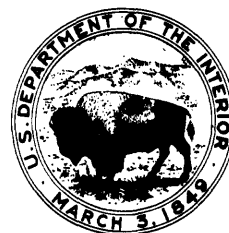


Hydrologic Data for Urban Studies in the Austin, Texas Metropolitan Area, 1980

R. M. Slade, Jr., J. L. Gaylord, M. E. Dorsey, R. N. Mitchell and J. D. Gordon

U.S. GEOLOGICAL SURVEY

Open-File Report 82-506



*Prepared in cooperation with the City of Austin and the
Texas Department of Water Resources*

MAY 1982

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

Printed by the Texas Department of Water Resources

This publication for sale by:

U.S. Geological Survey
Open-File Services Section
Branch of Distribution
Box 25425, Bldg. 41, Federal Center
Denver, CO 80225
PH: 303-234-5888

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METRIC CONVERSIONS

The inch-pound units of measurements used in this report may be converted to metric units by using the following conversion factors:

From Unit	Abbrevia- tion	Multiply by	To obtain Unit	Abbrevia- tion
inch	--	25.4	millimeter	mm
foot	--	.3048	meter	m
mile	--	1.609	kilometer	km
square mile	mi ²	2.590	square kilometer	km ²
cubic foot per second	ft ³ /s	.02832	cubic meter 'per second	m ³ /s
foot per mile	ft/mi	.189	meter per kilometer	m/km
acre-foot	--	1233	cubic meter	m ³
		.001233	cubic hectometer	hm ³

HYDROLOGIC DATA FOR URBAN STUDIES IN THE
AUSTIN, TEXAS, METROPOLITAN AREA

1980

By

R. M. Slade, Jr., J. L. Gaylord, M. E. Dorsey,
R. N. Mitchell and J. D. Gordon
U.S. Geological Survey

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, Houston, and San Antonio. Studies have been completed in the Dallas and Fort Worth areas.

The Geological Survey, in cooperation with the Texas Department of Water Resources, began hydrologic studies in the Austin urban area in 1954. In cooperation with the city of Austin, the program was expanded in 1975 to include additional streamflow and rainfall gaging stations, and the collection of surface water-quality data. In 1978, the program was expanded to include a ground-water resources study of the South Austin metropolitan area in the Balcones fault zone.

The objectives of the Austin 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 volume.
2. To determine the effect of urban development on flood peaks and volume.
3. To determine the variations in water quality during different seasons and flow conditions in representative watersheds under various types of urban development.
4. To quantitatively appraise the ground-water resources along the Balcones fault zone, the effect of urbanization on the quality and quantity of recharge and discharge, and the extent of contamination in the Edwards aquifer that is in hydrologic circulation with Barton Springs.

This report presents the basic hydrologic data collected in the Austin urban area for the 1980 water year (Oct. 1, 1979 to Sept. 30, 1980).

Additional explanations of terms related to streamflow, water quality, and other hydrologic data used in this report are defined in the U.S. Geological Survey annual report Water Resources Data for Texas, TX-80-3, 1980.

LOCATION AND DESCRIPTION OF THE AREA

The Austin study area is about 80 miles northeast of San Antonio and about 160 miles northwest of Houston. The study area extends from the Hill Country at the eastern edge of the Edwards Plateau across the Balcones Fault Escarpment to the Blackland Prairie of Texas. The land surface decreases in altitude from about 1,100 feet above mean sea level in the northwest to about 420 feet above mean sea level in the southeast.

Slopes generally range from 2 to 15 percent; slopes greater than 5 percent are present along the eastern edge of the Edwards Plateau, average about 5 percent within the Balcones Escarpment, and are less than 5 percent east of the escarpment and along the flood plain and alluvial terraces of the Colorado River and its tributaries.

Soils overlying the hard limestone in the western half of the study area are in general poorly developed thin calcareous clays, clay loams, and stony clays. Bedrock is locally exposed. Soils on the soft limestones and shales of the Balcones Fault Zone are generally dark brown calcareous clays, clay loams, or silty clay loams 6 inches or more thick. Soils on the shaly formation in the eastern part of the area are dark gray to olive calcareous clays and clay loams, 12 inches or more thick. Soils on the flood plain and terraces of the Colorado River and its tributaries are dark gray to red-brown, calcareous to noncalcareous, sandy loams, silty clay loams, clay loams, and gravelly sands 12 inches or more thick.

Detailed descriptions of the soils in the Austin urban study area can be found in Soil Survey of Travis County, U.S. Dept. of Agriculture, 1974. Additional geologic information of the Austin urban study area can be found in publications by the University of Texas Bureau of Economic Geology.

The major streams in the study area are the Colorado River, Onion Creek, Barton Creek, Walnut Creek, Bull Creek, Boggy Creek, Shoal Creek, Williamson Creek, Slaughter Creek, Bear Creek, and Waller Creek. Throughout the year, low flow for some of the smaller streams in the predominantly urban areas is partly sustained by return flow from industrial and residential users; during the summer months the low flow is partly sustained by drainage from municipal and private swimming pools.

The climate of the Austin urban area is characterized by short mild winters, long moderately hot summers, moderately high humidity, and prevailing southerly winds. Records of the National Weather Service show that the mean annual temperature (based on the period 1941-70) is 70.6°F (21.5°C); the mean maximum temperature for July is 95°F (35.0°C); and the mean minimum temperature for January is 41°F (5.0°C). The average growing season is about 270 days.

The average rainfall (based on the period 1941-70) is 32.49 inches and is generally well distributed throughout the year; however, individual storms may cause flooding in any season. The major storms usually occur during the months of April-May and September-October.

DATA COLLECTION METHODS

The drainage basins and locations of hydrologic-instrument installations and surface-water-quality sampling sites in the Austin urban study area are shown on figure 1. The locations of hydrologic instruments and data-collection sites in the individual drainage basins are shown on figures 6-17.

Precipitation Data

Precipitation data are based on 29 recording rain gages. The gages are distributed throughout the drainage basins to measure total precipitation and to define rainfall intensities. The locations of these rain gages are shown in table 1.

Precipitation at individual gages and weighted precipitation in each basin is given in the section "Compilation of data." Weighted-mean precipitation factors are shown in table 2. Weighted mean precipitation for a study area is determined by the Thiessen method described by Linsley, Kohler, and Paulhus (1949). For example, the weighted-mean precipitation for the drainage basin upstream from the Bull Creek at Loop 360 streamflow-gaging station could be computed as follows: Multiply the recorded precipitation at rain-gage 1-BUL by 0.57 and to that value, add the recorded precipitation at rain-gage 2-BUL multiplied by 0.43.

Rainfall for the current water year was unevenly distributed over the area. Individual station totals ranged from 25.82 inches at gage 1-ON in the Onion Creek basin to 37.60 inches at gage 1-WLN in the Walnut Creek basin. The mean water-year total of all the rain gages is 31.32 inches as compared with the 30-year average (1941-70) of 32.49 inches at the Austin Municipal Airport rain gage which is operated by the National Weather Service. Daily and monthly precipitation data at individual gages in the study area are given in tables 17 and 18.

Several large runoff producing storms occurred during the year. The most significant storm occurred on March 27, with rainfall totals ranging from 1.92 to 3.92 inches. Widespread showers fell on April 25, May 8, and May 12. These storms produced rainfall totals ranging from 0.90 to 2.01 inches, 0.69 to 2.99 inches, and 0.81 to 2.09 inches respectively.

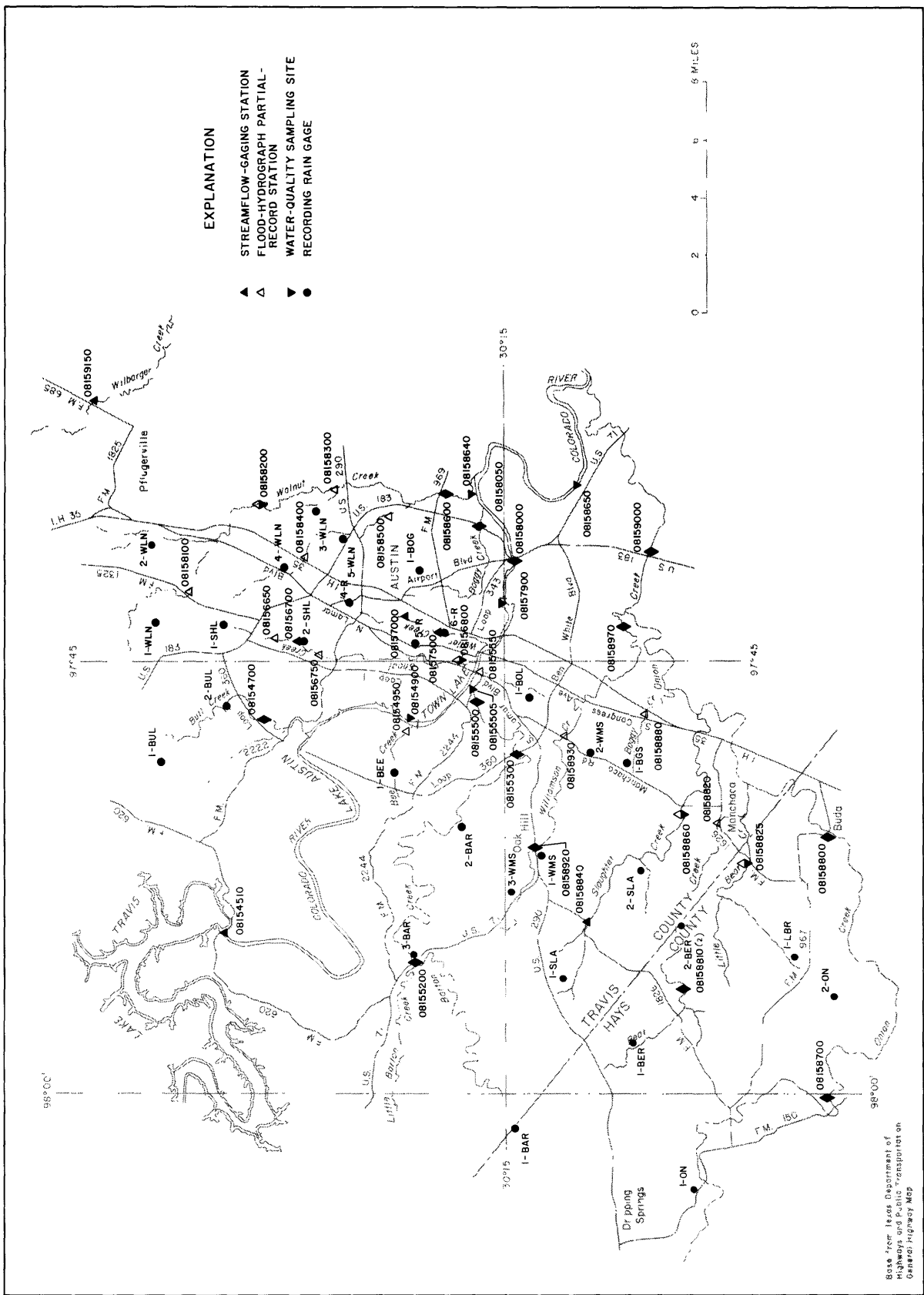


Figure 1. Locations of surface-water hydrologic-instrument installations and surface-water-quality sampling sites in the Austin urban study area

Table 1.--Locations of rain gages in the Austin area

Rain gage	Location
1-BUL	Lat 30°25'23", long 97°48'41", at Jack Rainer residence, 1.1 miles west of the intersection of Spicewood Springs Road and gravel dirt road, which starts 800 ft north of Oak Grove Church on Spicewood Springs Road, and 10.9 miles northwest of the State Capitol Building in Austin. Elevation, 775 ft (approximate).
2-BUL	Lat 30°23'51", long 97°46'42", on Dr. Lloyd A. Doggett property, 200 ft north of the centerline of Spicewood Springs Road at a point 600 ft northwest of the intersection of Spicewood Springs and Whitecliff Roads (the northernmost intersection where two roads cross twice), and 8.6 miles northwest of the State Capitol Building in Austin. Elevation, 650 ft (approximate).
1-BEE	Lat 30°18'36", long 97°48'40", on Mr. Bailey's property about 300 ft north of the Koock's residence, 500 ft northwest of the intersection of Petticoat Lane and Wild Basin Ledge, and 4.7 miles northwest of State Capitol Building in Austin. Elevation, 830 ft (approximate).
1-BAR	Lat 30°14'37", long 98°01'17", 25 ft north of centerline of Fitzhugh Road at Mr. Ben Crumley's residence, 4.9 miles west of the intersection of U.S. Hwy. 290 and Fitzhugh Road, and 9.9 miles west of Oak Hill. Elevation, 1,058 ft (approximate).
2-BAR	Lat 30°16'24", long 97°50'55", at Lost Creek Country Club, 150 ft northwest of mainstenance building, 1.7 miles southwest of intersection of Lost Creek Blvd. and Loop 360, and 6.5 miles west of State Capitol Building in Austin. Elevation, 638 ft (approximate).
3-BAR	Lat 30°17'46", long 97°55'31", at Barton Creek at Hwy. 71 stream-flow gaging station, 5.8 miles northwest of Oak Hill. Elevation, 781 ft (approximate).
1-BOL	Lat 30°14'32", long 97°46'20", at rear of Mr. Morris Kieke's property at 2509 Thorton Road, 0.4 mi southwest of the intersection of Oltorf Street and Thorton Road, and 2.9 mi south of the State Capitol Buidling in Austin. Elevation, 570 ft (approximate).
1-SHL	Lat 30°23'09", long 97°43'55", at Balcones Research Center about 150 ft west and 350 ft south of Civil Engineering Structures Research building, 5,000 ft northwest of intersection at U.S. Hwy. 183 and Farm Road 1352, and 7.7 miles north of the State Capitol Building. Elevation, 763 ft (approximate).

Table 1.--Locations of rain gages in the Austin area--Continued

Rain gage	Location
2-SHL	Lat 30°20'50", long 97°44'41", at Shoal Creek at Northwest Park streamflow gaging station, 400 ft upstream from Shoal Creek Blvd. bridge, 0.5 mile west of the intersection of Burnet Road and Justin Lane, and 5.0 miles north of the State Capitol Building in Austin. Elevation, 671 ft (approximate).
4-R	Lat 30°19'32", long 97°43'21", on the roof of the main building at the Dept. of Public Safety, 5805 N. Lamar Blvd., 0.2 mile north of the intersection of Lamar Blvd. and Koenig Lane, and 3.7 miles north of the State Capitol Building in Austin. Elevation, 665 ft (approximate).
5-R	Lat 30°17'46", long 97°44'22", at Hemphill Park, 5.0 ft east of curb of Hemphill Park, 200 ft north of the intersection of Hemphill Park and Wheeler St., and 1.6 mile north of the State Capitol Building in Austin. Elevation, 550 ft (approximate).
6-R	Lat 30°17'08", long 97°44'01", at Waller Creek at 23rd Street streamflow gaging station, located on the west side of San Jacinto Blvd, 50 ft north of the intersection of San Jacinto Blvd. and 23rd St., 0.9 mile northeast of the State Capitol Building in Austin. Elevation, 510 ft (approximate).
1-BOG	Lat 30°17'31", long 97°41'54", 50 ft behind National Weather Service building at 3724 Manor Road, 2.9 miles northeast of State Capitol Building in Austin. Elevation, 630 ft (approximate).
1-WLN	Lat 30°25'18", long 97°43'42", at Billie Harrel's residence, 200 ft east of Dorsett Road, 0.5 mile north of the intersection of Duval and Dorsett Roads, and 10.2 miles north of the State Capitol Building in Austin. Elevation, 835 ft (approximate).
2-WLN	Lat 30°25'48", long 97°40'49", at Turbine West Supply Company at the intersection of Hydro and Turbine Streets, 0.7 mile northwest of the Intersection of Interstate Highway 35 and Howard Lane, and 11.3 miles north of the State Capitol Building in Austin. Elevation, 790 ft (approximate).
3-WLN	Lat 30°20'34", long 97°39'52", at Ferguson Lane at Loredo Manufacturing Company, 0.9 mile northwest at the intersection of Ferguson Lane and Springdale Road, and 6.5 miles northeast of the State Capitol Building in Austin. Elevation, 595 ft (approximate).

Table 1.--Locations of rain gages in the Austin area--Continued

Rain gage	Location
4-WLN	Lat 30°21'39", long 97°41'49", at Mollie Barrington School on Cooper Drive, 0.1 mile east of the intersection of Lamar Blvd. and Cooper Drive, and 6.5 miles north of the State Capitol Bldg. in Austin. Elevation, 690 ft (approximate).
5-WLN	Lat 30°20'09", long 97°41'03", at entrance road to the Showtown Drive-In Theater, 0.25 mile north of the intersection of Cameron Road and U.S. Hwy. 183, and 5.4 miles northeast of the State Capitol Building in Austin. Elevation, 664 ft (approximate).
1-ON	Lat 30°08'57", long 98°03'23", at Bullard Ranch, 2.7 miles northwest of Driftwood on FM 150, on the north side of road in fenceline. Elevation, 1,060 ft (approximate).
2-ON	Lat 30°03'56", long 97°56'38", at Mrs. Hoskins' Ranch, 5.3 miles southeast of Driftwood and 3.0 miles northeast of junction of FM 150 and FM 3237 and 2.5 miles south of Farm Road 967. Elevation, 885 ft (approximate).
1-BER	Lat 30°11'08", long 97°58'11", at Ms. Guyn's residence on Nutty Brown Road, 1.6 mile south of U.S. Hwy. 290. Gage located left of driveway to house. Elevation, 1,067 ft (approximate).
2-BER	Lat 30°09'17", long 97°54'20", at Spiller Ranch, 4.6 miles northwest of the Marbridge School and FM 1626. Gage location on right of ranch road just before where ranch barns are located. Elevation, 855 ft (approximate).
1-LBR	Lat 30°06'01", long 97°55'22", approximately 300 ft northwest of main ranch house at the Rutherford Ranch on FM 967, 4.8 miles west of Buda. Elevation, 875 ft (approximate).
1-SLA	Lat 30°13'10", long 97°56'09", at the entrance of Mrs. O. D. Miller's property on Derecho Road, 0.8 mile south of the intersection Derecho Road and U.S. Hwy. 290, and 5.7 miles southwest of the Post Office in Oak Hill. Elevation, 1,055 ft (approximate).
2-SLA	Lat 37°10'34", long 97°52'06", at the entrance of the Circle C Ranch on Wyldwood Road, 0.8 mile from the intersection of Wyldwood Road and Brodie Lane, and 5.2 miles southwest of the intersection of Brodie Lane and U.S. Hwy. 290. Elevation, 773 ft (approximate).

Table 1.--Locations of rain gages in the Austin area--Continued

Rain gage	Location
1-BGS	Lat 30°11'18", long 97°48'26", at the Brown School about 50 ft south and 200 ft west of the administration building and 20 ft of the fence line, about 3,000 ft northwest of the intersection of Manchaca Road and Dittmar Lane, and 7.0 miles of the State Capitol Building in Austin. Elevation, 725 ft (approximate).
1-WMS	Lat 30°13'42", long 97°52'00", at the entrance of Mr. Welty E. McCullough's property at 7101 Convict Hill Road, Oak Hill, 0.4 mile south of the intersection of Convict Hill Road and U.S. Hwy. 290, and 0.8 mile southwest of the post office in Oak Hill. Elevation, 835 ft (approximate).
2-WMS	Lat 30°12'25" long 97°48'01", at the rear of Mr. Wilson's property at 1809 Stanley Avenue, 0.3 mile east of the intersection of Berkeley Avenue and Manchaca Road, and 5.8 miles southwest of the State Capitol Bldg., in Austin. Elevation, 700 ft (approximate).
3-WMS	Lat 30°14'48", long 97°53'14", at entrance to Country Aire mobile home park on Hwy. 71, approximately 1.0 mile northwest of the intersection of U.S. Hwy. 290 and State Hwy. 71 near Oak Hill. Elevation, 890 ft (approximate).

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

Station number	Station name (abbreviated)	Rain gage <u>1</u> /	Weighted-mean precipitation factor <u>2</u> /
08154700	Bull Creek at Loop 360	1-BUL 2-BUL	0.57 .43
08154950	Bee Creek at West Lake Drive	1-BEE	1.00
08155200	Barton Creek at State Highway 71 near Oak Hill	1-BAR 3-BAR	.76 .34
08155300	Barton Creek at Loop 360	1-BAR 2-BAR 3-BAR	.59 .15 .26
08155550	West Bouldin Creek at Riverside Drive	1-BOL	1.00
08156650	Shoal Creek at Steck Avenue	1-SHL	1.00
08156700	Shoal Creek at Northwest Park	1-SHL 2-SHL	.45 .55
08156750	Shoal Creek at White Rock Drive	1-SHL 2-SHL	.42 .58
08156800	Shoal Creek at 12th Street	1-SHL 2-SHL	.24 .76
08157000	Waller Creek at 38th Street	4-R 5-R	.81 .19
08157500	Waller Creek at 23rd Street	4-R 5-R 6-R	.50 .40 .10
08158050	Boggy Creek at U.S. Highway 183	1-BOG	1.00
08158100	Walnut Creek at Farm Road 1325	1-WLN	1.00
08158200	Walnut Creek at Dessau Road	1-WLN 2-WLN	.51 .49

See footnotes at end of table.

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

Station number	Station name (abbreviated)	Rain gage 1/	Weighted-mean precipitation factor 2/
08158300	Ferguson Branch at Springdale Road	3-WLN	1.00
08158400	Little Walnut Creek at Interstate Highway 35	1-SHL 4-WLN	.34 .66
08158500	Little Walnut Creek at Manor Road	1-SHL 4-WLN 5-WLN	.15 .43 .42
08158600	Walnut Creek at Webberville Road	1-WLN 2-WLN 3-WLN 4-WLN 5-WLN	.25 .21 .28 .15 .11
08158810	Bear Creek below Farm Road 1826	1-BER	1.00
08158820	Bear Creek at Farm Road 1626	1-BER 2-BER	.66 .34
08158825	Little Bear Creek at Farm Road 1626	1-LBR	1.00
08158840	Slaughter Creek at Farm Road 1826	1-SLA	1.00
08158860	Slaughter Creek at Farm Road 2304	1-SLA 2-SLA	.48 .52
08158880	Boggy Creek (South) at Circle S Road	1-BGS	1.00
08158920	Williamson Creek at Oak Hill	1-WMS 3-WMS	.16 .84
08158930	Williamson Creek at Manchaca Road	1-WMS 2-WMS 3-WMS	.46 .25 .29

See footnotes at end of table.

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

Station number	Station name (abbreviated)	Rain gage <u>1/</u>	Weighted-mean precipitation factor <u>2/</u>
08158970	Williamson Creek at Jimmy Clay Road	1-WMS	0.31
		2-WMS	.49
		3-WMS	.20

1/ Rain gage designations are: BUL-Bull Creek; BEE-Bee Creek; BAR-Barton Creek; BOL-Bouldin Creek; SHL-Shoal Creek; R-Waller Creek; BOG-Boggy Creek; WLN-Walnut Creek; BER-Bear Creek; LBR-Little Bear Creek; SLA-Slaughter Creek; BGS-Boggy Creek (South); and WMS-Williamson Creek. See locations of rain gages on figure 1.

2/ See section on "Precipitation of data" for explanation of use of weighted-mean precipitation factors

The storm of March 27-28 was analyzed for all stations except for those stations where rainfall distribution was uneven, where the quality of recorded data was poor, or where the stage-discharge relationships were poorly defined. Other less significant storms were arbitrarily selected for analyses based on the discharge magnitude, quality of recorded data, and distribution of rainfall.

Runoff Data

Runoff data are based on discharge measurements and stage records at 16 continuous-record streamflow stations and 15 flood-hydrograph partial-record streamflow gaging stations. Streamflow data for continuous-record gaging stations, and for flood-hydrograph partial-record stations for the 1980 water year are presented in downstream order in the section "Compilation of data."

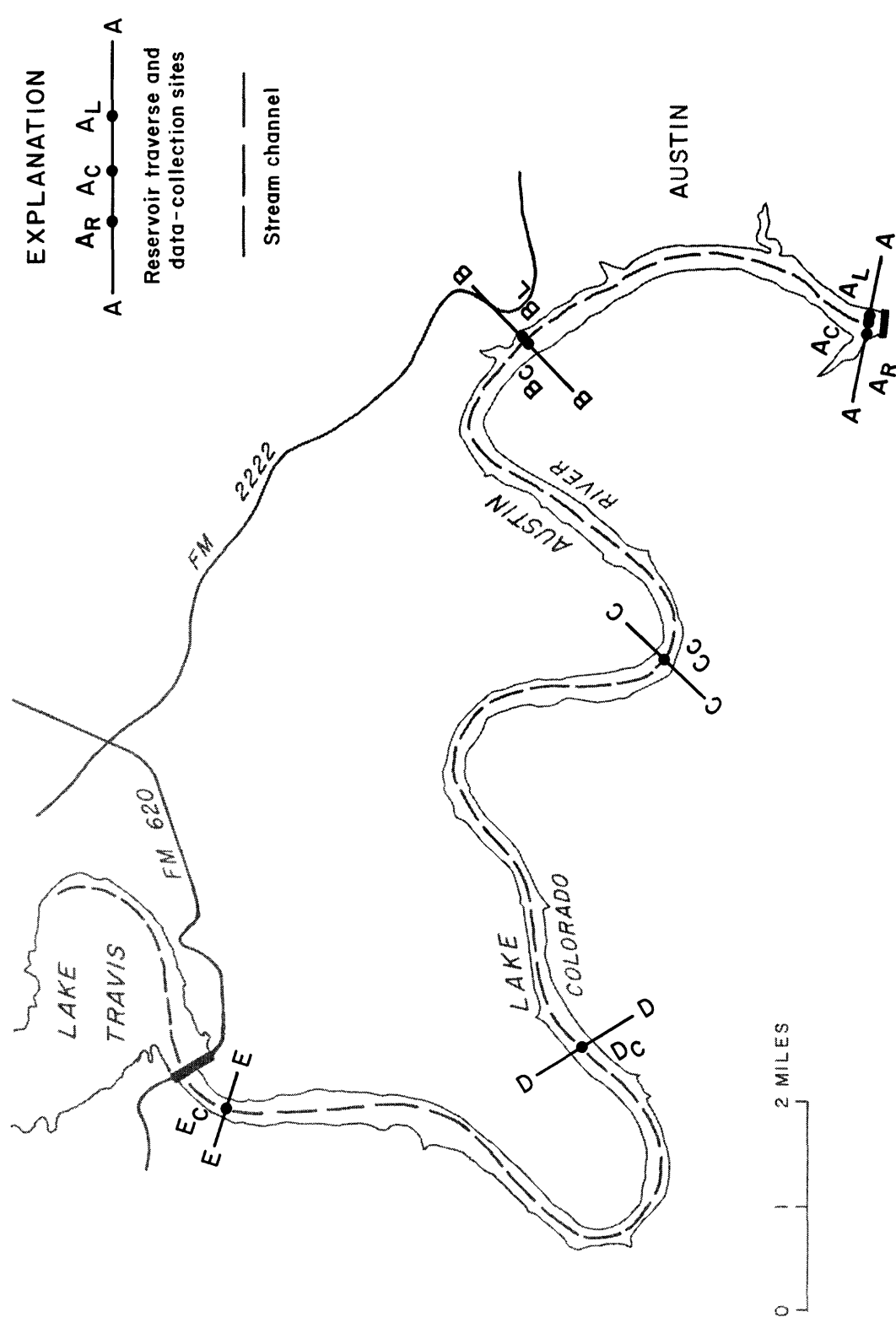
Rainfall and runoff for the 1980 water year for the continuous-record gaging stations in the Austin urban study area are summarized in table 3. Runoff varied from 0.36 inches for the Onion Creek at Buda gage to 8.94 inches for the Waller Creek at 38th Street gage, which was 1 percent and 31 percent of the basin's annual weighted-mean rainfall, respectively. Detailed storm rainfall and runoff records for each gaging station are shown in the section "Compilation of data."

Water-Quality Data

Water-quality data were collected at 20 streamflow locations during the 1980 water year. The locations of the streamflow water-quality data-collection sites are shown on figure 1. Water-quality samples are collected and analyzed during various flow and seasonal conditions so that the variations in the water quality may be documented for future analysis. Four of these water-quality data-collection sites are equipped with automated samplers that collect discrete samples during storms. These four automated samplers are located at the gaging stations Barton Creek at Loop 360, Shoal Creek at 12th Street, Boggy Creek at Highway 183, and Bull Creek at Loop 360. The peak discharges associated with the water-quality samples collected during storms at all the gaging stations are shown in table 4.

Water-quality data were also collected at eight sites on Lake Austin and at 11 sites on Town Lake. The locations of these sites are shown on figures 2 and 3 respectively, and the analyses of these samples are given in the "Compilation of data" section in this report.

Water-quality data were collected from 33 wells in Travis County and from 12 wells in Hays County. The locations of these sites are shown on figures 4 and 5, and the analyses of these samples are given in table 20.



Base from Texas county highway map

Figure 2.- Locations of the water-quality data-collection sites on Lake Austin

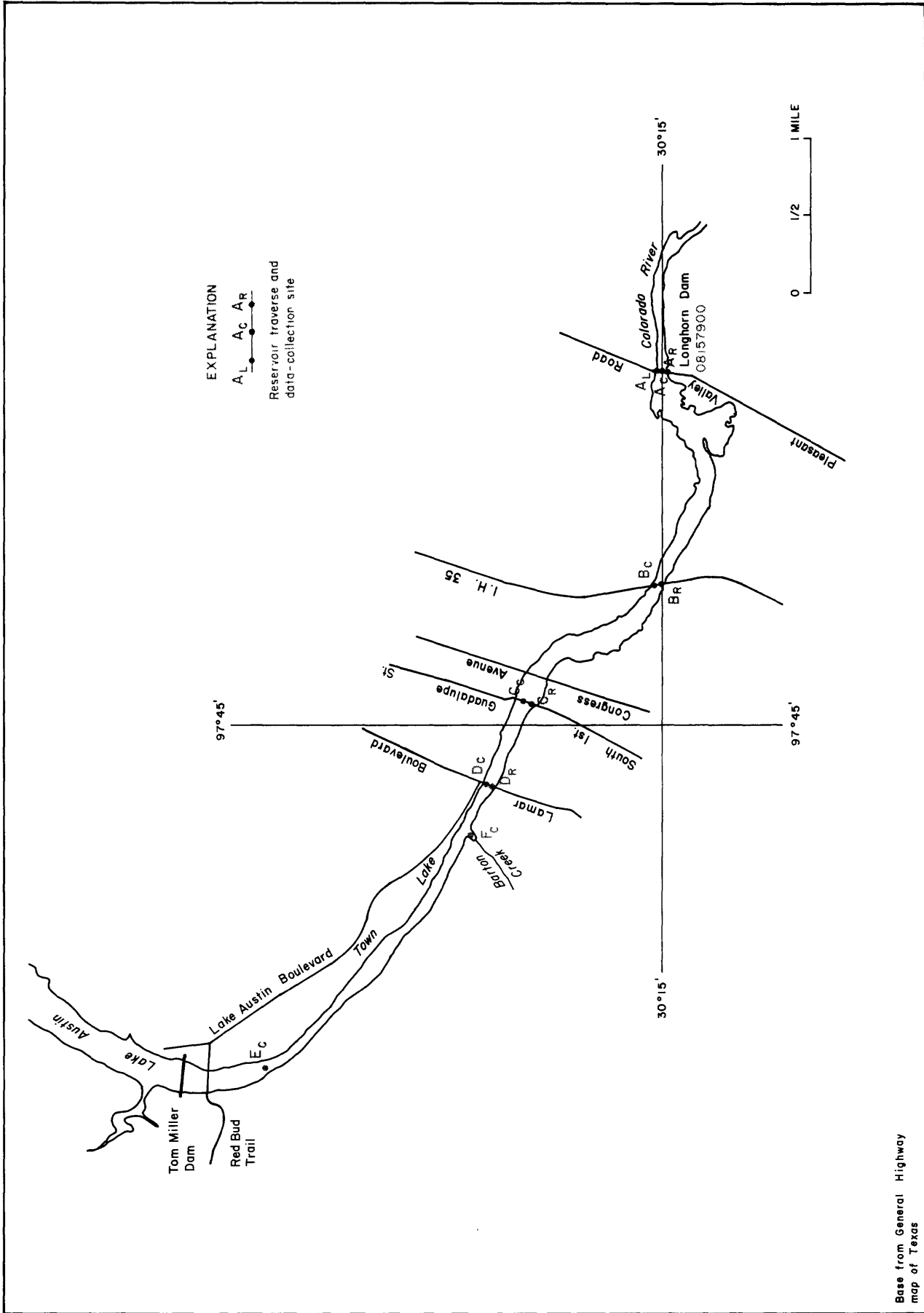
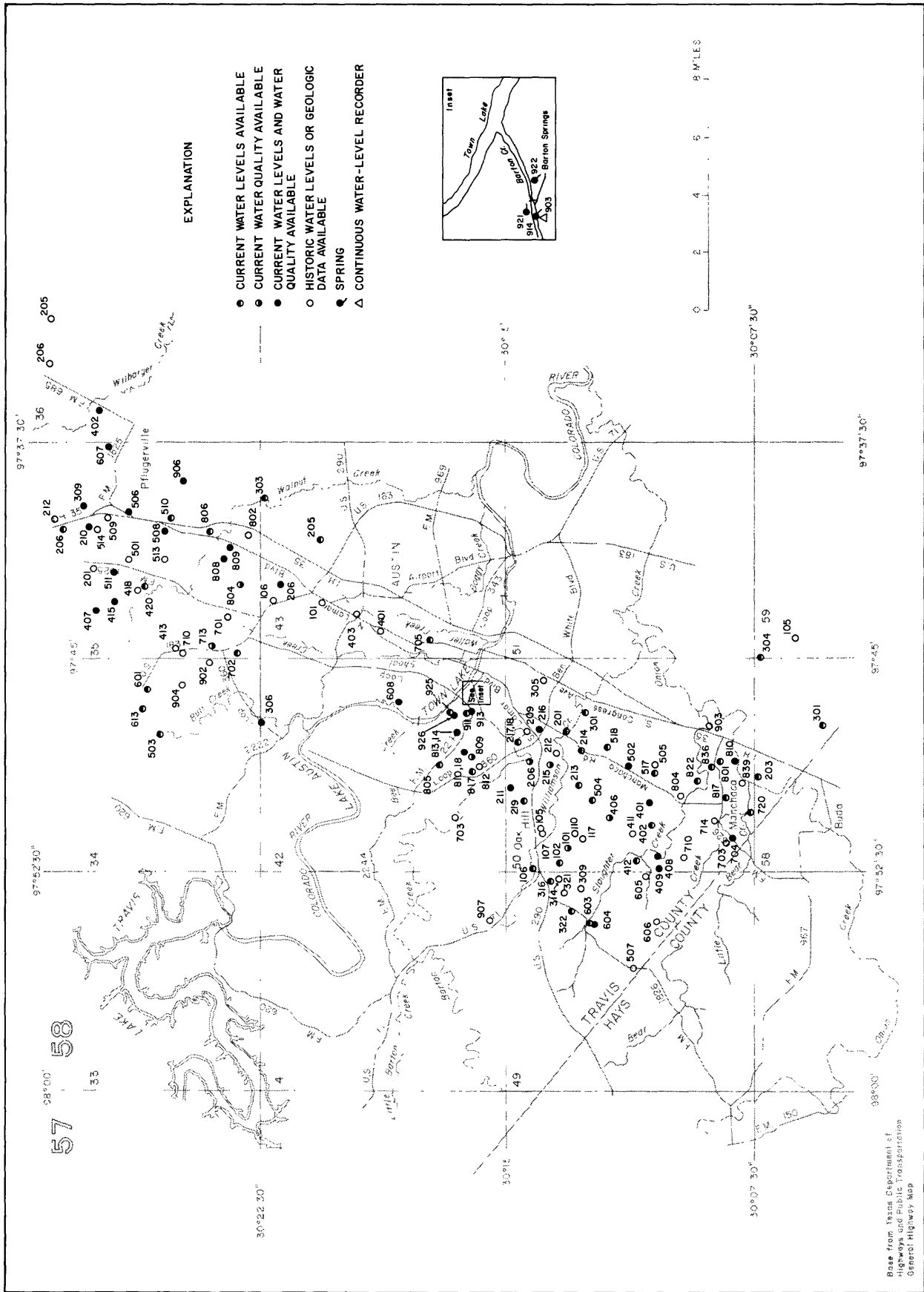


Figure 3.- Locations of the water-quality data-collection sites on Town Lake



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

Figure 4.-Ground-water data-collection sites in Travis County

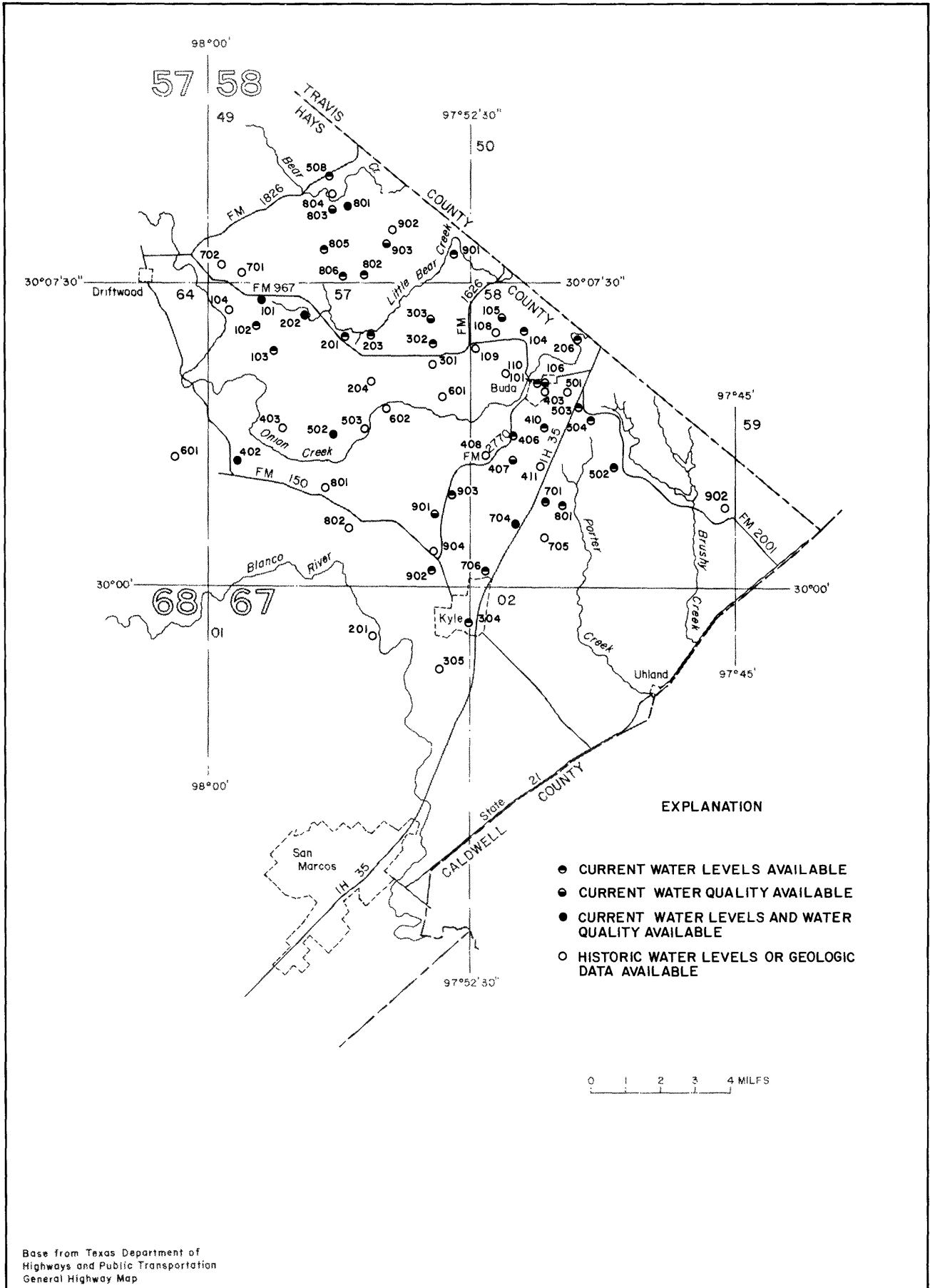


Figure 5.-Ground-water data-collection sites in Hays County

Table 3.--Rainfall and runoff data for selected continuous-record gaging stations in the Austin urban study area, 1980 water year

Station	Weighted-mean rainfall (inches)	Total runoff (inches)	Ratio of runoff to rainfall
Bull Creek at Loop 360, near Austin, Tex. (08154700)	31.96	4.26	0.13
Barton Creek at State Highway 71 near Oak Hill, Tex. (08155200)	30.95	2.00	.06
Barton Creek at Loop 360, Austin, TX (08155300)	30.74	1.28	.04
Shoal Creek at Northwest Park, Austin, TX (08156700)	29.85	2.63	.09
Waller Creek at 38th Street, Austin, TX (03157000)	29.13	8.94	.31
Waller Creek at 23rd Street, Austin, TX (08157500)	29.52	8.04	.27
Boggy Creek at U.S. Hwy. 183, Austin, TX (08158050)	27.04	3.02	.11
Walnut Creek at Webberville Road, Austin, TX (08158600)	33.11	4.60	.14
Onion Creek near Driftwood, TX (08158700)	25.76	1.35	.05
Onion Creek at Buda, TX (08158800)	26.95	.36	.01
Bear Creek at Farm Road 1826 near Driftwood, TX (08158810)	33.53	4.32	.13

Table 3.--Rainfall and runoff data for selected continuous-record gaging stations in the Austin urban study area, 1980 water year--Continued

Station	Weighted-mean rainfall (inches)	Total runoff (inches)	Ratio of runoff to rainfall
Slaughter Creek at Farm Road 1826 near Austin, Tex. (08158840)	33.53	4.32	.13
Williamson Creek at Oak Hill, Austin, Tex. (08158920)	32.91	4.84	.15
Williamson Creek at Jimmy Clay Road, Austin, TX (08158970)	33.05	1.79	.05

Note: See "Remarks" paragraph of station descriptions in the section "Compilation of data" for information about regulation or diversion.

