO. 08074200	STORM RAINFALL AND RUNOFF RECORD						1982 WATER YEAR		
BRICKHOUSE GULLY AT CLARBLAK ST., HOUSTON, TEX.	STORM OF MAY 17-18, 1982						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER								
	4200								
MAY 17									
0000	0.0						0.0	1.0	0.0018
0600	0.0						0.0	1.0	0.0054
1200	0.0						0.0	1.0	0.0087
1645	0.0						0.0	1.0	0.0102
1700	0.60						0.60	10.0	0.0117
1715	1.56						1.56	85.0	0.0246
1730	1.80						1.80	148.0	0.0470
1745	1.92						1.92	151.0	0.0698
1800	1.92						1.92	141.0	0.1018
1830	1.92						1.92	108.0	0.1345
1900	1.92						1.92	75.0	0.1572
1930	1.92						1.92	48.0	0.1718
2000	1.92						1.92	36.0	0.1881
2100	1.92						1.92	28.0	0.2114
2245	1.92						1.92	22.0	0.2314
2400	1.92						1.92	18.0	0.2709
MAY 18									
0000	1.92						1.92	18.0	0.2709
0600	1.92						1.92	6.0	0.2927
1200	1.92						1.92	3.0	0.2983
1215	2.04						2.04	3.0	0.3038
1800	2.04						2.04	2.0	0.3109
2400	2.04						2.04	1.0	0.3127

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

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

DRAINAGE AREA.--11.4 mi² (29.53 km²). Prior to Oct. 1, 1973, 11.6 mi² (30.04 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year (operated as a continuous-recording station prior to Oct. 1, 1981).

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

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

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

AVERAGE DISCHARGE.--17 years (water years 1965-81), 14.0 ft³/s (0.396 m³/s), 10,140 acre-ft/yr (12.5 hm³/yr).

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

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

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 6	1830	1,850	52.4	62.15	18.943
May 13	1645	*2,540	71.9	63.78	19.440
May 17	1815	2,100	59.5	62.76	19.129

Minimum discharge not determined.

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	1045	3.0	700	8.2	13.0	15	2.5	12.5	118	3.8	50000	13000
MAY												
12...	0905	115	177	7.9	22.0	90	160	8.5	98	15	30000	45000
JUL												
13...	0915	2.5	735	8.9	28.0	10	2.3	17.6	224	4.6	500	750
AUG												
09...	1415	36	456	--	29.0	30	120	--	--	--	--	--
09...	1435	48	245	--	28.0	40	75	--	--	--	--	--
09...	1535	34	185	--	29.5	40	24	--	--	--	--	--

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
12...	60	0	21	1.8	13	.8	3.4	65	7.0	9.1	.20	5.1
JUL												
13...	200	0	54	15	84	3	2.0	240	16	91	.40	27
AUG												
09...	120	0	39	6.2	54	2	3.5	170	14	42	.30	17
09...	68	0	22	3.1	23	1	2.9	86	13	17	.20	8.6
09...	59	0	20	2.2	17	1	3.5	68	10	12	.20	7.3

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN , 1982												
18...	--	0	1	2.3	.020	2.3	1.10	.80	1.9	1.00	--	4.6
MAY												
12...	100	420	33	.50	.120	.62	.590	1.6	2.2	.350	--	21
JUL												
13...	430	<2	2	--	<.020	<.10	<.060	--	1.2	.770	--	5.0
AUG												
09...	280	244	20	.46	.050	.51	.130	3.1	3.2	.980	--	12
09...	140	214	42	.94	.060	1.0	.190	3.0	3.2	.410	.150	23
09...	110	72	18	.87	.060	.93	.180	1.9	2.1	.150	--	13

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
MAY , 1982							
12...	0905	5	76	<3	<10	2	45
JUL							
13...	0915	5	440	<1	<10	1	3
AUG							
09...	1415	8	200	<1	10	2	25
09...	1535	6	78	<1	<10	2	21

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
MAY , 1982						
12...	1	<3	<.1	<1	<1	<12
JUL						
13...	4	2	<.1	<1	<1	6
AUG						
09...	<1	4	<.1	<1	<1	6
09...	<1	8	<.1	<1	<1	21

DATE	TIME	AMETRYNE TOTAL	ATRATONE TOTAL (UG/L)	ATRAZINE, TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)	CYPRAZINE TOTAL (UG/L)	METHOMYL TOTAL (UG/L)	PROMETONE TOTAL (UG/L)
MAY , 1982								
12...	0905	<.10	<.10	.10	<.10	<.10	<2.0	.5
JUL								
13...	0915	<.10	<.10	.20	<.10	<.10	<2.0	<.1
AUG								
09...	1415	<.10	<.10	<.10	<.10	<.10	<2.0	1.2
09...	1535	<.10	<.10	<.10	<.10	<.10	<2.0	1.2

DATE	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETONE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)
MAY , 1982							
12...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
JUL							
13...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
AUG							
09...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
09...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08074250	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
BRICKHOUSE GULLY AT COSTA RICA ST., HOUSTON, TEX.	STORM OF OCT. 6 -8 , 1981						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 4150	4200	4250	205R	21R				
OCT. 6									
0000	0.0	0.0	0.0	0.0	0.0		0.0	42.0	0.0171
0600	0.0	0.0	0.0	0.0	0.0		0.0	18.0	0.0318
1200	0.0	0.0	0.0	0.0	0.0		0.0	13.0	0.0380
1300	0.0	0.0	0.01	0.0	0.0		0.00	12.0	0.0396
1400	0.0	0.0	0.03	0.0	0.0		0.00	12.0	0.0406
1415	0.0	0.0	0.03	0.0	0.0		0.00	12.0	0.0411
1430	0.0	0.0	0.03	0.0	0.16		0.04	11.0	0.0416
1500	0.0	0.0	0.04	0.0	0.18		0.04	11.0	0.0427
1600	0.0	0.0	0.04	0.0	0.19		0.04	11.0	0.0439
1630	0.0	0.0	0.04	0.0	0.19		0.04	11.0	0.0444
1645	0.0	0.0	0.04	0.37	0.20		0.16	15.0	0.0449
1700	0.0	0.0	0.04	1.38	0.24		0.47	19.0	0.0456
1715	0.55	1.32	1.30	1.97	0.52		1.31	48.0	0.0472
1730	1.42	2.16	1.55	2.16	0.78		1.76	416.0	0.0613
1745	1.90	2.28	1.57	2.16	0.87		1.84	1110.0	0.0991
1800	1.90	2.28	1.59	2.17	0.87		1.84	1570.0	0.1524
1815	1.90	2.40	1.59	2.17	0.87		1.88	1690.0	0.2098
1830	1.90	2.40	1.59	2.17	0.87		1.88	1850.0	0.2727
1845	1.90	2.40	1.59	2.21	0.87		1.89	1810.0	0.3650
1915	1.90	2.40	1.59	2.21	0.87		1.89	1460.0	0.4394
1930	1.90	2.40	1.59	2.21	0.87		1.89	1290.0	0.4832
1945	1.90	2.40	1.59	2.22	0.87		1.89	1080.0	0.5199
2000	1.90	2.40	1.59	2.22	0.87		1.89	863.0	0.5493
2015	1.90	2.40	1.59	2.22	0.87		1.89	706.0	0.5732
2030	1.90	2.40	1.60	2.22	0.87		1.89	548.0	0.5919
2045	1.90	2.40	1.60	2.22	0.87		1.89	435.0	0.6066
2100	1.90	2.40	1.60	2.22	0.87		1.89	322.0	0.6176
2115	1.90	2.40	1.60	2.22	0.87		1.89	345.0	0.6293
2130	1.90	2.40	1.60	2.22	0.87		1.89	368.0	0.6418
2145	1.90	2.40	1.60	2.23	0 87		1.90	275.0	0.6512
2200	1.90	2.40	1.60	2.24	0.87		1.90	182.0	0.6574
2215	1.90	2.40	1.60	2.27	0.90		1.92	168.0	0.6631
2230	1.93	2.40	1.61	2.30	0.93		1.93	153.0	0.6683
2245	1.95	2.40	1.63	2.34	0.98		1.96	139.0	0.6730
2300	2.00	2.52	1.65	2.34	1.02		2.01	124.0	0.6793
2330	2.00	2.52	1.66	2.34	1.02		2.01	125.0	0.6878
2400	2.00	2.52	1.67	2.34	1.02		2.01	126.0	0.7006
OCT. 7									
0000	2.00	2.52	1.67	2.34	1.02		2.01	126.0	0.7006
0100	2.00	2.52	1.67	2.34	1.02		2.01	98.0	0.7273

STA. NO. 08074250 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

BRICKHOUSE GULLY AT COSTA RICA ST., HOUSTON, TEX. — STORM OF OCT. 6 -8 , 1981

DATE & TIME	GAGE NUMBER 4150	4200	4250	205R	21R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 7										
0400	2.00	2.52	1.67	2.34	1.02			2.01	49.0	0.7431
0545	2.00	2.52	1.67	2.34	1.02			2.01	38.0	0.7483
0600	2.00	2.52	1.68	2.34	1.02			2.01	36.0	0.7587
1000	2.00	2.52	1.69	2.34	1.02			2.02	22.0	0.7676
1200	2.00	2.52	1.70	2.34	1.02			2.02	19.0	0.7709
1230	2.00	2.52	1.71	2.34	1.02			2.02	18.0	0.7721
1300	2.00	2.52	1.72	2.34	1.02			2.02	18.0	0.7733
1330	2.00	2.52	1.73	2.34	1.21			2.06	17.0	0.7756
1500	2.00	2.52	1.74	2.34	1.21			2.06	15.0	0.7777
1530	2.00	2.52	1.74	2.36	1.22			2.07	14.0	0.7784
1545	2.05	2.64	1.76	2.52	1.22			2.16	13.0	0.7788
1600	2.30	2.76	2.13	2.52	1.22			2.26	13.0	0.7793
1615	2.58	2.76	2.14	2.52	1.22			2.28	230.0	0.7871
1630	2.59	2.76	2.14	2.52	1.22			2.28	447.0	0.8023
1645	2.59	2.76	2.14	2.52	1.22			2.28	378.0	0.8151
1700	2.60	2.76	2.14	2.52	1.22			2.28	308.0	0.8256
1715	2.60	2.76	2.14	2.52	1.22			2.28	242.0	0.8338
1730	2.60	2.76	2.14	2.52	1.22			2.28	176.0	0.8398
1745	2.60	2.76	2.14	2.53	1.45			2.33	142.0	0.8446
1800	2.60	2.76	2.14	2.53	1.50			2.34	107.0	0.8482
1815	2.74	2.76	2.15	2.56	1.50			2.36	95.0	0.8515
1830	2.74	2.76	2.19	2.61	1.55			2.39	83.0	0.8543
1845	2.88	2.88	2.37	2.66	1.60			2.48	148.0	0.8593
1900	2.90	2.88	2.39	2.66	1.60			2.49	212.0	0.8701
1930	2.90	2.88	2.39	2.66	1.60			2.49	187.0	0.8828
2000	2.90	2.88	2.43	2.72	1.60			2.51	162.0	0.8938
2030	2.95	2.88	2.45	2.72	1.60			2.51	141.0	0.9082
2130	2.95	2.88	2.46	2.72	1.60			2.52	100.0	0.9167
2145	2.95	2.88	2.46	2.72	1.62			2.52	90.0	0.9198
2200	2.95	2.88	2.46	2.72	1.65			2.53	80.0	0.9266
2300	2.95	2.88	2.46	2.72	1.65			2.53	61.0	0.9349
2400	2.95	2.88	2.47	2.72	1.65			2.53	50.0	0.9485
OCT. 8										
0000	2.95	2.88	2.47	2.72	1.65			2.53	50.0	0.9485
0300	2.97	2.88	2.50	2.77	1.73			2.56	33.0	0.9619
0600	2.97	2.88	2.50	2.77	1.73			2.56	24.0	0.9766
1200	2.97	2.88	2.50	2.77	1.73			2.56	17.0	0.9905
1800	2.99	2.88	2.50	2.77	1.73			2.57	10.0	0.9986
2400	2.99	2.88	2.50	2.77	1.73			2.57	6.8	1.0014

STA. NO. 08074250 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BRICKHOUSE GULLY AT COSTA RICA ST., HOUSTON, TEX. STORM OF MAY 13-15, 1982

DATE & TIME	GAGE NUMBER 4150	4200	4250	205R	21R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13										
0000	0.0	0.0	0.0	0.0	0.0			0.0	8.6	0.0003
0030	0.0	0.0	0.0	0.0	0.0			0.0	8.0	0.0007
0045	0.05	0.0	0.0	0.0	0.0			0.00	8.0	0.0010
0100	0.09	0.0	0.0	0.0	0.0			0.00	7.9	0.0012
0115	0.60	0.0	0.0	0.0	0.0			0.03	7.9	0.0015
0130	0.93	0.0	0.0	0.0	0.0			0.05	7.9	0.0018
0145	1.13	0.0	0.0	0.0	0.0			0.06	7.8	0.0020
0200	1.23	0.0	0.0	0.0	0.0			0.06	7.6	0.0023
0215	1.30	0.0	0.0	0.0	0.0			0.06	7.5	0.0026
0230	1.38	0.0	0.0	0.0	0.0			0.07	7.4	0.0028
0245	1.45	0.0	0.0	0.0	0.0			0.07	7.2	0.0031
0300	1.52	0.0	0.0	0.0	0.0			0.08	7.1	0.0033
0315	1.60	0.0	0.0	0.0	0.0			0.08	7.0	0.0035
0330	1.63	0.0	0.0	0.0	0.0			0.08	6.8	0.0038
0345	1.71	0.0	0.0	0.0	0.0			0.09	6.7	0.0040
0400	1.82	0.0	0.0	0.0	0.0			0.09	6.5	0.0042
0415	2.00	0.0	0.0	0.0	0.0			0.10	6.4	0.0044
0430	2.20	0.0	0.0	0.0	0.0			0.11	6.3	0.0046
0445	2.28	0.0	0.0	0.0	0.0			0.11	6.1	0.0048
0500	2.30	0.0	0.0	0.0	0.0			0.12	6.0	0.0051
0515	2.31	0.0	0.0	0.0	0.0			0.12	5.9	0.0053
0530	2.33	0.0	0.0	0.0	0.0			0.12	5.7	0.0055
0600	2.33	0.0	0.0	0.0	0.0			0.12	5.5	0.0064
0745	2.33	0.0	0.0	0.0	0.0			0.12	4.5	0.0082
1200	2.33	0.0	0.0	0.0	0.0			0.12	3.9	0.0095
1230	2.33	0.0	0.0	0.0	0.0			0.12	3.7	0.0097
1245	2.33	0.12	0.0	0.08	0.27			0.23	3.7	0.0098
1300	2.33	0.24	0.03	0.20	0.44			0.34	5.8	0.0100
1315	2.33	0.84	1.01	0.71	0.96			0.92	85.0	0.0129
1330	2.33	1.32	1.07	1.29	1.39			1.34	658.0	0.0352
1345	2.33	1.44	1.25	1.40	1.52			1.46	1700.0	0.0930
1400	2.33	1.68	1.36	1.61	1.68			1.64	2130.0	0.1654
1415	2.33	1.80	1.52	1.75	1.83			1.78	2350.0	0 2452
1430	2.33	1.92	1.58	1.85	1.91			1.87	2350.0	0.3251
1445	2.33	1.92	1.75	1.94	2.02			1.94	2380.0	0.4060
1500	2.33	2.04	1.78	2.05	2.08			2.03	2350.0	0.4858
1515	2.33	2.16	1.81	2.16	2.20			2.12	2270.0	0.5630
1530	2.33	2.28	1.88	2.20	2.28			2.20	2150.0	0.6360
1545	2.33	2.28	2.04	2.25	2.34			2.25	2040.0	0.7054

STA. NO. 08074250 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BRICKHOUSE GULLY AT COSTA RICA ST., HOUSTON, TEX. STORM OF MAY 13-15, 1982

DATE & TIME	GAGE NUMBER 4150	4200	4250	205R	21R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13										
1600	2.33	2.40	2.14	2.36	2.44			2.35	2040.0	0.7747
1615	2.33	2.64	2.30	2.52	2.59			2.53	2120.0	0.8467
1630	2.33	2.88	2.40	2.74	2.81			2.72	2270.0	0.9239
1645	2.33	3.00	2.45	2.89	2.83			2.82	2540.0	1.0102
1700	2.33	3.00	2.46	2.91	2.85			2.83	2510.0	1.0955
1715	2.33	3.00	2.49	2.94	2.86			2.84	2300.0	1.1736
1730	2.33	3.00	2.49	2.96	2.87			2.85	2070.0	1.2440
1745	2.33	3.00	2.49	2.96	2.91			2.86	1790.0	1.3048
1800	2.33	3.00	2.49	2.96	2.91			2.86	1550.0	1.3838
1830	2.33	3.00	2.49	2.96	2.91			2.86	1130.0	1.4606
1900	2.33	3.00	2.49	2.96	2.91			2.86	837.0	1.5175
1930	2.33	3.00	2.49	2.96	2.91			2.86	658.0	1.5510
1945	2.33	3.00	2.49	2.96	2.91			2.86	583.0	1.5709
2000	2.33	3.00	2.50	2.96	2.91			2.86	505.0	1.5880
2015	2.33	3.00	2.51	2.96	2.91			2.86	456.0	1.6035
2030	2.33	3.00	2.52	2.96	2.91			2.86	402.0	1.6308
2115	2.33	3.00	2.52	2.96	2.91			2.86	323.0	1.7077
2400	2.33	3.00	2.52	2.96	2.91			2.86	164.0	1.7550
MAY 14										
0000	2.33	3.00	2.52	2.96	2.91			2.86	164.0	1.7550
0130	2.33	3.00	2.52	2.96	2.91			2.86	124.0	1.7803
0300	2.33	3.00	2.52	2.96	2.91			2.86	100.0	1.8041
0500	2.33	3.00	2.52	2.96	2.91			2.86	80.0	1.8204
0600	2.33	3.00	2.52	2.96	2.91			2.86	73.0	1.8378
0830	2.33	3.00	2.52	2.96	2.91			2.86	56.0	1.8606
1200	2.33	3.00	2.52	2.96	2.91			2.86	47.0	1.8846
1600	2.33	3.00	2.52	2.96	2.91			2.86	38.0	1.9001
1800	2.33	3.00	2.52	2.96	2.91			2.86	34.0	1.9139
2200	2.33	3.00	2.52	2.96	2.91			2.86	27.0	1.9249
2400	2.33	3.00	2.52	2.96	2.91			2.86	25.0	1.9292
MAY 15										
0000	2.33	3.00	2.52	2.96	2.91			2.86	25.0	1.9292
0030	2.33	3.00	2.52	2.96	2.91			2.86	26.0	1.9398
0600	2.33	3.00	2.52	2.96	2.91			2.86	22.0	1.9562
1130	2.33	3.00	2.52	2.96	2.91			2.86	17.0	1.9632
1200	2.33	3.00	2.52	2.96	2.91			2.86	17.0	1.9707
1800	2.33	3.00	2.52	2.96	2.91			2.86	14.0	1.9816
2330	2.33	3.00	2.52	2.96	2.91			2.86	11.0	1.9861
2400	2.33	3.00	2.52	2.96	2.91			2.86	11.0	1.9865

STA. NO. 08074250	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
BRICKHOUSE GULLY AT COSTA RICA ST., HOUSTON, TEX.	STORM OF MAY 17-19, 1982						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 4150	4200	4250	205R					
MAY 17									
0000	0.0	0.0	0.0	0.0			0.0	7.4	0.0024
0445	0.0	0.0	0.0	0.0			0.0	7.1	0.0048
0500	0.12	0.0	0.0	0.0			0.01	7.1	0.0050
0515	0.80	0.0	0.0	0.0			0.08	7.1	0.0053
0530	0.95	0.0	0.0	0.0			0.09	7.1	0.0056
0600	1.00	0.0	0.0	0.0			0.10	7.0	0.0061
0630	1.02	0.0	0.0	0.0			0.10	7.0	0.0066
0700	1.08	0.0	0.0	0.0			0.11	7.0	0.0092
1200	1.10	0.0	0.0	0.0			0.11	6.6	0.0136
1645	1.10	0.0	0.0	0.0			0.11	6.3	0.0157
1700	1.10	0.60	0.0	0.66			0.58	6.3	0.0159
1715	1.10	1.56	0.65	1.75			1.43	17.0	0.0165
1730	1.10	1.80	0.73	2.07			1.65	453.0	0.0319
1745	1.10	1.92	0.76	2.16			1.74	1420.0	0.0802
1800	1.10	1.92	0.78	2.18			1.74	2070.0	0.1505
1815	1.10	1.92	0.78	2.19			1.75	2100.0	0.2219
1830	1.10	1.92	0.79	2.21			1.76	1890.0	0.2861
1845	1.10	1.92	0.81	2.23			1.76	1620.0	0.3412
1900	1.10	1.92	0.82	2.25			1.77	1420.0	0.3894
1915	1.10	1.92	0.84	2.25			1.77	1200.0	0.4302
1930	1.10	1.92	0.85	2.27			1.78	996.0	0.4640
1945	1.10	1.92	0.86	2.27			1.78	837.0	0.5067
2015	1.10	1.92	0.86	2.27			1.78	594.0	0.5471
2045	1.10	1.92	0.86	2.27			1.78	427.0	0.5761
2115	1.10	1.92	0.86	2.27			1.78	336.0	0.6046
2200	1.10	1.92	0.86	2.27			1.78	254.0	0.6521
2400	1.10	1.92	0.86	2.27			1.78	146.0	0.6819
MAY 18									
0000	1.10	1.92	0.86	2.27			1.78	146.0	0.6819
0100	1.10	1.92	0.86	2.27			1.78	118.0	0.6979
0200	1.10	1.92	0.86	2.27			1.78	95.0	0.7302
0600	1.10	1.92	0.86	2.27			1.78	54.0	0.7669
1200	1.10	1.92	0.86	2.27			1.78	33.0	0.7809
1215	1.10	2.04	0.86	2.27			1.84	33.0	0.7876
1500	1.10	2.04	0.86	2.27			1.84	27.0	0.7982
1800	1.10	2.04	0.86	2.27			1.84	21.0	0.8110
2400	1.10	2.04	0.86	2.27			1.84	29.0	0.8465
MAY 19									
0000	1.10	2.04	0.86	2.27			1.84	29.0	0.8465
1200	1.10	2.04	0.86	2.27			1.84	11.0	0.8645
2400	1.10	2.04	0.86	2.27			1.84	7.4	0.8705

LAZYBROOK STREET STORM SEWER DRAINAGE BASIN

The locations of data-collection sites in the Lazybrook Street Storm Sewer drainage basin are shown in figure 9.

Weighted-mean rainfall for the 1982 water year was not determined.

The storms of Oct. 5, May 13, and June 13 were selected for analysis at station 08074400, Lazybrook Street Storm Sewer at Houston.

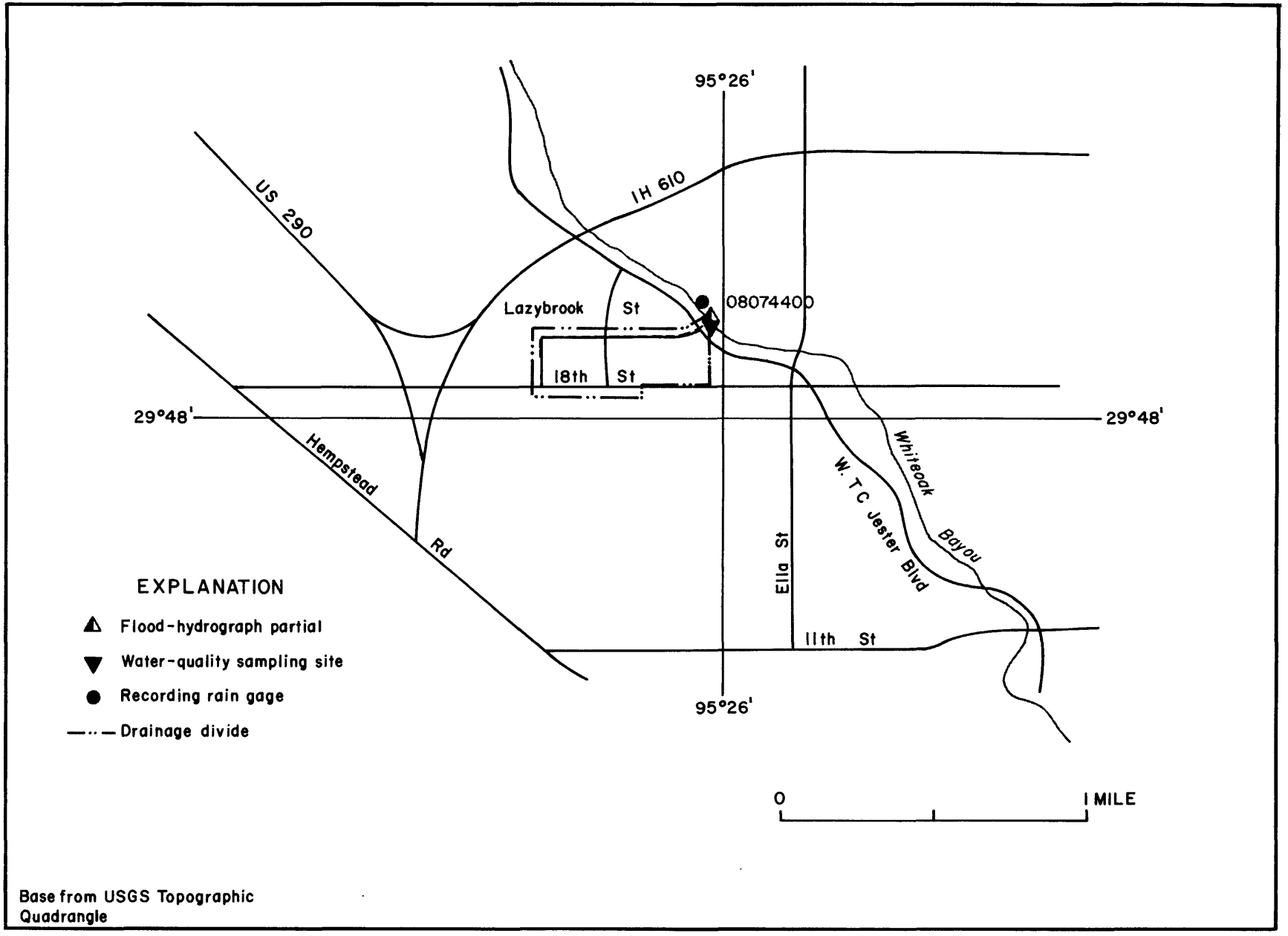

Figure 9.-Locations of data-collection sites in and near the Lazybrook Street Storm Sewer drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 7.--Storm rainfall-runoff data, 1982 Water Year, Lazybrook Street Storm Sewer

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Lazybrook Street Storm Sewer at Houston, Tx. (Drainage area -- 0.13 mi^2)								
Oct. 5, 1981	3.0	0.91	0.40	0.62	0.70	0.37	0.26	43
Oct. 5, 1981	2.2	.52	.16	.24	.34			12
May 13, 1982	1.2	1.89	1.09	1.18	1.48	1.90	0.69	116*
May 13, 1982	1.3	.87	.21	.38	.61			34
June 13, 1982	0.6	1.28	0.69	1.01	1.22	0.89	0.70	89

* - Annual peak discharge for 1982 WY.

SAN JACINTO RIVER BASIN

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

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

DRAINAGE AREA.--0.13 mi² (0.34 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1981".

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

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

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 13	1320	*116	3.29	58.04	17.691
June 13	1850	89	2.52	57.57	17.547
July 30	a1800	110	3.12	unknown	

a About.

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
05...	1440	.55	149	--	--	40	3.0	--	--	--	--	--
05...	1455	12	173	--	--	15	9.9	--	--	--	--	--
05...	1510	43	275	--	--	25	5.0	--	--	--	--	--
05...	1525	11	206	--	--	--	--	--	--	--	--	--
05...	1540	4.0	106	--	--	40	3.1	--	--	--	--	--
05...	1555	1.8	125	--	--	--	--	--	--	--	--	--
05...	1610	1.4	87	--	--	--	--	--	--	--	--	--
05...	1625	1.0	135	--	--	--	--	--	--	--	--	--
JAN												
12...	0435	.59	254	--	--	40	100	--	--	--	240000	100000
12...	0450	.85	162	--	--	--	--	--	--	--	--	--
12...	0505	1.1	81	--	--	--	--	--	--	--	--	--
12...	0520	1.2	62	--	--	--	--	--	--	--	--	--
12...	0535	1.2	64	--	--	--	--	--	--	--	--	--
12...	0550	1.3	61	--	--	--	--	--	--	--	--	--
12...	0605	1.6	60	--	--	--	--	--	--	--	--	--
12...	0620	1.8	60	--	--	--	14	--	--	--	25000	40000
12...	1100	.90	91	7.3	8.0	60	8.0	12.6	106	12	39000	62000
FEB												
25...	1505	.55	232	--	--	--	--	--	--	--	--	--
25...	1520	.59	119	--	--	--	--	--	--	--	--	--
25...	1535	.67	102	--	--	--	--	--	--	--	--	--
25...	1550	.75	86	--	--	--	--	--	--	--	--	--
25...	1605	.96	79	--	--	--	--	--	--	--	--	--
25...	1620	1.1	73	--	--	--	--	--	--	--	--	--
25...	1635	1.2	70	--	--	--	--	--	--	--	--	--
25...	1650	1.2	73	--	--	--	--	--	--	--	--	--
MAR												
06...	1350	.55	114	--	--	--	--	--	--	--	--	--
06...	1405	.55	89	--	--	--	--	--	--	--	--	--
06...	1420	.55	83	--	--	--	--	--	--	--	--	--
06...	1435	.47	82	--	--	--	--	--	--	--	--	--
06...	1450	.35	88	--	--	--	--	--	--	--	--	--
06...	1505	.29	105	--	--	--	--	--	--	--	--	--
06...	1520	.27	109	--	--	--	--	--	--	--	--	--
06...	1535	.24	106	--	--	--	--	--	--	--	--	--
22...	1945	--	162	--	--	--	--	--	--	--	--	--
22...	2000	--	121	--	--	--	--	--	--	--	--	--
22...	2015	--	130	--	--	--	--	--	--	--	--	--
22...	2030	--	142	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT												
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	25	4	8.0	1.1	7.3	.7	4.1	21	12	8.7	.0	3.2
FEB												
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT											
05...	--	12	6	.28	.090	.37	.220	1.4	1.60	.690	26
05...	--	74	23	.44	.050	.49	1.10	1.6	2.70	.900	18
05...	--	30	10	.24	.050	.29	3.90	4.1	8.00	1.60	15
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	10	3	.36	.040	.40	1.70	.80	2.50	1.10	11
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
JAN											
12...	--	276	160	--	--	--	--	--	--	--	100
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	46	28	.52	.030	.55	.470	1.2	1.70	.390	20
12...	57	8	9	.61	.020	.63	.560	1.3	1.90	1.00	15
FEB											
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
MAR											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
MAR							
22...	2045	157	--	--	--	--	--
22...	2100	193	--	--	--	--	--
22...	2115	206	--	--	--	--	--
22...	2130	209	--	--	--	--	--
JUL							
30...	1747	260	--	--	--	--	--
30...	1802	66	--	--	--	--	--
30...	1817	68	--	--	--	--	--
30...	1832	119	--	--	--	--	--
30...	1847	155	--	--	--	--	--
30...	1902	124	--	--	--	--	--
AUG							
02...	1610	102	20	10	302	112	.58
02...	1625	68	--	--	--	--	--
02...	1640	65	--	--	--	--	--
02...	1655	78	55	2.4	21	9	1.1
02...	1710	109	--	--	--	--	--
02...	1725	142	65	7.7	94	28	.85

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
MAR						
22...	--	--	--	--	--	--
22...	--	--	--	--	--	--
22...	--	--	--	--	--	--
22...	--	--	--	--	--	--
JUL						
30...	--	--	--	--	--	--
30...	--	--	--	--	--	--
30...	--	--	--	--	--	--
30...	--	--	--	--	--	--
30...	--	--	--	--	--	--
30...	--	--	--	--	--	--
AUG						
02...	.080	.66	1.10	2.9	4.00	.650
02...	--	--	--	--	--	--
02...	--	--	--	--	--	--
02...	.060	1.2	.310	1.8	2.10	.720
02...	--	--	--	--	--	--
02...	.060	.91	.700	2.0	2.70	1.00

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
JUL							
30...	1747	2	51	<1	<10	1	110
30...	1817	1	17	<1	<10	2	34
30...	1902	2	25	<1	<10	2	68

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
JUL						
30...	<1	12	.1	<1	<1	6
30...	<1	3	.1	1	<1	80
30...	<1	2	.1	<1	<1	380

STA. NO. 08074400 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

LAZYBROOK STREET STORM SEWER AT HOUSTON, TEX. STORM OF OCT. 5 , 1981

DATE & TIME	GAGE NUMBER 4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 5				
0000	0.0	0.0	0.1	0.0036
0600	0.0	0.0	0.1	0.0094
0950	0.0	0.0	0.1	0.0118
0955	0.01	0.01	0.1	0.0119
1000	0.02	0.02	0.1	0.0125
1055	0.02	0.02	0.4	0.0149
1100	0.03	0.03	0.4	0.0158
1120	0.03	0.03	0.3	0.0166
1125	0.04	0.04	0.2	0.0168
1130	0.05	0.05	0.2	0.0170
1135	0.05	0.05	0.2	0.0172
1140	0.06	0.06	0.2	0.0174
1145	0.07	0.07	0.2	0.0176
1150	0.08	0.08	0.2	0.0178
1155	0.09	0.09	0.2	0.0180
1200	0.11	0.11	0.2	0.0190
1245	0.11	0.11	0.3	0.0205
1250	0.12	0.12	0.4	0.0209
1255	0.14	0.14	0.4	0.0213
1300	0.16	0.16	0.4	0.0250
1430	0.16	0.16	0.2	0.0269
1435	0.17	0.17	0.2	0.0271
1440	0.18	0.18	0.6	0.0277
1445	0.20	0.20	2.4	0.0301
1450	0.27	0.27	8.0	0.0380
1455	0.34	0.34	12.0	0.0500
1500	0.42	0.42	11.0	0.0609
1505	0.55	0.55	30.0	0.0907
1510	0.68	0.68	43.0	0.1334
1515	0.82	0.82	29.0	0.1622
1520	0.83	0.83	18.0	0.1801
1525	0.84	0.84	11.0	0.1910
1530	0.86	0.86	7.3	0.1983
1535	0.86	0.86	5.2	0.2034
1540	0.87	0.87	4.0	0.2074
1545	0.88	0.88	2.9	0.2103
1550	0.89	0.89	2.2	0.2125
1555	0.90	0.90	1.8	0.2143
1600	0.91	0.91	1.5	0.2172

STA. NO. 08074400	STORM RAINFALL AND RUNOFF RECORD	1982 WATER YEAR

LAZYBROOK STREET STORM SEWER AT HOUSTON, TEX. — STORM OF OCT. 5 , 1981

DATE & TIME	GAGE NUMBER 4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 5				
1615	0.91	0.91	1.4	0.2200
1620	0.94	0.94	1.2	0.2212
1625	0.97	0.97	1.0	0.2222
1630	1.00	1.00	1.0	0.2232
1635	1.01	1.01	2.5	0.2257
1640	1.02	1.02	4.1	0.2298
1645	1.03	1.03	4.6	0.2343
1650	1.04	1.04	4.4	0.2387
1655	1.05	1.05	3.6	0.2423
1700	1.07	1.07	2.9	0.2567
1745	1.07	1.07	0.6	0.2597
1750	1.08	1.08	0.5	0.2602
1755	1.10	1.10	0.5	0.2606
1800	1.12	1.12	0.6	0.2612
1805	1.14	1.14	0.7	0.2619
1810	1.17	1.17	0.7	0.2626
1815	1.20	1.20	1.2	0.2638
1820	1.25	1.25	5.9	0.2697
1825	1.30	1.30	9.7	0.2793
1830	1.36	1.36	11.0	0.2902
1835	1.37	1.37	12.0	0.3022
1840	1.39	1.39	11.0	0.3131
1845	1.41	1.41	8.3	0.3213
1850	1.41	1.41	6.1	0.3274
1855	1.41	1.41	4.6	0.3480
1935	1.41	1.41	0.8	0.3515
1940	1.42	1.42	0.8	0.3523
1945	1.43	1.43	0.7	0.3704
2400	1.43	1.43	0.1	0.3729

STA. NO. 08074400 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

LAZYBROOK STREET STORM SEWER AT HOUSTON, TEX. STORM OF MAY 13, 1982

DATE & TIME	GAGE NUMBER 4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13				
0000	0.0	0.0	0.1	0.0072
1200	0.0	0.0	0.1	0.0150
1315	0.0	0.0	19.0	0.1660
1320	0.36	0.36	116.0	0.2813
1325	0.72	0.72	108.0	0.3885
1330	1.09	1.09	99.0	0.4869
1335	1.12	1.12	78.0	0.5644
1340	1.15	1.15	51.0	0.6150
1345	1.18	1.18	37.0	0.6518
1350	1.21	1.21	32.0	0.6836
1355	1.25	1.25	31.0	0.7143
1400	1.29	1.29	41.0	0.7551
1405	1.35	1.35	41.0	0.7958
1410	1.41	1.41	38.0	0.8335
1415	1.48	1.48	36.0	0.8693
1420	1.52	1.52	33.0	0.9021
1425	1.57	1.57	29.0	0.9309
1430	1.62	1.62	26.0	0.9825
1445	1.71	1.71	23.0	1.0511
1500	1.82	1.82	23.0	1.1196
1515	1.87	1.87	16.0	1.1514
1520	1.89	1.89	15.0	1.1738
1530	1.93	1.93	13.0	1.1931
1535	1.96	1.96	13.0	1.2060
1540	1.99	1.99	15.0	1.2209
1545	2.02	2.02	21.0	1.2418
1550	2.07	2.07	31.0	1.2726
1555	2.13	2.13	33.0	1.3054
1600	2.19	2.19	30.0	1.3352
1605	2.26	2.26	30.0	1.3650
1610	2.33	2.33	33.0	1.3977
1615	2.40	2.40	34.0	1.4315
1620	2.43	2.43	31.0	1.4623
1625	2.47	2.47	29.0	1.4911
1630	2.51	2.51	30.0	1.5507
1645	2.63	2.63	27.0	1.6312
1700	2.71	2.71	17.0	1.7578
1800	2.75	2.75	3.2	1.8913
2400	2.76	2.76	0.2	1.8985

STA. NO. 08074400 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

LAZYBROOK STREET STORM SEWER AT HOUSTON, TEX. — STORM OF JUNE 13, 1982

DATE & TIME	GAGE NUMBER 4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JUNE13				
0000	0.0	0.0	0.1	0.0036
0600	0.0	0.0	0.1	0.0107
1200	0.0	0.0	0.1	0.0177
1745	0.0	0.0	0.2	0.0247
1750	0.04	0.04	0.2	0.0249
1755	0.08	0.08	0.2	0.0251
1800	0.12	0.12	0.2	0.0253
1805	0.35	0.35	0.2	0.0255
1810	0.58	0.58	0.2	0.0257
1815	0.81	0.81	0.2	0.0259
1820	0.91	0.91	0.2	0.0261
1825	1.02	1.02	0.4	0.0265
1830	1.13	1.13	1.5	0.0280
1835	1.16	1.16	5.9	0.0338
1840	1.19	1.19	17.0	0.0507
1845	1.22	1.22	48.0	0.0984
1850	1.24	1.24	89.0	0.1868
1855	1.26	1.26	76.0	0.2623
1900	1.28	1.28	60.0	0.3219
1905	1.28	1.28	72.0	0.3934
1910	1.28	1.28	63.0	0.4560
1915	1.28	1.28	47.0	0.5027
1920	1.28	1.28	36.0	0.5384
1925	1.28	1.28	26.0	0.5643
1930	1.28	1.28	20.0	0.5841
1935	1.28	1.28	15.0	0.5990
1940	1.28	1.28	11.0	0.8886
2400	1.28	1.28	0.1	0.8912

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 8 .--Storm rainfall-runoff data, 1982 Water Year, Whiteoak Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Whiteoak Bayou at Houston, Tx. (Drainage area -- 86.3 mi^2)								
Oct. 5, 1981	4.0	0.89	0.21	0.42	0.76			1,060
Oct. 6-7, 1981	1.0	1.60	1.32	2.16	2.28	0.77	0.24	2,520
Oct. 7-10, 1981	6.0	.68	.10	.20	.39			1,520
May 6-9, 1982	9.0	1.32	0.07	0.14	0.27	0.42	0.32	1,560
May 12, 1982	2.0	1.01	0.31	0.63	1.25			1,600
May 13, 1982	6.0	3.15	.46	.93	1.85	3.12	0.58	9,090*
May 17-21, 1982	5.0	1.25	1.09	1.75	2.16			2,720

* - Annual peak discharge for 1982 WY.

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX

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

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

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

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

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

AVERAGE DISCHARGE.--46 years, 81.0 ft³/s (2.294 m³/s), 58,680 acre-ft/yr (72.4 hm³/yr).

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,090 ft³/s (257 m³/s) May 13 at 1800 hours, gage height, 33.89 ft (10.330 m), no other peak above baae of 4,000 ft³/s (133 m³/s); minimum daily, 25 ft³/s (0.71 m³/s) Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	325	290	39	50	45	35	59	36	30	34	28
2	40	77	151	38	52	42	32	42	38	33	30	26
3	50	46	89	44	44	38	33	34	38	33	32	40
4	36	48	61	35	36	38	32	31	39	32	30	51
5	301	44	52	33	36	40	35	33	33	54	30	27
6	538	42	63	32	36	92	33	519	38	33	29	28
7	580	37	74	31	33	49	35	346	31	36	85	29
8	228	200	46	31	43	39	35	80	29	32	742	27
9	68	213	41	31	38	36	48	40	31	32	210	26
10	50	61	41	30	33	35	225	35	34	37	58	25
11	36	38	41	31	32	37	52	33	32	32	39	26
12	77	34	35	317	33	39	38	668	30	32	35	27
13	69	32	38	138	32	36	37	2910	157	347	29	29
14	87	30	65	60	32	37	34	1220	146	395	29	33
15	65	30	49	42	36	40	32	368	50	132	28	28
16	211	30	37	37	33	36	32	191	46	181	28	27
17	134	31	33	36	32	36	36	581	48	96	29	28
18	230	30	34	35	32	34	32	671	37	57	31	29
19	78	30	35	34	30	39	34	238	123	80	32	56
20	47	31	75	34	179	34	34	205	110	51	30	32
21	41	30	68	33	65	34	306	120	115	53	30	28
22	42	29	37	32	37	100	259	99	82	63	29	28
23	41	30	33	32	32	301	76	157	36	36	30	28
24	36	31	33	30	31	63	431	87	54	30	30	28
25	126	31	32	30	179	38	197	61	34	37	31	27
26	68	29	30	30	593	35	70	44	140	155	29	27
27	35	27	32	30	148	274	43	47	135	50	29	29
28	31	27	31	33	63	113	36	48	41	33	29	27
29	32	1270	31	74	---	46	33	43	32	30	29	29
30	31	938	86	423	---	43	31	34	31	137	200	29
31	574	---	132	204	---	41	---	34	---	94	33	---
TOTAL	4022	3851	1895	2059	2020	1910	2386	9078	1826	2473	2089	902
MEAN	130	128	61.1	66.4	72.1	61.6	79.5	293	60.9	79.8	67.4	30.1
MAX	580	1270	290	423	593	301	431	2910	157	395	742	56
MIN	31	27	30	30	30	34	31	31	29	30	28	25
AC-FT	7980	7640	3760	4080	4010	3790	4730	18010	3620	4910	4140	1790

CAL YR 1981 TOTAL 54471 MEAN 149 MAX 9000 MIN 24 AC-FT 108000
WTR YR 1982 TOTAL 34511 MEAN 94.6 MAX 2910 MIN 25 AC-FT 68450

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	0835	31	900	7.7	12.5	15	7.2	9.8	90	9.6	K400	54
MAY												
06...	2000	1560	176	8.0	21.0	50	90	8.5	96	14	120000	74000
06...	2230	1090	222	7.7	21.0	60	170	8.5	96	17	240000	89000
07...	1030	314	390	7.3	20.0	60	37	7.4	81	22	200000	51000
JUN												
21...	1310	128	592	8.3	31.5	40	170	8.1	110	8.4	5100	620

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
06...	50	0	17	1.9	13	.8	3.7	59	6.0	12	.2	6.1
06...	61	0	20	2.8	18	1.0	4.7	72	7.0	19	.3	8.1
07...	93	0	30	4.4	34	1.6	7.0	110	21	34	.5	11
JUN												
21...	150	0	48	8.4	63	2.3	4.7	160	22	68	.4	18

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
18...	--	5	1	4.6	.170	4.8	3.70	.10	3.80	4.30	10
MAY											
06...	96	246	15	.46	.100	.56	.530	2.4	2.90	.910	23
06...	123	366	19	.62	.140	.76	.830	2.6	3.40	1.50	23
07...	208	112	18	.96	.140	1.1	1.80	3.4	5.20	2.00	23
JUN											
21...	329	218	31	2.0	.120	2.1	.270	1.9	2.20	1.10	14

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY							
06...	2000	6	49	<3	<10	3	160
07...	1030	8	110	<3	<10	4	98
JUN							
21...	1310	9	280	<1	10	12	5

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY						
06...	7	5	<.1	<1	<1	19
07...	5	52	<.1	<1	<1	23
JUN						
21...	5	<1	.1	<1	<1	4

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
JUN								
21...	1310	<.10	<.10	.30	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
JUN							
21...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08074500 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TEX. — STORM OF OCT. 5 -10, 1981

DATE & TIME	GAGE NUMBER 4150	4200	4250	205R	204R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 5									
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	0.0019
0600	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	0.0053
1000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.0	0.0068
1100	0.0	0.12	0.0	0.09	0.10	0.0	0.03	112.0	0.0088
1200	0.0	0.12	0.0	0.09	0.21	0.0	0.06	66.0	0.0100
1300	0.0	0.24	0.04	0.11	0.21	0.0	0.07	82.0	0.0115
1400	0.0	0.24	0.05	0.11	0.21	0.0	0.07	92.0	0.0131
1500	0.0	0.48	0.23	0.45	0.21	0.36	0.28	136.0	0.0155
1600	0.11	0.72	0.60	0.50	0.45	0.80	0.59	805.0	0.0300
1700	0.11	0.72	0.78	0.50	0.50	0.81	0 64	1060.0	0.0490
1800	0.17	0.84	0.83	0.84	0.50	0.93	0.73	850.0	0.0643
1900	0.32	1.08	1.10	0.99	0.60	1.04	0.89	829.0	0.0792
2000	0.32	1.08	1.12	0.99	0.60	1.04	0.89	888.0	0.0951
2100	0.32	1.08	1.12	0.99	0.60	1.04	0.89	763.0	0.1088
2200	0.32	1.08	1.12	0.99	0.60	1.04	0.89	568.0	0.1190
2300	0.32	1.08	1.12	0.99	0.60	1.04	0.89	435.0	0.1268
2400	0.32	1.08	1.12	0.99	0.60	1.04	0.89	386.0	0.1511
OCT. 6									
0000	0.32	1.08	1.12	0.99	0.60	1.04	0.89	386.0	0.1511
0600	0.32	1.08	1.12	0.99	0.60	1.04	0.89	156.0	0.1679
1200	0.32	1.08	1.12	0.99	0.60	1.04	0.89	72.0	0.1724
1300	0.32	1.08	1.13	0.99	0.60	1.04	0.89	74.0	0.1738
1400	0.32	1.08	1.15	0.99	0.60	1.04	0.90	65.0	0.1749
1500	0.32	1.08	1.16	0.99	0.60	1.22	0.96	61.0	0.1760
1600	0.32	1.08	1.16	0.99	0.60	1.23	0.97	98.0	0.1778
1700	0.32	1.08	1.16	2.37	0.68	1.28	1.14	184.0	0.1811
1800	2.22	3.36	2.71	3.16	2.23	1.91	2.36	188.0	0.1845
1900	2.22	3.48	2.71	3.20	2.23	1.91	2.37	1910.0	0.2188
2000	2.22	3.48	2.71	3.21	2.23	1.91	2.37	2520.0	0.2640
2100	2.22	3.48	2.72	3.21	2.23	1.91	2.38	2150.0	0.3026
2200	2.22	3.48	2.72	3.23	2.23	1.91	2.38	1650.0	0.3322
2300	2.32	3.60	2.77	3.33	2.23	2.06	2.47	1350.0	0.3565
2400	2.32	3.60	2.79	3.33	2.23	2.06	2.47	1130.0	0.3768
OCT. 7									
0000	2.32	3.60	2.79	3.33	2.23	2.06	2.47	1130.0	0.3768
0100	2.32	3.60	2.79	3.33	2.33	2.06	2.49	945.0	0.4022
0300	2.32	3.60	2.79	3.33	2.33	2.06	2.49	666.0	0.4261
0500	2.32	3.60	2.79	3.33	2.33	2.06	2.49	471.0	0.4388
0600	2.32	3.60	2.80	3.33	2.33	2.06	2.49	411.0	0.4499
0800	2.32	3.60	2.80	3.33	2.33	2.06	2.49	304.0	0.4581
0900	2.32	3.60	2.80	3.33	2.33	2.06	2.49	257.0	0.4627

STA. NO. 08074500 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TEX. STORM OF OCT. 5 -10, 1981

DATE & TIME	GAGE NUMBER 4150	4200	4250	205R	204R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 7									
1000	2.32	3.60	2.81	3.33	2.33	2.06	2.49	241.0	0.4670
1100	2.32	3.60	2.81	3.33	2.33	2.06	2.49	225.0	0.4711
1200	2.32	3.60	2.82	3.33	2.33	2.06	2.50	209.0	0.4748
1300	2.32	3.60	2.84	3.33	2.33	2.06	2.50	191.0	0.4782
1400	2.32	3.60	2.85	3.33	2.33	2.25	2.57	172.0	0.4813
1500	2.32	3.60	2.86	3.33	2.33	2.25	2.57	154.0	0.4841
1600	2.62	3.84	3.25	3.51	2.33	2.26	2.71	195.0	0.4876
1700	2.92	3.84	3.26	3.51	2.48	2.26	2.77	184.0	0.4909
1800	2.92	3.84	3.26	3.52	2.71	2.54	2.92	746.0	0.5043
1900	3.22	3.96	3.51	3.65	2.78	2.64	3.07	1030.0	0.5228
2000	3.22	3.96	3.55	3.71	2.78	2.64	3.08	1520.0	0.5501
2100	3.27	3.96	3.58	3.71	2.78	2.64	3.09	1430.0	0.5758
2200	3.27	3.96	3.58	3.71	2.78	2.69	3.11	1140.0	0.5962
2300	3.27	3.96	3.58	3.71	2.78	2.69	3.11	888.0	0.6122
2400	3.27	3.96	3.59	3.71	2.78	2.69	3.11	699.0	0.6247
OCT. 8									
0000	3.27	3.96	3.59	3.71	2.78	2.69	3.11	699.0	0.6247
0100	3.29	3.96	3.59	3.76	2.90	2.77	3.17	580.0	0.6403
0300	3.29	3.96	3.59	3.76	2.90	2.77	3.17	425.0	0.6556
0500	3.29	3.96	3.59	3.76	2.90	2.77	3.17	321.0	0.6643
0600	3.29	3.96	3.59	3.76	2.90	2.77	3.17	280.0	0.6718
0800	3.29	3.96	3.59	3.76	2.90	2.77	3.17	190.0	0.6769
0900	3.29	3.96	3.59	3.76	2.90	2.77	3.17	209.0	0.6807
1000	3.29	3.96	3.59	3.76	2.90	2.77	3.17	211.0	0.6864
1200	3.29	3.96	3.59	3.76	2.90	2.77	3.17	175.0	0.6911
1300	3.31	3.96	3.59	3.76	2.90	2.77	3.17	171.0	0.6987
1700	3.31	3.96	3.59	3.76	2.90	2.77	3.17	136.0	0.7048
1800	3.31	3.96	3.59	3.76	2.90	2.77	3.17	126.0	0.7105
2200	3.31	3.96	3.59	3.76	2.90	2.77	3.17	95.0	0 7156
2400	3.31	3.96	3.59	3.76	2.90	2.77	3.17	91.0	0.7222
OCT. 9									
0000	3.31	3.96	3.59	3.76	2.90	2.77	3.17	91.0	0.7222
0600	3.31	3.96	3.59	3.76	2.90	2.77	3.17	77.0	0.7304
1200	3.31	3.96	3.59	3.76	2.90	2.77	3.17	62.0	0.7371
1800	3.31	3.96	3.59	3.76	2.90	2.77	3.17	56.0	0.7432
2400	3.31	3.96	3.59	3.76	2.90	2.77	3.17	76.0	0.7514
OCT. 10									
0000	3.31	3.96	3.59	3.76	2.90	2.77	3.17	76.0	0.7514
0600	3.31	3.96	3.59	3.76	2.90	2.77	3.17	57.0	0.7575
1200	3.31	3.96	3.59	3.76	2.90	2.77	3.17	45.0	0.7648
2400	3.31	3.96	3.59	3.76	2.90	2.77	3.17	41.0	0.7692

STA. NO. 08074500 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TEX. STORM OF MAY 6 -9 , 1982

DATE & TIME	GAGE NUMBER 4150	4200	4250	4400	204R	22R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 6										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	0.0020
0600	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	31.0	0.0042
0800	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.01	27.0	0.0049
0900	0.0	0.0	0.03	0.0	0.16	0.25	0.10	0.10	26.0	0.0054
1000	0.13	0.12	0.21	0.18	0.28	0.41	0.32	0.26	38.0	0.0061
1100	0.26	0.36	0.32	0.33	0.32	0.44	0.38	0.35	177.0	0.0093
1200	0.29	0.36	0.37	0.37	0.36	0.52	0 47	0.40	270.0	0.0141
1300	0.40	0.48	0.47	0.46	0.40	0.63	0 57	0.50	466.0	0.0225
1400	0.51	0.60	0.59	0.53	0.49	0.71	0.72	0.60	457.0	0.0307
1500	0.62	0.72	0.71	0.73	0.56	0.75	0.80	0.70	561.0	0.0408
1600	0.79	0.84	0.89	0.88	0.70	0.86	0.96	0.84	766.0	0.0545
1700	1.02	1.08	1.10	1.02	0.97	0.93	1.22	1.04	979.0	0.0721
1800	1.24	1.32	1.32	1.22	1.15	0.97	1.39	1.20	1250.0	0.0945
1900	1.33	1.44	1.41	1.32	1.18	0.97	1.47	1.27	1540.0	0.1222
2000	1.38	1.44	1.46	1.40	1.18	0.97	1.47	1.29	1560.0	0.1502
2100	1.38	1.44	1.46	1.42	1.18	0.97	1.47	1.29	1430.0	0.1759
2200	1.38	1.44	1.47	1.42	1.18	0.97	1.47	1.29	1180 0	0.1971
2300	1 38	1.44	1.48	1.52	1.18	0.97	1.47	1.31	1000.0	0.2150
2400	1.38	1.44	1.50	1.56	1.18	0.97	1 47	1.32	902.0	0.2312
MAY 7										
0000	1.38	1.44	1.50	1.56	1.18	0.97	1.47	1.32	902.0	0.2312
0100	1.40	1.44	1.51	1.56	1.18	0.97	1.47	1.32	816.0	0.2459
0200	1.41	1.44	1.52	1.56	1.18	0.97	1.47	1.32	750.0	0.2593
0300	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	672.0	0.2835
0600	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	452.0	0.3038
0800	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	364.0	0.3201
1100	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	285.0	0.3303
1200	1.42	1.44	1.52	1.56	1.18	0.97	1 47	1.32	221.0	0.3343
1300	1.42	1.44	1.52	1.56	1.18	0.97	1 47	1.32	249.0	0.3477
1800	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	177.0	0.3652
2400	1.42	1.44	1.52	1.56	1 18	0.97	1 47	1 32	143.0	0.3806
MAY 8										
0000	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	143.0	0.3806
0600	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	80.0	0.3878
1000	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	60.0	0.3910
1200	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	74.0	0.3963
1800	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	59.0	0.4027
2400	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	51.0	0.4109
MAY 9										
0000	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	51.0	0.4109
1200	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	36.0	0.4187
2400	1.42	1.44	1.52	1.56	1.18	0.97	1.47	1.32	38.0	0.4228

STA. NO. 08074500 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TEX. STORM OF MAY 12-21, 1982