Table 4.--Peak discharges associated with water-quality samples collected during storms

Station no.	Station name	Water-quality sample			Peak flow		
		Date	Time	Instantaneous flow (ft ³ /s)	Date	Time	(ft ³ /s)
08154700	Bull Creek at Loop 360 near Austin, Tex.	Mar. 27	(4 samples)	--	Mar. 27	1530	465
		Apr. 25	(2 samples)	--	Apr. 25	0315	380
		May 8-9	(5 samples)	--	May 8	0830	500
08155300	Barton Creek at Loop 360, Austin, Tex.	Apr. 15	1050	21	Apr. 15	0100	27
		Apr. 25	1350	6.8	Apr. 25	2030	40
		May 12	1630	195	May 12	2300	586
08156800	Shoal Creek at 12th Street, Austin, Tex.	Apr. 25	1315	61	Apr. 25	0715	999
		May 12	1100	116	May 11	1000	1,900
		Sept.19	(4 samples)	--	Sept.19	0530	996
08158700	Onion Creek near Driftwood, Tex.	Sept.30	1210	118	Sept.30	0700	232
08158800	Onion Creek at Buda, Tex.	May 14	1320	447	May 14	0530	953
		May 28	1330	1.3	May 21	1000	1,100
08158825	Little Bear Creek at Farm Road 1626 near Manchaca, Tex.	Apr. 25	(2 samples)	--	Apr. 25	0415	3.3
08158860	Slaughter Creek at Farm Road 2304 near Austin, Tex.	May 13	1030	32	May 12	1645	268
08158920	Williamson Creek at Oak Hill, Tx	Apr. 25	1045	1.7	Apr. 25	0345	164
08159000	Onion Creek at U.S. Hwy. 183 near Austin, Tex.	May 14	1420	895	May 13	2400	2,580

Ground-Water Data

Ground-water data for the Austin urban study area consist of well and spring inventories, water-quality sampling, and water-level measurements. These data are presented in the section "Compilation of data." The descriptions and characteristics of the wells and springs inventoried by the U.S. Geological Survey and the water-level measurements from the annual water-level survey are presented in table 19. The water-quality data from the wells and springs are shown in table 20, and the monthly water-level measurements made at the observation wells are presented in table 21.

The data are listed according to a well-numbering system which is used throughout the State, and which was developed by the Texas Department of Water Resources. The well-numbering system consists of a two-letter county-designation prefix plus a seven-digit well number. The two-letter prefix for Travis County is YD, and the prefix for Hays County is LR. Each one-degree quadrangle in the State is given a number consisting of two digits from 01 through 89. These are the first two digits of the well number. Each 1-degree quadrangle is divided into 7-1/2-minute quadrangles which are given two-digit numbers from 01 through 64. These are the third and fourth digits of the well number. Each 7-1/2-minute quadrangle is divided into 2-1/2-minute quadrangles which are given a single-digit number from 1 through 9. This is the fifth digit of the well number. Each well or spring located within a 2-1/2-minute quadrangle is given a two-digit number beginning with 01, according to the order in which it was inventoried. These are the last two digits of the numbering system.

Only the last three digits of the well-numbering system are shown at each of the ground-water data-collection sites on figures 4 and 5; the second two digits are shown in or near the northwest corner of each 7-1/2-minute quadrangle; and the first two digits are shown by the large block numbers 57, 58, 67, or 68.

The ground-water portion of this urban-hydrology project is composed of a study of the Edwards aquifer that is in hydrologic circulation with Barton Springs. The Edwards aquifer in this area is composed of the Edwards Limestone and Georgetown Limestone. In order to appraise the quantity and quality of the water in this portion of the Edwards aquifer, the inflow (recharge) to the aquifer and outflow (springflow and pumpage) from the aquifer must be defined.

During the calendar year 1980, the total ground-water pumpage from the Edwards aquifer that is in hydrologic circulation with Barton Springs was about 3,600 acre-feet. About 2,700 acre-feet of this pumpage represents the usage of approximately 25 major users (public supply, commercial, and industrial) as reported to the Texas Department of Water Resources. The remaining 900 acre-feet of pumpage is composed of domestic usage (760 acre-feet) and livestock usage (140 acre-feet). The estimated total discharge as springflow from the aquifer was 36,900 acre-feet, of which about 33,900 acre-feet was from Barton Springs and the remaining 3,000 acre-feet was from Cold and Deep Eddy Springs.

The majority of the recharge to the aquifer occurs through faults associated with the Balcones fault zone. These faults cross several creeks southwest of Austin, and some of the flow in these creeks enters the Edwards aquifer through these faults. The six major creeks that provide the majority of the recharge are Barton, Williamson, Slaughter, Bear, Little Bear, and Onion Creeks.

Except for Little Bear Creek, flow-loss studies were conducted on all these creeks in order to determine the quantity and location of these flow losses. From this study, the two points on each creek that make up the upstream and downstream border of the flow-loss zones were determined, and thus the "recharge zone" was determined. The locations, descriptions, and flow data for the flow-loss study are given in table 5. Water-quality samples were taken at several sites during the flow-loss study in order that the water quality with reference to a few selected constituents can be compared at several sites. These water-quality data from the flow-loss study are presented in table 6.

A progress report on the ground-water portion of the urban-hydrology project is presently being prepared and will be available in the near future. This report will include a section on the flow-loss studies and will offer interpretations regarding the ground-water hydrology of the Edwards aquifer that supplies water to Barton Springs.

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
1	Barton Creek	Lat 30°17'46", long 97°55'31", at State Hwy. 71.	5/29/80	21.0	26.5	61.0		456	Cross section was gravel. USGS Gage 08155200. Est. from rating. Water quality samples taken.
2	Barton Creek	Lat 30°17'21", long 97°53'58", 400 ft south of private ranch road.	5/29/80	17.9	26.0	62.0		453	Flow est. from 5/30/80 measurement. Cross section was gravel.
3	Barton Creek	Lat 30°18'12", long 97°52'04", 200 ft downstream from private ranch road, and 2.5 miles north west of Loop 360 and FM Road 2244 intersection.	5/30/80	14.3		68.0			Flow estimated from 5/30/80 measurement.
4	Barton Creek	Lat 30°17'28", long 97°50'45", 300 ft upstream from Castle Ridge Road, 1.1 miles south west of Loop 360 and FM Road 2244 intersection.	5/29/80	10.9	25.0	73.0		447	Flow estimated from 5/30/80 measurement. Cross section was rock.
5	Barton Creek	Lat 30°17'01", long 97°51'05", 4500 ft upstream from Lost Creek Blvd.	5/29/80	10.0	24.5	72.9		448	Weeds and grass in channel.
6	Unnamed Tributary to Barton Creek	Lat 30°16'36", long 97°50'50", 600 ft upstream from mouth.	5/29/80		25.0		3.98	520	Cross section was rocks and weeds.
7	Barton Creek	Lat 30°16'27", long 97°50'38", at Lost Creek Blvd.	5/29/80	9.1	24.5	77.6		454	Cross section was rock and gravel. Water quality samples taken.
8	Barton Creek	Lat 30°16'10", long 97°49'37", 1.3 miles downstream from Lost Creek Blvd, and 1.8 miles south of intersection of Loop 360 and FM Rd. 2244.	5/29/80	7.8	25.5	76.9		447	Cross section was rock and silt.

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
9	Barton Creek	Lat 30°16'00", long 97°49'23", 2 miles southeast of intersection of Loop 360 and FM Rd 2244.	5/29/80	7.3	26.2	74.6		431	Cross section was gravel.
10	Barton Creek	Lat 30°15'32", long 97°49'21", 2.5 miles southeast of intersection of Loop 360 and FM Rd 2244 and 0.5 mile southwest of intersection of Loop 360 and Stone Ridge Road.	5/29/80	6.8	26.7	73.4		431	Cross section was gravel.
11	Barton Creek	Lat 30°15'07", long 97°48'51", 0.8 mile southeast of intersection Loop 360 and Stone Ridge Road.	5/29/80	6.1	26.0	66.3		404	Cross section was gravel. Water quality samples taken.
12	Barton Creek	Lat 30°14'40", long 97°48'07", at Loop 360.	5/29/80 2/9/81 4/28/81	4.6	27.5	52.0 17.0 5.62		417	Cross section was gravel. USGS gaging station number 08155300.
13	Barton Creek	Lat 30°14'40", long 97°47'17, 0.4 miles northwest of intersection of Barton Skyway and Lamar Blvd.	5/29/80 2/9/81 4/28/81	3.5	27.0	43.9 2.96 1.55		440	Cross section was rocks.
14	Barton Creek	Lat 30°15'07", long 97°47'45", 3800 ft upstream from Barton Skyway.	5/29/80 2/9/81 4/28/81	2.6	27.0	41.8 0.22 0.14		441	Cross section was rocks.
15	Barton Creek	Lat 30°15'34", long 97°47'03", 1400 ft downstream from Barton Skyway.	5/29/80 2/9/81 4/28/81	1.7	26.0	44.2 0.0 0.28		450	

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
16	Barton Creek	Lat 30°15'47", long 97°46'43", 2200 ft upstream from Barton Springs Pool.	5/29/80 2/9/81 4/28/81	1.1	27.0	46.2 -- 0.19		450	Cross section was rocks. Water quality samples taken. Several small springs along channel between this site and Barton Springs. About 3-4 ft ³ /s flowing from the springs Apr. 28, 1981.
17	Barton Creek	Lat 30°15'48", long 97°46'19", at Barton Springs.	5/29/80	0.0	25.5	76.0		499	USGS gage 08155500. Est. from rating curve. Water quality samples taken. This is the flow from Barton Springs.

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
1	Williamson Creek	Lat 30°14'12", long 97°52'26", 1300 ft upstream from Old Oak Hill-Bee Caves Road.	5/20/80	14.8	19.5	6.79		631	Cross section was solid limestone. Water-quality samples taken.
2	Unnamed Tributary to Williamson Cr.	Lat 30°14'13", long 97°51'40", 600 ft upstream from mouth.	5/20/80	14.1	23.0		1.16	499	Cross section was solid limestone. Water quality samples taken.
3	Williamson Creek	Lat 30°14'06", long 97°51'36", 0.8 mile east of the intersection of U.S. Hwy 290 and State Hwy. 71.	5/20/80 3/5/81	14.0	21.0	11.3 19.0		633	USGS gaging station 08158920. Cross section was gravel.
4	Williamson Creek	Lat 30°13'46", long 97°51'12", 3000 ft downstream from gaging station 08158920.	5/21/80	13.5	20.0	7.23		596	Cross section was rock.
5	Williamson Creek	Lat 30°13'30", long 97°50'36", 2000 ft upstream from Indian Point Brush Drive.	5/20/80	12.6	27.5	5.96		553	Cross section was gravel. Water quality samples taken
6	Williamson Creek	Lat 30°13'26", long 97°50'00", 3400 ft upstream from Brodie Lane.	5/21/80	11.8	21.0	2.36		532	Cross section was sand and silt.
7	Williamson Creek	Lat 30°13'22", long 97°49'27", 300 ft upstream from Brodie Lane.	5/21/80	11.2	23.0	1.87		521	Cross section was silt. Water quality samples taken.
8	Unnamed Tributary to Williamson Cr.	Lat 30°12'55", long 97°48'59", 1300 ft upstream from mouth.	5/20/80	10.2			0.0		
9	Williamson Creek	Lat 30°13'11", long 97°48'48", at Lone Oak Lane.	5/20/80 3/5/81	10.3	25.3	0.83 10.8		466	Cross section was gravel. Water quality samples taken

Table 5.---Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
10	Williamson Creek	Lat 30°13'17", long 97°48'19", at Westgate Blvd.	5/20/80 3/5/81	9.8		0.0 7.3			Cross section was gravel.
11	Williamson Creek	Lat 30°13'23", long 97°47'53", at Jones Road.	5/20/80 3/5/81	9.4		6.4			Cross section was mud and gravel.
12	Unnamed Tributary to Williamson Cr.	Lat 30°13'26", long 97°47'56", 500 ft upstream from mouth.	5/20/80 3/5/81	9.3	21.6		0.03	730	Cross section was gravel.
13	Williamson Creek	Lat 30°13'16", long 97°47'36", at F.M. Road 2304.	5/20/80 3/5/81	8.6	23.3	0.65 6.8		517	USGS gaging station 08158930. Cross section was gravel.
14	Williamson Creek	Lat 30°12'59", long 97°47'19", 100 ft upstream from the Missouri Pacific Railroad.	5/20/80	8.1	22.3	0.52		523	Cross section was gravel.
15	Williamson Creek	Lat 30°12'42", long 97°46'45", 200 ft upstream from South 1st Street.	5/20/80	7.4	21.4	0.37		576	Water quality samples taken. Cross section was gravel.
16	Williamson Creek	Lat 30°11'21", long 97°43'56", at Jimmy Clay Road.	5/20/80	1.3		3.1			USGS gaging station 08158970. Estimated from rating curve.

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
1	Slaughter Creek	Lat 30°12'32", long 97°54'11", at F.M. Road 1826.	5/22/80 3/5/81	12.9	20.5	11.8 58		682	USGS gaging station 08158840 Cross section solid rock.
2	Slaughter Creek	Lat 30°11'53", long 97°52'54", at private rance road.	5/22/80	11.4	21.0	10.1		650	Cross section was gravel.
3	Slaughter Creek	Lat 30°11'34", long 97°51'56", 2000 ft upstream from private ranch road.	5/22/80	10.1	21.5	4.54		630	Cross section was gravel and rock.
4	Slaughter Creek	Lat 30°11'24", long 97°51'54", 1000 ft upstream from private ranch road.	5/22/80	9.9		2.36		589	Cross section was rock.
5	Slaughter Creek	Lat 30°11'24", long 97°51'44", at private ranch road.	5/22/80	9.7		0.0			
6	Slaughter Creek	Lat 30°10'33", long 97°51'30", 100 ft upstream from Wylgwood Road.	5/22/80	8.5		0.0			
7	Slaughter Creek	Lat 30°10'08", long 97°51'33", at Brodie Lane.	5/22/80 3/5/81	7.7		0.0 10.7			Cross section was gravel.
8	Slaughter Creek	Lat 30°10'03", long 97°50'51", 0.3 mile upstream from Elm Waterhole.	5/22/80 3/5/81	6.8		0.0 6.8			
9	Slaughter Creek	Lat 30°09'49", long 97°50'41", 100 ft upstream from Elm waterhole.	3/5/81	6.5		6.3			Cross section was large rocks and gravel.
10	Slaughter Creek	Lat 30°09'43", long 97°50'33", 200 ft downstream from Elm waterhole.	3/5/81	6.3		3.3			Cross section was gravel.

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
11	Unnamed Tributary to Slaughter Creek	Lat 30°10'02", long 97°50'21", 2400 ft upstream fom mouth.	5/22/80	5.4	25.0		0.07	363	
12	Slaughter Creek	Lat 30°09'43", long 97°49'55", at FM Rd. 2304.	5/22/80 3/5/81	5.5	23.5	0.09 3.3		430	USGS gaging station 08158860. Cross section was large rocks and gravel.
13	Slaughter Creek	Lat 30°08'55", long 97°49'13", 3000 ft downstream from Chappell Lane.	5/22/80	4.1	22.5	1.42		382	

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
1	Bear Creek	Lat 30°09'19", long 97°56'23", 0.8 mile southeast of FM Rd. 1826, 5.9 miles northeast of Driftwood.	5/23/80	11.0	21.5	14.0		547	Cross section was gravel. USGS gaging station 08158810.
2	Unnamed Tributary to Bear Creek	Lat 30°10'24", long 97°55'50", measured at FM 1826, 2000 ft upstream from mouth.	5/23/80	9.0	19.5		6.74	603	Cross section was gravel.
3	Bear Creek	Lat 30°10'05", long 97°55'26", 100 ft south of private ranch road, and 2700 ft southeast of FM Rd 1826.	5/23/80	9.2	20.0	38.4		534	Cross section was gravel. Water quality samples taken.
4	Bear Creek	Lat 30°09'45", long 97°54'33", 800 ft upstream from Spiller Ranch, 200 ft upstream from pooled water.	5/23/80	7.6	20.0	50.5		540	Cross section was gravel. Water quality samples taken.
5	Bear Creek	Lat 30°09'25", long 97°53'26", 2000 ft upstream from dam.	5/23/80	6.0	24.5	39.8		500	Cross section was uneven rock.
6	Bear Creek	Lat 30°09'06", long 97°52'43", 4000 ft downstream from dam.	5/23/80	4.9	22.0	36.2		485	Cross section was solid rock. Water quality samples taken.
7	Bear Creek	Lat 30°08'48", long 97°51'41", 900 ft south of Frate Barks Rd. and .8 mile northwest of Marbridge School.	5/23/80	3.8	24.5	27.2		507	
8	Bear Creek	Lat 30°08'25", long 97°50'50", at FM Rd. 1626.	5/23/80	2.6	23.0	23.8		498	USGS gaging station 08158820. Water quality samples taken.

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
9	Little Bear Creek	Lat 30°07'31", long 97°51'43", measured at FM Rd 1626.	5/23/80	1.2	23.5		0.06	487	USGS gaging station 08158825.
10	Bear Creek	Lat 30°07'40", long 97°50'08", 700 ft upstream from Missouri Pacific Railroad.	5/23/80	0.9	22.5	17.0		504	Water quality samples taken.

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (°C)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
1	Onion Creek	Lat 30°04'59", long 98°00'29", at F.M. Rd 150, 3.2 miles south east of Driftwood.	5/23/80	46.0	25.0	92.7		465	USGS gaging station 08158700. Cross section was gravel. Water quality samples taken.
2	Onion Creek	Lat 30°05'15", long 97°59'06", at private ranch road.	5/28/80	44.2	25.8	100.3		461	Cross section was solid rock.
3	Onion Creek	Lat 30°04'38", long 97°58'44", at private ranch road low-water crossing.	5/28/80	42.7	26.3	94.5		471	Cross section was solid concrete.
4	Onion Creek	Lat 30°03'37", long 97°58'39", 200 ft downstream from mouth of Yorks Creek.	5/28/80	41.3	26.2	92.5		457	Cross section was solid rock.
5	Onion Creek	Lat 30°03'07", long 97°57'35", at private ranch road low-water crossing.	5/28/80	39.9	25.5	91.5		515	Cross section was rocks and grass. Water quality samples taken.
6	Onion Creek	Lat 30°03'00", long 97°56'15", 1.1 mile southeast of Hoskins Ranch.	5/28/80	38.5		57.0		490	Cross section was rocky.
7	Onion Creek	Lat 30°03'41", long 97°55'35", 1.1 mile southeast of Hoskins Ranch.	5/28/80	37.4	25.5	35.7		490	Cross section was silt, rocks and gravel. Water quality samples taken.
8	Onion Creek	Lat 30°04'12", long 97°53'10", 1200 ft upstream from Barber Falls.	5/28/80	34.0		0.0			
9	Onion Creek	Lat 30°04'25", long 97°52'08", 1900 ft downstream from mouth of Mustang Branch.	5/28/80	32.7	27.0	0.06		368	Rock.

Table 5.--Locations, descriptions, and flow data for recharge flow-loss study--Continued

Site No.	Stream	Location	Date	River Miles Above Mouth	Water Temp. (OC)	Discharge (ft ³ /s)		Specific Conductance (micro-mhos at 25°C)	Remarks
						Main Stream	Tributary		
10	Onion Creek	Lat 30°04'35", long 97°51'06", 3500 ft upstream from Hwy. 967.	5/28/80	31.5	27.0	1.03		402	Cross section was silt and gravel.
11	Onion Creek	Lat 30°05'09", long 97°50'52", at Hwy. 967.	5/28/80	30.8	31.5	1.32		378	USGS gaging station 08158800. Water quality samples taken.
12	Unnamed Tributary to Onion Creek	Lat 30°05'17", long 97°50'36", 100 ft upstream from mouth.	5/28/80	30.6			1.5		Estimated flow.
13	Bear Creek	Lat 30°08'25", long 97°50'50", at Hwy. 1626.	5/28/80	25.3			2.7		USGS gaging station 08158820. Estimated flow from rating curve.
14	Onion Creek	Lat 30°08'06", long 97°47'51", at US Interstate Hwy. 35.	5/28/80	23.7	26.5	9.02		441	Cross section was large gravel and rock.
15	Slaughter Creek	Lat 30°08'54", long 97°46'58", 2500 ft upstream from mouth.	5/28/80	19.9	25.0		1.01	546	Cross section was large gravel.
16	Boggy Creek	Lat 30°10'13", long 97°46'06", at Old Lockhart Road.	5/28/80	17.8	24.0		2.17	617	Cross section was solid rock.
17	Onion Creek	Lat 30°10'40", long 97°44'41", at Nuckles Crossing.	5/28/80	15.9	26.0	18.1		475	Cross section was gravel.
18	Williamson Creek	Lat 30°11'21", long 97°43'56", at Jimmy Clay Road.	5/28/80	13.0	24.0		2.02	679	USGS gaging station 08158970. Cross section was gravel.
19	Onion Creek	Lat 30°10'40", long 97°41'18", at U.S. Route 183.	5/28/80	10.6	27.5	19.4		510	USGS gaging station 08159000. Estimated flow from rating curve. Water quality samples taken.

Table 6.--Water-quality data for recharge flow-loss study

Site no.	Stream	Date 1980	Stream-flow instantaneous (ft ³ /s)	Specific conductance (micro-mhos)	pH (units)	Temperature (°C)	Hardness (mg/l as CaCO ₃)	Hardness noncarbonate (mg/l CaCO ₃)	Coliform total, immed. (cols. per 100 ml)	Coliform fecal 0.7 UM-MF (cols. per 100 ml)	Streptococci fecal KF AGAR (cols. per 100 ml)
1	Barton Creek	May 29	61.0	456	7.7	26.5	220	15	1,200	8	20
7	Barton Creek	do.	77.6	454	7.8	24.5	220	13	1,100	44	37
11	Barton Creek	do.	66.3	404	7.9	26.0	200	31	1,100	17	36
16	Barton Creek	do.	46.2	411	7.9	27.0	200	14	1,300	360	90
17	Barton Creek	do.	76	443	7.6	25.5	220	12	2,700	400	100
1	Williamson Creek	May 20	6.79	631	8.0	19.5	330	22	1,200	280	600
2	Tributary to Williamson Creek	do.	1.16	499	8.2	23.0	260	16	180	170	76
5	Williamson Creek	do.	5.96	553	8.3	27.5	270	28	800	88	68
7	Williamson Creek	May 21	1.87	521	8.2	23.0	250	32	900	170	480
9	Williamson Creek	May 20	.83	466	8.3	25.3	230	27	200	72	8
15	Williamson Creek	do.	.37	576	7.7	21.4	280	33	2,000	440	450
3	Bear Creek	May 23	38	534	8.0	20.0	270	11	740	100	220
4	Bear Creek	do.	50.5	540	8.1	20.0	290	30	380	60	100
6	Bear Creek	do.	36.2	485	8.2	22.0	290	32	200	130	48
8	Bear Creek	do.	23.8	498	8.2	23.0	260	27	1,400	200	220
10	Bear Creek	do.	17.0	504	8.2	22.5	260	27	2,000	150	420
1	Onion Creek	May 28	92.7	465	7.8	25.0	230	14	420	96	130
5	Onion Creek	do.	91.5	515	8.0	25.5	220	4	1,100	14	23
7	Onion Creek	do.	35.7	424	8.0	25.5	210	11	400	14	31
11	Onion Creek	do.	1.32	378	7.7	31.5	170	21	1,200	8	7
19	Onion Creek	do.	19.4	510	7.8	27.5	210	13	370	48	61

Table 6.--Water-quality data for recharge flow-loss study--Continued

Site no.	Stream	Date 1980	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)	Bicarbonate (mg/l as HCO ₃)	Nitrogen Nitrate total (mg/l as N)	Sulfate dissolved (mg/l as SO ₄)	Fluoride dissolved (mg/l as F)	Chloride, dissolved (mg/l as Cl)	Solids, sum of constituents, dissolved (mg/l)
1	Barton Creek	May 29	60	17	6.3	0.2	1.0	250	1.5	18	0.2	11	245
7	Barton Creek	do.	61	16	6.4	.2	1.0	250	1.9	19	.2	11	246
11	Barton Creek	do.	54	16	6.2	.2	1.1	210	1.5	29	.2	3.0	220
16	Barton Creek	do.	53	17	6.4	.2	1.1	230	1.2	18	.2	11	228
17	Barton Creek	do.	59	17	7.4	.2	1.2	250	2.8	19	.2	11	247
1	Williamson Creek	May 20	89	25	12	.3	1.0	370	2.8	30	.2	18	366
2	Tributary to Williamson Creek	do.	72	20	5.4	.1	.5	300	3.0	16	.2	7.8	276
5	Williamson Creek	do.	70	24	12	.3	1.0	300	2.1	33	.2	17	312
7	Williamson Creek	May 21	59	24	11	.3	1.1	260	3.1	32	.2	18	279
9	Williamson Creek	May 20	55	23	11	.3	1.1	250	2.0	31	.2	17	268
15	Williamson Creek	do.	92	12	12	.3	3.1	300	5.6	40	.3	23	339
3	Bear Creek	May 23	83	16	7.0	.2	1.0	320	4.3	20	.2	12	305
4	Bear Creek	do.	89	17	6.9	.2	1.0	320	4.6	19	.2	11	311
6	Bear Creek	do.	85	18	7.4	.2	1.1	310	3.2	19	.2	11	303
8	Bear Creek	do.	78	17	7.0	.2	1.3	290	3.8	20	.2	11	287
10	Bear Creek	do.	78	15	6.6	.2	1.5	280	2.8	21	.2	10	280
1	Onion Creek	May 28	68	14	6.3	.2	1.3	260	3.2	20	.2	10	257
5	Onion Creek	do.	66	14	6.1	.2	1.2	260	3.1	19	.2	10	254
7	Onion Creek	do.	60	14	6.0	.2	1.3	240	2.8	19	.2	10	237
11	Onion Creek	do.	51	10	6.3	.2	2.2	180	2.3	20	.2	11	196
19	Onion Creek	do.	66	11	16	.5	2.5	240	3.6	32	.2	17	272

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COMPILATION OF DATA

COLORADO RIVER BASIN

08154510 COLORADO RIVER BELOW MANSFIELD DAM, AUSTIN, TX

LOCATION.--Lat 30°23'30", long 97°54'28", Travis County, Hydrologic Unit 12090205, at the downstream side of Mansfield Dam, 12.9 mi (20.8 km) northwest of the State Capitol at Austin, and at mile 318.0 (511.7 km).

DRAINAGE AREA.--38,130 mi² (98,760 km²), approximately, of which 12,880 mi² (33,360 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--None. Daily discharge record is based on daily releases from Lake Travis.

REMARKS.--Water-discharge records fair.

COOPERATION.--All records of releases were furnished by the Lower Colorado River Authority.

AVERAGE DISCHARGE.--6 years, 1,691 ft³/s (47.89 m³/s), 1,225,000 acre-ft/yr (1.51 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 25,300 ft³/s (716 m³/s) Apr. 17-19, 1977; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,840 ft³/s (109 m³/s) Feb. 26; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	933	.00	.00	.00	.00	.00	472	1820	2190	2180	1600	2750
2	766	249	.00	.00	.00	.00	323	1800	2280	2900	1900	2300
3	798	.00	381	.00	.00	.00	224	1680	2400	2240	1880	2390
4	804	.00	.00	.00	.00	.00	217	1680	2350	2500	2120	2380
5	.00	.00	45	.00	.00	.00	315	1620	2430	2340	1830	2070
6	.00	252	.00	.00	.00	.00	263	1900	2170	2640	1790	2270
7	.00	.00	.00	.00	.00	.00	263	1730	2440	2340	1940	1510
8	330	.00	.00	.00	.00	.00	999	371	2270	2270	1850	1140
9	.00	.00	.00	19	.00	.00	910	653	2280	2290	230	1590
10	.00	.00	.00	.00	.00	.00	1060	1050	2590	2120	199	1710
11	.00	.00	34	.00	.00	.00	851	1050	2380	2540	1730	1530
12	638	.00	126	181	.00	.00	1200	1080	2280	1930	2120	1360
13	.00	.00	.00	.00	.00	.00	.00	25	2290	1860	2190	1330
14	.00	71	.00	.00	.00	538	1450	.00	2270	2320	2180	1380
15	.00	.00	.00	.00	.00	302	1480	.00	2220	2120	2100	1420
16	614	.00	.00	226	.00	296	1640	.00	2600	1490	2270	1680
17	.00	.00	166	.00	.00	297	1650	.00	2120	1650	2180	1660
18	.00	.00	.00	10	.00	306	1570	.00	2080	2300	2160	1640
19	263	.00	.00	.00	.00	309	1580	197	2890	1760	2320	1910
20	.00	.00	.00	.00	.00	304	1700	137	2830	2110	2320	1780
21	.00	.00	.00	.00	.00	409	1780	1030	2260	1720	2330	1770
22	.00	.00	.00	.00	.00	408	1760	1700	2220	1750	2180	1890
23	417	.00	.00	.00	.00	408	1800	1900	2250	1810	2570	1940
24	28	.00	.00	.00	.00	406	1770	1910	2730	1660	2480	1800
25	68	.00	.00	.00	2690	599	1800	1760	2570	1590	2590	1910
26	.00	395	417	.00	3840	601	2110	2060	2450	1580	2490	1200
27	.00	.00	.00	.00	1440	83	1900	1790	2390	1690	2540	1130
28	.00	.00	.00	.00	.00	599	1890	2140	2600	1590	2420	1020
29	329	.00	.00	.00	122	599	2430	2520	2190	1770	3170	1110
30	.00	.00	.00	.00	.00	599	1720	2200	2790	1550	2500	569
31	.00	.00	.00	.00	.00	613	.00	1970	.00	1950	3060	.00
TOTAL	5988.00	967.00	1169.00	436.00	8092.00	7676.00	37127.00	37773.00	71810	62560	65239	50139
MEAN	193	32.2	37.7	14.1	279	248	1238	1218	2394	2018	2104	1671
MAX	933	395	417	226	3840	613	2430	2520	2890	2900	3170	2750
MIN	.00	.00	.00	.00	.00	.00	.00	.00	2080	1490	199	569
AC-FT	11880	1920	2320	865	16050	15230	73640	74920	142400	124100	129400	99450
CAL YR 1979	TOTAL	325301.00	MEAN 891	MAX 8590	NIN .00	AC-FT 645200						
WTR YR 1980	TOTAL	348976.00	MEAN 953	MAX 3840	NIN .00	AC-FT 692200						

COLORADO RIVER BASIN

08154510 COLORADO RIVER BELOW MANSFIELD DAM, AUSTIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: June to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
JUN 10...	1150	500	7.5	14.0	7.2	71	.6	190	37	41
JUL 08...	0910	447	7.4	15.0	5.8	57	.6	190	41	41
AUG 12...	1210	485	7.2	16.0	3.6	37	--	180	37	41
SEP 12...	1540	521	7.4	21.0	3.3	37	.2	190	31	40

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MC)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN 10...	22	25	.8	3.3	190	0	29	43	.2
JUL 08...	21	25	.8	3.4	180	0	29	42	.3
AUG 12...	20	25	.8	3.1	180	0	30	44	.3
SEP 12...	21	25	.8	3.2	190	0	29	48	.3

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
JUN 10...	8.8	265	.06	.00	.06	.00	.50	.50	.010
JUL 08...	8.4	259	.12	.00	.12	.04	.73	.77	.010
AUG 12...	8.6	261	.04	.00	.04	.00	.26	.26	.010
SEP 12...	8.9	269	.00	.00	.00	.01	.48	.49	.010

BULL CREEK DRAINAGE BASIN

The locations of surface-water data-collection sites in the Bull Creek drainage basin are shown on figure 6.

A summary of storm rainfall and runoff data for the basin is shown in table 7.

The peak discharges associated with water-quality samples collected during storms at the Bull Creek at Loop 360 site are shown in table 4.

Daily and monthly rainfall totals for the 1980 water year are given in table 17.

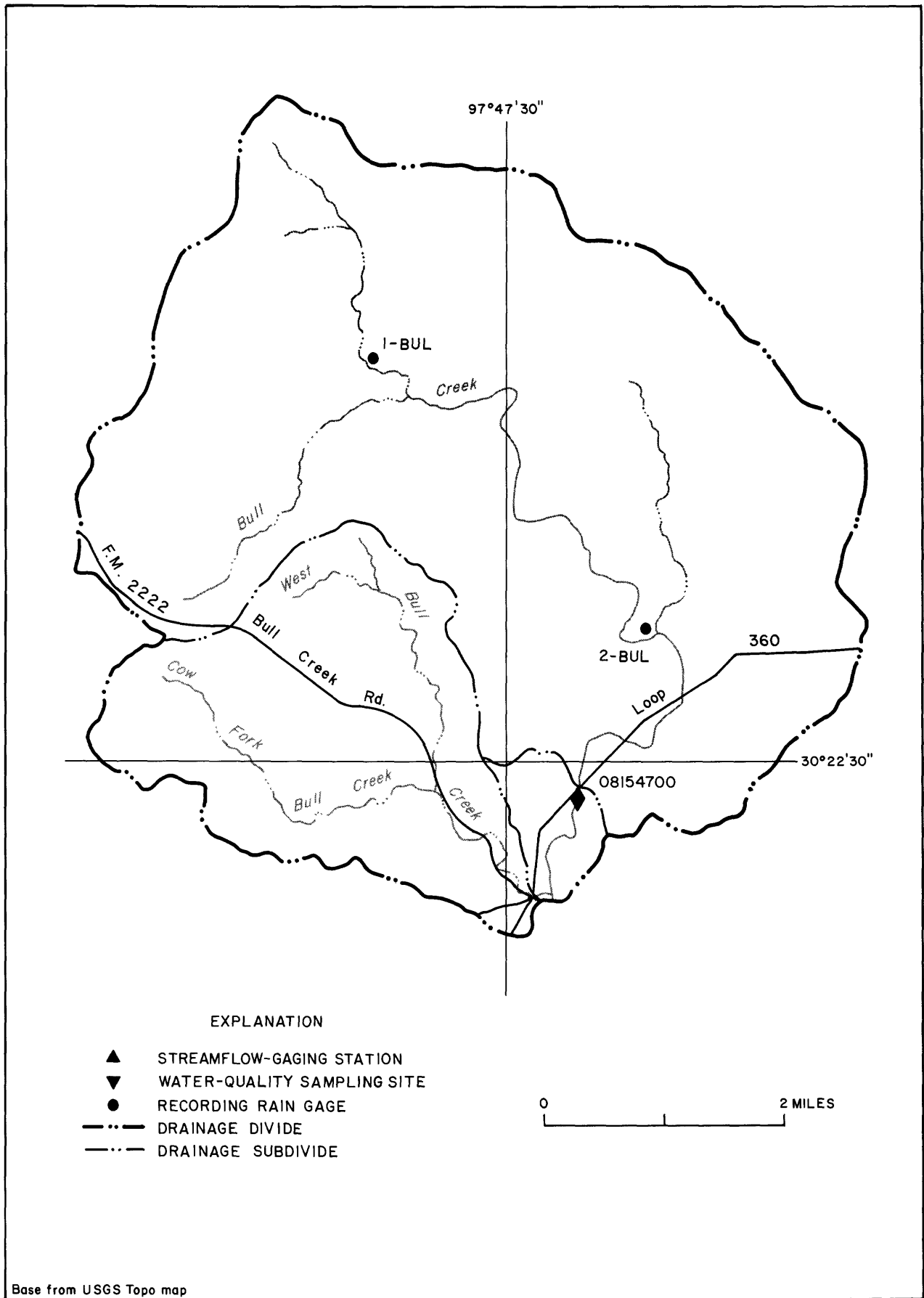


Figure 6.-Locations of surface-water data-collection sites in the Bull Creek drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY--TEXAS DISTRICT

ANNUAL STORM RAINFALL--RUNOFF SUMMARY DATA

Table 7.--Storm rainfall-runoff data, 1980 water year, Bull Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Mar. 27, 1980	9	3.58	0.51	0.72	1.01	0.33	0.09	465
Apr. 25, 1980	16	1.67	1.09	1.38	1.45	.12	.07	381

Bull Creek at Loop 360, Austin, Texas
(Drainage area.--22.3 mi²)

COLORADO RIVER BASIN

08154700 BULL CREEK AT LOOP 360 NEAR AUSTIN, TX

LOCATION.--Lat 30°22'19", long 97°47'04", Travis County, Hydrologic Unit 12090205, on right bank at downstream side of bridge at Loop 360, 1.0 mi (1.6 km) upstream from West Fork Bull Creek and Farm Road 2222, and 7.1 mi (11.4 km) northwest of the State Capitol Building in Austin.

DRAINAGE AREA.--22.3 mi² (57.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1976 to July 1978 (operated as a flood-hydrograph partial-record station only), July 1978 to current year.

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is 534.08 ft (162.788 m) National Geodetic Vertical Datum of 1929 (levels from city of Austin bench mark).

REMARKS.--Water-discharge records good. No known regulation or diversion above station. There are two recording rain gages in the basin above the station. This station is part of a hydrologic research project to study the rainfall-runoff relationship for the Austin urban-rural areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,420 ft³/s (40.2 m³/s) Apr. 18, 1976, gage height, 6.09 ft (1.856 m); minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft³/s (5.66 m³/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
Mar. 27	1530	465	13.2	4.76	1.451	May 13	2115	219	6.20	4.01	1.222
Apr. 25	0315	381	10.8	4.53	1.381	May 15	1915	302	8.55	4.29	1.308
May 8	0830	*500	14.2	4.85	1.478	Sept. 19	0445	203	5.75	3.95	1.204
May 12	1115	292	8.27	4.26	1.298						

Minimum discharge, 0.12 ft³/s (0.003 m³/s) July 31 to Aug. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	.42	.62	2.5	2.7	4.5	14	31	13	1.8	.12	.16
2	.21	.38	.62	2.4	2.7	4.3	14	16	12	1.5	.12	.16
3	.21	.38	.62	2.2	2.7	4.4	13	13	11	1.0	.12	.16
4	.21	.41	.62	2.0	2.7	4.8	11	12	9.7	.91	.12	.18
5	.25	.48	.66	2.0	2.7	4.4	9.9	11	8.3	.81	.12	.21
6	.25	.72	.72	2.0	2.7	4.3	9.5	10	8.1	.81	.12	1.6
7	.25	.72	.72	2.0	4.7	4.4	8.7	22	7.7	.81	.21	9.6
8	.25	.72	.72	1.8	8.5	4.6	7.3	135	7.4	.72	.27	3.2
9	.25	.69	.72	1.8	10	4.4	6.7	48	7.2	.63	.25	2.0
10	.25	.66	.72	2.0	6.3	4.4	6.4	36	7.5	.52	.60	1.3
11	.25	.71	.72	2.1	5.3	3.8	6.4	30	7.0	.47	.41	.88
12	.25	.62	4.2	1.8	4.7	4.3	14	60	6.6	.42	.34	.76
13	.25	.62	2.0	1.8	4.5	3.9	22	89	5.8	.37	.34	.62
14	.25	.62	1.3	1.8	4.4	3.4	15	95	5.4	.33	.33	.60
15	.25	.62	1.3	1.8	4.4	3.4	13	97	5.2	.29	.29	.54
16	.29	.62	1.3	1.8	8.3	4.0	12	92	4.7	.25	.29	.52
17	.34	.62	1.2	5.2	5.8	4.3	11	63	4.7	.25	.63	.47
18	.34	.78	1.0	3.0	5.4	3.4	9.5	51	4.4	.24	.76	.43
19	.34	.70	1.0	2.5	5.1	3.4	8.7	48	4.7	.21	.54	25
20	.34	.71	1.0	2.4	5.0	3.5	7.8	40	3.5	.21	.37	3.3
21	.34	1.9	1.0	4.1	4.9	3.3	7.3	35	7.0	.21	.33	1.4
22	.34	.86	2.5	5.9	4.7	3.0	7.2	32	3.9	.21	.32	.97
23	.34	.81	4.9	4.6	4.7	3.0	7.2	28	2.8	.21	.25	.81
24	.34	.77	2.6	3.7	4.5	3.0	7.2	26	4.0	.21	.24	.79
25	.29	.88	2.0	3.5	4.3	3.3	52	24	4.0	.21	.21	1.0
26	.29	.75	1.8	3.4	4.1	3.4	16	23	2.1	.21	.21	11
27	.29	.72	1.6	3.0	4.1	130	12	20	2.5	.21	.21	6.5
28	.29	.69	7.4	3.0	4.1	44	11	18	1.7	.21	.16	8.0
29	.29	.62	6.2	3.0	4.8	25	10	17	2.0	.16	.16	4.5
30	2.0	.62	3.9	3.0	---	19	12	16	2.0	.16	.16	7.1
31	.76	---	2.9	2.9	---	15	---	14	---	.12	.16	---
TOTAL	10.81	20.82	58.56	85.0	138.8	333.9	361.8	1252	175.9	14.67	8.76	93.76
MEAN	.35	.69	1.89	2.74	4.79	10.8	12.1	40.4	5.86	.47	.28	3.13
MAX	2.0	1.9	7.4	5.9	10	130	52	135	13	1.8	.76	25
MIN	.21	.38	.62	1.8	2.7	3.0	6.4	10	1.7	.12	.12	.16
CFSM	.02	.03	.09	.12	.22	.48	.54	1.81	.26	.02	.01	.14
IN.	.02	.03	.10	.14	.23	.56	.60	2.09	.29	.02	.01	.16
AC-FT	.21	.41	1.16	1.69	2.75	6.62	7.18	24.80	3.49	.29	.17	1.86
(††)	.84	.83	3.30	1.57	2.10	4.03	4.77	6.25	.78	.06	.88	6.55

CAL YR 1979	TOTAL	2556.38	MEAN	7.00	MAX	59	MIN	.21	CFSM	.31	IN	4.26	AC-FT	5070	††	29.33
WTR YR 1980	TOTAL	2554.78	MEAN	6.98	MAX	135	MIN	.12	CFSM	.31	IN	4.26	AC-FT	5070	††	31.96

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

COLORADO RIVER BASIN

08154700 BULL CREEK AT LOOP 360 NEAR AUSTIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: April 1978 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 29...	1035	.29	699	8.0	21.5	5	1.0	7.2	82	.7
JAN 14...	1005	1.8	638	8.3	10.0	10	5.0	10.4	94	.6
MAR 27...	0935	114	224	7.9	14.5	40	740	9.9	103	2.9
27...	1300	157	475	8.1	--	--	--	--	--	--
27...	1400	274	434	8.1	--	--	--	--	--	--
27...	1510	441	366	8.3	--	--	--	--	--	--
APR 25...	0305	154	509	8.2	--	5	370	--	--	17
25...	0335	216	303	8.0	--	20	3800	--	--	22
MAY 08...	0935	154	318	8.1	--	20	310	--	--	14
08...	1005	500	413	8.0	--	20	1100	--	--	17
08...	1235	340	306	8.0	--	60	610	--	--	11
08...	1535	211	390	8.1	--	30	260	--	--	7.2
09...	1030	48	530	8.1	18.5	20	21	9.1	97	6.3

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM, DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO
OCT 29...	480	35	100	--	--	--	--	--	--
JAN 14...	850	K14	26	260	74	69	22	27	.7
MAR 27...	27000	14000	82000	99	18	31	5.2	5.6	.2
27...	--	--	--	190	59	52	14	22	.7
27...	--	--	--	170	39	50	12	19	.6
27...	--	--	--	170	27	47	12	13	.4
APR 25...	--	--	--	240	66	64	19	18	.5
25...	--	--	--	140	33	46	6.3	8.6	.3
MAY 08...	82000	18000	17000	150	33	44	9.1	8.7	.3
08...	110000	15000	13000	180	33	54	11	16	.5
08...	76000	17000	21000	150	26	45	8.8	8.0	.3
08...	25000	12000	15000	190	30	58	12	10	.3
09...	22000	1700	9300	260	41	77	17	14	.4

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 29...	--	--	--	--	--	--	--	--	1
JAN 14...	1.6	230	0	71	51	.2	5.8	361	0
MAR 27...	2.4	98	0	25	9.0	.1	5.3	132	1180
27...	2.6	160	0	54	33	.1	5.6	262	--
27...	2.6	160	0	47	27	.1	6.1	243	--
27...	2.0	170	0	32	21	.1	6.1	217	--
APR 25...	2.0	210	0	48	30	.2	6.3	291	1380
25...	3.7	130	0	33	11	.2	7.7	181	2920
MAY 08...	2.1	140	0	28	12	.2	6.1	179	1280
08...	2.4	180	0	34	18	.2	6.3	231	2500
08...	2.3	150	0	21	11	.2	6.5	177	1410
08...	2.2	200	0	25	16	.2	8.1	230	436
09...	1.9	270	0	35	18	.2	9.9	306	39

COLORADO RIVER BASIN

08154700 BULL CREEK AT LOOP 360 NEAR AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 29...	1	.00	.00	.00	.02	.42	.44	.010	7.1
JAN 14...	0	.00	.00	.00	.00	.14	.14	.010	4.4
MAR 27...	156	.70	.01	.71	.18	3.3	3.5	.500	54
27...	--	.80	.04	.84	.19	4.7	4.9	.470	--
27...	--	.50	.03	.53	.22	8.6	8.8	.550	--
27...	--	.23	.01	.24	.11	9.9	10	.560	--
APR 25...	128	.16	.00	.16	.00	2.3	2.3	.280	43
25...	628	.60	.01	.61	.48	13	13	1.700	160
MAY 08...	146	.63	.01	.64	.11	8.6	8.7	.360	100
08...	212	.31	.01	.32	.10	8.3	8.4	.580	100
08...	144	.55	.01	.56	.11	3.3	3.4	.370	57
08...	26	.56	.01	.57	.07	1.3	1.4	.160	.0
09...	0	.67	.01	.68	.03	.57	.60	.040	14

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 14...	1005	0	50	<1	0	0	<10
MAR 27...	0935	1	20	<1	10	3	160
27...	1300	1	40	<1	0	4	<10
27...	1400	1	40	<1	0	3	40
27...	1510	1	40	<1	0	2	50
APR 25...	0305	1	50	<1	0	2	20
25...	0335	3	30	<1	0	3	270

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN 14...	0	<1	.1	0	0	<3
MAR 27...	4	9	.1	0	0	7
27...	1	<1	.2	0	0	<3
27...	0	1	.1	0	0	<3
27...	1	2	.2	0	0	<3
APR 25...	0	2	.1	0	0	5
25...	3	30	.0	0	0	9

DATE	TIME	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ AS YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JAN 14...	1005	<5.0	<.3	<7.4	<.4	<3.0	<.4	<2.8	<.4	.09	.90
APR 25...	0305	<3.1	29	<4.5	43	<2.2	20	<2.2	19	.16	.66

COLORADO RIVER BASIN

08154700 BULL CREEK AT LOOP 360 NEAR AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JAN 14...	1005	.00	.0	.00	.0	.00	.00	.00	.00
MAR 27...	0935	.00	.0	.00	.0	.00	.00	.00	.28

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JAN 14...	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAR 27...	.00	.00	.00	.00	.00	.00	.00	.02	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 14...	.00	.00	.00	.00	0	.00	.01	.00	.00
MAR 27...	.00	.00	.00	.00	0	.00	.22	.02	.00

STATION NO. 08154700 STORM RAINFALL AND RUNOFF RECORD 1980 WATER YEAR

MULL CREEK AT LOOP BRIDGE, AUSTIN, TEXAS STORM OF MARCH 27, 1980

DATE & TIME	100F	200F	GAUG	NUM	BEH	PRECIP.	ACCUM. WEIGHTED PRECIP.	CFS	DISCHARGE IN	ACCUM. RUNOFF
0000	0.0	0.0					0.0		3.4	0.0005
0435	0.01	0.0					0.01		3.4	0.0012
0515	0.07	0.06					0.07		3.4	0.0013
0530	0.17	0.30					0.23		7.7	0.0014
0545	0.22	0.30					0.25		6.8	0.0015
0600	0.58	0.43					0.52		6.1	0.0016
0615	0.66	0.52					0.60		9.5	0.0018
0630	0.93	0.55					0.81		9.5	0.0020
0645	1.13	0.71					0.95		11.0	0.0021
0700	1.22	0.86					1.07		21.0	0.0025
0715	1.43	0.96					1.23		35.0	0.0031
0730	1.74	1.25					1.64		71.0	0.0044
0745	2.11	1.38					1.80		98.0	0.0061
0800	2.23	1.52					1.92		118.0	0.0081
0815	2.41	1.74					2.12		125.0	0.0103
0830	2.47	1.86					2.21		146.0	0.0128
0845	2.56	1.92					2.28		146.0	0.0154
0900	2.78	1.94					2.30		187.0	0.0186
0915	2.78	1.94					2.30		181.0	0.0217
0930	2.88	1.94					2.30		127.0	0.0240
0945	2.61	1.94					2.32		87.0	0.0255
1000	2.78	1.99					2.44		72.0	0.0267
1015	2.43	2.21					2.62		79.0	0.0288
1045	3.04	2.34					2.74		78.0	0.0308
1100	3.14	2.42					2.84		109.0	0.0327
1115	3.17	2.42					2.85		165.0	0.0356
1130	3.17	2.42					2.85		154.0	0.0396
1200	3.55	2.50					3.10		102.0	0.0422
1215	3.78	2.84					3.38		109.0	0.0441
1230	3.85	3.03					3.50		115.0	0.0471
1300	3.91	3.10					3.56		157.0	0.0539
1345	3.92	3.11					3.57		262.0	0.0676
1430	3.92	3.11					3.57		286.0	0.0775
1445	3.92	3.11					3.57		337.0	0.0863
1515	3.92	3.11					3.57		457.0	0.0982
1530	3.92	3.11					3.57		465.0	0.1063
1545	3.92	3.11					3.57		449.0	0.1180
1615	3.92	3.11					3.57		384.0	0.1347
1700	3.92	3.11					3.57		324.0	0.1544

SIA. NO.		STORM MAINFALL AND RUNOFF RECORD		1980 WATER YEAR			
08154700		STORM OF MARCH 27, 1980		ACCUM. DISCHARGE			
MULL CREEK AT LOOP 300, AUSTIN, TEXAS		STORM OF MARCH 27, 1980		IN ACCUM. RUNOFF			
DATE & TIME	1500	2500	GAUGE NUMBER	WEIGHTED PRECIP. IN.	IN	CFS	IN.
MAR. 27							
1500	3.52	3.12		3.58	244.0	0.1713	
1900	3.52	3.12		3.58	190.0	0.1845	
2000	3.52	3.12		3.58	140.0	0.1967	
2130	3.52	3.12		3.58	98.0	0.2103	
2400	3.52	3.12		3.58	69.0	0.2159	
MAR. 28							
0000	3.52	3.12		3.58	69.0	0.2159	
0300	3.52	3.12		3.58	60.0	0.2402	
0800	3.52	3.12		3.58	48.0	0.2619	
1600	3.52	3.12		3.58	36.0	0.2819	
2400	3.52	3.12		3.58	30.0	0.2944	
MAR. 29							
0000	3.52	3.12		3.58	30.0	0.2944	
0600	3.52	3.12		3.58	27.0	0.3136	
1600	3.52	3.12		3.58	24.0	0.3269	
2400	3.52	3.12		3.58	21.0	0.3327	

Sta. No. 08154700		STORM RAINFALL AND RUNOFF RECORD				1980 WATER YEAR	
BULL CREEK AT LOOP 360, AUSTIN, TEXAS		STORM OF APRIL 25, 1980				DISCHARGE	
DATE & TIME	1001	2001	3001	4001	ACCUM. WEIGHTED PRECIP. IN.	IN	ACCUM. RUNOFF IN.
APR. 25							
0000	0.0	0.0			0.0	7.2	0.0005
0200	0.01	0.0			0.01	7.2	0.0010
0205	0.13	0.0			0.07	10.0	0.0011
0210	0.63	0.20			0.45	14.0	0.0012
0215	0.91	0.51			0.74	17.0	0.0013
0220	0.95	1.09			1.01	19.0	0.0014
0225	0.98	1.25			1.10	21.0	0.0015
0230	1.01	1.38			1.17	23.0	0.0018
0245	1.04	1.42			1.20	22.0	0.0021
0300	1.04	1.45			1.24	34.0	0.0025
0310	1.13	1.48			1.28	265.0	0.0049
0315	1.16	1.50			1.31	381.0	0.0071
0320	1.18	1.52			1.33	341.0	0.0101
0330	1.25	1.57			1.39	262.0	0.0139
0345	1.24	1.63			1.44	140.0	0.0163
0400	1.31	1.64			1.45	50.0	0.0179
0415	1.33	1.66			1.47	87.0	0.0194
0430	1.34	1.67			1.48	104.0	0.0212
0445	1.35	1.69			1.50	118.0	0.0233
0500	1.36	1.69			1.50	115.0	0.0263
0530	1.43	1.75			1.57	90.0	0.0294
0600	1.49	1.83			1.64	83.0	0.0337
0700	1.51	1.83			1.65	74.0	0.0414
0900	1.52	1.84			1.66	67.0	0.0531
1200	1.52	1.85			1.66	57.0	0.0649
1500	1.52	1.85			1.66	44.0	0.0741
1800	1.53	1.86			1.67	31.0	0.0806
2100	1.53	1.86			1.67	26.0	0.0860
2400	1.53	1.86			1.67	22.0	0.0913
APR. 26							
0000	1.53	1.86			1.67	22.0	0.0913
0800	1.53	1.86			1.67	17.0	0.1039
1600	1.53	1.86			1.67	15.0	0.1122
2400	1.53	1.86			1.67	13.0	0.1158

COLORADO RIVER BASIN

08154900 LAKE AUSTIN AT AUSTIN, TX

LOCATION.--Lat 30°18'53", long 97°47'10", Travis County, Hydrologic Unit 12090205, at city of Austin Waterplant No. 2 and 1.5 mi (2.4 km) upstream from Tom Miller Dam on the Colorado River at Austin.

DRAINAGE AREA.--38,240 mi² (99,040 km⁴), of which 12,880 mi² (33,360 km²), revised, probably is noncontributing.

PERIOD OF RECORD.--Chemical analyses: October 1964 to September 1980 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1964 to September 1980 (discontinued).

WATER TEMPERATURES: October 1964 to September 1980 (discontinued).

REMARKS.--No water-discharge records available.

EXTREMES FOR PERIOD OF DAILY RECORDS.--

SPECIFIC CONDUCTANCE (1964-75): Maximum daily, 982 micromhos Aug. 15-17, 1974; minimum daily, 311 micromhos June 19, 1968.

WATER TEMPERATURES (1964-75): Maximum daily, 32.0°C Aug. 24, 1965; minimum daily, 9.0°C Jan. 30, 1966, Jan. 9, 11, 1968, and Jan. 5, 1969.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
OCT									
19...	1330	515	24.5	190	30	43	21	27	.8
DEC									
17...	1622	514	11.0	210	41	46	22	27	.8
JAN									
18...	1330	502	13.5	200	40	44	21	26	.8
FEB									
19...	1545	532	13.5	220	46	51	22	26	.8
APR									
15...	1330	489	17.0	190	33	41	21	24	.8
MAY									
14...	1435	479	20.0	190	28	44	20	22	.7
JUL									
22...	1425	490	22.5	190	36	42	21	25	.8
AUG									
21...	1546	492	23.5	200	36	44	22	27	.8
SEP									
17...	1630	503	25.5	200	40	42	22	25	.8

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT								
19...	3.5	200	0	32	48	.2	9.1	282
DEC								
17...	4.3	200	0	19	51	.2	11	279
JAN								
18...	3.2	190	0	44	45	.2	9.8	287
FEB								
19...	3.0	210	0	37	46	.2	8.9	298
APR								
15...	3.3	190	0	28	41	.3	7.8	260
MAY								
14...	3.1	200	0	31	39	.5	8.1	266
JUL								
22...	3.2	190	0	31	44	.3	8.3	268
AUG								
21...	3.2	200	0	29	51	.3	8.9	283
SEP								
17...	3.2	190	0	30	50	.3	9.1	275

COLORADO RIVER BASIN
08154900 LAKE AUSTIN AT AUSTIN, TX--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	517	468	504	491	527	481	---	---	482	487	489
2	497	515	469	508	493	528	---	486	471	---	446	484
3	484	494	514	511	508	526	480	484	---	488	---	---
4	513	486	495	---	452	526	479	489	---	---	489	490
5	---	483	---	510	499	525	489	477	---	479	472	498
6	510	501	522	505	495	524	499	---	---	485	488	489
7	515	515	515	510	506	523	490	487	---	475	---	489
8	511	---	518	503	511	---	493	488	492	---	---	493
9	517	517	498	507	500	517	---	479	495	---	472	---
10	516	518	515	509	506	523	483	---	494	---	478	489
11	507	519	---	507	495	516	---	---	487	---	479	---
12	516	---	---	503	497	---	479	483	490	460	490	---
13	---	511	516	505	513	524	480	477	491	493	---	---
14	---	519	515	507	512	518	475	---	490	458	---	492
15	521	521	514	505	502	---	487	---	491	---	---	494
16	516	520	509	505	520	525	---	472	492	---	---	---
17	516	---	515	507	522	519	482	486	494	489	---	---
18	519	517	---	502	528	512	487	486	493	490	476	---
19	515	523	---	501	529	519	486	497	492	456	466	507
20	512	521	518	503	---	516	484	---	491	487	473	514
21	516	514	520	500	---	511	488	---	488	487	484	517
22	511	512	516	500	514	509	485	502	481	---	484	512
23	517	515	509	501	536	508	---	489	489	---	---	---
24	514	520	---	500	547	507	491	---	487	487	---	---
25	517	---	---	502	---	---	486	490	492	490	---	---
26	516	518	---	502	493	---	485	496	486	485	492	529
27	515	520	---	501	509	503	---	---	---	482	491	---
28	517	522	---	503	546	496	485	---	489	492	488	525
29	517	515	510	503	496	497	---	491	489	---	488	522
30	523	---	510	489	---	---	---	492	484	490	---	---
31	515	---	503	491	---	486	---	---	---	490	487	---
MEAN	513	513	508	503	508	515	485	487	489	482	481	502

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	20.5	13.5	12.0	10.5	14.5	17.0	---	---	21.5	23.0	---
2	23.5	20.0	13.5	11.0	12.0	12.0	---	19.0	21.0	---	23.0	23.5
3	23.0	20.0	13.5	13.0	12.0	12.0	16.5	19.0	---	21.5	---	---
4	23.5	19.5	14.0	---	11.5	13.0	18.0	19.0	---	---	24.0	23.5
5	---	20.0	---	11.5	10.5	13.5	18.0	18.5	---	21.5	24.0	23.5
6	19.5	18.5	14.0	11.5	10.5	13.5	17.0	---	---	21.0	24.0	24.0
7	19.0	---	13.5	11.5	11.5	14.5	16.5	18.0	---	21.5	---	23.0
8	23.0	---	13.5	12.0	13.5	---	17.0	18.0	22.0	---	---	23.0
9	21.5	20.0	13.5	12.0	10.0	14.5	---	19.0	21.0	---	22.0	---
10	21.0	18.5	14.0	14.5	10.0	15.5	16.5	---	20.5	---	22.0	23.0
11	22.0	18.5	---	21.0	10.0	15.5	---	---	20.0	---	22.0	---
12	22.0	---	---	11.5	10.0	---	16.0	19.5	19.0	21.5	23.0	---
13	---	18.5	13.0	11.5	10.0	16.5	17.0	20.0	19.5	22.0	---	---
14	---	18.5	12.0	21.0	11.5	16.0	17.0	---	20.0	21.5	---	23.0
15	23.0	17.0	13.0	13.5	12.0	---	17.0	---	20.0	---	---	25.5
16	23.0	18.0	13.5	14.0	13.0	16.0	---	19.5	20.5	---	---	---
17	21.5	---	11.5	13.5	10.0	16.5	17.0	19.5	20.5	21.5	---	---
18	23.0	18.0	---	13.0	10.5	15.5	16.5	19.5	21.5	21.5	22.0	---
19	---	18.5	---	13.0	10.5	15.5	17.0	19.0	21.0	22.0	23.0	25.5
20	23.0	18.5	12.0	13.5	---	16.0	17.0	---	21.5	22.0	23.5	25.5
21	23.0	18.5	13.0	13.5	---	16.0	17.0	---	22.0	22.0	24.5	24.0
22	24.0	16.5	13.0	13.0	13.0	17.0	18.0	20.0	22.0	---	23.5	25.5
23	21.0	16.5	12.0	12.0	13.0	16.0	---	23.0	21.5	---	---	---
24	21.5	16.5	---	13.5	15.0	17.0	16.5	---	22.0	22.0	---	---
25	21.0	---	---	13.5	15.0	---	16.5	23.0	22.0	21.5	---	---
26	22.0	16.5	---	13.0	14.0	---	16.5	21.5	22.0	21.0	23.0	25.5
27	23.0	20.0	---	13.0	14.0	16.5	---	---	---	22.0	23.0	---
28	22.0	16.0	---	13.0	14.5	16.0	17.0	---	---	23.0	23.0	24.5
29	22.0	15.5	12.0	11.0	14.5	17.0	---	20.5	22.0	---	23.5	24.5
30	22.0	---	13.5	11.0	---	---	---	21.0	23.0	22.0	---	---
31	21.0	---	13.0	10.5	---	17.0	---	---	---	23.0	---	---
MEAN	22.0	18.5	13.0	13.0	12.0	15.5	17.0	20.0	21.0	22.0	23.0	24.0

COLORADO RIVER BASIN

LAKE AUSTIN AT AUSTIN, TX

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1978 to current year.

301739097471601 LAKE AUSTIN SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
05...	1030	1.0	527	8.1	12.5	10.3	97
05...	1032	10	527	8.1	12.5	10.3	97
05...	1034	18	527	8.1	12.5	10.3	97
MAY							
20...	1107	1.0	481	7.9	23.5	9.0	107
20...	1109	10	481	7.9	22.5	8.9	103
20...	1111	20	478	7.7	18.5	6.2	67
20...	1113	30	478	7.7	18.0	5.9	63
20...	1115	40	478	7.7	18.0	6.0	64
20...	1117	50	478	7.7	17.5	5.6	59
20...	1119	54	478	7.6	17.5	5.1	54
JUL							
30...	1115	1.0	489	7.9	25.0	7.7	94
30...	1118	10	489	7.8	21.5	6.9	78
30...	1121	20	489	7.8	21.5	6.7	76
30...	1123	32	489	7.8	21.0	6.3	71

301739097471201 LAKE AUSTIN SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK (M)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR										
05...	0955	1.0	527	8.1	12.5	1.80	5	2.3	10.3	97
05...	0957	10	527	8.1	12.5	--	--	--	10.3	97
05...	0959	20	527	8.1	12.5	--	--	--	10.3	97
05...	1001	30	527	8.1	12.5	--	--	--	10.3	97
05...	1003	34	527	8.1	12.5	--	1	2.5	10.3	97
MAY										
20...	1045	1.0	481	7.9	23.5	1.92	5	5.5	9.0	107
20...	1047	10	481	7.9	22.5	--	--	--	9.1	106
20...	1049	20	478	7.7	18.5	--	--	--	6.2	67
20...	1051	30	478	7.6	18.0	--	--	--	6.0	64
20...	1053	35	478	7.6	18.0	--	0	5.6	6.0	64
JUL										
30...	1030	1.0	489	8.0	25.5	2.19	0	1.3	8.0	98
30...	1032	10	489	7.8	21.5	--	--	--	6.9	78
30...	1034	20	489	7.8	21.0	--	--	--	6.7	75
30...	1036	30	489	7.7	21.0	--	--	--	6.5	73
30...	1038	40	489	7.7	20.5	--	--	--	6.1	68
30...	1040	54	489	7.6	20.5	--	10	4.7	5.4	60

DATE	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
MAR										
05...	.7	800	12	17	210	42	48	23	27	.8
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	.8	--	--	--	210	40	47	23	28	.8
MAY										
20...	.9	18	6	1	200	32	49	20	21	.6
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	.4	--	--	--	190	38	43	21	23	.7
JUL										
30...	.9	200	47	K4	180	26	40	20	24	.8
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	1.0	--	--	--	180	29	41	20	24	.8

COLORADO RIVER BASIN
LAKE AUSTIN AT AUSTIN, TX--Continued

301739097471201 LAKE AUSTIN SITE AC--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)
MAR										
05...	3.4	210	0	35	44	.2	7.9	292	0	0
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	3.4	210	0	36	44	.2	7.9	293	0	0
MAY										
20...	2.9	210	0	29	32	.2	8.4	266	18	18
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	3.2	190	0	28	37	.2	8.9	258	28	13
JUL										
30...	3.4	190	0	29	43	.4	8.2	262	1	2
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	3.0	190	0	29	43	.2	9.1	263	6	3

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR										
05...	.05	.000	.05	.010	.36	.37	.42	.010	<10	<1
05...	--	--	--	--	--	--	--	--	--	--
05...	.05	.000	.05	.010	.41	.42	.47	.010	0	10
05...	--	--	--	--	--	--	--	--	--	--
05...	.06	.000	.06	.010	.34	.35	.41	.010	<10	<1
MAY										
20...	.15	.010	.16	.010	.46	.47	.63	.010	<10	<3
20...	--	--	--	--	--	--	--	--	--	--
20...	.11	.010	.12	.040	.34	.38	.50	.010	20	0
20...	--	--	--	--	--	--	--	--	--	--
20...	.13	.010	.14	.060	1.0	1.1	1.2	.010	<10	<3
JUL										
30...	.04	.010	.05	.000	1.3	1.3	1.3	.010	<10	<1
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	.08	.010	.09	.010	.99	1.0	1.1	.010	10	10
30...	--	--	--	--	--	--	--	--	--	--
30...	.09	.010	.10	.040	1.1	1.1	1.2	.010	20	7

301739097470901 LAKE AUSTIN SITE AL
WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PEK- CENT SATUR- ATION)
MAR							
05...	1045	1.0	527	8.1	12.5	10.3	97
05...	1047	10	527	8.1	12.5	10.3	97
05...	1049	18	527	8.1	12.5	10.3	97
MAY							
20...	1034	1.0	481	7.8	23.5	9.1	108
20...	1036	10	481	7.8	22.5	9.1	106
20...	1038	16	478	7.6	21.5	7.4	84
JUL							
30...	1127	1.0	489	8.0	25.5	8.1	99
30...	1130	10	489	7.8	21.5	6.5	74
30...	1133	16	489	7.7	21.5	6.2	70

COLORADO RIVER BASIN

LAKE AUSTIN AT AUSTIN, TX--Continued

302043097472401 LAKE AUSTIN SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
MAR									
05...	1100	1.0	505	8.1	13.0	2.70	10.0	96	.04
05...	1102	10	505	8.1	12.5	--	10.0	94	--
05...	1104	20	505	8.1	12.5	--	10.0	94	--
05...	1106	28	505	8.1	12.5	--	9.8	92	.03
MAY									
20...	1138	1.0	481	7.9	24.0	1.95	8.5	101	.15
20...	1140	10	481	7.8	22.0	--	8.2	94	--
20...	1142	20	481	7.7	19.0	--	6.4	70	--
20...	1144	28	481	7.5	18.0	--	4.9	52	.05
JUL									
30...	1146	1.0	489	8.0	27.5	1.98	7.7	98	.01
30...	1148	10	489	8.0	23.5	--	7.7	91	--
30...	1150	20	489	7.9	21.0	--	6.8	76	--
30...	1152	29	489	7.8	21.0	--	6.4	73	.07

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, Am- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR									
05...	.000	.04	.000	.62	.62	.66	.000	0	10
05...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
05...	.000	.03	.010	.40	.41	.44	.000	0	10
MAY									
20...	.010	.16	.010	.47	.48	.64	.010	10	0
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	.010	.06	.070	.33	.40	.46	.010	30	10
JUL									
30...	.010	.02	.000	1.1	1.1	1.1	.010	20	10
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	.010	.08	.010	.72	.73	.81	.010	10	10

302044097472301 LAKE AUSTIN SITE BL

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
05...	1115	1.0	505	8.1	13.0	10.0	96
05...	1117	12	505	8.1	12.5	10.0	94
MAY							
20...	1152	1.0	481	7.9	24.0	8.6	102
20...	1154	11	481	7.8	22.0	8.2	94
JUL							
30...	1201	1.0	489	8.0	28.0	7.5	96
30...	1205	7.0	489	7.9	27.5	7.4	94

COLORADO RIVER BASIN
LAKE AUSTIN AT AUSTIN, TX--Continued

301926097502201 LAKE AUSTIN SITE CC
WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR										
05...	1130	1.0	486	8.1	13.0	3.3	2	1.4	10.4	100
05...	1132	10	486	8.1	13.0	--	--	--	10.4	100
05...	1134	20	486	8.1	12.5	--	--	--	10.4	98
05...	1136	27	486	8.1	12.0	--	2	1.0	9.9	93
MAY										
20...	1211	1.0	474	7.9	24.5	2.19	0	5.4	8.4	102
20...	1213	10	482	7.8	21.0	--	--	--	7.9	89
20...	1215	20	482	7.6	18.0	--	--	--	5.7	61
20...	1217	28	482	7.6	18.0	--	5	1.6	--	61
JUL										
30...	1235	1.0	489	8.0	23.5	3.5	0	.60	7.7	91
30...	1239	10	489	7.9	20.5	--	--	--	6.9	77
30...	1243	20	489	7.9	20.5	--	--	--	6.8	76
30...	1247	28	489	7.9	20.5	--	0	1.1	6.8	76

DATE	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	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
MAR										
05...	.4	150	4	9	200	40	42	22	27	.8
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	.4	--	--	--	190	33	41	21	26	.8
MAY										
20...	.6	9	4	1	200	26	48	19	20	.6
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	.5	--	--	--	190	--	45	20	21	.7
JUL										
30...	.5	100	27	K6	180	29	41	20	24	.8
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	.7	--	--	--	180	29	41	20	24	.8

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)
MAR										
05...	3.3	190	0	30	43	.2	8.3	269	0	0
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	3.3	190	0	31	43	.2	8.2	264	0	0
MAY										
20...	2.8	210	0	27	31	.2	8.4	260	17	14
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	3.0	>200	0	27	34	.2	9.7	258	8	0
JUL										
30...	3.1	190	0	29	44	.2	8.6	264	0	0
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	3.3	190	0	29	46	.2	8.7	266	4	2

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR										
05...	.02	.000	.02	.000	1.9	1.9	1.9	.000	<10	2
05...	--	--	--	--	--	--	--	--	--	--
05...	.04	.000	.04	.010	1.3	1.3	1.3	.000	0	10
05...	.02	.000	.02	.010	.29	.30	.32	.000	<10	3
MAY										
20...	.13	.010	.14	.010	.44	.45	.59	.010	<10	<3
20...	.09	.010	.10	.010	.52	.53	.63	.030	20	0
20...	--	--	--	--	--	--	--	--	--	--
20...	.05	.010	.06	.060	1.3	1.4	1.5	.010	<10	5
JUL										
30...	.06	.010	.07	.010	.58	.59	.66	.010	<10	7
30...	.07	.010	.08	.010	.99	1.0	1.1	.030	0	20
30...	--	--	--	--	--	--	--	--	--	--
30...	.07	.010	.08	.010	.64	.65	.73	.010	<10	10

COLORADO RIVER BASIN
LAKE AUSTIN AT AUSTIN, TX--Continued

30201097540001 LAKE AUSTIN SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
MAR									
05...	1215	1.0	486	8.1	13.0	3.0	10.1	96	.02
05...	1217	10	486	8.1	12.5	--	10.1	95	--
05...	1219	15	486	8.1	12.5	--	10.1	97	.03
MAY									
20...	1247	1.0	479	7.8	24.0	1.80	8.1	96	.12
20...	1249	10	479	7.8	22.0	--	8.0	92	--
20...	1251	14	479	7.6	21.0	--	6.3	71	.08
JUL									
30...	1335	1.0	489	7.9	19.0	3.5	6.0	65	.10
30...	1340	10	489	7.8	18.5	--	5.7	62	--
30...	1345	16	489	7.8	18.5	--	5.5	60	.12

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR									
05...	.000	.02	.000	.37	.37	.39	.000	0	20
05...	--	--	--	--	--	--	--	--	--
05...	.000	.03	.010	.38	.39	.42	.010	0	20
MAY									
20...	.010	.13	.000	.40	.40	.53	.010	20	10
20...	--	--	--	--	--	--	--	--	--
20...	.010	.09	.090	.35	.44	.53	.030	20	70
JUL									
30...	.010	.11	.010	.52	.53	.64	.010	10	10
30...	--	--	--	--	--	--	--	--	--
30...	.010	.13	.010	.53	.54	.67	.010	10	10

302314097544901 LAKE AUSTIN SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR										
05...	1240	1.0	475	8.1	13.5	1.50	5	3.1	10.8	104
05...	1242	7.0	475	8.1	13.5	--	5	3.0	10.8	104
MAY										
20...	1338	1.0	487	8.0	16.5	2.38	5	2.8	7.4	76
20...	1340	8.0	487	8.2	15.0	--	0	4.0	8.3	83
JUL										
30...	1400	1.0	489	7.8	18.5	2.13	0	.70	5.2	56
30...	1405	9.0	489	7.8	18.5	--	0	1.4	5.0	54

DATE	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
MAR										
05...	.4	820	3	2	190	31	40	21	26	.8
05...	.4	--	--	--	190	31	40	21	26	.8
MAY										
20...	.3	4	2	1	190	33	41	21	24	.8
20...	.4	--	--	--	190	33	41	21	24	.8
JUL										
30...	.4	80	<1	<1	180	26	40	20	24	.8
30...	.5	--	--	--	180	29	41	20	24	.8

COLORADO RIVER BASIN
LAKE AUSTIN AT AUSTIN, TX--Continued

302314097544901 LAKE AUSTIN SITE EC--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)
MAR										
05...	3.2	190	0	30	43	.2	7.2	171	3	3
05...	3.2	190	0	31	42	.2	7.3	264	0	0
MAY										
20...	3.3	190	0	28	41	.2	8.7	261	14	8
20...	3.3	190	0	30	40	.2	8.8	262	10	0
JUL										
30...	3.3	190	0	29	44	.4	8.5	263	4	0
30...	3.5	190	0	32	44	.4	8.5	267	2	0

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR										
05...	.05	.000	.05	.000	.35	.35	.40	.000	<10	2
05...	.06	.000	.06	.030	.55	.58	.64	.020	<10	2
MAY										
20...	.12	.010	.13	.010	1.1	1.1	1.2	.010	<10	3
20...	.05	.010	.06	.000	.34	.34	.40	.010	30	3
JUL										
30...	.11	.000	.11	.000	1.3	1.3	1.4	.010	<10	2
30...	.10	.010	.11	.000	1.1	1.1	1.2	.010	<10	2

301739097471201 LAKE AUSTIN SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JUL												
30...	1030	1.0	<3.4	<.3	<5.0	<.4	5.5	<.4	5.2	<.4	.11	1.2
30...	1040	54	<3.1	.5	<4.6	.8	4.3	.5	4.2	.5	.15	1.3

302314097544901 LAKE AUSTIN SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JUL												
30...	1400	1.0	<3.4	<.3	<5.0	<.4	6.8	<.4	6.5	<.4	.13	1.6
30...	1405	9.0	<3.6	<.3	<5.3	<.4	3.4	.5	3.2	.5	.13	1.2

COLORADO RIVER BASIN
LAKE AUSTIN AT AUSTIN, TX--Continued

301739097471201 LAKE AUSTIN SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)
MAR									
05...	0955	1.0	.0	.00	.00	.0	.00	.00	.00
05...	1003	34	.0	.00	.00	.0	.00	.00	.00
JUL									
30...	1030	1.0	.0	.00	.00	.0	.00	.00	.00
30...	1040	54	.0	.00	.00	.0	.00	.00	.00

DATE	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
MAR									
05...	.00	.00	.00	.00	.00	.00	.00	.00	.00
05...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL									
30...	.00	.00	.00	.00	.00	.00	.00	.00	.00
30...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR								
05...	.00	.00	.00	0	.00	.35	.00	.00
05...	.00	.00	.00	0	.00	.61	.00	.00
JUL								
30...	.00	.00	.00	0	.00	.13	.00	.00
30...	.00	.00	.00	0	.00	.02	.00	.00

BEE CREEK DRAINAGE BASIN

The locations of data-collection sites in the Bee Creek drainage basin are shown on figure 7.

Daily and monthly rainfall totals for the 1980 water year are given in table 18.