DATE & TIME	GAGE NUMBER 4150	4200	4250	4400	205R	204R	22R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 12										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	0.0003
0100	0.0	0.0	0.0	0.0	0.0	0.0	0 01	0.00	38.0	0.0010
0200	0.0	0.12	0.0	0.0	0.0	0.0	0.08	0.03	40.0	0.0017
0300	0.0	0.12	0.0	0.0	0.0	0.0	0.08	0.03	41.0	0.0025
0400	0.0	0.12	0.0	0.0	0.0	0.07	0.09	0.04	43.0	0.0033
0500	0.0	0.12	0.0	0.0	0.0	0.22	0.44	0.16	40.0	0.0040
0600	0.08	0.24	0.12	0.18	0.0	0.38	1.69	0.56	67.0	0.0052
0700	0.92	0.60	0.78	0.56	0.0	1.38	1.74	0.99	165.0	0.0081
0800	0.93	0.60	0.79	0.59	0.0	1.38	1.74	1.00	1200.0	0.0297
0900	0.93	0.60	0.85	0.59	0.0	1.38	1.74	1.01	1600.0	0.0584
1000	0.93	0.60	0.86	0.59	0.0	1.38	1.74	1.01	1520.0	0.0993
1200	0.93	0.60	0.86	0.59	0.0	1.38	1.74	1.01	1200.0	0.1424
1400	0.93	0.60	0.86	0.59	0.0	1.38	1.74	1.01	909.0	0.1751
1600	0.93	0.60	0.86	0.59	0.0	1.38	1.74	1.01	785.0	0.1962
1700	0.93	0.60	0.86	0.59	0.0	1.38	1.74	1.01	799.0	0.2106
1800	0.93	0.60	0.86	0.59	0.0	1.38	1.74	1.01	799.0	0.2393
2100	0.93	0.60	0.86	0.59	0.0	1.38	1.74	1 01	627.0	0.2730
2400	0.93	0.60	0.86	0.59	0.0	1.38	1.74	1.01	486.0	0.2905
MAY 13										
0000	0.93	0.60	0.86	0.59	0.0	1.38	1.74	1.01	486.0	0.2905
0100	1.02	0.60	0.86	0.59	0.0	1.38	1.74	1.02	444.0	0.2985
0200	2.16	0.60	0.86	0.59	0.0	1.38	1.74	1.13	393.0	0.3055
0300	2.45	0.60	0.86	0.59	0.0	1.38	1.74	1.16	381.0	0.3124
0400	2.75	0.60	0.86	0.59	0.0	1.38	1.74	1.19	331.0	0.3183
0500	3.23	0.60	0.86	0.59	0.0	1.38	1.74	1.24	282.0	0.3234
0600	3.26	0.60	0.86	0.59	0.0	1.38	1.74	1.24	264.0	0.3281
0700	3.26	0.60	0.86	0.59	0 0	1.38	1.75	1.24	241.0	0.3324
0800	3.26	0.60	0.86	0.59	0.0	1.38	1.76	1.25	223.0	0.3364
0900	3.26	0.60	0.86	0.59	0.0	1.38	1.76	1.25	211.0	0.3402
1000	3.26	0.60	0.86	0.59	0.0	1.38	1.76	1.25	213.0	0.3441
1100	3.26	0.60	0.86	0.59	0.0	1.38	2.83	1.51	228.0	0.3482
1200	3.26	0.60	0.86	0.59	0.0	1.38	4.68	1.98	213.0	0.3520
1300	3.26	0.84	0.89	0.59	0.20	2.42	5.44	2.42	221.0	0.3559
1400	3.26	2.28	2.22	1.88	1.61	2.80	6.04	3.26	2600.0	0.4026
1500	3.26	2.64	2.64	2.41	2.05	3.14	6.37	3.61	5480.0	0.5010
1600	3.26	3.00	3.00	2.78	2.36	3.48	6.51	3.87	6740.0	0.6221
1700	3.26	3.60	3.32	3.30	2.91	3.63	6.55	4.13	8360.0	0.7722
1800	3.26	3.60	3.35	3.34	2.96	3.63	6.55	4.15	9090.0	0.9354
1900	3.26	3.60	3.35	3.35	2.96	3.63	6.56	4.15	8770.0	1.0929
2000	3.26	3.60	3.36	3.35	2.96	3.63	6.56	4.15	8540.0	1.2462

STA. NO. 08074500 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TEX. — STORM OF MAY 12-21, 1982

DATE & TIME	GAGE NUMBER 4150	4200	4250	4400	205R	204R	22R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13										
2100	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	6370.0	1.3606
2200	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	5030.0	1.4960
2400	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	3260.0	1.5839
MAY 14										
0000	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	3260.0	1.5839
0100	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	2580.0	1.6533
0300	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	1880.0	1.7377
0600	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	1490.0	1.8314
1000	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	1140.0	1.8928
1200	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	1050.0	1.9682
1800	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	782.0	2.0524
2400	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	596.0	2.1167
MAY 15										
0000	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	596.0	2.1167
0600	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	460.0	2.1662
1200	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	347.0	2.1911
1400	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	298.0	2.1992
1500	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	326.0	2.2109
1800	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	267.0	2.2228
2000	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	241.0	2.2337
2300	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	223.0	2.2417
2400	3.26	3.60	3.38	3.35	2.96	3.63	6 56	4.16	231.0	2.2458
MAY 16										
0000	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	231.0	2.2458
0100	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	211.0	2.2534
0400	3.26	3.60	3.38	3.35	2 96	3.63	6.56	4.16	228.0	2.2636
0600	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	213.0	2.2789
1200	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	186.0	2.2990
1800	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	178.0	2.3181
2400	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	158.0	2.3323
MAY 17										
0000	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	158.0	2.3323
0400	3.26	3.60	3.38	3.35	2.96	3.63	6.56	4.16	149.0	2.3390
0500	3.38	3.60	3.38	3.35	2.96	3.63	6.56	4.17	143.0	2.3416
0600	4.26	3.60	3.38	3.35	2.96	3.63	6.56	4.26	138.0	2.3441
0700	4.34	3.60	3.38	3.35	2.96	3.63	6.56	4.26	130.0	2.3464
0800	4.36	3.60	3.38	3.35	2.96	3.63	6.56	4.27	125.0	2.3498
1000	4.36	3.60	3.38	3.35	2.96	3.63	6.56	4.27	117.0	2.3540
1200	4.36	3.60	3.38	3.35	2.96	3.63	6.56	4.27	126.0	2.3585
1400	4.36	3.60	3.38	3.35	2.96	3.63	6.56	4.27	130.0	2.3620
1500	4.36	3.60	3.38	3.35	2.96	3.63	6.71	4.30	158.0	2.3648
1600	4.36	3.60	3.38	3.35	2.96	3.63	8.25	4.69	151.0	2.3675
1700	4.36	4.20	3.38	3.48	3.62	3.63	8.31	4.85	140.0	2.3701

STA. NO. 08074500	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR		
WHITEOAK BAYOU AT HOUSTON, TEX.	STORM OF MAY 12-21, 1982							ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM RUNOFF
DATE & TIME	GAGE NUMBER							IN.	CFS	IN.
	4150	4200	4250	4400	205R	204R	22R			
MAY 17										
1800	4.36	5.52	4.16	3.65	5.14	3.85	8.33	5.30	839.0	2.3851
1900	4.36	5.52	4.20	3.77	5.21	3.85	8.33	5.33	2720.0	2.4340
2000	4.36	5.52	4.24	3.77	5.23	3.85	8.33	5.34	2250.0	2.4946
2200	4.36	5.52	4.24	3.77	5.23	3.85	8.33	5.34	1630.0	2.5531
2400	4.36	5.52	4.24	3.77	5.23	3.85	8.33	5.34	1460.0	2.6186
MAY 18										
0000	4.36	5.52	4.24	3.77	5.23	3.85	8.33	5.34	1460.0	2.6186
0300	4.36	5.52	4.24	3.77	5.23	3.85	8.33	5.34	1140.0	2.6800
0600	4.36	5.52	4.24	3.77	5.23	3.85	8.33	5.34	867.0	2.7501
1200	4.36	5.52	4.24	3.77	5.23	3.85	8.33	5.34	564.0	2.7855
1300	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	539.0	2.8146
1800	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	404.0	2.8508
2300	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	309.0	2.8675
2400	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	314.0	2.8731
MAY 19										
0000	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	314.0	2.8731
0100	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	326.0	2.8790
0200	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	293.0	2.8842
0300	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	296.0	2.8896
0400	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	290.0	2.8948
0500	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	296.0	2.9001
0600	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	270.0	2.9073
0800	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	236.0	2.9137
0900	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	211.0	2.9175
1000	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	211.0	2.9213
1100	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	223.0	2.9253
1200	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	202.0	2.9325
1500	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	228.0	2.9428
1700	4.36	5.64	4.24	3.77	5.23	3.85	8.33	5.34	213.0	2.9485
1800	4.36	5.64	4.24	3.77	5.23	3.85	8.57	5.40	204.0	2.9522
1900	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	197.0	2.9628
2400	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	226.0	2.9790
MAY 20										
0000	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	226.0	2.9790
0300	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	221.0	2.9909
0600	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	238.0	3.0037
0900	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	202.0	3.0182
1400	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	238.0	3.0503
2400	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	163.0	3.0825
MAY 21										
0000	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	163.0	3.0825
1200	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	114.0	3.1070
2400	4.36	5.64	4.24	3.77	5.23	3.85	8.59	5.41	95.0	3.1173

LITTLE WHITEOAK BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Little Whiteoak Bayou drainage basin are shown in figure 10.

Weighted-mean rainfall for the 1982 water year was not determined.

The storms of Oct. 5-8, May 6-7, May 13-15, and June 22-23 were selected for analysis at station 08074540, Little Whiteoak Bayou at Houston.

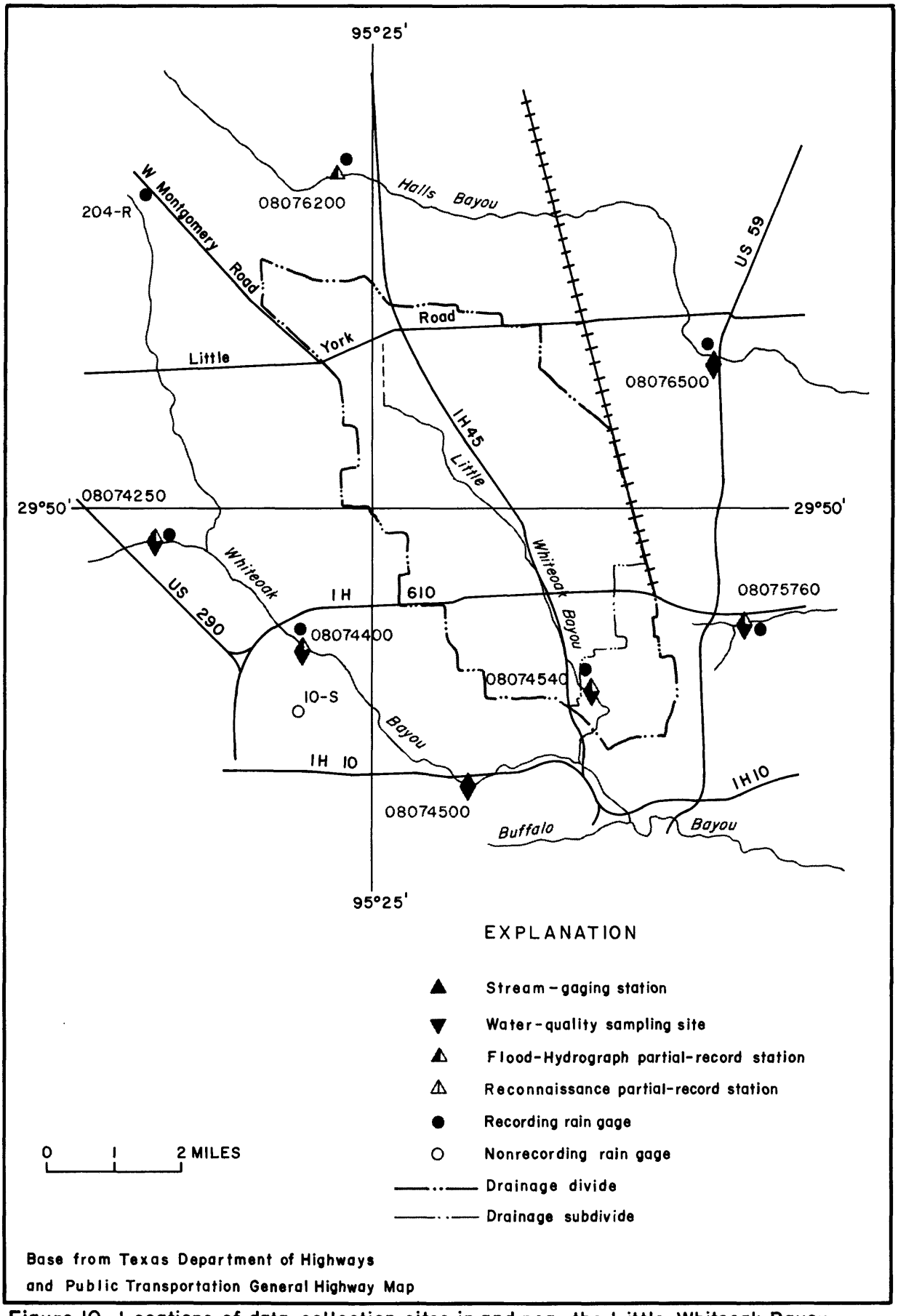

Figure 10.-Locations of data-collection sites in and near the Little Whiteoak Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 9.--Storm rainfall-runoff data, 1982 Water Year, Little Whiteoak Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Little Whiteoak Bayou at Trimble Street, Houston, Tx. (Drainage area -- 18.0 mi^2)								
Oct. 5, 1981	7.0	1.46	0.23	0.47	0.80	1.43	0.34	563
Oct. 6, 1981	2.0	1.45	.76	1.51	1.92			1,870
Oct. 7-8, 1981	5.0	1.35	.16	.33	.66			862
May 6-7, 1982	9.0	1.59	0.12	0.24	0.36	0.44	0.28	604
May 13-15, 1982	3.5	2.75	0.54	1.09	1.35	1.65	0.60	2,620*
June 22-23, 1982	0.5	0.42	0.11	0.22	0.42	0.16	0.39	572

* - Annual peak discharge for 1982 WY

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

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

DRAINAGE AREA.--18.0 mi² (46.6 km²).

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1981". The record for June to September 1979 was published in the 1979 edition of this publication as station Little Whiteoak Bayou at Houston (08074550).

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

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

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 6	1845	1,870	53.0	30.93	9.427	May 13	1715	*2,620	74.2	34.59	10.543
Nov. 29	unknown	1,800	51.0	30.71	9.360	May 17	1900	1,480	41.9	30.80	9.388

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	·STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	0920	3.1	864	7.7	11.5	15	2.8	3.0	27	4.9	200000	12000
MAY												
06...	1700	345	177	7.9	22.0	50	58	6.7	8	19	190000	180000
06...	1915	598	168	7.8	21.0	40	72	6.7	76	18	420000	200000
06...	2215	316	183	7.6	21.0	50	44	6.8	77	12	520000	150000
07...	1110	26	355	7.3	19.5	50	16	5.7	62	6.6	500000	90000
JUN												
21...	1145	5.2	520	7.5	28.5	30	6.7	1.8	23	10	600000	110000
22...	0952	439	275	7.5	26.0	50	78	7.7	94	22	400000	230000
22...	1025	588	200	7.3	25.0	50	140	6.5	78	29	540000	340000
22...	1115	415	142	7.6	24.5	40	100	7.0	83	28	190000	180000
23...	0845	6.9	296	7.3	27.0	40	11	1.2	15	6.3	160000	3200

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
06...	57	0	20	1.8	10	.6	3.3	64	6.0	11	.2	4.7
06...	58	0	20	1.9	10	.6	2.9	59	13	8.5	.2	5.0
06...	62	0	21	2.2	10	.6	3.5	69	7.0	9.2	.3	6.0
07...	120	0	38	5.2	22	.9	4.2	120	21	21	.4	10
JUN												
21...	120	0	37	7.5	61	2.5	4.1	160	23	51	.4	13
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
18...	--	2	0	.14	.070	.21	2.90	.00	2.90	1.10	6.8
MAY											
06...	96	137	25	.28	.080	.36	.440	1.9	2.30	.510	25
06...	96	262	16	.24	.080	.32	.600	2.8	3.40	.750	34
06...	101	125	16	.33	.060	.39	.610	1.9	2.50	.630	20
07...	194	13	1	.36	.100	.46	.990	1.3	2.30	.580	13
JUN											
21...	?93	11	10	.05	.270	.32	.570	1.4	2.00	.800	20
22...	--	316	55	.29	.050	.34	.570	2.3	2.90	.650	38
22...	--	440	81	.54	.050	.59	.680	2.5	3.20	.550	35
22...	--	321	52	.54	.050	.59	.370	1.1	1.50	.380	25
23...	--	30	12	.41	.110	.52	.710	1.9	2.60	.450	13

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY							
06...	1700	13	48	<3	<10	4	90
06...	2215	12	63	<3	10	4	99
JUN							
21...	1145	14	130	<1	10	5	18
22...	0952	25	200	<1	<10	3	100
22...	1115	34	<100	<1	<10	6	90
23...	0845	39	100	<1	<10	7	100

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY						
06...	10	15	<.1	<1	<1	19
06...	8	18	<.1	<1	<1	18
JUN						
21...	2	7	.1	1	<1	<3
22...	3	80	<.1	<1	<1	20
22...	5	10	<.1	<1	<1	10
23...	3	10	.1	<1	<1	20

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
JUN								
21...	1145	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
22...	0952	<.10	<.10	<.10	<.10	<.10	<2.0	.3
22...	1115	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
23...	0845	<.10	<.10	.20	<.10	<.10	<2.0	2.3

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
JUN							
21...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
22...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
22...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
23...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08074540 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

LITTLE WHITEOAK BAYOU AT TRIMBLE ST, HOUSTON, TEX. — STORM OF OCT. 5 -8 , 1981

DATE & TIME	GAGE NUMBER 4250	4540	6200	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 5						
0000	0.0	0.0	0.0	0.0	3.0	0.0013
1000	0.0	0.0	0.0	0.0	3.0	0.0026
1030	0.0	0.25	0.0	0.15	3.0	0.0028
1130	0.0	0.25	0.0	0.15	3.0	0.0030
1200	0.0	0.34	0.0	0.20	3.0	0.0032
1230	0.04	0.35	0.0	0.21	3.0	0.0033
1300	0.04	0.36	0.0	0.22	3.0	0.0034
1330	0.05	0.36	0.0	0.22	3.0	0.0036
1400	0.05	0.36	0.0	0.22	3.0	0.0037
1430	0.05	0.40	0.0	0.24	30.0	0.0050
1500	0.23	0.73	0.0	0.46	68.0	0.0079
1530	0.56	1.20	0.0	0.78	336.0	0.0224
1600	0.60	1.34	0.0	0.86	388.0	0.0391
1630	0.61	1.49	0.0	0.95	499.0	0.0605
1700	0.78	1.61	0.0	1.04	525.0	0.0831
1730	0.82	1.62	0.0	1.05	480.0	0.1038
1800	0.83	1.72	0.0	1.11	394.0	0.1208
1830	0.95	2.06	0.0	1.33	401.0	0.1380
1900	1.10	2.20	0.0	1.43	549.0	0.1617
1930	1.10	2.20	0.0	1.43	563.0	0.1859
2000	1.12	2.22	0.0	1.44	499.0	0.2074
2030	1.12	2.23	0.0	1.45	405.0	0.2248
2100	1.12	2.23	0.0	1.45	306.0	0.2380
2130	1.12	2.23	0.0	1.45	229.0	0.2478
2200	1.12	2.23	0.0	1.45	170.0	0.2551
2230	1.12	2.24	0.0	1.46	133.0	0.2637
2330	1.12	2.24	0.0	1.46	87.0	0.2693
2400	1.12	2.24	0.0	1.46	72.0	0.2895
OCT. 6						
0000	1.12	2.24	0.0	1.46	72.0	0.2895
0600	1.12	2.24	0.0	1.46	27.0	0.3034
1200	1.12	2.25	0.0	1.46	13.0	0.3074
1300	1.13	2.25	0.0	1.46	12.0	0.3084
1400	1.15	2.25	0.0	1.46	11.0	0.3093
1500	1.16	2.25	0.0	1.47	9.3	0.3099
1530	1.16	2.25	0.0	1.47	8.6	0.3103
1600	1.16	2.51	0.0	1.62	8.0	0.3107
1630	1.16	2.89	0.0	1.85	282.0	0.3228
1700	1.16	3.24	0.0	2.06	403.0	0.3401
1730	2.67	3.31	0.60	2.43	450.0	0.3595

STA. NO. 08074540 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

LITTLE WHITEOAK BAYOU AT TRIMBLE ST, HOUSTON, TEX. STORM OF OCT. 5 -8 , 1981

DATE & TIME	GAGE NUMBER 4250	4540	6200	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 6						
1800	2.71	3.32	1.92	2.84	857.0	0.3964
1830	2.71	3.32	1.92	2.84	1450.0	0.4432
1845	2.71	3.32	1.92	2.84	1870.0	0.4835
1900	2.71	3.32	1.92	2.84	1850.0	0.5432
1930	2.71	3.32	1.92	2.84	1800.0	0.6207
2000	2.71	3.32	1.92	2.84	1580.0	0.6887
2030	2.72	3.32	1.92	2.84	1330.0	0.7745
2130	2.72	3.32	1.92	2.84	857.0	0.8299
2200	2.72	3.32	1.92	2.84	677.0	0.8590
2230	2.73	3.33	2.04	2.88	536.0	0.8821
2300	2.77	3.35	2.04	2.90	439.0	0.9010
2330	2.78	3.36	2.04	2.91	368.0	0.9168
2400	2.79	3.36	2.04	2.91	316.0	0.9508
OCT. 7						
0000	2.79	3.36	2.04	2.91	316.0	0.9508
0200	2.79	3.36	2.04	2.91	182.0	0.9822
0400	2.79	3.36	2.04	2.91	111.0	1.0013
0600	2.80	3.36	2.04	2.91	71.0	1.0166
0900	2.80	3.36	2.04	2.91	45.0	1.0243
1000	2.81	3.36	2.04	2.91	39.0	1.0293
1200	2.82	3.36	2.04	2.91	29.0	1.0331
1300	2.84	3.46	2.04	2.97	25.0	1.0352
1400	2.85	3.46	2.04	2.97	22.0	1.0371
1500	2.86	3.59	2.04	3.05	19.0	1.0388
1600	3.25	3.60	2.04	3.10	16.0	1.0401
1700	3.26	3.60	2.28	3.17	15.0	1.0414
1800	3.26	4.05	2.28	3.44	142.0	1.0536
1900	3.51	4.71	2.88	4.04	671.0	1.1114
2000	3.55	4.84	2.88	4.12	862.0	1.1856
2100	3.58	4.93	2.88	4.18	767.0	1.2517
2200	3.58	4.93	2.88	4.18	510.0	1.2956
2300	3.58	4.94	2.88	4.19	320.0	1.3231
2400	3.59	4.94	2.88	4.19	225.0	1.3618
OCT. 8						
0000	3.59	4.94	2.88	4.19	225.0	1.3618
0300	3.59	4.97	3.00	4.24	108.0	1.3897
0600	3.59	4.98	3.00	4.25	60.0	1.4052
0900	3.59	4.99	3.00	4.25	39.0	1.4153
1200	3.59	4.99	3.00	4.25	25.0	1.4250
1800	3.59	4.99	3.00	4.25	12.0	1.4312
2400	3.59	4.99	3.00	4.25	7.0	1.4330

STA. NO. 08074540 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

LITTLE WHITEOAK BAYOU AT TRIMBLE ST, HOUSTON, TEX. STORM OF MAY 6 -7 , 1982

DATE & TIME	GAGE NUMBER 4400	4540	6200	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 6						
0000	0.0	0.0	0.0	0.0	3.0	0.0011
0830	0.0	0.0	0.0	0.0	3.0	0.0023
0930	0.0	0.08	0.12	0.08	3.0	0.0025
1000	0.18	0.19	0.24	0.20	3.0	0.0026
1030	0.24	0.28	0.24	0.26	3.0	0.0028
1100	0.33	0.39	0.36	0.37	57.0	0.0052
1130	0.35	0.41	0.36	0.38	103.0	0.0097
1200	0.37	0.43	0.36	0.40	120.0	0.0148
1230	0.38	0.44	0.36	0.40	119.0	0.0200
1300	0.46	0.50	0.48	0.49	112.0	0.0248
1330	0.52	0.52	0.48	0.51	109.0	0.0295
1400	0.53	0.57	0.60	0.57	120.0	0.0346
1430	0.60	0.63	0.60	0.61	133.0	0.0404
1500	0.73	0.71	0.72	0.72	162.0	0.0473
1530	0.78	0.81	0.72	0.78	214.0	0.0565
1600	0.88	0.92	0.84	0.89	246.0	0.0671
1630	0.95	1.02	0.84	0.95	296.0	0.0799
1700	1.02	1.10	1.08	1.08	345.0	0.0947
1730	1.14	1.24	1.20	1.21	396.0	0.1118
1800	1.22	1.34	1.32	1.31	471.0	0.1320
1830	1.28	1.42	1.44	1.40	542.0	0.1554
1900	1.32	1.50	1.44	1.45	588.0	0.1807
1930	1.38	1.53	1.44	1.47	604.0	0.2067
2000	1.40	1.54	1.44	1.48	586.0	0.2319
2030	1.42	1.54	1.44	1.49	547.0	0.2554
2100	1.42	1.55	1.44	1.49	484.0	0.2867
2200	1.42	1.55	1.44	1.49	347.0	0.3091
2230	1.48	1.55	1.44	1.50	290.0	0.3216
2300	1.52	1.55	1.44	1.51	246.0	0.3322
2330	1.56	1.56	1.44	1.52	214.0	0.3414
2400	1.56	1.58	1.44	1.53	193.0	0.3538
MAY 7						
0000	1.56	1.58	1.44	1.53	193.0	0.3538
0100	1.56	1.60	1.44	1.54	167.0	0.3682
0200	1.56	1.62	1.56	1.59	141.0	0.3986
0600	1.56	1.63	1.56	1.59	58.0	0.4235
1200	1.56	1.63	1.56	1.59	23.0	0.4354
1800	1.56	1.63	1.56	1.59	11.0	0.4411
2400	1.56	1.63	1.56	1.59	6.0	0.4426

STA. NO. 08074540 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

LITTLE WHITEOAK BAYOU AT TRIMBLE ST, HOUSTON, TEX. STORM OF MAY 13-15, 1982

DATE & TIME	GAGE NUMBER 4400	5760	6200	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13						
0000	0.0	0.0	0.0	0.0	31.0	0.0080
0600	0.0	0.0	0.0	0.0	13.0	0.0147
1200	0.0	0.0	0.0	0.0	8.0	0.0170
1230	0.0	0.0	0.12	0.04	17.0	0.0177
1300	0.0	0.0	0.48	0.14	26.0	0.0188
1330	1.09	0.40	1.08	0.85	191.0	0.0270
1400	1.29	1.35	1.32	1.32	913.0	0.0663
1430	1.62	1.70	1.56	1.63	1310.0	0.1227
1500	1.82	2.00	1.80	1.88	1670.0	0.1946
1530	1.93	2.10	1.92	1.99	1910.0	0.2768
1600	2.19	2.25	2.04	2.17	2050.0	0.3651
1630	2.51	2.55	2.28	2.45	2310.0	0.4645
1700	2.71	2.90	2.40	2.68	2570.0	0.5475
1715	2.72	3.00	2.40	2.72	2620.0	0.6038
1730	2.73	3.00	2.40	2.73	2610.0	0.6881
1800	2.75	3.05	2.40	2.75	2460.0	0.7940
1830	2.76	3.05	2.40	2.75	2210.0	0.9367
1930	2.76	3.05	2.40	2.75	1680.0	1.0813
2030	2.76	3.05	2.40	2.75	1260.0	1.1898
2130	2.76	3.05	2.40	2.75	949.0	1.2715
2230	2.76	3.05	2.40	2.75	700.0	1.3317
2330	2.76	3.05	2.40	2.75	542.0	1.3667
2400	2.76	3.05	2.40	2.75	486.0	1.4190
MAY 14						
0000	2.76	3.05	2.40	2.75	486.0	1.4190
0200	2.76	3.05	2.40	2.75	326.0	1.4752
0400	2.76	3.05	2.40	2.75	238.0	1.5161
0600	2.76	3.05	2.40	2.75	175.0	1.5463
0800	2.76	3.05	2.40	2.75	133.0	1.5692
1000	2.76	3.05	2.40	2.75	101.0	1.5866
1200	2.76	3.05	2.40	2.75	78.0	1.6000
1400	2.76	3.05	2.40	2.75	60.0	1.6155
1800	2.76	3.05	2.40	2.75	32.0	1.6293
2400	2.76	3.05	2.40	2.75	13.0	1.6360
MAY 15						
0000	2.76	3.05	2.40	2.75	13.0	1.6360
0600	2.76	3.05	2.40	2.75	8.0	1.6401
1200	2.76	3.05	2.40	2.75	5.0	1.6427
1800	2.76	3.05	2.40	2.75	4.0	1.6447
2400	2.76	3.05	2.40	2.75	3.0	1.6455

STA. NO. 08074540 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

LITTLE WHITEOAK BAYOU AT TRIMBLE ST, HOUSTON, TEX. — STORM OF JUNE 22-23, 1982

DATE & TIME	GAGE NUMBER 4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JUNE22				
0000	0.0	0.0	5.0	0.0013
0600	0.0	0.0	5.0	0.0029
0730	0.0	0.0	5.0	0.0033
0800	0.20	0.20	5.0	0.0036
0830	0.42	0.42	5.0	0.0038
0900	0.42	0.42	5.0	0.0041
1000	0.42	0.42	521.0	0.0377
1030	0.42	0.42	572.0	0.0747
1130	0.42	0.42	344.0	0.0969
1200	0.42	0.42	226.0	0.1066
1230	0.42	0.42	156.0	0.1133
1300	0.42	0.42	110.0	0.1180
1330	0.42	0.42	84.0	0.1235
1430	0.42	0.42	59.0	0.1349
1800	0.42	0.42	29.0	0.1468
2400	0.42	0.42	13.0	0.1504
JUNE23				
0000	0.42	0.42	13.0	0.1504
0030	0.42	0.42	13.0	0.1538
0600	0.42	0.42	8.0	0.1577
1200	0.42	0.42	6.0	0.1608
1800	0.42	0.42	5.0	0.1634
2400	0.42	0.42	4.0	0.1644

BRAYS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Brays Bayou drainage basin are shown in figure 11.

Keegans Bayou, Bintliff Ditch, and Hummingbird Street Ditch are shown as separate drainage basins within the Brays Bayou section.

Weighted-mean rainfall in the drainage basin for the 1982 water year based on nine rain gages was 38.86 inches or 9.33 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
8.30	2.97	1.41	2.07	2.56	1.48	2.94	6.84	2.03	3.03	3.20	2.03	38.86

The storms of Oct. 31-Nov. 2, and May 13-15 were selected for analysis at station 08074760, Brays Bayou at Alief, Tex. The storms of Oct. 31-Nov. 2, Nov. 29-Dec. 1, and May 13-16 were selected for analysis at station 08074810, Brays Bayou at Gessner Drive, Houston, and at station 08075000, Brays Bayou at Houston.

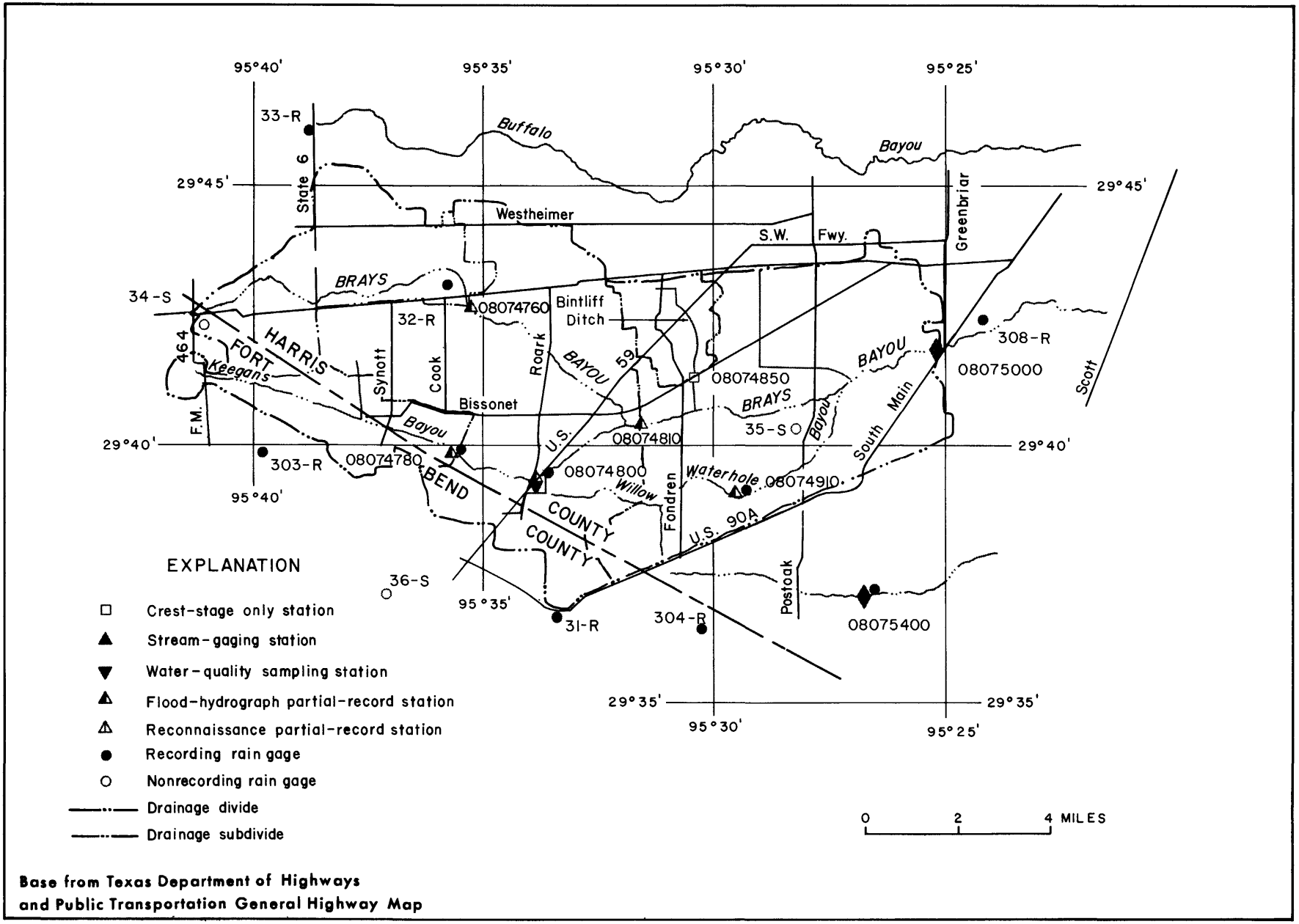

Figure 11.- Locations of data-collection sites in and near the Brays Bayou drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 10--Storm rainfall-runoff data, 1982 Water Year, Brays Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brays Bayou at Alief, Tx. (Drainage area -- 14.1 mi^2)								
Oct. 31-Nov.2,1981	4.5	4.30	0.48	0.96	1.91	1.95	0.45	1,930
May 13-15, 1982	4.0	3.51	0.53	1.06	1.69	2.25	0.64	2,150*
Brays Bayou at Gessner Dr., Houston, Tx. (Drainage area -- 53.2 mi^2)								
Oct. 31-Nov.2,1981	4.8	3.79	0.70	1.32	1.91	1.55	0.41	5,360
Nov.29-Dec.1,1981	4.5	2.06	0.60	1.07	1.87	0.76	0.37	3,860
May 13-16, 1982	4.3	3.34	0.97	1.06	1.69	2.46	0.74	9,220*,r

* - Annual peak discharge for 1982 WY
r - Peak discharge value has been revised from that published in USGS Water Resources Data for Texas, Vol. 2, 1982.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table10.--Storm rainfall-runoff data, 1982 Water Year, Brays Bayou -- Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brays Bayou at Houston, Tx. (Drainage area -- 94.9 mi^2)								
Oct.31-Nov.3,1981	5.5	3.16	0.70	1.35	1.91	1.38	0.44	7,770
Nov.29-Dec.2,1981	6.5	1.89	0.90	1.07	1.87	0.84	0.44	6,950
May 13-17, 1982	5.0	3.91	0.72	1.17	1.77	2.60	0.66	17,700*

* - Annual peak discharge for 1982 WY.

08074760 BRAYS BAYOU AT ALIEF, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°42'39", long 95°35'13", Harris County, Hydrologic unit 12040104, near center of channel on downstream side of bridge on High Star Street in Alief, Tex.

DRAINAGE AREA.--14.1 mi^2. Prior to Jan. 1, 1978, 12.9 mi^2.

PERIOD OF RECORD.--Feb. 3, 1977 to present.

GAGE.--Digital flood-hydrograph recorder and crest-stage gage. Datum of gage is 55.88 ft National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 4,580 ft^3/s, Aug. 31, 1981. (Gage-height 19.59 ft). Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 300 ft^3/s or maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 31	1700	1,930	14.27
May 13	1800	*2,150	14.78
May 17	2130	804	11.20
Aug. 8	unknown	346	9.73

Minimum discharge not determined.

STA. NO. 08074760 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BRAYS BAYOU AT ALIEF, TEX. STORM OF OCT. 31 TO NOV. 2 , 1981

DATE & TIME	GAGE NUMBER 32R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 31				
0000	0.0	0.0	6.0	0.0023
0700	0.0	0.0	6.0	0.0048
0730	0.02	0.02	6.0	0.0051
0800	0.08	0.08	6.0	0.0056
0900	0.15	0.15	6.0	0.0063
1000	0.26	0.26	8.0	0.0069
1030	0.38	0.38	10.0	0.0075
1100	0.52	0.52	12.0	0.0081
1130	0.80	0.80	16.0	0.0090
1200	1.10	1.10	20.0	0.0101
1230	1.46	1.46	25.0	0.0115
1300	1.83	1.83	30.0	0.0131
1330	2.78	2.78	35.0	0.0151
1400	3.74	3.74	45.0	0.0175
1430	3.86	3.86	60.0	0.0208
1500	4.01	4.01	148.0	0.0290
1530	4.07	4.07	297.0	0.0453
1600	4.15	4.15	1120.0	0.1068
1630	4.15	4.15	1760.0	0.2035
1700	4.15	4.15	1930.0	0.3626
1800	4.15	4.15	1800.0	0.6099
1930	4.15	4.15	1340.0	0.7940
2030	4.15	4.15	1070.0	0.9116
2130	4.15	4.15	860.0	1.0297
2300	4.15	4.15	631.0	1.0991
2330	4.17	4.17	576.0	1.1307
2400	4.23	4.23	541.0	1.1902
NOV. 1				
0000	4.23	4.23	541.0	1.1902
0130	4.25	4.25	433.0	1.3329
0600	4.30	4.30	402.0	1.4986
0900	4.30	4.30	327.0	1.6064
1200	4.30	4.30	236.0	1.6712
1400	4.30	4.30	186.0	1.7326
1800	4.30	4.30	126.0	1.8018
2400	4.30	4.30	74.0	1.8750
NOV. 2				
0000	4.30	4.30	74.0	1.8750
1200	4.30	4.30	44.0	1.9330
2400	4.30	4.30	28.0	1.9515

STA. NO. 08074760				STORM RAINFALL AND RUNOFF RECORD			1982 WATER YEAR	
BRAYS BAYOU AT ALIEF, TEX.				STORM OF MAY 13-15, 1982				
DATE & TIME	GAGE NUMBER						ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. RUNOFF
	303R	33R	32R				IN.	CFS	IN.
MAY 13									
0000	0.0	0.0	0.0				0.0	6.0	0.0020
0600	0.0	0.0	0.0				0.0	6.0	0.0056
1100	0.0	0.0	0.0				0.0	6.0	0.0074
1130	0.0	0.54	0.39				0.31	6.0	0.0077
1200	0.0	1.11	0.81				0.64	6.0	0.0081
1230	1.06	1.34	1.05				1.13	6.0	0.0084
1300	1.38	1.58	1.29				1.39	6.0	0.0087
1330	1.54	1.67	1.53				1.57	30.0	0.0104
1400	1.71	1.79	1.77				1.76	60.0	0.0137
1430	1.92	2.09	2.37				2.16	117.0	0.0201
1500	2.84	2.41	3.00				2.80	238.0	0.0332
1530	3.61	2.71	3.12				3.16	448.0	0.0578
1600	3.88	3.02	3.30				3.40	853.0	0.1047
1630	3.99	3.14	3.30				3.47	1410.0	0.1822
1700	3.99	3.26	3.31				3.50	1870.0	0.2849
1730	3.99	3.26	3.31				3.50	2120.0	0.4014
1800	3.99	3.30	3.31				3.51	2150.0	0.5196
1830	3.99	3.30	3.31				3.51	2070.0	0.6333
1900	3.99	3.31	3.31				3.51	1920.0	0.8443
2030	3.99	3.31	3.31				3.51	1460.0	1.0850
2200	3.99	3.31	3.31				3.51	1090.0	1.2647
2330	3.99	3.31	3.31				3.51	828.0	1.3557
2400	3.99	3.31	3.31				3.51	766.0	1.4609
MAY 14									
0000	3.99	3.31	3.31				3.51	766.0	1.4609
0200	3.99	3.31	3.31				3.51	567.0	1.5855
0400	3.99	3.31	3.31				3.51	440.0	1.6822
0600	3.99	3.31	3.31				3.51	356.0	1.7800
0900	3.99	3.31	3.31				3.51	274.0	1.8704
1200	3.99	3.31	3.31				3.51	221.0	1.9432
1500	3.99	3.31	3.31				3.51	178.0	2.0019
1800	3.99	3.31	3.31				3.51	145.0	2.0497
2100	3.99	3.31	3.31				3.51	114.0	2.0873
2400	3.99	3.31	3.31				3.51	90.0	2.1219
MAY 15									
0000	3.99	3.31	3.31				3.51	90.0	2.1219
0400	3.99	3.31	3.31				3.51	73.0	2.1460
0600	3.99	3.31	3.31				3.51	67.0	2.1755
1200	3.99	3.31	3.31				3.51	54.0	2.2111
1800	3.99	3.31	3.31				3.51	44.0	2.2401
2400	3.99	3.31	3.31				3.51	37.0	2.2523

KEEGANS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Keegans Bayou drainage basin are shown in figure 12.

Weighted-mean rainfall in the drainage basin, based on four rain gages for the 1982 water year was 36.39 inches or 11.80 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
6.66	3.03	1.37	2.01	3.02	1.37	3.65	6.96	1.23	2.87	2.48	1.74	36.39

The storms of Nov. 29-30 and May 13-17 were analyzed at both station 08074780, Keegans Bayou at Keegan Road near Houston and station 08074800, Keegans Bayou at Roark Road near Houston. In addition, the storms of June 18-20, July 15-17, July 30-31, and Aug. 8-11 were also selected for analysis at station 08074800, Keegans Bayou at Roark Road.

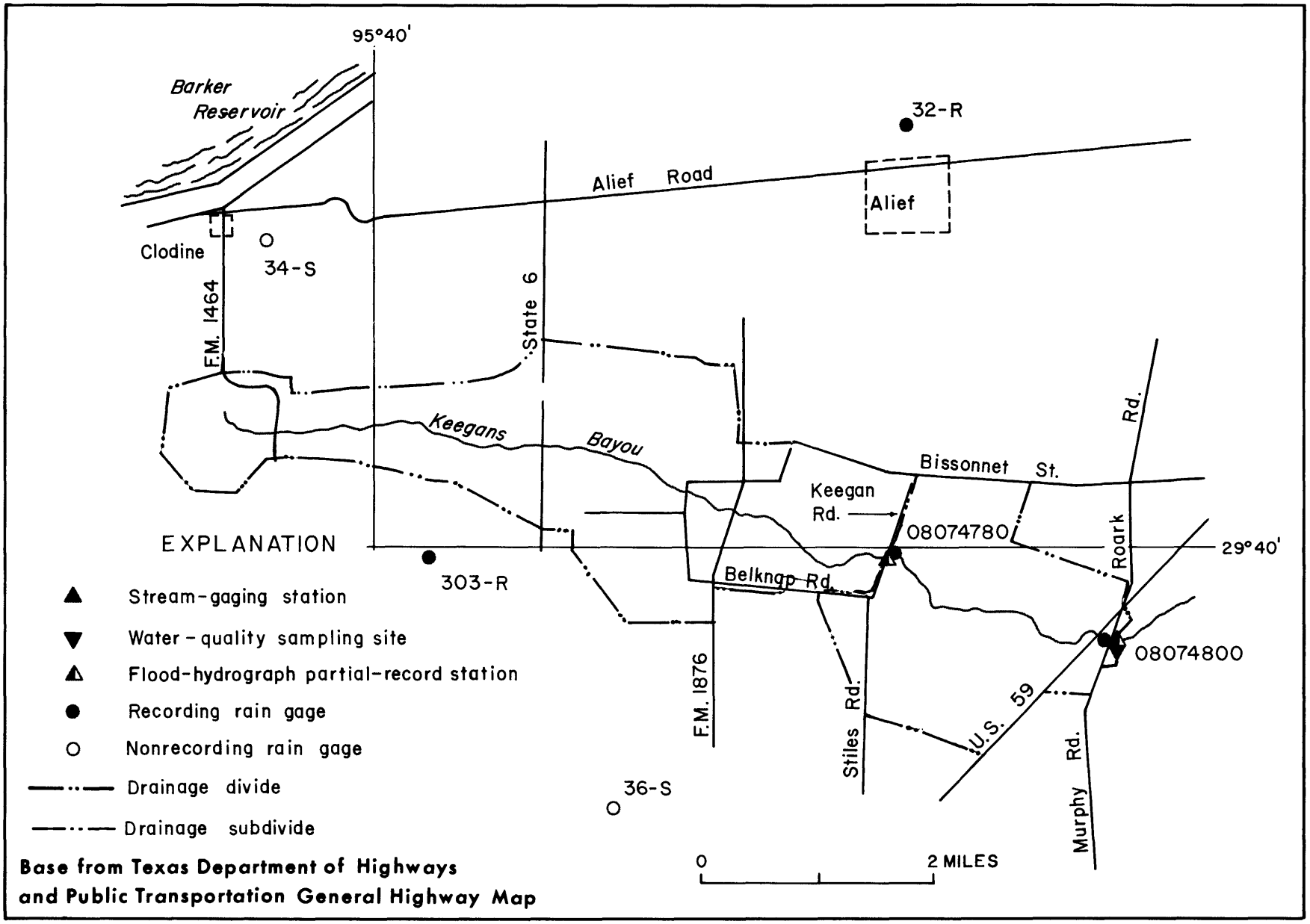

Figure 12.-Locations of data-collection sites in and near the Keegans Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table11.--Storm rainfall-runoff data, 1982 Water Year, Keegans Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Keegans Bayou at Keegan Road near Houston, Tx. (Drainage area -- 7.47 mi^2)								
Nov. 29-30, 1981	11.5	1.91	0.60	1.00	1.31	0.40	0.21	319
MaY 13-17, 1982	3.5	3.78	0.97	1.06	1.69	2.06	0.55	808*
Keegans Bayou at Roark Road near Houston, Tx. (Drainage area -- 11.5 mi^2)								
Nov.29-Dec.1,1981	11.5	2.02	0.60	1.07	1.87	0.55	0.27	930
May 13-17, 1982	3.8	3.66	0.97	1.06	1.69	2.53	0.69	2,190*
June 18-20, 1982	48.3	0.50	0.25	0.40	0.52	0.12	0.24	205

* - Annual peak discharge for 1982 WY.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 11--Storm rainfall-runoff data, 1982 Water Year, Keegans Bayou -- Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Keegans Bayou at Roark Road near Houston, Tx. -- Continued								
July 15, 1982	1.0	0.67	0.60	0.81	0.90	0.33	0.42	391
July 16-17, 1982	1.3	.10	.48	.76	.80			208
July 30-31, 1982	0.5	0.53	0.68	0.98	1.19	0.18	0.35	491
Aug. 8, 1982	1.3	1.17	0.51	0.81	1.01	0.49	0.28	174
Aug. 8, 1982	.8	.29	.27	.35	.41			302
Aug. 9, 1982	5.0	.13	.30	.32	.34			66
Aug. 10-11, 1982	5.5	.16	.14	.27	.32			70

08074780 KEEGANS BAYOU AT KEEGAN ROAD NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°39'55", long 95°35'42", Harris County, Hydrologic Unit 12040104 on downstream side of bridge on Keegan Road, 2.35 miles upstream from station, Keegans Bayou at Roark Road, and about 16 miles southwest of Houston.

DRAINAGE AREA.--7.47 mi^2. Prior to Jan. 1, 1978, 7.87 mi^2.
Prior to Oct. 1, 1973, 6.93 mi^2.

PERIOD OF RECORD.--August 1964 to September 1971; August 5, 1974 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 25, 1978 a flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 1,370 ft^3/s, Aug. 31, 1981. (Gage height 79.41 ft).
Maximum elevation 83.55 ft April 14, 1966, (prior to channel improvement).
Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 250 ft^3/s, and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 31	unknown	585	75.68
Nov. 29	1,330	319	73.87
May 13	1,645	*808	77.56

Minimum discharge not determined.

STA. NO. 08074780 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

KEEGANS BAYOU AT KEEGAN ROAD NEAR HOUSTON, TEX. STORM OF NOV. 29-30, 1981

DATE & TIME	GAGE NUMBER 4780	GAGE NUMBER 303R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29					
0000	0.0	0.0	0.0	2.0	0.0003
0130	0.0	0.0	0.0	2.0	0.0007
0145	0.03	0.10	0.07	2.0	0.0008
0200	0.03	0.15	0.10	2.0	0.0009
0230	0.03	0.17	0.11	2.0	0.0018
0600	0.03	0.18	0.12	2.0	0.0032
0930	0.07	0.18	0.14	2.0	0.0041
1030	0.11	0.18	0.15	2.0	0.0045
1100	0.17	0.23	0.21	2.0	0.0046
1115	0.17	0.33	0.27	4.0	0.0048
1130	0.46	0.68	0.59	6.0	0.0051
1145	0.47	0.82	0.68	8.0	0.0055
1200	0.48	0.82	0.68	10.0	0.0061
1215	0.88	0.92	0.90	40.0	0.0081
1230	1.48	1.32	1.38	156.0	0.0162
1245	1.52	1.32	1.40	236.0	0.0285
1300	1.79	1.41	1.56	260.0	0.0420
1315	1.91	1.43	1.62	314.0	0.0582
1330	1.92	1.43	1.63	319.0	0.0748
1345	1.93	1.43	1.63	316.0	0.0912
1400	1.97	1.43	1.65	302.0	0.1303
1500	1.99	1.43	1.65	226.0	0.1889
1630	1.99	1.43	1.65	139.0	0.2322
1800	1.99	1.43	1.65	96.0	0.2571
1900	1.99	1.43	1.65	78.0	0.2854
2130	1.99	1.43	1.65	48.0	0.3103
2400	1.99	1.43	1.65	30.0	0.3367
NOV. 30					
0000	1.99	1.43	1.65	30.0	0.3367
0600	1.99	1.43	1.65	16.0	0.3525
0930	1.99	1.43	1.65	16.0	0 3591
1000	2.10	1.48	1.73	20.0	0.3612
1030	2.12	1.48	1.74	23.0	0.3630
1045	2.19	1.63	1.85	24.0	0.3642
1100	2.22	1.69	1.90	25.0	0.3675
1200	2.23	1.69	1.91	22.0	0.3835
1800	2.23	1.69	1.91	8.0	0.3934
2400	2.23	1.69	1.91	5.0	0.3965

STA. NO. 08074780 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

KEEGANS BAYOU AT KEEGAN ROAD NEAR HOUSTON, TEX. — STORM OF MAY 13-17, 1982

DATE & TIME	GAGE NUMBER 4780	GAGE NUMBER 303R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13					
0000	0.0	0.0	0.0	0.0	0.0
1200	0.0	0.0	0.0	2.0	0.0025
1215	0.0	0.97	0.58	22.0	0.0037
1230	0.02	1.06	0.64	42.0	0.0059
1245	0.08	1.35	0.84	61.0	0.0090
1300	0.80	1.38	1.15	81.0	0.0132
1315	0.91	1.48	1.25	104.0	0.0186
1330	1.12	1.54	1.37	138.0	0.0258
1345	1.33	1.66	1.53	194.0	0.0358
1400	1.41	1.71	1.59	236.0	0.0481
1415	1.54	1.78	1.68	270.0	0.0621
1430	1.62	1.92	1.80	307.0	0.0780
1445	1.64	2.36	2.07	316.0	0.0944
1500	1.72	2.84	2.39	322.0	0.1111
1515	1.90	3.23	2.70	351.0	0.1293
1530	2.28	3.61	3.08	461.0	0.1532
1545	2.62	3.86	3.36	582.0	0.1834
1600	3.01	3.88	3.53	702.0	0.2198
1615	3.21	3.92	3.64	781.0	0.2603
1630	3.25	3.99	3.69	806.0	0.3021
1645	3.28	3.99	3.71	808.0	0.3440
1700	3.29	3.99	3.71	781.0	0.4452
1800	3.29	3.99	3.71	628.0	0.5755
1900	3.29	3.99	3.71	507.0	0.6938
2015	3.29	3.99	3.71	401.0	0.8082
2145	3.29	3.99	3.71	317.0	0.9069
2315	3.29	3.99	3.71	257.0	0.9668
2400	3.29	3.99	3.71	244.0	1.1377
MAY 14					
0000	3.29	3.99	3.71	244.0	1.1377
0600	3.29	3.99	3.71	152.0	1.3268
1200	3.30	3.99	3.71	115.0	1.4700
1800	3.30	3.99	3.71	89.0	1.5808
2400	3.30	3.99	3.71	72.0	1.8048
MAY 15					
0000	3.30	3.99	3.71	72.0	1.8048
2400	3.30	3.99	3.71	35.0	1.9790
MAY 16					
0000	3.30	3.99	3.71	35.0	1.9790
2400	3.30	3.99	3.71	14.0	2.0487
MAY 17					
0000	3.30	3.99	3.71	14.0	2.0487
2400	3.46	3.99	3.78	5.0	2.0612

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 left bank at downstream side of bridge on Roark Road in southwest Houston.

DRAINAGE AREA.--11.5 mi² (29.78 km²). Oct. 1, 1976, to Dec. 31, 1977, 12.0 mi² (31.08 km²); August 1964 to Sept. 30, 1976, 11.6 mi² (30.04 km²). Drainage area changes were the result of ditch relocations or extensions.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year (operated as a continuous-record station prior to Oct. 1, 1981).

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

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

REMARKS.--Water-discharge records poor. Channel was rectified during latter part of 1981 water year. Recording rain gage at station.

AVERAGE DISCHARGE.--17 years (water years 1965-81), 12.3 ft³/s (0.348 m³/s), 8,910 acre-ft/yr (11.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,270 ft³/s (64.3 m³/s) Aug. 31, 1981, elevation, 73.27 ft (22.33 m); maximum gage height, 74.54 ft (22.72 m) Sept. 19, 1979, occurred prior to channel rectification in 1981; no flow for many days.