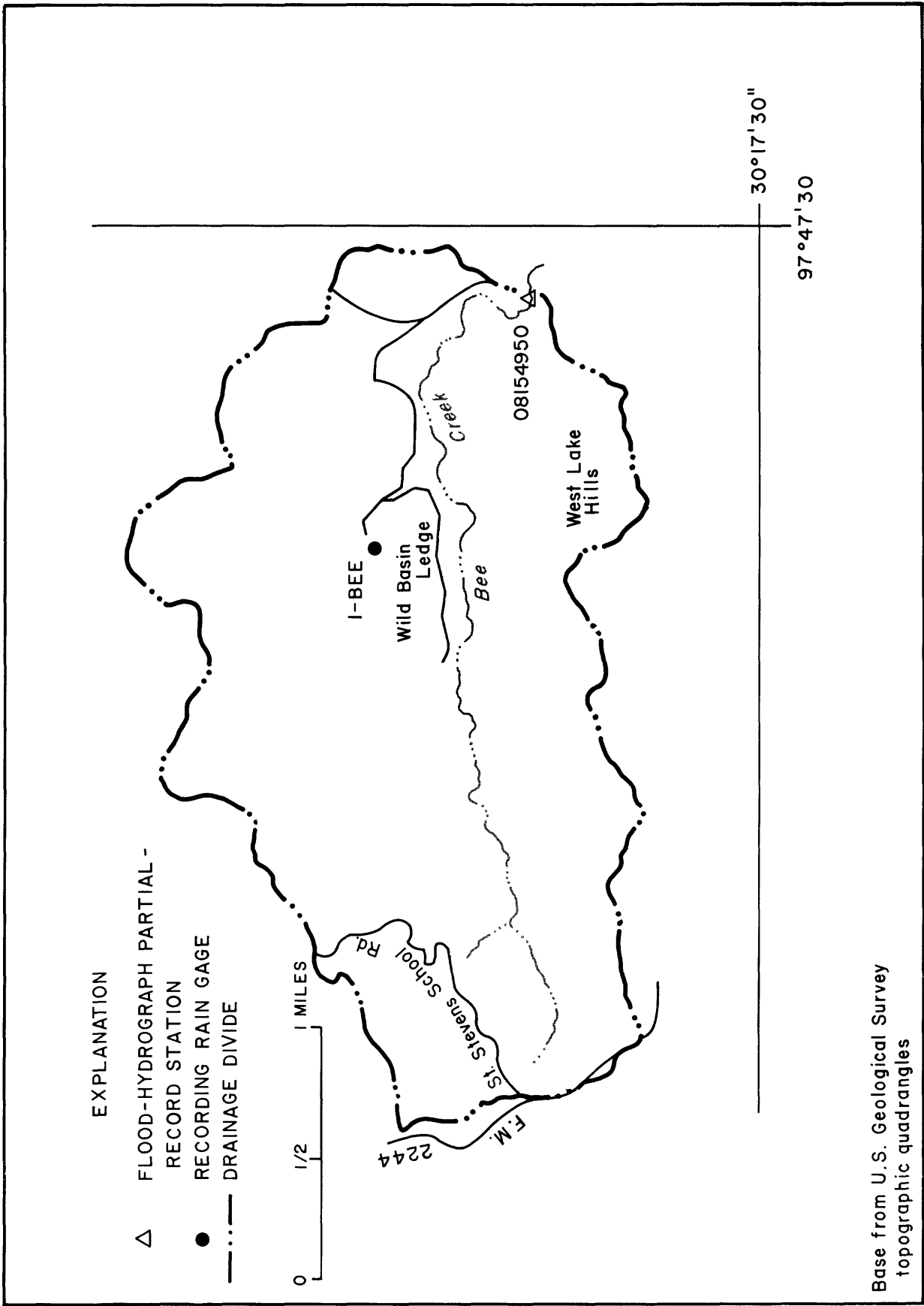


Figure 7.-Locations of surface -water data-collection sites in the Bee Creek drainage basin

08154950 BEE CREEK AT WEST LAKE DRIVE NEAR AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°18'11", long 97°47'43", Travis County, on downstream side of the culvert on West Lake Drive and 3.8 mi northwest of the State Capitol Building in Austin.

DRAINAGE AREA.--3.28 mi.

PERIOD OF RECORD.--April 1976 to current year.

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 499.72 ft NGVD.

REMARKS.--Because of insufficient data, no storms were analyzed for this station for the period of record.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 330 ft³/s, May 12 (gage height, 4.79 ft).

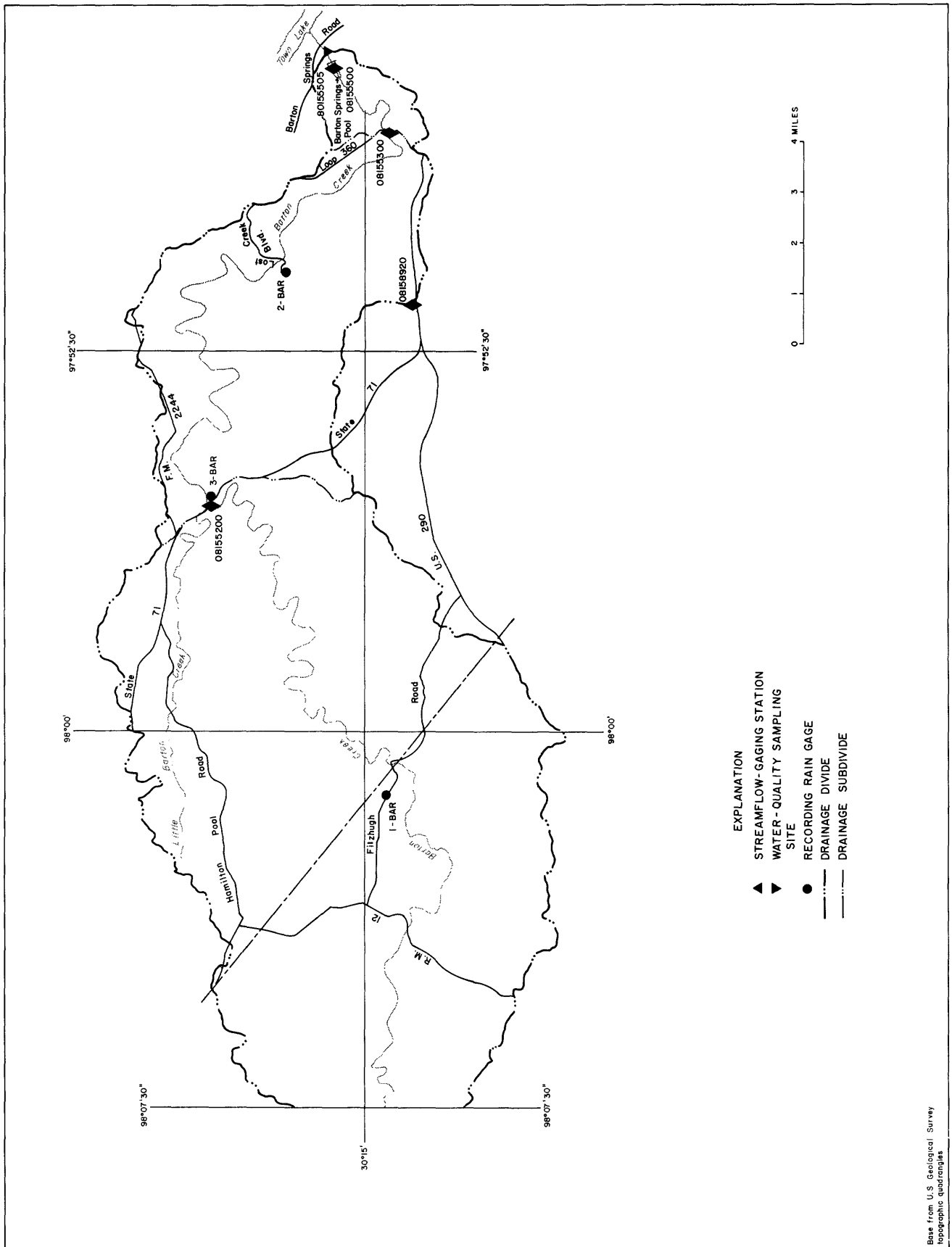
BARTON CREEK DRAINAGE BASIN

The locations of data-collection sites in the Barton Creek drainage basin are shown on figure 8.

A summary of storm rainfall and runoff for the basin is shown in table 8.

The peak discharges associated with water-quality samples collected during storms at the Barton Creek at Loop 360 site are shown in table 4.

Daily and monthly rainfall totals for the 1980 water year are given in table 18.



Base from U.S. Geological Survey topographic quadrangles

Figure 8. Locations of surface-water data-collection sites in the Barton Creek drainage basin

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 8.--Storm rainfall-runoff data, 1980 water year, Barton Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Barton Creek at State Hwy. 71 near Oak Hill, Texas (Drainage area.-89.7 mi ²)								
May 8, 1980	11	1.14	0.22	0.41	0.53	0.10	0.09	316
Barton Creek at Loop 360, Austin, Texas (Drainage area.--116 mi ²)								
May 8, 1980	9	1.23	.54	.82	.96	.08	.07	186

COLORADO RIVER BASIN

08155200 BARTON CREEK AT STATE HIGHWAY 71 NEAR OAK HILL, TX

LOCATION.--Lat 30°17'46", long 97°55'31", Travis County, Hydrologic Unit 12090205, at downstream side of bridge on State Highway 71, 0.1 mi (0.2 km) downstream from Little Barton Creek, and 5.8 mi (9.3 km) northwest of Oak Hill.

DRAINAGE AREA.--89.7 mi² (232.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1975 to February 1978 (periodic gage heights and discharge measurements only), February 1978 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 737.04 ft (224.650 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair above 15.0 ft³/s (0.42 m³/s) and poor below. No known regulation or diversions. There are two recording rain gages in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft³/s (135 m³/s) Apr. 18, 1976, gage height, 11.56 ft (3.523 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 603 ft³/s (17.1 m³/s) May 12 at 1715 hours, gage height, 5.08 ft (1.548 m), no peak above base of 1,000 ft³/s (28.3 m³/s); no flow Aug. 21 to Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
2	.89	.27	.30	1.0	.89	2.8	18	35	42	2.0	.21	.00
3	.88	.27	.30	1.1	.93	2.6	18	24	36	1.8	.20	.00
4	.78	.27	.27	1.1	.94	2.1	17	22	30	1.6	.19	.00
5	.70	.25	.27	1.1	.99	1.7	16	20	27	1.4	.18	.00
6	.63	.25	.30	1.1	.99	1.6	15	20	26	1.2	.18	.00
7	.63	.25	.27	1.0	.97	1.5	15	19	24	1.0	.17	.00
8	.59	.25	.27	.99	.98	1.5	15	24	21	.98	.18	.01
9	.59	.27	.23	.94	1.3	1.5	13	79	19	.89	.16	.08
10	.57	.27	.23	.89	1.9	1.5	13	62	19	.75	.14	7.0
11	.58	.25	.23	.97	2.5	1.5	13	41	19	.64	.15	4.2
12	.55	.27	.17	.99	1.7	1.5	12	38	16	.55	.18	2.3
13	.48	.27	.29	.95	1.5	1.5	33	186	15	.51	.19	1.4
14	.48	.25	.31	.94	1.2	1.4	71	205	15	.47	.18	.84
15	.45	.27	.31	.94	1.3	1.4	39	333	13	.39	.15	.68
16	.45	.27	.26	.94	1.2	1.3	30	267	11	.38	.12	.57
17	.42	.27	.24	.94	1.8	1.4	27	257	9.0	.38	.10	.50
18	.42	.27	.21	.94	1.8	1.5	24	220	8.1	.37	.08	.42
19	.39	.27	.22	.94	1.8	1.5	24	183	7.8	.36	.07	.39
20	.39	.27	.23	.94	1.7	1.5	22	177	5.8	.34	.04	.44
21	.38	.27	.23	.94	1.5	1.4	22	146	5.0	.34	.01	1.1
22	.39	.34	.23	1.1	1.5	1.3	20	129	3.9	.34	.00	3.0
23	.40	.32	.27	1.4	1.4	1.3	20	115	3.2	.36	.00	2.3
24	.34	.30	.29	1.5	1.4	1.3	19	104	2.4	.36	.00	1.5
25	.34	.32	.29	1.3	1.4	1.3	18	91	2.2	.31	.00	1.2
26	.32	.34	.25	1.2	1.4	1.4	51	86	2.1	.26	.00	.94
27	.29	.32	.23	1.1	1.5	1.5	35	81	2.1	.27	.00	3.0
28	.26	.32	.21	1.0	1.4	42	26	73	2.1	.25	.00	6.2
29	.26	.32	.48	.96	1.4	52	24	67	2.1	.25	.00	7.1
30	.25	.27	1.4	.94	1.4	27	22	60	2.1	.25	.00	11
31	.31	.30	1.0	.94	---	20	22	54	2.1	.23	.00	54
31	.31	---	.89	.92	---	19	---	48	---	.21	.00	---
TOTAL	14.72	8.43	10.68	32.01	40.69	200.8	714	3266	393.0	19.44	2.88	110.47
MEAN	.47	.28	.34	1.03	1.40	6.48	23.8	105	13.1	.63	.093	3.68
MAX	.89	.34	1.4	1.5	2.5	52	71	333	42	2.0	.21	54
MIN	.25	.25	.17	.89	.89	1.3	12	19	2.1	.21	.00	.00
CFSM	.005	.003	.004	.01	.02	.07	.27	1.17	.15	.007	.001	.04
IN.	.01	.00	.00	.01	.02	.08	.30	1.35	.16	.01	.00	.05
AC-FT	29	17	21	63	81	398	1420	6480	780	39	5.7	219
(††)	.55	.81	2.47	1.24	2.44	3.34	3.98	5.81	.07	.38	.74	9.12

CAL YR 1979 TOTAL 20707.45 MEAN 56.7 MAX 995 MIN .17 CFSM .63 IN 8.59 AC-FT 41070 †† 35.52
WTR YR 1980 TOTAL 4813.12 MEAN 13.2 MAX 333 MIN .00 CFSM .15 IN 2.00 AC-FT 9550 †† 30.95

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

COLORADO RIVER BASIN

08155200 BARTON CREEK AT STATE HIGHWAY 71 NEAR OAK HILL, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: April 1978 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 31...	1215	.31	425	8.2	20.0	5	.40	8.4	94	.8
JAN 16...	1315	.94	410	7.9	16.0	5	2.0	8.1	83	.5
MAY 29...	1505	61	456	7.7	26.5	--	--	--	--	--

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO
OCT 31...	320	110	92	--	--	--	--	--	--
JAN 16...	120	K6	K13	190	21	51	16	7.4	.2
MAY 29...	1200	K8	20	220	15	60	17	6.3	.2

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 31...	--	--	--	--	--	--	--	--	0
JAN 16...	.8	210	0	21	14	.1	7.2	221	0
MAY 29...	1.0	250	0	18	11	.2	8.4	245	--

DATE	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 31...	0	.02	.00	.02	.00	.31	.31	.000	15
JAN 16...	0	.02	.00	.02	.00	.02	.02	.010	5.2
MAY 29...	--	.07	.00	.07	.00	.26	.26	.000	8.8

COLORADO RIVER BASIN

08155200 BARTON CREEK AT STATE HIGHWAY 71 NEAR OAK HILL, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JAN 16...	1315	0	20	<1	0	0	<10
MAY 29...	1505	1	30	<1	0	4	<10

DATE	LEAD, DIS- SOLVED (UG/L AS FB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN 16...	0	2	.0	0	0	<3
MAY 29...	3	<1	.0	0	1	<3

DATE	TIME	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JAN 16...	1315	<3.2	<.3	<4.7	<.4	2.0	.4	1.8	.4	.03	.55

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JAN 16...	1315	.00	.0	.00	.0	.00	.00	.00	.00

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JAN 16...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 16...	.00	.00	.00	.00	0	.00	.00	.00	.00

STA. NO. 04155200		STORM RAINFALL AND RUNOFF RECORD									
		STORM OF MAY 8, 1980					1980 WATER YEAR				
BARTON CREEK AT STATE HWY. 71 NEAR AUSTIN, TEXAS		G A G E					DISCHARGE				
DATE & TIME	IBAR	3BAR	N U M B E R			PRECIP. IN.	ACCUM. (WEIGHTED) IN.	CFS	IN.	ACCUM. RUNOFF	IN.
MAY 8											
0000	0.0	0.0				0.0		25.0	0.0010	0.0010	
0445	0.03	0.01				0.03		24.0	0.0021	0.0021	
0500	0.04	0.06				0.08		24.0	0.0022	0.0022	
0515	0.13	0.15				0.13		25.0	0.0023	0.0023	
0530	0.21	0.29				0.23		26.0	0.0026	0.0026	
0630	0.26	0.34				0.28		26.0	0.0029	0.0029	
0715	0.27	0.58				0.34		30.0	0.0035	0.0035	
0830	0.24	0.59				0.35		30.0	0.0034	0.0034	
0845	0.35	0.66				0.42		31.0	0.0040	0.0040	
0900	0.48	0.88				0.58		45.0	0.0042	0.0042	
0915	0.54	1.07				0.67		45.0	0.0044	0.0044	
0930	0.64	1.12				0.76		45.0	0.0048	0.0048	
1015	0.77	1.30				0.90		121.0	0.0061	0.0061	
1045	0.89	1.39				1.01		303.0	0.0080	0.0080	
1100	0.92	1.46				1.05		316.0	0.0054	0.0054	
1115	1.00	1.48				1.12		297.0	0.0120	0.0120	
1200	1.01	1.48				1.12		234.0	0.0155	0.0155	
1300	1.02	1.48				1.13		173.0	0.0185	0.0185	
1400	1.02	1.48				1.13		124.0	0.0212	0.0212	
1530	1.03	1.48				1.14		43.0	0.0235	0.0235	
1715	1.03	1.48				1.14		72.0	0.0260	0.0260	
1930	1.03	1.48				1.14		100.0	0.0286	0.0286	
2015	1.03	1.48				1.14		104.0	0.0304	0.0304	
2130	1.03	1.48				1.14		100.0	0.0336	0.0336	
2400	1.03	1.48				1.14		86.0	0.0384	0.0384	
MAY 9											
0000	1.03	1.48				1.14		86.0	0.0384	0.0384	
0600	1.03	1.48				1.14		63.0	0.0501	0.0501	
1600	1.03	1.48				1.14		55.0	0.0577	0.0577	
2400	1.03	1.48				1.14		50.0	0.0638	0.0638	
MAY 10											
0000	1.03	1.48				1.14		50.0	0.0638	0.0638	
1200	1.03	1.48				1.14		47.0	0.0761	0.0761	
2400	1.03	1.48				1.14		45.0	0.0831	0.0831	
MAY 11											
0000	1.03	1.48				1.14		45.0	0.0831	0.0831	
1200	1.03	1.48				1.14		44.0	0.0946	0.0946	
2400	1.03	1.48				1.14		41.0	0.0988	0.0988	

COLORADO RIVER BASIN

08155300 BARTON CREEK AT LOOP 360, AUSTIN, TX

LOCATION.--Lat 30°14'40", long 97°48'07", Travis County, Hydrologic Unit 12090205, on Loop 360, 0.9 mi (1.4 km) west of the intersection of Ben White and Lamar Boulevards, and 4.3 mi (6.9 km) southwest of the State Capitol Building in Austin.

DRAINAGE AREA.--116 mi² (300 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1975 to January 1977 (periodic gage heights and discharge measurements only), February 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 510.32 ft (155.546 m) National Geodetic Vertical Datum of 1929 (State Department of Highways and Public Transportation bench mark).

REMARKS.--Records fair. No known regulation or diversions. There are three recording rain gages located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,270 ft³/s (92.6 m³/s) Apr. 15, 1977, gage height, 7.67 ft (2.338 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of May 28, 1929, was probably the highest since that date, discharge 39,400 ft³/s (1,120 m³/s), based on a slope-area measurement of peak flow at a site about 2 mi (3 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 586 ft³/s (16.6 m³/s) May 12 at 2300 hours, gage height, 5.46 ft (1.664 m), no peak above base of 1,000 ft³/s (28.3 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.02	.64	34	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.52	32	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.32	29	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.32	23	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.28	18	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.26	12	.00	.00	.03
7	.00	.00	.00	.00	.00	.00	.00	.11	11	.00	.00	.46
8	.00	.00	.00	.00	.00	.00	.00	.66	9.9	.00	.00	.00
9	.00	.00	.00	.00	.14	.00	.00	.93	5.9	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.57	5.2	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.45	3.2	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.171	1.5	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.37	.288	.52	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.41	.428	.07	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.21	.313	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.10	.305	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	3.6	.260	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	1.1	.204	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.37	.186	.00	.00	.00	.99
20	.00	.00	.00	.00	.00	.00	.06	.164	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.141	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.127	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.111	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.100	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.10	.89	.00	.00	.00	.26
26	.00	.00	.00	.00	.00	.00	.40	.79	.00	.00	.00	.12
27	.00	.00	.00	.00	.00	.17	9.4	.72	.00	.00	.00	.12
28	.00	.00	.06	.00	.00	.65	2.9	.65	.00	.02	.00	.15
29	.00	.00	.00	.00	.00	.21	1.4	.55	.00	.00	.00	.00
30	.00	.00	.00	.00	---	2.4	.92	.48	.00	.00	.00	.00
31	.00	---	.00	.00	---	.08	---	.40	---	.00	.00	---
TOTAL	.00	.00	.06	.00	.14	105.48	178.77	3520.34	185.29	.02	.00	2.13
MEAN	.000	.000	.002	.000	.005	3.40	5.96	114	6.18	.001	.000	.071
MAX	.00	.00	.06	.00	.14	65	41	428	34	.02	.00	.99
MIN	.00	.00	.00	.00	.00	.00	.00	.26	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.000	.03	.05	.98	.05	.000	.000	.001
IN.	.00	.00	.00	.00	.00	.03	.06	1.13	.06	.00	.00	.00
AC-FT	.00	.00	.1	.00	.3	209	355	6980	368	.04	.00	4.2
(††)	.62	.78	2.64	1.25	2.51	3.18	3.78	5.85	.10	.39	.72	8.92
CAL YR 1979 TOTAL	21991.16		MEAN 60.2	MAX 1140	MIN .00	CFSM .52	IN 7.05	AC-FT 43620	†† 37.06			
WTR YR 1980 TOTAL	3992.23		MEAN 10.9	MAX 428	MIN .00	CFSM .09	IN 1.28	AC-FT 7920	†† 30.74			

†† Weighted=mean rainfall on watershed, in inches, based on three rain gages.

COLORADO RIVER BASIN

08155300 BARTON CREEK AT LOOP 360, AUSTIN, TX--Continued

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1979 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
APR 15...	1050	21	373	7.4	13.0	5	9.9	12.4	117	1.0
25...	1350	6.8	--	7.6	24.0	--	--	8.2	--	--
MAY 12...	1630	195	361	8.2	--	20	130	--	--	1.6

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, UM-F (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L 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
APR 15...	1800	160	420	180	18	50	13	5.3	.2
25...	--	--	--	--	--	--	--	--	--
MAY 12...	--	--	--	190	28	54	14	6.6	.2

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE, DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
APR 15...	1.1	210	0	21	10	.2	7.0	204	5
25...	1.3	--	--	--	--	--	--	--	--
MAY 12...	1.8	200	0	21	15	.2	8.8	220	184

DATE	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)
APR 15...	2	.12	.000	.12	.000	4.4	4.4	.020	3.1
25...	--	--	--	--	--	--	--	--	--
MAY 12...	6	.12	.010	.13	.010	.61	.62	.150	6.5

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)
APR 15...	1050	0	20	2	0	2	<10
MAY 12...	1630	1	20	<1	0	0	20

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)
APR 15...	0	<1	.7	0	0	<3
MAY 12...	0	4	.0	0	0	10

COLORADO RIVER BASIN

08155300 BARTON CREEK AT LOOP 360, AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRACTION (UG/L)
APR 25...	1350	<2.2	.7	<3.3	1.1	<1.4	1.2	<1.5	1.1	.09	.70

DATE	TIME	PCB TOTAL (UG/L)	NAPHTHALENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
APR 15...	1050	.00	.0	.00	.0	.00	.00	.00	.00

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
APR 15...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
APR 15...	.00	.00	.00	.00	0	.00	.00	.00	.00

STORM RAINFALL AND RUNOFF RECORD									
STORM OF MAY 4, 1980									
STATION NO. 08155300									
BARTON CREEK AT LOUP 360, AUSTIN, TEXAS									
DATE & TIME	GAGE			PRECIP.			DISCHARGE		
	1BAR	2BAR	3BAR	IN.	PRECIP.	IN	CFS	IN.	
MAY 4									
0000	0.0	0.0	0.0	0.0	0.0	8.7	0.0003		
0445	0.03	0.01	0.01	0.02	0.02	11.0	0.0007		
0515	0.13	0.10	0.15	0.13	0.13	12.0	0.0007		
0545	0.25	0.21	0.33	0.26	0.26	25.0	0.0013		
0830	0.24	0.23	0.54	0.35	0.35	15.0	0.0016		
0845	0.35	0.25	0.66	0.42	0.42	15.0	0.0016		
0900	0.44	0.53	0.88	0.54	0.54	16.0	0.0017		
0915	0.74	1.07	1.07	0.76	0.76	44.0	0.0018		
0930	0.64	1.16	1.12	0.84	0.84	33.0	0.0019		
0945	0.71	1.21	1.17	0.90	0.90	29.0	0.0021		
1030	0.42	1.35	1.33	1.03	1.03	26.0	0.0024		
1100	0.42	1.52	1.46	1.15	1.15	39.0	0.0027		
1200	1.01	1.59	1.48	1.22	1.22	51.0	0.0035		
1315	1.02	1.59	1.48	1.23	1.23	63.0	0.0052		
1930	1.03	1.60	1.48	1.23	1.23	186.0	0.0141		
2100	1.03	1.60	1.48	1.23	1.23	163.0	0.0174		
2230	1.03	1.60	1.48	1.23	1.23	136.0	0.0201		
2400	1.03	1.60	1.48	1.23	1.23	117.0	0.0244		
MAY 5									
0000	1.03	1.60	1.48	1.23	1.23	117.0	0.0244		
0600	1.03	1.60	1.48	1.23	1.23	104.0	0.0386		
1600	1.03	1.60	1.48	1.23	1.23	89.0	0.0421		
2400	1.03	1.60	1.48	1.23	1.23	70.0	0.0547		
MAY 10									
0000	1.03	1.60	1.48	1.23	1.23	70.0	0.0547		
1200	1.03	1.60	1.48	1.23	1.23	57.0	0.0666		
2400	1.03	1.60	1.48	1.23	1.23	49.0	0.0725		
MAY 11									
0000	1.03	1.60	1.48	1.23	1.23	49.0	0.0725		
1200	1.03	1.60	1.48	1.23	1.23	44.0	0.0815		
2400	1.03	1.60	1.48	1.23	1.23	41.0	0.0848		

COLORADO RIVER BASIN

08155500 BARTON SPRINGS AT AUSTIN, TX

LOCATION.--Lat 30°15'48", long 97°46'16", Travis County, Hydrologic Unit 12090205, at ground-water well (YD 58-42-903), on right bank 0.4 mi (0.6 km) upstream from Barton Springs Road bridge over Barton Creek, 0.7 mi (1.1 km) upstream from mouth, and 1.8 mi (2.9 km) southwest of the State Capitol Building in Austin.

DRAINAGE AREA.--Not applicable. Only flow from springs is published for this station.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1894 to April 1917, and October 1918 to February 1978 (discharge measurements only), May 1917 to September 1918 (published as "Barton Creek at Austin, Texas"), and March 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage, at ground-water well (YD 58-42-903), is 462.34 ft (140.92 m) National Geodetic Vertical Datum of 1929. May 1917 to September 1918, nonrecording gage at site 1,000 ft (305 m) downstream at different datum.

REMARKS.--Water-discharge records fair. Entire flow published is springflow from the Edwards and associated limestones in the Balcones Fault Zone. This station is part of an urban hydrologic project to study the ground-water resources in the Austin urban area.

EXTREMES FOR PERIOD OF RECORD (DISCHARGE MEASUREMENTS ONLY).--Maximum measured discharge, 166 ft³/s (4.70 m³/s) May 10, 1941; minimum measured, 9.6 ft³/s (0.27 m³/s) Mar. 29, 1956.

EXTREMES FOR PERIOD OF RECORD (1917-18 AND SINCE MARCH 1978).--Maximum daily discharge, 108 ft³/s (3.06 m³/s) June 9-11, 16, 20, 21, 1979; minimum daily, 12 ft³/s (0.34 m³/s) Feb. 25, 1918.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 78 ft³/s (2.21 m³/s) May 30; minimum daily, 34 ft³/s (0.96 m³/s) Mar. 14-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	60	50	43	38	36	43	42	77	64	51	37
2	77	59	49	42	38	36	43	42	77	64	46	37
3	76	59	49	42	38	36	42	42	77	64	45	37
4	75	59	49	41	38	36	42	42	77	62	45	37
5	74	59	48	40	37	35	42	42	77	62	44	36
6	73	58	48	40	36	35	42	42	74	62	44	37
7	72	58	47	39	36	35	41	42	73	61	44	37
8	72	58	47	39	37	35	41	44	73	61	43	38
9	71	57	46	38	38	35	41	48	73	60	43	38
10	71	57	46	38	38	35	41	51	73	59	42	38
11	71	56	46	38	37	35	40	51	73	58	42	38
12	71	56	46	38	37	35	40	54	72	59	42	36
13	71	55	46	38	37	35	40	58	71	58	42	37
14	71	54	46	38	36	34	42	61	71	58	42	37
15	71	54	46	37	36	34	43	65	70	57	42	36
16	70	54	45	37	37	34	43	68	69	57	42	35
17	70	54	45	37	37	34	43	73	70	56	41	35
18	69	53	45	37	37	34	42	74	70	55	41	35
19	68	53	44	38	37	34	42	75	70	55	41	37
20	66	53	44	38	37	34	41	75	70	55	40	38
21	66	53	44	37	37	34	41	77	71	54	40	38
22	65	52	44	37	37	34	41	77	70	54	40	38
23	65	52	44	37	36	34	41	77	69	54	40	38
24	64	52	44	37	36	34	40	77	68	53	40	37
25	64	52	44	37	35	34	41	77	68	52	40	37
26	63	51	43	38	35	34	43	77	67	51	38	37
27	62	51	43	39	35	34	44	77	66	51	38	37
28	62	51	43	39	35	36	44	77	67	51	37	37
29	61	50	44	38	35	39	44	77	66	51	38	37
30	61	50	44	38	---	43	43	78	65	51	38	37
31	61	---	43	38	---	43	---	77	---	51	38	---
TOTAL	2130	1640	1412	1193	1063	1096	1256	1939	2134	1760	1289	1109
MEAN	68.7	54.7	45.5	38.5	36.7	35.4	41.9	62.5	71.1	56.8	41.6	37.0
MAX	77	60	50	43	38	43	44	78	77	64	51	38
MIN	61	50	43	37	35	34	40	42	65	51	37	35
AC-FT	4220	3250	2800	2370	2110	2170	2490	3850	4230	3490	2560	2200

CAL YR 1979 TOTAL 29649 MEAN 81.2 MAX 108 MIN 43 AC-FT 58810
WTR YR 1980 TOTAL 18021 MEAN 49.2 MAX 78 MIN 34 AC-FT 35740

COLORADO RIVER BASIN

08155500 BARTON SPRINGS AT AUSTIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: December 1978 to September 1979. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
NOV 05...	0925	65	640	7.1	21.0	0	.30	6.4	72	.1
JAN 16...	0830	38	681	7.1	21.0	5	1.5	5.6	63	.2
JUN 04...	0920	77	549	6.9	21.5	0	1.2	5.2	58	.4
SEP 08...	0830	38	627	7.0	22.0	--	--	--	--	--
26...	0905	37	631	6.7	21.5	0	12	--	--	.8

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO
NOV 05...	140	K4	<1	--	--	--	--	--	--
JAN 16...	34	<1	K2	290	30	79	23	21	.5
JUN 04...	520	63	35	270	19	78	17	11	.3
SEP 08...	1200	480	110	280	21	79	21	17	.4
26...	720	33	53	290	35	81	21	19	.5

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
NOV 05...	--	--	--	--	--	--	--	--	2
JAN 16...	1.5	320	0	31	34	.2	11	358	0
JUN 04...	1.3	300	0	23	17	.2	10	305	94
SEP 08...	1.5	320	0	25	29	--	11	341	--
26...	1.6	310	0	30	31	.3	11	348	7

DATE	SOLIDS, VOLATILE, SUS-PENDED (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)
NOV 05...	2	1.3	.000	1.3	.000	.18	.18	.000	25
JAN 16...	0	1.6	.000	1.6	.000	.26	.26	.050	3.8
JUN 04...	113	.89	.040	.93	.010	--	--	.010	2.0
SEP 08...	--	1.8	.010	1.8	.000	.88	.88	.030	--
26...	8	1.7	.000	1.7	.000	.17	.17	.040	3.4

COLORADO RIVER BASIN

08155500 BARTON SPRINGS AT AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JAN 16...	0830	0	60	<1	0	0	<10
JUN 04...	0920	1	40	<1	0	0	<10
SEP 26...	0905	1	60	<1	10	<10	<10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN 16...	0	<1	.1	0	0	<3
JUN 04...	0	3	.0	0	0	<3
SEP 26...	17	<1	.0	0	0	<3

DATE	TIME	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JAN 16...	0830	<6.0	<.3	<8.8	<.4	<3.3	<.4	<3.0	<.4	.21	--	1.0
SEP 26...	0905	<3.9	.3	<5.8	.5	<3.0	.4	<2.8	.4	.20	.9	--

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JAN 16...	0830	.0	.00	.00	.0	.00	.00	.00	.00
JUN 04...	0920	.0	.00	.00	.0	.00	.00	.00	.00

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JAN 16...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUN 04...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 16...	.00	.00	.00	.00	0	.00	.00	.00	.00
JUN 04...	.00	.00	.00	.00	0	.00	.00	.00	.00

COLORADO RIVER BASIN

08155505 BARTON CREEK BELOW BARTON SPRINGS AT AUSTIN, TX
(Reconnaissance partial-record station)

LOCATION.--Lat 30°15'50", long 97°46'03", Travis County, Hydrologic Unit 12090205, 800 ft (240 m) upstream from bridge on Barton Springs Road and 1.8 mi (2.9 km) southwest of State Capitol at Austin.

DRAINAGE AREA.--125.3 mi² (324.5 km²).

PERIOD OF RECORD.--Occasional discharge measurements: January 1975 to current year. Chemical, biochemical, and pesticide analyses: January 1975 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW-INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, (PERCENT SATURATION)	OXYGEN, BIOCHEM UNINHIB 5 DAY (MG/L)
NOV 05...	1115	65	642	7.2	21.0	0	30	7.0	79	.4
JAN 16...	1045	36	680	7.2	22.0	0	.50	7.4	85	.4
MAY 29...	0745	133	443	7.6	25.5	--	--	--	--	--

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L CaCO3)	CALCIUM, DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM, ADSORPTION RATIO
NOV 05...	1000	300	84	--	--	--	--	--	--
JAN 16...	100	K10	80	290	30	79	23	22	.6
MAY 29...	2700	400	100	220	12	59	17	7.4	.2

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
NOV 05...	--	--	--	--	--	--	--	--	91
JAN 16...	1.5	320	0	31	34	.2	11	359	0
MAY 29...	1.2	250	0	19	11	.2	8.7	247	--

DATE	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)
NOV 05...	34	1.5	.01	1.5	.02	.64	.66	.040	26
JAN 16...	0	1.6	.02	1.6	.01	6.8	6.8	.050	1.7
MAY 29...	--	.15	.00	.15	.00	.48	.48	.010	6.3

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 16...	1045	0	60	<1	0	0	<10
MAY 29...	0745	1	30	<1	0	2	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 16...	1	<1	.1	0	0	<3
MAY 29...	0	<1	.0	0	0	<3

COLORADO RIVER BASIN

08155505 BARTON CREEK BELOW BARTON SPRINGS, AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
JAN 16...	1045	<4.9	<.3	<7.2	<.4	<3.3	<.4	<3.0	<.4	.18	1.2

DATE	TIME	PCB TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JAN 16...	1045	.00	.0	.00	.0	.00	.00	.00	.00

DATE	DI-ELDRIN, TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE, TOTAL (UG/L)	LINDANE, TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
JAN 16...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 16...	.00	.00	.00	.00	0	.00	.00	.00	.00

WEST BOULDIN CREEK DRAINAGE BASIN

The locations of data-collection sites in the West Bouldin Creek drainage basin are shown on figure 9.

Daily and monthly rainfall totals for the 1980 water year are given in table 18.

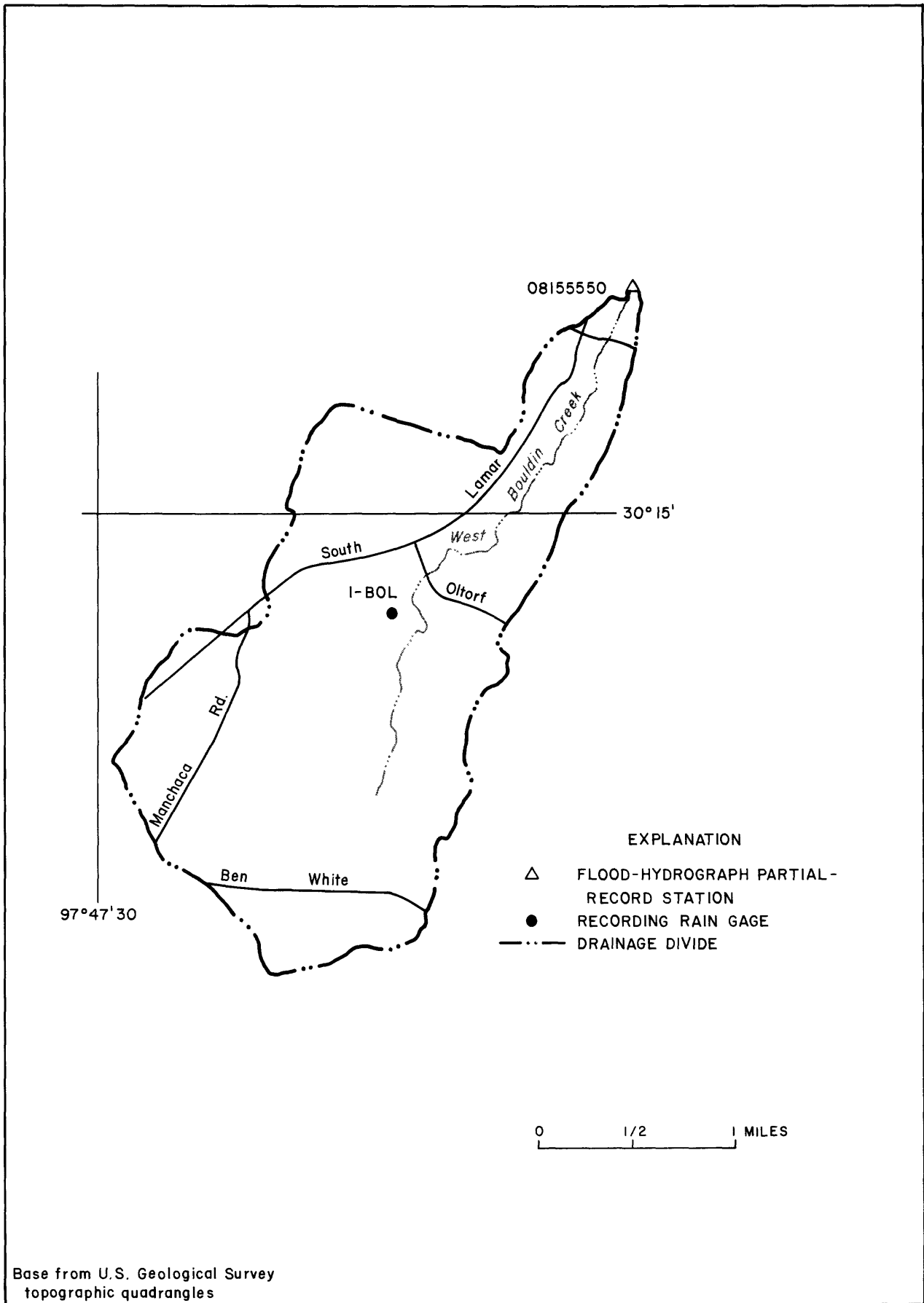


Figure 9.-Locations of surface-water data-collection sites in the West Bouldin Creek drainage basin

08155550 WEST BOULDIN CREEK AT RIVERSIDE DRIVE, AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°15'49", long 97°45'17", Travis County, on upstream side of eastbound bridge on Riverside Drive, 0.1 mi east of the intersection of South Lamar Boulevard and Riverside Drive and 1.2 mi southwest of the State Capitol Building in Austin.