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

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 31	1530	1,090	30.9	69.36	21.141
Nov. 29	1345	930	26.3	68.66	20.928
May 13	1630	*2,190	62.0	71.34	21.744
July 30	1930	491	13.9	64.68	19.714
Sept. 3	1730	432	12.2	64.30	19.599

Minimum discharge not determined.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to September 1983 (discontinued). Sediment analyses: October 1970 to September 1971.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	1105	6.3	710	7.8	15.0	10	6.1	8.8	87	1.3	K1	K1
APR												
22...	1055	29	360	7.1	16.0	90	140	7.1	72	6.3	130	2400
MAY												
07...	1230	41	340	7.6	20.5	90	110	6.3	70	4.9	3000	3000
13...	1908	1240	117	7.0	19.5	90	340	--	--	6.8	--	--
JUN												
18...	0040	46	394	--	--	--	--	--	--	--	--	--
18...	2040	44	714	--	--	10	90	--	--	--	--	--
18...	2140	161	299	--	--	10	120	--	--	--	--	--
18...	2240	73	220	--	--	20	80	--	--	--	--	--
18...	2340	51	291	--	--	--	--	--	--	--	--	--
19...	0140	40	380	--	--	30	170	--	--	--	--	--
22...	0728	2.7	750	7.7	27.5	20	21	5.0	63	5.3	K12	K8
JUL												
15...	1430	53	557	--	--	20	50	--	--	--	--	--
15...	1530	38	268	--	--	40	190	--	--	--	--	--
15...	1630	376	232	--	--	45	370	--	--	--	--	--
15...	1730	211	169	--	--	50	160	--	--	--	--	--
15...	1830	172	196	--	--	--	--	--	--	--	--	--
15...	1930	141	247	--	--	50	400	--	--	--	--	--
30...	1905	50	706	--	--	10	34	--	--	--	--	--
30...	2005	318	137	--	--	35	55	--	--	--	--	--
30...	2105	135	188	--	--	30	80	--	--	--	--	--
30...	2205	10	245	--	--	--	--	--	--	--	--	--
30...	2305	73	276	--	--	--	--	--	--	--	--	--
31...	0005	57	288	--	--	35	110	--	--	--	--	--
AUG												
08...	0530	50	489	--	--	20	22	--	--	--	--	--
08...	0630	171	139	--	--	25	65	--	--	--	--	--
08...	0730	122	133	--	--	--	--	--	--	--	--	--
08...	0830	120	239	--	--	--	--	--	--	--	--	--
08...	0930	127	241	--	--	--	--	--	--	--	--	--
08...	1030	109	228	--	--	40	110	--	--	--	--	--
08...	1635	132	246	--	28.0	50	70	--	--	--	--	--
09...	0705	23	346	--	26.0	90	70	--	--	--	--	--
09...	1500	38	321	7.3	27.0	90	60	--	--	--	--	--
10...	1040	11	540	7.1	--	30	32	--	--	--	--	--
11...	1430	8.1	591	7.6	30.5	30	85	--	--	--	--	--

SAN JACINTO RIVER BASIN

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
22...	98	11	30	5.5	29	1	7.2	87	24	34	.30	12
MAY												
07...	100	9	31	6.2	24	1	7.1	94	25	24	.50	13
13...	37	0	11	2.2	6.5	.5	3.6	39	7.0	5.8	.20	5.1
JUN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
22...	180	0	53	11	72	2	7.6	180	30	85	.30	24
JUL												
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	67	5	21	3.5	20	1	4.4	62	14	30	.10	10
09...	99	0	31	5.2	29	1	5.8	110	20	31	.30	13
09...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
18...	--	3	0	6.8	.170	7.0	1.20	1.2	2.4	4.50	8.5
APR											
22...	190	210	24	2.0	.200	2.2	.720	2.4	3.1	1.50	15
MAY											
07...	190	106	2	2.3	.200	2.5	.680	1.6	2.3	1.80	13
13...	65	636	21	.41	.150	.56	.300	1.3	1.6	.790	19
JUN											
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	144	21	--	--	--	--	--	--	--	7.7
18...	--	292	23	--	--	--	--	--	--	--	24
18...	--	185	29	--	--	--	--	--	--	--	15
18...	--	--	--	--	--	--	--	--	--	--	--
19...	--	259	22	--	--	--	--	--	--	--	17
22...	390	27	13	14	.270	14	.450	1.1	1.5	5.00	9.6
JUL											
15...	--	109	12	4.6	.390	5.0	.100	1.4	1.5	.050	12
15...	--	472	58	.33	.220	.55	.200	6.2	6.4	2.60	23
15...	--	1320	128	.82	.180	1.0	.120	2.6	2.7	1.10	33
15...	--	469	46	1.4	.060	1.5	.080	.82	.90	.080	11
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	656	76	1.6	.220	1.8	.140	2.3	2.4	3.50	16
30...	--	93	18	--	--	--	--	--	--	--	5.0
30...	--	366	52	--	--	--	--	--	--	--	11
30...	--	251	38	--	--	--	--	--	--	--	9.6
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
31...	--	212	36	--	--	--	--	--	--	--	9.3
AUG											
08...	--	85	12	4.8	.240	5.0	.410	2.1	2.5	4.00	13
08...	--	134	13	.82	.060	.88	.160	1.7	1.9	.740	10
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	218	14	1.3	.110	1.4	.280	2.3	2.6	1.30	12
08...	140	169	21	1.9	.110	2.0	.280	2.5	2.8	1.40	11
09...	200	89	13	1.7	.210	1.9	.510	2.1	2.6	.480	9.0
09...	--	103	17	1.7	.170	1.9	.430	1.5	1.9	.250	11
10...	--	43	11	3.8	.280	4.1	.650	2.6	3.2	3.70	8.5
11...	--	108	21	4.8	.380	5.2	.640	1.7	2.3	4.10	10

SAN JACINTO RIVER BASIN

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY , 1982							
13...	1908	6	26	<3	<10	3	110
JUN							
22...	0728	10	96	1	<10	6	4
AUG							
08...	1635	5	50	<1	<10	2	62
09...	0705	17	69	<1	<10	2	66

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY , 1982						
13...	3	3	<.1	<1	<1	<12
JUN						
22...	5	28	<.1	2	<1	16
AUG						
08...	<1	10	<.1	<1	<1	88
09...	<1	9	<.1	1	<1	28

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAY , 1982								
13...	1908	<.10	<.10	2.6	<.10	<.10	<2.0	.1
JUN								
22...	0728	--	--	--	--	--	<2.0	--
AUG								
08...	1635	<.10	<.10	.20	<.10	<.10	<2.0	.1
09...	0705	<.10	<.10	.90	<.10	<.10	<2.0	.2

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZ INE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAY , 1982							
13...	<.1	.10	<2.0	<2.0	.20	<.10	<.1
JUN							
22...	--	--	<2.0	<2.0	--	--	--
AUG							
08...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
09...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08074800 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX. — STORM OF NOV. 29 TO DEC. 1 , 1981

DATE & TIME	GAGE NUMBER 4780	4800	303R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29						
0000	0.0	0.0	0.0	0.0	6.7	0.0007
0130	0.0	0.0	0.0	0.0	7.8	0.0016
0145	0.03	0.0	0.10	0.06	7.8	0.0019
0200	0.03	0.0	0.15	0.08	7.8	0.0041
0600	0.03	0.0	0.18	0.09	7.4	0.0078
0930	0.07	0.0	0.18	0.11	5.8	0.0096
1030	0.11	0.0	0.18	0.13	5.6	0.0102
1100	0.17	0.0	0.23	0.18	5.6	0.0104
1115	0.17	0.0	0.33	0.22	9.8	0.0108
1130	0.46	0.10	0.68	0.52	14.0	0.0112
1145	0.47	0.16	0.82	0.60	25.0	0.0121
1200	0.48	0.22	0.82	0.61	35.0	0.0133
1215	0.88	0.38	0.92	0.85	46.0	0.0148
1230	1.48	0.90	1.32	1.35	58.0	0.0168
1245	1.52	1.45	1.32	1.42	244.0	0.0250
1300	1.79	1.70	1.41	1.61	431.0	0.0395
1315	1.91	2.25	1.43	1.73	628.0	0.0607
1330	1.92	2.28	1.43	1.74	824.0	0.0884
1345	1.93	2.30	1.43	1.74	930.0	0.1197
1400	1.97	2.35	1.43	1.76	847.0	0.1483
1415	1.99	2.39	1.43	1.78	813.0	0.2031
1500	1.99	2.39	1.43	1.78	647.0	0.2684
1545	1.99	2.39	1.43	1.78	476.0	0.3085
1615	1.99	2.39	1.43	1.78	369.0	0.3334
1645	1.99	2.39	1.43	1.78	289.0	0 3529
1715	1.99	2.39	1.43	1.78	229.0	0.3683
1745	1.99	2.39	1.43	1.78	183.0	0.3775
1800	1.99	2.39	1.43	1.78	164.0	0.3969
1930	1.99	2.39	1.43	1.78	98.0	0.4365
2400	1.99	2.39	1.43	1.78	36.0	0.4620
NOV. 30						
0000	1.99	2.39	1.43	1.78	36.0	0.4620
0600	1.99	2.39	1.43	1.78	17.0	0.4734
1000	2.10	2.39	1.48	1.85	13.0	0.4787
1200	2.23	2.55	1.69	2.02	42.0	0.5013
1800	2.23	2.55	1.69	2.02	21.0	0.5183
2400	2.23	2.55	1.69	2.02	14.0	0.5353
DEC. 1						
0000	2.23	2.55	1.69	2.02	14.0	0.5353
1200	2.23	2.55	1.69	2.02	8.3	0.5487
2400	2.23	2.55	1.69	2.02	7.2	0.5545

STA. NO. 08074800 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX. — STORM OF MAY 13-17, 1982

DATE & TIME	GAGE NUMBER 4780	4800	303R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13						
0000	0.0	0.0	0.0	0.0	9.0	0.0036
0600	0.0	0.0	0.0	0.0	7.0	0.0093
1200	0.0	0.0	0.0	0.0	8.5	0.0129
1215	0.0	0.0	0.97	0.44	8.5	0.0132
1230	0.02	0.0	1.06	0.49	8.5	0.0134
1245	0.08	0.0	1.35	0.64	8.5	0.0137
1300	0.80	0.05	1.38	0.99	106.0	0.0173
1315	0.91	0.30	1.48	1.11	205.0	0.0242
1330	1.12	0.35	1.54	1.23	201.0	0.0310
1345	1.33	0.50	1.66	1.40	260.0	0.0397
1400	1.41	0.60	1.71	1.46	388.0	0.0528
1415	1.54	0.72	1.78	1.57	477.0	0.0689
1430	1.62	0.83	1.92	1.68	653.0	0.0909
1445	1.64	1.02	2.36	1.90	786.0	0.1174
1500	1.72	1.05	2.84	2.16	840.0	0.1457
1515	1.90	1.15	3.23	2.42	923.0	0.1767
1530	2.28	1.30	3.61	2.78	1220.0	0.2178
1545	2.62	1.60	3.86	3.08	1580.0	0.2711
1600	3.01	2.16	3.88	3.32	1790.0	0.3314
1615	3.21	2.52	3.92	3.46	2090.0	0.4018
1630	3.25	2.90	3.99	3.55	2190.0	0.4755
1645	3.28	2.97	3.99	3.57	2140.0	0.5476
1700	3.29	3.00	3.99	3.58	2080.0	0.6177
1715	3.29	3.02	3.99	3.58	1920.0	0.7471
1800	3.29	3.02	3.99	3.58	1620.0	0.9381
1900	3.29	3.02	3.99	3.58	1270.0	1.0664
1930	3.29	3.02	3.99	3.58	1140.0	1.1240
1945	3.29	3.08	3.99	3.58	1080.0	1.2150
2045	3.29	3.08	3.99	3.58	851.0	1.3296
2145	3.29	3.08	3.99	3.58	688.0	1.4339
2300	3.29	3.08	3.99	3.58	546.0	1.5167
2400	3.29	3.08	3.99	3.58	476.0	1.6049
MAY 14						
0000	3.29	3.08	3.99	3.58	476.0	1.6049
0145	3.29	3.08	3.99	3.58	385.0	1.7022
0345	3.29	3.08	3.99	3.58	314.0	1.7815
0530	3.29	3.08	3.99	3.58	250.0	1.8194
0600	3.29	3.08	3.99	3.58	235.0	1.8669
0830	3.29	3.08	3.99	3.58	192.0	1.9413
1145	3.29	3.08	3.99	3.58	170.0	1.9814

STA. NO. 08074800 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX. — STORM OF MAY 13-17, 1982

DATE & TIME	GAGE NUMBER 4780	4800	303R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 14						
1200	3.30	3.08	3.99	3.59	169.0	2.0354
1630	3.30	3.08	3.99	3.59	138.0	2.0912
1800	3.30	3.08	3.99	3.59	128.0	2.1343
2130	3.30	3.08	3.99	3.59	104.0	2.1764
2400	3.30	3.08	3.99	3.59	90.0	2.2188
MAY 15						
0000	3.30	3.08	3.99	3.59	90.0	2.2188
0430	3.30	3.08	3.99	3.59	73.0	2.2483
0600	3.30	3.08	3.99	3.59	68.0	2.2827
1200	3.30	3.08	3.99	3.59	60.0	2.3312
1800	3.30	3.08	3.99	3.59	49.0	2.3675
2300	3.30	3.08	3.99	3.59	40.0	2.3837
2400	3.30	3.08	3.99	3.59	38.0	2.3952
MAY 16						
0000	3.30	3.08	3.99	3.59	38.0	2.3952
0330	3.30	3.08	3.99	3.59	31.0	2.4077
0600	3.30	3.08	3.99	3.59	28.0	2.4238
1200	3.30	3.08	3.99	3.59	24.0	2.4432
1800	3.30	3.08	3.99	3.59	23.0	2.4618
2400	3.30	3.08	3.99	3.59	21.0	2.4717
MAY 17						
0000	3.30	3.08	3.99	3.59	21.0	2.4717
0100	3.30	3.08	3.99	3.59	17.0	2.4785
0600	3.30	3.08	3.99	3.59	13.0	2.4869
1030	3.30	3.08	3.99	3.59	17.0	2.4926
1100	3.30	3.08	3.99	3.59	21.0	2.4940
1130	3.30	3.08	3.99	3.59	18.0	2.4952
1200	3.30	3.08	3.99	3.59	14.0	2.5009
1730	3.30	3.08	3.99	3.59	14.0	2.5065
1800	3.41	3.08	3.99	3.64	13.0	2.5074
1830	3.43	3.08	3.99	3.65	13.0	2.5083
1900	3.45	3.08	3.99	3.66	13.0	2 5092
1930	3.45	3.08	3.99	3.66	15.0	2.5102
2000	3.46	3.08	3.99	3.66	16.0	2.5112
2030	3.46	3.11	3.99	3.66	19.0	2.5132
2130	3.46	3.11	3.99	3.66	25.0	2.5165
2230	3.46	3.11	3.99	3.66	39.0	2.5205
2300	3.46	3.11	3.99	3.66	49.0	2.5254
2400	3.46	3.11	3.99	3.66	71.0	2.5302

STA. NO. 08074800 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX. — STORM OF JUNE 18-20, 1982

DATE & TIME	GAGE NUMBER 4780	4800	303R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JUNE18						
0000	0.0	0.0	0.0	0.0	4.1	0.0017
0600	0.0	0.0	0.0	0.0	4.1	0.0050
1200	0.0	0.0	0.0	0.0	4.2	0.0084
1800	0.0	0.0	0.0	0.0	4.2	0.0102
1830	0.0	0.0	0.0	0.0	4.2	0.0104
1845	0.0	0.0	0.10	0.05	4.2	0.0106
1900	0.0	0.0	0.20	0.09	4.2	0.0107
1915	0.0	0.0	0.21	0.09	4.2	0.0110
2000	0.0	0.0	0.21	0.09	4.2	0.0113
2015	0.08	0.0	0.21	0.13	4.5	0.0114
2030	0.27	0.25	0.21	0.24	4.8	0.0116
2045	0.37	0.40	0.21	0.30	77.0	0.0142
2100	0.41	0.42	0.21	0.32	197.0	0.0208
2115	0.44	0.52	0.21	0.34	205.0	0.0277
2130	0.44	0.55	0.21	0.35	169.0	0.0363
2200	0.44	0.55	0.21	0.35	130.0	0.0428
2215	0.44	0.55	0.21	0.35	100.0	0.0479
2245	0.44	0.55	0.21	0.35	70.0	0.0538
2330	0.44	0.55	0.21	0.35	53.0	0.0582
2400	0.44	0.55	0.21	0.35	50.0	0.0608
JUNE19						
0000	0.44	0.55	0.21	0.35	50.0	0.0608
0015	0.44	0.55	0.21	0.35	50.0	0.0667
0145	0.44	0.55	0.21	0.35	40.0	0.0734
0245	0.44	0.55	0.21	0.35	31.0	0.0771
0330	0.44	0.55	0.21	0.35	25.0	0.0825
0600	0.44	0.55	0.21	0.35	11.0	0.0888
1200	0.44	0.55	0.21	0.35	6.3	0.0939
1800	0.44	0.55	0.21	0.35	5.4	0.0983
2400	0.44	0.55	0.21	0.35	5.4	0.1026
JUNE20						
0000	0.44	0.55	0.21	0.35	5.4	0.1026
0600	0.44	0.55	0.21	0.35	4.5	0.1061
1130	0.44	0.55	0.21	0.35	4.2	0.1078
1200	0.44	0.55	0.36	0.41	4.2	0.1097
1800	0.44	0.55	0.36	0.41	4.1	0.1116
1900	0.48	0.55	0.36	0.43	3.9	0.1120
1930	0.56	0.74	0.36	0.49	10.0	0.1127
2000	0.58	0.74	0.36	0.50	16.0	0.1175
2400	0.59	0.74	0.36	0.50	8.1	0.1197

STA. NO. 08074800			STORM RAINFALL AND RUNOFF RECORD			1982 WATER YEAR
KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX.			STORM OF JULY 15-17, 1982			
DATE & TIME	GAGE NUMBER			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
	4780	4800	303R			
JULY15						
0000	0.0	0.0	0.0	0.0	7.0	0.0058
1215	0.0	0.0	0.0	0.0	9.7	0.0139
1230	0.0	0.02	0.0	0.00	10.0	0.0143
1245	0.0	0.16	0.0	0.02	18.0	0.0161
1400	0.0	0.16	0.0	0.02	19.0	0.0180
1415	0.0	0.30	0.0	0.03	19.0	0.0187
1430	0.0	0.38	0.0	0.04	53.0	0.0222
1515	0.0	0.38	0.02	0.05	46.0	0.0253
1530	0.0	0.38	0.28	0.16	38.0	0.0273
1600	0.04	0.40	0.30	0.19	27.0	0.0286
1615	0.55	1.00	0.30	0.48	106.0	0.0322
1630	0.85	1.16	0.30	0.63	376.0	0.0427
1640	0.89	1.17	0.30	0.65	391.0	0.0493
1645	0.92	1.18	0.30	0.67	355.0	0.0633
1715	0.92	1.18	0.30	0.67	249.0	0.0801
1745	0.92	1.18	0.30	0.67	200.0	0.0902
1800	0.92	1.18	0.30	0.67	188.0	0.1123
1930	0.92	1.18	0.30	0.67	145.0	0.1343
2015	0.92	1.18	0.30	0.67	118.0	0.1462
2100	0.92	1.18	0.30	0.67	92.0	0.1555
2145	0.92	1.18	0.30	0.67	75.0	0.1644
2245	0.92	1.18	0.30	0.67	59.0	0.1723
2345	0.92	1.18	0.30	0.67	48.0	0.1764
2400	0.92	1.18	0.30	0.67	46.0	0.1957
JULY16						
0000	0.92	1.18	0.30	0.67	46.0	0.1957
0600	0.92	1.18	0.30	0.67	20.0	0.2159
1500	0.92	1.18	0.30	0.67	16.0	0.2259
1515	0.92	1.26	0.30	0.68	16.0	0.2265
1530	0.92	1.26	0.30	0.68	17.0	0.2270
1545	0.92	1.27	0.30	0.68	17.0	0.2276
1600	0.92	1.30	0.30	0.68	17.0	0.2282
1615	0.92	1.78	0.30	0.73	113.0	0.2320
1630	0.92	2.06	0.30	0.76	208.0	0.2565
1800	0.92	2.09	0.30	0.76	44.0	0.2787
2400	0.92	2.09	0.30	0.76	15.0	0.2969
JULY17						
0000	0.92	2.09	0.30	0.76	15.0	0.2969
1200	0.92	2.09	0.30	0.76	12.0	0.3163
2400	0.94	2.09	0.30	0.77	11.0	0.3252

STA. NO. 08074800	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX.	STORM OF JULY 30-31, 1982						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER								
	4780	4800							
JULY30									
0000	0.0	0.0					0.0	6.9	0.0028
0600	0.0	0.0					0.0	7.0	0.0084
1200	0.0	0.0					0.0	7.0	0.0130
1545	0.0	0.0					0.0	7.0	0.0149
1600	0.04	0.0					0.04	7.0	0.0156
1715	0.04	0.0					0.04	7.0	0.0163
1730	0.05	0.0					0.04	7.0	0.0167
1800	0.05	0.0					0.04	7.0	0.0172
1830	0.05	0.0					0.04	7.0	0.0175
1845	0.17	0.20					0.17	7.0	0.0178
1900	0.39	0.50					0.40	26.0	0.0186
1915	0.43	1.18					0.50	166.0	0.0242
1930	0.44	1.19					0.51	491.0	0.0408
1945	0.44	1.21					0.52	440.0	0.0556
2000	0.44	1.21					0.52	331.0	0.0667
2015	0.44	1.21					0.52	244.0	0.0750
2030	0.44	1.21					0.52	194.0	0.0848
2100	0.44	1.21					0.52	140.0	0.0966
2145	0.44	1.21					0.52	105.0	0.1072
2230	0.44	1.21					0.52	81.0	0.1154
2315	0.44	1.21					0.52	66.0	0.1220
2400	0.44	1.21					0.52	57.0	0.1259
JULY31									
0000	0.44	1.21					0.52	57.0	0.1259
0015	0.44	1.21					0.52	57.0	0.1489
0600	0.44	1.21					0.52	18.0	0.1610
1015	0.44	1.21					0.52	12.0	0.1647
1030	0.45	1.21					0.53	12.0	0.1661
1200	0.45	1.21					0.53	12.0	0.1721
1800	0.45	1.21					0.53	9.6	0.1799
2400	0.45	1.21					0.53	8.9	0.1835

STA. NO. 08074800	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX.	STORM OF AUG. 8 -11, 1982							
DATE & TIME	GAGE NUMBER						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
	4780	4800	303R						
AUG. 8									
0000	0.0	0.0	0.0				0.0	7.8	0.0016
0300	0.0	0.0	0.0				0.0	7.0	0.0031
0315	0.0	0.0	0.02				0.01	7.0	0.0033
0330	0.02	0.01	0.04				0.03	7.0	0.0036
0345	0.02	0.11	0.06				0.05	6.9	0.0038
0400	0.03	0.12	0.08				0.06	6.9	0.0040
0415	0.03	0.16	0.08				0.07	9.2	0.0044
0430	0.03	0.23	0.09				0.08	20.0	0.0050
0445	0.05	0.30	0.11				0.10	19.0	0.0057
0500	0.07	0.35	0.11				0.12	24.0	0.0065
0515	0.13	0.47	0.62				0.38	35.0	0.0077
0530	0.27	0.55	0.92				0.59	50.0	0.0093
0545	0.70	0.77	1.07				0.87	77.0	0.0119
0600	0.86	0.82	1.12				0.97	108.0	0.0156
0615	1.00	0.90	1.18				1.07	174.0	0.0214
0630	1.11	0.92	1.22				1.14	171.0	0.0272
0645	1.13	0.92	1.22				1.15	156.0	0.0325
0700	1.14	0.92	1.22				1.15	156.0	0.0403
0730	1.14	0.92	1.22				1.15	122.0	0.0486
0800	1.14	0.92	1.22				1.15	113.0	0.0543
0815	1.15	0.92	1.22				1.16	117.0	0.0582
0830	1.16	0.92	1.22				1.16	120.0	0.0643
0900	1.16	0.92	1.22				1.16	127.0	0.0707
0915	1.16	0.92	1.22				1.16	125.0	0.0749
0930	1.16	0.92	1.22				1.16	127.0	0.0856
1030	1.16	0.92	1.22				1.16	110.0	0.0949
1045	1.17	0.92	1.22				1.17	105.0	0.1055
1200	1.17	0.92	1.22				1.17	82.0	0.1193
1315	1.17	0.92	1.22				1.17	72.0	0.1266
1330	1.17	1.02	1.22				1.18	71.0	0.1289
1345	1.17	1.27	1.22				1.20	71.0	0.1313
1400	1.24	1.29	1.22				1.24	70.0	0.1337
1415	1.51	1.29	1.22				1.36	258.0	0.1424
1430	1.56	1.29	1.35				1.44	302.0	0.1526
1445	1.58	1.29	1.35				1.45	272.0	0.1663
1515	1.58	1.29	1.35				1.45	212.0	0.1770
1530	1.59	1.29	1.35				1.45	190.0	0.1834
1545	1.59	1.30	1.35				1.45	167.0	0.1890
1600	1.59	1.30	1.35				1.45	145.0	0.1939

STA. NO. 08074800 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX. STORM OF AUG. 8 -11, 1982

DATE & TIME	GAGE NUMBER 4780	4800	303R					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
AUG. 8										
1615	1.59	1.35	1.35					1.46	140.0	0.2128
1800	1.59	1.35	1.35					1.46	111.0	0.2371
1930	1.59	1.35	1.35					1.46	87.0	0.2547
2100	1.59	1.35	1.35					1.46	70.0	0.2688
2230	1.59	1.35	1.35					1.46	56.0	0.2801
2400	1.59	1.35	1.35					1.46	47.0	0.2904
AUG. 9										
0000	1.59	1.35	1.35					1.46	47.0	0.2904
0145	1.59	1.35	1.35					1.46	38.0	0.3000
0345	1.59	1.35	1.35					1.46	31.0	0.3089
0600	1.59	1.35	1.35					1.46	24.0	0.3178
0915	1.59	1.35	1.35					1.46	21.0	0.3228
0930	1.59	1.65	1.35					1.49	21.0	0.3235
0945	1.59	1.67	1.35					1.49	20.0	0.3241
1000	1.59	1.68	1.35					1.49	20.0	0.3248
1015	1.59	1.69	1.35					1.49	20.0	0.3255
1030	1.59	1.71	1.35					1.49	20.0	0.3262
1045	1.59	1.73	1.35					1.50	20.0	0.3268
1100	1.59	1.74	1.35					1.50	20.0	0.3275
1115	1.59	1.74	1.35					1.50	20.0	0.3282
1130	1.59	1.76	1.35					1.50	19.0	0.3288
1145	1.59	1.78	1.35					1.50	19.0	0.3295
1200	1.59	1.80	1.35					1.50	18.0	0.3301
1215	1.60	1.80	1.35					1.51	18.0	0.3307
1230	1.62	1.80	1.35					1.52	18.0	0.3313
1245	1.68	1.80	1.35					1.54	58.0	0.3332
1300	1.69	1.80	1.35					1.55	66.0	0.3355
1315	1.71	1.80	1.35					1.56	58.0	0.3374
1330	1.72	1.80	1.35					1.56	53.0	0.3401
1400	1.72	1.80	1.35					1.56	44.0	0.3423
1415	1.73	1.80	1.35					1.57	42.0	0.3437
1430	1.75	1.80	1.35					1.57	40.0	0.3451
1445	1.76	1.80	1.35					1.58	39.0	0 3464
1500	1.78	1.80	1.35					1.59	38.0	0.3522
1700	1.78	1.80	1.35					1.59	37.0	0.3578
1715	1.78	1.80	1.35					1.59	37.0	0.3590
1730	1.79	1.80	1.35					1.59	37.0	0.3609
1800	1.79	1.80	1.35					1.59	36.0	0.3766
2400	1.79	1.80	1.35					1.59	24.0	0.3960
AUG. 10										
0000	1.79	1.80	1.35					1.59	24.0	0.3960

STA. NO. 08074800			STORM RAINFALL AND RUNOFF RECORD				1982 WATER YEAR		
KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX.				STORM OF AUG. 8 -11, 1982			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 4780	4800	303R						
AUG. 10									
0600	1.79	1.80	1.35				1.59	12.0	0.4053
1130	1.79	1.80	1.35				1.59	11.0	0.4098
1200	1.79	1.85	1.35				1.60	11.0	0.4105
1230	1.79	2.12	1.35				1.63	11.0	0.4113
1300	1.79	2.12	1.35				1.63	10.0	0.4119
1330	1.79	2.16	1.35				1.63	10.0	0.4126
1400	1.79	2.20	1.35				1.63	10.0	0.4133
1430	1.79	2.20	1.35				1.63	9.8	0.4140
1500	1.84	2.20	1.35				1.66	9.6	0.4146
1530	1.93	2.20	1.35				1.70	24.0	0.4162
1600	1.96	2.20	1.35				1.71	70.0	0.4209
1630	1.98	2.24	1.35				1.72	55.0	0.4246
1700	1.99	2.24	1.35				1.73	43.0	0.4275
1730	2.00	2.24	1.35				1.73	39.0	0.4302
1800	2.01	2.24	1.35				1.74	35.0	0.4325
1830	2.01	2.24	1.35				1.74	34.0	0.4348
1900	2.02	2.24	1.35				1.74	33.0	0.4370
1930	2.03	2.24	1.35				1.74	34.0	0.4439
2200	2.03	2.24	1.35				1.74	32.0	0.4504
2230	2.04	2.24	1.35				1.75	31.0	0.4546
2400	2.04	2.24	1.35				1.75	26.0	0.4677
AUG. 11									
0000	2.04	2.24	1.35				1.75	26.0	0.4677
0600	2.04	2.24	1.35				1.75	11.0	0.4729
0700	2.04	2.24	1.35				1.75	9.9	0.4742
0800	2.04	2.24	1.35				1.75	11.0	0.4779
1200	2.04	2.24	1.35				1.75	8.9	0.4818
1430	2.04	2.24	1.35				1.75	9.2	0.4837
1500	2.05	2.24	1.35				1.75	9.4	0.4853
1700	2.05	2.24	1.35				1.75	6.7	0.4866
1800	2.05	2.24	1.35				1.75	6.8	0.4898
2400	2.05	2.24	1.35				1.75	7.4	0.4928

08074810 BRAYS BAYOU AT GESSNER DRIVE, HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'21", long 95°31'41", Harris County, Hydrologic unit 12040104 on right bank on downstream side of bridge at Gessner Drive in southwest Houston.

DRAINAGE AREA.--53.2 mi^2. Prior to Jan. 1, 1978, 51.7 mi^2.

PERIOD OF RECORD.--Feb. 1, 1977 to current year.

GAGE.--Digital flood-hydrograph recorder and crest-stage gage. Datum of gages is National Geodetic Vertical Datum of 1929, 1964 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 13,000 ft^3/s, Aug. 31, 1981 (elevation 62.47 ft); minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 2,200 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 31	1700	5,360	54.40
Nov. 29	1330	3,860	52.54
May 13	1745	*9,220 a/	59.18

Minimum discharge not determined.

a/ Peak discharge value has been revised from that published in U.S. Geological Survey Water Resources Data for Texas, water year 1982, volume 2.

STA. NO. 08074810			STORM RAINFALL AND RUNOFF RECORD					1982 WATER YEAR		
BRAYS BAYOU AT GESSNER DRIVE HOUSTON, TEX.			STORM OF OCT. 31 TO NOV. 2 , 1981					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 4800	32R								
OCT. 31										
0000	0.0	0.0						0.0	34.0	0.0030
0600	0.0	0.0						0.0	34.0	0.0066
0715	0.0	0.0						0.0	34.0	0.0073
0730	0.0	0.02						0.01	34.0	0.0076
0745	0.0	0.05						0.03	34.0	0.0078
0800	0.0	0.08						0.05	34.0	0.0080
0815	0.0	0.08						0.05	34.0	0.0083
0830	0.03	0.09						0.07	34.0	0.0085
0845	0.04	0.12						0.09	34.0	0.0088
0900	0.06	0.15						0.12	35.0	0.0090
0915	0.06	0.17						0.13	35.0	0.0093
0930	0.08	0.20						0.16	36.0	0.0096
0945	0.10	0.23						0.18	37.0	0.0098
1000	0.12	0.26						0.21	38.0	0.0101
1015	0.13	0.32						0.25	40.0	0.0104
1030	0.15	0.38						0.30	42.0	0.0107
1045	0.17	0.44						0.35	45.0	0.0110
1100	0.18	0.52						0.40	47.0	0.0114
1115	0.21	0.65						0.50	51.0	0.0117
1130	0.23	0.80						0.60	57.0	0.0122
1145	0.29	0.95						0.72	64.0	0.0126
1200	0.32	1.10						0.83	77.0	0.0132
1215	0.39	1.28						0.97	90.0	0.0138
1230	0.44	1.46						1.10	114.0	0.0147
1245	0.58	1.64						1.27	146.0	0.0157
1300	0.59	1.83						1.40	194.0	0.0171
1315	0.76	2.30						1.76	266.0	0.0191
1330	0.80	2.78						2.09	357.0	0.0217
1345	0.90	3.26						2.43	470.0	0.0251
1400	1.60	3.74						2.99	587.0	0.0294
1415	2.22	3.80						3.25	902.0	0.0360
1430	2.26	3.86						3.30	1360.0	0.0459
1445	2.32	3.92						3.36	1920.0	0.0598
1500	2.38	4.01						3.44	2560.0	0.0785
1515	2.45	4.04						3.48	3210.0	0.1019
1530	2.50	4.07						3.52	3880.0	0.1301
1545	2.52	4.10						3.55	4640.0	0.1639
1600	2.59	4.15						3.60	4920.0	0.1997
1615	2.65	4.15						3.62	5050.0	0.2365

STA. NO. 08074810	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
BRAYS BAYOU AT GESSNER DRIVE HOUSTON, TEX.	STORM OF OCT. 31 TO NOV. 2 ,1981							
DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
	4800	32R								
OCT. 31										
1630	2.68	4.15						3.64	5210.0	0.2744
1645	2.69	4.15						3.64	5340.0	0.3133
1700	2.69	4.15						3.64	5360.0	0.3523
1715	2.69	4.15						3.64	5360.0	0.3914
1730	2.70	4.15						3.64	5290.0	0.4492
1800	2.70	4.15						3.64	5010.0	0.5768
1915	2.70	4.15						3.64	3920.0	0.7053
2015	2.70	4.15						3.64	3080.0	0.7950
2115	2.70	4.15						3.64	2470.0	0.8670
2215	2.70	4.15						3.64	1990.0	0.9249
2315	2.70	4.15						3.64	1630.0	0.9546
2330	2.70	4.17						3.66	1550.0	0.9659
2345	2.70	4.20						3.67	1490.0	0.9767
2400	2.70	4.23						3.69	1440.0	0.9872
NOV. 1										
0000	2.70	4.23						3.69	1440.0	0.9872
0015	2.76	4.23						3.72	1390.0	0.9973
0030	2.80	4.23						3.73	1340.0	1.0071
0045	2.80	4.23						3.73	1300.0	1.0166
0100	2.81	4.25						3.75	1260.0	1.0257
0115	2.81	4.25						3.75	1230.0	1.0347
0130	2.82	4.25						3.75	1200.0	1.0434
0145	2.83	4.25						3.75	1180.0	1.0520
0200	2.83	4.28						3.77	1150.0	1.0688
0245	2.83	4.28						3.77	1070.0	1.0844
0300	2.83	4.30						3.79	1050.0	1.1149
0445	2.83	4.30						3.79	915.0	1.1416
0500	2.84	4.30						3.79	899.0	1.1580
0600	2.84	4.30						3.79	858.0	1.2267
1030	2.84	4.30						3.79	695.0	1.2874
1200	2.84	4.30						3.79	630.0	1.3333
1530	2.84	4.30						3.79	498.0	1.3768
1800	2.84	4.30						3.79	412.0	1 4278
2400	2.84	4.30						3.79	266.0	1.4743
NOV. 2										
0000	2.84	4.30						3.79	266.0	1.4743
0600	2.84	4.30						3.79	168.0	1.5037
1200	2.84	4.30						3.79	129.0	1.5262
1800	2.84	4.30						3.79	99.0	1.5435
2400	2.84	4.30						3.79	84.0	1.5508

STA. NO. 08074810 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BRAYS BAYOU AT GESSNER DRIVE HOUSTON, TEX. STORM OF NOV. 29 TO DEC. 1 , 1981

DATE & TIME	GAGE NUMBER 4780	4800	303R	33R	32R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29										
0000	0.0	0.0	0.0	0.0	0.0			0.0	32.0	0.0005
0100	0.0	0.0	0.0	0.0	0.0			0.0	32.0	0.0010
0115	0.0	0.0	0.0	0.03	0.0			0.00	32.0	0.0013
0130	0.0	0.0	0.0	0.06	0.0			0.00	32.0	0.0015
0145	0.03	0.0	0.10	0.12	0.01			0.03	32.0	0.0017
0200	0.03	0.0	0.15	0.18	0.04			0.05	32.0	0.0020
0215	0.03	0.0	0.16	0.18	0.04			0.05	32.0	0.0022
0230	0.03	0.0	0.17	0.18	0.06			0.06	32.0	0.0024
0245	0.03	0.0	0.18	0.18	0.09			0.07	32.0	0.0027
0300	0.03	0.0	0.18	0.18	0.12			0.08	32.0	0.0042
0600	0.03	0.0	0.18	0.18	0.12			0.08	32.0	0.0057
0615	0.03	0.0	0.18	0.18	0.12			0.08	32.0	0.0059
0630	0.04	0.0	0.18	0.18	0.12			0.08	32.0	0.0062
0645	0.04	0.0	0.18	0.18	0.12			0.08	32.0	0.0064
0700	0.04	0.0	0.18	0.19	0.12			0.08	32.0	0.0076
0915	0.04	0.0	0.18	0.19	0.12			0.08	32.0	0.0087
0930	0.07	0.0	0.18	0.19	0.12			0.09	32.0	0.0092
1015	0.07	0.0	0.18	0.19	0.12			0.09	32.0	0.0097
1030	0.11	0.0	0.18	0.19	0.12			0.09	33.0	0.0099
1045	0.15	0.0	0.18	0.19	0.12			0.10	42.0	0.0102
1100	0.17	0.0	0.23	0.21	0.15			0.12	46.0	0.0106
1115	0.17	0.0	0.33	0.24	0.29			0.19	60.0	0.0110
1130	0.46	0.10	0.68	0.27	0.44			0.37	106.0	0.0118
1145	0.47	0.16	0.82	0.31	0.59			0.46	315.0	0.0141
1200	0.48	0.22	0.82	0.37	0.74			0.54	677.0	0.0190
1215	0.88	0.38	0.92	0.49	0.89			0.72	1160.0	0.0274
1230	1.48	0.90	1.32	0.61	1.04			1.08	1850.0	0.0409
1245	1.52	1.45	1.32	0.76	1.20			1.32	2480.0	0.0590
1300	1.79	1.70	1.41	0.91	1.38			1.52	2900.0	0.0801
1315	1.91	2.25	1.43	1.06	1.38			1.71	3310.0	0.1042
1330	1.92	2.28	1.43	1.23	1.40			1.74	3860.0	0.1323
1345	1.93	2.30	1.43	1.41	1.43			1.76	3820.0	0.1601
1400	1.97	2.35	1.43	1.59	1.46			1.81	3710.0	0.1871
1415	1.99	2.39	1.43	1.64	1.46			1.82	3560.0	0.2130
1430	1.99	2.39	1.43	1.70	1.46			1.83	3340.0	0.2374
1445	1.99	2.39	1.43	1.76	1.46			1.83	3090.0	0.2599
1500	1.99	2.39	1.43	1.82	1.48			1.84	2860.0	0.2807
1515	1.99	2.39	1.43	1.88	1.48			1.84	2610.0	0.2997
1530	1.99	2.39	1.43	1.94	1.48			1.84	2390.0	0.3171

STA. NO. 08074810 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BRAYS BAYOU AT GESSNER DRIVE HOUSTON, TEX. STORM OF NOV. 29 TO DEC. 1 , 1981

DATE & TIME	GAGE NUMBER 4780	4800	303R	33R	32R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29										
1545	1.99	2.39	1.43	2.00	1.48			1.85	2200.0	0.3331
1600	1.99	2.39	1.43	2.07	1.48			1.85	2020.0	0.3625
1645	1.99	2.39	1.43	2.07	1.48			1.85	1560.0	0.3966
1730	1.99	2.39	1.43	2.07	1.48			1.85	1210.0	0.4186
1800	1.99	2.39	1.43	2.07	1.48			1.85	1050.0	0.4416
1900	1.99	2.39	1.43	2.07	1.48			1.85	805.0	0.4650
2000	1.99	2.39	1.43	2.07	1.48			1.85	641.0	0.4860
2115	1.99	2.39	1.43	2.07	1.48			1.85	517.0	0.5067
2245	1.99	2.39	1.43	2.07	1.48			1.85	412.0	0.5232
2400	1.99	2.39	1.43	2.07	1.48			1.85	339.0	0.5393
NOV. 30										
0000	1.99	2.39	1.43	2.07	1.48			1.85	339.0	0.5393
0200	1.99	2.39	1.43	2.07	1.48			1.85	275.0	0.5563
0415	1.99	2.39	1.43	2.07	1.48			1.85	225.0	0.5694
0600	1.99	2.39	1.43	2.07	1.48			1.85	200.0	0.5818
0830	1.99	2.39	1.43	2.07	1.48			1.85	163.0	0.5889
0900	1.99	2.39	1.43	2.07	1.48			1.85	156.0	0.5912
0930	1.99	2.39	1.43	2.07	1.48			1.85	161.0	0.5930
0945	1.99	2.39	1.48	2.07	1.48			1.86	163.0	0.5941
1000	2.10	2.39	1.48	2.07	1.49			1.88	194.0	0.5956
1015	2.10	2.39	1.48	2.09	1.52			1.89	235.0	0.5973
1030	2.12	2.43	1.48	2.12	1.55			1.92	275.0	0.5993
1045	2.19	2.49	1.63	2.15	1.58			1.98	313.0	0.6015
1100	2.22	2.54	1.69	2.18	1.64			2.03	350.0	0.6041
1115	2.22	2.55	1.69	2.18	1.64			2.03	375.0	0.6068
1130	2.23	2.55	1.69	2.18	1.64			2.04	400.0	0.6097
1145	2.23	2.55	1.69	2.18	1.64			2.04	406.0	0.6127
1200	2.23	2.55	1.69	2.19	1.64			2.04	412.0	0.6277
1415	2.23	2.55	1.69	2.19	1.64			2.04	329.0	0.6469
1600	2.23	2.55	1.69	2.19	1.64			2.04	262.0	0.6554
1630	2.23	2.55	1.69	2.19	1.64			2.04	250.0	0.6591
1700	2.23	2.55	1.69	2.19	1.70			2.06	238.0	0.6643
1800	2.23	2.55	1.69	2.19	1.70			2.06	215.0	0.6831
2300	2.23	2.55	1.69	2.19	1.70			2.06	141.0	0.6954
2400	2.23	2.55	1.69	2.19	1.70			2.06	132.0	0.7089
DEC. 1										
0000	2.23	2.55	1.69	2.19	1.70			2.06	132.0	0.7089
0600	2.23	2.55	1.69	2.19	1.70			2.06	96.0	0.7256
1200	2.23	2.55	1.69	2.19	1.70			2.06	81.0	0.7398
1800	2.23	2.55	1.69	2.19	1.70			2.06	65.0	0.7511
2400	2.23	2.55	1.69	2.19	1.70			2.06	63.0	0.7566

STA. NO. 08074810	STORM RAINFALL AND RUNOFF RECORD						1982 WATER YEAR
BRAYS BAYOU AT GESSNER DRIVE HOUSTON, TEX.	STORM OF MAY 13-16, 1982					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 4780	4800	303R	33R	32R			
MAY 13								
0000	0.0	0.0	0.0	0.0	0.0	0.0	36.0	0.0031
0600	0.0	0.0	0.0	0.0	0.0	0.0	35.0	0.0088
1100	0.0	0.0	0.0	0.0	0.0	0.0	34.0	0.0114
1115	0.0	0.0	0.0	0.27	0.18	0.08	34.0	0.0116
1130	0.0	0.0	0.0	0.54	0.39	0.16	34.0	0.0118
1145	0.0	0.0	0.0	0.81	0.60	0.25	34.0	0.0121
1200	0.0	0.0	0.0	1.11	0.81	0.34	34.0	0.0123
1215	0.0	0.0	0.97	1.22	0.93	0.53	34.0	0.0126
1230	0.02	0.0	1.06	1.34	1.05	0.60	34.0	0.0128
1245	0.08	0.0	1.35	1.46	1.17	0.70	34.0	0.0131
1300	0.80	0.05	1.38	1.58	1.29	0.87	43.0	0.0134
1315	0.91	0.30	1.48	1.61	1.41	1.02	72.0	0.0139
1330	1.12	0.35	1.54	1.67	1.53	1.12	132.0	0.0149
1345	1.33	0.50	1.66	1.73	1.65	1.26	262.0	0.0168
1400	1.41	0.60	1.71	1.79	1.77	1.36	492.0	0.0204
1415	1.54	0.72	1.78	1.94	2.07	1.54	810.0	0.0263
1430	1.62	0.83	1.92	2.09	2.37	1.71	1210.0	0.0351
1445	1.64	1.02	2.36	2.24	2.67	1.95	1640.0	0.0470
1500	1.72	1.05	2.84	2.41	3.00	2.17	2080.0	0.0622
1515	1.90	1.15	3.23	2.56	3.06	2.31	2550.0	0.0807
1530	2.28	1.30	3.61	2.71	3.12	2.50	3000.0	0.1026
1545	2.62	1.60	3.86	2.86	3.21	2.72	3700.0	0.1295
1600	3.01	2.16	3.88	3.02	3.30	2.99	4570.0	0.1628
1615	3.21	2.52	3.92	3.08	3.30	3.13	5650.0	0.2040
1630	3.25	2.90	3.99	3.14	3.30	3.27	6910.0	0.2543
1645	3.28	2.97	3.99	3.20	3.30	3.30	8000.0	0.3125
1700	3.29	3.00	3.99	3.26	3.31	3.31	8690.0	0.3758
1715	3.29	3.02	3.99	3.26	3.31	3.32	9060.0	0.4418
1730	3.29	3.02	3.99	3.26	3.31	3.32	9210.0	0.5088
1745	3.29	3.02	3.99	3.27	3.31	3.32	9220.0	0.5760
1800	3.29	3.02	3.99	3.30	3.31	3.32	9090.0	0.7084
1845	3.29	3.02	3.99	3.30	3.31	3.32	8260.0	0.8287
1900	3.29	3.02	3.99	3.31	3.31	3.32	7870.0	0.9146
1930	3.29	3.02	3.99	3.31	3.31	3.32	7200.0	0.9933
1945	3.29	3.08	3.99	3.31	3.31	3.34	6760.0	1.1163
2045	3.29	3.08	3.99	3.31	3.31	3.34	5400.0	1.2736
2145	3.29	3.08	3.99	3.31	3.31	3.34	4130.0	1.3939
2245	3.29	3.08	3.99	3.31	3 31	3.34	3240.0	1.5001
2400	3.29	3.08	3.99	3.31	3.31	3.34	2500.0	1.6002

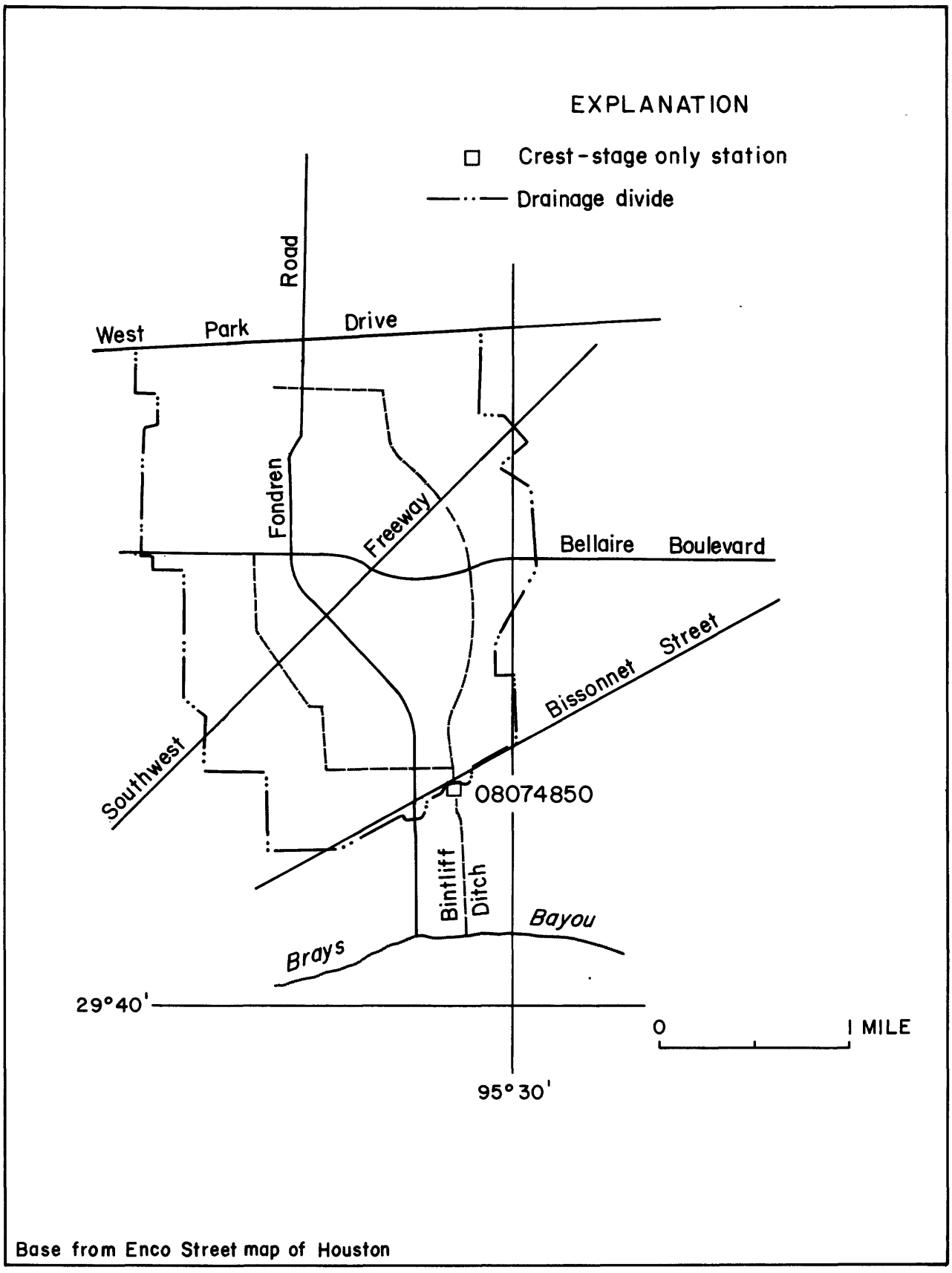
STA. NO. 08074810	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR		
BRAYS BAYOU AT GESSNER DRIVE HOUSTON, TEX.	STORM OF MAY 13-16, 1982							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	4780	4800	303R	33R	32R					
MAY 14										
0000	3.29	3.08	3.99	3.31	3.31			3.34	2500.0	1.6002
0130	3.29	3.08	3.99	3.31	3.31			3.34	1990.0	1.6944
0315	3.29	3.08	3.99	3.31	3.31			3.34	1620.0	1.7770
0500	3.29	3.08	3.99	3.31	3.31			3.34	1320.0	1.8298
0600	3.29	3.08	3.99	3.31	3.31			3.34	1200.0	1.8910
0830	3.29	3.08	3.99	3.31	3.31			3.34	980.0	1.9731
1145	3.29	3.08	3.99	3.31	3.31			3.34	808.0	2.0143
1200	3.30	3.08	3.99	3.31	3.31			3.34	799.0	2.0695
1630	3.30	3.08	3.99	3.31	3.31			3.34	630.0	2.1131
1645	3.30	3.08	3.99	3.31	3.31			3.34	630.0	2.1269
1800	3.30	3.08	3.99	3.31	3.31			3.34	590.0	2.1892
2400	3.30	3.08	3.99	3.31	3.31			3.34	447.0	2.2673
MAY 15										
0000	3.30	3.08	3.99	3.31	3.31			3.34	447.0	2.2673
0600	3.30	3.08	3.99	3.31	3.31			3.34	318.0	2.3229
1200	3.30	3.08	3.99	3.31	3.31			3.34	233.0	2.3636
1800	3.30	3.08	3.99	3.31	3.31			3.34	180.0	2.3951
2400	3.30	3.08	3.99	3.31	3.31			3.34	123.0	2.4165
MAY 16										
0000	3.30	3.08	3.99	3.31	3.31			3.34	123.0	2.4165
0600	3.30	3.08	3.99	3.31	3.31			3.34	85.0	2.4314
1200	3.30	3.08	3.99	3.31	3.31			3.34	64.0	2.4426
1800	3.30	3.08	3.99	3.31	3.31			3.34	61.0	2.4532
2400	3.30	3.08	3.99	3.31	3.31			3.34	55.0	2.4581

BINTLIFF DITCH DRAINAGE BASIN

The location of data-collection sites in and near the Bintliff Ditch drainage basin are shown in figure 13.

Weighted-mean rainfall for the 1982 water year was not determined.

No storms were analyzed at station 08074850, Bintliff Ditch at Bissonnet Street, Houston, Tex.



Base from Enco Street map of Houston

Figure 13.—Locations of data-collection sites in and near the Bintliff Ditch drainage basin

08074850 Bintliff Ditch at Bissonnet Street, Houston, Tex.
(Crest-stage gage partial-record station)

LOCATION.--Lat 29°41'16", long 95°30'20", Harris County, Hydrologic Unit 12040104, downstream side of bridge on Bissonnet Street, in southwest Houston, Tex.

DRAINAGE AREA.--4.38 mi^2. Prior to October 1, 1973, 4.29 mi^2.

PERIOD OF RECORD.--August 1968 to January 30, 1980; April 9, 1981 to present.

GAGE.--Crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1964 adjustment, unadjusted for land-surface subsidence. Prior to Mar. 29, 1978 flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Mar. 29, 1978 to Jan. 30, 1980 digital flood-hydrograph and rainfall recorders and crest-stage gage.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 1,350 ft^3/s, May 3, 1981 (elevation 63.69 ft). Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 900 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Nov. 29	unknown	1,120	62.17
May 13	unknown	*1,200	62.68

Minimum discharge not determined.

HUMMINGBIRD STREET DITCH DRAINAGE BASIN

The location of data-collection sites in the Hummingbird Street Ditch drainage basin are shown in figure 14.

Weighted-mean rainfall for the 1982 water year was not determined.

The storms of Nov. 29 and May 13-14 were selected for analysis at station 08074910, Hummingbird Street Ditch at Houston, Tex.

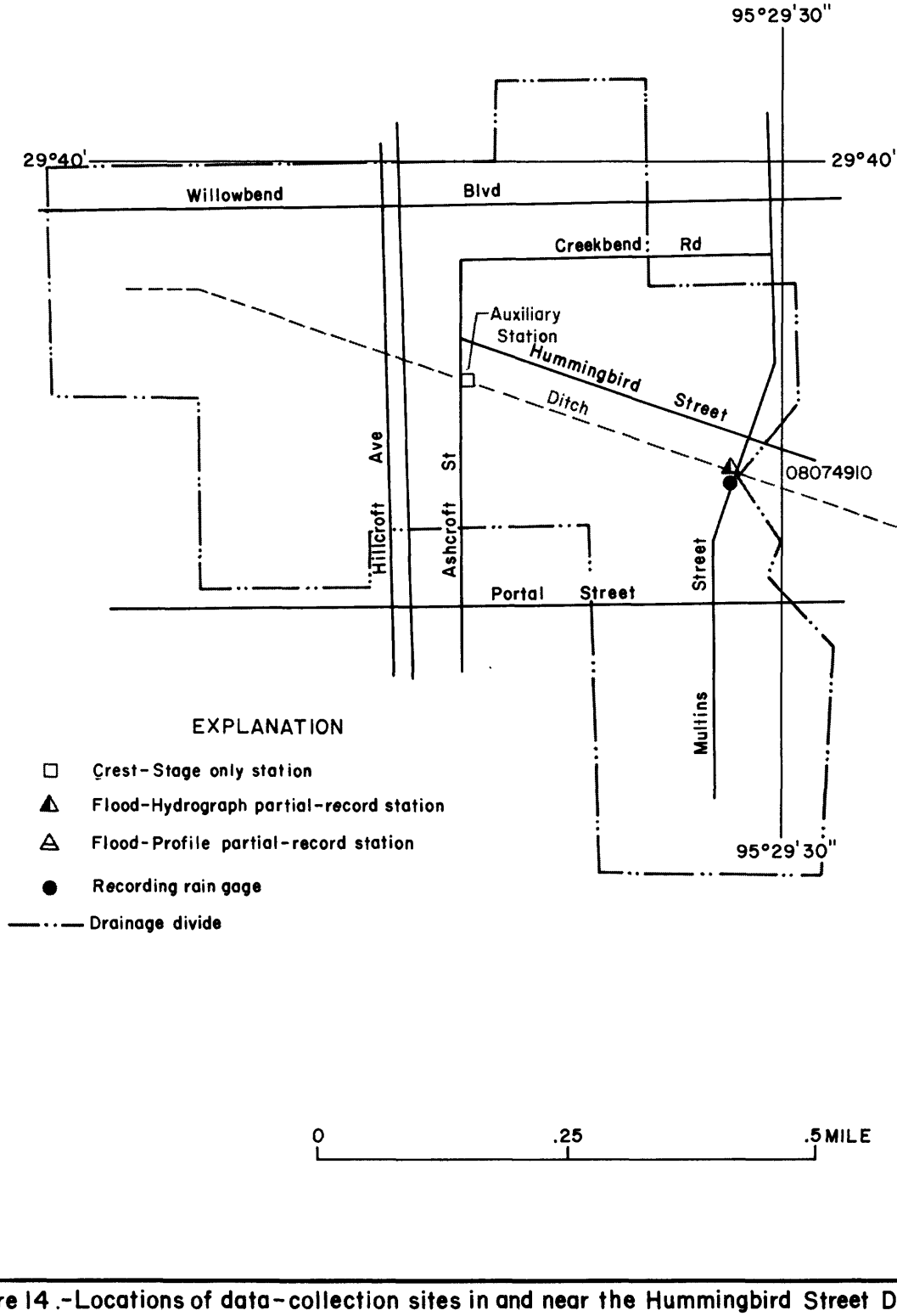


Figure 14.-Locations of data-collection sites in and near the Hummingbird Street Ditch drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 12.--Storm rainfall-runoff data, 1982 Water Year, Hummingbird Street Ditch

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Hummingbird Street Ditch at Houston, Tx. (Drainage area -- 0.32 mi^2)								
Nov. 29, 1981	1.4	1.43	0.34	0.61	1.07	0.52	0.37	61
May 13-14, 1982	3.1	3.94	0.62	1.17	1.77	2.42	0.61	157*

* - Annual peak discharge for 1982 WY.