DRAINAGE AREA.--3.12 mi².

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

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 434.42 ft NGVD. Prior to March 31, 1977, at site 30 ft downstream at same datum.

REMARKS.--Records fair. No storms analyzed for 1980.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,080 ft³/s May 21, 1979 (gage height, 4.64 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 173 ft³/s March 27 (gage height, 2.61 ft).

REVISIONS.--The maximum discharge for one water year has been revised, as shown in the following table. It superseeds the figure published in the 1977 publication of this report series. All of the discharges for the two storms analyzed during that water year will also have to be revised.

Water year	Date	Discharge (ft ³ /s)	Gage height (ft)
1977	April 13, 1977	239	2.93

SHOAL CREEK DRAINAGE BASIN

The locations of data-collection sites in the Shoal Creek drainage basin are shown on figure 10.

A summary of storm rainfall and runoff for the basin is shown in table 9.

The peak discharges associated with the water-quality samples collected during storms at the Shoal Creek at 12th Street site are shown in table 4.

Daily and monthly rainfall totals for the 1980 water year are given in table 17.

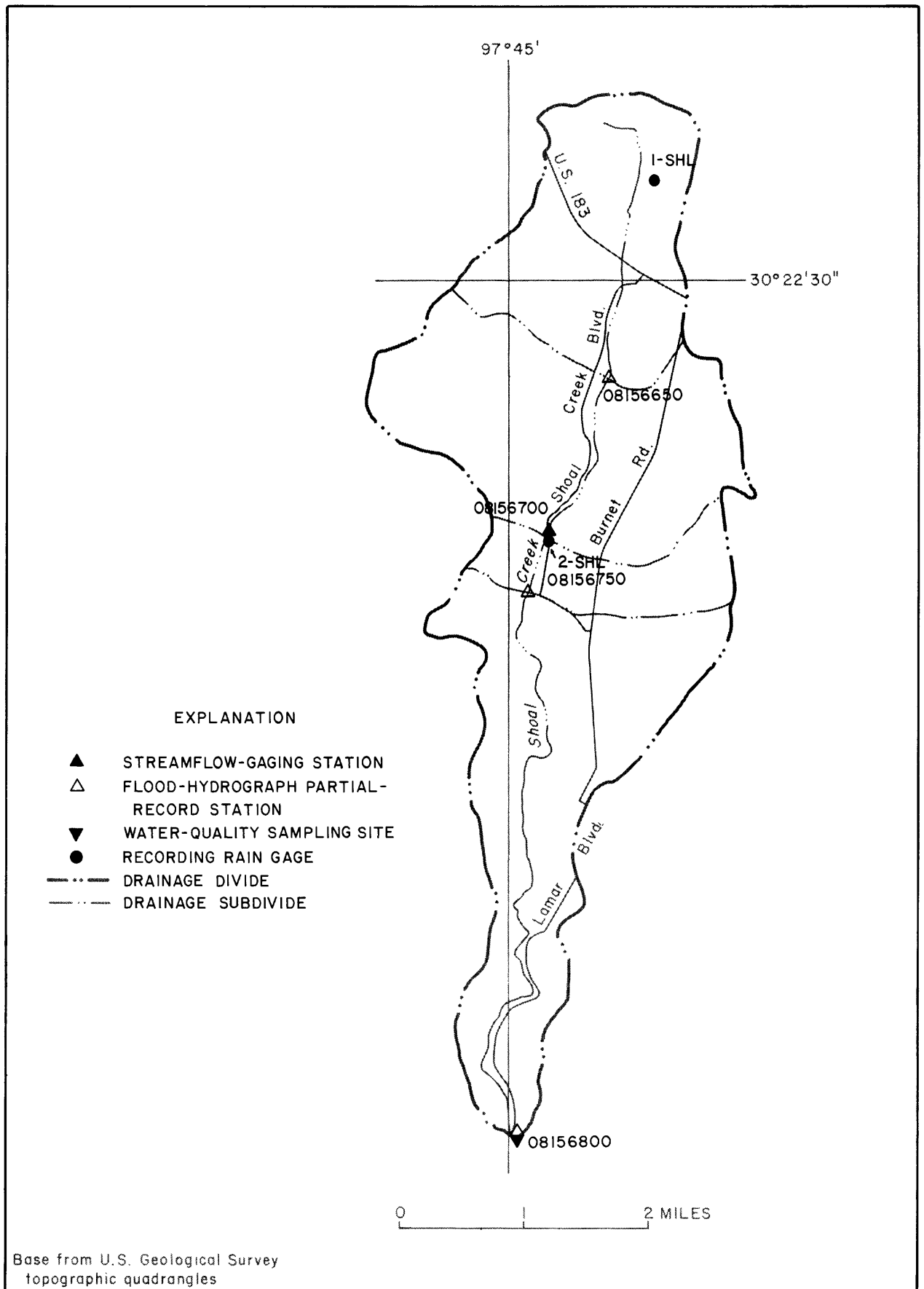


Figure 10.-Locations of surface-water data-collection sites in the Shoal Creek drainage basin

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 9 .--Storm rainfall-runoff data, 1980 water year, Shoal Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			15-minute	30-minute	60-minute			
May 12, 1980	10	1.76	1.03	1.13	1.19	.28	.16	1060

Shoal Creek at Northwest Park, Austin, Texas
(Drainage area.--7.03 mi²)

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 9.--Storm rainfall-runoff data, 1980 water year, Shoal Creek--Continued

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Shoal Creek at White Rock Drive, Austin, Texas (Drainage area.--7.56 mi ²)								
Mar. 27, 1980	9	3.28	0.43	0.51	0.97	0.71	0.22	855
May 12, 1980	8	1.76	1.03	1.13	1.20	.45	.25	1400
Shoal Creek at 12th Street, Austin, Texas (Drainage area.--12.8 mi ²)								
Mar. 27, 1980	9	3.26	.40	.53	.97	.96	.29	1280
May 12, 1980	8	1.80	1.03	1.13	1.19	.70	.39	1900

08156650 SHOAL CREEK AT STECK AVENUE, AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°21'55", long 97°44'11", Travis County, on downstream side of bridge on Steck Avenue, 0.5 mi west of the intersection of Burnet Road and Steck Avenue, and 6.3 mi north of the State Capitol Building in Austin.

DRAINAGE AREA.--3.19 mi².

PERIOD OF RECORD.--April 1975 to current year. Periodic measurements only, November 1974 to April 1975.

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 703.00 ft NGVD.

REMARKS.--Records poor. No storms analyzed for 1980.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,590 ft³/s Nov. 23, 1974 (gage height, 6.01 ft) (revised).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 463 ft³/s May 12 (gage height, 3.34 ft).

REVISIONS.--The maximum discharges for some water years have been revised, as shown in the following table. They supersede figures published in the 1976 through 1979 publications of this report series. All of the discharges greater than 60 ft³/s for the storms analyzed during the 1975 through 1979 period will also have to be revised.

Water year	Date	Discharge (ft ³ /s)	Gage height (ft)
1976	April 18, 1976	369	3.04
1977	April 15, 1977	198	2.41
1978	May 11, 1978	282	2.74
1979	July 19, 1979	561	3.63

COLORADO RIVER BASIN

08156700 SHOAL CREEK AT NORTHWEST PARK, AUSTIN, TX

LOCATION.--Lat 30°20'50", long 97°44'41", Travis County, Hydrologic Unit 12090205, at Northwest Park in Austin, 400 ft (122 m) upstream from Shoal Creek Boulevard bridge, 0.5 mi (0.8 km) west of intersection of Burnet Road and Justin Lane, and 5.0 mi (8.0 km) north of State Capitol Building in Austin.

DRAINAGE AREA.--7.03 mi² (18.21 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 661.34 ft (201.576 m) National Geodetic Vertical Datum of 1929 (city of Austin bench mark).

REMARKS.--Records fair. The city of Austin diverts water into the channel above gage during the summer months from a swimming pool at Northwest Park. There is some diversion into and out of the drainage area by storm sewers. This station is part of a hydrologic project to study the rainfall-runoff relationship for the Austin urban area. There are two digital recording rain gages in the watershed. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 2.00 ft³/s (0.0566 m³/s), 3.86 in/yr (98 mm/yr), 1,450 acre-ft/yr (1.79 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft³/s (59.8 m³/s) July 19, 1979, gage height, 8.31 ft (2.533 m); no flow for several days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1885, occurred Apr. 22, 1915, stage and discharge unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
Mar. 27	a0800	710	20.1	5.70	1.737	May 15	1855	772	21.9	5.84	1.780
Apr. 25	0250	668	18.9	5.60	1.707	Sept. 19	0400	595	16.9	5.42	1.652
May 12	1045	*1,060	30.0	6.45	1.966						

a Estimated.

Minimum discharge, no flow Oct. 26, Sept. 2-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.04	.02	.16	.14	.15	.86	7.4	.19	.03	.01	.02
2	.09	.02	.02	.13	.34	.06	1.6	.28	.18	.03	.02	.00
3	.11	.02	.02	.13	.14	.07	.31	.21	.16	.03	.02	.00
4	.07	.02	.02	.13	.24	.08	.29	.18	.17	.03	.01	.00
5	.05	.02	.02	.28	.19	.05	.29	.17	.17	.03	.02	.02
6	.08	.02	.02	.12	.15	.05	.29	.12	.15	.02	.02	4.2
7	.08	.02	.02	.12	4.1	.07	.29	14	.14	.02	1.1	16
8	.09	.02	.02	.12	3.9	.06	.29	32	.13	.03	.13	2.87
9	.07	.02	.02	.12	10	.12	.29	.69	1.8	.04	.08	2.0
10	.06	.02	.03	.30	.23	.14	.29	.42	.22	.03	.66	.18
11	.06	.08	.04	.17	.12	.16	.25	.38	.14	.03	.15	.12
12	.08	.07	2.9	.13	.10	.18	1.8	52	.19	.04	.09	.10
13	.10	.04	.39	.13	.10	.08	3.2	16	.15	.02	.06	.06
14	.08	.03	.05	.13	.09	.06	.29	2.7	.13	.02	.04	.04
15	.11	.05	.09	.13	.09	.07	.27	36	.14	.03	.04	.03
16	.11	.05	.03	.18	5.1	.31	.25	4.1	.12	.03	.45	.03
17	.07	.06	.03	.59	.19	.13	.21	1.3	.13	.02	.10	.05
18	.02	.12	.03	.16	.14	.12	.16	.93	.15	.03	.08	.04
19	.01	.17	.03	.17	.11	.12	.15	1.6	.21	.04	.06	24
20	.01	.07	.03	.63	.10	.12	.15	.64	1.1	.03	.05	.09
21	.01	1.5	.03	1.7	.08	.13	.15	.67	2.0	.03	.06	.05
22	.08	.03	.32	3.2	.08	.17	.17	.51	.05	.04	.07	.06
23	.03	.02	5.3	.24	.09	.20	.18	.48	.04	.04	.07	.01
24	.03	.26	.10	.18	.06	.12	.26	.46	.04	.04	.05	.01
25	.01	.07	.04	.17	.06	.12	33	.41	.04	.03	.07	1.7
26	.00	.02	.03	.14	.06	.12	.42	.41	.04	.04	.08	13
27	.01	.02	.04	.14	.06	112	.29	.39	.04	.04	.04	.40
28	.01	.02	17	.14	.06	1.8	.16	.35	.04	.32	.07	2.2
29	.01	.01	2.3	.32	.26	.31	.13	.33	.03	.04	.08	.09
30	6.2	.03	.27	.26	---	.29	.12	.28	.03	.03	.12	1.3
31	.10	---	.19	.17	---	.29	---	.22	---	.02	.05	---
TOTAL	7.91	2.94	29.45	10.69	26.38	117.75	46.45	175.63	8.12	1.25	3.95	66.67
MEAN	.26	.098	.95	.34	.91	3.80	1.55	5.67	.27	.040	.13	2.22
MAX	6.2	1.5	17	3.2	10	112	33	52	2.0	.32	1.1	24
MIN	.00	.01	.02	.12	.06	.05	.12	.12	.03	.02	.01	.00
CFSM	.04	.01	.14	.05	.13	.54	.22	.81	.04	.006	.02	.32
IN.	.04	.02	.16	.06	.14	.62	.25	.93	.04	.01	.02	.35
AC-FT	16	5.8	58	21	52	234	92	348	16	2.5	7.8	132
(++)	.84	.64	2.85	1.27	2.27	3.60	2.48	7.68	.83	.15	.78	6.46

CAL YR 1979 TOTAL 703.12 MEAN 1.93 MAX 108 MIN .00 CFSM .28 IN 3.72 AC-FT 1390 ++ 33.25
WTR YR 1980 TOTAL 497.19 MEAN 1.36 MAX 112 MIN .00 CFSM .19 IN 2.63 AC-FT 986 ++ 29.85

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

STORM RAINFALL AND RUNOFF RECORD									
1980 WATER YEAR									
STORM OF MAY 12, 1980									
SHUAL CREEK AT NORTHWEST PARK, AUSTIN, TEXAS									
DATE & TIME	15MI	25MI	GAUGE	NUMBER	WEIGHTED PRECIP. IN.	DISCHARGE IN	ACCUM. IN	DISCHARGE IN	ACCUM. RUNOFF
MAY 12									
0000	0.0	0.0			0.0	0.3	0.0003	0.3	0.0003
0830	0.01	0.0			0.00	0.3	0.0006	0.3	0.0006
0900	0.04	0.01			0.02	0.3	0.0006	0.3	0.0006
0915	0.12	0.12			0.12	0.4	0.0006	0.4	0.0006
0930	0.31	0.21			0.25	1.0	0.0007	1.0	0.0007
0945	0.33	0.22			0.27	2.6	0.0008	2.6	0.0008
1000	0.37	0.27			0.31	18.0	0.0015	18.0	0.0015
1005	0.38	0.29			0.33	23.0	0.0019	23.0	0.0019
1010	0.41	0.33			0.37	25.0	0.0024	25.0	0.0024
1015	0.51	0.58			0.55	27.0	0.0029	27.0	0.0029
1020	0.86	1.06			0.97	38.0	0.0036	38.0	0.0036
1025	0.95	1.36			1.18	109.0	0.0056	109.0	0.0056
1030	1.26	1.40			1.34	310.0	0.0113	310.0	0.0113
1035	1.26	1.40			1.34	655.0	0.0233	655.0	0.0233
1040	1.26	1.41			1.34	949.0	0.0407	949.0	0.0407
1045	1.26	1.41			1.34	1060.0	0.0602	1060.0	0.0602
1050	1.26	1.41			1.34	968.0	0.0780	968.0	0.0780
1055	1.27	1.41			1.35	1030.0	0.0969	1030.0	0.0969
1100	1.27	1.41			1.35	826.0	0.1121	826.0	0.1121
1105	1.27	1.41			1.35	655.0	0.1301	655.0	0.1301
1115	1.27	1.41			1.35	466.0	0.1472	466.0	0.1472
1125	1.27	1.41			1.35	321.0	0.1590	321.0	0.1590
1135	1.27	1.41			1.35	227.0	0.1674	227.0	0.1674
1145	1.32	1.48			1.41	175.0	0.1754	175.0	0.1754
1200	1.47	1.71			1.57	160.0	0.1827	160.0	0.1827
1205	1.60	1.80			1.65	257.0	0.1945	257.0	0.1945
1235	1.61	1.84			1.73	356.0	0.2109	356.0	0.2109
1250	1.61	1.85			1.74	318.0	0.2255	318.0	0.2255
1300	1.61	1.85			1.74	222.0	0.2357	222.0	0.2357
1315	1.61	1.85			1.74	175.0	0.2437	175.0	0.2437
1330	1.61	1.85			1.74	124.0	0.2506	124.0	0.2506
1400	1.62	1.85			1.74	87.0	0.2578	87.0	0.2578
1430	1.62	1.85			1.74	40.0	0.2622	40.0	0.2622
1500	1.62	1.85			1.75	25.0	0.2649	25.0	0.2649
1600	1.63	1.85			1.75	18.0	0.2679	18.0	0.2679
1800	1.63	1.86			1.75	11.0	0.2715	11.0	0.2715
2100	1.63	1.86			1.76	5.3	0.2745	5.3	0.2745
2400	1.63	1.86			1.76	2.5	0.2761	2.5	0.2761
					1.76	1.7	0.2767	1.7	0.2767

08156750 SHOAL CREEK AT WHITE ROCK DRIVE, AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°20'21", long 97°44'50", Travis County, on downstream side of bridge on White Rock Drive, 0.6 mi west of intersection of Burnet Road and Koenig Lane, and 4.5 mi north of the State Capitol Building in Austin.

DRAINAGE AREA.--7.56 mi².

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

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 642.60 ft NGVD.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,920 ft³/s July 19, 1979 (gage height, 10.77 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft³/s May 12 (gage height, 9.91 ft).

STA. NO.	DATE & TIME	STORM RAINFALL AND RUNOFF RECORD				1980 WATER YEAR		DISCHARGE IN	ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. RUNOFF
		1SH1	2SH1	G A G E N U M B E R	S T O R M O F M A R C H 27, 1980	IN.	CFS				
08156750	MAX. 27										
0000		0.0	0.0					0.0	0.2	0.0001	0.0001
0440		0.01	0.0					0.00	0.2	0.0002	0.0002
0520		0.08	0.05					0.06	0.5	0.0003	0.0003
0540		0.15	0.06					0.10	1.0	0.0003	0.0003
0600		0.18	0.29					0.24	2.0	0.0004	0.0004
0605		0.57	0.30					0.41	2.5	0.0005	0.0005
0615		0.61	0.30					0.43	5.0	0.0006	0.0006
0625		0.64	0.37					0.48	10.0	0.0010	0.0010
0635		0.81	0.49					0.62	20.0	0.0015	0.0015
0640		0.87	0.61					0.72	122.0	0.0046	0.0046
0650		0.97	0.76					0.85	209.0	0.0118	0.0118
0700		1.15	0.78					0.94	295.0	0.0218	0.0218
0710		1.18	0.82					0.97	427.0	0.0401	0.0401
0725		1.32	0.93					1.09	391.0	0.0635	0.0635
0745		1.74	1.33					1.50	423.0	0.0851	0.0851
0755		1.80	1.41					1.57	567.0	0.1093	0.1093
0810		2.06	1.74					1.87	656.0	0.1430	0.1430
0825		2.16	1.80					1.95	787.0	0.1766	0.1766
0835		2.22	1.85					2.01	855.0	0.2058	0.2058
0845		2.27	1.85					2.03	758.0	0.2381	0.2381
0900		2.27	1.85					2.03	588.0	0.2683	0.2683
0915		2.28	1.85					2.03	450.0	0.2913	0.2913
0930		2.28	1.85					2.03	325.0	0.3080	0.3080
0945		2.28	1.85					2.03	252.0	0.3252	0.3252
1010		2.43	2.06					2.22	191.0	0.3383	0.3383
1025		2.65	2.41					2.51	273.0	0.3499	0.3499
1035		2.72	2.41					2.54	433.0	0.3647	0.3647
1045		2.73	2.42					2.55	584.0	0.3896	0.3896
1100		2.82	2.56					2.67	531.0	0.4214	0.4214
1120		2.82	2.56					2.67	454.0	0.4485	0.4485
1135		2.82	2.58					2.68	360.0	0.4700	0.4700
1155		2.82	2.58					2.68	262.0	0.4857	0.4857
1210		2.94	2.76					2.84	225.0	0.4992	0.4992
1230		3.18	3.01					3.08	273.0	0.5155	0.5155
1245		3.28	3.10					3.18	471.0	0.5396	0.5396
1300		3.33	3.16					3.23	531.0	0.5668	0.5668
1315		3.36	3.16					3.24	457.0	0.5941	0.5941
1335		3.36	3.18					3.26	366.0	0.6223	0.6223
1400		3.36	3.18					3.26	254.0	0.6461	0.6461

STATION NO. UH156750		STORM RAINFALL AND RUNOFF RECORD										
SHOAL CREEK AT WHITE ROCK DRIVE, AUSTIN, TEXAS		STORM OF MARCH 27, 1980					1980 WATER YEAR					
DATE & TIME	15HI	25HI	GAGE	NUMBER	WEIGHTED PRECIP. IN.	ACCUM. PRECIP. IN.	DISCHARGE IN	ACCUM. DISCHARGE IN	RUNOFF IN.	CFS	IN.	
MAR. 27												
1430	3.36	3.19			3.26	3.26	173.0	0.6639				
1500	3.36	3.19			3.26	3.26	103.0	0.6762				
1540	3.36	3.19			3.26	3.26	64.0	0.6860				
1630	3.36	3.19			3.26	3.26	44.0	0.6965				
1800	3.36	3.19			3.26	3.26	25.0	0.7055				
2000	3.36	3.19			3.26	3.26	10.0	0.7117				
2400	3.37	3.22			3.28	3.28	4.0	0.7133				

STORM RAINFALL AND RUNOFF RECORD									
STATION NO. 08156750									
CREEK AT WHITE ROCK DRIVE, AUSTIN, TEXAS									
STORM OF MAY 12, 1980									
DATE & TIME	15MI	25MI	GAGE	NUMBER	PRECIP. IN.	CFS	DISCHARGE IN	ACCUM. WEIGHTED	ACCUM. RUNOFF
MAY 12									
0600	0.0	0.0			0.0		0.3	0.0003	0.0003
0830	0.01	0.0			0.00		0.3	0.0005	0.0008
0900	0.04	0.01			0.02		0.3	0.0006	0.0014
0910	0.10	0.09			0.09		0.3	0.0006	0.0020
0920	0.14	0.14			0.14		0.6	0.0006	0.0026
0925	0.30	0.19			0.24		0.7	0.0006	0.0032
0950	0.33	0.23			0.27		4.0	0.0009	0.0041
1000	0.37	0.27			0.31		82.0	0.0030	0.0071
1005	0.38	0.29			0.33		184.0	0.0061	0.0132
1010	0.41	0.33			0.36		388.0	0.0127	0.0259
1015	0.51	0.58			0.55		464.0	0.0207	0.0466
1020	0.86	1.06			0.98		620.0	0.0312	0.0778
1025	0.95	1.36			1.14		1060.0	0.0454	0.1232
1030	1.26	1.40			1.34		1280.0	0.0712	0.1944
1035	1.26	1.40			1.34		1400.0	0.0951	0.2895
1040	1.26	1.41			1.35		1260.0	0.1274	0.4169
1050	1.26	1.41			1.35		994.0	0.1614	0.5783
1100	1.27	1.41			1.35		726.0	0.1862	0.7645
1110	1.27	1.41			1.35		574.0	0.2058	0.9703
1120	1.27	1.41			1.35		450.0	0.2288	1.1991
1140	1.30	1.44			1.38		337.0	0.2547	1.4538
1205	1.45	1.76			1.63		504.0	0.2849	1.7387
1215	1.51	1.82			1.69		550.0	0.3037	2.0424
1225	1.60	1.84			1.74		493.0	0.3289	2.3713
1245	1.61	1.85			1.75		352.0	0.3590	2.7303
1315	1.61	1.85			1.75		225.0	0.3820	3.1123
1345	1.61	1.85			1.75		141.0	0.3965	3.5088
1415	1.62	1.85			1.75		87.0	0.4076	3.9164
1500	1.63	1.85			1.76		56.0	0.4177	4.3341
1600	1.63	1.85			1.76		37.0	0.4291	4.7632
1800	1.63	1.86			1.76		24.0	0.4389	5.1921
2000	1.63	1.86			1.76		12.0	0.4463	5.6384
2400	1.63	1.86			1.76		3.0	0.4475	6.0859

COLORADO RIVER BASIN

08156800 SHOAL CREEK AT 12TH STREET, AUSTIN, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°16'35", long 97°45'00", Travis County, Hydrologic Unit 12090205, at downstream side of bridge on 12th Street and 0.6 mi (1.0 km) west of the State Capitol Building in Austin.

DRAINAGE AREA.--12.8 ml² (33.2 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1975 to current year. Periodic discharge measurements only: November 1974 to current year.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Datum of gage is 455.33 ft (138.785 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Austin, Texas Metropolitan Area, 1979."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,970 ft³/s (141 m³/s) May 21, 1979, gage height, 15.20 ft (4.633 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,970 ft³/s (141 m³/s) May 21, gage height, 15.20 ft (4.633 m).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1975 to current year. Water temperatures: January 1975 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW-INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
APR 25...	1315	61	238	7.1	23.0	30	80	7.4	87	3.9
MAY 12...	1100	116	326	7.9	--	--	--	--	--	16
SEP 19...	0445	523	279	7.7	--	--	--	--	--	--
19...	0515	974	250	8.0	--	20	3.4	--	--	--
19...	0545	699	224	7.6	--	20	3.5	--	--	--
19...	0615	549	195	8.1	--	--	--	--	--	--

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS, NONCARBONATE AS (MG/L CACO3)	HARDNESS, CARBONATE AS (MG/L CACO3)	CALCIUM, DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM, ADSORPTION RATIO
APR 25...	--	--	--	100	38	37	2.8	6.9	.3
MAY 12...	810000	460000	220000	130	44	48	3.6	14	.5
SEP 19...	--	--	--	110	30	40	2.9	9.6	.4
19...	--	--	--	110	28	38	2.8	6.4	.3
19...	--	--	--	94	21	34	2.3	6.6	.3
19...	--	--	--	91	22	33	2.0	4.4	.2

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
APR 25...	2.7	80	0	36	9.6	.2	4.0	139	84
MAY 12...	3.4	110	0	44	19	.2	5.1	191	--
SEP 19...	4.9	100	0	29	16	.2	3.7	156	--
19...	3.6	100	0	24	12	.2	5.9	142	3740
19...	2.8	90	0	25	10	.2	4.1	129	6670
19...	4.5	84	0	25	5.3	.2	4.6	120	--

COLORADO RIVER BASIN

08156800 SHOAL CREEK AT 12TH STREET, AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, VOLATILE, SUSPENDED (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)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR 25...	16	.62	.010	.63	.030	.84	.87	.200	11
MAY 12...	--	.60	.030	.63	.230	2.4	2.6	.440	48
SEP 19...	--	--	--	2.7	--	--	--	--	--
19...	1730	--	--	1.2	--	--	--	--	--
19...	1570	--	--	1.5	--	--	--	--	--
19...	--	--	--	.52	--	--	--	--	--

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
APR 25...	1315	4	30	<1	0	3	40
SEP 19...	0445	4	30	<1	10	<10	80
19...	0615	3	30	<1	10	<10	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 25...	2	8	.0	0	0	<3
SEP 19...	10	2	.0	0	0	8
19...	<10	6	.0	0	0	6

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM, DIS-SOLVED, EXTRACTION (UG/L)
APR 25...	1315	<1.6	2.4	<2.3	3.5	2.1	4.2	2.1	3.9	.13	.25

DATE	TIME	PCB TOTAL (UG/L)	NAPHTHALENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
APR 25...	1315	.00	.0	.00	.1	.01	.00	.01	.34

DATE	DI-ELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE, TOTAL (UG/L)	LINDANE, TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXY-CHLOR, TOTAL (UG/L)
APR 25...	.01	.00	.00	.00	.00	.00	.01	.12	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
APR 25...	.00	.00	.00	.00	0	.00	.11	.01	.01

STA. NO.		STORM RAINFALL AND RUNOFF RECORD												
01150800		SMUAL CREEK AT 12TH. STREET, AUSTIN, TEXAS												
		G A G E					N U M B E R							
DATE & TIME		15M		25M		STORM OF MARCH 27, 1980					1980 WATER YEAR			
						ACCUM. WEIGHTED PRECIP. IN.					DISCHARGE IN CFS		ACCUM. RUNOFF IN.	
MAR. 27	0000	0.0	0.0	0.0							0.0	0.0	0.0	0.0
	0440	0.01	0.0	0.0							0.00	0.0	0.0	0.0
	0520	0.04	0.05	0.07							0.06	0.0	0.0	0.0
	0545	0.16	0.07	0.24							0.04	0.0	0.0	0.0
	0600	0.18	0.30	0.37							0.26	6.6	0.0001	0.0
	0605	0.57	0.64	0.75							0.36	6.7	0.0003	0.0004
	0645	0.96	0.98	0.76							0.43	14.0	0.0009	0.0016
	0655	0.98	0.76	0.78							0.80	23.0	0.0016	0.0019
	0700	1.15	0.82	0.93							0.81	25.0	0.0019	0.0023
	0710	1.18	0.82	0.93							0.87	26.0	0.0023	0.0031
	0725	1.32	0.93	1.13							0.91	29.0	0.0031	0.0045
	0730	1.36	1.28	1.76							1.02	73.0	0.0045	0.0060
	0740	1.71	1.53	1.85							1.15	94.0	0.0060	0.0091
	0750	1.76	1.87	1.74							1.38	157.0	0.0091	0.0167
	0800	1.87	2.06	1.80							1.45	375.0	0.0167	0.0318
	0810	2.27	2.27	1.85							1.61	748.0	0.0318	0.0589
	0830	2.27	2.27	1.85							1.82	896.0	0.0589	0.0974
	0845	2.27	2.27	1.85							1.90	1090.0	0.0974	0.1325
	0900	2.27	2.27	1.85							1.95	1160.0	0.1325	0.1906
	0930	2.24	2.24	1.85							1.95	1270.0	0.1906	0.2547
	1015	2.51	2.56	2.56							1.95	1030.0	0.2547	0.3014
	1045	2.73	2.42	2.56							2.27	865.0	0.3014	0.3454
	1100	2.82	2.56	2.56							2.49	789.0	0.3454	0.3852
	1115	2.82	2.56	2.56							2.62	658.0	0.3852	0.4052
	1130	2.82	2.56	2.56							2.62	776.0	0.4052	0.4286
	1145	3.03	3.01	3.10							2.64	907.0	0.4286	0.4867
	1200	3.03	3.01	3.10							2.64	1010.0	0.4867	0.5139
	1215	3.14	3.10	3.16							2.64	900.0	0.5139	0.5382
	1245	3.24	3.16	3.18							2.89	809.0	0.5382	0.5627
	1300	3.36	3.18	3.18							3.05	802.0	0.5627	0.5878
	1320	3.36	3.18	3.18							3.14	832.0	0.5878	0.6165
	1335	3.36	3.18	3.18							3.20	812.0	0.6165	0.6478
	1345	3.36	3.18	3.18							3.22	887.0	0.6478	0.6730
	1355	3.36	3.18	3.18							3.22	997.0	0.6730	0.6942
	1415	3.36	3.18	3.18							3.22	1050.0	0.6942	0.7244
	1430	3.36	3.18	3.18							3.23	999.0	0.7244	0.7536
											3.23	828.0	0.7536	0.7784

STORM RAINFALL AND RUNOFF RECORD										1980 WATER YEAR		
STORM OF MARCH 27, 1980										ACCUM.	DISCHARGE	ACCUM.
SHUAL CREEK AT 12TH. STREET, AUSTIN, TEXAS										WEIGHTED	IN	RUNOFF
DATE & TIME	G A G E		N U M B E R		P R E C I P .		I N .		CFS	I N .	I N .	
	15H	25H										
MAR. 27												
1450	3.36	3.19						3.23	550.0	0.8034		
1515	3.36	3.19						3.23	426.0	0.8335		
1600	3.36	3.19						3.23	271.0	0.8622		
1700	3.36	3.19						3.23	166.0	0.8923		
1900	3.36	3.19						3.23	114.0	0.9199		
2100	3.36	3.21						3.25	92.0	0.9354		
2230	3.37	3.21						3.25	77.0	0.9534		
2400	3.37	3.22						3.26	69.0	0.9597		

STORM RAINFALL AND RUNOFF RECORD									
1980 WATER YEAR									
STA. NO.	SMUAL CREEK AT 12TH. STREET, AUSTIN, TEXAS								
STORM OF MAY 12, 1980									
DATE & TIME	1SH	2SHL	GAGE	NUM	BEH	WEIGHTED PRECIP. IN.	DISCHARGE IN	ACCUM. IN.	RUNOFF
MAY 12									
0000	0.0	0.0				0.0	1.0	0.0005	0.0005
0030	0.01	0.0				0.00	1.0	0.0011	0.0011
0900	0.04	0.01				0.02	1.0	0.0011	0.0011
0915	0.12	0.12				0.12	1.0	0.0011	0.0011
0930	0.31	0.21				0.23	1.0	0.0012	0.0012
1000	0.37	0.27				0.29	9.0	0.0015	0.0015
1010	0.41	0.33				0.35	9.6	0.0017	0.0017
1015	0.51	0.58				0.56	9.9	0.0018	0.0018
1020	0.86	1.06				1.01	25.0	0.0020	0.0020
1025	0.95	1.36				1.26	40.0	0.0024	0.0024
1030	1.26	1.40				1.37	55.0	0.0036	0.0036
1045	1.26	1.41				1.37	70.0	0.0057	0.0057
1100	1.27	1.41				1.38	116.0	0.0092	0.0092
1115	1.27	1.41				1.38	500.0	0.0243	0.0243
1130	1.27	1.41				1.38	1500.0	0.0621	0.0621
1140	1.30	1.44				1.41	1770.0	0.0889	0.0889
1145	1.32	1.48				1.44	1900.0	0.1081	0.1081
1150	1.33	1.53				1.48	1850.0	0.1361	0.1361
1200	1.40	1.71				1.64	1750.0	0.1802	0.1802
1215	1.51	1.82				1.75	1540.0	0.2501	0.2501
1245	1.61	1.85				1.79	1170.0	0.3387	0.3387
1330	1.61	1.85				1.79	942.0	0.3957	0.3957
1345	1.61	1.85				1.79	942.0	0.4242	0.4242
1400	1.61	1.85				1.79	513.0	0.4475	0.4475
1430	1.62	1.85				1.79	396.0	0.4775	0.4775
1515	1.62	1.85				1.79	263.0	0.5013	0.5013
1600	1.63	1.85				1.80	206.0	0.5356	0.5356
1800	1.63	1.86				1.80	138.0	0.5690	0.5690
2000	1.63	1.86				1.80	94.0	0.5918	0.5918
2200	1.63	1.86				1.80	77.0	0.6104	0.6104
2400	1.63	1.86				1.80	67.0	0.6307	0.6307
MAY 13									
0000	1.63	1.86				1.80	67.0	0.6307	0.6307
0600	1.63	1.86				1.80	50.0	0.6822	0.6822
1300	1.63	1.86				1.80	41.0	0.7021	0.7021

WALLER CREEK DRAINAGE BASIN

The locations of data-collection sites in the Waller Creek drainage basin are shown on figure 11.

A summary of storm rainfall and runoff is shown in table 10.

Daily and monthly rainfall totals for the 1980 water year are given in table 17.

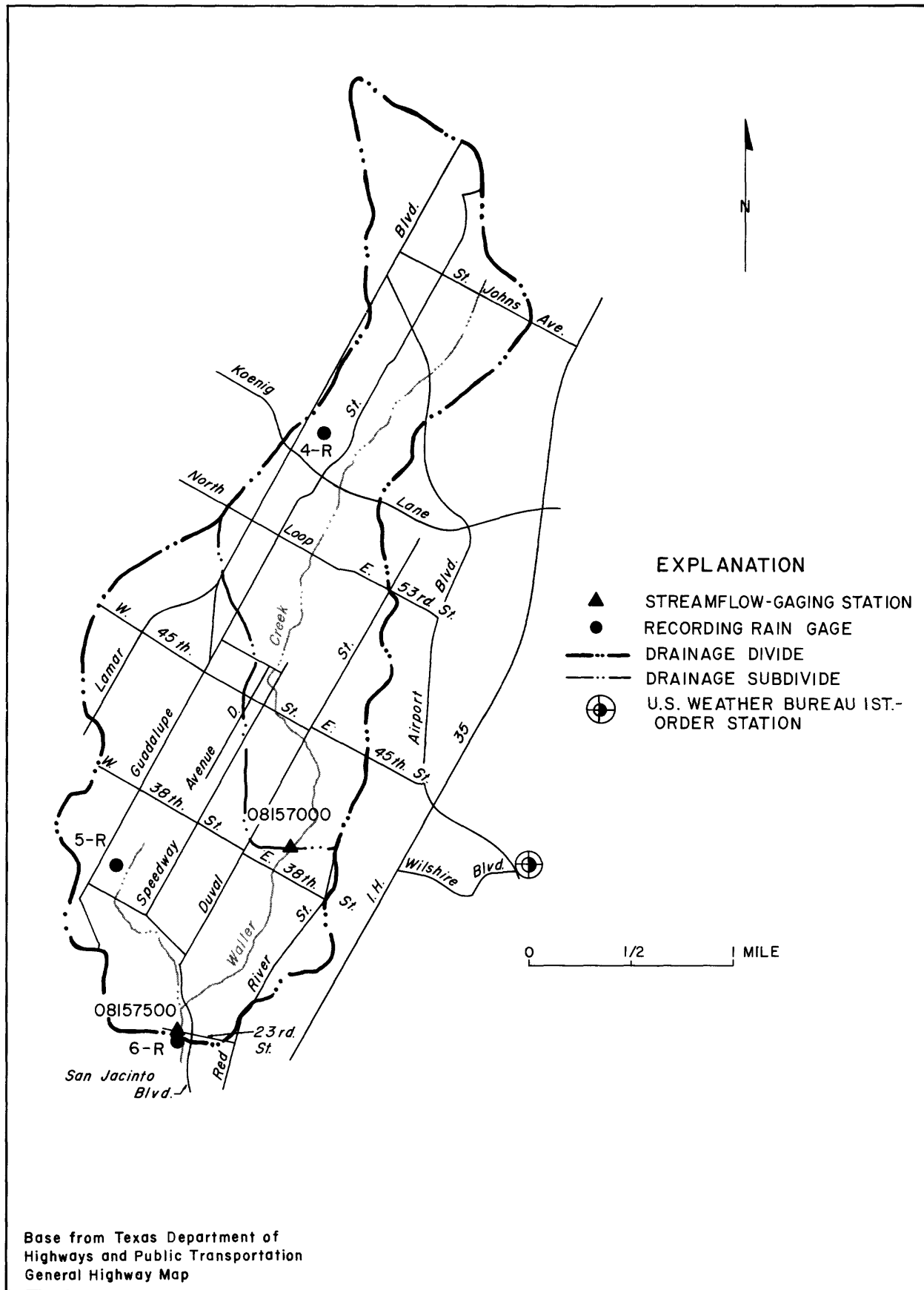


Figure 11.-Locations of surface -water data-collection sites in the Waller Creek drainage basin

ANNUAL STORM RAINFALL--RUNOFF SUMMARY DATA

Table 10 --Storm rainfall-runoff data, 1980 water year, Waller Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Waller Creek at 38th Street, Austin, Texas (Drainage area.--2.31 mi ²)								
May 12, 1980	8	1.56	0.57	0.66	0.85	0.49	0.31	327
Waller Creek at 23rd Street, Austin, Texas (Drainage area.--4.13 mi ²)								
May 12, 1980	8	1.47	.57	.62	.85	.38	.26	476

COLORADO RIVER BASIN

08157000 WALLER CREEK AT 38TH STREET, AUSTIN, TX

LOCATION.--Lat 30°17'49", long 97°43'36", Travis County, Hydrologic Unit 12090205, on right bank 200 ft (61 m) upstream from bridge at East 38th Street in Austin, 1.1 mi (1.8 km) upstream from West Branch of Waller Creek, and 3.3 mi (5.3 km) upstream from Colorado River.

DRAINAGE AREA.--2.31 mi² (5.98 km²).

PERIOD OF RECORD.--April 1955 to September 1980 (discontinued).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 555.44 ft (169.298 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow slightly regulated at times by a small reservoir at the Perry School (formerly Holy Cross High School) on East 41st Street and a small swimming pool at the school which is drained into the creek every week or two during the summer. Water from other swimming pools also drain into the creek. Station is part of hydrologic research project to study rainfall-runoff relation for small urban areas. Two recording rain gages are located in the watershed. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 1.69 ft³/s (0.0479 m³/s), 9.94 in/yr (252 mm/yr), 1,220 acre-ft/yr (1.50 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,970 ft³/s (55.8 m³/s) Oct. 29, 1960, gage height, 7.77 ft (2.368 m); no flow for many days in 1955-57, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 327 ft³/s (9.26 m³/s) May 12 at 1245 hours, gage height, 4.95 ft (1.509 m), no other peak above base of 300 ft³/s (8.50 m³/s); minimum daily, 0.33 ft³/s (0.009 m³/s) Aug. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.42	.54	.53	.52	.95	.68	9.1	.80	.66	.69	.35
2	.39	.48	.46	.52	.58	.55	.93	.59	.55	.66	.68	.41
3	.42	.44	.49	.54	.59	.55	.56	.54	.78	.66	.68	.46
4	.37	.52	.49	.53	.53	.58	.59	.53	.77	.66	.41	.44
5	.40	.45	.48	.52	.49	.54	.55	.52	.84	.68	.64	.52
6	.40	.43	.48	.48	.51	.55	.58	.55	.76	.67	.82	13
7	.44	.44	.50	.50	5.6	.58	.55	11	.77	.41	.66	15
8	.43	.46	.48	.52	2.7	.56	.54	21	.77	.65	.63	.94
9	.42	.44	.47	.50	12	.55	.54	.68	.61	.67	.66	6.1
10	.41	.48	.50	.54	.82	.54	.56	.58	.77	.68	4.0	.43
11	.39	.86	.49	.51	.68	.55	.57	.55	.72	.70	.40	.40
12	.42	.45	8.0	.47	.59	.61	1.5	30	.77	.71	.66	.39
13	.43	.48	1.8	.48	.55	.54	4.0	18	.72	.63	.63	.41
14	.43	.46	.52	.52	.49	.54	.60	4.2	.73	.39	.65	.41
15	.45	.46	.53	.53	.55	.54	.64	14	.73	.63	.67	.38
16	.44	.47	.54	.52	6.6	.91	.53	4.7	.46	.64	2.0	.37
17	.43	.49	.49	.58	.68	.54	.53	1.5	.72	.64	.71	.36
18	.40	.48	.49	.55	.58	.53	.54	1.0	.70	.64	.39	.37
19	.41	.49	.50	.51	.55	.55	.54	2.2	.72	.67	.64	5.0
20	.41	.46	.51	1.4	.52	.53	.52	.65	.70	.67	.63	.37
21	.42	.57	.52	3.1	.55	.53	.52	1.0	4.8	.45	.67	.36
22	.41	.46	.52	6.9	1.1	.52	.53	.64	.73	.66	.77	.36
23	.39	.44	14	.88	.58	.56	.54	.61	.49	.65	.68	.39
24	.42	.93	.62	.55	.55	.54	.54	.63	.68	.67	.57	.36
25	.41	.66	.52	.50	.55	1.0	17	.63	.70	.68	.60	8.6
26	.42	.48	.52	.49	.55	.56	.55	.60	.71	.71	.35	16
27	.41	.45	.52	.47	.55	51	.53	.59	.69	.68	.36	1.2
28	.41	.44	18	.49	.52	1.3	.55	.58	.68	2.8	.35	6.1
29	.43	.44	2.1	.53	1.4	.76	.58	.53	.72	.70	.36	.49
30	12	.47	.57	.52	---	.66	.55	.60	.45	.68	.34	3.2
31	.50	---	.53	.52	---	.63	---	.80	---	.68	.33	---
TOTAL	24.54	15.00	57.18	26.20	42.48	69.85	37.94	129.10	25.04	22.08	22.63	83.17
MEAN	.79	.50	1.84	.85	1.46	2.25	1.26	4.16	.83	.71	.73	2.77
MAX	12	.93	18	6.9	12	51	17	30	4.8	2.8	4.0	.16
MIN	.37	.42	.46	.47	.49	.52	.52	.52	.45	.39	.33	.35
CFSM	.34	.22	.80	.37	.63	.97	.55	1.80	.36	.31	.32	1.20
IN.	.40	.24	.92	.42	.68	1.12	.61	2.08	.40	.36	.36	1.34
AC-FT	49	30	113	52	84	139	75	256	50	44	45	165
(††)	1.20	.57	3.42	1.20	2.32	3.09	2.03	6.36	.61	.43	1.24	6.66
CAL YR 1979	TOTAL 838.01	MEAN 2.30	MAX 154	MIN .19	CFSM 1.00	IN 13.49	AC-FT 1660	†† 39.71				
WTR YR 1980	TOTAL 555.21	MEAN 1.52	MAX 51	MIN .33	CFSM .66	IN 8.94	AC-FT 1100	†† 29.13				

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

STORM RAINFALL AND RUNOFF RECORD										
STA. NO.	1980 WATER YEAR									
STORM OF MAY 12, 1980										
WALLER CREEK AT 38TH. STREET, AUSTIN, TEXAS										
DATE & TIME	G A U G E N U M B E R			5-R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN	ACCUM. RUNOFF	CFS	IN.	
	4-R	5-R	6-R							
MAY 12										
0000	0.0	0.0		0.0	0.0	0.6	0.0017			
0830	0.0	0.01		0.01	0.00	0.6	0.0036			
0915	0.06	0.06		0.06	0.06	0.6	0.0038			
0925	0.08	0.15		0.15	0.09	0.6	0.0038			
0940	0.17	0.17		0.17	0.17	0.6	0.0040			
1005	0.22	0.22		0.22	0.22	1.0	0.0041			
1010	0.24	0.40		0.40	0.27	1.0	0.0042			
1015	0.34	0.51		0.51	0.37	1.1	0.0043			
1020	0.60	0.51		0.51	0.58	7.1	0.0047			
1025	0.81	0.51		0.51	0.75	13.0	0.0065			
1045	0.82	0.51		0.51	0.76	57.0	0.0176			
1100	0.82	0.51		0.51	0.76	274.0	0.0636			
1115	0.82	0.52		0.52	0.76	282.0	0.1030			
1125	0.82	0.53		0.53	0.76	203.0	0.1200			
1130	0.82	0.60		0.60	0.78	164.0	0.1292			
1135	0.83	0.68		0.68	0.80	147.0	0.1374			
1140	0.89	0.85		0.85	0.88	130.0	0.1447			
1145	0.98	1.06		1.06	1.00	113.0	0.1510			
1150	1.11	1.15		1.15	1.12	139.0	0.1587			
1155	1.26	1.19		1.19	1.25	164.0	0.1679			
1200	1.36	1.19		1.19	1.33	190.0	0.1838			
1210	1.40	1.37		1.37	1.39	203.0	0.2065			
1220	1.57	1.37		1.37	1.53	244.0	0.2338			
1230	1.58	1.38		1.38	1.54	315.0	0.2778			
1245	1.58	1.38		1.38	1.54	327.0	0.3327			
1300	1.58	1.38		1.38	1.54	248.0	0.3743			
1315	1.58	1.38		1.38	1.54	158.0	0.4008			
1330	1.58	1.38		1.38	1.54	104.0	0.4269			
1400	1.59	1.38		1.38	1.55	67.0	0.4438			
1415	1.59	1.38		1.38	1.55	41.0	0.4507			
1430	1.59	1.38		1.38	1.55	29.0	0.4580			
1500	1.59	1.39		1.39	1.55	19.0	0.4643			
1530	1.59	1.39		1.39	1.55	13.0	0.4709			
1630	1.60	1.39		1.39	1.56	7.7	0.4773			
1800	1.60	1.40		1.40	1.56	4.1	0.4835			
2100	1.60	1.40		1.40	1.56	2.3	0.4881			
2400	1.60	1.40		1.40	1.56	1.8	0.4900			

COLORADO RIVER BASIN

08157500 WALLER CREEK AT 23D STREET, AUSTIN, TX

LOCATION.--Lat 30°17'08", long 97°44'01", Travis County, Hydrologic Unit 12090205, on San Jacinto Boulevard, 50 ft (15 m) upstream from bridge on East 23d Street in Austin, and 2.1 mi (3.4 km) upstream from Colorado River.

DRAINAGE AREA.--4.13 mi² (10.70 km²).

PERIOD OF RECORD.--December 1954 to September 1980 (discontinued).

Water-quality records: Periodic chemical, biochemical, and pesticide analyses: October 1970 to September 1971.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 509.95 ft (155.433 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Some regulation by small dam upstream. Diversion of city water into channel during the summer months from municipal and private swimming pools. Some diversions into and out of drainage area by storm sewers. Station is part of a hydrologic research project to study rainfall-runoff relation for small urban areas. Three recording rain gages are located in the watershed. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 3.51 ft³/s (0.099 m³/s), 11.54 in/yr (293 mm/yr), 2,540 acre-ft/yr (3.13 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,020 ft³/s (114 m³/s) Oct. 11, 1973, gage height, 9.00 ft (2.743 m); minimum daily, 0.2 ft³/s (0.006 m³/s) at times in 1955-57.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since 1885 occurred Apr. 22, 1915, stage unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 520 ft³/s (14.7 m³/s) Mar. 27, gage height, 4.13 ft (1.259 m), no peak above base of 800 ft³/s (22.7 m³/s); minimum daily, 0.44 ft³/s (0.012 m³/s) Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	.56	.68	.79	.69	1.7	1.6	14	1.0	.83	.85	.44
2	.57	.67	.60	.80	1.2	.72	1.8	.81	.94	.92	.79	.50
3	.59	.58	.63	.75	.72	.76	.99	.70	1.0	.91	.86	.48
4	.53	.62	.68	.78	.72	.79	.92	.71	.98	.75	.71	.48
5	.55	.63	.61	.71	.67	.77	.82	.75	1.0	.83	.80	.47
6	.62	.65	.61	.71	.68	.78	.91	.70	.93	.84	2.3	20
7	.75	.63	.67	.72	11	.82	.90	17	.96	.70	.92	30
8	.54	.70	.62	.75	5.4	.76	.82	29	.92	.78	.82	3.0
9	.56	.60	.64	.76	20	.72	.79	1.1	.91	.78	.82	5.9
10	.52	.56	.68	1.1	1.1	.74	.80	.85	.87	.83	14	.69
11	.51	1.3	.69	.73	1.0	.73	.88	.83	.88	.90	.84	.60
12	.53	.61	17	.64	.90	1.1	3.3	42	.95	.81	.83	.56
13	.51	.61	3.3	.68	.83	.75	8.0	27	.93	.76	.76	.55
14	.53	.58	.75	.69	.79	.74	.95	6.8	.85	.72	.82	.61
15	.58	.58	.80	.71	.86	.70	.88	22	.87	.79	.87	.49
16	.61	.65	.68	.74	13	1.8	.85	7.4	.77	1.0	5.0	.54
17	.66	.76	.65	1.1	1.0	.76	.84	2.4	.88	1.0	.95	.57
18	.56	.63	.72	.74	.97	.71	.81	2.3	.93	.83	.73	.58
19	.61	.67	.70	.67	.86	.77	.77	4.0	.92	.80	.67	11
20	.53	.59	.77	3.5	.82	.72	.85	1.1	.82	.75	.98	.59
21	.52	1.6	.77	5.5	.83	.72	.77	2.0	7.6	.78	.90	.51
22	.51	.54	.88	12	1.2	.70	.86	1.0	.90	.83	1.0	.51
23	.48	.59	24	1.2	.78	.74	.86	1.1	.71	.90	.79	.53
24	.54	2.2	1.0	.84	.75	.74	.84	.95	1.2	.98	.80	.62
25	.52	1.1	.77	.71	.77	2.5	27	.92	.92	.88	.88	21
26	.57	.66	.77	.64	.80	.82	.83	.93	1.0	.87	.60	21
27	.51	.61	.79	.79	.79	83	.75	.89	.93	.81	.51	4.5
28	.50	.56	29	.88	.79	2.5	.78	.82	.89	5.5	.54	11
29	.56	.59	3.3	.98	2.7	1.4	.86	.84	.80	.83	.54	.97
30	23	.61	.87	.84	---	1.0	.82	.96	.85	.81	.49	5.1
31	.83	---	.77	.70	---	.98	---	.92	---	.84	.47	---
TOTAL	39.99	22.24	95.40	43.15	72.62	112.44	62.85	192.78	34.11	30.56	42.84	143.79
MEAN	1.29	.74	3.08	1.39	2.50	3.63	2.10	6.22	1.14	.99	1.38	4.79
MAX	.23	2.2	.29	12	20	.83	.27	.42	7.6	5.5	14	.30
MIN	.48	.54	.60	.64	.67	.70	.75	.70	.71	.70	.47	.44
CFSM	.31	.18	.75	.34	.61	.88	.51	1.51	.28	.24	.33	1.16
IN.	.36	.20	.86	.39	.65	1.01	.57	1.74	.31	.28	.39	1.29
AC-FT	.79	.44	189	.86	144	223	125	382	68	61	85	285
(††)	1.32	.56	3.38	1.19	2.35	3.14	2.03	6.31	.50	.42	1.50	6.82

CAL YR 1979 TOTAL 1521.29 MEAN 4.17 MAX 270 MIN .48 CFSM 1.01 IN 13.70 AC-FT 3020 †† 41.89
WTR YR 1980 TOTAL 892.77 MEAN 2.44 MAX 83 MIN .44 CFSM .59 IN 8.04 AC-FT 1770 †† 29.52

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

STORM RAINFALL AND RUNOFF RECORD										1980 WATER YEAR							
STORM OF MAY 12, 1980										ACCUM.							
WALLEK CREEK AT 23RD. STREET, AUSTIN, TEXAS										WEIGHTED							
G A G E N U M B E R										PRECIP.							
4-R										5-R		6-R		CFS		IN.	
MAY 12										0.0		0.0		0.8		0.0013	
0000										0.0		0.0		0.0		0.0029	
0830										0.01		0.0		0.0		0.0031	
0920										0.11		0.04		1.4		0.0034	
0930										0.15		0.05		2.4		0.0045	
1000										0.19		0.09		9.0		0.0057	
1010										0.40		0.10		24.0		0.0067	
1015										0.51		0.28		32.0		0.0082	
1020										0.51		0.33		50.0		0.0104	
1025										0.51		0.33		86.0		0.0157	
1030										0.51		0.34		206.0		0.0351	
1045										0.51		0.34		102.0		0.0446	
1100										0.52		0.34		162.0		0.0598	
1115										0.60		0.34		231.0		0.0815	
1130										0.82		0.51		164.0		0.0969	
1145										1.06		0.88		288.0		0.1239	
1200										1.19		1.06		476.0		0.1685	
1215										1.37		1.10		432.0		0.2091	
1230										1.38		1.11		377.0		0.2444	
1245										1.38		1.11		327.0		0.2751	
1300										1.38		1.11		243.0		0.2979	
1315										1.38		1.11		158.0		0.3201	
1330										1.38		1.11		89.0		0.3368	
1400										1.59		1.11		57.0		0.3475	
1430										1.59		1.11		35.0		0.3574	
1500										1.39		1.11		18.0		0.3641	
1600										1.40		1.11		11.0		0.3682	
1700										1.40		1.11		7.6		0.3725	
1800										1.40		1.11		4.8		0.3761	
2000										1.40		1.11		3.5		0.3787	
2200										1.40		1.11		3.0		0.3799	
2400										1.40		1.11					

COLORADO RIVER BASIN

08157900 TOWN LAKE AT AUSTIN, TX

LOCATION.--Lat 30°14'56", long 97°43'03", Travis County, Hydrologic Unit 12090205, at Longhorn Dam on the Colorado River at Austin, 1.5 mi (2.4 km) downstream from Interstate Highway 35, and 2.3 mi (3.7 km) southeast of the State Capitol in Austin.

DRAINAGE AREA.--38,390 mi² (99,430 km²), approximately, of which 12,880 mi² (33,360 km²) probably is noncontributing.

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: February 1975 to current year.

301559097424801 TOWN LAKE (AUSTIN) SITE AR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
03...	1115	1.0	500	7.8	14.0	8.7	84
03...	1117	10	500	7.8	14.0	8.7	84
03...	1119	25	500	7.8	14.0	8.7	84
28...	1115	1.0	510	7.9	18.0	7.9	85
28...	1117	10	515	7.9	17.0	7.9	83
28...	1119	24	515	7.9	17.0	7.8	82
MAY							
19...	1159	1.0	470	7.7	24.0	7.8	93
19...	1201	10	449	7.6	22.5	6.4	74
19...	1203	23	449	7.4	20.5	4.8	53
JUL							
31...	1120	1.0	492	7.8	26.0	7.0	86
31...	1123	10	492	7.8	24.5	7.3	87
31...	1125	15	492	7.8	24.0	7.2	86
31...	1128	24	492	7.8	24.0	7.0	83

301500097424801 TOWN LAKE (AUSTIN) SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK (M))	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR										
03...	1037	1.0	515	7.8	14.0	2.30	0	1.9	8.8	85
03...	1039	10	515	7.8	14.0	--	--	--	8.8	85
03...	1041	22	515	7.8	14.0	--	2	2.0	8.8	85
28...	1042	1.0	477	7.8	18.0	.90	10	7.2	7.6	82
28...	1044	10	491	7.8	17.0	--	--	--	7.6	80
28...	1046	20	491	7.8	17.0	--	--	--	7.5	79
28...	1048	23	491	7.7	17.0	--	5	3.6	7.5	79
MAY										
19...	1131	1.0	470	7.7	23.5	1.37	5	2.6	7.8	92
19...	1133	10	466	7.5	21.5	--	--	--	6.0	68
19...	1135	20	463	7.4	20.5	--	--	--	4.9	54
19...	1137	30	463	7.3	20.0	--	5	15	3.9	43
JUL										
31...	1040	1.0	492	7.8	26.0	2.29	0	1.2	7.0	86
31...	1045	10	492	7.8	24.0	--	--	--	7.3	87
31...	1050	15	492	7.8	24.0	--	--	--	7.0	83
31...	1055	23	492	7.8	24.0	--	0	.90	7.0	83

DATE	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
MAR										
03...	.1	780	8	2	210	38	51	20	26	.8
03...	--	--	--	--	--	--	--	--	--	--
03...	.3	--	--	--	210	38	51	20	27	.8
28...	1.3	>2000	2000	780	190	35	45	19	23	.7
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	1.2	--	--	--	200	33	46	20	24	.7
MAY										
19...	1.0	3100	200	43	210	32	57	17	15	.4
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
19...	.5	--	--	--	180	27	45	17	18	.6
JUL										
31...	.6	620	440	K3	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	.3	--	--	--	200	32	44	21	24	.7

COLORADO RIVER BASIN
TOWN LAKE AT AUSTIN, TX--Continued

30150097424801 TOWN LAKE (AUSTIN) SITE AC--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)
MAR										
03...	2.8	210	0	36	40	.2	7.3	286	0	0
03...	--	--	--	--	--	--	--	--	--	--
03...	2.8	210	0	34	41	.2	7.2	286	2	2
28...	3.2	190	0	32	39	.3	7.2	262	0	0
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	3.2	200	0	33	39	.3	7.3	271	5	6
MAY										
19...	2.4	220	0	25	22	.2	8.5	256	13	13
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
19...	2.8	190	0	27	31	.2	8.3	243	24	15
JUL										
31...	3.0	200	0	--	--	--	--	--	0	0
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	3.0	200	0	30	44	.3	8.8	274	1	1

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR										
03...	.19	.010	.20	.070	.33	.40	.60	.020	<10	3
03...	.15	.010	.16	.070	.33	.40	.56	.030	10	10
03...	.27	.010	.28	.100	.53	.63	.91	.030	<10	3
28...	.12	.010	.13	.080	.60	.68	.81	.070	<10	3
28...	.04	.000	.04	.040	.79	.83	.87	.050	30	0
28...	--	--	--	--	--	--	--	--	--	--
28...	.14	.010	.15	.100	.48	.58	.73	.040	<10	4
MAY										
19...	.32	.010	.33	.030	.45	.48	.81	.010	<10	<3
19...	.22	.010	.23	.100	.90	1.0	1.2	.010	20	0
19...	--	--	--	--	--	--	--	--	--	--
19...	.17	.010	.18	.150	.73	.88	1.1	.050	<10	20
JUL										
31...	.12	.010	.13	.030	.59	.62	.75	.010	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	.11	.010	.12	.030	.64	.67	.79	.010	<10	5

301503097424701 TOWN LAKE (AUSTIN) SITE AL
WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TENPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
03...	1125	1.0	520	7.8	14.0	8.7	84
03...	1127	10	520	7.8	14.0	8.7	84
03...	1129	15	520	7.8	14.0	8.8	85
28...	1105	1.0	477	7.8	18.5	7.5	82
28...	1107	12	491	7.8	17.0	7.3	77
MAY							
19...	1116	1.0	479	7.7	24.0	8.0	95
19...	1118	10	466	7.5	21.5	6.5	74
19...	1120	17	463	7.4	20.5	5.1	57
JUL							
31...	1130	1.0	492	7.8	26.0	7.3	90
31...	1132	10	492	7.8	24.0	7.3	87
31...	1135	17	492	7.8	24.0	7.3	87

COLORADO RIVER BASIN

TOWN LAKE AT AUSTIN, TX--Continued

301500097440801 TOWN LAKE (AUSTIN) SITE BR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
03...	1145	1.0	555	7.7	14.0	8.7	84
03...	1147	13	555	7.7	14.0	8.4	82
28...	1130	1.0	301	7.6	17.0	7.1	75
28...	1132	10	290	7.6	16.5	7.0	73
28...	1134	13	290	7.6	16.5	7.0	73
MAY							
19...	1228	1.0	500	7.5	24.0	7.3	87
19...	1230	12	496	7.4	22.5	5.9	68
JUL							
31...	1150	1.0	492	7.8	24.5	7.1	85
31...	1152	10	492	7.8	24.0	7.1	85
31...	1155	21	492	7.8	24.0	7.1	85

301504097440901 TOWN LAKE (AUSTIN) SITE BC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
03...	1135	1.0	555	7.7	14.0	8.5	83
03...	1137	10	555	7.7	14.0	8.5	83
03...	1139	20	555	7.7	14.0	8.4	82
03...	1141	25	555	7.7	14.0	8.4	82
28...	1125	1.0	280	7.7	17.0	7.2	76
28...	1127	10	301	7.7	16.5	7.2	75
28...	1129	20	301	7.7	16.5	7.1	74
MAY							
19...	1215	1.0	500	7.5	23.5	7.4	87
19...	1217	10	498	7.4	22.5	6.6	77
19...	1219	20	496	7.4	22.0	5.8	67
19...	1221	25	496	7.4	22.0	5.9	68
JUL							
31...	1140	1.0	492	7.8	25.0	7.2	87
31...	1143	10	492	7.8	24.0	7.1	85
31...	1145	20	492	7.8	24.0	7.0	83
31...	1148	28	492	7.8	24.0	6.9	82

301544097445201 TOWN LAKE (AUSTIN) SITE CR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
03...	1208	1.0	588	7.6	14.0	10.7	104
03...	1210	8.0	588	7.6	14.0	10.7	104
28...	1155	1.0	489	7.4	20.0	6.7	74
28...	1157	6.0	421	7.6	17.0	6.5	68
MAY							
19...	1255	1.0	496	7.5	22.0	7.6	87
19...	1257	9.0	496	7.5	21.5	7.6	86
JUL							
31...	1217	1.0	496	7.7	23.0	6.8	79
31...	1220	8.0	496	7.7	23.0	6.8	79

COLORADO RIVER BASIN

TOWN LAKE AT AUSTIN, TX--Continued

30154609745101 TOWN LAKE (AUSTIN) SITE CC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
03...	1157	1.0	588	7.6	14.0	10.5	102
03...	1159	10	588	7.6	14.0	10.5	102
03...	1201	15	588	7.6	14.0	10.5	102
28...	1145	1.0	454	7.5	19.5	7.1	78
28...	1147	10	358	7.6	17.0	6.8	72
28...	1149	15	328	7.6	17.0	6.7	71
MAY							
19...	1242	1.0	496	7.5	21.5	7.7	88
19...	1244	10	496	7.5	21.5	7.7	88
19...	1246	19	496	7.4	21.5	7.8	89
JUL							
31...	1210	1.0	496	7.7	24.0	6.9	82
31...	1213	10	492	7.8	23.5	6.9	80
31...	1215	14	492	7.8	23.5	6.7	79

301556097452301 TOWN LAKE (AUSTIN) SITE DR

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
03...	1240	1.0	569	7.7	14.0	10.8	105
03...	1242	10	569	7.7	14.0	10.8	105
03...	1244	15	569	7.7	14.0	10.9	106
28...	1220	1.0	525	7.2	20.5	6.2	70
28...	1222	11	480	7.6	17.0	6.1	--
MAY							
19...	1325	1.0	496	7.5	23.0	7.8	91
19...	1327	13	496	7.5	21.5	7.3	83
JUL							
31...	1255	1.0	500	7.6	23.5	7.3	86
31...	1258	12	500	7.7	23.0	6.8	79

301558097452201 TOWN LAKE (AUSTIN) SITE DC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (h)	COLOR (PLAT- NUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR										
03...	1220	1.0	569	7.8	14.0	5.5	2	1.3	10.7	104
03...	1222	10	569	7.8	14.0	--	--	--	10.7	104
03...	1224	18	569	7.8	14.0	--	5	.80	10.6	103
28...	1205	1.0	507	7.2	19.5	--	20	15	6.1	68
28...	1207	10	480	7.7	17.0	--	--	--	6.8	72
28...	1209	21	463	7.7	17.0	--	20	7.8	6.4	67
MAY										
19...	1306	1.0	492	7.5	22.0	2.19	5	1.8	8.0	92
19...	1308	10	490	7.6	21.5	--	--	--	7.7	88
19...	1310	19	490	7.6	21.5	--	0	6.7	7.7	88
JUL										
31...	1230	1.0	492	7.8	22.5	2.29	0	.80	6.7	77
31...	1235	10	492	7.8	22.5	--	--	--	6.7	77
31...	1240	22	492	7.8	22.5	--	0	1.1	6.6	76

COLORADO RIVER BASIN

LOWE LAKE AT AUSTIN, TX--Continued

301558G97452201 LOWE LAKE (AUSTIN) SITE DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	OXYGEN DEMAND, BIOCHEM INHIBIT 5 DAY (MG/L)	COLI- FORM, TOTAL, TIMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, UM-HF (COLS./ 100 ML)	SIREP- 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
MAR										
03...	.6	440	82	49	260	44	65	23	23	.6
03...	--	--	--	--	--	--	--	--	--	--
03...	.1	--	--	--	250	39	63	23	22	.6
28...	1.2	>4600	4600	7200	230	42	61	19	18	.5
28...	--	--	--	--	--	--	--	--	--	--
28...	.9	--	--	--	190	38	43	19	22	.7
MAY										
19...	.4	460	140	36	210	32	52	20	18	.5
19...	--	--	--	--	--	--	--	--	--	--
19...	.5	--	--	--	200	32	49	20	19	.6
JUL										
31...	.4	460	100	K14	190	25	41	21	25	.8
31...	--	--	--	--	--	--	--	--	--	--
31...	.4	--	--	--	190	25	41	21	25	.8

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDEd (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDEd (MG/L)
MAR										
03...	2.2	260	0	34	37	.2	5.4	318	0	0
03...	--	--	--	--	--	--	--	--	--	--
03...	2.2	260	0	46	36	.2	5.1	326	0	0
28...	2.4	230	0	31	30	.3	9.1	284	14	5
28...	--	--	--	--	--	--	--	--	--	--
28...	3.2	180	0	33	37	.3	7.5	254	10	8
MAY										
19...	2.6	220	0	28	30	.2	8.2	267	14	15
19...	--	--	--	--	--	--	--	--	--	--
19...	2.7	210	0	29	35	.3	8.1	267	16	3
JUL										
31...	3.3	200	0	29	45	.3	8.2	271	0	0
31...	--	--	--	--	--	--	--	--	--	--
31...	3.3	200	0	29	44	.3	8.3	271	0	0

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS Fe)	MANGA- NESE, DIS- SOLVED (UG/L AS Mn)
MAR										
03...	.50	.010	.51	.030	.26	.29	.80	.000	<10	4
03...	.53	.010	.54	.010	.85	.86	1.4	.000	10	10
03...	.28	.010	.29	.010	.36	.37	.66	.020	<10	4
28...	.46	.010	.47	.060	.77	.83	1.3	.060	<10	8
28...	.11	.000	.11	.060	.72	.78	.89	.040	40	10
28...	.10	.010	.11	.100	.77	.87	.98	.050	30	10
MAY										
19...	.21	.010	.22	.030	.34	.37	.59	.010	<10	10
19...	.13	.010	.14	.010	.44	.45	.59	.030	20	20
19...	.18	.010	.19	.030	.37	.40	.59	.010	<10	10
JUL										
31...	.09	.000	.09	.010	.58	.59	.68	.010	<10	8
31...	.09	.010	.10	.010	.99	1.0	1.1	.010	0	10
31...	.09	.010	.10	.010	.95	.96	1.1	.010	<10	8

COLORADO RIVER BASIN
TOWN LAKE AT AUSTIN, TX--Continued

301712097470701 TOWN LAKE (AUSTIN) SITE EC
WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK (M)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR										
03...	1311	1.0	527	7.9	12.5	1.40	2	2.6	9.8	92
03...	1313	12	527	7.8	12.5	--	5	3.3	9.9	93
28...	1245	1.0	505	7.3	19.0	--	10	3.0	7.5	82
28...	1247	12	488	7.6	17.5	--	10	2.9	6.4	68
MAY										
19...	1342	1.0	483	7.8	21.5	1.52	5	2.9	8.3	94
19...	1344	10	483	7.8	21.5	--	--	--	8.2	93
19...	1346	19	483	7.8	21.5	--	5	2.1	8.2	93
JUL										
31...	1320	1.0	492	7.9	23.0	1.43	0	1.3	7.4	86
31...	1325	10	492	7.8	22.5	--	--	--	6.9	79
31...	1330	15	492	7.8	22.5	--	0	3.3	6.9	80

DATE	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
MAR										
03...	.6	820	6	12	210	42	48	23	27	.8
03...	.2	--	--	--	220	47	50	23	25	.7
28...	.8	220	220	230	220	37	54	20	20	.6
28...	1.0	--	--	--	200	36	47	20	22	.7
MAY										
19...	.8	10000	44	10	200	33	46	20	20	.6
19...	--	--	--	--	--	--	--	--	--	--
19...	.8	--	--	--	200	33	46	20	20	.6
JUL										
31...	.5	100	28	K4	190	30	43	21	24	.8
31...	--	--	--	--	--	--	--	--	--	--
31...	.5	--	--	--	190	23	42	20	23	.7

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLTA- SUS- PENDE (MG/L)
MAR										
03...	3.3	210	0	42	43	.2	8.1	298	6	5
03...	3.2	210	0	35	43	.2	7.8	290	0	0
28...	2.6	220	0	32	35	.3	8.2	281	0	0
28...	3.1	200	0	32	40	.3	8.2	271	0	0
MAY										
19...	2.9	200	0	28	33	.2	8.1	257	20	16
19...	--	--	--	--	--	--	--	--	--	--
19...	2.9	200	0	29	33	.2	8.1	258	126	4
JUL										
31...	3.2	200	0	29	45	.3	8.7	273	1	0
31...	--	--	--	--	--	--	--	--	--	--
31...	3.2	200	0	30	45	.3	8.7	271	3	1

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR										
03...	.10	.000	.10	.030	.38	.41	.51	.010	<10	<1
03...	.09	.010	.10	.030	.40	.43	.53	.010	<10	2
28...	.43	.000	.43	.040	.77	.81	1.2	.030	<10	3
28...	.13	.000	.13	.080	2.7	2.8	2.9	.030	<10	20
MAY										
19...	.18	.010	.19	.010	.43	.44	.63	.010	<10	<3
19...	.17	.010	.18	.010	.40	.41	.59	.020	10	0
19...	.17	.010	.18	.030	.26	.29	.47	.010	<10	4
JUL										
31...	.08	.010	.09	.000	.51	.51	.60	.010	<10	1
31...	--	--	--	--	--	--	--	--	--	--
31...	.08	.010	.09	.000	.64	.64	.73	.010	<10	<1

COLORADO RIVER BASIN
TOWN LAKE AT AUSTIN, TX--Continued

301601097454001 TOWN LAKE (AUSTIN) SITE FC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
MAR							
03...	1255	1.0	647	7.3	19.0	11.8	127
28...	1228	1.0	607	7.2	22.5	11.7	136
MAY							
19...	1416	1.0	496	7.6	23.5	9.5	112
19...	1418	8.0	496	7.6	23.5	9.5	112
JUL							
31...	1305	1.0	631	7.2	23.5	10.7	126
31...	1310	6.0	631	7.2	23.0	10.4	121

301500097424801 TOWN LAKE (AUSTIN) SITE AC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JUL												
31...	1040	1.0	<3.1	<.3	<4.6	<.4	3.0	.4	2.9	.4	.15	1.2
31...	1055	23	<3.3	<.3	<4.8	<.4	4.9	<.4	4.6	<.4	.14	1.3

301712097470701 TOWN LAKE (AUSTIN) SITE EC

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JUL												
31...	1320	1.0	<3.5	<.3	<5.2	<.4	4.3	.7	4.1	.7	.08	1.1
31...	1330	15	<2.9	<.3	<4.3	<.4	4.0	.6	3.8	.6	.58	1.1

COLORADO RIVER BASIN
TOWN LAKE AT AUSTIN--Continued

301500097424801 TOWN LAKE (AUSTIN) SITE AC
WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)
MAR									
03...	1037	1.0	.0	.00	.00	.0	.00	.00	.00
03...	1041	22	.0	.00	.00	.0	.00	.00	.00
JUL									
31...	1040	1.0	.0	.00	.00	.0	.00	.00	.00
31...	1055	23	.0	.00	.00	.0	.00	.00	.00

DATE	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
MAR									
03...	.01	.00	.00	.00	.00	.00	.00	.00	.00
03...	.01	.00	.00	.00	.00	.00	.00	.00	.00
JUL									
31...	.00	.00	.00	.00	.00	.00	.00	.00	.00
31...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR								
03...	.00	.00	.00	0	.00	.02	.00	.00
03...	.00	.00	.00	0	.00	.03	.00	.00
JUL								
31...	.00	.00	.00	0	.00	.15	.00	.00
31...	.00	.00	.00	0	.00	.20	.00	.00

COLORADO RIVER BASIN

08158000 COLORADO RIVER AT AUSTIN, TX
(National stream-quality accounting network)

LOCATION.--Lat 30°14'40", long 97°41'39". Travis County, Hydrologic Unit 12090205, on right bank 1,000 ft (305 m) upstream from upstream bridge on U.S. Highway 183 in Austin, 1.4 mi (2.3 km) downstream from Longhorn Dam, and at mile 290.3 (467.1 km).

DRAINAGE AREA.--38,400 mi² (99,500 km²), approximately, of which 12,880 mi² (33,360 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1898 to current year. Records of daily discharge for Dec. 13-26, 1914, and Feb. 9-17, 1915, published in WSP 408, have been found unreliable and should not be used.

REVISED RECORDS.--WSP 508: 1915(m). WSP 528: 1900(M), 1918(m). WSP 548: 1901-16. WSP 1342: Drainage area. WSP 1562: 1908, 1929(M), 1936.

GAGE.--Water-stage recorder. Datum of gage is 402.27 ft (122.612 m) National Geodetic Vertical Datum of 1929. Prior to June 19, 1939, all records collected at or near Congress Avenue Bridge 3.9 mi (6.3 km) upstream at datum 19.6 ft (5.97 m) higher; prior to June 18, 1915, nonrecording gages, recording gages thereafter; June 20, 1939, to Oct. 16, 1963, at site 1,000 ft (305 m) downstream from present site at datum 5.0 ft (1.52 m) higher.

REMARKS.--Water-discharge records fair. National Weather Service gage-height telemeter at station. Since 1937, at least 10 percent of drainage area regulated by reservoirs. Flow largely regulated by Lake Travis (station 08154500). The city of Austin reported that 85,660 acre-ft (106 hm³) was diverted for municipal use above station and 45,120 acre-ft (55.6 hm³) of treated sewage was returned below station. Many other diversions above Lake Buchanan for irrigation, municipal supplies, and oilfield operations.