08074910 HUMMINGBIRD STREET DITCH AT HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°39'44", long 95°29'11", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at intersection of Hummingbird Street Ditch and Mullins Street in southwest Houston.

DRAINAGE AREA.--0.32 mi^2.

PERIOD OF RECORD.--Nov. 3, 1978 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1924, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records poor. Heavy vegetal growth makes a stage-discharge relationship difficult to define.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 227 ft^3/s, May 3, 1981, (gage-height, 59.46 ft); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 75 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
May 13	1640	*157	58.76
Aug. 8	unknown	99	57.67

No flow for many days.

STA. NO. 08074910 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

HUMMINGBIRD STREET DITCH AT HOUSTON, TEX. — STORM OF NOV. 29, 1981

DATE & TIME	GAGE NUMBER 4910	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29				
0000	0.0	0.0	1.4	0.0203
0600	0.0	0.0	1.4	0.0542
1000	0.01	0.01	0.9	0.0669
1150	0.03	0.03	0.4	0.0688
1155	0.05	0.05	0.4	0.0690
1200	0.08	0.08	0.4	0.0691
1205	0.10	0.10	0.4	0.0693
1210	0.12	0.12	0.4	0.0694
1215	0.15	0.15	0.5	0.0697
1220	0.17	0.17	0.5	0.0699
1225	0.19	0.19	0.5	0.0701
1230	0.21	0.21	0.5	0.0703
1235	0.24	0.24	0.8	0.0706
1240	0.27	0.27	1.0	0.0710
1245	0.30	0.30	1.3	0.0715
1250	0.41	0.41	1.6	0.0722
1255	0.52	0.52	1.8	0.0729
1300	0.64	0.64	2.1	0.0737
1305	0.73	0.73	2.7	0.0748
1310	0.82	0.82	5.9	0.0772
1315	0.91	0.91	16.0	0.0837
1320	1.01	1.01	23.0	0.0929
1325	1.11	1.11	30.0	0.1050
1330	1.22	1.22	36.0	0.1196
1335	1.27	1.27	40.0	0.1357
1340	1.32	1.32	46.0	0.1543
1345	1.37	1.37	54.0	0.1870
1355	1.37	1.37	61.0	0.2239
1400	1.37	1.37	58.0	0.2473
1405	1.38	1.38	54.0	0.2691
1410	1.39	1.39	49.0	0.2987
1420	1.41	1.41	40.0	0.3310
1430	1.43	1.43	33.0	0.3643
1445	1.43	1.43	25.0	0.3895
1455	1.43	1.43	20.0	0.4178
1520	1.43	1.43	11.0	0.4422
1550	1.43	1.43	6.4	0.4835
1800	1.43	1.43	1.8	0.5191
2400	1.43	1.43	0.3	0.5235

STA. NO. 08074910	STORM RAINFALL AND RUNOFF RECORD	1982 WATER YEAR

HUMMINGBIRD STREET DITCH AT HOUSTON, TEX. — STORM OF MAY 13-14, 1982

DATE & TIME	GAGE NUMBER 4910	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13				
0000	0.0	0.0	0.6	0.0087
0600	0.0	0.0	0.6	0.0261
1200	0.0	0.0	0.3	0.0309
1230	0.0	0.0	0.3	0.0313
1235	0.01	0.01	0.2	0.0314
1240	0.02	0.02	0.2	0.0315
1245	0.04	0.04	0.2	0.0315
1250	0.10	0.10	0.2	0.0316
1255	0.16	0.16	0.2	0.0317
1300	0.23	0.23	0.2	0.0318
1305	0.26	0.26	0.2	0.0319
1310	0.30	0.30	0.6	0.0321
1315	0.34	0.34	0.9	0.0325
1320	0.47	0.47	2.4	0.0334
1325	0.60	0.60	3.8	0.0350
1330	0.74	0.74	5.3	0.0371
1335	0.80	0.80	13.0	0.0424
1340	0.86	0.86	20.0	0.0504
1345	0.93	0.93	27.0	0.0613
1350	1.00	1.00	32.0	0.0742
1355	1.08	1.08	36.0	0.0888
1400	1.16	1.16	41.0	0.1053
1405	1.22	1.22	45.0	0.1235
1410	1.28	1.28	50.0	0.1436
1415	1.34	1.34	54.0	0.1654
1420	1.36	1.36	56.0	0.1880
1425	1.38	1.38	59.0	0.2118
1430	1.40	1.40	61.0	0.2365
1435	1.43	1.43	59.0	0.2603
1440	1.47	1.47	58.0	0.2837
1445	1.51	1.51	56.0	0.3063
1450	1.52	1.52	55.0	0.3285
1455	1.54	1.54	54.0	0.3503
1500	1.56	1.56	53.0	0.3716
1505	1.62	1.62	51.0	0.3922
1510	1.68	1.68	50.0	0.4124
1515	1.74	1.74	48.0	0.4318
1520	1.83	1.83	50.0	0.4519
1525	1.92	1.92	51.0	0.4725

STA. NO. 08074910 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

HUMMINGBIRD STREET DITCH AT HOUSTON, TEX. STORM OF MAY 13-14, 1982

DATE & TIME	GAGE NUMBER 4910	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13				
1530	2.02	2.02	54.0	0.4943
1535	2.12	2.12	62.0	0.5193
1540	2.22	2.22	69.0	0.5472
1545	2.32	2.32	77.0	0.5782
1550	2.50	2.50	85.0	0.6125
1555	2.68	2.68	94.0	0.6505
1600	2.87	2.87	102.0	0.6916
1605	3.07	3.07	112.0	0.7368
1610	3.28	3.28	121.0	0.7857
1615	3.49	3.49	131.0	0.8385
1620	3.59	3.59	137.0	0.8938
1625	3.69	3.69	144.0	0.9519
1630	3.79	3.79	150.0	1.0125
1635	3.81	3.81	154.0	1.0746
1640	3.84	3.84	157.0	1.1380
1645	3.87	3.87	157.0	1.2013
1650	3.87	3.87	154.0	1.2635
1655	3.88	3.88	151.0	1.3244
1700	3.89	3.89	148.0	1.3841
1705	3.90	3.90	143.0	1.4418
1710	3.91	3.91	139.0	1.4979
1715	3.92	3.92	134.0	1.6331
1735	3.92	3.92	108.0	1.7856
1750	3.92	3.92	85.0	1.8714
1800	3.92	3.92	70.0	1.9420
1815	3.92	3.92	51.0	2.0037
1830	3.92	3.92	38.0	2.0497
1845	3.92	3.92	29.0	2.0849
1900	3.92	3.92	22.0	2.1204
1925	3.92	3.92	17.0	2.3262
2400	3.92	3.92	2.9	2.4005
MAY 14				
0000	3.92	3.92	2.9	2.4005
0600	3.92	3.92	0.3	2.4092
1200	3.93	3.93	0.2	2.4150
1800	3.94	3.94	0.1	2.4179
2400	3.94	3.94	0.1	2.4194

SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°41'49", long 95°24'43", Harris County, Hydrologic Unit 12040104, near right bank at downstream side of Main Street Bridge in southwest Houston, 1.6 mi (2.6 km) upstream from Harris Gully, and 11.6 mi (18.7 km) upstream from Buffalo Bayou.

DRAINAGE AREA.--94.9 mi² (245.8 km²). Prior to October 1976, 88.4 mi² (229.0 km²). Changes due to drainage ditch relocations.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.16 ft (2.182 m) 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 (1.3 km) downstream at same datum.

REMARKS.--Water-discharge records good. No diversion above station. Low flow is mostly sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--46 years, 120 ft³/s (3.398 m³/s), 86,940 acre-ft/yr (107 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/s (821 m³/s) June 15, 1976, gage height, 52.13 ft (15.889 m); minimum daily, 0.1 ft³/s (0.003 m³/s) Oct. 11, 12, 1937, Mar. 14, Apr. 1, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1911, 56.0 ft (17.07 m) in June 1919 before channel rectification, former site, from information by engineer for city of Houston.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s (170 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 31	1700	7,770	220	37.46	11.418
Nov. 29	1515	6,950	197	36.63	11.165
May 13	1730	*17,700	501	45.57	13.890

Minimum daily discharge, 83 ft³/s (2.35 m³/s) Jan. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	923	184	104	127	131	108	118	95	101	179	114
2	95	253	123	106	120	119	109	125	95	97	128	108
3	135	165	113	108	117	113	97	105	95	92	123	563
4	100	132	102	100	105	110	96	96	95	91	103	223
5	1120	114	98	96	102	105	98	96	95	123	102	121
6	620	109	124	92	111	295	92	594	95	99	103	117
7	350	107	190	88	104	131	94	495	95	97	334	119
8	390	260	125	86	125	109	95	140	95	98	1420	109
9	120	255	119	90	146	103	93	101	94	99	353	112
10	130	130	102	91	103	104	201	100	98	103	210	109
11	210	118	100	92	100	108	134	101	100	104	173	107
12	180	115	98	526	97	109	102	114	103	104	122	118
13	110	102	121	192	96	106	98	4440	97	139	118	128
14	160	102	137	140	113	104	97	1360	176	389	113	112
15	135	102	104	111	127	104	95	336	108	497	110	116
16	110	104	98	103	108	101	96	186	108	329	106	114
17	139	102	105	103	101	98	102	280	111	301	108	109
18	417	103	101	98	100	98	96	554	109	178	112	109
19	147	103	103	93	100	99	99	200	203	133	116	135
20	113	97	163	89	509	98	96	130	126	138	111	472
21	102	100	178	87	202	96	782	100	125	174	164	153
22	102	100	127	89	120	132	580	140	112	167	112	119
23	101	101	112	88	107	279	225	500	153	176	100	108
24	94	100	104	89	107	150	706	300	188	232	100	109
25	99	98	94	89	501	108	327	120	157	175	100	112
26	111	100	96	83	1340	96	153	110	338	226	100	113
27	101	94	95	86	286	306	116	100	247	129	102	117
28	96	95	99	98	162	178	115	100	126	111	103	117
29	98	1420	98	200	---	116	104	100	107	117	109	116
30	97	399	182	691	---	107	98	100	102	556	127	111
31	2180	---	241	296	---	107	---	100	---	215	117	---
TOTAL	8057	6103	3836	4404	5436	4020	5304	11441	3848	5590	5478	4390
MEAN	260	203	124	142	194	130	177	369	128	180	177	146
MAX	2180	1420	241	691	1340	306	782	4440	338	556	1420	563
MIN	94	94	94	83	96	96	92	96	94	91	100	107
AC-FT	15980	12110	7610	8740	10780	7970	10520	22690	7630	11090	10870	8710

CAL YR 1981 TOTAL 87005 MEAN 238 MAX 13100 MIN 80 AC-FT 172600
WTR YR 1982 TOTAL 67907 MEAN 186 MAX 4440 MIN 83 AC-FT 134700

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	0845	76	800	7.9	17.0	5	6.2	9.8	100	4.4	66	K18
APR												
22...	1250	477	390	7.4	17.0	40	85	8.2	84	7.5	52	1000
MAY												
13...	1830	16200	110	6.6	19.5	90	260	7.1	78	10	51000	66000
14...	0830	1360	210	6.4	21.0	120	160	7.2	81	13	54000	29000
JUN												
22...	0800	88	835	7.7	27.5	10	7.7	7.6	96	2.9	K1	K2

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
22...	95	0	29	5.4	38	1.7	5.2	100	26	31	.3	12
MAY												
13...	32	0	9.7	2.0	6.5	.5	2.9	39	6.0	4.7	.1	3.9
14...	69	5	21	3.9	13	.7	3.9	64	21	10	.2	8.8
JUN												
22...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
18...	--	1	0	2.7	.320	3.0	5.90	.20	6.10	4.00	6.0
APR											
22...	207	134	14	1.3	.260	1.6	1.60	2.3	3.90	.960	14
MAY											
13...	59	514	35	.28	.110	.39	.370	.54	.91	.640	15
14...	120	248	23	.53	.120	.65	.580	3.2	3.80	.770	16
JUN											
22...	--	16	10	1.4	.450	1.8	4.40	.00	4.10	2.10	11

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY 13...	1830	42	24	<3	<10	3	77
JUN 22...	0800	16	200	<1	<10	4	50

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 13...	<1	3	<.1	<1	<1	<12
JUN 22...	2	10	<.1	1	<1	20

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAY 13...	1830	<.10	<.10	2.2	<.10	<.10	<2.0	.5
JUN 22...	0800	<.10	<.10	.10	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAY 13...	<.1	.10	<2.0	<2.0	.30	<.10	<.1
JUN 22...	<.1	<.10	<2.0	<2.0	.30	<.10	<.1

STA. NO. 08075000 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BRAYS BAYOU AT HOUSTON, TEX. STORM OF OCT. 31 TO NOV. 3 ,1981

DATE & TIME	GAGE NUMBER 4800	4910	308R	32R	31R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 31										
0000	0.0	0.0	0.0	0.0	0.0			0.0	110.0	0.0058
0630	0.0	0.0	0.0	0.0	0.0			0.0	97.0	0.0112
0645	0.0	0.01	0.0	0.0	0.0			0.00	94.0	0.0116
0700	0.0	0.03	0.01	0.0	0.0			0.01	85.0	0.0119
0715	0.0	0.04	0.01	0.0	0.0			0.01	85.0	0.0123
0730	0.0	0.05	0.01	0.02	0.0			0.02	85.0	0.0126
0745	0.0	0.05	0.01	0.05	0.0			0.03	82.0	0.0129
0800	0.0	0.07	0.04	0.08	0.0			0.05	80.0	0.0133
0815	0.0	0.09	0.04	0.08	0.03			0.06	78.0	0.0136
0830	0.03	0.11	0.04	0.09	0.06			0.08	77.0	0.0139
0845	0.04	0.12	0.04	0.12	0.09			0.09	80.0	0.0142
0900	0.06	0.13	0.10	0.15	0.13			0.12	82.0	0.0146
0915	0.06	0.15	0.10	0.17	0.16			0.14	82.0	0.0149
0930	0.08	0.16	0.10	0.20	0.19			0.16	85.0	0.0152
0945	0.10	0.17	0.10	0.23	0.20			0.17	87.0	0.0156
1000	0.12	0.18	0.13	0.26	0.21			0.20	99.0	0.0160
1015	0.13	0.19	0.13	0.32	0.24			0.23	104.0	0.0164
1030	0.15	0.20	0.13	0.38	0.26			0.26	111.0	0.0169
1045	0.17	0.22	0.13	0.44	0.27			0.29	114.0	0.0173
1100	0.18	0.24	0.17	0.52	0.28			0.33	120.0	0.0178
1115	0.21	0.27	0.17	0.65	0.29			0.40	125.0	0.0183
1130	0.23	0.31	0.17	0.80	0.31			0.48	129.0	0.0189
1145	0.29	0.34	0.17	0.95	0.37			0.56	138.0	0.0194
1200	0.32	0.39	0.27	1.10	0.40			0.65	150.0	0.0200
1215	0.39	0.45	0.27	1.28	0.44			0.75	170.0	0.0207
1230	0.44	0.51	0.27	1.46	0.52			0.85	202.0	0.0216
1245	0.58	0.58	0.27	1.64	0.64			0.98	236.0	0.0225
1300	0.59	0.63	0.47	1.83	0.74			1.09	270.0	0.0236
1315	0.76	0.69	0.47	2.30	0.80			1.33	320.0	0.0249
1330	0.80	0.80	0.47	2.78	0.86			1.56	384.0	0.0265
1345	0.90	1.12	0.47	3.26	0.97			1.86	497.0	0.0285
1400	1.60	1.46	0.72	3.74	1.62			2.33	605.0	0.0310
1415	2.22	1.55	0.72	3.80	2.32			2.54	747.0	0.0341
1430	2.26	1.60	0.72	3.86	2.54			2.59	1040.0	0.0383
1445	2.32	1.66	0.72	3.92	2.56			2.65	1560.0	0.0447
1500	2.38	1.72	1.14	4.01	2.64			2.76	3230.0	0.0579
1515	2.45	1.76	1.14	4.04	2.72			2.80	4170.0	0.0749
1530	2.50	1.82	1.14	4.07	2.77			2.84	5960.0	0.0992
1545	2.52	1.88	1.14	4.10	2.82			2.87	6600.0	0.1261

STA. NO. 08075000	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
BRAYS BAYOU AT HOUSTON, TEX.	STORM OF OCT. 31 TO NOV. 3 , 1981							
DATE & TIME	GAGE NUMBER						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
	4800	4910	308R	32R	31R				
OCT. 31									
1600	2.59	1.91	1.32	4.15	2.89		2.93	7060.0	0.1550
1615	2.65	1.92	1.32	4.15	3.01		2.95	7120.0	0.1840
1630	2.68	1.92	1.32	4.15	3.02		2.96	7360.0	0.2141
1645	2.69	1.92	1.32	4.15	3.02		2.96	7560.0	0.2449
1700	2.69	1.94	1.37	4.15	3.02		2.97	7770.0	0.2767
1715	2.69	1.95	1.37	4.15	3.03		2.97	7720.0	0.3082
1730	2.70	1.95	1.37	4.15	3.04		2.98	7670.0	0.3395
1745	2.70	1.95	1.37	4.15	3.05		2.98	7570.0	0.3704
1800	2.70	1.95	1.38	4.15	3.06		2.98	7500.0	0.4928
1945	2.70	1.95	1.38	4.15	3.06		2.98	5970.0	0.6269
2045	2.70	1.95	1.38	4.15	3.06		2.98	4870.0	0.6766
2100	2.70	1.97	1.38	4.15	3.06		2.98	4560.0	0.7045
2130	2.70	2.02	1.38	4.15	3.08		3.00	4040.0	0.7375
2200	2.70	2.03	1.41	4.15	3.16		3.01	3560.0	0.7666
2230	2.70	2.03	1.41	4.15	3.24		3.01	3210.0	0.7928
2300	2.70	2.03	1.41	4.15	3.25		3.01	2880.0	0.8163
2330	2.70	2.08	1.41	4.17	3.25		3.03	2590.0	0.8374
2400	2.70	2.11	1.41	4.23	3.25		3.06	2330.0	0.8564
NOV. 1									
0000	2.70	2.11	1.41	4.23	3.25		3.06	2330.0	0.8564
0030	2.80	2.14	1.41	4.23	3.25		3.09	2130.0	0.8738
0100	2.81	2.14	1.41	4.25	3.25		3.10	1930.0	0.8975
0200	2.83	2.22	1.41	4.28	3.25		3.14	1710.0	0.9254
0300	2.83	2.24	1.43	4.30	3.25		3.15	1550.0	0.9507
0400	2.83	2.25	1.43	4.30	3.25		3.15	1440.0	0.9742
0500	2.84	2.25	1.43	4.30	3.25		3.16	1330.0	0.9959
0600	2.84	2.25	1.43	4.30	3.25		3.16	1220.0	1.0657
1200	2.84	2.25	1.43	4.30	3.25		3.16	809.0	1.1449
1800	2.84	2.25	1.43	4.30	3.25		3.16	529.0	1.1967
2400	2.84	2.25	1.43	4.30	3.25		3.16	374.0	1.2334
NOV. 2									
0000	2.84	2.25	1.43	4.30	3.25		3.16	374.0	1.2334
0600	2.84	2.25	1.43	4.30	3.25		3.16	261.0	1.2590
1200	2.84	2.25	1.43	4.30	3.25		3.16	264.0	1.2848
1800	2.84	2.25	1.43	4.30	3.25		3.16	217.0	1.3061
2400	2.84	2.25	1.43	4.30	3.25		3.16	200.0	1.3257
NOV. 3									
0000	2.84	2.25	1.43	4.30	3.25		3.16	200.0	1.3257
0600	2.84	2.25	1.43	4.30	3.25		3.16	163.0	1.3416
1200	2.84	2.25	1.43	4.30	3.25		3.16	186.0	1.3599
1800	2.84	2.25	1.43	4.30	3.25		3.16	152.0	1.3748
2400	2.84	2.25	1.43	4.30	3.25		3.16	157.0	1.3824

STA. NO. 08075000 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

BRAYS BAYOU AT HOUSTON, TEX. STORM OF NOV. 29 TO DEC. 2 ,1981

DATE & TIME	GAGE NUMBER 4780	4800	4910	308R	303R	33R	32R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	106.0	0.0006
0045	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	106.0	0.0015
0100	0.0	0.0	0.0	0.09	0.0	0.0	0.0	0.01	108.0	0.0020
0115	0.0	0.0	0.0	0.09	0.0	0.03	0.0	0.01	110.0	0.0024
0130	0.0	0.0	0.0	0.09	0.0	0.06	0.0	0.01	110.0	0.0029
0145	0.03	0.0	0.0	0.09	0.10	0.12	0.01	0.03	111.0	0.0033
0200	0.03	0.0	0.0	0.10	0.15	0.18	0.04	0.05	113.0	0.0038
0215	0.03	0.0	0.0	0.10	0.16	0.18	0 04	0.05	110.0	0.0042
0230	0.03	0.0	0.0	0.10	0.17	0.18	0.06	0.05	108.0	0.0047
0245	0.03	0.0	0.0	0.10	0.18	0.18	0.09	0.06	106.0	0.0051
0300	0.03	0.0	0.0	0.10	0.18	0.18	0.12	0.07	104.0	0.0059
0345	0.03	0.0	0.0	0.10	0.18	0.18	0.12	0.07	96.0	0.0067
0400	0.03	0.0	0.0	0.15	0.18	0.18	0.12	0.07	92.0	0.0084
0600	0.03	0.0	0.0	0.15	0.18	0.18	0.12	0.07	85.0	0.0100
0615	0.03	0.0	0.0	0.15	0.18	0.18	0.12	0.07	83.0	0.0103
0630	0.04	0.0	0.0	0.15	0.18	0.18	0.12	0.08	83.0	0.0107
0645	0.04	0.0	0.0	0.15	0.18	0.18	0.12	0.08	83.0	0.0110
0700	0.04	0.0	0.0	0.15	0.18	0.19	0.12	0.08	80.0	0.0126
0915	0.04	0.0	0.0	0.15	0.18	0.19	0.12	0.08	76.0	0.0142
0930	0.07	0.0	0.0	0.15	0.18	0.19	0.12	0.08	76.0	0.0145
0945	0.07	0.0	0.0	0.15	0.18	0.19	0.12	0.08	77.0	0.0148
1000	0.07	0.0	0.01	0.17	0.18	0.19	0.12	0.08	77.0	0.0151
1015	0.07	0.0	0.01	0.17	0.18	0.19	0.12	0.08	79.0	0.0154
1030	0.11	0.0	0.01	0.17	0.18	0.19	0.12	0.09	80.0	0.0158
1045	0.15	0.0	0.01	0.17	0.18	0.19	0.12	0.09	82.0	0.0161
1100	0.17	0.0	0.01	0.17	0.23	0.21	0.15	0.11	82.0	0.0164
1115	0.17	0.0	0.01	0.17	0.33	0.24	0.29	0.15	85.0	0.0168
1130	0.46	0.10	0.01	0.17	0.68	0.27	0.44	0.27	88.0	0.0171
1145	0.47	0.16	0.01	0.17	0.82	0.31	0.59	0.34	89.0	0.0175
1200	0.48	0.22	0.08	0.23	0.82	0.37	0.74	0.41	94.0	0.0179
1215	0.88	0.38	0.15	0.23	0.92	0.49	0.89	0.54	160.0	0.0185
1230	1.48	0.90	0.21	0.23	1.32	0.61	1.04	0.78	241.0	0.0195
1245	1.52	1.45	0.30	0.23	1.32	0.76	1.20	0.94	313.0	0.0208
1300	1.79	1.70	0.64	0.65	1.41	0.91	1.38	1.19	358.0	0.0223
1315	1.91	2.25	0.91	0.65	1.43	1.06	1.38	1.36	415.0	0.0240
1330	1.92	2.28	1.22	0.65	1.43	1.23	1.40	1.46	623.0	0.0265
1345	1.93	2.30	1.37	0.65	1.43	1.41	1.43	1.52	1240.0	0.0316
1400	1.97	2.35	1.37	1.55	1.43	1.59	1.46	1.63	3660.0	0.0465
1415	1.99	2.39	1.41	1.55	1.43	1.64	1.46	1.65	5510.0	0.0690

STA. NO. 08075000	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR		
BRAYS BAYOU AT HOUSTON, TEX.	STORM OF NOV. 29 TO DEC. 2 , 1981							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	4780	4800	4910	308R	303R	33R	32R			
NOV. 29										
1430	1.99	2.39	1.43	1.55	1.43	1.70	1.46	1.66	6350.0	0.0949
1445	1.99	2.39	1.43	1.55	1.43	1.76	1.46	1.67	6780.0	0.1226
1500	1.99	2.39	1.43	1.58	1.43	1.82	1.48	1.68	6820.0	0.1504
1515	1.99	2.39	1.43	1.58	1.43	1.88	1.48	1.68	6950.0	0.1788
1530	1.99	2.39	1.43	1.58	1.43	1.94	1.48	1.68	6850.0	0.2068
1545	1.99	2.39	1.43	1.58	1.43	2.00	1.48	1.69	6650.0	0.2339
1600	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	6390.0	0.2991
1700	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	4950.0	0.3698
1745	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	3780.0	0.4007
1800	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	3430.0	0.4287
1845	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	2600.0	0.4606
1930	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	1960.0	0.4846
2015	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	1520.0	0.5063
2115	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	1170.0	0.5254
2215	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	934.0	0.5425
2330	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	737.0	0.5531
2400	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	674.0	0.5888
NOV. 30										
0000	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	674.0	0.5888
0600	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	336.0	0.6122
0830	1.99	2.39	1.43	1.58	1.43	2.07	1.48	1.69	261.0	0.6185
0900	1.99	2.39	1.51	1.58	1.43	2.07	1.48	1.71	261.0	0.6207
0930	1.99	2.39	1.51	1.58	1.43	2.07	1.48	1.71	258.0	0.6228
1000	2.10	2.39	1.52	1.58	1.48	2.07	1.49	1.73	276.0	0.6262
1100	2.22	2.54	1.61	1.69	1.69	2.18	1.64	1.86	327.0	0.6315
1200	2.23	2.55	1.66	1.71	1.69	2.19	1.64	1.88	339.0	0.6426
1500	2.23	2.55	1.66	1.71	1.69	2.19	1.64	1.88	623.0	0.6731
1800	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	419.0	0.7039
2400	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	267.0	0.7300
DEC. 1										
0000	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	267.0	0.7300
0600	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	188.0	0.7485
1200	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	190.0	0.7671
1800	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	161.0	0.7828
2400	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	146.0	0.7971
DEC. 2										
0000	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	146.0	0.7971
0600	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	108.0	0.8077
1200	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	133.0	0.8208
1800	2.23	2.55	1.66	1.71	1.69	2.19	1.70	1.89	120.0	0.8325
2400	2.23	2.55	1.66	1.71	1.69	2.19	1 70	1.89	129.0	0.8388

STA. NO. 08075000 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

BRAYS BAYOU AT HOUSTON, TEX. — STORM OF MAY 13-17, 1982

DATE & TIME	GAGE NUMBER 4780	4800	4910	33R	32R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13										
0000	0.0	0.0	0.0	0.0	0.0			0.0	115.0	0.0056
0600	0.0	0.0	0.0	0.0	0.0			0.0	82.0	0.0130
1100	0.0	0.0	0.0	0.0	0.0			0.0	108.0	0.0176
1115	0.0	0.0	0.0	0.27	0.18			0.06	110.0	0.0181
1130	0.0	0.0	0.0	0.54	0.39			0.12	112.0	0.0185
1145	0.0	0.0	0.0	0.81	0.60			0.19	114.0	0.0190
1200	0.0	0.0	0.0	1.11	0.81			0.26	116.0	0.0195
1215	0.0	0.0	0.0	1.22	0.93			0.29	117.0	0.0199
1230	0.02	0.0	0.0	1.34	1.05			0.33	118.0	0.0204
1245	0.08	0.0	0.04	1.46	1.17			0.39	119.0	0.0209
1300	0.80	0.05	0.23	1.58	1.29			0.62	120.0	0.0214
1315	0.91	0.30	0.34	1.61	1.41			0.75	157.0	0.0220
1330	1.12	0.35	0.74	1.67	1.53			0.98	282.0	0.0232
1345	1.33	0.50	0.93	1.73	1.65			1.15	767.0	0.0263
1400	1.41	0.60	1.16	1.79	1.77			1.30	1180.0	0.0311
1415	1.54	0.72	1.34	1.94	2.07			1.49	1750.0	0.0383
1430	1.62	0.83	1.40	2.09	2.37			1.62	3250.0	0.0516
1445	1.64	1.02	1.51	2.24	2.67			1.78	5060.0	0.0722
1500	1.72	1.05	1.56	2.41	3.00			1.91	6070.0	0.0970
1515	1.90	1.15	1.74	2.56	3.06			2.05	6660.0	0.1242
1530	2.28	1.30	2.02	2.71	3.12			2.26	7140.0	0.1533
1545	2.62	1.60	2.32	2.86	3.21			2.51	7920.0	0.1857
1600	3.01	2.16	2.87	3.02	3.30			2.90	9280.0	0.2235
1615	3.21	2.52	3.49	3.08	3.30			3.23	11600.0	0.2709
1630	3.25	2.90	3.79	3.14	3.30			3.42	13900.0	0.3276
1645	3.28	2.97	3.87	3.20	3.30			3.47	15800.0	0.3921
1700	3.29	3.00	3.89	3.26	3.31			3.49	17100.0	0.4619
1715	3.29	3.02	3.92	3.26	3.31			3.50	17400.0	0.5330
1730	3 29	3.02	3.92	3.26	3.31			3.50	17700.0	0 6052
1745	3.29	3 02	3.92	3.27	3.31			3.51	17400.0	0.6762
1800	3.29	3.02	3.92	3.30	3.31			3.51	17100.0	0.8159
1845	3.29	3.02	3.92	3.30	3.31			3.51	15800.0	0.9449
1900	3.29	3.02	3.92	3.31	3.31			3 51	15200.0	1.0379
1930	3.29	3.02	3.92	3.31	3.31			3.51	14000.0	1.1237
1945	3.29	3.08	3.92	3.31	3.31			3.52	13500.0	1.2614
2045	3.29	3.08	3.92	3.31	3.31			3.52	11000.0	1.4410
2145	3.29	3.08	3.92	3.31	3.31			3.52	8510.0	1.5626
2230	3.29	3.08	3.92	3.31	3.31			3.52	6850.0	1.6465
2315	3.29	3.08	3.92	3.31	3.31			3.52	5510.0	1.7140

STA. NO. 08075000 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

BRAYS BAYOU AT HOUSTON, TEX. — STORM OF MAY 13-17, 1982

DATE & TIME	GAGE NUMBER 4780	4800	4910	33R	32R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13								
2400	3.29	3.08	3.92	3.31	3.31	3.52	4500.0	1.7783
MAY 14								
0000	3.29	3.08	3.92	3.31	3.31	3.52	4500.0	1.7783
0100	3.29	3.08	3.92	3.31	3.31	3.52	3500.0	1.8497
0230	3.29	3.08	3.92	3.31	3.31	3.52	2600.0	1.9134
0400	3.29	3.08	3.92	3.31	3.31	3.52	2100.0	1.9734
0600	3.29	3.08	3.92	3.31	3.31	3.52	1660.0	2.0276
0800	3.29	3.08	3.92	3.31	3.31	3.52	1410.0	2.0564
0830	3.29	3.08	3.93	3.31	3.31	3.52	1360.0	2.0953
1130	3.29	3.08	3.93	3.31	3.31	3.52	1100.0	2.1267
1200	3.30	3.08	3.93	3.31	3.31	3.52	1050.0	2.1438
1330	3.30	3.08	3.93	3.31	3.31	3.52	960.0	2.1595
1400	3.30	3.08	3.94	3.31	3.31	3.53	929.0	2.1936
1800	3.30	3.08	3.94	3.31	3.31	3.53	732.0	2.2534
2400	3.30	3.08	3.94	3.31	3.31	3.53	529.0	2.3052
MAY 15								
0000	3.30	3.08	3.94	3.31	3.31	3.53	529.0	2.3052
0600	3.30	3.08	3.94	3.31	3.31	3.53	368.0	2.3323
0900	3.30	3.08	3.94	3.31	3.31	3.53	320.0	2.3479
1200	3.30	3.08	3.94	3.31	3.31	3.53	323.0	2.3664
1600	3.30	3.08	3.94	3.31	3.31	3.53	301.0	2.3787
1700	3.30	3.08	3.95	3.31	3.31	3.53	291.0	2.3834
1800	3.30	3.08	3.95	3.31	3.31	3.53	282.0	2.3996
2400	3.30	3.08	3.95	3.31	3.31	3.53	244.0	2.4235
MAY 16								
0000	3.30	3.08	3.95	3.31	3.31	3.53	244.0	2.4235
0600	3.30	3.08	3.95	3.31	3.31	3.53	186.0	2.4341
0700	3.30	3.08	3.95	3.31	3.31	3.53	167.0	2.4368
0800	3.30	3.08	3.95	3.31	3.31	3.53	181.0	2.4398
0900	3.30	3.08	3.95	3.31	3.31	3.53	150.0	2.4447
1200	3.30	3.08	3.95	3.31	3.31	3.53	172.0	2.4531
1500	3.30	3.08	3.95	3.31	3.31	3.53	190.0	2.4624
1800	3.30	3.08	3.95	3.31	3.31	3.53	183.0	2.4759
2400	3.30	3.08	3.95	3.31	3.31	3.53	170.0	2.4925
MAY 17								
0000	3.30	3.08	3.95	3.31	3.31	3.53	170.0	2.4925
0600	3.30	3.08	3.95	3.31	3.31	3.53	125.0	2.5017
0900	3.30	3.08	3.95	3.31	3.31	3.53	135.0	2.5083
1200	3.30	3.08	3.95	3.31	3.31	3.53	157.0	2.5160
1500	3.30	3.08	3.95	3.31	3.31	3.53	144.0	2.5230
1800	3.41	3.08	4.02	3.75	4.36	3.86	247.0	2.5351
2100	3.46	3.11	4.11	3.75	4.36	3.91	722.0	2.5705
2400	3.46	3.11	4.12	3.75	4.36	3.91	1130.0	2.5982

SIMS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Sims Bayou drainage basin are shown in figure 15.

Berry Bayou is shown as a separate drainage basin within the Sims Bayou section.

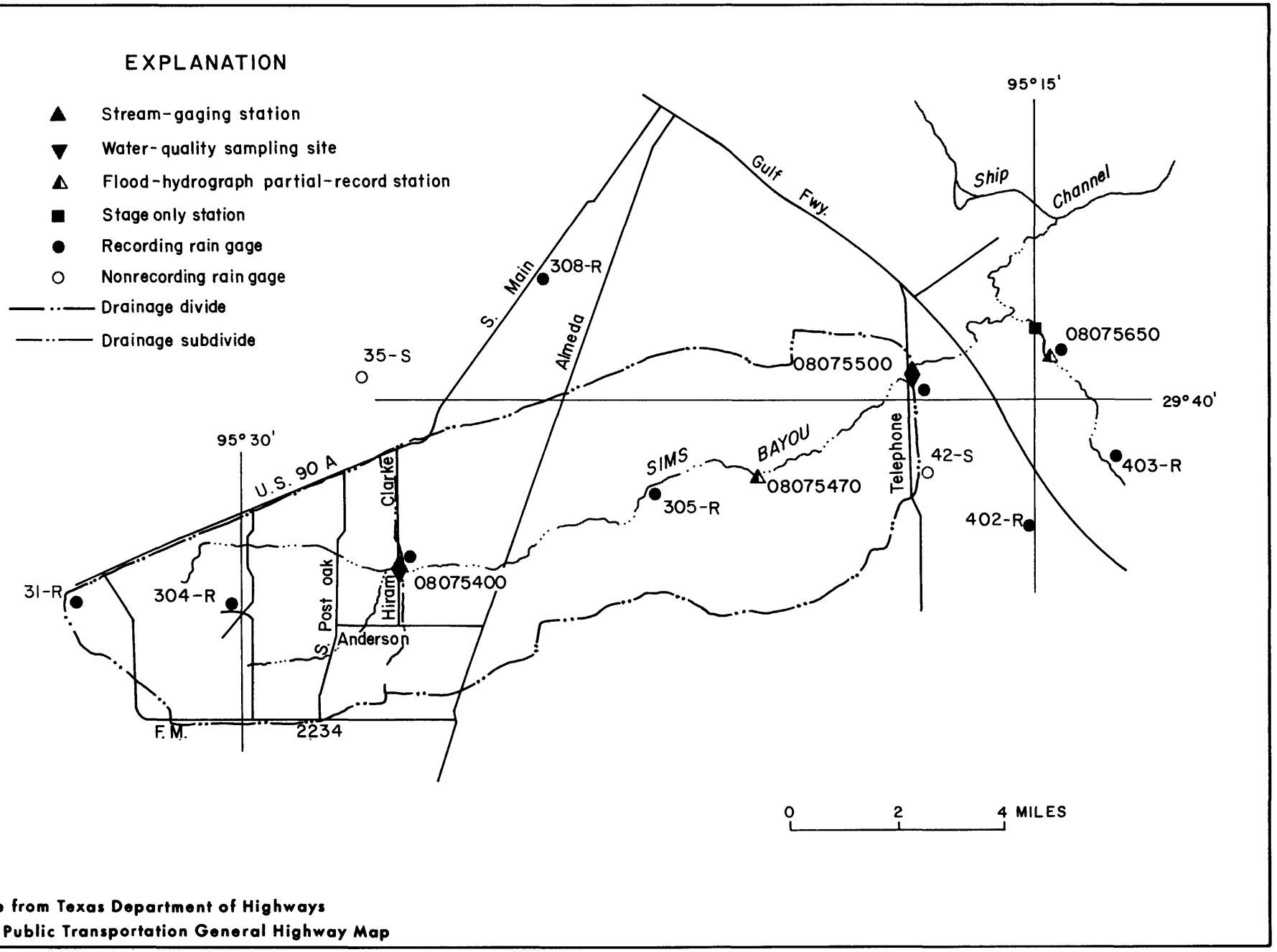
Weighted-mean rainfall for the upper portion of the drainage basin above the Hiram Clarke Street station, based on two rain gages, for the 1982 water year was 36.29 inches, or 11.90 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
10.89	1.45	1.93	2.31	2.48	1.05	2.36	6.09	1.11	0.53	4.94	1.15	36.29

Weighted-mean rainfall in the drainage basin above the Telephone Road station (station 08075500), based on five rain gages, for the 1982 water year was 41.76 inches or 6.43 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water-year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
12.03	1.47	2.28	2.21	2.65	1.32	2.52	6.34	3.76	2.06	4.54	0.58	41.76

The storms of Oct. 5-7 and May 13-16 were selected for analysis at both station 08075400, Sims Bayou at Hiram Clarke Street and station 08075500, Sims Bayou at Houston. No storms were analyzed at station 08075470, Sims Bayou at Martin Luther King Blvd.



Base from Texas Department of Highways and Public Transportation General Highway Map

Figure 15.- Locations of data-collection sites in and near the Sims Bayou drainage basin

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 13.--Storm rainfall-runoff data, 1982 Water Year, Sims Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Sims Bayou at Hiram Clarke St., Houston, Tx. (Drainage area -- 20.2 mi^2)								
Oct. 5-7, 1981	8.3	4.45	0.80	1.32	2.40	1.46	0.33	1,620
May 13-16, 1982	2.8	3.48	0.84	1.32	1.92	1.81	0.52	2,240*
Sims Bayou at Houston, Tx. (Drainage area -- 63.0 mi^2)								
Oct. 5-7, 1981	4.8	6.42	1.20	2.04	3.24	3.52	0.48	7,860*
Oct. 7-9-1981	9.0	.85	.12	.24	.48			1,230
May 13-16,1982	2.5	3.36	0.84	1.32	2.16	2.07	0.62	4,950

* - Annual peak discharge for 1982 WY.

SAN JACINTO RIVER BASIN

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX

LOCATION.--Lat 29°37'07", long 95°26'45", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Hiram Clarke Street in southwest Houston, 12.7 mi (20.4 km) upstream from gage Sims Bayou at Houston, and 19.7 mi (31.7 km) upstream from mouth.

DRAINAGE AREA.--20.2 mi² (52.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year (discharge measurements and supplemental peak discharges only Dec. 6, 1978, to Aug. 31, 1979).

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

REMARKS.--Water-discharge records fair. Channel bed was lowered 5 to 6 ft (1.5 to 1.8 m) during rectification of 1978. No known diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Records furnished by Houston Lighting and Power Co. show that during the current year, about 553 acre-ft (1.21 hm³) of ground water was used for cooling purposes then released to the bayou about 200 ft (61 m), revised, upstream from gage. Rain gage and gage-height telemeters located at station.

AVERAGE DISCHARGE.--17 years (water years 1965-78, 1980-82), 27.6 ft³/s (0.782 m³/s), 20,000 acre-ft/yr (24.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 4,500 ft³/s (127 m³/s) June 15, 1976, elevation, 57.12 ft (17.410 m); minimum daily, 1.5 ft³/s (0.042 m³/s) July 26, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 650 ft³/s (18.4 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 5	1930	1,620	45.9	48.24	14.704
Oct. 31	1800	1,030	29.2	46.03	14.030
May 13	1830	*2,240	63.4	50.58	15.417

Minimum daily discharge, 9.8 ft³/s (0.28 m³/s) Dec. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	213	19	22	22	25	20	16	13	14	16	13
2	11	44	12	20	20	23	19	15	13	14	15	12
3	15	22	14	18	17	23	20	15	14	13	14	24
4	14	20	17	15	15	22	18	15	14	14	14	32
5	475	17	17	15	16	21	19	14	14	13	14	15
6	267	15	17	14	18	24	19	35	13	12	14	14
7	96	14	22	14	19	23	18	51	12	13	73	14
8	73	23	26	14	18	22	19	16	12	14	172	13
9	28	30	15	15	19	22	18	14	12	13	30	12
10	22	20	11	16	19	22	28	15	13	13	37	11
11	20	15	10	16	15	24	21	15	13	13	45	13
12	20	14	11	85	15	22	19	15	13	13	14	13
13	21	15	16	31	16	21	19	562	12	13	12	13
14	78	14	13	26	17	20	19	343	21	13	12	13
15	60	14	11	24	17	20	18	54	14	13	12	12
16	24	13	11	22	16	20	19	24	13	13	11	12
17	20	13	9.8	21	16	21	21	18	14	15	12	12
18	71	12	12	19	15	21	20	16	14	14	11	13
19	27	14	12	18	15	21	20	16	13	14	11	17
20	18	12	17	15	88	20	20	15	13	16	12	23
21	16	12	26	16	37	19	42	15	13	15	12	14
22	15	14	13	16	20	20	55	18	14	15	13	12
23	16	13	12	15	18	39	34	39	14	15	11	12
24	17	15	12	15	20	22	102	29	13	15	12	12
25	16	15	13	15	27	19	50	18	17	14	12	13
26	16	15	11	12	208	18	21	15	20	14	12	12
27	14	12	11	15	54	51	16	15	24	17	12	12
28	13	12	11	19	30	28	14	15	13	16	12	13
29	13	25	12	34	---	20	15	15	13	14	11	13
30	13	31	26	141	---	19	15	16	14	15	13	13
31	282	---	79	61	---	20	---	14	---	17	13	---
TOTAL	1802	718	518.8	799	827	712	758	1493	425	437	684	427
MEAN	58.1	23.9	16.7	25.8	29.5	23.0	25.3	48.2	14.2	14.1	22.1	14.2
MAX	475	213	79	141	208	51	102	562	24	17	172	32
MIN	11	12	9.8	12	15	18	14	14	12	12	11	11
AC-FT	3570	1420	1030	1580	1640	1410	1500	2960	843	867	1360	847

CAL YR 1981	TOTAL	15083.2	MEAN 41.3	MAX 2350	MIN 9.6	AC-FT	29920	
WTR YR 1982	TOTAL	9600.8	MEAN 26.3	MAX 562	MIN 9.8	AC-FT	19040	

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
JAN										
18...	1005	16	1000	8.1	16.0	10	16	8.6	86	7.2
MAR										
22...	2155	28	900	9.0	20.5	30	32	5.6	62	>23
22...	2250	32	780	9.2	20.0	40	34	6.0	66	>23
23...	0210	36	785	8.5	19.5	40	80	4.8	52	>22
23...	1320	61	540	8.0	18.0	90	150	7.5	79	>23
24...	1310	21	780	8.1	23.0	25	35	7.1	83	5.3
JUN										
21...	1355	13	1030	8.0	32.0	20	27	6.4	87	12

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JAN									
18...	K10	26	--	--	--	--	--	--	--
MAR									
22...	7700	8200	--	--	--	--	--	--	--
22...	20000	8700	--	--	--	--	--	--	--
23...	26000	13000	--	--	--	--	--	--	--
23...	2100	550	97	0	28	6.6	79	3.5	6.7
24...	K31	40	--	--	--	--	--	--	--
JUN									
21...	1000	720	150	0	44	10	150	5.6	10

DATE	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
JAN									
18...	--	--	--	--	--	--	23	22	2.0
MAR									
22...	--	--	--	--	--	--	62	24	.65
22...	--	--	--	--	--	--	77	23	.66
23...	--	--	--	--	--	--	124	38	.64
23...	160	14	62	.4	12	305	282	56	.73
24...	--	--	--	--	--	--	46	17	1.4
JUN									
21...	230	120	110	.5	22	605	59	23	.81

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
18...	.360	2.4	4.70	--	.90	5.60	4.30	4.20	11
MAR									
22...	.350	1.0	5.00	--	6.0	11.0	3.50	--	25
22...	.340	1.0	5.20	--	5.8	11.0	3.40	--	30
23...	.280	.92	5.00	5.00	4.0	9.00	4.10	--	44
23...	.210	.94	4.90	--	3.5	8.40	3.80	--	43
24...	.350	1.7	3.40	--	3.0	6.40	3.20	--	13
JUN									
21...	.490	1.3	2.60	--	1.9	4.50	7.60	--	19

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUN 21...	1355	70	96	<1	<10	8	<3

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUN 21...	6	58	.1	<1	<1	27

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
JUN 21...	1355	<.10	<.10	.90	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
JUN 21...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08075400	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TEX.	STORM OF OCT. 5 -7 , 1981							
DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
	5400	31R								
OCT. 5										
0000	0.0	0.0						0.0	15.0	0.0035
0600	0.0	0.0						0.0	14.0	0.0094
1100	0.0	0.0						0.0	13.0	0.0120
1115	0.0	0.01						0.00	13.0	0.0122
1130	0.0	0.03						0.01	13.0	0.0125
1145	0.0	0.08						0.03	13.0	0.0127
1200	0.0	0.08						0.03	13.0	0.0130
1215	0.0	0.08						0.03	13.0	0.0132
1230	0.12	0.08						0.10	13.0	0.0140
1345	0.12	0.08						0.10	16.0	0.0149
1400	0.12	0.18						0.14	17.0	0.0152
1415	0.36	0.98						0.61	20.0	0.0156
1430	0.36	1.12						0.66	22.0	0.0160
1445	1.08	1.13						1.10	56.0	0.0171
1500	1.44	1.13						1.32	109.0	0.0192
1515	2.04	1.13						1.68	204.0	0.0231
1530	2.76	1.13						2.11	314.0	0.0291
1545	3.12	1.15						2.33	510.0	0.0389
1600	3.48	1.20						2.57	610.0	0.0506
1615	3.72	1.23						2.72	730.0	0.0646
1630	3.72	1.26						2.74	823.0	0.0883
1700	3.72	1.26						2.74	1270.0	0.1248
1715	3.84	1.26						2.81	1300.0	0.1497
1730	3.96	1.32						2.90	1340.0	0.1754
1745	4.08	1.39						3.00	1380.0	0.2019
1800	4.44	1.66						3.33	1420.0	0.2291
1815	4.44	1.67						3.33	1500.0	0.2579
1830	4.68	1.67						3.48	1530.0	0.2872
1845	4.68	1.67						3.48	1560.0	0.3172
1900	4.92	1.67						3.62	1590.0	0.3477
1915	4.92	1.70						3.63	1600.0	0.3783
1930	4.92	1.70						3.63	1620.0	0.4249
2000	4.92	1.70						3.63	1590.0	0.4707
2015	5.04	1.70						3.70	1570.0	0.5008
2030	5.04	1.79						3.74	1550.0	0.5305
2045	5.16	1.87						3.84	1530.0	0.6626
2245	5.16	1.87						3.84	1240.0	0.8171
2400	5.16	1.87						3.84	1020.0	0.9247
OCT. 6										
0000	5.16	1.87						3.84	1020.0	0.9247

STA. NO. 08075400 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TEX. STORM OF OCT. 5 -7 , 1981

DATE & TIME	GAGE NUMBER 5400	GAGE NUMBER 31R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 6					
0130	5.16	1.87	3.84	747.0	0.9964
0230	5.16	1.87	3.84	575.0	1.0515
0400	5.16	1.87	3.84	463.0	1.1048
0530	5.16	1.87	3.84	367.0	1.1329
0600	5.16	1.87	3.84	348.0	1.1663
0800	5.16	1.87	3.84	262.0	1.2065
1000	5.16	1.87	3.84	205.0	1.2379
1200	5.16	1.87	3.84	165.0	1.2664
1430	5.16	1.87	3.84	130.0	1.2839
1530	5.16	1.87	3.84	122.0	1.2909
1600	5.28	1.89	3.92	117.0	1.2954
1630	5.28	1.97	3.96	116.0	1.2998
1700	5.40	1.97	4.03	116.0	1.3065
1800	5.40	1.97	4.03	116.0	1.3376
2400	5.40	1.97	4.03	78.0	1.3646
OCT. 7					
0000	5.40	1.97	4.03	78.0	1.3646
0300	5.40	1.97	4.03	62.0	1.3765
0500	5.40	1.97	4.03	50.0	1.3822
0600	5.40	1.97	4.03	44.0	1.3923
1100	5.40	1.97	4.03	35.0	1.4004
1200	5.40	1.97	4.03	34.0	1.4030
1300	5.40	1.97	4.03	32.0	1.4055
1400	5.64	1.97	4.17	32.0	1.4079
1500	5.76	1.99	4.25	84.0	1.4143
1600	5.76	1.99	4.25	80.0	1.4236
1800	5.76	1.99	4.25	68.0	1.4314
1900	5.76	2.08	4.29	65.0	1.4364
2000	5.88	2.12	4.38	61.0	1.4410
2100	5.88	2.12	4.38	64.0	1.4484
2300	5.88	2.12	4.38	58.0	1.4551
2400	5.88	2.31	4.45	58.0	1.4573

STA. NO. 08075400 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TEX. STORM OF MAY 13-16, 1982

DATE & TIME	GAGE NUMBER 5400	GAGE NUMBER 31R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13					
0000	0.0	0.0	0.0	16.0	0.0037
0600	0.0	0.0	0.0	14.0	0.0101
1200	0.0	0.0	0.0	14.0	0.0135
1215	0.0	0.05	0.02	14.0	0.0138
1230	0.0	0.12	0.05	14.0	0.0140
1245	0.0	0.25	0.10	14.0	0.0143
1300	0.0	0.37	0.15	14.0	0.0146
1315	0.0	0.47	0.19	14.0	0.0148
1330	0.12	0.62	0.32	14.0	0.0151
1345	0.24	0.83	0.48	18.0	0.0154
1400	0.60	0.92	0.73	22.0	0.0159
1415	0.84	0.99	0.90	32.0	0.0165
1430	0.84	1.11	0.95	40.0	0.0172
1445	0.96	1.21	1.06	56.0	0.0183
1500	1.08	1.67	1.32	77.0	0.0198
1515	1.20	2.12	1.57	108.0	0.0219
1530	1.44	2.54	1.88	142.0	0.0246
1545	1.68	3.10	2.25	279.0	0.0299
1600	2.04	3.24	2.52	338.0	0.0364
1615	2.88	3.25	3.03	507.0	0.0461
1630	3.36	3.30	3.34	957.0	0.0645
1645	3.48	3.30	3.41	1280.0	0.1013
1715	3.48	3.30	3.41	1790.0	0.1871
1800	3.48	3.30	3.41	2210.0	0.2931
1830	3.48	3.30	3.41	2240.0	0.3575
1845	3.60	3.30	3.48	2230.0	0.5500
2045	3.60	3.30	3.48	1800.0	0.7744
2200	3.60	3.30	3.48	1420.0	0.9105
2315	3.60	3.30	3.48	1060.0	0.9919
2400	3.60	3.30	3.48	992.0	1.0775
MAY 14					
0000	3.60	3.30	3.48	992.0	1.0775
0130	3.60	3.30	3.48	781.0	1.1673
0300	3.60	3.30	3.48	637.0	1.2528
0500	3.60	3.30	3.48	511.0	1.3116
0600	3.60	3.30	3.48	462.0	1.3737
0830	3.60	3.30	3.48	369.0	1.4444
1100	3.60	3.30	3.48	300.0	1.4790
1130	3.60	3.30	3.48	341.0	1.4920
1200	3.60	3.30	3.48	382.0	1.5140

STA. NO. 08075400	STORM RAINFALL AND RUNOFF RECORD	1982 WATER YEAR

SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TEX. — STORM OF MAY 13-16, 1982

DATE & TIME	GAGE NUMBER 5400	GAGE NUMBER 31R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 14					
1300	3.60	3.30	3.48	263.0	1.5493
1530	3.60	3.30	3.48	206.0	1.5888
1800	3.60	3.30	3.48	168.0	1.6210
2030	3.60	3.30	3.48	136.0	1.6471
2300	3.60	3.30	3.48	111.0	1.6620
2400	3.60	3.30	3.48	103.0	1.6778
MAY 15					
0000	3.60	3.30	3.48	103.0	1.6778
0300	3.60	3.30	3.48	82.0	1.6967
0600	3.60	3.30	3.48	66.0	1.7144
1000	3.60	3.30	3.48	52.0	1.7264
1200	3.60	3.30	3.48	48.0	1.7411
1800	3.60	3.30	3.48	39.0	1.7591
2400	3.60	3.30	3.48	33.0	1.7742
MAY 16					
0000	3.60	3.30	3.48	33.0	1.7742
0600	3.60	3.30	3.48	26.0	1.7822
0800	3.60	3.30	3.48	24.0	1.7859
1000	3.60	3.30	3.48	27.0	1.7890
1100	3.60	3.30	3.48	26.0	1.7910
1200	3.60	3.30	3.48	25.0	1.7977
1800	3.60	3.30	3.48	24.0	1.8088
2400	3.60	3.30	3.48	22.0	1.8138

08075470 SIMS BAYOU AT MARTIN LUTHER KING BLVD., HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°38'42", long 95°20'13", Harris County, Hydrologic Unit 12040104, at downstream side of upstream bridge on Martin Luther King Boulevard (formerly South Park Boulevard), 1.6 miles upstream from Atchison, Topeka, and Santa Fe Railway Co. bridge in south Houston.

DRAINAGE.--48.4 mi^2.

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

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Gage-height records good. Peak discharges were not computed at this time because an adequate stage-discharge relationship has not been determined.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (est.) 1,500 ft^3/s Jan. 19, 1978 (elevation unknown); minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Peak stage of 38.28 ft (discharge unknown) on June 15, 1976. This same storm produced the largest peak for the period of record (1952-81) at the gaging station Sims Bayou at Houston (08075500).

EXTREMES FOR CURRENT YEAR.--Peak stages above elevation of 25.0 ft and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 5	2145	unknown	*35.88
Oct. 31	2015	unknown	26.02
May 13	2100	unknown	31.25

Minimum discharge not determined.

SAN JACINTO RIVER BASIN

08075500 SIMS BAYOU AT HOUSTON, TX

Location.--Lat 29°40'27", long 95°17'21", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on State Highway 35 in southeast Houston and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--63.0 mi² (163.2 km²). Prior to Oct. 1, 1976, 64.0 mi² (165.8 km²).

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.09 ft (0.942 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Low flow is largely sustained by sewage effluent from Houston suburbs and industrial wastes. Rainfall and gage-height telemeter at station.

AVERAGE DISCHARGE.--30 years, 81.2 ft³/s (2.300 m³/s), 58,830 acre-ft/yr (72.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s (317 m³/s) June 9, 1975, and June 16, 1976; maximum gage height, 33.17 ft (10.110 m) June 9, 1975; minimum daily, 0.9 ft³/s (0.025 m³/s) Aug. 7, 1955.

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

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 5	2400	7,860	223	30.44	9.278
Oct. 31	2200	2,650	75.0	21.15	6.446
May 13	2230	4,950	140	25.91	7.897

Minimum daily discharge, 30 ft³/s (0.85 m³/s) July 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	1070	79	81	76	62	42	34	36	36	57	33
2	37	167	43	58	60	54	39	37	34	35	72	32
3	54	74	37	52	52	55	35	34	35	35	42	40
4	45	54	39	45	44	49	35	35	35	34	36	93
5	1560	45	46	43	45	43	34	35	36	37	36	42
6	3210	42	47	40	51	45	33	94	35	36	37	35
7	576	37	63	39	43	48	33	222	33	32	248	44
8	545	63	56	37	49	46	36	54	34	34	416	37
9	136	96	53	36	57	43	35	41	34	31	352	37
10	77	48	41	39	45	44	46	36	34	30	139	37
11	72	40	37	39	43	42	40	36	34	32	115	35
12	60	37	41	220	44	46	39	40	36	31	62	40
13	55	36	47	132	38	40	39	1200	34	32	42	37
14	54	37	52	81	41	38	38	1910	41	32	40	37
15	138	40	39	66	52	38	38	245	56	35	36	36
16	60	40	39	57	52	38	38	107	61	35	35	35
17	57	35	37	52	40	39	37	84	37	37	35	34
18	118	35	39	51	37	37	37	75	38	48	36	33
19	79	35	40	49	37	37	37	50	43	37	36	44
20	49	32	54	46	194	35	36	45	291	36	46	50
21	45	37	83	41	178	35	110	40	121	151	45	40
22	46	42	56	42	69	39	141	90	239	102	44	34
23	44	41	44	42	52	96	91	320	61	48	37	35
24	43	38	38	44	53	63	171	200	313	56	36	48
25	44	41	40	43	56	38	198	55	285	39	40	50
26	47	36	38	41	738	36	65	50	249	61	35	46
27	46	33	37	39	245	119	45	48	301	47	34	45
28	43	33	42	45	98	103	39	45	54	41	35	45
29	41	128	36	86	---	48	37	37	42	36	35	46
30	39	167	110	222	---	42	37	38	37	45	43	44
31	890	---	402	293	---	42	---	35	---	107	42	---
TOTAL	8346	2659	1855	2201	2589	1540	1681	5372	2719	1428	2344	1244
MEAN	269	88.6	59.8	71.0	92.5	49.7	56.0	173	90.6	46.1	75.6	41.5
MAX	3210	1070	402	293	738	119	198	1910	313	151	416	93
MIN	36	32	36	36	37	35	33	34	33	30	34	32
AC-FT	16550	5270	3680	4370	5140	3050	3330	10660	5390	2830	4650	2470

CAL YR 1981	TOTAL	51345	MEAN	141	MAX	5740	MIN 30	AC-FT	101800
WTR YR 1982	TOTAL	33978	MEAN	93.1	MAX	3210	MIN 30	AC-FT	67400

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	1038	52	1100	7.6	13.0	15	9.3	7.8	74	4.4	3100	3300
MAR												
22...	2355	90	660	8.0	19.5	20	120	6.6	7	13	29000	19000
23...	0305	79	1010	8.0	19.0	30	32	5.5	59	14	62000	17000
23...	1430	121	1060	8.0	18.0	30	100	6.3	66	15	28000	13000
24...	1415	51	720	7.8	21.0	35	68	5.3	60	12	13000	7000
JUN												
21...	1215	58	736	7.6	26.5	50	41	3.3	40	7.0	49000	15000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
22...	140	0	41	8.7	86	3.2	6.2	150	34	84	.6	11
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
21...	110	0	31	6.8	100	4.5	4.4	110	35	140	.4	8.8

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
18...	--	12	8	4.1	.210	4.3	1.90	.60	2.50	2.60	6.8
MAR											
22...	362	222	27	2.6	.370	3.0	.910	1.2	2.10	2.10	22
23...	--	71	21	3.5	.560	4.1	1.20	1.5	2.70	2.90	15
23...	--	166	22	3.0	.390	3.4	2.10	1.5	3.60	2.70	16
24...	--	86	11	2.7	.320	3.0	2.10	2.1	4.20	2.30	13
JUN											
21...	393	60	14	1.9	.240	2.1	.700	1.7	2.40	1.80	14

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUN 21...	1215	21	100	<1	<10	4	31

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUN 21...	5	15	.1	<1	<1	21

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
JUN 21...	1215	<.10	<.10	.20	<.10	<.10	<2.0	3.6

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
JUN 21...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08075500 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

SIMS BAYOU AT HOUSTON, TEX. — STORM OF OCT. 5 -9 , 1981

DATE & TIME	GAGE NUMBER 5400	5470	5500	305R	31R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 5										
0000	0.0	0.0	0.0	0.0	0.0			0.0	44.0	0.0051
0930	0.0	0.0	0.0	0.0	0.0			0.0	40.0	0.0099
0945	0.0	0.0	0.0	0.24	0.0			0.06	40.0	0.0102
1000	0.0	0.12	0.0	0.24	0.0			0.08	40.0	0.0108
1100	0.0	0.12	0.0	0.24	0.0			0.08	44.0	0.0116
1130	0.0	0.12	0.0	0.36	0.03			0.12	46.0	0.0122
1200	0.0	0.36	0.24	0.36	0.08			0.19	48.0	0.0131
1300	0.12	0.48	0.24	0.36	0.08			0.25	66.0	0.0143
1330	0.12	0.48	0.24	0.36	0.08			0.25	75.0	0.0152
1400	0.12	0.48	0.48	0.60	0.18			0.34	84.0	0.0160
1415	0.36	0.60	0.72	0.60	0.98			0.58	85.0	0.0165
1430	0.36	0.72	0.84	1.08	1.12			0.75	85.0	0.0170
1445	1.08	0.84	0.96	1.20	1.13			1.06	116.0	0.0177
1500	1.44	0.96	0.96	1.32	1.13			1.24	178.0	0.0188
1515	2.04	1.32	0.96	1.44	1.13			1.56	198.0	0.0200
1530	2.76	1.80	1.08	1.68	1.13			1.97	205.0	0.0213
1545	3.12	1.80	1.08	2.04	1.15			2.19	200.0	0.0225
1600	3.48	1.92	1.08	2.64	1.20			2.50	198.0	0.0238
1615	3.72	2.28	1.08	3.36	1.23			2.84	208.0	0.0250
1630	3.72	3.24	1.56	3.48	1.26			3.09	231.0	0.0265
1645	3.72	3.36	2.40	3.48	1.26			3.15	252.0	0.0280
1700	3.72	3.36	2.40	3.84	1.26			3.24	287.0	0.0298
1715	3.84	3.48	2.52	4.44	1.26			3.46	592.0	0.0334
1730	3.96	3.84	2.64	5.04	1.32			3.74	1020.0	0.0397
1745	4.08	4.44	3.00	5.40	1.39			4.02	1180.0	0.0469
1800	4.44	5.16	3.84	5.52	1.66			4.41	1310.0	0.0550
1815	4.44	6.24	4.68	5.76	1.67			4.73	1560.0	0.0646
1830	4.68	6.60	5.88	6.24	1.67			5.06	1940.0	0.0765
1845	4.68	6.84	6.12	7.32	1.67			5.39	2280.0	0.0905
1900	4.92	7.20	6.12	8.28	1.67			5.79	3000.0	0.1090
1915	4.92	7.92	6.12	8.76	1.70			6.06	3760.0	0.1321
1930	4.92	8.04	6.12	8.76	1.70			6.08	4480.0	0.1597
1945	4.92	8.16	6.24	8.76	1.70			6.11	4980.0	0.1903
2000	4.92	8.16	6.24	8.76	1.70			6.11	5590.0	0.2246
2015	5.04	8.16	6.24	8.76	1.70			6.15	5830.0	0.2605
2030	5.04	8.16	6.24	8.76	1.79			6.17	6210.0	0.2987
2045	5.16	8.16	6.24	8.76	1.87			6.22	6510.0	0.4988
2300	5.16	8.16	6.24	8.76	1.87			6.22	7790.0	0.7383
2315	5.16	8.16	6.24	8.88	1.87			6.25	7800.0	0.8343

STA. NO. 08075500 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

SIMS BAYOU AT HOUSTON, TEX. STORM OF OCT. 5 -9 , 1981

DATE & TIME	GAGE NUMBER 5400	5470	5500	305R	31R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 5										
2400	5.16	8.16	6.24	8.88	1.87			6.25	7860.0	1.2934
OCT. 6										
0000	5.16	8.16	6.24	8.88	1.87			6.25	7860.0	1.2934
0400	5.16	8.16	6.24	8.88	1.87			6.25	6140.0	1.7465
0600	5.16	8.16	6.24	8.88	1.87			6.25	5000.0	1.9925
0800	5.16	8.16	6.24	8.88	1.87			6.25	3940.0	2.1621
0930	5.16	8.16	6.24	8.88	1.87			6.25	3200.0	2.3195
1200	5.16	8.16	6.24	8.88	1.87			6.25	2420.0	2.4534
1400	5.16	8.16	6.24	8.88	1.87			6.25	1860.0	2.5335
1530	5.16	8.16	6.24	8.88	1.87			6.25	1580.0	2.5723
1600	5.28	8.16	6.24	8.88	1.89			6.30	1480.0	2.5996
1700	5.40	8.16	6.36	8.88	1.97			6.36	1330.0	2.6323
1800	5.40	8.16	6.36	8.88	1.97			6.36	1180.0	2.6759
2000	5.40	8.16	6.36	8.88	1.97			6.36	932.0	2.7103
2100	5.40	8.28	6.36	9.00	1.97			6.41	865.0	2.7528
2400	5.40	8.28	6.48	9.00	1.97			6.42	683.0	2.8284
OCT. 7										
0000	5.40	8.28	6.48	9.00	1.97			6.42	683.0	2.8284
0600	5.40	8.28	6.48	9.00	1.97			6.42	444.0	2.8776
0900	5.40	8.28	6.48	9.00	1.97			6.42	357.0	2.8995
1100	5.40	8.28	6.48	9.12	1.97			6.45	318.0	2.9152
1300	5.40	8.40	6.48	9.12	1.97			6.47	281.0	2.9255
1400	5.64	8.40	6.48	9.60	1.97			6.67	270.0	2.9322
1500	5.76	8.76	6.96	9.72	1.99			6.84	258.0	2.9417
1700	5.76	8.76	6.96	9.72	1.99			6.84	479.0	2.9652
1900	5.76	9.12	7.56	9.96	2.08			7.02	617.0	2.9880
2000	5.88	9.24	7.68	10.20	2.12			7.16	1040.0	3.0136
2100	5.88	9.24	7.80	10.20	2.12			7.16	1160.0	3.0421
2200	5.88	9.36	7.80	10.20	2.12			7.19	1230.0	3.0724
2300	5.88	9.36	7.80	10.20	2.12			7.19	1230.0	3.1026
2400	5.88	9.36	7.80	10.20	2.31			7.22	1190.0	3.2051
OCT. 8										
0000	5.88	9.36	7.80	10.20	2.31			7.22	1190.0	3.2051
0600	5.88	9.36	7.80	10.32	2.31			7.25	752.0	3.3160
1200	5.88	9.36	7.80	10.32	2.31			7.25	455.0	3.3832
1800	5.88	9.36	7.80	10.32	2.31			7.25	287.0	3.4256
2400	5.88	9.36	7.80	10.32	2.31			7.25	207.0	3.4561
OCT. 9										
0000	5.88	9.36	7.80	10.32	2.31			7.25	207.0	3.4561
0600	5.88	9.36	7.80	10.32	2.31			7.25	159.0	3.4796
1200	5.88	9.36	7.80	10.32	2.31			7.25	134.0	3.4993
1800	5.88	9.48	7.80	10.32	2.31			7.27	105.0	3.5148
2400	5.88	9.48	7.80	10.32	2.31			7.27	87.0	3.5213

STA. NO. 08075500 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

SIMS BAYOU AT HOUSTON, TEX. — STORM OF MAY 13-16, 1982

DATE & TIME	GAGE NUMBER 5400	5470	5500	305R	31R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13										
0000	0.0	0.0	0.0	0.0	0.0			0.0	41.0	0.0061
1200	0.0	0.0	0.0	0.0	0.0			0.0	41.0	0.0124
1230	0.0	0.0	0.0	0.0	0.12			0.02	41.0	0.0129
1300	0.0	0.0	0.24	0.0	0.37			0.07	41.0	0.0134
1330	0.12	0.0	0.36	0.12	0.62			0.18	46.0	0.0138
1345	0.24	0.12	0.36	0.12	0.83			0.28	49.0	0.0141
1400	0.60	0.12	0.36	0.12	0.92			0.42	51.0	0.0146
1430	0.84	0.24	0.60	0.36	1.11			0.63	89.0	0.0154
1445	0.96	0.36	0.72	0.48	1.21			0.75	108.0	0.0160
1500	1.08	0.36	0.84	0.60	1.67			0.89	127.0	0.0168
1515	1.20	0.48	1.08	0.72	2.12			1.07	149.0	0.0177
1530	1.44	0.60	1.68	0.84	2.54			1.30	172.0	0.0188
1545	1.68	0.72	2.16	1.08	3.10			1.57	194.0	0.0200
1600	2.04	0.96	2.64	1.56	3.24			1.91	216.0	0.0213
1615	2.88	1.32	2.76	2.28	3.25			2.47	487.0	0.0243
1630	3.36	1.92	2.76	2.88	3.30			2.91	758.0	0.0290
1645	3.48	2.52	2.76	3.24	3.30			3.16	1030.0	0.0353
1700	3.48	3.00	2.88	3.36	3.30			3.30	1300.0	0.0433
1715	3.48	3.00	2.88	3.36	3.30			3.30	1630.0	0.0533
1730	3.48	3.12	2.88	3.36	3.30			3.32	1950.0	0.0713
1800	3.48	3.12	2.88	3.36	3.30			3.32	2600.0	0.1033
1830	3.48	3.12	2.88	3.36	3.30			3.32	2930.0	0.1303
1845	3.60	3.12	2.88	3.36	3.30			3.36	3100.0	0.1780
1945	3.60	3.12	2.88	3.36	3.30			3.36	3810.0	0.3068
2130	3.60	3.12	2.88	3.36	3.30			3.36	4720.0	0.4665
2230	3.60	3.12	2.88	3.36	3.30			3.36	4950.0	0.5426
2245	3.60	3.12	2.88	3.36	3.30			3.36	4950.0	0.5730
2300	3.60	3.12	2.88	3.36	3.30			3.36	4950.0	0.6491
2400	3.60	3.12	2.88	3.36	3.30			3.36	4750.0	1.0580
MAY 14										
0000	3.60	3.12	2.88	3.36	3.30			3.36	4750.0	1.0580
0600	3.60	3.12	2.88	3.36	3.30			3.36	2820.0	1.4742
1200	3.60	3.12	2.88	3.36	3.30			3.36	1470.0	1.6911
1800	3.60	3.12	2.88	3.36	3.30			3.36	834.0	1.8142
2400	3.60	3.12	2.88	3.36	3.30			3.36	477.0	1.9198
MAY 15										
0000	3.60	3.12	2.88	3.36	3.30			3.36	477.0	1.9198
1200	3.60	3.12	2.88	3.36	3.30			3.36	218.0	1.9841
2400	3.60	3.12	2.88	3.36	3.30			3.36	144.0	2.0479
MAY 16										
0000	3.60	3.12	2.88	3.36	3.30			3.36	144.0	2.0479
2400	3.60	3.12	2.88	3.36	3.30			3.36	85.0	2.0730

BERRY BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Berry Bayou drainage basin are shown in figure 16.

Weighted-mean rainfall over the drainage basin for the 1982 water year was not determined.

The storm of May 13-14 was selected for analysis at both gaging station 08075550, Berry Bayou at Gilpin Street and station 08075650, Berry Bayou at Forest Oaks Street.

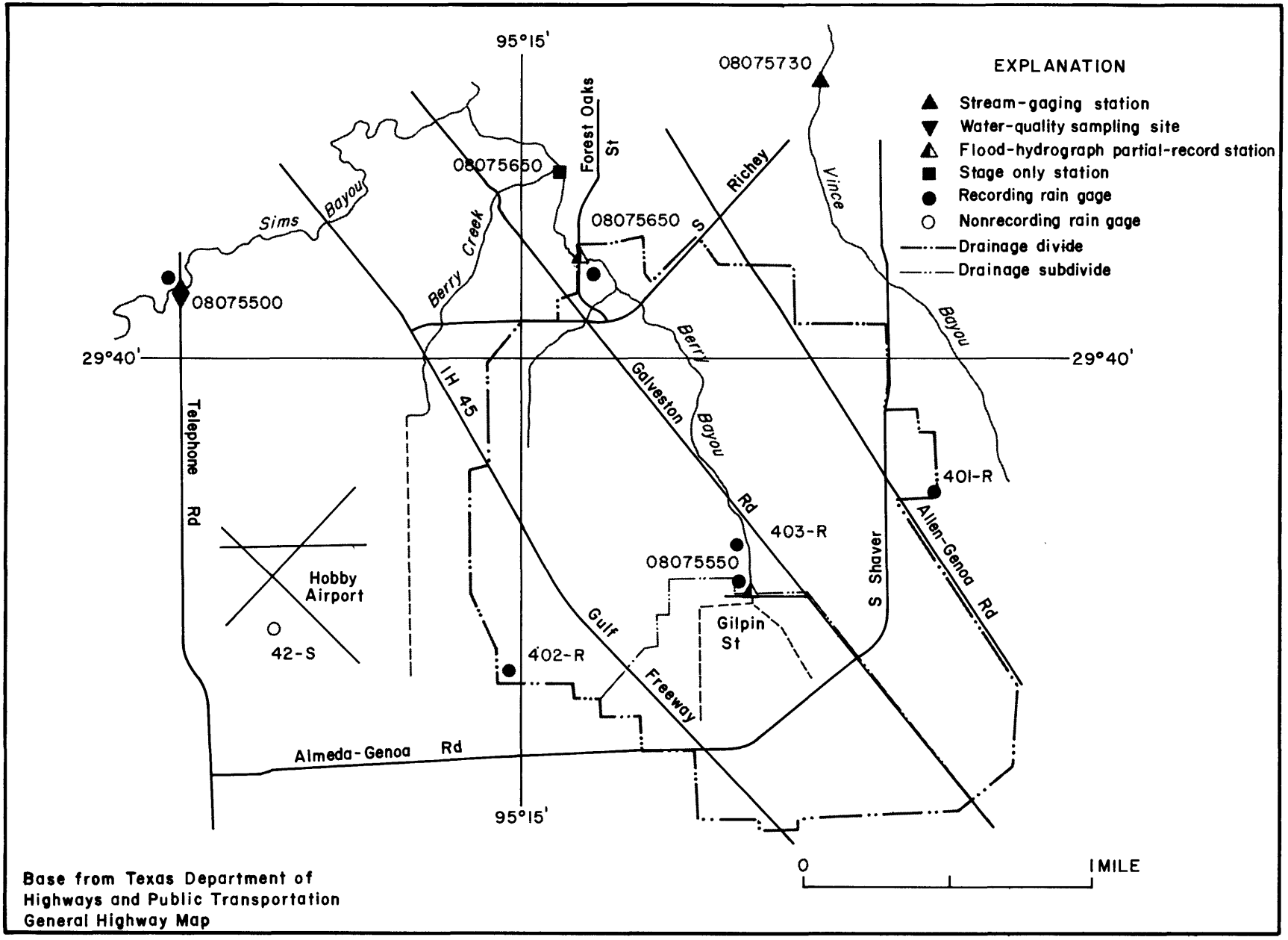

Figure 16.-Locations of data-collection sites in and near the Berry Bayou drainage basin

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table14.--Storm rainfall-runoff data, 1982 Water Year, Berry Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Berry Bayou at Gilpin St., Houston, Tx. (Drainage area -- 2.56 mi^2)								
May 13-14, 1982	2.3	2.97	1.08	1.68	2.28	1.75	0.59	476*
Berry Bayou at Forest Oaks St., Houston, Tx. (Drainage area -- 10.7 mi^2)								
May 13-14, 1982	2.5	2.88	1.08	1.68	2.28	1.52	0.53	1,850*

* - Annual peak discharge for 1982 WY.

08075550 BERRY BAYOU AT GILPIN STREET, HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°38'32", long 95°13'22", Harris County, Hydrologic Unit 12040104, at bridge on Gilpin Street in southeast Houston.

DRAINAGE AREA.--2.56 mi^2. Oct. 1, 1973 to Oct. 1, 1978, 2.87 mi^2. Prior to Oct. 1, 1973, 3.26 mi^2.

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

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 26, 1978 a flood hydrograph and rainfall recorder (type SR) and a crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment, unadjusted for land surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 738 ft^3/s May 10, 1968; maximum elevation, 37.07 ft, July 26, 1979. Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
May 13	1800	*476	34.80
June 26	unknown	350	33.96

Minimum discharge not determined.

STA. NO. 08075550 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

BERRY BAYOU AT GILPIN STREET, HOUSTON, TEX. — STORM OF MAY 13-14, 1982

DATE & TIME	GAGE NUMBER 5550	GAGE NUMBER 402R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13					
0000	0.0	0.0	0.0	0.5	0.0009
0600	0.0	0.0	0.0	0.5	0.0027
1200	0.0	0.0	0.0	0.5	0.0037
1245	0.0	0.0	0.0	0.5	0.0039
1300	0.12	0.0	0.11	0.5	0.0040
1315	0.12	0.0	0.11	0.5	0.0040
1330	0.12	0.02	0.11	0.5	0.0041
1345	0.24	0.05	0.23	1.0	0.0043
1400	0.36	0.08	0.35	2.0	0.0046
1415	0.36	0.14	0.35	3.0	0.0050
1430	0.48	0.20	0.47	5.0	0.0058
1445	0.48	0.25	0.47	5.0	0.0065
1500	0.48	0.34	0.47	7.0	0.0076
1515	0.60	0.40	0.59	12.0	0.0094
1530	0.84	0.43	0.82	20.0	0.0124
1545	1.44	0.55	1.40	30.0	0.0170
1600	2.52	0.62	2.42	40.0	0.0230
1615	2.88	0.97	2.78	50.0	0.0306
1630	2.88	1.60	2.82	100.0	0.0457
1645	2.88	2.27	2.85	143.0	0.0674
1700	2.88	2.38	2.85	245.0	0.1045
1715	2.88	2.41	2.86	388.0	0.1632
1730	2.88	2.44	2.86	452.0	0.2316
1745	2.88	2.47	2.86	474.0	0.3033
1800	3.00	2.47	2.97	476.0	0.5914
1945	3.00	2.47	2.97	388.0	0.8850
2030	3.00	2.47	2.97	313.0	1.0271
2115	3.00	2.47	2.97	246.0	1.1388
2200	3.00	2.47	2.97	199.0	1.2442
2300	3.00	2.47	2.97	157.0	1.3392
2400	3.00	2.47	2.97	128.0	1.4361
MAY 14					
0000	3.00	2.47	2.97	128.0	1.4361
0130	3.00	2.47	2.97	100.0	1.5117
0230	3.00	2.47	2.97	77.0	1.5700
0400	3.00	2.47	2.97	55.0	1.6282
0600	3.00	2.47	2.97	35.0	1.7130
1200	3.00	2.47	2.97	8.0	1.7420
1800	3.00	2.47	2.97	2.0	1.7493
2400	3.00	2.47	2.97	1.0	1.7511

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'35", long 95°14'37", Harris County, Hydrologic Unit 12040104, at bridge on Forest Oaks Street in southeast Houston, 0.8 mi upstream from mouth of Berry Creek and 1.7 mi upstream from Sims Bayou.

DRAINAGE AREA.--10.7 mi^2. Prior to Oct. 1, 1973, 11.1 mi^2. Oct. 1, 1976 to Dec. 31, 1977, 10.1 mi^2. Drainage ditch relocations resulted in drainage area changes.

PERIOD OF RECORD.--Oct. 1967 to current year. April 1964 to September 1966 operated as a daily discharge station. Oct. 1968 to September 1981 operated as a periodic water quality sampling site. April 1964 to September 1981 operated as a periodic water temperature sampling site.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 2.72 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment. Auxiliary water-stage recorder of 0.8 mi downstream at same datum. June 25, 1964 to Jan 11, 1965, auxiliary nonrecording gage 0.8 mi downstream at same datum.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5.080 ft^3/s, June 9, 1975; maximum gage height, 23.85 ft, Sept. 20, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 31	1745	951	a/11.74
Dec. 30	2315	964	a/10.93
May 13	1830	*1,850	a/15.42
June 26	2130	1,560	13.42

Minimum discharge not determined.

a/ Not at same time as peak discharge.

STA. NO. 08075650 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

BERRY BAYOU AT FOREST OAKS ST., HOUSTON, TEX. — STORM OF MAY 13-14, 1982

DATE & TIME	GAGE NUMBER 5550	5650	403R	402R	401R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13										
0000	0.0	0.0	0.0	0.0	0.0			0.0	5.0	0.0022
0600	0.0	0.0	0.0	0.0	0.0			0.0	5.0	0.0065
1200	0.0	0.0	0.0	0.0	0.0			0.0	5.0	0.0089
1230	0.0	0.0	0.0	0.0	0.0			0.0	5.0	0.0092
1300	0.12	0.0	0.0	0.0	0.01			0.04	5.0	0.0096
1330	0.12	0.0	0.0	0.02	0.06			0.05	8.0	0.0102
1400	0.36	0.12	0.12	0.08	0.08			0.18	10.0	0.0109
1430	0.48	0.24	0.24	0.20	0.25			0.31	15.0	0.0120
1500	0.48	0.36	0.36	0.34	0.40			0.40	20.0	0.0134
1530	0.84	0.48	0.48	0.43	0.58			0.60	40.0	0.0163
1600	2.52	0.60	0.72	0.62	0.70			1.22	80.0	0.0221
1630	2.88	1.08	1.32	1.60	1.00			1.73	160.0	0.0337
1700	2.88	2.28	3.00	2.38	2.55			2.66	315.0	0.0565
1730	2.88	2.52	3.24	2.44	2.86			2.81	800.0	0.1144
1800	3.00	2.52	3.24	2.47	2.90			2.86	1310.0	0.2093
1830	3.00	2.52	3.24	2.47	2.90			2.86	1850.0	0.3433
1900	3.00	2.52	3.24	2.47	2.90			2.86	1740.0	0.5323
2000	3.00	2.52	3.24	2.47	2.90			2.86	1230.0	0.7104
2100	3.00	2.52	3.24	2.47	2.90			2.86	878.0	0.8375
2200	3.00	2.52	3.24	2.47	2.90			2.86	670.0	0.9588
2330	3.00	2.52	3.24	2.47	2.90			2.86	500.0	1.0312
2400	3.00	2.52	3.24	2.47	2.90			2.86	470.0	1.1163
MAY 14										
0000	3.00	2.52	3.24	2.47	2.90			2.86	470.0	1.1163
0200	3.00	2.52	3.24	2.47	2.90			2.86	350.0	1.1923
0300	3.00	2.52	3.24	2.47	2.90			2.86	310.0	1.2372
0400	3.00	2.52	3.36	2.47	2.90			2.88	279.0	1.2978
0600	3.00	2.52	3.36	2.47	2.90			2.88	216.0	1.3604
0800	3.00	2.52	3.36	2.47	2.90			2.88	167.0	1.4088
1000	3.00	2.52	3.36	2.47	2.90			2.88	122.0	1.4441
1200	3.00	2.52	3.36	2.47	2.90			2.88	83.0	1.4682
1400	3.00	2.52	3.36	2.47	2.90			2.88	61.0	1.4947
1800	3.00	2.52	3.36	2.47	2.90			2.88	30.0	1.5164
2400	3.00	2.52	3.36	2.47	2.90			2.88	10.0	1.5207

VINCE BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the drainage basin are shown in figure 17.

Weighted-mean rainfall in the drainage basin based on two rain gages for the 1982 water year was 37.57 inches or 10.62 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
5.83	2.68	2.96	2.00	2.87	1.97	2.41	5.67	5.80	1.00	4.06	0.32	37.57

The storms of May 13-14 and Aug. 9-10 were selected for analysis at station 08075730, Vince Bayou at Pasadena, Tex.

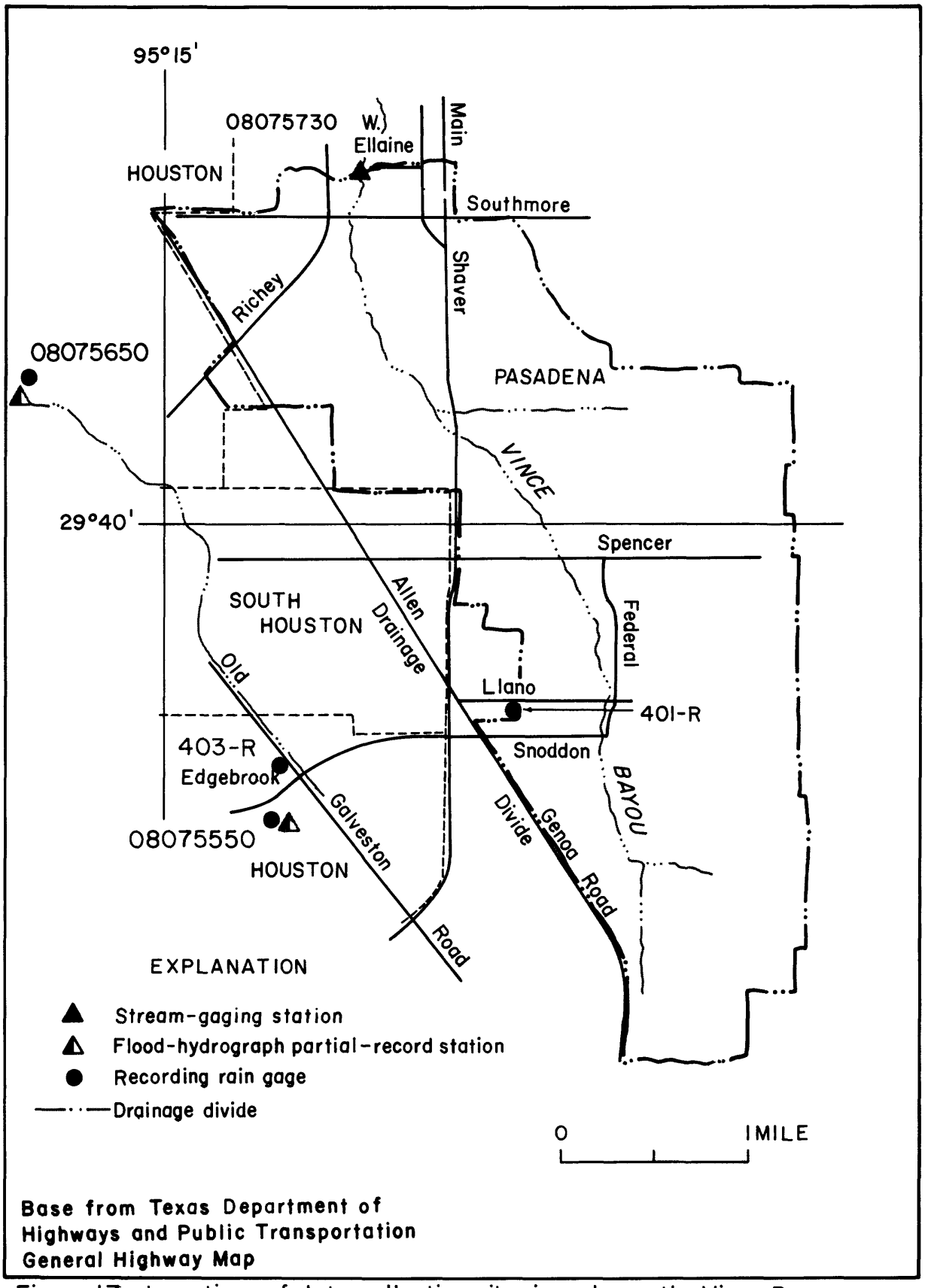

Figure 17.- Locations of data-collection sites in and near the Vince Bayou drainage basin

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ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table15.--Storm rainfall-runoff data, 1982 Water Year, Vince Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Vince Bayou at Pasadena, Tx. (Drainage area -- 7.32 mi^2)								
May 13-14, 1982	2.3	2.82	0.93	1.55	2.09	2.15	0.76	2,400*
Aug. 9-10, 1982	1.0	1.87	0.61	1.14	1.72	0.86	0.46	1,140

* - Annual peak discharge for 1982 WY

SAN JACINTO RIVER BASIN

08075730 VINCE BAYOU AT PASADENA, TX

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

DRAINAGE AREA.--7.32 mi² (18.96 km²). Prior to Jan. 1, 1978, 8.21 mi² (21.26 km²). Jan. 1 to Sept. 30, 1978, 7.61 mi² (19.71 km²). Drainage area revisions due to drainage ditch changes.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.54 ft (0.774 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence (levels by Corps of Engineers).

REMARKS.--Records fair. Low flow is sustained by sewage effluent.

AVERAGE DISCHARGE.--11 years, 16.8 ft³/s (0.476 m³/s), 12,170 acre-ft/yr (15.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,720 ft³/s (134 m³/s) May 3, 1981, gage height, 18.30 ft (5.578 m); no flow Aug. 5, 6, 18, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,400 ft³/s (68.0 m³/s) May 13 at 1730 hours, gage height, 15.05 ft (4.587 m); no other peak above base of 1,400 ft³/s (39.6 m³/s); minimum daily, 0.10 ft³/s (0.003 m³/s) June 7, 8, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	34	6.1	6.6	.83	1.7	.59	1.1	.60	.32	11	2.7
2	.13	4.1	2.0	3.0	4.0	1.2	.54	1.6	.35	.30	3.3	.58
3	.35	1.4	1.2	2.2	1.7	.68	.45	.93	.25	.34	.52	.59
4	1.1	.72	.56	1.3	.56	.68	.34	.69	.15	.29	.46	.66
5	94	.89	.44	1.7	3.3	.68	.47	1.3	.17	1.0	.62	.63
6	30	.79	1.2	1.2	2.2	1.5	.32	61	.13	.62	.27	.64
7	158	.81	25	1.5	.56	1.0	.31	52	.10	.27	74	.62
8	30	96	2.4	1.0	2.2	.56	.31	4.8	.10	.54	7.0	.86
9	1.4	23	1.2	.83	2.2	.56	.50	2.2	.11	.35	159	.96
10	.40	2.5	.83	.83	.83	.44	13	.91	.10	.43	12	1.1
11	5.1	1.1	.83	1.2	.44	.56	1.3	.89	.40	.40	7.3	1.1
12	3.1	.40	.56	60	.83	.68	.40	2.9	.14	.30	1.7	3.9
13	2.1	.35	3.0	12	.35	.56	.28	368	.17	.26	.53	.68
14	.71	.35	1.0	4.0	2.0	.44	.29	66	.14	.51	.43	.85
15	.31	.35	.56	2.0	3.7	.44	.44	7.5	.14	.28	.32	1.3
16	5.3	.36	1.0	1.3	2.7	.56	.35	2.4	36	2.1	.38	1.2
17	1.1	.36	1.0	1.0	.83	.60	6.6	13	1.0	.21	.52	.67
18	21	.53	.68	.83	.68	.48	.83	8.6	.76	.22	5.1	.36
19	1.9	.89	.56	.83	.56	.43	.56	1.9	.94	.19	3.0	.87
20	.56	.48	22	.83	58	.51	.56	1.2	8.3	.25	1.3	4.0
21	.41	1.0	8.8	.44	10	.42	120	.73	.68	.22	.93	1.9
22	.55	.31	1.7	.44	2.9	7.5	123	64	135	22	.57	.35
23	.59	.37	1.0	.44	1.5	31	11	75	2.3	5.6	.55	.37
24	.39	.49	.68	.35	1.2	2.8	97	18	49	1.1	1.3	.19
25	2.3	.59	.56	.35	5.6	.65	23	16	17	3.2	.55	.27
26	1.8	.44	.56	.44	168	.65	4.7	4.5	128	.54	.63	.42
27	.48	.83	.56	.35	11	76	2.2	1.6	35	.20	.71	.43
28	.38	.68	.44	6.6	3.0	7.2	1.2	1.4	2.5	.44	.99	.49
29	.70	57	.44	2.0	---	1.6	.91	1.2	.94	.27	.57	1.2
30	.30	66	133	25	---	1.0	.80	1.1	.75	7.5	.53	1.4
31	217	---	100	4.4	---	.81	---	.84	---	1.3	8.0	---
TOTAL	581.63	297.09	319.86	144.96	291.67	143.89	412.25	783.29	421.22	51.55	304.08	31.29
MEAN	18.8	9.90	10.3	4.68	10.4	4.64	13.7	25.3	14.0	1.66	9.81	1.04
MAX	217	96	133	60	168	76	123	368	135	22	159	4.0
MIN	.13	.31	.44	.35	.35	.42	.28	.69	.10	.19	.27	.19
AC-FT	1150	589	634	288	579	285	818	1550	835	102	603	62

CAL YR 1981	TOTAL	6978.97	MEAN 19.1	MAX 1230	MIN .08	AC-FT	13840	
WTR YR 1982	TOTAL	3782.78	MEAN 10.4	MAX 368	MIN .10	AC-FT	7500	

STA. NO. 08075730	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
VINCE BAYOU AT PASADENA, TEX.	STORM OF MAY 13-14, 1982							
DATE & TIME	GAGE NUMBER						ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. RUNOFF
	5650	401R					IN.	CFS	IN.
MAY 13									
0000	0.0	0.0					0.0	2.2	0.0028
1200	0.0	0.0					0.0	1.0	0.0041
1245	0.0	0.0					0.0	1.0	0.0042
1300	0.0	0.01					0.01	1.2	0.0043
1315	0.0	0.05					0.04	1.2	0.0044
1330	0.0	0.06					0.05	1.2	0.0044
1345	0.12	0.07					0.08	1.2	0.0045
1400	0.12	0.08					0.09	34.0	0.0063
1415	0.24	0.12					0.14	58.0	0.0094
1430	0.24	0.25					0.25	121.0	0.0158
1445	0.36	0.35					0.35	168.0	0.0247
1500	0.36	0.40					0.39	225.0	0.0366
1515	0.36	0.50					0.47	223.0	0.0484
1530	0.48	0.58					0.56	262.0	0.0622
1545	0.48	0.62					0.59	278.0	0.0770
1600	0.60	0.70					0.68	316.0	0.0937
1615	0.72	0.75					0.74	346.0	0.1120
1630	1.08	1.00					1.02	629.0	0.1453
1645	1.68	1.62					1.63	1360.0	0.2173
1700	2.28	2.55					2.50	2280.0	0.3379
1715	2.52	2.84					2.78	2310.0	0.4602
1730	2.52	2.86					2.79	2400.0	0.5872
1745	2.52	2.88					2.81	2340.0	0.7110
1800	2.52	2.90					2.82	2110.0	0.9344
1845	2.52	2.90					2.82	1690.0	1.2027
1930	2.52	2.90					2.82	1260.0	1.3694
2000	2.52	2.90					2.82	905.0	1.4652
2030	2.52	2.90					2.82	715.0	1.5409
2100	2.52	2.90					2.82	555.0	1.6290
2200	2.52	2.90					2.82	410.0	1.7158
2300	2.52	2.90					2.82	316.0	1.7827
2400	2.52	2.90					2.82	262.0	1.8381
MAY 14									
0000	2.52	2.90					2 82	262.0	1.8381
0100	2.52	2.90					2.82	210.0	1.9048
0300	2.52	2.90					2.82	142.0	1.9800
0600	2.52	2.90					2.82	88.0	2.0638
1200	2.52	2.90					2.82	39.0	2.1133
1800	2.52	2.90					2.82	22.0	2.1413
2400	2.52	2.90					2.82	14.0	2.1502

STA. NO. 08075730 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

VINCE BAYOU AT PASADENA, TEX. STORM OF AUG. 9 -10, 1982

DATE & TIME	GAGE NUMBER 5650	GAGE NUMBER 401R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
AUG. 9					
0000	0.0	0.0	0.0	1.7	0.0022
1200	0.0	0.0	0.0	1.7	0.0044
1215	0.0	0.03	0.02	1.7	0.0045
1230	0.0	0.18	0.14	1.7	0.0045
1245	0.12	0.57	0.48	1.7	0.0046
1300	0.36	1.18	1.02	7.6	0.0050
1315	0.96	1.71	1.56	843.0	0.0496
1330	0.96	1.90	1.71	1060.0	0.1057
1345	0.96	2.05	1.83	1120.0	0.1650
1400	0.96	2.10	1.87	1140.0	0.2254
1415	0.96	2.10	1.87	1140.0	0.3762
1515	0.96	2.10	1.87	787.0	0.5011
1545	0.96	2.10	1.87	613.0	0.5660
1615	0.96	2.10	1.87	444.0	0.6130
1645	0.96	2.10	1.87	349.0	0.6500
1715	0.96	2.10	1.87	266.0	0.6711
1730	0.96	2.10	1.87	210.0	0.6877
1800	0.96	2.10	1.87	182.0	0.7070
1830	0.96	2.10	1.87	131.0	0.7313
1945	0.96	2.10	1.87	84.0	0.7446
2000	0.96	2.10	1.87	88.0	0.7842
2400	0.96	2.10	1.87	29.0	0.7980
AUG. 10					
0000	0.96	2.10	1.87	29.0	0.7980
0030	0.96	2.10	1.87	29.0	0.8041
0200	0.96	2.10	1.87	22.0	0.8135
0430	0.96	2.10	1.87	16.0	0.8202
0600	0.96	2.10	1.87	14.0	0.8254
0800	0.96	2.10	1.87	11.0	0.8324
1200	0.96	2.10	1.87	9.3	0.8393
1500	0.96	2.10	1.87	8.2	0.8423
1530	0.96	2.10	1.87	11.0	0.8435
1600	0.96	2.10	1.87	14.0	0.8472
1800	0.96	2.10	1.87	13.0	0.8520
1930	0.96	2.10	1.87	9.6	0.8541
2000	0.96	2.10	1.87	6.1	0.8550
2100	0.96	2.10	1.87	5.6	0.8562
2200	0.96	2.10	1.87	6.1	0.8581
2400	0.96	2.10	1.87	4.4	0.8591

HUNTING BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Hunting Bayou drainage basin are shown in figure 18.

Weighted-mean rainfall in the drainage basin based on two rain gages for the 1982 water year was 46.41 inches, or 1.78 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
9.59	2.93	1.44	2.46	2.01	2.06	2.61	9.99	1.68	5.54	4.63	1.47	46.41

The storm of July 25-26 was selected for analysis at both station 08075760, Hunting Bayou at Falls Street and station 08075770, Hunting Bayou at Interstate Highway 610. The storm of May 12-19 was selected for analysis at the downstream gage, station 08075770

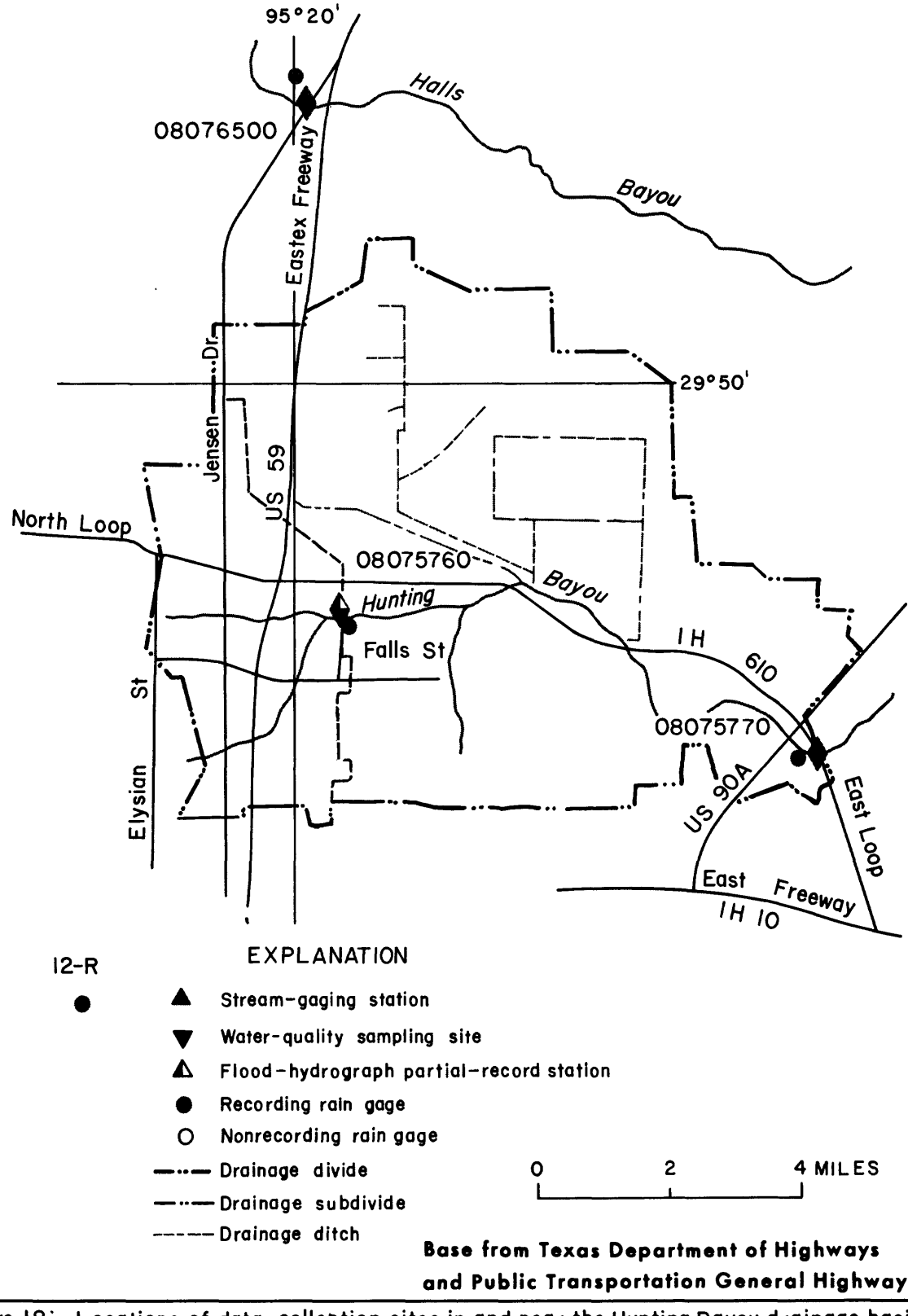

Figure 18.-Locations of data-collection sites in and near the Hunting Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table16.--Storm rainfall-runoff data, 1982 Water Year, Hunting Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Hunting Bayou at Falls St., Houston, Tx. (Drainage area -- 2.57 mi^2)								
July 25-26, 1982	0.8	2.15	1.05	1.45	1.90	0.76	0.35	262
Hunting Bayou at Interstate Highway 610, Houston, Tx. (Drainage area -- 15.8 mi^2)								
May 12, 1982	2.0	0.87	0.21	0.43	0.85	5.25	0.72	226
May 13, 1982	3.0	3.00	.34	.68	1.35			1,400
May 17-19, 1982	3.0	3.46	.48	.95	1.90			2,500*
July 25-26, 1982	1.0	1.87	1.05	1.45	1.90	0.61	0.32	591

* - Annual peak discharge for 1982 WY.

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°48'22", long 95°19'50", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Falls Street in northeast Houston.

DRAINAGE AREA.--2.57 mi² (6.66 km²). Oct. 1, 1973, to Sept. 30, 1978, 2.75 mi² (7.12 km²). Prior to Oct. 1, 1973, 3.50 mi² (9.07 km²). Drainage area changes due to changes in storm sewers.

WATER-DISCHARGE RECORDS

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

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1981."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 778 ft³/s (22.0 m³/s) June 13, 1973, elevation, 46.70 ft (14.234 m); maximum elevetion, 47.35 ft (14.432 m) Sept. 1, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.08 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/e)	Elevation (ft)	Elevation (m)
Oct. 5	1900	297	8.41	42.19	12.860	May 17	1900	*500	14.2	45.05	13.731
May 13	1730	420	11.9	43.50	13.259	July 25	2015	262	7.42	41.78	12.735

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
16...	1105	.75	1480	8.0	25.5	45	1.7	.6	7	56	830000	520000
JAN												
18...	1250	1.3	980	7.6	16.0	--	--	5.4	55	5.3	36000	34000
APR												
20...	1630	.95	4500	6.7	25.0	100	12	.1	2	147	540000	200000
21...	1155	4.5	360	7.5	19.0	50	15	5.6	60	16	200000	360000
MAY												
13...	1310	1.0	920	7.4	23.5	65	6.7	.5	6	>95	1000000	500000
13...	1510	356	142	8.3	20.0	40	170	7.6	84	46	220000	93000
13...	1730	420	240	8.1	20.5	55	50	7.3	81	17	180000	460000
13...	2315	115	200	7.6	20.0	40	19	5.4	60	9.3	--	--
18...	1235	30	410	7.6	22.0	50	13	3.1	36	9.3	680000	420000
JUL												
13...	1030	1.4	840	7.8	27.5	30	3.6	.7	9	13	160000	35000
AUG												
04...	1050	.80	907	8.2	28.0	35	2.2	2.7	34	19	120000	2700

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT												
16...	250	0	72	18	160	4.6	10	510	65	160	.8	22
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
20...	270	0	79	18	810	21	8.3	300	53	1300	.8	18
21...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
13...	240	0	71	15	110	3.3	8.1	250	39	92	.7	18
13...	54	5	19	1.5	7.4	.5	2.5	49	11	7.8	.2	3.8
13...	54	11	19	1.7	24	1.5	3.1	43	15	36	.1	4.3
13...	75	0	25	3.1	12	.6	4.5	80	7.0	11	.2	6.6
18...	140	10	45	6.6	25	1.0	4.8	130	36	22	.3	11
JUL												
13...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
04...	140	0	38	9.8	160	6.4	3.8	310	26	91	.8	19

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT												
16...	815	25	20	--	<.020	<.020	<.09	1.20	29	30.0	6.60	33
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
20...	2470	17	2	--	.020	--	<.10	.600	16	17.0	2.30	110
21...	--	39	39	1.1	.080	--	1.2	2.20	5.1	7.30	1.10	19
MAY												
13...	504	14	12	--	.040	--	<.10	3.90	--	--	1.20	140
13...	83	462	48	.16	.060	--	.22	.630	.77	1.40	.960	37
13...	129	129	33	.47	.060	--	.53	.640	.66	1.30	.700	18
13...	117	36	16	.80	.070	--	.87	.190	2.5	2.70	.870	15
18...	229	11	7	.61	.100	--	.71	.810	2.4	3.20	2.00	14
JUL												
13...	--	9	6	--	.040	--	<.10	.370	2.4	2.80	2.50	14
AUG												
04...	535	9	8	--	<.020	--	<.10	.600	2.4	3.00	.040	20

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT							
16...	1105	6	81	<1	0	0	57
MAY							
13...	1510	2	36	<3	<10	3	140
JUL							
13...	1030	4	130	<1	<10	<1	62
AUG							
04...	1050	51	170	<1	<10	1	160

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT						
16...	1	260	.0	1	0	4
MAY						
13...	3	69	<.1	<1	<1	17
JUL						
13...	<1	68	<.1	<1	<1	11
AUG						
04...	<1	99	<.1	<1	<1	14

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
OCT								
16...	1105	.00	.00	.00	.00	.00	.0	.9
APR								
20...	1630	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
21...	1155	<.10	<.10	.30	<.10	<.10	--	1.1
MAY								
13...	1510	<.10	<.10	6.0	<.10	<.10	<2.0	3.6
JUL								
13...	1030	<.10	<.10	<.10	<.10	<.10	<2.0	.2
AUG								
04...	1050	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
OCT							
16...	.0	.00	.0	.00	.00	.00	.0
APR							
20...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
21...	<.1	<.10	--	--	.20	<.10	<.1
MAY							
13...	<.1	2.1	<2.0	<2.0	.40	<.10	<.1
JUL							
13...	<.1	1.3	<2.0	<2.0	<.10	<.10	<.1
AUG							
04...	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0

STA. NO. 08075760 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

HUNTING BAYOU AT FALLS STREET, HOUSTON, TEX. — STORM OF JULY 25-26, 1982

DATE & TIME	GAGE NUMBER 5760	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JULY25				
0000	0.0	0.0	1.0	0.0018
0600	0.0	0.0	1.0	0.0054
1200	0.0	0.0	1.0	0.0090
1800	0.0	0.0	1.0	0.0109
1815	0.0	0.0	1.0	0.0111
1830	0.15	0.15	1.1	0.0112
1845	0.45	0.45	3.0	0.0117
1900	1.50	1.50	15.0	0.0140
1915	1.90	1.90	55.0	0.0222
1930	1.95	1.95	153.0	0.0453
1945	1.95	1.95	223.0	0.0957
2015	1.95	1.95	262.0	0.2340
2130	1.95	1.95	213.0	0.3784
2230	1.95	1.95	163.0	0.4767
2330	1.95	1.95	126.0	0.5337
2400	1.95	1.95	109.0	0.5830
JULY26				
0000	1.95	1.95	109.0	0.5830
0100	1.95	1.95	87.0	0.6355
0200	1.95	1.95	65.0	0.6746
0300	1.95	1.95	47.0	0.7030
0400	1.95	1.95	32.0	0.7319
0600	1.95	1.95	12.0	0.7464
0800	1.95	1.95	2.0	0.7479
0830	2.00	2.00	1.8	0.7501
1200	2.00	2.00	1.0	0.7523
1600	2.00	2.00	1.0	0.7537
1630	2.10	2.10	1.0	0.7543
1800	2.10	2.10	1.0	0.7549
1830	2.10	2.10	1.0	0.7552
1900	2.15	2.15	1.0	0.7569
2400	2.15	2.15	1.0	0.7584

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX

LOCATION.--Lat 29°47'35", long 95°16'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of downstream service road bridge of Interstate Highway 610 in northeast Houston and 8.8 mi (14.2 km) upstream from mouth.

DRAINAGE AREA.--15.8 mi² (40.9 km²). Prior to Oct. 1, 1973, 16.8 mi² (43.5 km²). Oct. 1, 1973, to Sept. 30, 1978, 14.7 mi² (38.1 km²). Changes due to storm sewer relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year. Prior to October 1973, published as "U.S. Highway 90-A, Houston".

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

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

REMARKS.--Water-discharge records good except those for periods of no gage-height record, which are poor. Low flow is largely maintained by sewage and industrial effluent. Recording rain gage at station.