AVERAGE DISCHARGE.--38 years (water years 1899-1936) unregulated, 2,711 ft³/s (76.78 m³/s), 1,964,000 acre-ft/yr (2.42 km³/yr); 44 years (water years 1937-80) regulated, 2,008 ft³/s (56.87 m³/s), 1,454,800 acre-ft/yr (1.79 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 481,000 ft³/s (13,600 m³/s) June 15, 1935, gage height, 50 ft (15.2 m), present site and datum, from floodmark; minimum daily, 10 ft³/s (0.28 m³/s) Dec. 17, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1833, 51 ft (15.5 m) July 7, 1869, present site and datum (adjusted to present site on basis of record for flood of June 15, 1935), determined from information concerning stage at former site furnished by Dean T. U. Taylor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,170 ft³/s (146 m³/s) June 15 at 2230 hours, gage height, 8.87 ft (2.704 m); minimum daily, 30 ft³/s (0.85 m³/s) Feb. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1130	62	87	62	48	129	496	2550	2450	2260	1900	2890
2	914	84	88	92	51	121	439	2190	2450	2280	1800	2750
3	912	76	702	80	49	622	412	2150	2500	2360	2000	2630
4	940	78	124	73	48	117	380	2190	2500	2110	2250	2730
5	113	69	118	76	64	94	408	2210	2500	2270	2250	2350
6	117	75	94	78	48	94	403	2220	2500	2250	2050	2500
7	71	80	85	76	147	98	412	2560	2500	2240	2050	2230
8	71	47	82	71	142	97	948	1980	2550	2280	1800	1400
9	101	69	79	76	236	94	1120	1230	2450	2020	1600	1800
10	71	42	84	81	69	93	968	1770	2500	2060	342	1890
11	109	69	87	96	67	79	918	1770	2550	2350	1000	1820
12	81	42	189	75	66	99	1350	2460	2450	2030	1950	1550
13	75	59	135	71	64	74	1030	1440	2450	2010	2400	1530
14	103	59	77	76	68	476	1160	1450	2450	2060	2350	1540
15	87	50	78	77	30	480	1660	1890	2650	1930	2350	1520
16	288	45	90	78	172	416	1930	780	2800	1870	2450	1690
17	78	55	69	87	62	358	2020	922	2600	1880	2300	1770
18	68	63	71	96	63	381	1690	528	2350	1860	2300	1740
19	91	65	73	82	64	397	1760	1360	2650	1990	2350	2070
20	107	86	73	104	61	382	1720	1110	2700	2000	2400	2020
21	72	142	85	85	89	461	1600	1720	2500	1880	2400	1960
22	80	71	73	193	110	492	1860	2480	2500	1890	2350	1920
23	114	98	219	78	82	475	2380	2200	2450	1730	2500	1990
24	106	99	102	73	88	488	2360	2200	2450	1800	2500	1970
25	113	75	83	68	88	694	2780	2300	2650	1940	2500	1980
26	118	118	73	70	89	771	2360	2250	2500	2160	2500	1870
27	116	84	72	175	92	1260	2460	2400	2500	1900	2650	1300
28	115	74	267	2230	97	745	2390	2550	2550	1680	2650	1140
29	110	69	206	2840	94	749	2440	2500	2500	1780	2650	1470
30	217	77	90	1820	---	760	2430	2450	2500	2180	2700	930
31	92	---	94	36	---	731	---	2440	---	1980	2800	---
TOTAL	6780	2182	3849	9275	2448	12327	44284	60250	75650	63030	68092	56950
MEAN	219	72.7	124	299	84.4	398	1476	1944	2522	2033	2197	1898
MAX	1130	142	702	2840	236	1260	2780	2560	2800	2360	2800	2890
MIN	68	42	69	36	30	74	380	528	2350	1680	342	930
AC-FT	13450	4330	7630	18400	4860	24450	87840	119500	150100	125000	135100	113000
CAL YR 1979	TOTAL	438009	MEAN	1200	MAX	10600	MIN	42	AC-FT	868800		
WTR YR 1980	TOTAL	405117	MEAN	1107	MAX	2890	MIN	30	AC-FT	803500		

COLORADO RIVER BASIN

08158000 COLORADO RIVER AT AUSTIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1947 to October 1973. Chemical, biochemical, and pesticide analyses: October 1973 to current year. Sediment records: October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1947 to current year.
WATER TEMPERATURES: October 1947 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 737 micromhos Jan. 12, 1964; minimum daily, 243 micromhos Dec. 2, 1953.
WATER TEMPERATURES: Maximum daily, 33.0°C July 25, 1979; minimum daily, 6.0°C Jan. 28, 1948, Feb. 4, 1949.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 643 micromhos Oct. 29; minimum daily, 326 micromhos May 6.
WATER TEMPERATURES: Maximum daily, 25.0°C Sept. 24; minimum daily, 10.5°C Feb. 1, 2.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS./PER 100 ML)
OCT 22...	1120	88	560	7.6	23.0	.20	9.2	108	1.0	22	K18
NOV 05...	1050	94	560	7.5	21.0	.20	9.5	107	1.1	24	28
DEC 10...	1125	91	613	7.5	17.0	.50	9.9	102	.6	K6	480
JAN 07...	1100	80	548	7.3	10.0	--	12.0	107	1.2	1500	170
FEB 04...	1120	69	494	7.4	10.0	.10	12.5	111	1.0	68	K9
MAR 03...	1100	1420	490	7.7	13.0	280	15.0	143	1.1	73	66
APR 07...	0900	102	519	7.5	20.0	1.4	8.6	96	.5	K7	K3
MAY 12...	0940	191	510	7.3	20.0	3.0	8.2	91	.8	140	36
JUN 09...	1020	3960	484	7.6	23.0	3.4	9.0	105	.5	44	K12
JUL 07...	1015	3020	497	7.6	22.0	1.0	2.6	30	.7	62	47
AUG 11...	1030	76	528	7.2	27.0	.70	5.2	66	.9	1000	260
SEP 08...	1120	580	445	7.5	24.0	5.5	7.2	86	.6	4600	920

DATE	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)	SODIUM, DISSOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS Cl)
OCT 22...	240	48	60	21	25	.7	2.9	230	0	32	41
NOV 05...	230	31	60	19	21	.6	2.8	240	0	34	36
DEC 10...	270	45	72	23	26	.7	2.3	280	0	33	37
JAN 07...	240	35	65	20	23	.6	2.4	250	0	33	34
FEB 04...	200	48	47	21	28	.9	3.0	190	0	35	47
MAR 03...	210	37	51	20	24	.7	2.9	210	0	34	42
APR 07...	210	42	51	21	24	.7	3.1	210	0	32	37
MAY 12...	200	39	45	21	22	.7	3.1	200	0	31	40
JUN 09...	200	40	44	21	23	.7	3.3	190	0	30	41
JUL 07...	180	32	40	20	24	.8	3.2	190	0	28	42
AUG 11...	200	40	47	21	25	.8	3.4	200	0	27	46
SEP 08...	170	29	38	18	22	.7	3.6	170	0	28	44

COLORADO RIVER BASIN

08158000 COLORADO RIVER AT AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
OCT 22...	.2	10	327	308	.47	.47	.030	.050	.44	.41
NOV 05...	.2	9.9	307	304	.59	.57	.020	.050	.42	.43
DEC 10...	.2	11	340	344	.30	.30	.010	.010	.65	.53
JAN 07...	.3	7.2	312	311	.74	.74	.000	.030	.95	.97
FEB 04...	.2	8.1	288	284	.13	.14	.010	.020	.33	.32
MAR 03...	.3	7.2	287	286	.16	.24	.070	.090	.44	.28
APR 07...	.3	.2	285	273	.09	.10	.080	.080	.44	.42
MAY 12...	.3	8.4	278	268	.05	.15	.080	.120	.41	.50
JUN 09...	.2	8.0	272	264	.13	.13	.080	.090	.82	.39
JUL 07...	.4	7.9	277	256	.09	.09	.050	.030	1.1	.58
AUG 11...	.3	9.6	280	277	.11	.11	.060	.070	1.0	1.0
SEP 08...	.3	7.9	273	246	.06	.01	.030	.040	.79	.44

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 22...	.47	.46	.020	.010	--	2.4	.1	6	1.4	63
NOV 05...	.44	.48	.010	.010	16	--	--	24	6.1	71
DEC 10...	.66	.54	.020	.040	10	--	--	9	2.2	38
JAN 07...	.95	1.0	.240	.010	1.9	--	--	21	4.5	56
FEB 04...	.34	.34	.020	.010	--	3.0	.8	7	1.3	86
MAR 03...	.51	.37	.040	.010	3.2	--	--	26	100	67
APR 07...	.52	.50	.020	.040	4.3	--	--	16	4.4	83
MAY 12...	.49	.62	.010	.020	8.2	--	--	80	41	99
JUN 09...	.90	.48	.040	.020	--	10	.2	325	3480	20
JUL 07...	1.1	.61	.030	.010	2.7	--	--	11	90	84
AUG 11...	1.1	1.1	.020	.030	--	9.9	.1	81	17	36
SEP 08...	.82	.48	.050	.020	4.4	--	--	31	49	95

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
OCT 22...	1120	1	0	1	200	100	70	0	0	<1	0
NOV 05...	1050	--	--	--	--	--	--	--	--	--	--
JAN 07...	1100	--	--	--	--	--	--	--	--	--	--
FEB 04...	1120	1	0	1	0	0	70	1	0	3	10
APR 07...	0900	--	--	--	--	--	--	--	--	--	--
JUN 09...	1020	1	0	1	100	40	60	1	--	<1	0
JUL 07...	1015	--	--	--	--	--	--	--	--	--	--
AUG 11...	1030	1	0	2	0	0	70	2	--	<1	0

COLORADO RIVER BASIN

08158000 COLORADO RIVER AT AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, SUS-PENDEDED RECOV. (UG/L AS CR)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, SUS-PENDEDED RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, SUS-PENDEDED RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, SUS-PENDEDED RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 22...	0	0	0	0	<3	2	2	0	10	--	30
NOV 05...	--	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 04...	10	0	0	0	<3	0	0	0	50	40	<10
APR 07...	--	--	--	--	--	--	--	--	--	--	--
JUN 09...	0	0	0	--	<3	6	3	3	80	--	<10
JUL 07...	--	--	--	--	--	--	--	--	--	--	--
AUG 11...	0	0	1	--	<3	15	14	1	90	--	<10

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDEDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGANESE, SUS-PENDEDED RECOV. (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY, SUS-PENDEDED RECOV-ERABLE (UG/L AS HG)	MERCURY, DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, SUS-PENDEDED RECOV-ERABLE (UG/L AS NI)
OCT 22...	4	4	0	20	10	10	.3	.1	.2	2	0
NOV 05...	--	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 04...	4	4	0	20	10	10	.2	.0	.7	0	0
APR 07...	--	--	--	--	--	--	--	--	--	--	--
JUN 09...	3	1	2	20	20	4	.2	.1	.1	6	3
JUL 07...	--	--	--	--	--	--	--	--	--	--	--
AUG 11...	5	5	0	30	0	30	.8	.8	.0	3	0

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUS-PENDEDED TOTAL (UG/L AS SE)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, SUS-PENDEDED RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, SUS-PENDEDED RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 22...	2	1	1	0	0	0	0	0	0	5
NOV 05...	--	--	--	--	0	--	--	--	--	--
JAN 07...	--	--	--	--	0	--	--	--	--	--
FEB 04...	0	0	0	0	0	0	0	20	20	5
APR 07...	--	--	--	--	0	--	--	--	--	--
JUN 09...	3	0	0	0	0	0	0	20	--	<3
JUL 07...	--	--	--	--	0	--	--	--	--	--
AUG 11...	3	0	0	0	0	0	0	40	30	8

DATE	LENGTH OF EXPOSURE (DAYS)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL WEIGHT G/SQ M	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)
OCT 22...	27	1.02	1.18	8.42	2.00	19.0
FEB 04...	28	2.20	2.44	1.09	.040	220

COLORADO RIVER BASIN

0815800 COLORADO RIVER AT AUSTIN, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	NOV 5,79 1050	MAR 3,80 1100	MAY 12,80 0940	JUN 9,80 1020
TOTAL CELLS/ML	170	1000	0	300
DIVERSITY: DIVISION	1.3	0.7	0.0	1.5
..CLASS	1.3	0.7	0.0	1.5
...ORDER	1.3	0.7	0.0	2.1
...FAMILY	1.3	1.8	0.0	2.6
...GENUS	1.3	1.8	0.0	2.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...OOCYSTACEAE								
...OOCYSTIS	--	-	--	-	--	-	52#	17
...SCENEDESMACEAE								
...SCENEDESMUS	100#	58	--	-	--	-	--	-
..VOLVOCALES								
..CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	--	-	--	-	--	-	13	4
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
..GOSCINODISCAEAE								
...GOSCINODISCUS	--	-	--	-	--	-	--	-
...CYCLOTELLA	--	-	--	-	--	-	26	9
...MELOSIRA	--	-	--	-	--	-	26	9
..PENNALES								
...ACHNANTHACEAE								
...COCONEIS	--	-	--	-	--	-	--	-
...RHOICOSPHENIA	--	-	--	-	--	-	52#	17
...CYMBELLACEAE								
...CYMBELLA	--	-	72	7	--	-	13	4
...DIATOMACEAE								
...DIATOMA	--	-	72	7	--	-	--	-
...FRAGILARIACEAE								
...FRAGILARIA	--	-	--	-	--	-	--	-
...NAVICULACEAE								
...NAVICULA	14	8	86	8	--	-	--	-
...NITZSCHIACEAE								
...NITZSCHIA	--	-	600#	58	--	-	39	13
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
...CHROOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
...ANACYSTIS	57#	33	--	-	--	-	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
...OSCILLATORIA	--	-	210#	21	--	-	--	-
...PHORMIDIUM	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
...EUGLENA	--	-	--	-	--	-	78#	26
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
...GLENODINIUM	--	-	--	-	--	-	--	-

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

COLORADO RIVER BASIN

08158000 COLORADO RIVER AT AUSTIN, TX--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUL 7,80 1015	AUG 11,80 1030	SEP 8,80 1120			
TOTAL CELLS/ML	410	64	490			
DIVERSITY: DIVISION	0.7	0.0	1.0			
..CLASS	0.7	0.0	1.0			
..ORDER	1.0	0.7	1.2			
...FAMILY	1.2	0.7	1.3			
....GENUS	1.2	0.7	2.0			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...OOCYSTACEAE						
	--	-	--	-	--	-
...OOCYSTIS						
...SCENEDESMACEAE						
...SCENEDESMUS	--	-	52#	80	26	5
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	--	-	13#	20	13	3
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCAEAE						
...COSCINODISCUS			--	-	13	3
...CYCLOTELLA	13	3	--	-	--	-
...MELOSIRA	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
...COCONEIS	13	3	--	-	--	-
...RHOICOSPHENIA	--	-	--	-	13	3
..CYMBELLACEAE						
...CYMBELLA	--	-	--	-	--	-
..DIATOMACEAE						
...DIATOMA	--	-	--	-	--	-
..FRAGILARIACEAE						
...FRAGILARIA	13	3	--	-	--	-
...NAVICULACEAE						
...NAVICULA	--	-	--	-	--	-
...NITZSCHIAEAE						
...NITZSCHIA	13	3	--	-	26	5
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
...CHROOMONAS	--	-	--	-	13	3
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
...ANACYSTIS	13	3	--	-	--	-
..HORMOGONALES						
...OSCILLATORIACEAE						
...OSCILLATORIA	340#	81	--	-	230#	47
...PHORMIDIUM	--	-	--	-	150#	32
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
...EUGLENA	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
...GLENODINIUM	13	3	--	-	--	-

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

COLORADO RIVER BASIN

08158000 COLORADO RIVER AT AUSTIN, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT.	1979	6780	539	294	5380	48	872	34	626	210
NOV.	1979	2182	579	315	1860	52	306	37	219	230
DEC.	1979	3849	570	310	3230	51	530	37	380	220
JAN.	1980	9275	544	296	7420	48	1210	35	866	210
FEB.	1980	2448	544	297	1960	48	318	35	229	210
MAR.	1980	12327	521	284	9470	46	1520	33	1090	200
APR.	1980	44284	488	267	31900	42	5030	30	3640	190
MAY	1980	60250	478	261	42500	41	6680	30	4840	190
JUNE	1980	75650	491	268	54800	42	8650	31	6260	190
JULY	1980	63030	494	270	45900	43	7260	31	5250	190
AUG.	1980	68092	487	266	49000	42	7710	30	5580	190
SEPT	1980	56950	498	272	41800	43	6630	31	4790	200
TOTAL		405117	**	**	295000	**	46700	**	33800	**
WTD. AVG.		1107	494	270	**	43	**	31	**	190

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	510	583	553	593	523	500	500	495	443	495	485	495
2	521	570	413	451	504	583	501	499	493	492	487	493
3	530	580	570	604	549	442	490	490	504	490	482	473
4	507	590	609	609	551	562	504	493	496	493	466	504
5	490	597	611	620	502	545	503	507	491	494	486	500
6	463	598	629	492	549	562	502	326	496	495	484	458
7	538	602	625	553	520	528	465	429	500	493	492	465
8	566	599	603	613	504	550	490	480	496	497	458	469
9	555	601	496	624	544	596	502	505	497	497	477	485
10	568	602	540	524	534	517	486	483	494	499	504	496
11	557	610	573	560	559	482	498	495	496	491	491	501
12	512	605	590	576	553	582	500	483	497	479	453	489
13	582	475	603	559	540	522	488	448	491	492	486	486
14	453	500	609	626	541	548	489	445	488	493	488	490
15	550	535	602	610	526	527	491	456	490	496	486	501
16	593	546	575	602	546	543	499	477	488	495	471	499
17	579	599	550	632	511	535	485	486	505	494	488	502
18	577	518	527	624	545	552	492	484	481	490	486	491
19	537	581	507	533	553	546	494	459	492	494	491	495
20	574	506	497	597	589	534	496	489	487	496	478	494
21	586	561	560	615	518	537	491	491	489	492	488	507
22	580	591	582	619	580	535	488	490	487	509	489	521
23	592	597	576	608	592	519	492	491	490	491	497	524
24	598	604	592	610	591	527	491	490	488	500	491	534
25	596	567	505	590	604	524	438	486	490	491	502	526
26	601	611	596	614	505	522	491	490	495	507	500	470
27	600	610	577	605	546	513	485	488	490	495	497	537
28	620	606	590	596	530	546	490	484	485	493	492	540
29	643	584	555	506	577	486	492	490	489	485	495	527
30	598	591	596	481	---	495	487	493	487	492	502	526
31	587	---	518	515	---	499	---	495	---	490	495	---
MEAN	560	577	565	579	544	531	491	478	491	494	487	500

COLORADO RIVER BASIN

08158000 COLORADO RIVER AT AUSTIN, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.5	20.5	14.5	14.0	10.5	15.5	16.5	---	20.5	20.5	21.5	23.0
2	22.0	19.5	15.0	14.0	10.5	15.5	17.0	18.0	20.5	20.5	22.0	23.0
3	22.0	19.5	14.5	14.5	11.0	14.0	17.0	18.0	20.5	20.5	21.5	23.5
4	21.5	19.5	14.5	14.0	11.0	14.0	17.0	18.5	21.0	20.5	22.0	23.0
5	21.5	19.5	14.0	14.0	13.5	15.0	18.0	18.0	21.0	20.0	22.0	23.5
6	21.5	20.5	14.5	14.0	13.5	14.0	17.0	18.5	20.5	20.5	23.0	24.0
7	22.0	19.0	14.0	14.0	12.0	15.0	18.0	18.0	21.0	20.5	22.0	23.5
8	22.0	19.0	14.0	14.0	13.0	15.5	---	18.0	22.0	20.0	22.0	23.5
9	23.0	19.0	14.5	13.5	11.5	15.5	18.0	18.5	20.5	20.0	23.0	23.5
10	21.5	19.0	14.0	14.0	11.0	16.0	18.0	18.5	22.0	20.5	23.5	24.0
11	21.5	18.0	14.0	14.5	11.5	16.5	18.0	18.0	20.5	20.5	23.5	23.5
12	21.5	18.0	14.0	14.0	12.0	16.5	18.0	18.5	22.0	21.0	23.0	23.5
13	21.5	18.0	14.5	14.0	11.5	17.0	17.0	20.5	21.0	20.5	23.0	23.5
14	22.0	17.0	14.5	14.5	12.0	17.0	16.5	20.0	21.0	20.5	23.0	23.5
15	22.0	17.0	15.0	14.5	---	16.0	---	20.0	21.5	21.0	23.0	24.0
16	22.0	17.0	13.5	15.5	14.5	16.5	19.0	19.5	16.5	21.0	23.0	24.0
17	22.0	17.0	13.0	14.0	12.0	16.5	16.0	20.5	20.0	21.0	23.0	24.5
18	21.5	17.0	13.0	---	12.0	15.5	16.5	20.5	20.0	22.0	23.0	23.5
19	23.0	18.0	12.0	15.5	13.0	15.5	16.5	21.0	20.5	22.0	22.0	24.5
20	23.0	18.5	13.5	16.0	14.0	16.5	16.5	21.0	20.5	21.0	22.0	24.5
21	23.0	19.0	14.0	16.0	15.5	16.0	16.5	21.0	---	21.0	23.0	24.5
22	23.5	18.0	14.0	16.0	15.5	15.5	16.5	21.5	20.5	---	23.0	24.5
23	21.5	17.0	14.5	15.0	16.5	16.5	16.5	21.0	20.0	23.0	23.0	24.5
24	21.0	17.0	14.0	14.5	16.5	15.5	17.0	23.5	20.0	23.0	23.0	25.0
25	21.0	16.5	14.0	14.5	16.5	16.0	17.0	23.5	20.5	21.0	23.5	24.5
26	21.0	17.0	14.5	14.5	16.5	15.5	18.0	23.5	20.5	21.0	22.0	24.5
27	21.0	17.0	14.5	14.5	15.5	16.0	---	20.5	23.0	21.0	23.5	24.5
28	21.0	17.0	14.5	13.5	16.0	16.0	17.0	20.5	20.5	22.0	23.0	---
29	21.5	16.0	14.5	11.5	17.0	16.5	18.0	20.5	20.0	---	22.0	24.0
30	21.5	15.0	14.5	11.0	---	16.5	17.0	19.5	20.0	22.0	22.0	24.5
31	20.5	---	14.5	11.0	---	16.5	---	20.5	---	22.0	22.0	---
MEAN	22.0	18.0	14.0	14.0	13.5	16.0	17.0	20.0	20.5	21.0	22.5	24.0

BOGGY CREEK DRAINAGE BASIN

The locations of data-collection sites in the Boggy Creek drainage basin are shown in figure 12.

A summary of storm rainfall and runoff for the basin is shown in table 11.

Daily and monthly rainfall totals for the 1980 water year are given in table 17.

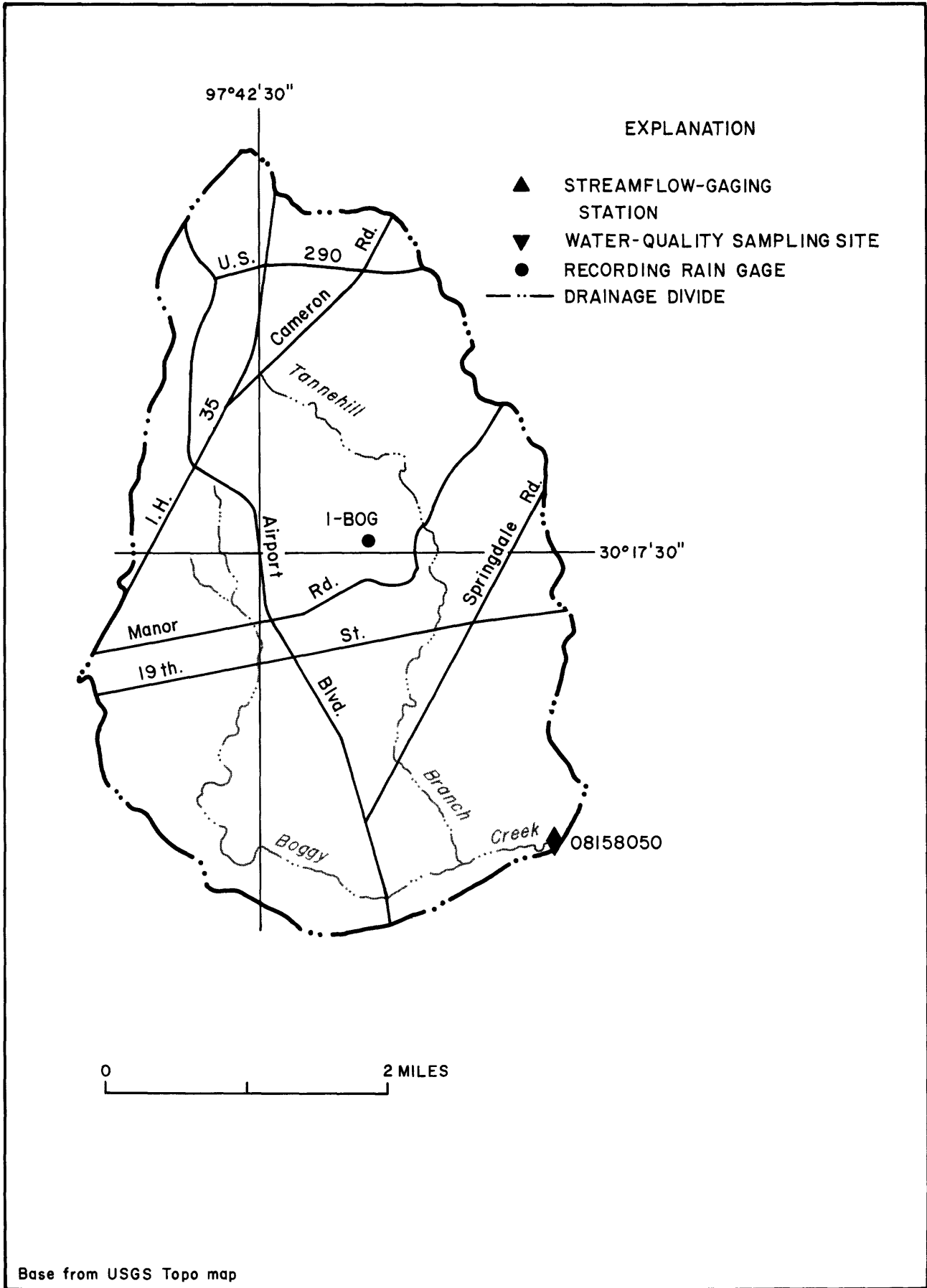


Figure 12.-Locations of surface-water data-collection sites in the Boggy Creek drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 11.--Storm rainfall-runoff data, 1980 water year, Boggy Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Apr. 25, 1980	12	1.48	0.66	0.94	1.03	0.15	0.10	674

Boggy Creek at U.S. Hwy. 183, Austin, Texas
(Drainage area.--13.1 mi²)

COLORADO RIVER BASIN

08158050 BOGGY CREEK AT U.S. HIGHWAY 183, AUSTIN, TX

LOCATION.--Lat 30°15'47", long 97°40'20", Travis County, Hydrologic Unit 12090205, on U.S. Highway 183, 1.6 mi (2.6 km) south of the intersection of Webberville Road and U.S. Highway 183, and 4.1 mi (6.6 km) east of the State Capitol Building in Austin.

DRAINAGE AREA.--13.1 mi² (33.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January to July 1975 (periodic discharge measurements only), August 1975 to June 1977 (operated as a flood-hydrograph partial-record station only), June 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 411.29 ft (125.361 m) National Geodetic Vertical Datum of 1929 (levels from city of Austin bench mark).

REMARKS.-- Water-discharge records fair. No known regulation or diversions. There is a recording rain gage in the watershed above station. The station is part of a hydrologic research project to study the rainfall-runoff relationship for the Austin urban area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,100 ft³/s (173 m³/s) May 23, 1975, gage height, 17.03 ft (5.191 m), from floodmark, from rating curve extended above 500 ft³/s (14.2 m³/s) on basis of slope-area measurement of peak flow; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft³/s (29.5 m³/s) Mar. 27 at 0815 hours, gage height, 9.37 ft (2.856 m), no peak above base of 1,500 ft³/s (42.5 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.01	.04	.82	.26	3.4	.62	13	.65	.05	.11	.00
2	.00	.01	.04	.80	.69	.34	1.5	.54	.45	.06	.03	.00
3	.00	.00	.04	.73	.40	.31	.98	.32	.43	.10	.02	.00
4	.00	.01	.04	.60	.25	.31	.52	.27	.65	.10	.00	.00
5	.00	.12	.04	.57	.23	.29	.44	.25	.58	.06	.00	.00
6	.00	.02	.04	.55	.23	.29	.43	.25	.67	.06	.04	24
7	.00	.00	.04	.50	9.8	.37	.43	28	.80	.06	.36	20
8	.00	.00	.04	.47	15	.35	.41	36	.88	.04	.05	1.3
9	.00	.00	.04	.47	61	.35	.37	1.0	.47	.04	.13	2.8
10	.00	.00	.04	.70	3.5	.44	.37	.60	.27	.05	8.2	.14
11	.00	.00	.04	1.0	2.3	.51	.37	.55	.46	.06	.15	.06
12	.00	.00	.25	.90	1.8	1.0	1.8	55	.44	.07	.05	.05
13	.00	.00	2.7	.52	1.2	.49	5.6	59	.48	.07	.04	.04
14	.00	.00	.13	.47	1.1	.40	.69	6.0	.41	.05	.03	.04
15	.00	.00	.06	.47	.98	.40	.43	11	.43	.00	.03	.04
16	.00	.00	.05	.47	22	2.1	.42	4.5	.32	.04	.11	.00
17	.00	.00	.04	.68	2.3	1.7	.37	1.5	.17	.03	.08	.00
18	.00	.00	.04	.84	1.9	.56	.37	1.1	.27	.05	.05	.00
19	.00	.00	.03	.55	1.6	.55	.37	2.2	.36	.05	.00	.34
20	.00	.00	.03	2.7	.94	.63	.37	.84	.27	.02	.00	.00
21	.00	1.3	.03	2.5	.85	.70	.37	1.1	2.0	.00	.00	.00
22	.00	.06	.03	21	.56	.70	.37	.68	.18	.00	.00	.00
23	.00	.04	50	1.6	.49	.75	.37	.64	.12	.00	.00	.00
24	.00	.37	.55	.52	.65	.75	.37	.56	.09	.00	.03	.00
25	.00	.93	.06	.54	.73	4.1	54	.52	.08	.00	.00	27
26	.00	.06	.05	.35	.32	1.6	.65	.49	.11	.01	.00	54
27	.00	.04	.04	.27	.31	207	.33	.45	.12	.02	.00	.56
28	.00	.04	74	.23	.31	3.0	.26	.35	.10	1.0	.00	2.4
29	.00	.04	12	.35	.32	2.1	.25	.30	.09	.10	.00	.11
30	20	.04	1.6	.64	---	.92	.25	.36	.06	.08	.00	1.3
31	.15	---	.97	.30	---	.75	---	.40	---	.21	.00	---
TOTAL	20.15	3.09	167.85	43.11	132.02	237.16	74.08	227.77	12.41	2.48	9.51	134.18
MEAN	.65	.10	5.41	1.39	4.55	7.65	2.47	7.35	.41	.080	.31	4.47
MAX	20	1.3	74	21	61	207	54	59	2.0	1.0	8.2	54
MIN	.00	.00	.03	.23	.23	.29	.25	.25	.06	.00	.00	.00
CFSM	.05	.008	.41	.11	.35	.58	.19	.56	.03	.006	.02	.34
IN.	.06	.01	.48	.12	.37	.67	.21	.65	.04	.01	.03	.38
AC-FT	4.0	6.1	333	86	262	470	147	452	25	4.9	19	266
(††)	.52	.54	3.58	.89	2.42	3.35	2.14	5.80	.30	.28	1.15	6.07

CAL YR 1979 TOTAL 5026.15 MEAN 13.8 MAX 956 MIN .00 CFSM 1.05 IN 14.27 AC-FT 9970 †† 39.41
WTR YR 1980 TOTAL 1063.81 MEAN 2.91 MAX 207 MIN .00 CFSM .22 IN 3.02 AC-FT 2110 †† 27.04

†† Rainfall on watershed, in inches, based on one rain gage.

COLORADO RIVER BASIN

08158050 BOGGY CREEK AT U.S. HIGHWAY 183, AUSTIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1975 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	
JAN 15...	0950	.45	707	8.0	15.0	5	1.2	9.2	92	.6	
DATE	TIME	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L AS CACO3)	CALCIUM, DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	
JAN 15...	170	170	64	57	270	34	89	12	38	1.0	
DATE	TIME	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE, SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	
JAN 15...	2.7	2.7	290	0	58	50	.3	11	404	0	
DATE	TIME	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, 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 15...	0	0	.19	.000	.19	.000	.15	.15	.010	5.4	
DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)				
JAN 15...	0950		1	100	<1	0	1	<10			
DATE	TIME	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)				
JAN 15...			0	6	.0	0	0	<3			
DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED (PCI/L AS SR/YT-90)	URANIUM, DIS-SOLVED, EXTRACTION (UG/L)
JAN 15...	0950	<5.2	<.3	<7.6	<.4	4.1	<.4	3.8	<.4	.08	2.3

COLORADO RIVER BASIN

08158050 BOGGY CREEK AT U.S. HIGHWAY 183, AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JAN 15...	0950	.00	.0	.00	.0	.01	.00	.00	.00

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JAN 15...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- THION, APHENE, TOTAL (UG/L)	TOTAL TRI- THION TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 15...	.00	.00	.00	.00	0	.00	.00	.00	.00

STA. NO. 08158050		STORM RAINFALL AND RUNOFF RECORD				1980 WATER YEAR	
BUGGY CREEK AT U.S. HWY. 183, AUSTIN, TEXAS		STORM OF APRIL 25, 1980				ACCUM. ACCUM.	
DATE & TIME	1800	G A G E	N U M B E R	P R E C I P .	D I S C H A R G E	I N	P U N O F F
APR. 25				I N .	C F S		I N .
0000	0.0			0.0		0.4	0.0001
0215	0.04			0.08		0.4	0.0001
0220	0.34			0.34		0.4	0.0001
0225	0.55			0.55		0.4	0.0001
0230	0.74			0.74		0.4	0.0001
0240	0.97			0.97		0.4	0.0001
0245	1.02			1.02		0.4	0.0001
0315	1.11			1.11		0.4	0.0002
0330	1.16			1.16		2.0	0.0002
0345	1.23			1.23		6.9	0.0004
0400	1.24			1.24		30.0	0.0013
0415	1.30			1.30		175.0	0.0065
0430	1.32			1.32		276.0	0.0146
0445	1.33			1.33		458.0	0.0242
0500	1.33			1.33		671.0	0.0440
0515	1.36			1.36		674.0	0.0680
0530	1.34			1.38		531.0	0.0837
0545	1.42			1.42		396.0	0.0954
0600	1.45			1.45		287.0	0.1081
0630	1.45			1.45		210.0	0.1205
0700	1.46			1.46		151.0	0.1255
0730	1.46			1.46		87.0	0.1346
0800	1.47			1.47		63.0	0.1383
0830	1.47			1.47		42.0	0.1433
1000	1.47			1.47		25.0	0.1470
1100	1.47			1.47		14.0	0.1487
1200	1.47			1.47		9.5	0.1503
1400	1.48			1.48		5.3	0.1516
1600	1.48			1.48		3.4	0.1528
2000	1.48			1.48		1.6	0.1536
2400	1.48			1.48		1.1	0.1538

WALNUT CREEK DRAINAGE BASIN

The locations of data-collection sites in the Walnut Creek basin are shown on figure 13.

A summary of storm rainfall and runoff is shown in table 12.

Daily and monthly rainfall totals for the 1980 water year are shown in table 17.

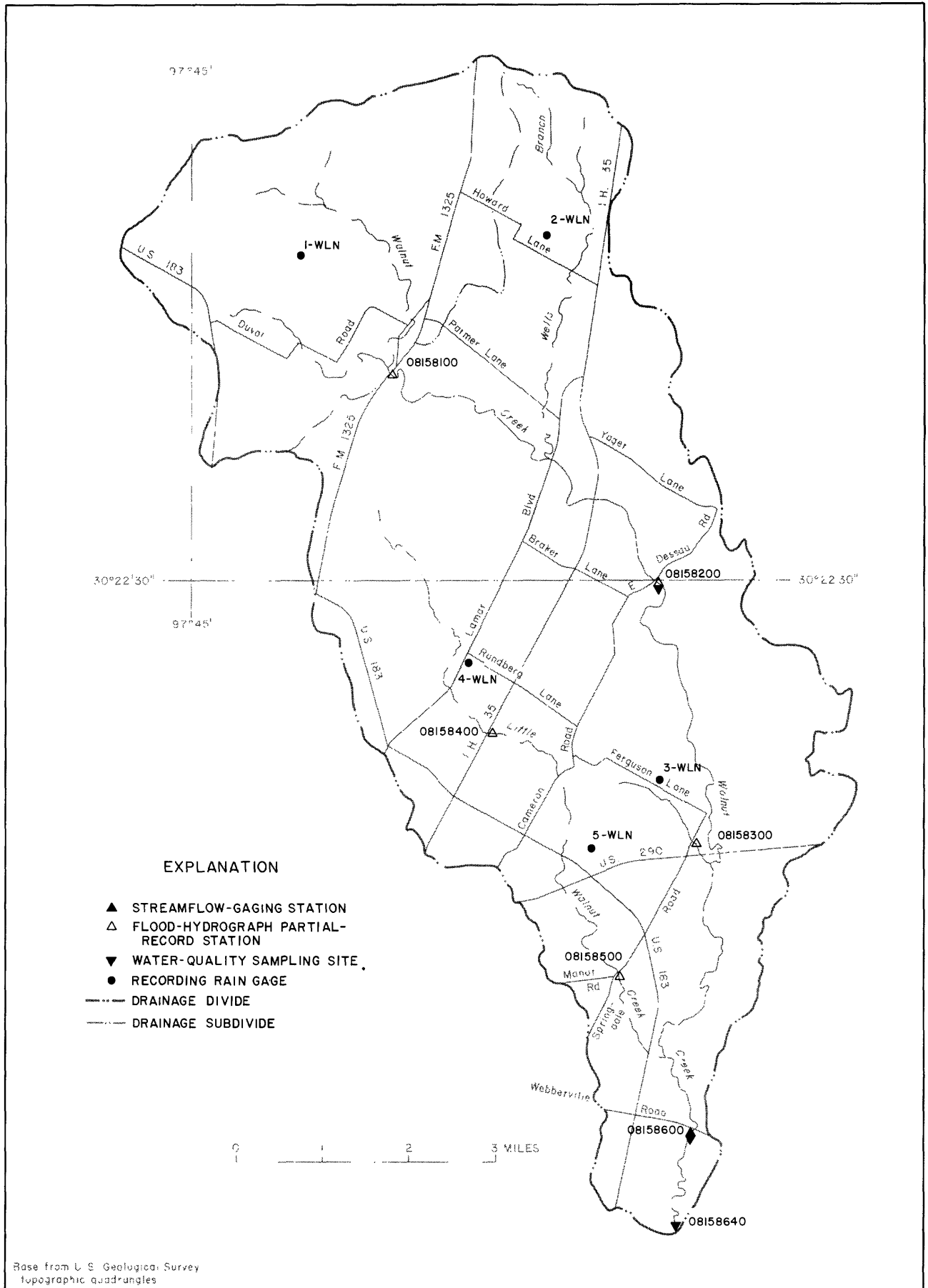


Figure 13.-Locations of surface-water data-collection sites in the Walnut Creek drainage basin

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 12.--Storm rainfall-runoff data, 1980 water year, Walnut Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Walnut Creek at Farm Road 1325 nr Austin, Texas (Drainage area.--12.6 mi ²)								
Mar. 27, 1980	17	3.42	0.35	0.51	0.87	0.14	0.04	152
May 8, 1980	11	3.00	1.11	1.47	1.91	.36	.12	843
Walnut Creek at Dessau Road, Austin, Texas (Drainage area.--26.2 mi ²)								
Mar. 27, 1980	17	3.48	.33	.53	.87	.27	.08	624
May 12, 1980	9	1.43	.90	.94	1.00	.18	.12	899

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 12.--Storm rainfall-runoff data, 1980 water year, Walnut Creek--Continued

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Ferguson Branch at Springdale Road, Austin, Texas (Drainage area.--1.63 mi ²)								
Sept. 25-26, 1980	32	6.74	1.01	1.96	3.17	0.43	0.06	154
Little Walnut Creek at I. H. 35, Austin, Texas (Drainage area.--5.57 mi ²)								
Mar. 27, 1980	9	3.07	.43	.58	.97	1.35	.44	1170
May 12, 1980	4	1.72	.93	1.07	1.17	1.00	.58	1780

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY--TEXAS DISTRICT

ANNUAL STORM RAINFALL--RUNOFF SUMMARY DATA

Table 12.--Storm rainfall-runoff data, 1980 water year, Walnut Creek--Continued

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Little Walnut Creek at Manor Road, Austin, Texas (Drainage area.--12.1 mi ²)								
Mar. 27, 1980	12	3.05	0.47	0.73	0.97	0.93	0.31	1520
May 12, 1980	4	1.52	.93	1.07	1.17	.54	.35	1430
Walnut Creek at Webberville Road, Austin, Texas (Drainage area.--51.3 mi ²)								
Mar. 27, 1980	13	3.24	.56	.73	.91	.55	.17	2000
May 12, 1980	8	1.43	.93	1.07	1.17	.33	.13	2220

08158100 WALNUT CREEK AT FARM ROAD 1325 NEAR AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°24'35", long 97°42'41", Travis County, on downstream side of bridge on Farm Road 1325 and 9.5 mi north of the State Capitol Building in Austin.

DRAINAGE AREA.--12.6 mi².

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

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 670.62 ft NGVD.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 843 ft³/s May 8, 1980 (gage height, 8.17 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 843 ft³/s May 8 (gage height, 8.17 ft).