AVERAGE DISCHARGE.--18 years, 23.2 ft³/s (0.657 m³/s), 16,810 acre-ft/yr (20.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,380 ft³/s (95.7 m³/s) June 13, 1973, elevation, 38.11 ft (11.616 m); maximum gage height, 39.28 ft (11.973 m) June 15, 1976; minimum daily, 0.88 ft³/s (0.025 m³/s) Aug. 24, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 5	2100	1,320	37.4	33.47	10.202
May 13	1930	1,410	39.9	33.46	10.199
May 17	2100	*2,500	70.8	37.04	11.290

Minimum daily discharge, 2.5 ft³/s (0.071 m³/s) on July 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	60	60	10	17	9.2	7.5	7.0	7.4	3.7	5.7	8.0
2	3.0	17	24	7.3	11	8.4	7.2	6.3	6.3	3.5	6.5	4.8
3	12	10	14	7.2	11	7.6	6.4	5.8	5.8	3.2	4.2	10
4	5.8	8.2	10	7.1	9.5	7.5	5.9	5.4	5.7	3.1	4.0	20
5	369	7.2	5.5	7.1	8.0	7.0	5.8	5.2	5.4	3.9	3.6	8.0
6	404	6.5	9.0	7.0	9.0	8.6	5.4	62	5.0	3.4	3.6	4.1
7	202	6.1	13	7.1	7.7	7.3	5.4	88	4.8	3.9	161	4.8
8	174	38	9.0	6.9	8.7	10	5.4	12	4.6	3.4	58	4.6
9	27	41	6.2	6.6	10	6.1	5.4	7.8	4.7	2.9	98	4.8
10	15	12	6.2	6.5	7.4	6.2	31	6.8	4.7	2.9	32	4.7
11	29	8.7	4.6	6.5	7.2	6.3	9.6	6.6	4.4	2.8	11	4.4
12	34	7.7	6.7	51	6.8	6.3	6.5	110	4.4	2.5	7.2	7.0
13	13	7.6	5.4	19	6.5	5.8	6.3	433	4.6	7.0	5.8	5.4
14	11	10	7.8	14	6.8	5.7	5.7	299	5.0	74	5.2	5.0
15	8.6	6.1	7.8	12	8.0	5.5	5.5	34	4.6	32	4.7	4.9
16	34	5.8	7.3	10	8.0	5.4	5.8	17	4.3	6.9	4.3	5.2
17	23	5.5	6.2	10	6.8	5.4	6.8	652	5.2	39	4.0	5.2
18	26	5.2	5.4	9.8	6.5	5.0	6.0	640	4.4	24	4.5	5.0
19	9.0	5.0	5.2	9.3	6.4	4.6	6.1	63	5.0	7.1	5.0	5.6
20	7.7	4.6	9.0	9.1	25	4.6	6.7	21	4.9	4.8	5.0	6.2
21	6.9	4.6	15	8.7	12	4.5	33	15	4.0	4.3	5.1	5.5
22	6.6	4.7	11	8.5	7.8	10	36	27	69	17	4.9	4.9
23	6.6	4.4	5.4	8.1	6.9	52	15	125	12	23	7.0	4.9
24	5.8	4.7	6.2	7.7	6.3	15	50	85	5.8	41	4.9	5.0
25	12	4.7	5.6	7.6	11	7.4	22	22	5.2	85	4.6	4.6
26	24	4.6	4.9	7.3	132	6.4	12	18	9.1	175	4.8	4.6
27	7.6	4.5	4.8	6.8	23	49	8.2	12	13	13	4.5	5.2
28	6.6	4.4	4.8	7.1	12	21	7.3	11	6.6	8.0	4.5	5.0
29	6.2	170	4.8	12	---	9.8	6.4	9.6	5.2	6.2	4.8	5.1
30	5.8	260	8.0	104	---	9.0	6.0	8.5	4.0	5.6	5.3	5.1
31	113	---	26	69	---	9.4	---	8.1	---	8.0	12	---
TOTAL	1611.2	738.8	318.8	470.3	398.3	326.0	346.3	2823.1	235.1	620.1	495.7	177.6
MEAN	52.0	24.6	10.3	15.2	14.2	10.5	11.5	91.1	7.84	20.0	16.0	5.92
MAX	404	260	60	104	132	52	50	652	69	175	161	20
MIN	3.0	4.4	4.6	6.5	6.3	4.5	5.4	5.2	4.0	2.5	3.6	4.1
AC-FT	3200	1470	632	933	790	647	687	5600	466	1230	983	352

CAL YR 1981	TOTAL	11511.6	MEAN 31.5	MAX 1260	MIN 2.8	AC-FT	22830	
WTR YR 1982	TOTAL	8561.3	MEAN 23.5	MAX 652	MIN 2.5	AC-FT	16980	

NOTE.--No gage-height record Nov. 25 to Jan. 4 and Aug. 18 to Sept. 30.

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	1338	9.8	800	7.7	15.0	10	8.0	7.2	71	6.0	2100	2100
APR												
20...	1700	5.6	1000	7.4	24.5	20	27	.7	9	16	13000	11000
21...	1330	53	530	7.6	19.0	30	36	3.8	41	22	170000	72000
MAY												
13...	1355	148	278	7.8	20.0	40	200	7.6	84	13	25000	51000
13...	1755	1280	171	8.2	20.0	60	200	8.2	90	16	160000	72000
13...	2325	966	160	7.7	19.5	60	58	5.8	63	9.6	--	--
18...	1320	376	210	7.0	22.0	50	32	4.5	52	4.9	160000	65000
JUL												
13...	0920	2.5	888	7.8	28.0	30	6.2	1.9	24	12	2600	600
AUG												
04...	1158	3.7	870	7.6	30.0	30	3.9	7.3	96	5.7	7000	620

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
20...	200	0	59	13	140	4.5	5.9	250	55	130	.9	17
21...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
13...	91	11	30	4.0	16	.7	3.7	80	26	15	.4	4.4
13...	65	6	22	2.5	10	.6	3.1	59	20	6.8	.2	5.1
13...	60	8	20	2.4	9.9	.6	3.7	52	21	10	.2	5.7
18...	76	10	25	3.2	10	.5	3.6	66	22	8.7	.2	6.7
JUL												
13...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
04...	190	0	55	12	100	3.4	5.7	260	47	86	.9	15

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN											
18...	--	13	13	.51	.180	.69	6.60	.00	6.60	1.30	9.7
APR											
20...	571	51	51	--	.020	<.10	3.10	3.0	6.10	2.40	17
21...	--	79	79	.98	.120	1.1	1.90	2.6	4.50	1.00	19
MAY											
13...	148	536	41	.56	.140	.70	1.20	.40	1.60	2.00	28
13...	105	464	40	.40	.090	.49	.550	1.5	2.00	.790	23
13...	104	104	23	.50	.060	.56	.770	.83	1.60	.570	14
18...	119	43	7	.60	.080	.68	.520	1.8	2.30	.400	9.9
JUL											
13...	--	6	4	--	.020	<.10	7.10	5.9	13.0	2.90	17
AUG											
04...	478	13	4	.05	.060	.11	6.40	1.4	7.80	5.50	12

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY							
13...	1355	4	37	<3	<10	3	51
JUL							
13...	0920	8	79	<1	<10	2	110
AUG							
04...	1158	31	78	<1	<10	1	23

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY						
13...	4	<3	<.1	<1	<1	<12
JUL						
13...	2	210	.1	<1	1	29
AUG						
04...	<1	3	<.1	<1	<1	9

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
APR								
20...	1700	<.10	<.10	.20	<.10	<.10	<2.0	.4
21...	1330	<.10	<.10	.60	<.10	<.10	--	.6
MAY								
13...	1355	<.10	<.10	.30	<.10	<.10	<2.0	.2
JUL								
13...	0920	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
AUG								
04...	1158	<.10	<.10	.10	<.10	<.10	<2.0	.2

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
APR							
20...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
21...	<.1	<.10	--	--	<.10	<.10	<.1
MAY							
13...	<.1	.20	<2.0	<2.0	<.10	<.10	<.1
JUL							
13...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
AUG							
04...	<.1	<.10	<2.0	<2.0	.10	<.10	<.1

STA. NO. 08075770 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

HUNTING BAYOU AT I.H. 610, HOUSTON, TEX. STORM OF MAY 12-19, 1983

DATE & TIME	GAGE NUMBER 5760	GAGE NUMBER 5770	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 12					
0000	0.0	0.0	0.0	6.5	0.0016
0500	0.0	0.0	0.0	6.5	0.0035
0600	0.10	0.0	0.08	6.5	0.0041
0700	0.20	0.0	0.16	15.0	0.0056
0800	0.85	0.10	0.70	140.0	0.0193
0900	0.85	0.95	0.87	175.0	0.0537
1200	0.85	0.95	0.87	224.0	0.0976
1300	0.85	0.95	0.87	226.0	0.1641
1800	0.85	0.95	0.87	146.0	0.2142
2000	0.85	0.95	0.87	102.0	0.2342
2200	0.85	0.95	0.87	71.0	0.2482
2400	0.85	0.95	0.87	51.0	0.2682
MAY 13					
0000	0.85	0.95	0.87	51.0	0.2682
0600	0.85	0.95	0.87	25.0	0.2829
1200	0.85	0.95	0.87	19.0	0.2894
1300	0.85	0.95	0.87	18.0	0.2912
1400	2.20	1.86	2.13	168.0	0.3076
1500	2.85	2.27	2.73	329.0	0.3399
1600	3.10	2.56	2.99	553.0	0.3941
1700	3.75	3.55	3.71	970.0	0.4893
1800	3.90	3.75	3.87	1290.0	0.6158
1900	3.90	3.75	3.87	1400.0	0.8904
2200	3.90	3.75	3.87	1160.0	1.1748
2400	3.90	3.75	3.87	880.0	1.3474
MAY 14					
0000	3.90	3.75	3.87	880.0	1.3474
0200	3.90	3.75	3.87	650.0	1.4749
0400	3.90	3.75	3.87	503.0	1.5736
0600	3.90	3.75	3.87	396.0	1.6707
0900	3.90	3.75	3.87	322.0	1.7654
1200	3.90	3.75	3.87	256.0	1.8282
1400	3.90	3.75	3.87	202.0	1.8678
1600	3.90	3.75	3.87	153.0	1.8978
1800	3.90	3.75	3.87	117.0	1.9208
2000	3.90	3.75	3.87	94.0	1.9484
2400	3.90	3.75	3.87	65.0	1.9707
MAY 15					
0000	3.90	3.75	3.87	65.0	1.9707
0300	3.90	3.75	3.87	50.0	1.9854
0600	3.90	3.75	3.87	40.0	1.9992
1000	3.90	3.75	3.87	32.0	2.0086

STA. NO. 08075770 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

HUNTING BAYOU AT I. H. 610, HOUSTON, TEX. STORM OF MAY 12-19, 1983

DATE & TIME	GAGE NUMBER 5760	GAGE NUMBER 5770	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 15					
1200	3.90	3.75	3.87	29.0	2.0200
1800	3.90	3.75	3.87	24.0	2.0341
2400	3.90	3.75	3.87	20.0	2.0459
MAY 16					
0000	3.90	3.75	3.87	20.0	2.0459
0600	3.90	3.75	3.87	18.0	2.0565
1200	3.90	3.75	3.87	16.0	2.0659
1800	3.90	3.75	3.87	14.0	2.0741
2400	3.90	3.75	3.87	12.0	2.0812
MAY 17					
0000	3.90	3.75	3.87	12.0	2.0812
0600	3.90	3.75	3.87	13.0	2.0888
1200	3.90	3.75	3.87	12.0	2.0929
1300	3.90	3.75	3.87	15.0	2.0944
1400	4.05	4.47	4.13	45.0	2.0988
1500	4.85	4.68	4.82	115.0	2.1101
1600	6.10	4.68	5.82	140.0	2.1238
1700	6.30	6.07	6.25	498.0	2.1727
1800	6.90	7.97	7.11	1660.0	2.3355
1900	6.95	8.13	7.19	2220.0	2.5532
2000	7.05	8.18	7.28	2460.0	2.7945
2100	7.05	8.18	7.28	2500.0	3.2848
2400	7.05	8.18	7.28	2200.0	3.8242
MAY 18					
0000	7.05	8.18	7.28	2200.0	3.8242
0200	7.05	8.18	7.28	1690.0	4.1557
0400	7.05	8.18	7.28	1200.0	4.3911
0600	7.05	8.18	7.28	821.0	4.5522
0800	7.05	8.18	7.28	610.0	4.7017
1100	7.05	8.18	7.28	455.0	4.7910
1200	7.05	8.19	7.28	418.0	4.8320
1300	7.05	8.21	7.28	383.0	4.8695
1400	7.05	8.23	7.29	350.0	4.9039
1500	7.10	8.23	7.33	316.0	4.9503
1700	7.10	8.23	7.33	250.0	4.9871
1800	7.10	8.23	7.33	230.0	5.0661
2400	7.10	8.23	7.33	122.0	5.1379
MAY 19					
0000	7.10	8.23	7.33	122.0	5.1379
0600	7.10	8.23	7.33	68.0	5.1779
1200	7.10	8.23	7.33	70.0	5.2191
1800	7.10	8.23	7.33	35.0	5.2397
2400	7.10	8.23	7.33	27.0	5.2476

STA. NO. 08075770 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

HUNTING BAYOU AT I.H. 610, HOUSTON, TEX. — STORM OF JULY 25-26, 1982

DATE & TIME	GAGE NUMBER 5760	GAGE NUMBER 5770	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JULY25					
0000	0.0	0.0	0.0	8.3	0.0024
0600	0.0	0.0	0.0	7.4	0.0068
1200	0.0	0.0	0.0	6.5	0.0106
1800	0.0	0.0	0.0	6.0	0.0127
1900	1.50	0.38	1.28	61.0	0.0187
2000	1.95	0.70	1.70	215.0	0.0397
2100	1.95	0.73	1.71	311.0	0.0703
2200	1.95	0.74	1.71	467.0	0.1390
2400	1.95	0.74	1.71	591.0	0.2839
JULY26					
0000	1.95	0.74	1.71	591.0	0.2839
0300	1.95	0.74	1.71	460.0	0.3741
0400	1.95	0.75	1.71	390.0	0.4123
0500	1.95	0.76	1.71	341.0	0.4458
0600	1.95	0.76	1.71	296.0	0.4893
0800	1.95	0.76	1.71	204.0	0.5193
0900	2.00	0.76	1.75	173.0	0.5448
1100	2.00	0.76	1.75	105.0	0.5602
1200	2.00	0.76	1.75	81.0	0.5682
1300	2.00	0.76	1.75	63.0	0.5805
1600	2.00	0.76	1.75	35.0	0.5874
1700	2.10	0.76	1.83	31.0	0.5904
1800	2.10	0.76	1.83	28.0	0.5932
1900	2.15	0.76	1.87	26.0	0.6008
2400	2.15	0.76	1.87	22.0	0.6062

GREENS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Greens Bayou drainage basin above U.S. Highway 59 are shown in figure 19. Data-collection sites in the lower portion of the drainage basin are shown in figure 1.

Halls Bayou, which is a part of the Greens Bayou drainage basin, is shown as a separate drainage basin within the Greens Bayou section.

Weighted-mean rainfall for the drainage basin, above the U.S. Highway 75 station (station 08075900), based on four rain gages, for the 1982 water year was 36.01 inches or 12.18 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
6.05	5.78	1.63	2.26	1.58	1.34	2.93	8.23	1.56	2.72	1.43	0.50	36.01

Weighted-mean rainfall for the drainage basin above the U.S. Highway 59 station (station 08076000), based on six rain gages, for the 1982 water year was 35.61 inches or 12.58 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
6.31	5.19	1.56	2.10	1.59	1.36	2.69	8.47	1.55	2.32	1.78	0.69	35.61

The storm of Nov. 29-Dec. 2 was selected for analysis at three sites in the basin, station 0807578U, Greens Bayou at Cutten Road near Houston, station 08075900, Greens Bayou at U.S. Highway 75 near Houston, and station 08076700, Greens Bayou at Ley Road, Houston. The storm of May 13-16 was selected for analysis at station 08075900, Greens Bayou at U.S. Highway 75. The storm of May 12-21 was selected for analysis at station 08076000, Greens Bayou near Houston (at U.S. Highway 59). The storm of May 12-16 was selected for analysis at station 08076700, Greens Bayou at Ley Road, Houston.

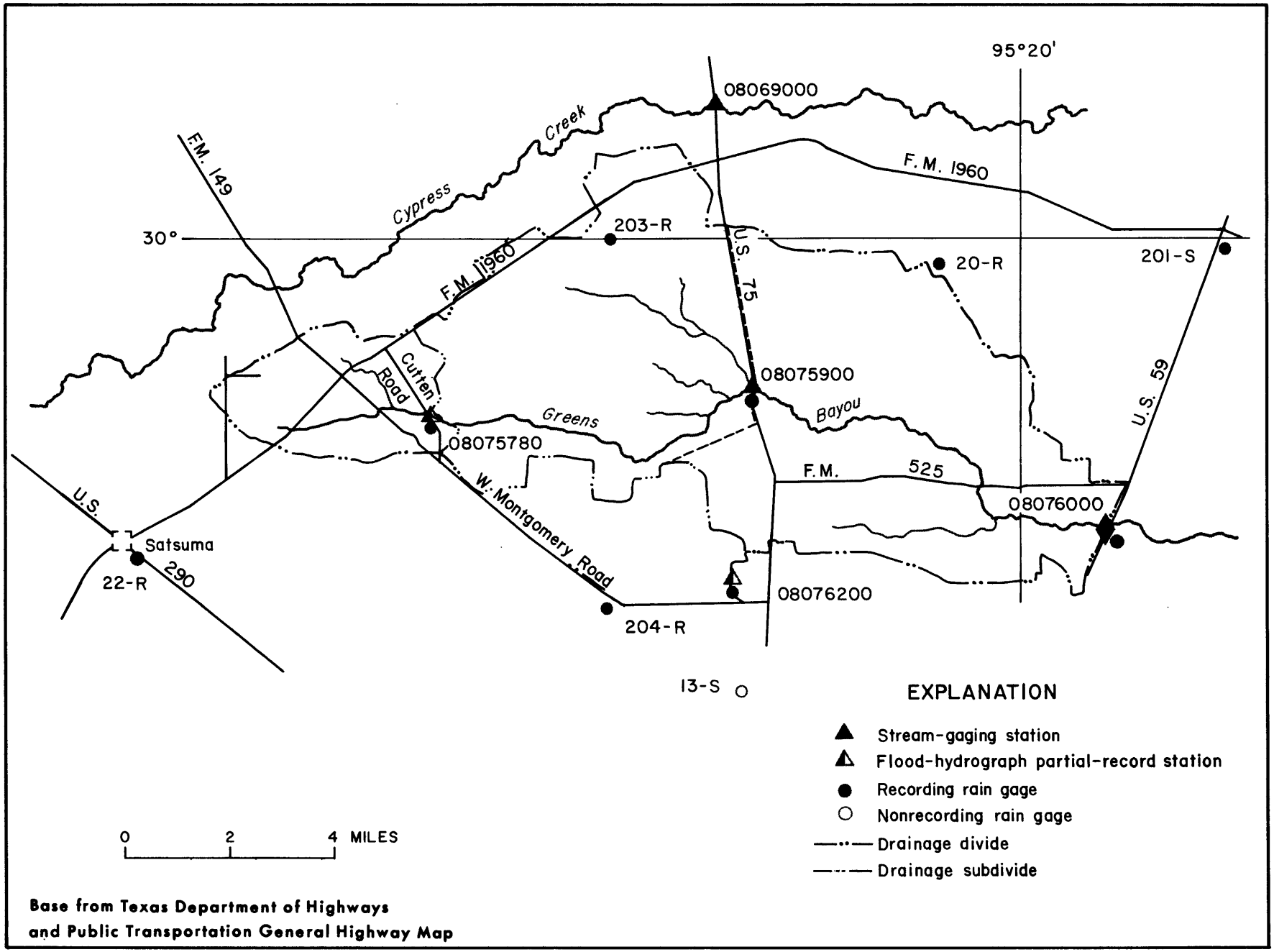

Figure 19.—Locations of data-collection sites in and near the Greens Bayou drainage basin

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table17.--Storm rainfall-runoff data, 1982 Water Year, Greens Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Greens Bayou at Cutten Road, Houston, Tx (Drainage area -- 8.06 mi^2)								
Nov. 29-Dec.2,1981	2.8	4.43	0.70	1.17	1.85	2.30	0.52	418*
Greens Bayou at U.S. Highway 75 near Houston, Tx. (Drainage area -- 36.1 mi^2)								
Nov.29-Dec.2,1981	3.0	4.34	0.89	1.78	2.90	1.67	0.39	2,340
May 13-16, 1982	4.0	3.32	0.61	1.23	2.43	2.81	0.84	2,940*

* - Annual peak discharge for 1982 WY.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table17.--Storm rainfall-runoff data, 1982 Water Year, Greens Bayou -- Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Greens Bayou near Houston, Tx. (Drainage area -- 69.6 mi^2)								
May 12, 1982	2.0	1.27	0.54	1.08	1.20	3.90	0.60	629
May 13, 1982	4.0	2.94	0.95	1.55	2.43			4,120
May 17-18, 1982	4.5	1.21	0.74	1.47	2.18			975
May 19-21, 1982	2.8	1.06	0.82	1.22	1.75			3,810
Greens Bayou at Ley Road, Houston, Tx. (Drainage area -- 182.0 mi^2)								
Nov.29-Dec.2,1981	5.0	2.90	0.89	1.78	2.90	1.15	0.40	4,860
May 12, 1982	2.0	1.12	0.54	1.08	1.20	2.02	0.55	1,740
May 13-16, 1982	4.0	2.53	.95	1.55	2.43			7,140*

* - Annual peak discharge for 1982 WY.

08075780 GREENS BAYOU AT CUTTEN ROAD NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--29°56'56", long 95°31'10", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Cutten Road, 16.2 miles upstream from station 08076000, Greens Bayou near Houston, and 16.5 miles northwest of the main post office in downtown Houston.

DRAINAGE AREA.--8.06 mi^2. Prior to Oct. 1, 1973, 8.73 mi^2.

PERIOD OF RECORD.--Aug. 1964 to Nov. 1977; April 20, 1978 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to Nov. 1977 a flood-hydrograph recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 576 ft^3/s, Sept. 19, 1979 (elevation 113.16 ft) after channel rectification. Maximum discharge, 520 ft^3/s, June 13, 1973 (elevation 118.27), prior to channel rectification; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 150 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	ELEVATION (ft)
Nov. 29	1715	*418	111.59
May 13	2200	286	111.64

Minimum discharge not determined.

STA. NO. 08075780 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

GREENS BAYOU AT CUTTEN ROAD NEAR HOUSTON, TEX. STORM OF NOV. 29 TO DEC. 2 , 1981

DATE & TIME	GAGE NUMBER 5780	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29				
0000	0.0	0.0	5.0	0.0014
0300	0.01	0.01	5.0	0.0043
0600	0.04	0.04	5.0	0.0087
1200	0.06	0.06	5.0	0.0118
1230	0.06	0.06	5.0	0.0121
1245	0.15	0.15	5.0	0.0124
1300	0.27	0.27	5.0	0.0126
1315	0.52	0.52	5.5	0.0129
1330	0.71	0.71	6.0	0.0132
1345	0.86	0.86	8.0	0.0136
1400	0.98	0.98	13.0	0.0142
1415	1.06	1.06	16.0	0.0149
1430	1.16	1.16	18.0	0.0158
1445	1.58	1.58	32.0	0.0174
1500	2.05	2.05	71.0	0.0208
1515	2.45	2.45	118.0	0.0264
1530	2.73	2.73	161.0	0.0342
1545	3.20	3.20	205.0	0.0440
1600	3.90	3.90	260.0	0.0565
1615	4.30	4.30	319.0	0.0719
1630	4.31	4.31	362.0	0.0893
1645	4.31	4.31	388.0	0.1079
1700	4.32	4.32	406.0	0.1274
1715	4.32	4.32	418.0	0.1676
1800	4.32	4.32	410.0	0.2464
1915	4.32	4.32	393.0	0.3031
1930	4.33	4.33	391.0	0.3689
2100	4.33	4.33	383.0	0.4609
2200	4.33	4.33	396.0	0.5751
2400	4.33	4.33	381.0	0.8681
NOV. 30				
0000	4.33	4.33	381.0	0.8681
0600	4.33	4.33	325.0	1.2430
1200	4.41	4.41	242.0	1.5222
1800	4.42	4.42	180.0	1.7298
2400	4.42	4.42	132.0	2.1105
DEC. 1				
0000	4.42	4.42	132.0	2.1105
2400	4.42	4.42	32.0	2.2581
DEC. 2				
0000	4.42	4.42	32.0	2.2581
2400	4.43	4.43	16.0	2.2950

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

LOCATION.--Lat 29°57'24", long 95°25'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of U.S. Highway 75 bridge, 9.0 mi (14.5 km) upstream from station 08076000, and 21 mi (34 km) upstream from Halls Bayou.

DRAINAGE AREA.--36.1 mi^2 (93.5 km^2). Prior to October 1973, 34.8 mi^2 (90.1 km^2).

PERIOD OF RECORD.--August 1965 to current year (discharge measurements and supplemental peak discharges only, Oct. 1, 1980, to Mar. 26, 1981).

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

CAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Datum of 1929, 1959 edjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair. Channel wes rectified (widened and bed lowered about 2 ft) in 1980-81. Records furnished by Houston Lighting and Power Co. show that about 1,080 acre-ft (1.33 hm^3) of ground water used for cooling purposes was releesed to bayou about 8 mi (13 km) upstream from gage during the current year. No know diversion above station. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years (water years 1966-80, 1982), 31.3 ft^3/s (0.886 m^3/s), 22,680 acre-ft/yr (28.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,570 ft^3/s (101 m^3/s) Aug. 31, 1981, elevation, 83.37 ft (25.411 m); maximum elevation, 91.09 ft (27.764 m) Feb. 21, 1969, occurred prior to 1980-81 channel rectification; minimum daily discharge, 0.16 ft^3/s (0.004 m^3/s) Oct. 21, 22, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft^3/s (34.0 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 29	1930	2,340	66.3	81.02	24.695
May 13	1800	*2,940	83.3	32.20	25.055

Minimum daily discharge, 5.8 ft^3/s (0.16 m^3/s) Oct. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	94	149	12	24	15	12	9.8	13	9.5	20	14
2	6.9	26	52	12	19	12	10	9.6	13	8.0	13	14
3	6.9	12	27	13	19	9.6	9.1	9.3	12	6.7	11	20
4	7.8	9.1	17	9.8	13	9.1	9.6	9.2	13	6.5	9.9	31
5	15	8.3	13	8.1	11	9.3	9.8	9.0	14	9.2	14	17
6	153	7.6	12	8.2	11	21	8.3	149	13	8.2	16	13
7	236	6.7	16	7.8	11	12	8.9	116	14	13	14	14
8	105	125	12	7.6	12	9.6	11	25	13	9.3	204	14
9	25	150	9.2	8.1	13	8.9	8.5	13	11	7.9	128	11
10	20	38	7.8	8.5	11	8.8	11	11	12	7.8	35	11
11	13	23	7.7	8.9	9.9	8.8	21	9.3	14	8.7	24	9.5
12	12	15	7.1	80	9.6	7.9	21	289	13	10	30	13
13	13	14	10	47	8.4	11	12	1120	12	14	16	32
14	14	12	69	25	8.3	15	11	1160	15	16	12	19
15	16	12	26	17	8.8	11	10	347	18	23	11	12
16	12	11	14	13	9.0	10	9.8	88	19	16	12	10
17	11	11	10	13	8.4	9.2	10	282	17	12	11	11
18	26	12	9.4	13	8.4	9.5	10	457	16	12	11	15
19	16	11	8.3	12	8.1	11	9.5	224	19	11	16	24
20	13	10	9.1	12	20	11	83	309	16	9.3	18	19
21	8.1	11	15	11	16	12	89	76	12	11	15	15
22	6.6	12	11	11	11	13	97	50	13	34	14	14
23	6.6	13	9.2	12	9.2	21	34	170	15	23	14	14
24	6.6	13	8.1	12	9.4	17	151	140	18	15	13	13
25	6.8	12	7.6	12	27	12	94	50	59	12	18	13
26	6.7	12	7.1	12	140	10	31	24	202	19	14	12
27	6.3	12	6.9	12	48	48	17	17	134	11	13	12
28	6.0	10	7.2	11	23	37	13	14	26	10	12	11
29	5.8	689	7.0	21	---	16	10	13	19	11	13	10
30	5.9	725	11	52	---	13	11	14	13	233	13	13
31	81	---	23	64	---	13	---	14	---	63	14	---
TOTAL	875.3	2116.7	598.7	566.0	526.5	431.7	842.5	5228.2	798	660.1	778.9	450.5
MEAN	28.2	70.6	19.3	18.3	18.8	13.9	28.1	169	26.6	21.3	25.1	15.0
MAX	236	725	149	80	140	48	151	1160	202	233	204	32
MIN	5.8	6.7	6.9	7.6	8.1	7.9	8.3	9.0	11	6.5	9.9	9.5
AC-FT	1740	4200	1190	1120	1040	856	1670	10370	1580	1310	1540	894

WTR YR 1982 TOTAL 13873.1 MEAN 38.0 MAX 1160 MIN 5.8 AC-FT 27520

STA. NO. 08075900 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

GREENS BAYOU AT U.S. HWY. 75 NR HOUSTON, TEX. STORM OF NOV. 29 TO DEC. 2 ,1981

DATE & TIME	GAGE NUMBER 5780	5900	203R	ACCUM. WEIGHTED PRECIP. IN	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29						
0000	0.0	0.0	0.0	0.0	9.8	0.0006
0300	0.01	0.0	0.0	0.00	9.8	0.0019
0600	0.04	0.0	0.0	0.02	9.8	0.0032
0900	0.05	0.0	0.05	0.04	9.8	0.0044
1200	0.06	0.0	0.05	0.04	9.8	0.0052
1230	0.06	0.0	0.05	0.04	9.8	0.0054
1300	0.27	0.0	0.05	0.15	9.8	0.0056
1330	0.71	0.41	0.13	0.49	38.0	0.0064
1400	0.98	0.93	0.43	0.83	66.0	0.0078
1430	1.16	1.31	0.70	1.08	209.0	0.0123
1500	2.05	2.10	0.75	1.74	352.0	0.0198
1530	2.73	2.41	1.09	2.24	681.0	0.0345
1600	3.90	2.61	2.10	3.13	1010.0	0.0561
1630	4.31	2.95	3.88	3.86	1260.0	0.0832
1700	4.32	3.13	5.00	4.19	1510.0	0.1156
1730	4.32	3.17	5.02	4.21	1720.0	0.1525
1800	4.32	3.17	5.06	4.22	1930.0	0.1939
1830	4.32	3.17	5.08	4.22	2100.0	0.2390
1900	4.32	3.17	5.08	4.22	2260.0	0.2875
1930	4.33	3.17	5.08	4.23	2340.0	0.3377
2000	4.33	3.17	5.08	4.23	2340.0	0.5135
2300	4.33	3.17	5.08	4.23	1840.0	0.6715
2400	4.33	3.17	5.08	4.23	1590.0	0.7738
NOV. 30						
0000	4.33	3.17	5.08	4.23	1590.0	0.7738
0200	4.33	3.17	5.08	4.23	1280.0	0.8837
0400	4.33	3.17	5.08	4.23	1040.0	0.9730
0600	4.33	3.17	5.08	4.23	898.0	1.0694
0900	4.33	3.17	5.08	4.23	761.0	1.1347
1000	4.34	3.17	5.08	4.23	744.0	1.1666
1100	4.41	3.38	5.08	4.32	713.0	1 1973
1200	4.41	3.41	5.08	4.33	669.0	1.2403
1400	4.42	3.41	5.08	4.33	608.0	1.3186
1800	4.42	3.41	5.08	4.33	462.0	1.4178
2400	4.42	3.41	5.08	4.33	280.0	1.5259
DEC. 1						
0000	4.42	3.41	5.08	4.33	280.0	1.5259
1200	4.42	3.41	5.08	4.33	139.0	1.5975
2400	4.42	3.41	5.08	4.33	74.0	1.6547
DEC. 2						
0000	4.42	3.41	5.08	4.33	74.0	1.6547
2400	4.43	3.41	5.08	4.34	36.0	1.6733

STA. NO. 08075900 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

GREENS BAYOU AT U.S.HWY. 75 NR HOUSTON, TEX. STORM OF MAY 13-16,1982

DATE & TIME	GAGE NUMBER 5780	6200	203R					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13										
0000	0.0	0.0	0.0					0.0	290.0	0.0498
0800	0.0	0.0	0.0					0.0	145.0	0.0762
0830	0.01	0.0	0.05					0.03	137.0	0.0880
1200	0.03	0.0	0.15					0.09	90.0	0.0957
1230	0.35	0.12	1.35					0.84	399.0	0.1043
1300	0.84	0.48	2.58					1.69	707.0	0.1195
1330	1.11	1.08	2.95					2.03	919.0	0.1392
1400	1.11	1.32	3.21					2.17	1130.0	0.1634
1430	1.11	1.56	3.46					2.31	1470.0	0.1950
1500	1.33	1.80	3.78					2.58	1810.0	0.2338
1530	1.55	1.92	4.01					2.80	2080.0	0.2785
1600	1.64	2.04	4.13					2.90	2350.0	0.3289
1630	1.97	2.28	4.48					3.24	2560.0	0.3839
1700	2.02	2.40	4.52					3.29	2770.0	0.4433
1730	2.04	2.40	4.57					3.32	2860.0	0.5047
1800	2.04	2.40	4.57					3.32	2940.0	0.7255
2100	2.04	2.40	4.57					3.32	2390.0	1.0333
2400	2.04	2.40	4.57					3.32	1920.0	1.2806
MAY 14										
0000	2.04	2.40	4.57					3.32	1920.0	1.2806
0300	2.04	2.40	4.57					3.32	1550.0	1.4802
0600	2.04	2.40	4.57					3.32	1340.0	1.7102
1100	2.04	2.40	4.57					3.32	1170.0	1.8609
1200	2.04	2.40	4.57					3.32	1180.0	1.9875
1600	2.04	2.40	4.57					3.32	960.0	2.0906
1700	2.04	2.40	4.57					3.32	960.0	2.1318
1800	2.04	2.40	4.57					3.32	908.0	2.2292
2200	2.04	2.40	4.57					3.32	727.0	2.3228
2400	2.04	2.40	4.57					3.32	665.0	2.4370
MAY 15										
0000	2.04	2.40	4.57					3.32	665.0	2.4370
0600	2.04	2.40	4.57					3.32	466.0	2.5570
1200	2.04	2.40	4.57					3.32	319.0	2.6392
1800	2.04	2.40	4.57					3.32	226.0	2.6974
2400	2.04	2.40	4.57					3.32	153.0	2.7368
MAY 16										
0000	2.04	2.40	4.57					3.32	153.0	2.7368
0600	2.04	2.40	4.57					3.32	87.0	2.7592
1200	2.04	2.40	4.57					3.32	70.0	2.7772
1800	2.04	2.40	4.57					3.32	83.0	2.7986
2400	2.04	2.40	4.57					3.32	62.0	2.8066

SAN JACINTO RIVER BASIN

08076000 CREENS BAYOU NEAR HOUSTON, TX

LOCATION.--Lat 29°55'05", long 95°18'24", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on U.S. Highway 59, 10.5 mi (16.9 km) northeast of Houston, 12.0 mi (19.3 km) upstream from Halls Bayou, and 23.4 mi (37.7 km) upstream from mouth.

DRAINAGE AREA.--69.6 mi² (180.3 km²). Prior to Oct. 1, 1973, 72.7 mi² (188.3 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft (0.201 m) below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair except those for Oct. 26 to Dec. 4, which are poor. Channel rectified during the water years 1974-75. No known diversion above station. Low flow is sustained by Houston Light and Power Co. effluent, which is obtained from groundwater sources. Recording rain gage at station.

AVERAGE DISCHARGE.--30 years, 58.9 ft³/s (1.668 m³/s), 42,670 acre-ft/yr (52.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,730 ft³/s (219 m³/s) Apr. 18, 1976, gage height, 61.92 ft (18.873 m); maximum gage height, 65.75 ft (20.041 m) Sept. 12, 1961 (prior to channel rectification); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 6	2200	2,110	59.8	57.88	17.642	May 13	2100	*4,120	117	61.35	18.699
Nov. 30	about 0200	3,650	103	61.18	18.648	May 19	1900	3,810	108	60.92	18.568

Minimum daily discharge, 16 ft³/s (0.45 m³/s) Oct. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	200	640	30	77	49	33	27	31	24	37	26
2	27	100	200	27	54	40	30	26	31	23	28	22
3	25	50	80	34	60	35	28	24	27	21	23	60
4	23	30	47	25	42	31	25	25	30	21	20	94
5	74	22	38	22	36	32	26	24	31	32	22	26
6	525	20	39	21	35	57	27	245	29	30	30	20
7	838	18	47	20	33	45	26	401	29	31	49	20
8	462	200	37	20	35	33	30	67	30	30	255	21
9	68	250	31	22	38	29	28	39	26	29	155	20
10	40	150	28	27	33	28	53	29	26	28	71	20
11	31	75	26	30	29	31	53	28	29	28	40	19
12	71	50	26	170	30	32	43	341	29	29	38	20
13	43	40	26	110	29	28	35	1330	25	65	29	34
14	40	30	186	70	28	32	32	1800	28	366	22	25
15	103	27	60	45	31	32	30	482	34	57	21	27
16	62	25	36	33	31	29	28	148	37	92	21	24
17	58	25	29	30	27	28	28	352	35	40	20	26
18	104	30	26	29	28	29	28	619	31	49	31	23
19	45	25	24	29	26	31	27	1170	39	39	30	30
20	31	22	26	29	64	31	30	918	35	97	27	29
21	24	22	46	28	52	32	148	165	27	23	25	26
22	21	22	32	27	33	34	173	95	74	34	23	24
23	20	24	27	26	29	53	95	340	31	36	23	24
24	19	25	24	25	29	64	186	280	32	29	23	24
25	20	25	23	25	76	35	218	102	57	24	23	25
26	20	24	22	25	410	31	80	60	191	28	28	24
27	19	24	21	25	139	108	44	45	117	24	22	25
28	17	22	20	24	70	130	21	39	59	22	22	25
29	16	397	22	49	---	46	36	33	36	23	22	26
30	18	2160	30	299	---	34	35	33	31	116	22	25
31	150	---	60	260	---	35	---	31	---	81	24	---
TOTAL	3041	4134	1979	1636	1604	1284	1676	9318	1267	1571	1226	834
MEAN	98.1	138	63.8	52.8	57.3	41.4	55.9	301	42.2	50.7	39.5	27.8
MAX	838	2160	640	299	410	130	218	1800	191	366	255	94
MIN	16	18	20	20	26	28	21	24	25	21	20	19
AC-FT	6030	8200	3930	3250	3180	2550	3320	18480	2510	3120	2430	1650

CAL YR 1981 TOTAL 43656 MEAN 120 MAX 3750 MIN 11 AC-FT 86590
WTR YR 1982 TOTAL 29570 MEAN 81.0 MAX 2160 MIN 16 AC-FT 58650

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
JAN										
18...	1040	.29	858	7.7	10.5	15	9.7	9.3	82	8.7
MAY										
12...	1030	509	380	7.6	24.0	40	400	5.4	64	18
12...	1545	580	250	7.7	23.5	50	210	4.7	55	14
12...	1935	497	260	7.6	24.0	40	340	4.5	53	13
13...	1110	188	320	7.6	23.0	55	200	6.0	70	10
14...	0920	1790	140	7.7	20.5	110	230	6.0	67	6.9
18...	1040	630	133	7.0	21.5	150	150	6.4	72	5.7
JUN										
21...	1310	25	980	7.9	31.0	30	25	6.2	83	7.8
22...	1230	125	425	7.6	26.0	50	230	6.2	76	10

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JAN									
18...	3700	1000	--	--	--	--	--	--	--
MAY									
12...	50000	74000	99	1	32	4.5	38	1.7	4.7
12...	120000	92000	78	4	26	3.2	19	1.0	4.5
12...	--	--	83	5	28	3.2	21	1.0	4.7
13...	31000	25000	93	16	31	3.9	28	1.3	4.5
14...	--	--	57	4	19	2.3	8.1	.5	2.4
18...	25000	52000	74	3	24	3.3	14	.7	3.1
JUN									
21...	180000	12000	200	0	64	9.0	120	3.7	7.0
22...	180000	180000	--	--	--	--	--	--	--

DATE	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
JAN									
18...	--	--	--	--	--	--	14	14	1.7
MAY									
12...	98	32	33	.3	11	215	1010	27	.72
12...	74	22	17	.2	8.0	144	320	26	.35
12...	78	21	19	.2	8.9	153	474	32	.59
13...	77	32	32	.2	11	189	378	26	.40
14...	53	8.0	7.8	.1	6.4	86	336	19	.02
18...	71	20	15	.2	10	133	285	18	.15
JUN									
21...	200	93	110	.5	27	550	26	12	.89
22...	--	--	--	--	--	--	244	44	.67

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
18...	.170	1.9	4.40	.10	4.50	2.8	3.10	4.90	9.2
MAY									
12...	.280	1.0	1.40	2.6	4.00	--	1.60	--	22
12...	.180	.53	.980	1.5	2.50	--	.850	--	16
12...	.220	.81	.950	2.1	3.00	--	2.60	--	17
13...	.240	.64	.860	1.5	2.40	--	.940	--	13
14...	.120	.14	.370	1.1	1.50	--	.390	--	13
18...	.190	.34	.590	1.0	1.60	--	.500	--	16
JUN									
21...	.510	1.4	3.50	.20	3.70	--	3.20	--	11
22...	.230	.90	1.60	2.6	4.20	--	1.80	--	13

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY							
12...	1030	5	120	<3	<10	3	50
JUN							
21...	1310	12	290	<1	<10	9	<3
22...	1230	5	200	<1	<10	4	70

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY						
12...	<1	35	<.1	<1	1	<12
JUN						
21...	1	110	<.1	1	<1	13
22...	<1	40	<.1	<1	<1	10

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAY								
12...	1545	<.10	<.10	1.0	<.10	<.10	<2.0	.6
JUN								
21...	1310	<.10	<.10	.30	<.10	<.10	<2.0	<.1
22...	1230	<.10	<.10	.30	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAY							
12...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
JUN							
21...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
22...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08076000 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

GREENS BAYOU NEAR HOUSTON, TEX. — STORM OF MAY 12-21, 1983

DATE & TIME	GAGE NUMBER 5780	6000	6200	203R	20R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 12										
0000	0.0	0.0	0.0	0.0	0.0			0.0	28.0	0.0003
0100	0.0	0.0	0.0	0.0	0.0			0.0	28.0	0.0008
0130	0.0	0.0	0.0	0.0	0.06			0.01	28.0	0.0011
0200	0.0	0.0	0.0	0.05	0.16			0.05	28.0	0.0014
0230	0.06	0.0	0.12	0.15	0.16			0.11	28.0	0.0017
0300	0.09	0.0	0.12	0.17	0.19			0.13	28.0	0.0022
0400	0.10	0.0	0.12	0.17	0.21			0.14	28.0	0.0028
0500	0.12	0.0	0.12	0.17	0.31			0.16	28.0	0.0033
0530	0.18	0.05	0.12	0.30	0.49			0.26	28.0	0.0036
0600	0.41	0.20	0.24	0.76	0.69			0.52	29.0	0.0039
0630	0.66	0.51	0.36	1.27	0.70			0.79	31.0	0.0043
0700	1.36	0.71	1.44	1.48	0.76			1.22	58.0	0.0049
0730	1.40	0.80	1.56	1.48	0.76			1.26	94.0	0.0059
0800	1.42	0.88	1.56	1.48	0.76			1.27	120.0	0.0073
0830	1.42	0.88	1.56	1.48	0.76			1.27	155.0	0.0090
0900	1.42	0.88	1.56	1.48	0.76			1.27	236.0	0.0116
0930	1.42	0.88	1.56	1.48	0.76			1.27	358.0	0.0176
1030	1.42	0.88	1.56	1.48	0.76			1.27	509.0	0.0318
1200	1.42	0.88	1.56	1.48	0.76			1.27	615.0	0.0489
1300	1.42	0.88	1.56	1.48	0.76			1.27	629.0	0.0909
1800	1.42	0.88	1.56	1.48	0.76			1.27	540.0	0.1570
2400	1.42	0.88	1.56	1.48	0.76			1.27	375.0	0.2071
MAY 13										
0000	1.42	0.88	1.56	1.48	0.76			1.27	375.0	0.2071
0600	1.42	0.88	1.56	1.48	0.76			1.27	272.0	0.2313
0800	1.42	0.88	1.56	1.48	0.77			1.27	237.0	0.2445
1100	1.43	0.88	1.56	1.53	0.77			1.29	191.0	0.2514
1115	1.43	0.88	1.56	1.53	0.89			1.32	188.0	0.2525
1130	1.43	0.88	1.56	1.53	1.01			1.34	185.0	0.2535
1145	1.43	0.88	1.56	1.53	1.13			1.36	182.0	0.2545
1200	1.45	0.88	1.56	1.63	1.25			1.42	179.0	0.2555
1215	1.73	0.88	1.56	2.23	1.48			1.72	177.0	0.2565
1230	1.77	0.90	1.68	2.83	1.72			1.98	174.0	0.2575
1245	2.07	1.16	1.92	3.78	1.96			2.45	172.0	0.2584
1300	2.26	1.44	2.04	4.06	2.20			2.67	169.0	0.2594
1315	2.49	1.80	2.28	4.26	2.28			2.88	170.0	0.2603
1330	2.53	1.96	2.64	4.43	2.37			3.03	171.0	0.2613
1345	2.53	2.08	2.76	4.56	2.46			3.11	213.0	0.2625
1400	2.53	2.15	2.88	4.69	2.55			3.20	255.0	0.2639
1415	2.53	2.26	3.00	4.79	2.61			3.27	324.0	0.2657

STA. NO. 08076000 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

GREENS BAYOU NEAR HOUSTON, TEX. STORM OF MAY 12-21, 1983

DATE & TIME	GAGE NUMBER 5780	6000	6200	203R	20R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13										
1430	2.53	2.43	3.12	4.94	2.70			3.37	392.0	0.2679
1445	2.64	2.50	3.24	5.08	2.79			3.48	481.0	0.2706
1500	2.75	2.59	3.36	5.26	2.88			3.60	569.0	0.2737
1515	2.88	2.67	3.36	5.40	2.93			3.70	708.0	0.2777
1530	2.97	2.68	3.48	5.49	2.99			3.78	846.0	0.2824
1545	3.01	2.71	3.48	5.54	3.05			3.82	1020.0	0.2880
1600	3.06	2.91	3.60	5.61	3.11			3.90	1200.0	0.2947
1615	3.19	3.05	3.72	5.77	3.11			4.01	1400.0	0.3025
1630	3.39	3.06	3.84	5.96	3.11			4.14	1600.0	0.3114
1645	3.44	3.07	3.84	5.99	3.13			4.17	1820.0	0.3216
1700	3.44	3.08	3.96	6.00	3.16			4.19	2040.0	0.3329
1715	3.45	3.08	3.96	6.02	3.16			4.20	2250.0	0.3454
1730	3.46	3.08	3.96	6.05	3.16			4.21	2460.0	0.3660
1800	3.46	3.08	3.96	6.05	3.16			4.21	2910.0	0.4146
1900	3.46	3.08	3.96	6.05	3.16			4.21	3640.0	0.5260
2045	3.46	3.08	3.96	6.05	3.16			4.21	4110.0	0.6175
2100	3.46	3.08	3.96	6.05	3.18			4.22	4120.0	0.6634
2145	3.46	3.08	3.96	6.05	3.18			4.22	4060.0	0.7086
2200	3.46	3.08	3.96	6.05	3.19			4.22	4020.0	0.8092
2400	3.46	3.08	3.96	6.05	3.19			4.22	3590.0	0.9891
MAY 14										
0000	3.46	3.08	3.96	6.05	3.19			4.22	3590.0	0.9891
0230	3.46	3.08	3.96	6.05	3.19			4.22	2910.0	1.1511
0500	3.46	3.08	3.96	6.05	3.19			4.22	2340.0	1.2422
0600	3.46	3.08	3.96	6.05	3.19			4.22	2190.0	1.3519
0930	3.46	3.08	3.96	6.05	3.19			4.22	1770.0	1.4702
1200	3.46	3.08	3.96	6.05	3.19			4.22	1580.0	1.6109
1730	3.46	3.08	3.96	6.05	3.19			4.22	1280.0	1.6964
1800	3.46	3.08	3.96	6.05	3.19			4.22	1240.0	1.7654
2230	3.46	3.08	3.96	6.05	3.19			4.22	996.0	1.8319
2400	3.46	3.08	3.96	6.05	3.19			4.22	919.0	1.8882
MAY 15										
0000	3.46	3.08	3.96	6.05	3.19			4.22	919.0	1.8882
0400	3.46	3.08	3.96	6.05	3.19			4.22	736.0	1.9373
0600	3.46	3.08	3.96	6.05	3.19			4.22	653.0	1.9737
0900	3.46	3.08	3.96	6.05	3.19			4.22	522.0	2.0085
1200	3.46	3.08	3.96	6.05	3.19			4.22	426.0	2.0512
1800	3.46	3.08	3.96	6.05	3.19			4.22	282.0	2.0732
1900	3.46	3.08	3.96	6.05	3.19			4.22	304.0	2.0935
2400	3.46	3.08	3.96	6.05	3.19			4.22	220.0	2.1204
MAY 16										
0000	3.46	3.08	3.96	6.05	3.19			4.22	220.0	2.1204

STA. NO. 08076000 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

GREENS BAYOU NEAR HOUSTON, TEX. STORM OF MAY 12-21, 1983

DATE & TIME	GAGE NUMBER 5780	6000	6200	203R	20R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 16										
0600	3.46	3.08	3.96	6.05	3.19			4.22	169.0	2.1430
1200	3.46	3.08	3.96	6.05	3.19			4.22	138.0	2.1614
1800	3.46	3.08	3.96	6.05	3.19			4.22	120.0	2.1775
2400	3.46	3.08	3.96	6.05	3.19			4.22	107.0	2.1918
MAY 17										
0000	3.46	3.08	3.96	6.05	3.19			4.22	107.0	2.1918
0600	3.46	3.08	3.96	6.05	3.19			4.22	90.0	2.2038
1200	3.46	3.08	3.96	6.05	3.19			4.22	80.0	2.2100
1300	3.46	3.08	3.96	6.60	3.29			4.40	78.0	2.2113
1330	3.46	3.08	3.96	6.90	3.29			4.49	78.0	2.2122
1400	3.65	3.08	4.08	6.90	3.29			4.56	78.0	2.2131
1430	3.65	3.09	4.20	7.10	3.29			4.64	78.0	2.2139
1500	3.65	4.56	4.20	7.53	3.31			4.92	78.0	2.2148
1530	3.65	5.27	4.20	7.55	3.31			5.00	90.0	2.2158
1600	3.65	5.36	4.20	7.55	3.34			5.01	312.0	2.2193
1630	3.65	5.36	4.20	7.55	3.34			5.01	622.0	2.2262
1700	4.08	5.36	4.20	7.65	3.38			5.16	801.0	2.2351
1730	4.43	5.36	4.32	7.83	3.38			5.32	885.0	2.2450
1800	4.46	5.42	4.44	7.92	3.41			5.38	937.0	2.2554
1830	4.46	5.47	4.44	7.92	3.41			5.39	963.0	2.2661
1900	4.46	5.48	4.44	7.92	3.47			5.40	967.0	2.3146
2300	4.46	5.48	4.44	7.92	3.47			5.40	868.0	2.3629
2400	4.46	5.48	4.44	7.92	3.47			5.40	889.0	2.4025
MAY 18										
0000	4.46	5.48	4.44	7.92	3.47			5.40	889.0	2.4025
0300	4.46	5.48	4.44	7.92	3.47			5.40	975.0	2.4676
0600	4.46	5.48	4.44	7.92	3.47			5.40	905.0	2.5280
0900	4.46	5.48	4.44	7.92	3.47			5.40	722.0	2.5722
1130	4.46	5.48	4.44	7.92	3.47			5.40	588.0	2.5919
1200	4.46	5.48	4.44	7.92	3.47			5.40	561.0	2.6168
1530	4.46	5.48	4.44	7.92	3.47			5.40	446.0	2.6417
1700	4.46	5.48	4.44	7.92	3.47			5.40	410.0	2.6508
1730	4.51	5.48	4.44	7.92	3.47			5.41	400.0	2.6552
1800	4.53	5.48	4.44	7.92	3.47			5.42	390.0	2.6618
1900	4.53	5.48	4.44	7.92	3.47			5.42	371.0	2.6680
1930	4.53	5.48	4.56	7.92	3.47			5.43	361.0	2.6880
2400	4.53	5.48	4.56	7.92	3.47			5.43	284.0	2.7212
MAY 19										
0000	4.53	5.48	4.56	7.92	3.47			5.43	284.0	2.7212
0600	4.53	5.48	4.56	7.92	3.47			5.43	205.0	2.7486
1200	4.53	5.48	4.56	7.92	3.47			5.43	158.0	2.7609
1300	4.53	5.48	4.56	7.92	3.47			5.43	154.0	2.7635

STA. NO. 08076000	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
GREENS BAYOU NEAR HOUSTON, TEX.	STORM OF MAY 12-21,1983							
DATE & TIME	GAGE NUMBER						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
	5780	6000	6200	203R	20R				
MAY 19									
1330	4.53	5.71	4.56	7.92	3.66		5.50	151.0	2.7648
1345	4.53	6.01	4.56	7.92	3.78		5.55	150.0	2.7656
1400	4.53	6.68	4.56	7.92	3.90		5.64	149.0	2.7664
1415	4.53	6.75	4.56	7.92	3.97		5.66	162.0	2.7673
1430	4.53	7.10	4.56	7.92	4.06		5.71	175.0	2.7683
1445	4.61	7.26	4.56	7.92	4.15		5.77	270.0	2.7698
1500	4.62	8.08	4.56	7.92	4.24		5.87	364.0	2.7718
1515	4.65	8.48	4.56	7.92	4.24		5.92	476.0	2.7745
1530	4.67	8.85	4.56	7.99	4.24		5.98	587.0	2.7778
1545	4.67	8.86	4.56	8.44	4.26		6.12	859.0	2.7825
1600	4.67	8.86	4.56	9.09	4.29		6.32	1130.0	2.7888
1615	4.67	8.86	4.56	9.24	4.29		6.37	1490.0	2.7971
1630	4.67	8.86	4.56	9.32	4.29		6.39	1850.0	2.8074
1645	4.80	8.86	4.56	9.32	4.29		6.42	2180.0	2.8256
1715	4.80	8.86	4.56	9.32	4.29		6.42	2850.0	2.8494
1730	4.97	8.86	4.56	9.32	4.29		6.47	3180.0	2.8671
1745	4.99	8.86	4.68	9.32	4.29		6.49	3390.0	2.8860
1800	4.99	8.86	4.68	9.32	4.29		6.49	3600.0	2.9361
1900	4.99	8.86	4.68	9.32	4.29		6.49	3810.0	3.0739
2115	4.99	8.86	4.68	9.32	4.29		6.49	3240.0	3.2272
2315	4.99	8.86	4.68	9.32	4.29		6.49	2580.0	3.3062
2400	4.99	8.86	4.68	9.32	4.29		6.49	2340.0	3.3908
MAY 20									
0000	4.99	8.86	4.68	9.32	4.29		6.49	2340.0	3.3908
0230	4.99	8.86	4.68	9.32	4.29		6.49	1840.0	3.4933
0500	4.99	8.86	4.68	9.32	4.29		6.49	1470.0	3.5505
0600	4.99	8.86	4.68	9.32	4.29		6.49	1320.0	3.6020
0830	4.99	8.86	4.68	9.32	4.29		6.49	1050.0	3.6604
1100	4.99	8.86	4.68	9.32	4.29		6.49	812.0	3.6920
1200	4.99	8.86	4.68	9.32	4.29		6.49	718.0	3.7160
1400	4.99	8.86	4.68	9.32	4.29		6.49	584.0	3.7420
1600	4.99	8.86	4.68	9.32	4.29		6.49	476.0	3.7632
1800	4.99	8.86	4.68	9.32	4.29		6.49	394.0	3.7983
2400	4.99	8.86	4.68	9.32	4.29		6.49	275.0	3.8350
MAY 21									
0000	4.99	8.86	4.68	9.32	4.29		6.49	275.0	3.8350
0600	4.99	8.86	4.68	9.32	4.29		6.49	190.0	3.8604
1200	4.99	8.86	4.68	9.32	4.29		6.49	151.0	3.8806
1800	4.99	8.86	4.68	9.32	4.29		6.49	128.0	3.8977
2400	4.99	8.86	4.68	9.32	4.29		6.49	99.0	3.9043

HALLS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Halls Bayou drainage basin are shown in figure 20.

Weighted-mean rainfall for the drainage basin, based on five rain gages above the Jensen Drive station (station 08076500) for the 1982 water year was 35.06 inches, or 13.13 inches less than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1982 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
6.29	3.56	1.06	2.17	1.80	1.42	2.20	8.22	1.19	3.96	2.35	0.84	35.06

The storm of Nov. 29-Dec. 2 was selected for analysis at station 08076200, Halls Bayou at Deertrail Street near Houston, and station 08076500, Halls Bayou at Houston (Jensen Drive). The storm of May 12-15 was selected for analysis at station 08076200. The storm of May 12-21 was selected for analysis at station 08076500

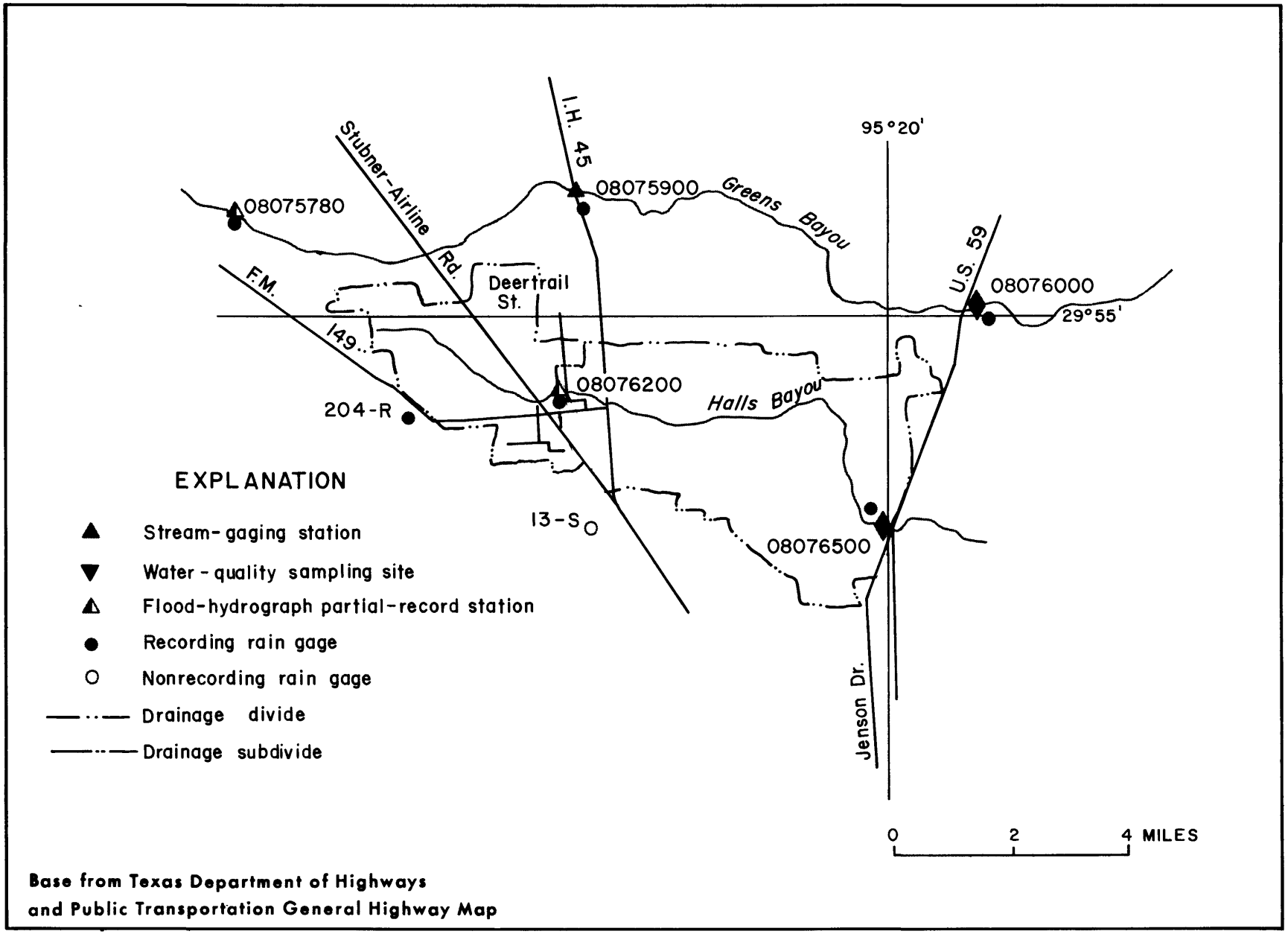

Figure 20.- Locations of data-collection sites in the Halls Bayou drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 18.--Storm rainfall-runoff data, 1982 Water Year, Halls Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Halls Bayou at Deertrail St., Houston, Tx. (Drainage area -- 8.99 mi^2)								
Nov.29-Dec.2,1981	3.5	3.67	0.70	1.17	1.85	1.78	0.48	752
May 12, 1982	1.5	1.49	0.74	1.08	1.32	2.37	0.62	283
May 13-15, 1982	3.8	2.34	.36	.62	1.04			810*
Halls Bayou at Houston, Tx. (Drainage area -- 27.6 mi^2)								
Nov. 29-Dec.2,1981	3.5	2.88	0.42	0.84	1.32	1.25	0.44	1,390
May 12, 1982	1.5	1.36	0.74	1.08	1.32	4.63	0.83	815
May 13, 1982	3.5	2.33	.36	.62	1.06			2,300*
May 17-18,1982	4.0	0.99	.74	1.47	2.18			962
May 19-21, 1982	2.0	0.92	.35	.70	1.40			2,120

* - Annual peak discharge for 1982 WY.

08076200 HALLS BAYOU AT DEERTRAIL STREET NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°54'07", long 95°25'21", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Deertrail Street, 0.6 mile west of U.S. Highway 75, 3.0 miles north of city limits of Houston, and 7.7 miles upstream from station 08076500, Halls Bayou at Houston.

DRAINAGE AREA.--8.99 mi^2. For period Oct. 1, 1973 to Sept. 30, 1977, 8.69 mi^2. Prior to Oct. 1, 1973, 6.31 mi^2.

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

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 27, 1978 a flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1961 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft^3/s, Mar. 20, 1972; maximum gage height, 86.07 ft, April 18, 1976. Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 400 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	ELEVATION (ft)
Oct. 6	1915	543	82.15
Nov. 29	1730	752	83.36
May 13	1715	*810	84.46

Minimum discharge not determined.

STA. NO. 08076200 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST. NEAR HOUSTON, TEX. STORM OF NOV. 29 TO DEC. 2 , 1981

DATE & TIME	GAGE NUMBER 5780	5900	6200	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29						
0000	0.0	0.0	0.0	0.0	2.0	0.0000
0015	0.01	0.0	0.0	0.00	2.0	0.0006
0300	0.01	0.0	0.0	0.00	2.0	0.0011
0315	0.02	0.0	0.0	0.00	2.0	0.0012
0345	0.02	0.0	0.0	0.00	2.0	0.0013
0400	0.03	0.0	0.0	0.00	2.0	0.0017
0545	0.03	0.0	0.0	0.00	2.0	0.0020
0600	0.04	0.0	0.0	0.00	2.0	0.0022
0700	0.04	0.0	0.0	0.00	2.0	0.0025
0715	0.05	0.0	0.0	0.00	2.0	0.0029
0930	0.05	0.0	0.0	0.00	2.0	0.0033
0945	0.06	0.0	0.0	0.01	2.0	0.0035
1045	0.06	0.0	0.0	0.01	2.0	0.0037
1100	0.06	0.0	0.12	0.11	2.0	0.0040
1200	0.06	0.0	0.12	0.11	2.4	0.0043
1230	0.06	0.0	0.12	0.11	2.7	0.0044
1245	0.15	0.0	0.12	0.12	2.8	0.0046
1300	0.27	0.0	0.12	0.13	2.9	0.0047
1315	0.52	0.12	0.36	0.36	3.0	0.0048
1330	0.71	0.41	0.48	0.50	10.0	0.0053
1345	0.86	0.78	0.72	0.74	15.0	0.0059
1400	0.98	0.93	0.96	0.96	30.0	0.0072
1415	1.06	1.18	1.08	1.08	66.0	0.0100
1430	1.16	1.31	1.44	1.41	112.0	0.0149
1445	1.58	1.79	1.80	1.78	206.0	0.0237
1500	2.05	2.10	2.28	2.25	321.0	0.0376
1515	2.45	2.32	2.40	2.40	427.0	0.0560
1530	2.73	2.41	2.40	2.43	521.0	0.0784
1545	3.20	2.52	2.52	2.59	570.0	0.1030
1600	3.90	2.61	2.52	2.66	608.0	0.1292
1615	4.30	2.68	2.52	2.71	614.0	0.1556
1630	4.31	2.95	2.88	3.03	650.0	0.1837
1645	4.31	3.10	3.24	3.34	706.0	0.2141
1700	4.32	3.13	3.36	3.44	739.0	0.2459
1715	4.32	3.16	3.36	3.45	750.0	0.2782
1730	4.32	3.17	3.36	3.45	752.0	0.3268
1800	4.32	3.17	3.36	3.45	739.0	0.4383
1915	4.32	3.17	3.36	3.45	654.0	0.5229
1930	4.33	3.17	3.36	3.45	635.0	0.6460

STA. NO. 08076200 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST. NEAR HOUSTON, TEX. STORM OF NOV. 29 TO DEC. 2 ,1981

DATE & TIME	GAGE NUMBER 5780	5900	6200					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29										
2130	4.33	3.17	3.36					3.45	503.0	0.8302
2345	4.33	3.17	3.36					3.45	407.0	0.9179
2400	4.33	3.17	3.36					3.45	399.0	1.0125
NOV. 30										
0000	4.33	3.17	3.36					3.45	399.0	1.0125
0230	4.33	3.17	3.36					3.45	322.0	1.1512
0500	4.33	3.17	3.36					3.45	258.0	1.2291
0600	4.33	3.17	3.36					3.45	234.0	1.2996
0830	4.33	3.17	3.36					3.45	189.0	1.3567
0930	4.33	3.17	3.36					3.45	173.0	1.3790
1000	4.34	3.17	3.36					3.45	167.0	1.3934
1030	4.39	3.17	3.48					3.56	160.0	1.4072
1100	4.41	3.38	3.60					3.67	153.0	1.4204
1130	4.41	3.41	3.60					3.67	147.0	1.4331
1200	4.41	3.41	3.60					3.67	140.0	1.4572
1330	4.41	3.41	3.60					3.67	127.0	1.4791
1400	4.42	3.41	3.60					3.67	122.0	1.5159
1700	4.42	3.41	3.60					3.67	98.0	1.5497
1800	4.42	3.41	3.60					3.67	91.0	1.6046
2400	4.42	3.41	3.60					3.67	62.0	1.6687
DEC. 1										
0000	4.42	3.41	3.60					3.67	62.0	1.6687
0600	4.42	3.41	3.60					3.67	43.0	1.7132
1200	4.42	3.41	3.60					3.67	28.0	1.7421
1800	4.42	3.41	3.60					3.67	17.0	1.7597
2400	4.42	3.41	3.60					3.67	9.0	1.7690
DEC. 2										
0000	4.42	3.41	3.60					3.67	9.0	1.7690
0600	4.42	3.41	3.60					3.67	5.0	1.7720
0700	4.42	3.41	3.60					3.67	4.7	1.7728
0800	4.43	3.41	3.60					3.67	4.3	1.7747
1200	4.43	3.41	3.60					3.67	3.0	1.7773
1800	4.43	3.41	3.60					3.67	2.5	1.7798
2400	4.43	3.41	3.60					3.67	2.0	1.7809

STA. NO. 08076200 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST. NEAR HOUSTON, TEX. STORM OF MAY 12-15, 1983

DATE & TIME	GAGE NUMBER 6200	GAGE NUMBER 204R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 12					
0000	0.0	0.0	0.0	2.0	0.0003
0200	0.0	0.0	0.0	2.0	0.0007
0215	0.12	0.0	0.07	2.0	0.0009
0300	0.12	0.0	0.07	2.0	0.0011
0315	0.12	0.02	0.08	2.0	0.0012
0330	0.12	0.04	0.09	2.0	0.0012
0345	0.12	0.06	0.10	2.0	0.0013
0400	0.12	0.07	0.10	2.0	0.0014
0415	0.12	0.08	0.10	2.0	0.0015
0430	0.12	0.09	0.11	2.0	0.0016
0445	0.12	0.18	0.14	2.0	0.0017
0500	0.12	0.22	0.16	2.0	0.0018
0515	0.12	0.28	0.18	2.0	0.0019
0530	0.12	0.30	0.19	2.0	0.0019
0545	0.24	0.35	0.28	3.0	0.0021
0600	0.24	0.38	0.30	3.3	0.0022
0615	0.24	0.44	0.32	3.7	0.0024
0630	0.36	1.18	0.69	4.0	0.0025
0645	0.96	1.36	1.12	10.0	0.0030
0700	1.44	1.38	1.42	40.0	0.0047
0715	1.56	1.38	1.49	224.0	0.0192
0745	1.56	1.38	1.49	277.0	0.0430
0815	1.56	1.38	1.49	283.0	0.1040
1015	1.56	1.38	1.49	224.0	0.1716
1145	1.56	1.38	1.49	177.0	0.1983
1200	1.56	1.38	1.49	170.0	0.2239
1330	1.56	1.38	1.49	135.0	0.2588
1500	1.56	1.38	1.49	107.0	0.2865
1630	1.56	1.38	1.49	84.0	0.3064
1745	1.56	1.38	1.49	68.0	0.3152
1800	1.56	1.38	1.49	66.0	0.3252
1930	1.56	1.38	1.49	52.0	0.3408
2130	1.56	1.38	1.49	42.0	0.3553
2330	1.56	1.38	1.49	33.0	0.3624
2400	1.56	1.38	1.49	29.0	0.3787
MAY 13					
0000	1.56	1.38	1.49	29.0	0.3787
0600	1.56	1.38	1.49	18.0	0.3973
1200	1.56	1.38	1.49	10.0	0.4027
1215	1.56	1.60	1.58	10.0	0.4031

STA. NO. 08076200 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST. NEAR HOUSTON, TEX. STORM OF MAY 12-15,1983

DATE & TIME	GAGE NUMBER 6200	GAGE NUMBER 204R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 13					
1230	1.68	1.80	1.73	10.0	0.4035
1245	1.92	2.10	1.99	20.0	0.4044
1300	2.04	2.42	2.19	65.0	0.4072
1315	2.28	2.52	2.38	124.0	0.4125
1330	2.64	2.58	2.62	162.0	0.4195
1345	2.76	2.68	2.73	227.0	0.4293
1400	2.88	2.80	2.85	279.0	0.4413
1415	3.00	2.88	2.95	308.0	0.4546
1430	3.12	3.02	3.08	393.0	0.4715
1445	3.24	3.07	3.17	452.0	0.4910
1500	3.36	3.14	3.27	516.0	0.5132
1515	3.36	3.16	3.28	560.0	0.5374
1530	3.48	3.24	3.38	603.0	0.5634
1545	3.48	3.36	3.43	647.0	0.5912
1600	3.60	3.48	3.55	693.0	0.6211
1615	3.72	3.58	3.66	737.0	0.6529
1630	3.84	3.60	3.74	769.0	0.6860
1645	3.84	3.63	3.76	790.0	0.7200
1700	3.96	3.63	3.83	802.0	0.7546
1715	3.96	3.63	3.83	810.0	0.8244
1800	3.96	3.63	3.83	802.0	1.0491
2030	3.96	3.63	3.83	654.0	1.2886
2215	3.96	3.63	3.83	522.0	1.4348
2345	3.96	3.63	3.83	418.0	1.4979
2400	3.96	3.63	3.83	400.0	1.6099
MAY 14					
0000	3.96	3.63	3.83	400.0	1.6099
0300	3.96	3.63	3.83	315.0	1.7728
0600	3.96	3.63	3.83	250.0	1.9021
0900	3.96	3.63	3.83	200.0	2.0055
1200	3.96	3.63	3.83	160.0	2.0882
1500	3.96	3.63	3.83	125.0	2.1528
1800	3.96	3.63	3.83	100.0	2.2304
2400	3.96	3.63	3.83	65.0	2.2976
MAY 15					
0000	3.96	3.63	3.83	65.0	2.2976
0600	3.96	3.63	3.83	40.0	2.3390
1200	3.96	3.63	3.83	20.0	2.3597
1800	3.96	3.63	3.83	8.0	2.3680
2400	3.96	3.63	3.83	4.0	2.3700

SAN JACINTO RIVER BASIN

08076500 HALLS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°51'42", long 95°20'05", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Jensen Drive in northeast section of Houston and 11.0 mi (17.7 km) upstream from mouth.

DRAINAGE AREA.--27.6 mi² (71.5 km²). Oct. 1, 1973, to Sept. 30, 1977, 28.3 mi² (73.3 km²). Prior to Oct. 1, 1973, 24.7 mi² (64.0 km²). Changes were result of drainage ditch extensions or relocations.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1732: Drainage area. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft (0.201 m) below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair except those for Oct. 22 to Nov. 22 and those below 20 ft³/s (0.57 m³/s), which are poor. No known diversion above station. Low flow is sustained by sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--30 years, 27.9 ft³/s (0.790 m³/s), 20,210 acre-ft/yr (24.9 hm³).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,780 ft³/s (107 m³/s) Mar. 21, 1972, gage height, 60.70 ft (18.501 m); maximum gage height, 60.75 ft (18.517 m) June 13, 1973; no flow at times prior to 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 6	2300	1,280	36.2	56.56	17.239	May 13	2000	*2,300	65.1	58.93	17.962
Nov. 29	2230	1,390	39.4	56.50	17.221	May 19	2030	2,120	60.0	58.52	17.837

Minimum daily discharge, 6.6 ft³/s (0.19 m³/s) June 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	200	107	15	26	16	15	17	11	9.5	14	12
2	8.9	50	43	12	17	12	14	23	10	9.7	11	8.6
3	8.6	20	26	18	23	12	13	14	9.9	9.0	8.6	11
4	9.7	15	18	17	15	12	12	13	9.9	8.6	8.9	34
5	39	12	9.8	13	13	12	12	11	9.9	13	9.5	8.6
6	263	11	16	12	13	12	11	129	9.4	14	9.2	7.3
7	394	11	23	12	14	22	9.9	175	9.4	11	23	8.5
8	165	80	16	11	18	15	11	32	9.4	12	107	8.3
9	27	60	11	11	18	14	11	15	9.0	12	60	8.5
10	14	20	11	11	14	13	36	15	9.0	11	40	8.4
11	22	13	8.3	9.4	13	16	22	15	9.0	8.8	9.9	7.8
12	34	13	12	70	14	12	13	382	8.5	8.9	8.4	8.8
13	20	12	9.7	49	12	12	13	774	8.5	19	8.4	9.7
14	14	12	14	34	12	12	12	586	8.0	88	8.9	9.0
15	12	12	14	26	13	12	13	107	8.0	29	9.2	8.8
16	33	12	13	19	14	12	13	44	8.0	45	10	9.2
17	20	11	11	19	13	12	16	313	7.5	19	9.7	9.2
18	30	11	9.6	19	13	12	12	232	7.5	19	12	9.0
19	16	11	9.2	19	14	12	12	568	7.0	32	15	10
20	11	11	16	16	36	12	12	397	6.8	41	9.0	11
21	9.9	10	27	16	30	12	38	40	6.6	11	9.1	9.9
22	9.9	10	19	16	14	11	83	46	18	13	8.7	8.7
23	9.5	10	9.7	13	12	33	20	106	7.7	10	9.0	8.7
24	9.5	9.2	11	27	12	34	91	112	7.3	10	8.8	8.9
25	25	9.7	10	22	30	16	74	31	7.3	12	8.2	8.2
26	17	9.9	8.7	14	212	14	32	17	40	17	8.5	8.3
27	13	9.0	8.6	14	74	86	19	14	47	11	8.0	9.2
28	11	8.9	8.6	14	27	64	16	13	13	10	8.0	8.9
29	10	312	8.6	33	---	18	14	12	11	9.4	8.5	9.1
30	10	461	8.6	151	---	16	13	11	10	15	9.4	9.1
31	150	---	47	110	---	17	---	11	---	74	16	---
TOTAL	1424.9	1446.7	564.4	842.4	736	585	682.9	4275	343.6	611.9	493.9	296.7
MEAN	46.0	48.2	18.2	27.2	26.3	18.9	22.8	138	11.5	19.7	15.9	9.89
MAX	394	461	107	151	212	86	91	774	47	88	107	34
MIN	8.6	8.9	8.3	9.4	12	11	9.9	11	6.6	8.6	8.0	7.3
AC-FT	2830	2870	1120	1670	1460	1160	1350	8480	682	1210	980	589

CAL YR 1981 TOTAL 14982.6 MEAN 41.0 MAX 1380 MIN 6.4 AC-FT 29720
WTR YR 1982 TOTAL 12303.4 MEAN 33.7 MAX 774 MIN 6.6 AC-FT 24400

NOTE.--No gage-height record Oct. 22 to Nov. 22.

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JAN												
18...	1120	13	858	7.7	12.5	15	4.7	8.9	82	7.8	160000	12000
MAY												
12...	0922	543	304	7.7	22.0	50	140	5.4	62	18	150000	89000
12...	1345	769	150	7.8	23.5	90	130	4.5	53	11	160000	100000
12...	1818	486	200	7.8	24.5	60	84	3.8	44	9.0	--	--
13...	0930	81	390	7.7	23.0	50	80	3.5	41	12	9700	7200
14...	0750	650	185	7.5	20.5	90	68	4.6	52	7.5	--	--
18...	1045	192	370	7.1	22.0	50	46	4.2	48	6.6	140000	35000
JUN												
21...	1400	6.6	924	8.6	34.0	40	3.5	15.0	211	11	120000	6700
22...	1045	30	690	7.7	26.0	50	16	3.3	40	22	300000	240000
22...	1155	28	442	7.7	27.0	50	24	4.5	56	23	200000	200000
23...	1000	8.1	800	7.0	29.5	40	2.6	4.6	60	16	200000	50000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
12...	81	0	26	3.8	24	1.2	3.9	90	16	24	.2	8.5
12...	54	3	18	2.2	11	.7	3.3	51	13	10	.1	4.9
12...	67	2	22	2.9	13	.7	3.5	65	16	13	.2	6.5
13...	110	1	35	5.7	31	1.3	4.5	110	22	35	.2	12
14...	65	4	21	3.1	11	.6	3.3	61	11	10	.1	8.1
18...	120	3	39	6.2	24	1.0	3.9	120	23	26	.2	14
JUN												
21...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN												
18...	--	4	0	.45	.270	.72	10.0	.00	10.0	4.20	4.90	11
MAY												
12...	161	117	20	.37	.120	.49	2.90	2.2	5.10	2.00	--	21
12...	93	258	18	.30	.090	.39	.980	1.2	2.20	.760	--	16
12...	116	155	30	.31	.080	.39	.930	1.3	2.20	.780	--	13
13...	212	110	19	.21	.120	.33	1.90	1.3	3.20	1.80	--	16
14...	104	124	11	.14	.060	.20	.450	1.2	1.60	.630	--	11
18...	208	71	12	.18	.080	.26	1.20	1.9	3.10	.960	--	16
JUN												
21...	--	15	14	.08	.230	.31	9.90	.00	4.40	3.20	--	17
22...	--	16	13	.47	.070	.54	8.30	4.7	13.0	4.00	--	24
22...	--	42	13	.51	.070	.58	4.00	5.1	9.10	2.00	--	14
23...	--	10	8	--	.040	<.10	8.80	.90	9.70	4.30	--	17

08076500 HALLS BAYOU AT HOUSTON TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY							
12...	0922	8	85	<3	<10	2	80
JUN							
21...	1400	6	300	<1	<10	6	80
22...	1045	12	200	<1	<10	4	110
22...	1155	39	200	<1	<10	3	110
23...	1000	7	300	<1	<10	1	90

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY						
12...	1	56	<.1	<1	<1	<12
JUN						
21...	3	200	<.1	<1	<1	10
22...	2	320	<.1	<1	<1	10
22...	3	150	<.1	<1	<1	10
23...	<1	390	<.1	<1	<1	10

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAY								
12...	1345	<.10	<.10	<.10	<.10	<.10	<2.0	.1
JUN								
21...	1400	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
22...	1045	<.10	<.10	.10	<.10	<.10	<2.0	1.7
22...	1155	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
23...	1000	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAY							
12...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
JUN							
21...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
22...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
22...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
23...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STA. NO. 08076500	STORM RAINFALL AND RUNOFF RECORD							1982 WATER YEAR
HALLS BAYOU AT HOUSTON, TEX.	STORM OF NOV. 29 TO DEC. 2 , 1981							
DATE & TIME	GAGE NUMBER						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
	6200	6500							
NOV. 29									
0000	0.0	0.0					0.0	9.9	0.0029
1030	0.0	0.0					0.0	9.0	0.0057
1100	0.12	0.0					0.07	9.0	0.0062
1230	0.12	0.12					0.12	3.1	0.0064
1300	0.12	0.24					0.17	3.1	0.0065
1330	0.48	0.60					0.53	6.3	0.0066
1400	0.96	1.08					1.01	9.4	0.0069
1430	1.44	1.44					1.44	21.0	0.0075
1500	2.28	1.56					1.99	32.0	0.0084
1530	2.40	1.56					2.06	95.0	0.0111
1600	2.52	1.56					2.14	158.0	0.0155
1630	2.88	1.56					2.35	223.0	0.0218
1700	3.36	1.56					2.64	288.0	0.0298
1730	3.36	1.56					2.64	388.0	0.0407
1800	3.36	1.56					2.64	488.0	0.0544
1830	3.36	1.56					2.64	616.0	0.0804
1930	3.36	1.56					2.64	887.0	0.1302
2030	3.36	1.56					2.64	1150.0	0.2109
2200	3.36	1.56					2.64	1390.0	0.2889
2230	3.36	1.56					2.64	1390.0	0.3670
2400	3.36	1.56					2.64	1260.0	0.5084
NOV. 30									
0000	3.36	1.56					2.64	1260.0	0.5084
0230	3.36	1.56					2.64	972.0	0.6312
0430	3.36	1.56					2.64	750.0	0.7049
0600	3.36	1.56					2.64	589.0	0.7628
0800	3.36	1.56					2.64	464.0	0.8149
1000	3.36	1.56					2.64	363.0	0.8404
1030	3.48	1.68					2.76	345.0	0.8597
1200	3.60	1.80					2.88	298.0	0.9225
1800	3.60	1.80					2.88	267.0	1.0124
2400	3.60	1.80					2.88	194.0	1.0778
DEC. 1									
0000	3.60	1.80					2.88	194.0	1.0778
0600	3.60	1.80					2.88	126.0	1.1414
1800	3.60	1.80					2.88	82.0	1.1829
2400	3.60	1.80					2.88	67.0	1.2167
DEC. 2									
0000	3.60	1.80					2.88	67.0	1.2167
1200	3.60	1.80					2.88	38.0	1.2423
2400	3.60	1.80					2.88	34.0	1.2538

STA. NO. 08076500 STORM RAINFALL AND RUNOFF RECORD 1982 WATER YEAR

HALLS BAYOU AT HOUSTON, TEX. STORM OF MAY 12-21, 1983

DATE & TIME	GAGE NUMBER 6000	6200	204R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 12						
0000	0.0	0.0	0.0	0.0	14.0	0.0008
0200	0.0	0.0	0.0	0.0	15.0	0.0018
0230	0.0	0.12	0.0	0.07	16.0	0 0023
0300	0.0	0.12	0.0	0.07	16.0	0.0030
0400	0.0	0.12	0.07	0.08	17.0	0.0039
0500	0.0	0.12	0.22	0.10	17.0	0.0049
0600	0.20	0.24	0.38	0.25	21.0	0.0058
0630	0.51	0.36	1.18	0.52	83.0	0.0081
0700	0.71	1.44	1.38	1.25	197.0	0.0136
0730	0.80	1.56	1.38	1.34	288.0	0.0217
0800	0.88	1.56	1.38	1.36	353.0	0.0366
0900	0.88	1.56	1.38	1.36	492.0	0.0642
1000	0.88	1.56	1.38	1.36	648.0	0.1188
1200	0.88	1.56	1.38	1.36	803.0	0.1751
1230	0.88	1.56	1.38	1.36	815.0	0.2552
1530	0.88	1.56	1.38	1.36	662.0	0.3481
1730	0.88	1.56	1.38	1.36	536.0	0.3857
1800	0.88	1.56	1.38	1.36	504.0	0.4211
2000	0.88	1.56	1.38	1.36	390.0	0.4649
2200	0.88	1.56	1.38	1.36	297.0	0.4982
2400	0.88	1.56	1.38	1 36	225.0	0.5488
MAY 13						
0000	0.88	1.56	1.38	1.36	225.0	0.5488
0600	0.88	1.56	1.38	1.36	112.0	0.5865
1200	0.88	1.56	1.38	1.36	70.0	0.5993
1230	0.90	1.68	1.80	1.50	68.0	0.6012
1300	1.44	2.04	2.42	1.95	135.0	0.6050
1330	1.96	2.64	2.58	2.46	214.0	0.6110
1400	2.15	2.88	2.80	2.69	318.0	0.6199
1430	2.43	3.12	3.02	2.93	429.0	0.6319
1500	2.59	3.36	3.14	3.13	547.0	0.6473
1530	2.68	3.48	3.24	3.24	697.0	0.6669
1600	2.91	3.60	3.48	3.41	918.0	0.6926
1630	3.06	3.84	3.60	3.61	1210.0	0.7266
1700	3.08	3.96	3.63	3.69	1470.0	0.7885
1800	3.08	3.96	3.63	3.69	1970.0	0.9544
2000	3.08	3.96	3.63	3.69	2300.0	1.1158
2030	3.08	3.96	3.63	3.69	2300.0	1.3418
2330	3.08	3.96	3.63	3.69	1810.0	1.5196
2400	3.08	3.96	3.63	3.69	1700.0	1.6390

STA. NO. 08076500 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

HALLS BAYOU AT HOUSTON, TEX. — STORM OF MAY 12-21, 1983

DATE & TIME	GAGE NUMBER 6000	6200	204R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 14						
0000	3.08	3.96	3.63	3.69	1700.0	1.6390
0200	3.08	3.96	3.63	3.69	1320.0	1.7872
0400	3.08	3.96	3.63	3.69	1010.0	1.9006
0600	3.08	3.96	3.63	3.69	781.0	2.0102
0900	3.08	3.96	3.63	3.69	584.0	2.1086
1200	3.08	3.96	3.63	3.69	444.0	2.1834
1500	3.08	3.96	3.63	3.69	345.0	2.2415
1800	3.08	3.96	3.63	3.69	272.0	2.2873
2100	3.08	3.96	3.63	3.69	218.0	2.3240
2400	3.08	3.96	3.63	3.69	180.0	2.3695
MAY 15						
0000	3.08	3.96	3.63	3.69	180.0	2.3695
0600	3.08	3.96	3.63	3.69	132.0	2 4139
1200	3.08	3.96	3.63	3.69	98.0	2.4470
1800	3.08	3.96	3.63	3.69	82.0	2.4746
2400	3.08	3.96	3.63	3.69	65.0	2.4965
MAY 16						
0000	3.08	3.96	3.63	3.69	65.0	2.4965
0600	3.08	3.96	3.63	3.69	50.0	2.5133
1200	3.08	3.96	3.63	3.69	39.0	2.5264
1800	3.08	3.96	3.63	3.69	38.0	2.5392
2400	3.08	3.96	3.63	3.69	32.0	2.5500
MAY 17						
0000	3.08	3.96	3.63	3.69	32.0	2.5500
0600	3.08	3.96	3.63	3.69	26.0	2.5573
1000	3.08	3.96	3.63	3.69	22.0	2.5610
1200	3.08	3.96	3.63	3.69	23.0	2.5633
1330	3.08	3.96	3.63	3.69	24.0	2.5646
1400	3.08	4.08	3.63	3.76	27.0	2.5654
1430	3.09	4.20	3.63	3.84	111.0	2.5685
1500	4.56	4.20	3.63	4.20	216.0	2.5746
1530	5.27	4.20	3.63	4.38	417.0	2 5863
1600	5.36	4.20	3.63	4.40	562.0	2.6099
1700	5.36	4.20	3.63	4.40	739.0	2.6411
1730	5.36	4.32	3.73	4.49	824.0	2.6642
1800	5.42	4.44	3.85	4.60	899.0	2.6894
1830	5.47	4.44	3.85	4.61	941.0	2.7158
1900	5.48	4.44	3.85	4.61	962.0	2.7429
1930	5.48	4.44	3.85	4.61	962.0	2.8374
2230	5.48	4.44	3.85	4.61	774.0	2.9351
2400	5.48	4.44	3.85	4.61	664.0	3.0004
MAY 18						
0000	5.48	4.44	3.85	4.61	664.0	3.0004

STA. NO. 08076500 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

HALLS BAYOU AT HOUSTON, TEX. — STORM OF MAY 12-21, 1983

DATE & TIME	GAGE NUMBER 6000	6200	204R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 18						
0200	5.48	4.44	3.85	4.61	528.0	3.0597
0400	5.48	4.44	3.85	4.61	411.0	3.1058
0600	5.48	4.44	3.85	4.61	320.0	3.1418
0800	5.48	4.44	3.85	4.61	252.0	3.1700
1000	5.48	4.44	3.85	4.61	204.0	3.1930
1200	5.48	4.44	3.85	4.61	171.0	3.2170
1500	5.48	4.44	3.85	4.61	135.0	3.2397
1800	5.48	4.44	3.85	4.61	104.0	3.2543
2000	5.48	4.56	3.85	4.68	90.0	3.2695
2400	5.48	4.56	3.85	4.68	83.0	3.2834
MAY 19						
0000	5.48	4.56	3.85	4.68	83.0	3.2834
0200	5.48	4.56	3.85	4.68	90.0	3.2986
0600	5.48	4.56	3.85	4.68	69.0	3.3180
1200	5.48	4.56	3.85	4.68	47.0	3.3272
1300	5.48	4.56	3.85	4.68	46.0	3.3298
1400	6.68	4.56	3.85	4.98	46.0	3.3324
1500	8.08	4.56	3.85	5.33	45.0	3.3349
1600	8.86	4.56	3.85	5.53	98.0	3.3404
1700	8.86	4.56	3.85	5.53	625.0	3.3755
1800	8.86	4.68	3.85	5.60	1360.0	3.4518
1900	8.86	4.68	3.85	5.60	1930.0	3.5602
2000	8.86	4.68	3.85	5.60	2120.0	3.7982
2300	8.86	4.68	3.85	5.60	1720.0	3.9914
2400	8.86	4.68	3.85	5.60	1490.0	4.1169
MAY 20						
0000	8.86	4.68	3.85	5.60	1490.0	4.1169
0200	8.86	4.68	3.85	5.60	1110.0	4.2415
0400	8.86	4.68	3.85	5.60	784.0	4.3295
0600	8.86	4.68	3.85	5.60	574.0	4.3940
0800	8.86	4.68	3.85	5.60	416.0	4.4407
1000	8.86	4.68	3.85	5.60	298.0	4.4742
1200	8.86	4.68	3.85	5.60	222.0	4.4991
1400	8.86	4.68	3.85	5.60	178.0	4.5291
1800	8.86	4.68	3.85	5.60	116.0	4.5616
2400	8.86	4.68	3.85	5.60	70.0	4.5852
MAY 21						
0000	8.86	4.68	3.85	5.60	70.0	4.5852
0600	8.86	4.68	3.85	5.60	47.0	4.6010
1200	8.86	4.68	3.85	5.60	37.0	4.6135
1800	8.86	4.68	3.85	5.60	28.0	4.6229
2400	8.86	4.68	3.85	5.60	25.0	4.6272

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX

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

DRAINAGE AREA.--182 mi^2 (471 km^2).

PERIOD OF RECORD.--November 1962 to December 1964, May to September 1971 (discharge measurements only), October 1971 to current year.
Water-quality records: Chemical, biochemical, and pesticide analyses: October 1970 to September 1981.

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

REMARKS.--Records fair except those below 1,000 ft^3/s (28.3 m^3/s), which are poor. Discharge is computed for all storms that produce peak discharges over 2,000 ft^3/s (56.6 m^3/s). Tidal influences on the stage-discharge relationship affect discharge below about 500 ft^3/s (14.2 m^3/s). Discharge below 2,000 ft^3/s (56.6 m^3/s) is estimated following designated storm periods only.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft^3/s (473 m^3/s) June 13, 1973, gage height, 34.27 ft (10.445 m); minimum not determined (affected by tides).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,200 ft^3/s (119 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 7	unknown	4,560	129	20.51	6.251	May 17	2200	4,830	137	21.15	6.447
Nov. 30	0500	4,860	138	21.20	6.462	May 20	0200	4,800	136	21.10	6.431
May 14	0300	*7,140	202	24.90	7.590						

Minimum discharge not determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	1020	---	170			---				
2	---	---	290	---	---			---				
3	---	---	80	---	---			---				
4	---	---	---	---	---			---				
5	---	---	---	---	---			---				
6	1800	---	---	---	---			---				
7	2600	---	---	---	---			---				
8	1500	---	---	---	---			---				
9	300	---	---	---	---			---				
10	---	---	---	---	---			---				
11	---	---	---	---	---			---				
12	---	---	---	---	---			1080				
13	---	---	---	---	---			2460				
14	---	---	---	---	---			4880				
15	---	---	---	---	---			1120				
16	---	---	---	---	---			350				
17	---	---	---	---	---			1870				
18	---	---	---	---	---			2330				
19	---	---	---	---	---			1410				
20	---	---	---	---	---			2790				
21	---	---	---	---	---			430				
22	---	---	---	---	---			120				
23	---	---	---	---	---			---				
24	---	---	---	---	---			---				
25	---	---	---	---	---			---				
26	---	---	---	---	---			---				
27	---	---	---	---	---			---				
28	---	---	---	---	---			---				
29	---	760	---	---	---			---				
30	---	3590	---	530	---			---				
31	---	---	---	1090	---			---				
TOTAL	---	---	---	---	---			---				
MEAN	---	---	---	---	---			---				
MAX	---	---	---	---	---			---				
MIN	---	---	---	---	---			---				
AC-FT	---	---	---	---	---			---				

STA. NO. 08076700 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

GREENS BAYOU AT LEY ROAD, HOUSTON, TEX. — STORM OF NOV. 29 TO DEC. 2, 1981

DATE & TIME	GAGE NUMBER 5780	5900	6000	6200	6500	203R	20R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV. 29										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0005
0300	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.00	40.0	0.0015
0600	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.00	40.0	0.0026
0900	0.05	0.0	0.0	0.0	0.0	0.05	0.0	0.01	40.0	0.0036
1200	0.06	0.0	0.0	0.12	0.0	0.05	0.0	0.02	40.0	0.0043
1300	0.27	0.0	0.0	0.12	0.24	0.05	0.09	0.09	40.0	0.0046
1400	0.98	0.93	0.0	0.96	1.08	0.43	0.88	0.60	330.0	0.0074
1500	2.05	2.10	0.0	2.28	1.56	0.75	2.43	1.28	620.0	0.0127
1600	3.90	2.61	0.0	2.52	1.56	2.10	2.81	1.66	777.0	0.0193
1700	4.32	3.13	0.0	3.36	1.56	5.00	3.46	2.08	933.0	0.0272
1800	4.32	3.17	0.21	3.36	1.56	5.06	3.47	2.17	1090.0	0.0365
1900	4.32	3.17	1.51	3.36	1.56	5.08	3.47	2.62	1540.0	0.0496
2000	4.33	3.17	1.58	3.36	1.56	5.08	3.47	2.65	1990.0	0.0666
2100	4.33	3.17	1.71	3.36	1.56	5.08	3.47	2.69	2440.0	0.0874
2200	4.33	3.17	1.73	3.36	1.56	5.08	3.47	2.70	2850.0	0.1238
2400	4.33	3.17	1.73	3.36	1.56	5.08	3.47	2.70	3670.0	0.2019
NOV. 30										
0000	4.33	3.17	1.73	3.36	1.56	5.08	3.47	2.70	3670.0	0.2019
0300	4.33	3.17	1.73	3.36	1.56	5.08	3.47	2.70	4580.0	0.2994
0500	4.33	3.17	1.73	3.36	1.56	5.08	3.47	2.70	4860.0	0.3614
0600	4.33	3.17	1.73	3.36	1.56	5.08	3.47	2.70	4780.0	0.4225
0800	4.33	3.17	1.73	3.36	1.56	5.08	3.47	2.70	4550.0	0.5000
1000	4.34	3.17	1.73	3.36	1.56	5.08	3.48	2.70	4200.0	0.5536
1100	4.41	3.38	1.73	3.60	1.80	5.08	3.61	2.81	4010.0	0.5877
1200	4.41	3.41	1.73	3.60	1.80	5.08	3.62	2.81	3810.0	0.6202
1300	4.41	3.41	1.73	3.60	1.80	5.08	3.62	2.81	3620.0	0.6510
1400	4.42	3.41	1.73	3.60	1.80	5.08	3.62	2.82	3430.0	0.6802
1500	4.42	3.41	1.83	3.60	1.80	5.08	3.62	2.85	3230.0	0.7077
1600	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	3040.0	0.7465
1800	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	2720.0	0.8160
2200	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	2120.0	0.8702
2400	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	1850.0	0.9332
DEC. 1										
0000	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	1850.0	0.9332
0600	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	1320.0	1.0006
1200	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	940.0	1.0486
1800	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	670.0	1.0828
2400	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	490.0	1.1204
DEC. 2										
0000	4.42	3.41	1.96	3.60	1.80	5.08	3.62	2.90	490.0	1.1204
1200	4.43	3.41	1.96	3.60	1.80	5.08	3.62	2.90	260.0	1.1469
2400	4.43	3.41	1.96	3.60	1.80	5.08	3.62	2.90	140.0	1.1541

STA. NO. 08076700 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

GREENS BAYOU AT LEY ROAD, HOUSTON, TEX. — STORM OF MAY 12-16, 1982

DATE & TIME	GAGE NUMBER 5770	5780	6000	6200	203R	20R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM RUNOFF IN
MAY 12									
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0002
0100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0005
0200	0.0	0.0	0.0	0.0	0.05	0.16	0.03	40.0	0.0009
0300	0.0	0.09	0.0	0.12	0.17	0.19	0.08	40.0	0.0012
0400	0.0	0.10	0.0	0.12	0.17	0.21	0.08	40.0	0.0015
0500	0.0	0.12	0.0	0.12	0 17	0.31	0.10	288.0	0.0040
0600	0.0	0.41	0.20	0.24	0.76	0.69	0.35	535.0	0.0085
0700	0.0	1.36	0.71	1.44	1.48	0.76	0.97	783.0	0.0152
0800	0.10	1.42	0.88	1.56	1.48	0.76	1.07	1030.0	0.0240
0900	0.95	1.42	0.88	1.56	1.48	0.76	1.12	1130.0	0.0432
1200	0.95	1.42	0.88	1.56	1.48	0.76	1.12	1470.0	0.0870
1600	0.95	1.42	0.88	1.56	1.48	0.76	1.12	1740.0	0.1315
1800	0.95	1.42	0.88	1.56	1.48	0.76	1.12	1670.0	0.1741
2200	0.95	1.42	0.88	1.56	1.48	0.76	1.12	1330.0	0.2081
2400	0.95	1.42	0.88	1.56	1.48	0.76	1.12	1160.0	0.2377
MAY 13									
0000	0.95	1.42	0.88	1.56	1.48	0.76	1.12	1160.0	0.2377
0400	0.95	1.42	0.88	1.56	1.48	0.76	1.12	880.0	0.2602
0600	0.95	1.42	0.88	1.56	1.48	0.76	1.12	787.0	0.2703
0700	0.95	1.42	0.88	1.56	1.48	0.76	1.12	740.0	0.2766
0800	0.95	1.42	0.88	1.56	1.48	0.77	1.12	723.0	0.2827
0900	0.95	1.43	0.88	1.56	1.53	0.77	1.12	705.0	0 2917
1100	0.95	1.43	0.88	1.56	1.53	0.77	1.12	670.0	0 3003
1200	0.95	1.45	0.88	1.56	1.63	1.25	1.21	960.0	0.3084
1300	0.95	2.26	1.44	2.04	4.06	2.20	1.99	1620.0	0.3222
1400	1.86	2.53	2.15	2.88	4.69	2.55	2.63	2280.0	0.3416
1500	2.27	2.75	2.59	3.36	5.26	2.88	3.05	2720.0	0.3648
1600	2.56	3.06	2.91	3.60	5.61	3.11	3.35	3170.0	0.3918
1700	3.55	3.44	3.08	3.96	6.00	3.16	3.62	3610.0	0 4225
1800	3.75	3.46	3.08	3.96	6.05	3.16	3.64	4090.0	0.4748
2000	3.75	3.46	3.08	3.96	6.05	3.16	3.64	5040.0	0.5391
2100	3.75	3.46	3.08	3.96	6.05	3.18	3.64	5540.0	0.5863
2200	3.75	3.46	3.08	3.96	6.05	3.19	3.64	6030.0	0.6633
2400	3.75	3.46	3.08	3 96	6.05	3.19	3.64	6780.0	0.8076
MAY 14									
0000	3.75	3.46	3.08	3.96	6.05	3.19	3.64	6780.0	0.8076
0300	3.75	3.46	3.08	3.96	6.05	3.19	3.64	7140.0	0 9900
0600	3.75	3.46	3.08	3.96	6.05	3.19	3.64	6740.0	1.1909
1000	3.75	3.46	3.08	3.96	6.05	3.19	3.64	5500.0	1.3313
1200	3 75	3.46	3.08	3.96	6.05	3.19	3.64	4860.0	1 4555
1600	3.75	3.46	3.08	3.96	6.05	3.19	3.64	3800.0	1.5525

STA. NO. 08076700 — STORM RAINFALL AND RUNOFF RECORD — 1982 WATER YEAR

GREENS BAYOU AT LEY ROAD, HOUSTON, TEX. — STORM OF MAY 12-16, 1982

DATE & TIME	GAGE NUMBER 5770	5780	6000	6200	203R	20R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAY 14									
1800	3.75	3.46	3.08	3.96	6.05	3.19	3.64	3330.0	1.6234
2100	3.75	3.46	3.08	3.96	6.05	3.19	3.64	2700.0	1.6924
2400	3.75	3.46	3.08	3.96	6.05	3.19	3.64	2090.0	1.7547
MAY 15									
0000	3.75	3.46	3.08	3.96	6.05	3.19	3.64	2090.0	1.7547
0400	3.75	3.46	3.08	3.96	6.05	3.19	3.64	1590.0	1.7953
0600	3.75	3.46	3.08	3.96	6.05	3.19	3.64	1340.0	1.8352
1100	3.75	3.46	3.08	3.96	6.05	3.19	3.64	1050.0	1.8620
1200	3.75	3.46	3.08	3.96	6.05	3.19	3.64	990.0	1.8915
1800	3.75	3.46	3.08	3.96	6.05	3.19	3.64	780.0	1.9314
2400	3.75	3.46	3.08	3.96	6.05	3.19	3.64	620.0	1.9630
MAY 16									
0000	3.75	3.46	3.08	3.96	6.05	3.19	3.64	620.0	1.9630
0600	3.75	3.46	3.08	3.96	6.05	3.19	3.64	465.0	1.9868
1200	3.75	3.46	3.08	3.96	6.05	3.19	3.64	310.0	2.0026
1800	3.75	3.46	3.08	3.96	6.05	3.19	3.64	240.0	2.0149
2400	3.75	3.46	3.08	3.96	6.05	3.19	3.64	170.0	2.0192

08077000 CLEAR CREEK NEAR PEARLAND, TX

LOCATION.--Lat 29°35'50", long 95°17'11", Harris-Brazoria County line, Hydrologic Unit 12040204, at downstream side of bridge on State Highway 35, 0.7 mi (1.1 km) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi (1.9 km) upstream from Hickory Slough, 2.3 mi (3.7 km) north of Pearland, and about 30 mi (48 km) upstream from head of Clear Lake.

DRAINAGE AREA.--38.8 mi^2 (100.5 km^2).

PERIOD OF RECORD.--July to October 1944, March to October 1946, April 1947 to December 1959, March 1963 to current year. Discharge for some high-water periods in 1944 and 1946 published in WSP 1392.

REVISED RECORDS.--WSP 1392: 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 26.58 ft (8.102 m) National Geodetic Vertical Datum of 1929, 1973 adjustment; prior records unadjusted for land-surface subsidence. Prior to June 9, 1948, nonrecording gage, and June 9, 1948, to Apr. 22, 1952, water-stage recorder at same site and datum 5.80 ft (1.768 m) higher.

REMARKS.--Records poor. Large area of riceland above station is irrigated with water from the Brazos River. Low flow from April to October is largely drainage from irrigated lands. Many diversions for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years (water years 1948-59, 1964-82), 36.6 ft^3/s (1.037 m^3/s), 26,520 acre-ft/yr (32.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft^3/s (61.5 m^3/s) Mar. 18, 1957; maximum gage height, 18.57 ft (5.660 m) July 26, 1979; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1960 (stage and discharge unknown), may have exceeded that of Mar. 18, 1957. Channel was rectified in 1933, 1952, 1968, and 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft^3/s (17.0 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 6	0600	981	27.8	13.86	4.225
Nov. 1	0600	808	22.9	12.03	3.667
May 14	0400	*1,230	34.8	15.59	4.752

Minimum daily discharge, 0.15 ft^3/s (0.004 m^3/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	699	41	361	56	41	12	2.7	6.8	8.4	9.0	.65
2	1.7	301	15	129	30	23	9.5	2.3	6.2	7.7	13	.48
3	7.3	126	8.7	64	24	15	7.9	1.9	5.7	6.6	12	.34
4	4.0	50	6.6	44	16	12	5.9	1.8	5.7	8.7	15	.27
5	139	24	5.0	14	12	9.3	5.3	1.7	5.5	8.3	16	.15
6	909	15	4.3	11	11	7.5	4.3	6.8	4.8	6.1	11	.15
7	655	10	4.5	8.2	8.8	5.9	3.8	45	4.5	7.6	18	.15
8	478	37	8.4	6.5	8.2	5.0	3.8	11	4.3	15	49	.15
9	173	55	15	5.6	9.5	4.4	3.8	4.6	4.7	12	80	.21
10	69	24	11	5.1	8.8	4.3	4.0	2.7	4.6	9.6	119	.15
11	46	11	8.8	4.8	8.1	4.1	4.4	3.1	6.6	12	73	1.4
12	35	8.1	7.0	33	6.1	4.3	3.8	2.3	7.2	15	52	3.6
13	24	6.8	5.5	52	5.1	4.1	3.6	257	6.2	14	39	3.6
14	13	5.4	4.9	44	4.9	4.1	3.6	1100	4.9	13	20	5.3
15	25	7.2	4.4	32	5.1	4.0	3.5	484	5.0	14	13	4.8
16	25	4.7	4.1	24	6.8	3.8	12	118	11	11	8.6	1.7
17	15	4.0	3.6	16	6.5	3.8	9.8	43	9.4	8.9	6.1	.56
18	23	3.8	3.6	12	4.9	3.6	6.5	20	9.2	8.0	8.8	.21
19	40	3.8	3.6	10	4.4	3.6	5.1	12	11	11	9.1	3.2
20	22	3.4	5.5	9.8	65	3.5	4.3	6.6	9.5	12	5.6	2.9
21	20	3.3	17	9.1	133	3.5	13	4.4	8.9	12	4.5	.92
22	7.9	3.3	11	8.4	60	3.4	82	7.9	14	12	6.1	.74
23	5.6	3.2	7.4	7.6	30	16	48	85	7.7	12	5.4	.65
24	4.5	3.1	5.5	6.2	18	11	87	123	17	10	5.3	.65
25	9.1	3.0	4.6	5.6	13	6.3	156	47	21	11	5.1	.83
26	4.6	2.9	4.1	5.1	345	4.8	58	22	39	11	3.6	.65
27	3.6	2.9	3.8	5.0	292	80	20	11	49	12	2.4	.56
28	2.8	2.9	3.6	5.0	99	95	8.6	9.7	9.5	14	2.1	.48
29	2.4	19	3.6	7.3	---	40	4.6	10	7.5	13	1.8	.41
30	2.5	52	16	30	---	22	3.2	8.5	7.9	10	1.2	.28
31	139	---	357	103	---	17	---	7.3	---	10	.92	---
TOTAL	2907.7	1494.8	604.1	1078.3	1291.2	465.3	597.3	2462.3	314.3	335.9	615.62	36.14
MEAN	93.8	49.8	19.5	34.8	46.1	15.0	19.9	79.4	10.5	10.8	19.9	1.20
MAX	909	699	357	361	345	95	156	1100	49	15	119	5.3
MIN	1.7	2.9	3.6	4.8	4.4	3.4	3.2	1.7	4.3	6.1	.92	.15
AC-FT	5770	2960	1200	2140	2560	923	1180	4880	623	666	1220	72

CAL YR 1981 TOTAL 18558.19 MEAN 50.8 MAX 1560 MIN .00 AC-FT 36810
WTR YR 1982 TOTAL 12202.96 MEAN 33.4 MAX 1100 MIN .15 AC-FT 24200

Table 19.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations

Station no. 1/	Station name	Location	Period of record 2/
10-S	Houston Heights	Lat 29°47', long 95°26' near Houston.	--
12-R	Houston-WB, City	Lat 29°46', long 95°22' at old Federal Building in downtown Houston.	--
13-S	Houston-Independent Heights	Lat 29°52', long 95°25' in northern section of Houston.	--
20-R	Houston WSO Airport	Lat 29°59', long 95°22' at Houston Intercontinental Airport in north Houston.	--
21-R	Brittmore	Lat 29°51'02", long 95°33'46", behind home of Mrs. Annie A. Joseph, 10610 Tanner Road, in northwest Houston.	May 6, 1964 to date
22-R	Houston-Satsuma	Lat 29°54', long 95°37' at Satsuma community northwest of Houston.	--
23-S	Houston-North Houston	Lat 29°53', long 95°31' near Fairbanks-North Houston Road, Houston.	--
24-S	Houston-Spring Branch	Lat 29°48', long 95°30' on Ridgecrest Street, Houston.	--
31-R	Stafford	Lat 29°36'43", long 95°32'58", at Ft. Bend County Water Control and Improvement District No. 2, Stafford.	May 9, 1964 to date
32-R	Houston-Alief	Lat 29°43', long 95°36' at Alief.	--

See footnotes at end of table.

Table 19.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued

Station no. 1/	Station name	Location	Period of record 2/
33-R	Houston-Addicks	Lat 29°46', long 95°39' at U.S. Army Corps of Engineers office, Addicks	--
34-S	Clodine	Lat 29°43', long 95°41' at Clodine.	--
35-S	Houston-Westbury	Lat 29°40', long 95°28' in Westbury Subdivision, Houston.	--
36-S	Sugar Land	Lat 29°37', long 95°38' at Sugar Land.	--
42-S	Houston FAA Airport	Lat 29°39', long 95°17' at old Terminal Building, William P. Hobby Airport, Houston.	--
201-S	Humble	Lat 30°00', long 95°15' at Humble.	--
202-S	Houston-San Jacinto Dam	Lat 29°55', long 95°09' on west bank of Lake Houston at San Jacinto River Dam, Houston.	--
203-R	Mintz Lane	Lat 29°59'53", long 95°28'39", at home of Mr. Draper D. Mintz, in northwest Harris County, Houston.	Aug. 23, 1972 to date
204-R	Breen Street	Lat 29°53'57", long 95°27'38", at home of Mr. Joseph O. Eiland, 4909 Breen, in northwest Harris County, Houston.	Aug. 23, 1972 to date

See footnotes at end of table

Table 19.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued

Station no. 1/	Station name	Location	Period of record 2/
205-R	Frontier Street	Lat 29°50'08", long 95°31'22", at home of Mrs. Eva S. Murphree near intersection of Frontier Street and Outpost Street in northwest Harris County, Houston.	Nov. 9, 1972 to date
303-R	Four Corners	Lat 29°40'07", long 95°39'36", Fort Bend County behind home of Mr. Richard Wright, 900 feet west of intersection of Gaston Road and Gains Road at Four Corners community.	Sept. 24, 1975 to date
304-R	Chasewood	Lat 29°36'32", long 95°29'57", Fort Bend County inside water-treatment plant at 1700 Chasewood Street.	Oct. 29, 1975 to March 31, 1982
305-R	Furman	Lat 29°37'45", long 95°22'45", Harris County on extreme right side of floodway for Sims Bayou at 14201 Furman Street.	Sept. 24, 1975 to date
308-R	Public Health	115 N. MacGregor, Houston.	--
401-R	Llano Street	Lat 29°39'11", long 95°12'07", behind home of Mrs. Lana H. Sims, 702 Llano, Pasadena, in Southeast Harris County.	Nov. 9, 1972 to date

See footnotes at end of table.

Table 19.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued Station

no. 1/	Station name	Location	Period of record 2/
402-R	Klondike	Lat 29°38'06", long 95°15'04", behind home of H. F. Reams, 9302 Klondike, 10.9 miles southeast of Harris County Courthouse, Houston.	Nov. 11, 1973 to date
403-R	Edgebrook	Lat 29°38'55", long 95°12'55", southeast Harris County, in Sewage Treatment Plant near the intersection of Old Galveston Road and Edgebrook Street.	Sept. 19, 1975 to date
404-S	Deer Park	Lat 29°43', long 95°08' Harris County near Houston.	--

1/ Station numbers are arbitrarily assigned for use in this project as follows: R, recording rain gage; S, nonrecording rain gage.

2/ Period of record is given only for those stations operated and maintained by the U.S. Geological Survey for this project.

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU — PERIOD : 1982 WATER YEAR

DATE	GAGE NUMBER																		
	3630	4540	4400	4250	4200	4150	4145	205R	22R.	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
OCT																				
3	0.0	0.04	0.08	0.07	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.0	****	0.05
4	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.59	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0
5	1.10	2.24	1.43	1.12	1.08	0.32	0.60	0.99	****	1.04	****	0.0	1.83	0.48	0.76	0.60	0.65	1.43	D6.20	3.50
6	2.20	1.12	0.48	1.67	2 52	2.00	1.70	2.34	D1.08	1.02	****	2.04	2.77	1.32	2.06	1.63	2.60	1.29	1.28	0.85
7	1.20	1.58	D0 93	0.80	0.36	0.95	0.75	0.38	0.44	0.63	****	0.84	1.87	0.46	1.17	0.55	0.70	0.75	0.86	1.20
8	0.03	0.05	0.0	0.03	0.0	0.04	0.05	0.05	0.02	0.08	D4.56	0.12	0.0	0.19	0.13	0.12	0.10	0.02	0.04	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0 0	0.0	0.07	0.06	0.0	0.0	0.0	0.0	0.0
11	0 01	0.62	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	D0.72	0.0	0.33	0.0	0.0	0.07	0.0	0.20	0.32	0.35
12	0.0	0.11	0.40	0.04	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.47	0.28	0.0	0.20	0.15	0.11	0.0	0.0
13	0.12	0.0	0 03	0.16	D0.12	0.42	0.48	0.18	0.0	0.0	D0.84	0.24	0.04	0.14	0.19	0.0	0.35	0.01	0.07	0.0
14	0.24	0.01	0.01	0.10	0.48	0.04	0.22	0.38	0.0	0.38	0.0	0.0	0.06	0.0	0.39	0.0	0.0	1.11	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0
16	0.60	0.67	0.73	0 25	0.36	0.20	0.19	0.34	1.36	0.92	0.0	0.12	0.35	0.0	0.10	0.05	0.0	0.39	0.0	1.15
17	0.0	0.03	0 0	0 12	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0
18	0.81	0.54	0 42	0.28	****	0.25	0.34	0.33	0.40	0.35	D0.24	0.48	0.20	0.20	0.31	0.65	0.47	0.39	0.35	0.35
23	0.01	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.01	0.0	0.0
25	0.45	0.56	0 62	0 25	****	0 17	0 28	0 28	0 0	0.15	0.36	0.12	0.01	0.0	0.01	0.20	0.0	0.03	0.30	0.50
30	0.03	0.0	0.01	0.0	****	0.0	0.0	0.0	****	0.04	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.0
31	2.10	1 46	1.45	1.25	D1.90	1.30	1.39	1.77	D1.66	1.73	1.08	1.20	0.90	1.05	1.35	1.30	1.40	1.22	1.75	1.25
====	====	====	E	====	E	====	====	====	E	====	E	====	====	====	====	====	====	====	E	====
MTOT	8.90	9.03	6.59	6.17	6.82	5.69	6.02	7.04	5.72	6.34	7.80	5.16	8.92	4.19	6.68	5.37	6.42	6.96	11.17	9.20
NOV.																				
1	0.07	0.02	0.0	0.04	****	0.05	0.03	0.03	0.0	0.10	0.0	0.12	0.0	0.07	0.05	0.0	0.0	0.17	0.0	0.05
8	0.99	0.81	0.34	0.52	****	0.66	0.65	0.75	1.41	0.47	0.72	0.60	0.90	1.27	1.28	0.75	1.88	1.47	0.46	0.90
9	0.0	0.01	0.0	0.0	D0.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0 05	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.05
27	0.0	****	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.02	0.0	0.0	0.0	0.0	0.0
28	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	1.15	****	1.98	1.54	1.44	1.60	2.14	1.40	****	3.38	1.56	3.36	1.73	3.17	4.33	D2.82	5.08	3.47	2.24	1.65
30	0.19	A2.00	0.14	0 15	0.12	0.20	0.21	0 19	D3.66	0.23	0.24	0.24	0.23	0.24	0.09	D0.18	0.0	0.15	0.34	0.25
====	====	E	====	====	E	====	====	====	E	====	====	====	====	====	====	E	====	====	====	====
MTOT	2.45	2.84	2.46	2.25	2.06	2.51	3.06	2.37	5.11	4.26	2.52	4.32	2.90	4.75	5.81	3.75	6.96	5.26	3.04	2.90

MTOT=MONTHLY TOTALS
A =TOTAL RAINFALL AMOUNT AND TIME DISTRIBUTION ESTIMATED.
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ALL DAILY VALUES MISSING OR ESTIMATED
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HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU — PERIOD 1982 WATER YEAR

DATE	GAGE NUMBER 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
DEC.																				
6	0.21	0 14.	0 03.	0.10.	0.12:	0 05:	0.14.	0 18	0 37.	0.23.	****	0.12:	0.14:	0.17:	0.21:	****	0.35:	0.19:	0.0 :	0.15:
7	0.04:	0.07	0.05:	0 12:	0.0 :	0.06:	0.07:	0.02:	0 0 :	0.0 .	****	0.12:	0.0 :	0.04:	0.03	D0.38:	0.03:	0.04:	0.22:	0.05:
8	0.32	0.0	0 07.	0.03	0.0 :	0 0 .	0 0 .	0.0 :	0 0 :	0.0 :	****	0.0 :	0.0 :	0.0	0.0	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :
13	0 08.	0.31:	0 0 :	0.0 .	0.0 :	0.0 .	0.0	0.04.	0.59:	0.05:	****	0.0 :	0.0 :	0.60:	0 55.	0.0 :	0.42:	0.83:	0.0 :	0.25:
14	0.06:	0.06.	0 05.	0.05:	0 0 :	0.0 :	0.04:	0.03.	0.11:	0 04:	****	0.12:	0.05:	0.08.	0 13:	0.0 :	0.16:	0.13:	0.0 :	0.05:
17	0 0 :	0 0 :	0.0 :	0.0 .	0.0 :	0 0 :	0.0	0.0 .	0.01:	0.0 :	****	0 0	0.0 :	0.0 :	0.02:	0.0 :	0.0 :	0.02:	0.0 :	0.05:
20	0.31:	0.27:	0.20:	0 23:	0.12:	0.18:	0.24.	0.50:	0.21:	0.35:	****	0.24:	0.08:	0.14.	0.19:	0.20:	0.27:	0.25:	0.19:	0.30:
21	0.0 :	0.02:	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0 01:	0.01:	D0.36:	0.0 .	0.06:	0.08:	0.02:	0.0 .	0.03:	0.0 :	0.09:	0.05:
22	0.01:	0.01:	0.0 :	0.0 :	0.0 .	0.0 :	0.0 :	0.0	0.0	0.0 :	0 0	0 0 :	0.0 :	0.0 :	0 01:	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :
24	0.03:	0.02:	0.0 :	0.0	0.0	0.0	0.02:	0.0 :	0.0 :	0 0 :	0.0 :	0.0	0.02:	0.0 :	0.02:	0.0 :	0.0 :	0.02:	0.0 :	0.0 :
30	0.48:	0.51:	0 39.	0.47:	0.48:	0.32:	0.57	0.59:	0.0 :	0.36	0.36.	0.60:	0.46:	0.45:	0.39.	0.52:	0 42:	0.57:	0.82:	0.55:
31	0 01	0.01:	0.0 .	0.01:	0.0 :	0.0 :	0.01:	0.0 :	0.0 :	0.0 .	0.12	0.0 :	0.02:	0.0 :	0.07:	0.0 :	0.06:	0.0 :	0.06:	0.0 :
MTOT	1.55	1.42:	0.79.	1.01:	0.72:	0.61:	1 09:	1 36:	1.30:	1 04:	0.84	1.20:	0.83	1.56:	1.64	1.10:	1 74:	2.05:	1.38:	1.45
CTOT	59.68	61. 53:	49.00	46.89:	46.62:	45.64	51.13:	48.22:	44.90:	50 67:	48.68:	53.41:	50.92:	54 74:	66.56:	56.29:	61.12:	55.98:	63.81:	55.45:
JAN.																				
1	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.02:	0.0 :
2	0.0 :	0.0 :	0.0 :	0.12:	0.12:	0 02.	0.07:	0.06	0.0	0.16:	0.0 .	0.12:	0.03.	0.22:	0.18:	0.12:	0.0 :	0.07:	0.02:	0.05:
3	0.0 :	0.0 :	0.0 :	0.02:	0.0 :	0.01:	0.0 :	0.0 :	0.0 :	0.0 :	0 0 :	0.0 :	0.02:	0.0 :	0.0 :	0.0 :	0 0 :	0.0 :	0.02:	0.05:
6	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0 0	0.0 :	0.03:	0.0 .	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :
12	0.82	0.87:	0.71:	0.69:	0.72	0.64:	0.77:	0.75:	0 74	0.71:	0.84:	0.72:	0.68:	0.70:	1.02:	0.60	1.50:	0.81:	0.73:	0.75:
13	0.11.	0.09	0 05:	0.11:	0.12:	0.08:	0.07:	0.05:	0.14:	0.18:	0.12	0.12:	0.07:	0.10:	0.17:	0.08	0.10:	0.04:	0.16:	0.05:
17	0.0 :	0.0 :	0.0 :	0.0 :	0 0 :	0.0 :	0.0 :	0.0	0.0	0.0 :	0.0 :	0.0	0.0 :	0.0 :	0.07:	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :
22	0 0 :	0 08:	0.01:	0.0 .	0.0 .	0.0	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.0 :	0.01:	0.0 :	0.0 :	0.0 :	0.0 :	0.15:
28	0.13:	0.10:	0 05:	0.09:	0 12	0.0 :	0.12:	0.18.	0.0 .	0.08:	0.0 :	0.12:	0.02:	0.14:	0.07:	0.17:	0.14:	0.10:	0.05:	0.15:
29	0.17:	0.08:	0.04:	0 08:	0.12	0.12:	0.17	0.14:	0.28:	0.16:	0.12:	0.12.	0.12:	0.12.	0.22	0.05:	0.34:	0.09:	0.09:	0.10:
30	0.98	1.45.	0.78	1.27:	1.08	0.90	0.82:	0.92:	0.76:	0.65	0.96:	1.32:	0.74:	0.70	0.60:	0.80:	0.33:	0 71:	0.81:	1.30:
MTOT	2.21:	2.67:	1.64.	2 38:	2.28.	1.77:	2.02:	2.10:	1 92	1 97	2.04.	2 52:	1 68	1.98	2.34:	1.82:	2.41:	1.82:	1.90:	2.60:

MTOT=MONTHLY TOTALS
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CTOT=CALENDAR YEAR TOTALS

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU

PERIOD : 1982 WATER YEAR

DATE	GAGE NUMBER																		
	3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
FEB.																				
2	0.13	0.09	0.09	0.03	0.12	****	0.16	0.15	0.10	0.14	0.0	0.0	0.10	0.07	0.11	0.09	0.05	0.13	0.04	0.10
5	0.04	0.04	0.02	0.02	0.0	****	0.01	0.0	0.07	0.03	0.12	0.0	0.05	0.0	0.01	0.05	0.0	0.04	0.08	0.05
6	0.01	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0
8	0.10	0.07	0.07	0.09	0.12	D0.18	0.09	0.07	0.12	0.09	0.0	0.12	0.05	0.07	0.0	0.07	0.10	0.06	0.06	0.10
9	0.01	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.13	0.05
14	0.02	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.05
15	0.01	0.08	0.08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.05	0.04	0.05
20	0.60	0.57	0.46	0.45	0.60	0.37	0.53	0.53	0.55	0.49	0.48	0.60	0.57	0.28	0.41	0.55	0.37	0.36	0.44	0.45
25	1.02	0.63	0.66	0.57	0.60	0.43	0.53	0.62	0.52	0.63	0.60	0.60	****	0.45	0.55	0.53	0.38	0.45	0.25	0.50
26	0.70	0.65	0.44	0.53	0.72	0.57	0.52	0.68	0.44	0.54	0.48	0.48	D0.92	0.55	0.58	0.48	0.60	0.48	0.73	0.70
MTOT	2.64	2.20	1.82	1.69	2.16	1.55	1.84	2.05	1.80	1.97	1.68	1.92	1.73 E	1.42	1.66	1.77	1.50	1.59	1.84	2.05
MAR.																				
6	0.20	0.13	0.12	0.12	0.24	0.09	0.13	0.19	0.17	0.25	0.12	0.12	D0.16	0.39	0.32	0.20	0.16	0.27	0.11	0.10
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.01	0.0	0.05
22	0.67	0.69	0.40	0.18	0.24	0.10	0.16	0.30	0.11	****	0.12	****	****	****	0.10	0.12	****	0.07	0.43	0.30
23	1.16	0.90	0.87	0.01	0.48	0.31	0.30	0.53	0.30	D0.75	0.48	****	D0.25	D0.34	0.24	0.46	A0.35	0.45	0.48	0.95
25	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.01	0.0	0.0	0.01	0.0	0.0
27	0.69	0.67	0.58	0.60	0.60	0.62	0.74	0.66	0.60	0.75	0.60	****	D0.80	****	0.61	0.70	A0.60	0.66	0.60	0.65
28	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	D0.63	0.01	0.0	0.0	0.0	0.0	0.0
30	0.09	0.09	0.07	0.01	0.12	0.03	0.08	0.05	0.0	0.04	0.12	****	D0.06	D0.06	0.05	0.0	0.05	0.07	0.08	0.10
31	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A1.32	0.0	0 0	0.02	0.0	0.0	0.01	0.0	0.0
MTOT	2.83	2.50	2.08	0.94	1.68	1.15	1.41	1.77	1.18	1.79	1.44	1.44 E	1.27 E	1.42 E	1.39	1.48	1.16 E	1.55	1.70	2.15

MTOT=MONTHLY TOTALS
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HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU PERIOD : 1982 WATER YEAR

DATE	GAGE NUMBER																			
	3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
APR.																				
4	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.05	0.05	0.01	0.0	0.0
9	0.14	0.12	0.06	0.08	0.12	0.12	0.26	0.13	0.44	0.25	0.12	****	0.17	0.16	0.24	0.23	0.35	0.16	0.0	0.15
10	0.45	0.76	0.75	0.44	0.48	0.28	0.26	0.52	0.21	0.34	0.24	****	0.27	0.14	0.21	0.22	0.21	0.36	0.62	0.60
11	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.02	0.02	0.0	0.0	****	0.02	0.13	D0.04	0.06	D0.07	0.0	A0.48	0.07	0.0	0.07	D0.06	0.0	0.09	0.12	0.05
18	0.0	0.01	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.05
20	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	1.19	0.0	0.0	0.0	0.0	0.10	0.50	0.0	1.93	0.20	0.0	0.0
21	1.80	1.03	1.19	0.96	****	0.53	0.53	0.72	0.78	0.57	0.72	0.48	0.85	D0.39	0.64	0.40	1.10	0.39	0.50	0.75
22	0.40	0.68	0.53	0.38	****	0.13	0.11	0.18	0.12	0.10	0.60	0.36	0.40	D0.25	0.11	0.08	0.22	0.37	0.44	0.40
23	0.0	0.0	0.02	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.91	0.80	0.76	0.77	****	0.79	0.80	0.85	0.70	0.86	0.72	0.72	0.58	D0.73	0.84	0.74	0.85	0.69	0.53	0.60
25	0.01	0.0	0.0	0.01	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.02	0.05
26	0.0	0.0	0.0	0.0	A1.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05
====	====	====	====	====	E	====	====	E	====	E	====	E	====	E	====	E	====	====	====	====
MTOT	3.74	3.50	3.31	2.64	2.30	1.87	2.09	2.44	3.52	2.19	2.40	2.04	2.34	1.77	2.62	1.78	4.71	2.28	2.24	2.70
MAY																				
1	0.90	0.19	0.02	0.03	0.0	0.0	0.07	0.0	0.0	0.0	D0.60	0.0	0.0	0.0	0.03	0.18	0.06	0.04	0.21	0.05
2	0.01	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	1.49	1.58	1.56	1.50	1.44	1.38	1.43	1.56	0.97	1.47	****	1.44	1.52	D1.25	1.35	1.18	1.16	1.50	1.20	1.70
7	0.01	0.05	0.0	0.02	0.0	0.04	0.0	0.01	0.0	0.0	D1.56	0.12	0.03	0.0	0.01	0.0	0.0	0.0	0.10	0.0
12	A0.15	****	0.59	0.86	0.60	0.93	1.25	0.70	1.74	0.81	****	1.56	0.88	D0.80	1.42	1.38	1.48	0.76	0.95	0.85
13	3.42	****	2.76	2.52	3.00	2.33	2.47	2.96	4.82	2.91	****	2.40	2.20	D2.53	2.04	2.25	4.57	2.43	2.80	3.05
17	1.34	****	0.42	0.86	1.92	1.10	1.03	2.27	1.77	D1.22	****	0.48	2.40	0.70	1.00	0.22	1.87	0.28	4.43	3.15
18	0.12	****	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	****	0.12	0.0	0.0	0.07	0.0	0.0	0.0	0.05	0.05
19	0.01	****	0.0	0.0	0.0	0.0	0.0	0.0	0.26	0.0	****	0.12	3.38	0.47	0.46	0.0	1.40	0.82	0.0	0.0
22	0.02	****	0.0	0.11	0.0	0.08	0.07	0.0	0.0	0.04	****	0.48	****	D0.13	1.06	0.38	D0.85	0.14	0.39	0.20
23	0.46	****	0.34	0.18	0.24	0.26	0.17	0.0	0.14	0.08	****	0.36	D0.50	D0.50	0.01	0.09	D0.40	0.89	0.81	0.75
24	0.02	A6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	D8.04	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0
====	E	E	====	====	====	====	====	====	====	E	E	====	E	E	====	====	E	====	====	====
MTOT	7.95	7.85	5.69	6.08	7.32	6.12	6.49	7.50	9.70	6.53	10.20	7.06	10.91	6.38	7.45	5.68	11.79	6.87	10.94	9.80

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HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU

PERIOD : 1982 WATER YEAR

DATE	GAGE NUMBER																		
	3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
JUNE:																				
13	0.0	****	1.28	0.02	0.36	0.01	0.03	0.77	0.0	****	0.0	0.0	0.0	0.0	0.17	0.0	0.0	0.0	0.0	0.0
14	0.0	****	0.27	0.27	0.12	0.31	0.28	0.02	0.18	D1.00	****	0.0	0.0	0.0	0.0	0.30	0.32	0.0	0.0	0.0
16	0.0	****	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	****	0.0	0.0	0.0	0.19	0.0	0.0	0.08	0.0	0.0
18	1.14	****	0.02	0.33	0.12	1.12	1.07	0.19	0.0	****	****	0.0	0.0	0.0	0.09	0.0	0.15	0.0	0.0	0.0
19	0.0	****	0.23	0.0	0.0	0.17	0.04	0.12	0.05	****	****	0.0	1.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	****	0.83	0.41	0.24	0.14	0.26	0.29	0.14	****	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05
21	0.0	****	0.0	0.0	0.0	0.0	0.0	0.02	0.0	****	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.11	****	0.42	0.06	0.0	0.0	0.02	0.0	0.0	D0.98	A0.80	0.0	1.25	0.0	0.0	0.0	0.72	0.81	1.59	1.20
23	0.36	****	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.01	A2.17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.15	0.0	0.07	0.0	0.0	0.0
25	0.0	0.01	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0	****	0.12	0.14	1.00	0.68	0.45	0.0	0.02	0.0	0.05
26	0.03	0.27	0.63	0.12	0.0	0.0	0.16	0.05	0.08	0.13	A0.50	0.60	0.40	0.0	0.73	0.18	0.35	0.10	0.18	0.30
28	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.04	0.05
MTOT	1.65	2.50	3.68	1.21	0.96	1.82	1.89	1.46	0.45	2.11	1.30	0.72	2.82	1.00	1.86	1.08	1.54	1.10	1.81	1.65
JULY:																				
5	****	0.0	0.32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.36	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0
6	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.49	0.0	0.0	0.0	0.0	0.0
7	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0
12	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	****	0.36	1.48	2.33	0.84	0.59	1.19	0.85	0.21	2.12	****	1.68	0.18	0.19	0.06	0.92	****	3.59	0.18	0.10
14	D2.84	1.14	0.32	0.34	0.60	0.10	0.08	0.57	0.0	1.02	****	0.0	0.05	0.0	0.01	0.0	D0.10	0.0	0.45	1.30
15	1.58	0.26	0.02	0.14	0.36	0.17	0.11	0.50	****	0.31	****	0.12	0.0	0.24	0.01	0.58	0.0	0.25	0.06	0.05
16	0.80	****	0.0	0.0	0.60	0.20	0.26	0.63	****	0.13	****	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.15
17	0.04	****	0.28	0.02	0.0	0.0	0.0	0.02	****	0.09	****	0.0	0.95	0.10	0.37	0.15	0.16	0.0	0.24	0.65
18	0.69	****	0.0	0.34	0.0	0.02	0.0	0.0	****	0.0	****	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.23	0.0
19	1.68	D0.18	0.04	0.50	0.0	0.50	0.45	0.0	D0.11	0.0	****	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.77	****	0.0	0.20	0.12	0.0	0.08	0.0	0.0	0.09	****	0.0	0.0	0.0	0.26	0.07	0.0	0.26	0.0	0.0
22	0.03	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.05	0.01	****	0.0	0.35	0.35
23	0.0	D0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	****	0.0	0.15	0.62	1.15
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.0	****	0.0	0.10	0.0	0.0	D0.33	0.0	0.0	0.0	0.0
25	0.0	****	0.0	0.0	0.0	0.0	0.15	0.0	1.11	0.0	****	0.36	0.0	0.0	0.0	D0.18	0.0	0.0	0.74	1.95
26	0.0	D1.70	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.02	0.20
29	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.27	0.0	****	0.0	0.0	0.02	2.65	0.17	1.07	0.03	0.0	0.0
30	0.0	****	1.40	0.15	****	0.10	0.66	0.07	0.0	0.03	****	0.96	0.0	0.04	0.05	2.20	0.10	0.0	0.0	0.10
31	0.0	D0.97	0.21	0.01	A0.12	0.04	0.06	0.0	0.0	0.60	A4.00	0.0	0.0	0.0	0.0	D0.28	0.0	0.0	0.0	0.20
MTOT	8.43	5.36	4.07	4.03	2.64	1.72	3.04	2.73	1.76	4.39	4.00	3.60	1.58	0.64	3.98	4.88	1.43	4.32	2.89	6.20

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HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU — PERIOD : 1982 WATER YEAR

DATE	GAGE NUMBER																			
	3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
AUG.																				
1	0.0	****	0.32	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	D0.26	0.75	0.18	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.27	0.0
3	****	0.0	0.0	0.0	****	0.07	0.31	0.0	0.0	0.0	****	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	****	0.0	0.0	0.0	****	0.0	0.0	0.04	0.0	0.0	****	****	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0
7	****	****	0.24	0.21	****	0.04	0.22	0.21	0.20	0.14	****	****	1.01	0.10	****	0.15	0.0	0.58	2.50	1.80
8	****	****	1.22	1.19	****	2.15	2.61	1.73	1.49	1.03	****	****	0.50	1.21	****	1.55	0.52	0.65	0.45	1.25
9	****	D2.43	0.21	0.04	****	0.0	0.0	0.08	0.0	0.0	****	****	0.67	0.19	****	0.0	0.18	0.41	0.54	0.55
10	****	0.0	0.0	0.0	****	0.0	0.05	0.0	0.04	0.0	D2.76	****	0.09	0.0	****	0.0	0.0	0.11	0.0	0.0
11	D1.45	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	****	0.0	0.44	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	****	0.0	0.0	0.06	0.0	0.07	0.0	D1.68	0.0	0.0	A1.50	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	A1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.13	D0.15	0.06	0.0	0.0	0.0	0.0	0.0	0.27	0.0	0.0	0.0	0.67	0.04	0.0	0.0	0.0	0.03	0.0	0.30
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	0.05
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.03	1.40	1.30	0.0	0.48	0.47	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.45
31	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A0.24	0.12	0.28	0.0	0.0	0.0	0.0	0.12	0.62	0.25
====	E	E	====	====	E	====	====	====	====	====	E	E	====	====	E	====	====	====	====	====
MTOT	1.58	2.88	4.20	2.92	1.50	2.74	3.66	2.15	2.10	1.24	3.00	1.92	3.22	1.54	1.53	1.70	1.14	1.90	4.55	4.65
SEPT.																				
3	0.06	****	0.0	0.27	0.36	0.20	0.08	0.31	0.21	0.29	A1.00	0.96	1.09	0.20	0.30	0.17	0.16	0.91	0.78	1.25
4	0.0	D0.93	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05
12	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.17	0.0	0.0	0.0	0.0	0.0	0.20	0.0	0.15	0.03	0.16	0.05
14	0.0	****	0.0	0.07	0.12	0.03	0.06	0.06	0.0	0.0	0.0	0.0	0.0	0.27	0.0	0.0	0.0	0.0	0.0	0.0
15	0.15	****	0.0	0.0	0.0	0.0	0.0	0.0	0.25	0.0	0.0	0.0	0.0	0.08	0.0	0.0	0.0	0.01	0.0	0.0
18	0.13	****	0.0	0.0	0.12	0.0	0.05	0.13	0.12	0.27	0.0	0.0	0.0	0.07	0.04	0.13	0.0	0.0	0.0	0.0
19	0.0	D0.53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.03	0.03	0.25
====	====	E	====	====	====	====	====	====	====	====	E	====	====	====	====	====	====	====	====	====
MTOT	0.34	1.46	0.0	0.34	0.60	0.23	0.23	0.50	0.75	0.56	1.00	0.96	1.09	0.62	0.55	0.30	0.31	0.98	0.97	1.60
====	E	E	E	====	E	E	====	E	E	E	E	E	E	E	E	E	E	====	E	====
WTOT	44.27	44.21	36.33	31.66	31.04	27.78	32.84	33.47	35.31	34.39	38.22	32.88	39.29	27.27	37.51	30.71	41.11	36.68	44.43	46.95

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WTOT=WATER YEAR TOTAL

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU — PERIOD : 1982 WATER YEAR

GAGE NUMBER

DATE	4910	4800	4780	4760	308R	303R	32R	33R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
OCT.																				
3	0.0	0.0	0.0	0.02	0.01	0.0	0.0	0.0	0.01	1.20	0.12	0.60	0.0	****	0.0	****	****	0.0	0.06	0.0
4	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.0	0.36	0.0	****	0.0	****	****	0.0	0.0	0.0
5	****	1.02	0.96	1.03	3.59	1.60	1.66	0.83	2.88	6.24	8.16	5.16	8.88	****	1.87	****	****	2.04	1.83	1.54
6	D7.70	0.33	0.24	0.50	1.74	0.42	0.70	0.18	1.36	0.24	0.12	0.24	0.12	****	0.10	****	****	0.12	0.12	0.45
7	0.23	0.26	0.50	1.30	0.35	1.25	1.82	0.21	0.72	1.32	1.08	0.48	1.20	****	0.37	****	****	0.84	0.80	0.69
8	0.10	0.08	0.01	0.02	0.05	0.0	0.0	0.03	0.04	0.0	0.0	0.0	0.12	****	0.0	****	****	0.0	0.03	0.0
9	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0 12	0.12	0.0	****	0.0	****	****	0.0	0.0	0.0
10	0.0	0.0	0.0	0.01	0.07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	****	****	0.0	0.0	0.0
11	0.0	0.48	0.34	0.11	0.02	****	0.09	0.0	0.02	0.24	0.0	0.0	0.12	****	0.35	****	****	0.60	0.58	0.30
12	0.02	0.0	0.10	0.01	0.39	D0.25	0.04	0.0	0.16	0.0	0.0	0.0	0.0	A4.50	4.70	****	****	0.0	0.0	0.0
13	0.11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.0	D3.60	D3.00	0.12	0.08	0.11
14	0.07	0.10	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.80	0.64	0.12	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.02	0.0	0.03	0.23	0.12	0.0	0.06	2.85	0.76	0.0	0.0	0.0	0.0	0.24	0.0	****	0.36	0.36	0.0	0.18
17	0.01	0.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.0	****	0.0	0.0	0.0	0.05
18	0.60	0.44	0.56	D0.66	0.54	D0.45	0.63	0.57	0.39	0.60	0.36	0 72	0.48	0.60	D0.60	****	0.24	0.36	0.48	0.36
22	0.07	0.05	0.08	0.06	0.03	0.0	0.0	0.0	0.0	0.12	0.12	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0
25	0.0	0.0	0.06	0.17	0.01	0.18	0.0	D0.37	0.20	0.12	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	****
30	0.0	0.0	****	0.04	0.0	****	0.09	****	0.0	0.0	0.0	0.0	0.0	0.0	0.05	****	0.0	0.0	0.0	****
31	2.11	2.70	D3.10	4.41	1.41	D3.95	4.23	D2.77	1.16	3.00	3.12	2.28	3.36	3.00	3.25	D2.40	1.44	2.64	1.90	D2.08
====	E	====	E	E	====	E	====	E	====	====	====	====	====	E	E	E	E	====	====	E
MTOT	11.04	5.46	5.99	8.61	8.42	8.10	9.32	7.81	7.70	13.08	13.20	10.20	14.28	10.14	11.93	6.12	5.04	7.08	5.88	5.76
NOV.																				
1	0.14	0.14	D0.01	0.15	0.02	0.0	0.07	0.0	0.01	0.0	0.12	0.12	0.0	0.12	0.0	0.0	0.0	0.0	0.02	0.0
8	0.63	0.38	D0.70	D1.11	0.72	0.86	0.98	0.68	0.50	0.72	0.84	0.48	0.48	0.48	0.75	D0.60	A1.40	1.56	1.24	1.10
17	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0
29	1.43	2.39	1.99	1.48	1.58	1.43	1.48	2.07	1.25	1.68	0.84	0.24	0.36	0.48	1.03	****	1.32	****	1.04	1.04
30	0.23	0.16	0.24	0.17	0.13	0.26	0 22	0.12	0.10	0.48	0.36	0.24	0.24	0.24	0.23	A2.00	0.48	D2.04	0.46	0.56
====	====	====	E	E	====	====	====	====	====	====	====	====	====	====	====	E	E	E	====	====
MTOT	2.43	3.07	2.94	2.91	2.46	2.55	2.75	2 87	1.86	2.88	2.16	1.08	1.08	1.44	2.01	2.60	3.20	3.60	2.76	2.70

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HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU

PERIOD : 1982 WATER YEAR

DATE	GAGE NUMBER																	
	4910	4800	4780	4760	308R	303R	32R	33R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
DEC.																				
6	0.16	0.22	0.33	0.31	0.12	0.30	****	0.34	0.09	0.12	0.12	0.12	0.12	0.24	0.18	****	0.12	****	0.02	0.02
7	0.08	0.08	0.04	0.03	0 09	0.04	****	0.05	0.10	0.24	0.12	0.24	0.12	0.12	0 10	****	0.36	****	0.23	0.39
8	0.02	0.0	0.0	0.25	0.0	0.0	A0.60	0 0	0.0	0.0	0.0	0.24	0.12	0 0	0.0	****	0.0	****	0.0	0.0
13	0.11	0.05	0.14	0.02	0.13	****	****	0.03	0.0	0.24	0.0	0.24	0.12	0.24	0.18	****	0.0	****	****	0.08
14	0.09	0.10	0.09	0.08	0.09	D0.16	A0.10	0.07	0.07	0.0	0.12	0.0	0.0	0.0	0.04	****	0.0	****	D0.05	0.0
17	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.12	0.12	0.0	****	0.0	****	0.0	0.0
20	0.19	0.24	0.25	0.32	0.42	0.55	****	0.37	0.35	0.48	0.24	0.36	0.24	0.24	0.31	****	0.60	****	0.52	D0.64
21	0.02	0.0	0.03	0.02	0.01	0.0	****	0.0	0.01	0.0	0.0	0.0	0.12	0.0	0.0	****	0.0	****	0.0	0.0
22	0.0	0.01	0.0	0.02	0.01	0.0	****	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	****	0.0	0.0
24	0.03	0.0	0.0	0.02	0.0	0.0	A0.40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	****	0.0	0.0
30	0.63	0.35	0.40	0.42	0.71	D0.40	****	0.48	0.55	1.56	1.44	0.96	1.32	0.96	0.59	****	1.80	****	1.94	1.82
31	0.0	0.0	0.0	0.0	0.0	0.0	A0.40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.00	0.0	D3.24	0.0	0.0
MTOT	1.33	1.07	1.28	1.49	1.58	1.45	E 1.50	1.34	1.19	2.64	2.04	2.28	2.28	1.92	1.40	3.00	2.88	3.24	2.76	2.95
CTOT	E 59.37	E 46.46	E 47.22	*****	55.87	E 49.52	E 53.79	E 49.89	52.70	83.64	E 67.00	57.96	68.16	*****	E 53.13	E 64.20	E 64.76	E 72.84	63.45	E 59.81
JAN.																				
1	0 0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.05	0.01	0.02	0.0	0.0	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A0.10	0.12	D0.12	0.0	0.08
6	0.0	0.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.79	0.74	0.79	0.79	0.78	****	****	0.64	0.74	0.96	0.84	0.84	0.72	1.08	0.83	****	0.72	0.84	0.73	0.75
13	0.11	0.11	0.09	0.11	0.10	D0.88	A0.90	0.04	0.12	0.12	0.12	0.12	0.12	0.12	0.12	A1.10	0.24	0.36	0.25	0.27
22	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.26	0.41	0.29	0.26	0.30	0.18	****	0.21	0.20	0.12	0.12	0.36	0.36	0.72	0.58	****	0.36	0.24	0.23	****
29	0.03	0.0	0.04	0.10	0.06	0.0	****	0.05	0.11	0.12	0.12	0 0	0.0	0.0	0.0	****	0.0	0.0	0.05	****
30	0.76	0.72	0.83	0.72	0.93	D0.98	A1.10	0.72	0.94	0.72	0.60	1 08	0.84	1.08	0.65	****	0.36	0.48	0.27	****
31	0.01	0 0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.12	0.0	0.0	A0.80	0.12	0.0	0.0	A0.90
MTOT	1 96	2.03	2.08	2.01	2.18	E 2.04	E 2.00	1.74	2.23	2.04	1.92	2 40	2.16	3.12	2.18	2.00	1.92	E 2.04	1.53	E 2.00

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CTOT=CALENDAR YEAR TOTALS

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU — PERIOD : 1982 WATER YEAR

GAGE NUMBER

DATE	4910	4800	4780	4760	308R	303R	32R	33R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
FEB.																				
2	0.04	0.09	0.09	0.08	0.05	D0.14	0.09	0.18	0.05	0.12	0.0	0.0	0.0	0.12	0.0	0.12	0.12	0.24	0.16	A0.15
5	0.05	0.04	0.10	0.09	0.13	****	0.0	0.10	0.07	0.12	0.12	0.12	0.12	0.0	****	0.12	0.12	0.12	0.15	****
6	0.01	0.0	0 0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.0	D0.05	0.0	0.12	0.12	0.0	A0.20
8	0.07	0.06	0.09	0.11	0.09	****	0.11	0.10	0.09	0.12	0.0	0.12	0.12	0.24	0.10	0.12	0.12	0.0	0.06	****
9	0.14	0.08	0.06	0.02	0.10	A0.25	0.0	0.0	0.09	0.0	0.12	0.0	0.12	0.12	0.08	0.0	0.12	0.0	0.02	A0.10
14	0.08	0.04	0.05	0.03	0.08	0.0	0.0	0.0	0.05	0.12	0.12	0.12	0.0	0.12	0.10	0.0	0.12	0.24	0.03	****
15	0.10	0.02	0.01	0.02	0.04	0.0	0.02	0.0	0.05	0.12	0.12	0.0	0.12	0.24	0.11	0.12	0.12	0.12	0.04	A0.20
20	0.73	0.66	0.75	0.64	0.62	D0.75	0.77	0.54	0.48	0.72	0.72	0.84	0.84	0.96	0.85	0.72	0.84	0.84	0.79	0.74
21	0.01	0.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0
25	0.57	0.82	1.01	1.39	0.49	****	1.37	1.15	0.42	0.36	0.36	0.48	0.48	0.48	0.70	0.24	0.24	0.24	0.25	0.26
26	0.48	0.37	0.58	0.61	0.66	D2.40	0.48	0.53	0.50	0.96	0.96	0.84	0.84	0.84	0.43	0.96	1.20	1.56	1.07	1.34
====	====	====	====	====	====	E	====	====	====	====	====	====	====	====	E	====	====	====	====	E
MTOT	2.28	2.18	2.75	3.00	2.26	3.54	2.84	2.60	1.80	2.64	2.76	2.52	2.64	3.24	2.42	2.40	3.12	3.48	2.57	2.99
MAR.																				
6	0.58	0.53	D0.24	0.16	0.69	0.14	0.17	0.22	0.15	0.12	0.0	0.0	0.0	0.12	0.20	0.0	0.12	0.0	0.10	0.07
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.0
17	0.01	0.0	0.01	0.01	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.35	0.29	0.43	0.41	0.35	0.41	0.36	0.53	0.77	0.36	0.36	0.24	0.24	0.36	0.37	****	0.36	0.36	0.35	0.35
23	0.12	0.13	0.18	0.19	0.09	0.22	0.26	0.68	0.31	0.36	0.48	0.24	0.24	0.72	0.20	****	0.36	0.60	0.44	0.43
24	0.02	0 0	0 01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	****	0.0	0.0	0.0	0.0
27	0.43	0.42	0.45	0.54	0.51	D0.45	0.56	0.55	0.56	0.72	0.84	0.48	0.72	0.48	0.41	D2.04	1.08	1.20	0.98	****
28	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	D1.10
30	0.04	0.0	0.04	0.03	0.09	0.0	0.0	0.05	0.06	0.0	0.12	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0
31	0.01	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
====	====	====	E	====	====	E	====	====	====	====	====	====	====	====	====	E	====	====	====	E
MTOT	1.56	1.37	1.37	1.35	1.73	1.22	1.41	2.03	1.87	1.56	1.80	0.96	1.32	1.92	1.18	2.04	2.04	2.16	1.87	1.95

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HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU — PERIOD : 1982 WATER YEAR

DATE	GAGE NUMBER																		
	4910	4800	4780	4760	308R	303R	32R	33R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
APR																				
4	0.02	0 0	0 0	****	0 03	0.0	0.0	0.0	0 02	****	0.0	0.0	0.12	****	0.0	****	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	****	0.05	0.0	0.0	0.0	0 02	****	0.12	0.0	0.0	****	0.0	****	0.0	0.0	0.0	0.0
9	0.01	0.0	0.0	****	0.02	0.0	0.0	0.08	0.07	****	0.0	0 0	0.0	****	0.0	****	0.12	0.0	0.03	****
10	0.34	0.24	0.34	****	0.38	0.35	0.50	0.46	0.48	****	0.12	0.24	0.36	****	0.37	****	0.12	0.24	0.18	D0.18
17	0.02	0 0	0.02	****	0.16	0.0	0.0	0.0	0.11	****	0.12	0.0	0 0	****	0.0	****	0.12	0.12	0.13	0.15
18	0.01	0.0	0.0	****	0.03	0.0	0.12	0.0	0.02	A0.30	0.0	0.0	0.12	****	0.0	D0.24	0.0	0.0	0.0	0.0
21	0.93	0.92	1 74	****	1.22	2.26	1.43	1.36	0 66	****	****	0.84	0.60	****	0.66	0.96	D1.08	1.20	0.91	1.11
22	0.40	0 45	0.51	****	0 30	0.52	0.34	0.24	0.40	D1.92	D0.96	0.48	0.72	****	0.53	0.96	0.84	1.08	0.99	****
24	0.73	0.70	0.88	****	0.59	D1.15	1.03	0 93	0.57	0.72	0.84	0.84	0.72	****	0.75	0.84	0.84	0.96	0.72	0.82
25	0.01	0.0	0.01	****	0 01	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.12	****	0.0	0.0	0.0	0.12	0.0	0.0
28	0.01	0.0	0.01	A3.50	0 0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
MTOT	2.48	2.31	3.51	3.50	2.79	4.28	3.42	3.07	2.36	2.94	2.16	2.40	2.76	*****	2.31	3.00	3.12	3.72	2.96	2.26
MAY																				
1	0.05	0.47	0 14	0 14	0 01	0.0	0.15	0.35	0.13	0.0	0.0	0.0	0.0	****	D0.24	0.0	0.0	0.0	0.0	0.0
2	0.01	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
6	1 19	1 17	1.29	1.31	1.14	1.30	1.52	1.32	0.96	1 44	1.44	1.08	1.20	****	1.12	0.48	1.20	1.20	1.11	****
7	0.03	0.0	0.01	0.02	0.0	0.0	0.01	0.0	0.01	0.0	0.0	0.12	0.0	****	0.02	0.0	0.0	0.12	0.12	D1.28
12	0.07	0.0	0.03	0.08	0.12	0.0	0.0	0.15	0.14	0.12	0.13	0.0	0.12	****	0.0	0.0	0.12	0.0	0.0	0.0
13	3.92	3.08	3.29	3 66	2.90	3.99	3.31	3.31	2.46	2.88	3.12	3.60	3.36	****	3.30	2.52	3.00	3.24	2.47	2.90
14	0.03	0.0	0 01	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0	****	0.0	0.0	0.0	0.12	0.0	0.0
17	0.17	0.03	0.16	A0.80	0.33	D2.00	1.05	0.44	1.57	0 24	0.12	0.0	0.12	****	0.06	****	0.24	0.24	0.30	0.36
18	0.0	0.0	0.01	0.01	0.02	0.0	0.0	0.0	0.0	****	0 0	0.0	0.12	****	0.0	****	0.0	0.0	0.0	0.0
19	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	****	0.0	****	0.0	0.0	0.0	0.0
22	0.50	0.76	0.36	0.29	0.16	0.12	0.28	****	0.48	****	0.60	0.0	0.24	****	0.22	****	0.24	0.24	0.14	****
23	1.19	0.82	0.77	0.87	1.19	0.58	0.83	A0.50	0.51	D1.20	1.32	1.45	1 08	****	0.89	D2.40	1 08	1.20	0.43	D1.20
24	0.01	0.02	0.03	0.03	0 0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
25	0 02	0.0	0.0	0 0	0.03	0.0	0 0	0.0	0.07	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
MTOT	7.19	6.35	6.11	7.22	5.91	7 99	7.15	6.07	6.33	5.88	6.73	6.25	6 24	*****	5.85	5.40	5.88	6.36	4.57	5.74

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HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU — PERIOD : 1982 WATER YEAR

GAGE NUMBER

DATE	4910	4800	4780	4760	308R	303R	32R	33R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
JUNE:																				
13	0.0	0.0	0.02	****	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
14	0.46	0.0	0.01	****	0.03	0.0	D0.10	0.0	0.0	0.0	0.0	0.36	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	****	0.02	0.0	0.0	0.21	0.0	0.60	0.60	0.0	0.36	****	0.08	0.60	0.24	****	0.25	0.30
18	0.07	0.55	0.44	****	0.03	0.21	0.0	0.0	0.04	0.36	0.0	0.0	0.0	****	0.15	0.24	****	****	0.0	0.46
19	0.16	0.0	0.0	****	0.0	0.0	0.0	0.0	0.14	0.48	0.0	0.12	0.0	****	0 0	0.24	****	****	0.0	0.02
20	0.07	0.19	0.15	****	0.10	D0.15	0.0	0.0	0.06	3.36	1.92	0.0	0.72	****	0.26	0.84	****	****	0.12	0.04
21	0.01	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	****	0.0	0.0	****	****	0.0	0.0
22	0.05	0.0	0.0	****	0.66	****	0.48	****	0.60	1.92	1.08	0.0	0.36	****	0.06	2.04	****	****	1.23	1.83
23	0.42	0.0	0.0	****	0.0	****	0.0	****	0.0	0.12	0.12	0.12	0.84	****	0.0	0.0	****	****	0.0	0.10
24	0.0	0.0	0.0	****	2.01	****	0.0	****	0.01	3.12	0.96	0.0	0.0	****	0.0	0.60	****	****	1.36	1.22
25	0.01	0.43	0.11	****	0.19	****	0.0	****	0.02	0.0	0.12	0.0	0.48	****	0.18	0 0	****	****	0.0	0.0
26	1.17	0.0	0.40	****	0.50	D0.92	1.28	****	0.42	1.80	1.20	0.72	1.32	****	0.06	1.56	****	****	2.34	1.72
27	0.0	0.0	0.09	****	0.0	0.0	0.13	D0.09	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	D5.52	D6.48	0.0	0.04
28	0.02	0.0	0.0	****	0.04	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.12	****	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.08	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	D1.53	0.0	0.0	0.0	0.11	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
MTOT	2.44	1.17	1.22	E 1.53	3.58	1.28	2.09	0.41	1.38	11.76	6.12	1.32	4.20	*****	0.79	6.12	5.76	6.48	5.30	5.73
JULY:																				
3	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.12	0.0	0.0	****	0.0	0.0	0.0	0.0	****	0.0
5	0.0	0.0	0.0	0.0	0.05	D0.13	0.0	0.0	0.0	0.0	0.12	0.0	0.0	****	0.0	0.0	0 0	0.0	D0.07	0.13
9	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
13	0.03	0.05	0.28	1.35	0.02	0.65	A1.35	****	0.01	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
14	0.05	0.01	0.03	0.52	0.04	1.26	0.52	A2.00	1.28	0.0	0.0	0.0	0.0	****	0.12	0.0	0.0	0.0	0.11	0.0
15	0.26	1.18	0.92	0.22	0.90	0.30	****	0.16	0.03	0.0	0.0	0.0	0.12	****	0.0	0.0	0.0	0.0	0.0	0.0
16	0.02	0.91	0.0	0.65	0.0	0.0	****	0.0	0.02	0.0	0.0	0.0	0.0	****	0.0	0.36	0.0	0.0	0.0	0.0
17	0.10	0.0	0.02	0.12	0.0	0.0	****	0.02	0.14	0.0	0.0	0.12	0.12	****	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.01	0.14	0.17	0.0	****	0.0	0.0	0.24	0.12	0.0	0.0	****	0.0	0.24	0.0	0.0	0.0	0.0
19	0.04	0.0	0.0	0.0	0.0	0.0	****	0.05	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0
21	0.55	0.29	0.0	0.0	0.0	0.0	****	0.15	0.0	3.24	1.32	0.12	0.96	****	0.18	0.12	0.24	0.0	0.45	0.68
22	0.05	0.18	0.03	0.01	0.05	0.12	D0.70	0.0	0.13	0.24	0.84	0.12	0.36	****	0.04	0.12	0.60	0.48	0.0	0.0
23	0.30	0.83	0.25	0.40	0.65	0.0	0.18	0.0	0.31	0.0	0.0	0.12	0.36	****	0.0	0.0	0.0	0.0	0.0	0.0
24	0.38	0.0	0.0	0.34	0.0	****	****	0.0	0.0	0.0	0.0	0 0	0.0	****	0.0	0.0	0.0	0.0	0.50	0.0
25	0.70	0 0	0.0	0.01	0.20	****	****	0.0	0.92	0.12	0.12	0.0	0.0	****	0.0	0.72	0.12	0.0	0.22	0.0
26	0.0	0.0	0.0	0.0	0.78	****	****	0.0	0.41	0.12	0.72	0.0	0.48	****	0.0	0.0	0.24	0.36	0.0	0.0
30	****	1.21	0.44	0.23	1.99	****	D0.38	0.06	1.34	0.0	0.0	0.12	0.60	****	0.09	0.0	0.0	0.0	0.0	0.05
31	D0.75	0.0	0.01	0.0	0.01	D0.65	0.0	0.0	0.13	0.0	0.0	0.0	0.36	****	0.0	0.0	0.0	0.0	0.0	0.0
MTOT	E 3.23	4.66	1.99	4.01	4.86	E 3.11	E 3.13	E 2.44	4.72	3.96	3.36	0.60	3.36	*****	0.43	1.56	1.20	0.84	E 1.35	0.86

MTOT=MONTHLY TOTALS
A =TOTAL RAINFALL AMOUNT AND TIME DISTRIBUTION ESTIMATED.
D =TOTAL RAINFALL AMOUNT KNOWN ; TIME DISTRIBUTION ESTIMATED.
X =MONTHLY TOTAL RAINFALL AMOUNT ESTIMATED;
ALL DAILY VALUES MISSING OR ESTIMATED.
E =MONTHLY OR YEARLY TOTALS CONTAIN ESTIMATED DAILY VALUES.

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU — PERIOD : 1982 WATER YEAR

DATE	GAGE NUMBER																			
	4910	4800	4780	4760	308R	303R	32R	33R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
AUG.																				
1	****	0.15	0.0	0.0	0.49	0.0	0.10	0.0	0.0	0.60	0.12	0.48	0.12	****	0.0	0.36	0.48	****	0.17	D0.20
2	****	0.51	0.12	0.22	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	****	0.0	0.0
6	****	0.0	0.0	0.0	0.0	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	****	0.0	0.0
7	****	0.15	0.11	0.16	1.95	0.13	0.12	0.12	1.64	1.44	1.44	2.28	1.80	****	0.28	1.68	1.44	****	1.63	D1.45
8	****	1.35	1.59	1.75	1.67	1.35	1.76	0.73	0.70	0.60	1.08	1.20	0.84	****	2.10	0.0	0.0	****	0.10	0.0
9	****	0.45	0.20	0.16	0.18	0.0	0.22	0.64	0.18	1.44	****	0.12	1.08	****	1.43	0.96	1.56	****	2.40	2.10
10	****	0.44	0.25	0.08	0.05	0.0	0.0	0.14	0.02	0.0	****	0.12	0.72	****	2.06	0.0	0.0	****	0.0	0.0
11	****	0.0	0.01	0.01	0.10	0.0	0.0	0.0	0.0	0.0	****	0.12	0.0	****	0.0	0.0	0.12	****	0.45	0.10
14	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	****	0.0	0.0	0.12	D4.20	0.0	0.0
18	****	0.0	0.48	0.0	0.0	****	0.29	0.0	0.04	0.12	D1.08	0.0	0.12	****	0.0	0.12	0.24	****	0.20	0.18
20	****	0.0	0.04	****	0.0	****	0.0	0.0	0.0	0.12	0.0	0.0	0.12	****	0.0	0.0	0.0	****	0.0	0.0
21	****	0.0	0.08	D0.27	0.04	****	0.0	0.0	0.0	0.0	0.36	0.0	0.36	****	0.0	0.0	0.0	****	0.0	0.0
25	D3.10	0.0	0.01	0.01	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	****	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.12	****	0.0	0.06
30	0.0	0.02	0.0	0.0	0.63	****	0.0	0.0	0.0	0.0	0.0	0.0	0.12	****	0.0	0.0	0.0	****	0.0	0.0
31	0.0	0.0	0.0	0.0	0.03	A0.50	0.0	0.0	0.0	0.12	0.0	0.0	0.0	****	0.0	0.36	0.36	D0.60	0.0	0.11
MTOT	E 3.10	3.07	2.89	E 2.66	E 5.14	1.98	E 2.63	1.63	2.59	4.44	E 4.08	4.32	5.28	*****	5.87	3.48	4.44	E 4.80	4.95	E 4.20
SEPT.																				
3	1.71	1.12	0.66	0.71	1.47	****	1.34	0.06	0.62	0.0	0.0	0.48	0.24	****	1.77	0.0	0.0	****	0.0	0.0
4	0.01	0.0	0.0	0.0	0.0	A1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.12	****	0.0	0.0	0.0	****	0.0	0.0
6	0.0	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	****	0.0	0.0
12	0.0	0.0	****	0.28	0.0	0.10	0.47	0.03	0.0	0.24	0.0	0.0	0.0	****	0.0	0.60	0.0	****	0.0	0.0
13	0.0	0.0	****	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	****	0.0	0.0
14	0.0	0.0	****	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	****	0.07	0.0	0.12	****	0.10	0.0
15	0.0	0.0	****	0.16	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	****	0.0	0.0
18	0.0	0.21	****	0.17	0.09	****	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	****	0.0	0.0
19	0.06	0.68	****	1.32	0.03	****	0.85	0.11	0.19	0.0	0.12	0.0	0.48	****	0.30	0.12	0.48	****	0.24	0.23
20	0.01	0.12	D1.20	0.01	0.0	A0.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	0.0	0.0	0.0	D0.60	0.0	0.0
MTOT	1.79	2.13	E 1.86	2.66	1.65	E 1.60	2.78	0.25	0.81	0.24	0.24	0.48	0.84	*****	2.14	0.72	0.60	0.60	0.34	0.23
WTOT	40.83	34.87	33.99	E 40.95	E 42.56	E 39.14	E 41.02	E 32.26	E 34.84	E 54.06	E 46.57	E 34.81	E 46.44	*****	E 38.51	E 38.44	E 39.20	E 44.40	E 36.84	E 37.37

MTOT=MONTHLY TOTALS
A =TOTAL RAINFALL AMOUNT AND TIME DISTRIBUTION ESTIMATED.
D =TOTAL RAINFALL AMOUNT KNOWN ; TIME DISTRIBUTION ESTIMATED.
X =MONTHLY TOTAL RAINFALL AMOUNT ESTIMATED;
ALL DAILY VALUES MISSING OR ESTIMATED.
E =MONTHLY OR YEARLY TOTALS CONTAIN ESTIMATED DAILY VALUES.
WTOT=WATER YEAR TOTAL

MONTHLY RAINFALL-DATA SUMMARY IN THE HOUSTON METROPOLITAN AREA,
NATIONAL WEATHER SERVICE STATIONS, 1982 WATER YEAR

	Rain-gage numbers referenced in table 19															
Month	10S	12R	13S	20R	22R	23S	24S	32R	33R	34S	35S	36S	42S	201S	202S	404S
1981																
Oct.	7.03	7.70	4.89	6.96	5.72	5.24	4.08	9.32	7.81	5.71	6.87	4.41	12.52	8.50	14.38	7.32
Nov.	4.82	1.86	e/4.69	5.26	e/5.11	5.03	3.88	2.75	2.87	5.14	3.84	6.64	2.73	6.38	e/5.04	3.72
Dec.	1.92	1.19	1.50	2.05	1.30	1.27	1.91	e/1.50	1.34	1.73	1.33	1.79	2.72	2.14	2.48	3.25
Annual	59.96	52.70	52.59	55.98	44.90	55.30	54.34	53.79	49.89	51.94	56.06	51.39	82.14	65.83	80.27	61.41
1982																
Jan.	2.10	2.23	2.30	1.82	1.92	1.55	2.72	e/2.00	1.74	1.61	2.41	2.32	2.23	2.14	2.04	1.80
Feb.	2.48	1.80	1.79	1.59	1.80	2.23	2.15	2.84	2.60	3.21	2.13	2.84	3.66	1.63	2.17	2.81
Mar.	2.45	1.87	1.37	1.55	1.18	1.84	2.19	1.41	2.03	1.85	1.62	1.80	2.38	1.73	1.83	1.32
April	2.76	2.36	2.58	2.28	3.52	2.10	3.66	3.42	3.07	3.35	2.36	3.46	3.48	2.75	2.83	3.44
May	6.70	6.33	7.72	6.87	9.70	7.98	7.59	7.15	e/6.07	7.67	7.04	6.26	6.53	6.38	7.24	6.87
June	2.32	1.38	1.75	1.10	.45	2.34	1.69	2.09	.41	1.06	2.62	.84	6.29	*2.00	1.90	4.48
July	5.28	4.72	4.87	4.32	e/1.76	4.72	4.53	e/3.13	e/2.44	4.13	1.47	1.74	1.51	2.21	2.66	1.59
Aug.	3.65	2.59	2.10	1.90	2.10	2.07	1.72	2.63	1.63	1.77	3.29	2.44	4.76	4.09	2.20	4.42
Sept.	.17	.81	.63	.98	.75	1.19	.95	2.78	.25	1.34	1.61	2.91	1.89	1.40	1.31	.32
Totals	41.68	34.84	36.19	36.68	35.31	37.56	37.07	41.02	32.26	38.57	36.59	37.45	50.70	41.35	46.08	41.34

e/ Incomplete, total estimated.
* Monthly total rainfall estimated. All daily values missing or estimated.