STORM RAINFALL AND RUNOFF RECORD										
STA. NO.	STORM OF MARCH 27, 1980				1980 WATER YEAR					
08158100	STORM OF MARCH 27, 1980				ACCUM.	OISCHARGE	ACCUM.			
WALNUT CREEK AT FARM ROAD 1325 NEAR AUSTIN, TEXAS										
DATE & TIME	G A G E	N U M B E R	P R E C I P .	W E I G H T E D	I N	I N	R U N O F F			
	I N .		I N .		C F S	I N .				
MAR. 27										
0000	0.0		0.0		0.1	0.0000				
0435	0.01		0.01		0.1	0.0001				
0515	0.05		0.05		0.1	0.0001				
0530	0.24		0.24		0.3	0.0001				
0555	0.25		0.25		1.0	0.0001				
0600	0.31		0.31		1.5	0.0001				
0610	0.57		0.57		3.0	0.0002				
0625	0.63		0.63		5.0	0.0003				
0635	0.87		0.87		6.0	0.0005				
0650	0.94		0.99		8.0	0.0007				
0700	1.14		1.14		10.0	0.0010				
0715	1.25		1.25		13.0	0.0014				
0730	1.41		1.41		32.0	0.0023				
0745	1.76		1.76		70.0	0.0045				
0800	1.84		1.84		85.0	0.0071				
0815	2.08		2.08		97.0	0.0101				
0830	2.22		2.22		107.0	0.0134				
0845	2.28		2.28		107.0	0.0167				
0900	2.30		2.30		114.0	0.0237				
0945	2.31		2.31		126.0	0.0334				
1015	2.64		2.64		146.0	0.0401				
1030	2.76		2.76		152.0	0.0448				
1045	2.82		2.82		137.0	0.0511				
1115	2.90		2.90		124.0	0.0606				
1200	2.91		2.91		132.0	0.0687				
1215	3.14		3.14		135.0	0.0729				
1230	3.24		3.28		145.0	0.0773				
1245	3.36		3.36		144.0	0.0818				
1300	3.34		3.39		133.0	0.0859				
1315	3.41		3.41		129.0	0.0928				
1400	3.41		3.41		135.0	0.1042				
1430	3.41		3.41		120.0	0.1134				
1515	3.41		3.41		95.0	0.1222				
1600	3.41		3.41		60.0	0.1286				
1700	3.41		3.41		33.0	0.1337				
1830	3.41		3.41		15.0	0.1364				
2000	3.41		3.41		10.0	0.1386				
2200	3.42		3.42		6.0	0.1401				
2400	3.42		3.42		3.0	0.1404				

STORM RAINFALL AND RUNOFF RECORD									
1980 WATER YEAR									
STA. NO.	STORM OF MAY 8, 1980								
08158100	WALNUT CREEK AT FARM ROAD 1325 NEAR AUSTIN, TEXAS								
DATE & TIME	G A G E N U M B E R				ACCUM. DISCHARGE		ACCUM. RUNOFF		
	I W L N				P R E C I P . I N .		I N C F S I N .		
MAY 8									
0000	0.0				0.0	0.2	0.0001		0.0001
0510	0.01				0.01	0.2	0.0001		0.0001
0535	0.04				0.06	0.3	0.0001		0.0001
0605	0.41				0.41	0.6	0.0002		0.0002
0700	0.42				0.42	1.0	0.0003		0.0003
0710	0.50				0.50	1.5	0.0003		0.0003
0740	0.51				0.51	3.0	0.0005		0.0005
0750	0.56				0.56	4.0	0.0005		0.0005
0755	0.58				0.58	5.0	0.0006		0.0006
0800	0.70				0.70	6.0	0.0007		0.0007
0810	1.13				1.13	10.0	0.0004		0.0004
0815	1.79				1.79	13.0	0.0009		0.0009
0820	2.03				2.03	37.0	0.0017		0.0017
0835	2.07				2.07	116.0	0.0047		0.0047
0845	2.31				2.31	177.0	0.0092		0.0092
0900	2.61				2.61	337.0	0.0156		0.0156
0915	2.65				2.65	616.0	0.0325		0.0325
0930	2.69				2.69	776.0	0.0624		0.0624
0945	2.71				2.71	843.0	0.0883		0.0883
1000	2.73				2.73	816.0	0.1124		0.1124
1015	2.80				2.80	695.0	0.1347		0.1347
1030	2.87				2.87	565.0	0.1521		0.1521
1045	2.93				2.93	467.0	0.1737		0.1737
1115	2.97				2.97	422.0	0.1996		0.1996
1145	2.97				2.97	364.0	0.2220		0.2220
1215	2.97				2.97	272.0	0.2387		0.2387
1245	2.98				2.98	228.0	0.2527		0.2527
1315	2.98				2.98	194.0	0.2676		0.2676
1400	2.98				2.98	142.0	0.2829		0.2829
1500	2.98				2.98	105.0	0.2958		0.2958
1600	2.99				2.99	78.0	0.3102		0.3102
1800	2.99				2.99	45.0	0.3213		0.3213
2000	2.99				2.99	29.0	0.3284		0.3284
2200	2.99				2.99	21.0	0.3336		0.3336
2400	2.99				2.99	15.0	0.3368		0.3368
MAY 9									
0000	2.99				2.99	15.0	0.3368		0.3368
0300	2.99				2.99	10.0	0.3444		0.3444
1000	2.99				2.99	6.9	0.3533		0.3533
2400	3.00				3.00	4.8	0.3574		0.3574

COLORADO RIVER BASIN

08158200 WALNUT CREEK AT DESSAU ROAD, AUSTIN, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°22'30", long 97°39'37". Travis County, Hydrologic Unit 12090205, on downstream side of bridge on Dessau Road and 8.4 mi (13.5 km) northeast of the State Capitol Building in Austin.

DRAINAGE AREA.--26.2 mi² (67.9 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 553.44 ft (168.689 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,150 ft³/s (60.9 m³/s) May 8, 1980, gage height, 11.23 ft (3.423 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,150 ft³ (60.9 m³/s) May 8, gage height, 11.23 ft (3.423 m).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, SOLVED (MG/L)	OXYGEN, (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 29...	1210	.36	726	7.6	21.0	10	2.3	2.6	29	1.0
JAN 14...	1215	.83	695	8.3	11.0	5	.50	15.2	141	.7

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM, SOLVED (MG/L AS Ca)	MAGNESIUM, SOLVED (MG/L AS Mg)	SODIUM, SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO
OCT 29...	1600	57	740	--	--	--	--	--	--
JAN 14...	420	120	39	260	50	98	4.6	37	1.0

DATE	POTASSIUM, SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE, SOLVED (MG/L AS SO4)	CHLORIDE, SOLVED (MG/L AS Cl)	FLUORIDE, SOLVED (MG/L AS F)	SILICA, SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDEED (MG/L)
OCT 29...	--	--	--	--	--	--	--	--	12
JAN 14...	2.2	260	0	54	56	.3	2.4	383	0

DATE	SOLIDS, VOLATILE, SUS-PENDEED (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 29...	7	.13	.010	.14	.020	.55	.57	.020	16
JAN 14...	0	1.7	.010	1.7	.000	.27	.27	.020	4.8

DATE	TIME	ARSENIC, SOLVED (UG/L AS AS)	BARIUM, SOLVED (UG/L AS BA)	CADMIUM, SOLVED (UG/L AS CD)	CHROMIUM, SOLVED (UG/L AS CR)	COPPER, SOLVED (UG/L AS CU)	IRON, SOLVED (UG/L AS FE)
JAN 14...	1215	0	80	<1	0	0	<10

DATE	LEAD, SOLVED (UG/L AS PB)	MANGANESE, SOLVED (UG/L AS MN)	MERCURY, SOLVED (UG/L AS HG)	SELENIUM, SOLVED (UG/L AS SE)	SILVER, SOLVED (UG/L AS AG)	ZINC, SOLVED (UG/L AS ZN)
JAN 14...	0	1	.1	0	0	<3

COLORADO RIVER BASIN

08158200 WALNUT CREEK AT DESSAU ROAD, AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URIANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
JAN 14...	1215	5.7	<.3	8.4	<.4	3.4	<.4	3.5	<.4	.07	1.2

DATE	TIME	PCB TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JAN 14...	1215	.00	.0	.00	.0	.00	.00	.00	.00

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
JAN 14...	.00	.00	.00	.00	.00	.00	.00	.00	.00

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

STA. NO.	STORM RAINFALL AND RUNOFF RECORD										1980 WATER YEAR		
	WALNUT CREEK AT DESSAU ROAD, AUSTIN, TEXAS										DISCHARGE	ACCUM.	
DATE & TIME	STORM OF MARCH 27, 1980										IN	RUNOFF	
	1	2	3	4	5	6	7	8	9	10	CFS	IN.	IN.
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0001	0.0001
0435	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0003	0.0003
0530	0.24	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	1.2	0.0003	0.0003
0600	0.31	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	2.0	0.0004	0.0004
0615	0.59	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	4.0	0.0005	0.0005
0630	0.69	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	10.0	0.0006	0.0006
0645	0.94	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	20.0	0.0009	0.0009
0700	1.14	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	35.0	0.0014	0.0014
0715	1.25	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	55.0	0.0022	0.0022
0730	1.41	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	80.0	0.0036	0.0036
0750	1.77	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	103.0	0.0051	0.0051
0800	1.84	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	122.0	0.0066	0.0066
0815	2.04	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	234.0	0.0101	0.0101
0830	2.22	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	281.0	0.0142	0.0142
0845	2.24	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	373.0	0.0158	0.0158
0900	2.30	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	331.0	0.0255	0.0255
0920	2.31	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	344.0	0.0342	0.0342
0945	2.31	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	491.0	0.0439	0.0439
1000	2.36	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	504.0	0.0514	0.0514
1015	2.64	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	466.0	0.0583	0.0583
1030	2.76	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	427.0	0.0646	0.0646
1045	2.82	2.71	2.71	2.71	2.71	2.71	2.71	2.71	2.71	2.71	466.0	0.0784	0.0784
1130	2.91	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	459.0	0.0920	0.0920
1145	2.91	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	410.0	0.1011	0.1011
1215	3.14	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06	504.0	0.1160	0.1160
1245	3.36	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	566.0	0.1327	0.1327
1315	3.41	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	602.0	0.1550	0.1550
1400	3.41	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	610.0	0.1775	0.1775
1430	3.41	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	624.0	0.1914	0.1914
1445	3.41	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	585.0	0.2087	0.2087
1530	3.41	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	420.0	0.2304	0.2304
1630	3.41	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	247.0	0.2450	0.2450
1730	3.41	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	144.0	0.2524	0.2524
1815	3.41	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	103.0	0.2570	0.2570
1900	3.41	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	70.0	0.2627	0.2627
2100	3.41	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	40.0	0.2686	0.2686
2400	3.42	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	20.0	0.2704	0.2704

STA. NO. 08158200		STORM RAINFALL AND RUNOFF RECORD										1980 WATER YEAR				
WALNUT CREEK AT DESSAU ROAD, AUSTIN, TEXAS		STORM OF MAY 12, 1980										DISCHARGE ACCUM.				
DATE & TIME	1MLN	2MLN	G A G E N U M B E R								PRECIP. IN.	CFS	IN.	RUNOFF		
MAY 12																
0000	0.0	0.0											0.0	1.0	0.0003	
0635	0.01	0.01											0.01	1.0	0.0005	
0905	0.02	0.04											0.03	1.0	0.0005	
0930	0.13	0.23											0.18	1.5	0.0006	
0945	0.21	0.27											0.24	2.0	0.0006	
1000	0.22	0.29											0.25	5.0	0.0007	
1015	0.24	0.33											0.30	10.0	0.0008	
1020	0.52	0.54											0.55	20.0	0.0009	
1025	0.69	1.03											0.86	35.0	0.0011	
1030	0.86	1.23											1.04	50.0	0.0015	
1045	0.86	1.27											1.06	113.0	0.0032	
1100	0.86	1.27											1.06	432.0	0.0145	
1115	0.86	1.27											1.07	624.0	0.0237	
1130	0.87	1.28											1.12	583.0	0.0367	
1145	0.92	1.32											1.27	870.0	0.0560	
1215	1.07	1.48											1.40	899.0	0.0652	
1230	1.08	1.73											1.41	840.0	0.0879	
1245	1.08	1.74											1.41	640.0	0.1068	
1315	1.09	1.74											1.41	489.0	0.1249	
1345	1.09	1.74											1.41	395.0	0.1453	
1430	1.10	1.74											1.42	220.0	0.1567	
1530	1.11	1.75											1.42	120.0	0.1638	
1615	1.11	1.75											1.43	60.0	0.1687	
1730	1.11	1.76											1.43	30.0	0.1718	
1900	1.12	1.76											1.43	20.0	0.1747	
2100	1.12	1.76											1.43	10.0	0.1756	
2400	1.12	1.76											1.43			

08158300 FERGUSON BRANCH AT SPRINGDALE ROAD, AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°19'53", long 97°39'12", Travis County, on downstream side of culvert on Springdale Road and 6.5 mi northeast of the State Capitol Building in Austin.

DRAINAGE AREA.--1.63 mi².

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

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 509.64 ft NGVD.

REMARKS.--Because of insufficient data, no storms were analyzed for this station for the period of record.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 1,040 ft³/s May 21, 1979 (gage height, 8.60 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 154 ft³/s Sept. 25 (gage height, 5.05 ft).

STA. NO. 08156300		STORM RAINFALL AND RUNOFF RECURU			1980 WATER YEAR		
FERGUSON BRANCH AT SPRINGDALE ROAD, AUSTIN, TEXAS		STORM OF SEPTEMBER 25-26, 1980			DISCHARGE ACCUM.		
DATE & TIME		G A G E N U M B E R			IN HUNOFF		
3WLM		PRECIP.			CFS		
SFP. 25		IN.			IN.		
0000	0.0			0.0	0.0	0.0	0.0
1625	0.01			0.01	0.0	0.0	0.0
1650	0.03			0.03	0.0	0.0	0.0
1655	0.11			0.11	0.0	0.0	0.0
1700	0.33			0.33	0.0	0.0	0.0
1705	0.63			0.63	0.0	0.0	0.0
1710	0.83			0.83	0.0	0.0	0.0
1715	1.11			1.11	0.0	0.0	0.0
1720	1.55			1.55	3.8	0.0003	0.0
1725	1.84			1.84	15.0	0.0015	0.0
1730	2.10			2.10	29.0	0.0038	0.0
1735	2.53			2.53	38.0	0.0068	0.0
1740	2.79			2.79	46.0	0.0104	0.0
1745	2.92			2.92	54.0	0.0147	0.0
1750	3.10			3.10	89.0	0.0218	0.0
1755	3.28			3.28	80.0	0.0313	0.0
1805	3.49			3.49	115.0	0.0449	0.0
1810	3.60			3.60	154.0	0.0571	0.0
1815	3.71			3.71	112.0	0.0705	0.0
1825	3.95			3.95	109.0	0.0877	0.0
1835	4.42			4.42	106.0	0.1042	0.0
1845	4.69			4.69	106.0	0.1252	0.0
1900	4.74			4.74	101.0	0.1452	0.0
1910	4.82			4.82	105.0	0.1618	0.0
1920	4.92			4.92	95.0	0.1844	0.0
1940	4.96			4.96	62.0	0.2041	0.0
2000	4.97			4.97	36.0	0.2155	0.0
2020	5.01			5.01	22.0	0.2259	0.0
2100	5.03			5.03	10.0	0.2327	0.0
2145	5.03			5.03	5.8	0.2368	0.0
2230	5.05			5.05	4.0	0.2385	0.0
2240	5.14			5.14	3.8	0.2393	0.0
2255	5.16			5.16	3.5	0.2400	0.0
2305	5.21			5.21	3.4	0.2407	0.0
2320	5.43			5.43	6.0	0.2418	0.0
2330	5.67			5.67	14.0	0.2441	0.0
2340	6.01			6.01	33.0	0.2493	0.0
2350	6.14			6.14	47.0	0.2567	0.0
2400	6.19			6.19	60.0	0.2651	0.0

STORM RAINFALL AND RUNOFF RECORD										
STA. NO.	1980 WATER YEAR									
08158300										
FERGUSON BRANCH AT SPRINGDALE ROAD, AUSTIN, TEXAS										
STORM OF SEPTEMBER 25-26, 1980										
DATE & TIME	GAGE	NUMBER	WEIGHTED PRECIP.	ACCUM. PRECIP.	DISCHARGE IN	ACCUM. DISCHARGE	HUNTOFF IN	ACCUM. HUNTOFF	IN.	IN.
	3MLN									
SFP# 26										
0000	6.19		6.19	60.0		60.0		0.2651		
0015	6.23		6.23	87.0		147.0		0.2996		
0045	6.23		6.23	72.0		219.0		0.3253		
0100	6.23		6.23	55.0		274.0		0.3449		
0130	6.23		6.23	31.0		305.0		0.3596		
0200	6.23		6.23	18.0		323.0		0.3703		
0245	6.23		6.23	8.9		331.9		0.3788		
0400	6.23		6.23	5.2		337.1		0.3893		
0700	6.24		6.24	3.7		340.8		0.4034		
1200	6.25		6.25	2.1		342.9		0.4099		
1330	6.28		6.28	1.8		344.7		0.4124		
1500	6.44		6.44	1.7		346.4		0.4141		
1530	6.41		6.41	1.7		348.1		0.4151		
1615	6.45		6.45	1.9		350.0		0.4164		
1700	6.47		6.47	1.7		351.7		0.4174		
1730	6.70		6.70	2.8		354.5		0.4188		
1800	6.71		6.71	2.6		357.1		0.4212		
1930	6.72		6.72	3.1		360.2		0.4249		
2030	6.72		6.72	2.7		362.9		0.4281		
2200	6.72		6.72	2.0		364.9		0.4314		
2400	6.74		6.74	1.5		366.4		0.4329		

08158400 LITTLE WALNUT CREEK AT INTERSTATE HIGHWAY 35, AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°20'57", long 97°41'34", Travis County, on downstream front-age road bridge on Interstate Highway 35 and 5.9 mi north of the State Capitol Building in Austin.

DRAINAGE AREA.--5.57 mi².

PERIOD OF RECORD.--May 1975 to current year. Periodic measurements only, November 1974 to May 1975.

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 628.75 ft NGVD.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,700 ft³/s Nov. 23, 1974 (gage height, 9.46 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,780 ft³/s May 12 (gage height 5.68 ft).

STORM RAINFALL AND RUNOFF RECORD													
1980 WATER YEAR													
STA. NO.	LITTLE WALNUT CREEK AT I.H. 35, AUSTIN, TEXAS												
	STORM OF MARCH 27, 1980												
DATE & TIME	15MI	4WLN	G A G E							PRECIP.	DISCHARGE	ACCUM.	IN. RUNOFF
			N U M B E R							IN.	CFS	IN.	IN.
0600	0.0	0.0								0.0	0.2	0.0001	0.0001
0440	0.01	0.0								0.00	0.2	0.0003	0.0003
0530	0.16	0.07								0.10	1.0	0.0005	0.0005
0600	0.14	0.10								0.13	2.0	0.0006	0.0006
0605	0.57	0.12								0.27	3.0	0.0007	0.0007
0615	0.61	0.14								0.30	6.0	0.0011	0.0011
0630	0.76	0.38								0.51	20.0	0.0025	0.0025
0645	0.96	0.60								0.72	59.0	0.0066	0.0066
0700	1.15	0.67								0.83	248.0	0.0238	0.0238
0715	1.26	0.80								0.96	310.0	0.0454	0.0454
0730	1.36	1.03								1.14	361.0	0.0705	0.0705
0745	1.74	1.33								1.47	599.0	0.1122	0.1122
0800	1.87	1.47								1.61	1010.0	0.1707	0.1707
0810	2.36	1.60								1.76	1170.0	0.2114	0.2114
0815	2.02	1.63								1.78	1160.0	0.2517	0.2517
0825	2.16	1.57								1.84	1080.0	0.3143	0.3143
0840	2.26	1.74								1.92	1170.0	0.4093	0.4093
0900	2.27	1.74								1.92	998.0	0.4902	0.4902
0915	2.28	1.75								1.93	822.0	0.5474	0.5474
0930	2.26	1.76								1.94	626.0	0.5909	0.5909
0945	2.30	1.76								1.94	457.0	0.6227	0.6227
1000	2.51	1.76								1.94	329.0	0.6456	0.6456
1015	2.71	2.04								2.20	238.0	0.6622	0.6622
1030	2.73	2.20								2.37	357.0	0.6870	0.6870
1045	2.76	2.23								2.38	518.0	0.7170	0.7170
1055	2.82	2.23								2.41	642.0	0.7468	0.7468
1105	2.82	2.24								2.43	579.0	0.7736	0.7736
1115	2.82	2.24								2.44	494.0	0.8080	0.8080
1135	2.82	2.24								2.44	573.0	0.8545	0.8545
1150	3.03	2.24								2.44	485.0	0.8995	0.8995
1215	3.26	2.52								2.69	345.0	0.9394	0.9394
1240	3.33	2.77								2.94	475.0	0.9850	0.9850
1300	3.36	2.86								3.02	664.0	1.0429	1.0429
1315	3.36	2.90								3.06	709.0	1.0922	1.0922
1330	3.36	2.90								3.06	659.0	1.1457	1.1457
1350	3.36	2.90								3.06	553.0	1.1969	1.1969
1410	3.36	2.90								3.06	408.0	1.2344	1.2344
1430	3.36	2.90								3.06	280.0	1.2672	1.2672
1500	3.36	2.90								3.06	153.0	1.2938	1.2938

STORM RAINFALL AND RUNOFF RECORD										
1980 WATER YEAR										
STA. NO.	STORM OF MARCH 27, 1980									
LITTLE WALNUT CREEK AT I.M. 35, AUSTIN, TEXAS										
DATE & TIME	G A G E			N U M B E R			P R E C I P.		DISCHARGE IN	ACCUM. IN
	15M	4WLN					WEIGHTED	CFS		
MAR. 27										
1545	3.36	2.90					3.06	65.0	1.3210	
1800	3.36	2.90					3.06	20.0	1.3356	
2100	3.36	2.91					3.06	10.0	1.3439	
2400	3.37	2.92					3.07	5.0	1.3460	

STORM RAINFALL AND RUNOFF RECORD									
1980 WATER YEAR									
STA. NO.	LITTLE WALNUT CREEK AT I.M. 35, AUSTIN, TEXAS		STORM OF MAY 12, 1980		1980 WATER YEAR				
DATE & TIME	15MI	4WLN	GAGE	NUMBER	WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. IN	ACCUM. HUNOFF	IN.
MAY 12									
0000	0.0	0.0			0.0	1.0	0.0	0.0012	
0030	0.01	0.0			0.00		0.00	0.0024	
0900	0.04	0.02			0.03	1.0	0.03	0.0025	
0915	0.12	0.04			0.07		0.07	0.0027	
0930	0.31	0.09			0.16	4.0	0.16	0.0031	
1000	0.37	0.19			0.25	10.0	0.25	0.0041	
1015	0.51	0.33			0.39	20.0	0.39	0.0051	
1020	0.86	0.52			0.64	30.0	0.64	0.0058	
1025	0.95	0.57			0.96	57.0	0.96	0.0071	
1030	1.25	1.26			1.26	142.0	1.26	0.0104	
1035	1.26	1.27			1.27	413.0	1.27	0.0199	
1040	1.26	1.27			1.27	703.0	1.27	0.0362	
1045	1.26	1.27			1.27	1150.0	1.27	0.0762	
1055	1.27	1.27			1.27	1780.0	1.27	0.1588	
1105	1.27	1.27			1.27	1530.0	1.27	0.2257	
1115	1.27	1.27			1.27	1250.0	1.27	0.3022	
1130	1.27	1.27			1.27	1280.0	1.27	0.3912	
1145	1.32	1.33			1.33	1130.0	1.33	0.4829	
1205	1.45	1.67			1.60	927.0	1.60	0.5796	
1230	1.61	1.74			1.70	1050.0	1.70	0.6770	
1245	1.61	1.75			1.70	846.0	1.70	0.7358	
1300	1.61	1.75			1.70	648.0	1.70	0.8034	
1330	1.61	1.75			1.70	448.0	1.70	0.8657	
1400	1.61	1.75			1.70	265.0	1.70	0.9026	
1430	1.62	1.76			1.71	137.0	1.71	0.9216	
1500	1.62	1.76			1.71	79.0	1.71	0.9601	
1800	1.63	1.77			1.72	30.0	1.72	0.9851	
2100	1.63	1.77			1.72	10.0	1.72	0.9935	
2400	1.63	1.77			1.72	5.0	1.72	0.9956	

08158500 LITTLE WALNUT CREEK AT MANOR ROAD, AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°18'34", long 97°40'04", Travis County, on downstream side of bridge on Manor Road and 4.9 mi northeast of the State Capitol Building in Austin.

DRAINAGE AREA.--12.1 mi².

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

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 473.82 ft NGVD.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,640 ft³/s May 21, 1979 (gage height, 12.10 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,520 ft³/s Mar. 27 (gage height 6.93 ft).

STA. NO.	STORM RAINFALL AND RUNOFF RECORD										1980 WATER YEAR	
	LITTLE WALNUT CREEK AT MANOR ROAD, AUSTIN, TEXAS										DISCHARGE	ACCUM.
DATE & TIME	STORM OF MARCH 27, 1980										IN	KUNOFF
	15H	4WLN	SWLN	GAGE	NUM	HR	PRECIP.	IN.	CFS	IN.		
MAR. 27												
0000	0.0	0.0	0.0							0.0	0.5	0.0001
0135	0.0	0.0	0.01							0.00	0.5	0.0002
0515	0.07	0.04	0.10							0.07	1.0	0.0005
0530	0.16	0.07	0.10							0.10	2.0	0.0006
0600	0.18	0.10	0.16							0.14	5.0	0.0008
0605	0.57	0.12	0.16							0.20	6.0	0.0009
0620	0.62	0.14	0.55							0.38	10.0	0.0011
0630	0.76	0.38	0.89							0.65	15.0	0.0015
0645	0.96	0.60	0.93							0.79	77.0	0.0040
0700	1.15	0.67	0.97							0.87	225.0	0.0112
0715	1.26	0.80	1.24							1.05	391.0	0.0237
0730	1.36	1.03	1.46							1.26	498.0	0.0397
0745	1.74	1.33	1.68							1.54	710.0	0.0624
0800	1.87	1.47	1.88							1.70	870.0	0.0903
0815	2.08	1.63	1.92							1.82	1110.0	0.1258
0830	2.22	1.67	1.97							1.88	1230.0	0.1652
0845	2.27	1.74	1.97							1.92	1520.0	0.2138
0900	2.27	1.74	1.98							1.92	1080.0	0.2484
0915	2.28	1.75	1.98							1.93	1150.0	0.2852
0930	2.28	1.76	1.98							1.93	1040.0	0.3185
0945	2.30	1.76	1.98							1.93	944.0	0.3488
1000	2.51	1.76	2.21							2.03	727.0	0.3720
1015	2.71	2.04	2.37							2.25	760.0	0.3964
1030	2.71	2.20	2.37							2.35	737.0	0.4200
1045	2.73	2.20	2.38							2.36	654.0	0.4409
1100	2.82	2.23	2.41							2.39	788.0	0.4661
1115	2.82	2.24	2.41							2.40	727.0	0.4894
1130	2.82	2.24	2.41							2.40	733.0	0.5168
1150	2.82	2.24	2.44							2.41	682.0	0.5495
1215	3.03	2.52	2.63							2.73	613.0	0.5757
1230	3.28	2.68	2.93							2.86	661.0	0.5969
1245	3.28	2.77	3.00							2.94	760.0	0.6212
1300	3.33	2.86	3.04							3.01	947.0	0.6515
1315	3.36	2.90	3.04							3.03	974.0	0.6827
1330	3.36	2.90	3.04							3.03	947.0	0.7282
1400	3.36	2.90	3.04							3.03	870.0	0.7839
1430	3.36	2.90	3.04							3.03	667.0	0.8266
1500	3.36	2.90	3.04							3.03	470.0	0.8567
1530	3.36	2.90	3.04							3.03	285.0	0.8750

STORM RAINFALL AND RUNOFF RECORD									
1980 WATER YEAR									
STA. NO.	STORM OF MARCH 27, 1980								
LITTLE WALNUT CREEK AT MAINOR ROAD, AUSTIN, TEXAS									
DATE & TIME	15MI	4WLN	5WLN	GAGE	NUMBER	WEIGHTED	ACCUM.	DISCHARGE	ACCUM.
						PRECIP.	IN.	IN.	RUNOFF
						IN.		CFS	IN.
MAR. 27									
1600	3.36	2.90		3.04		3.03		183.0	0.8867
1630	3.36	2.90		3.04		3.03		115.0	0.8940
1700	3.36	2.90		3.04		3.03		81.0	0.9018
1800	3.36	2.90		3.04		3.03		60.0	0.9133
2000	3.36	2.90		3.04		3.03		40.0	0.9287
2400	3.37	2.92		3.07		3.05		20.0	0.9338

STA. NO. 08155500

STORM RAINFALL AND RUNOFF RECORD

1980 WATER YEAR

LITTLE WALNUT CREEK AT MANOR ROAD, AUSTIN, TEXAS

STORM OF MAY 12, 1980

ACCUM. RUNOFF

DATE & TIME	15MI	4WLN	5WLN	IN.	PRECIP.	WEIGHTED	ACCUM.	DISCHARGE	IN.	IN.
MAY 12										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0005	
0830	0.01	0.0	0.0	0.0	0.0	0.00	0.00	1.0	0.0011	
0900	0.04	0.02	0.01	0.01	0.02	0.02	0.02	1.0	0.0012	
0915	0.12	0.04	0.03	0.03	0.05	0.05	0.05	1.5	0.0012	
0930	0.31	0.04	0.05	0.05	0.11	0.11	0.11	2.0	0.0013	
1000	0.37	0.14	0.11	0.11	0.18	0.18	0.18	5.0	0.0016	
1015	0.51	0.33	0.26	0.26	0.45	0.45	0.45	15.0	0.0020	
1030	1.26	1.26	0.63	0.63	1.00	1.00	1.00	40.0	0.0033	
1045	1.26	1.27	0.64	0.64	1.00	1.00	1.00	70.0	0.0056	
1100	1.27	1.27	0.64	0.64	1.01	1.01	1.01	353.0	0.0169	
1115	1.27	1.27	0.64	0.64	1.01	1.01	1.01	658.0	0.0379	
1130	1.27	1.27	0.65	0.65	1.01	1.01	1.01	932.0	0.0678	
1145	1.32	1.33	0.96	0.96	1.17	1.17	1.17	1160.0	0.1049	
1200	1.40	1.60	1.06	1.06	1.34	1.34	1.34	1430.0	0.1507	
1215	1.51	1.71	1.20	1.20	1.47	1.47	1.47	1210.0	0.1894	
1230	1.61	1.74	1.20	1.20	1.49	1.49	1.49	1210.0	0.2282	
1245	1.61	1.75	1.20	1.20	1.50	1.50	1.50	1290.0	0.2695	
1300	1.61	1.75	1.20	1.20	1.50	1.50	1.50	1260.0	0.3165	
1320	1.61	1.75	1.21	1.21	1.50	1.50	1.50	1060.0	0.3618	
1340	1.61	1.75	1.21	1.21	1.50	1.50	1.50	840.0	0.3976	
1400	1.61	1.75	1.21	1.21	1.50	1.50	1.50	476.0	0.4249	
1420	1.62	1.75	1.21	1.21	1.50	1.50	1.50	380.0	0.4615	
1440	1.62	1.76	1.21	1.21	1.51	1.51	1.51	278.0	0.4763	
1500	1.62	1.76	1.21	1.21	1.51	1.51	1.51	182.0	0.4879	
1530	1.63	1.77	1.21	1.21	1.51	1.51	1.51	118.0	0.4955	
1600	1.63	1.77	1.21	1.21	1.51	1.51	1.51	81.0	0.5033	
1630	1.63	1.77	1.21	1.21	1.52	1.52	1.52	60.0	0.5148	
1730	1.63	1.77	1.22	1.22	1.52	1.52	1.52	40.0	0.5315	
2400	1.63	1.77	1.22	1.22	1.52	1.52	1.52	20.0	0.5372	

COLORADO RIVER BASIN

08158600 WALNUT CREEK AT WEBBERVILLE ROAD, AUSTIN, TX

LOCATION.--Lat 30°16'59", long 97°39'17", Travis County, Hydrologic Unit 12090205, on left bank 190 ft (58 m) downstream from bridge on Farm Road 969, 0.8 mi (1.3 km) downstream from Little Walnut Creek, 2.8 mi (4.5 km) upstream from Colorado River, and 5.2 mi (8.4 km) east of the State Capitol Building in Austin.

DRAINAGE AREA.--51.3 mi² (132.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 425.96 ft (129.833 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. No known regulation or diversion. Station is part of hydrologic research project to study rainfall-runoff relation for urban areas. Five recording rain gages are located in the watershed above this station.

AVERAGE DISCHARGE.--14 years, 22.4 ft³/s (0.634 m³/s), 5.93 in/yr (151 mm/yr), 16,230 acre-ft/yr (20.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s (297 m³/s) Nov. 23, 1974, gage height, 26.16 ft (7.974 m); no flow at times in 1967 and 1971.

Maximum stage since at least 1891, that of Nov. 23, 1974. Flood of Oct. 11, 1973, reached a stage of 25.56 ft (7.791 m), discharge 10,000 ft³/s (283 m³/s).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 15, 1935, reached a stage of 24 ft (7.3 m), backwater from Colorado River. A flood in 1919 reached a stage of 22 ft (6.7 m), from information by local residents.

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

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)		Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
Mar. 27	1430	2,000	56.6	12.80	3.901	May 12	1400	2,220	62.9	13.33	4.063
May 8	1400	1,940	54.9	12.64	3.853	Sept. 25	1945	*3,400	96.3	15.92	4.852

Minimum daily discharge, 0.02 ft³/s (0.001 m³/s) Aug. 28 to Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.4	1.5	5.5	9.9	8.4	23	89	14	1.4	.15	.02
2	1.2	1.3	1.5	5.1	11	4.8	30	15	14	1.4	.15	.02
3	1.2	1.2	1.5	4.8	11	5.1	21	11	13	1.4	.15	.03
4	1.2	1.2	1.5	4.4	10	5.7	17	9.4	13	1.4	1.4	.04
5	1.0	1.2	1.5	4.7	10	5.7	15	8.2	12	1.3	.15	.05
6	1.0	1.2	1.7	4.7	9.4	5.7	14	7.1	11	1.1	.67	26
7	1.0	1.2	1.7	3.8	21	5.7	13	80	11	1.1	8.5	40
8	1.0	1.2	1.7	3.8	39	5.4	11	365	9.5	1.1	3.5	8.4
9	1.0	1.2	1.7	3.8	93	5.4	10	46	20	1.1	.81	18
10	.93	1.2	1.7	3.9	17	5.4	16	27	12	1.1	5.4	3.4
11	.93	1.4	1.7	4.2	12	5.4	9.6	22	9.7	1.1	3.8	1.8
12	.93	1.4	22	3.8	10	6.9	17	407	8.5	.81	1.4	1.2
13	1.2	1.4	11	3.8	9.2	5.9	51	310	7.4	.60	.81	.61
14	.93	1.5	3.8	3.8	8.5	5.4	14	161	6.4	.60	.81	.97
15	.93	1.4	3.0	3.8	6.1	4.9	11	311	6.3	.60	.81	.65
16	.93	1.4	2.9	3.8	45	8.3	9.4	222	5.4	.60	2.0	1.2
17	.93	1.4	2.5	9.4	12	7.3	8.3	85	4.8	.32	2.4	.69
18	.93	2.0	2.5	5.9	9.9	5.1	7.9	59	4.3	.32	1.2	.60
19	.93	1.7	2.5	4.5	8.6	4.7	7.5	65	3.7	.32	.59	15
20	.93	1.7	2.5	6.9	7.7	4.7	7.1	46	3.4	.32	.83	1.5
21	.93	4.5	2.5	7.6	7.0	4.4	6.7	40	28	.15	.79	.62
22	.93	2.1	4.2	40	6.4	4.1	6.1	33	6.4	.15	.60	.17
23	.93	1.7	64	11	5.9	4.1	6.4	30	4.1	.15	.73	.08
24	.93	1.7	11	9.1	5.6	4.1	6.1	26	3.1	.32	.60	.07
25	.93	4.0	5.1	8.2	5.3	8.8	170	24	2.7	.32	1.6	395
26	.93	1.7	4.2	7.0	5.1	5.2	18	23	2.2	.32	.66	228
27	.93	1.5	3.0	6.7	4.7	673	11	20	2.0	1.1	.10	23
28	.93	1.4	69	6.4	5.1	78	8.7	19	1.7	4.1	.02	29
29	.93	1.3	47	6.7	6.8	47	8.1	17	1.3	2.5	.02	10
30	32	1.5	9.6	7.2	---	33	6.8	16	1.4	.60	.02	26
31	3.0	---	7.7	7.5	---	26	---	15	---	.15	.02	---
TOTAL	63.77	49.0	297.7	211.8	412.2	1003.6	560.7	2608.7	242.3	27.85	40.69	832.12
MEAN	2.06	1.63	9.60	6.83	14.2	32.4	18.7	84.2	8.08	.90	1.31	27.7
MAX	32	4.5	69	40	93	673	170	407	28	4.1	8.5	395
MIN	.93	1.2	1.5	3.8	4.7	4.1	6.1	7.1	1.3	.15	.02	.02
CFSM	.04	.03	.19	.13	.28	.63	.37	1.64	.16	.02	.03	.54
IN.	.05	.04	.22	.15	.30	.73	.41	1.89	.18	.02	.03	.60
AC-FT	126	97	590	420	818	1990	1110	5170	481	55	81	1650
(++)	.76	.65	3.60	1.44	2.35	3.78	3.20	7.43	.94	.20	.87	7.89

CAL YR 1979	TOTAL	9898.67	MEAN	27.1	MAX	1720	MIN	.93	CFSM	.53	IN	7.18	AC-FT	19630	++	34.83
WTR YR 1980	TOTAL	6350.43	MEAN	17.4	MAX	673	MIN	.02	CFSM	.34	IN	4.60	AC-FT	12600	++	33.11

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

COLORADO RIVER BASIN

08158600 WALNUT CREEK AT WEBBERVILLE ROAD, AUSTIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1975 to current year. Sediment records: October 1977 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, (PERCENT SATURATION)	OXYGEN UNINHIB 5 DAY (MG/L)
OCT 29...	1310	.93	609	8.0	21.5	5	.20	8.5	97	.6
JAN 15...	0825	3.8	645	7.9	13.0	5	.60	8.4	81	.6
APR 15...	0825	11	--	--	12.0	--	--	--	--	--

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-F (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM, DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM, ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)
OCT 29...	4500	89	190	--	--	--	--	--	--	--
JAN 15...	320	96	45	250	67	88	6.8	29	.8	2.6
APR 15...	--	--	--	--	--	--	--	--	--	--

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF DISSOLVED TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
OCT 29...	--	--	--	--	--	--	--	0	0	.01
JAN 15...	220	0	72	48	.3	2.9	358	12	7	.37
APR 15...	--	--	--	--	--	--	--	--	--	--

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)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT 29...	.000	.01	.000	.50	.50	.040	5.4	--	--
JAN 15...	.010	.38	.000	.16	.16	.000	4.4	65	.67
APR 15...	--	--	--	--	--	--	--	75	2.2

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 15...	0825	0	80	<1	0	1	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 15...	0	<1	.1	0	0	<3

COLORADO RIVER BASIN

08158600 WALNUT CREEK AT WEBBERVILLE ROAD, AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRACTION (UG/L)
JAN 15...	0825	5.0	<.3	7.3	<.4	<2.8	<.4	<2.7	<.4	.15	1.8
DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)		
JAN 15...	0825	.0	.00	.00	.0	.00	.00	.00	.00	.00	
DATE	TIME	DI-ELDRIN, TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE, TOTAL (UG/L)	LINDANE, TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	
JAN 15...		.00	.00	.00	.00	.00	.00	.00	.00	.00	
DATE	TIME	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	
JAN 15...		.00	.00	.00	.00	0	.00	.00	.00	.00	
DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE, WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)						
JAN 15...	0825	3.8	13.0	65	.67						
APR 15...	0825	11	12.0	75	2.2						

STA. NO. 08158600

STORM RAINFALL AND RUNOFF RECORD

1980 WATER YEAR

WALNUT CREEK AT WEBBERVILLE ROAD, AUSTIN, TEXAS

STORM OF MARCH 27, 1980

ACCUM. DISCHARGE | IN. | HUNTOFF

PRECIP. | CFS | IN. |

1 MLN | 2 MLN | 3 MLN | 4 MLN | 5 MLN |

MAR. 27

0000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.7 | 0.0001 | 0.0001

0135 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.01 | 0.00 | 0.0005

0500 | 0.02 | 0.01 | 0.0 | 0.0 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.01 | 0.0007 | 0.0007

0515 | 0.05 | 0.01 | 0.03 | 0.04 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.04 | 0.0008 | 0.0008

0530 | 0.24 | 0.09 | 0.06 | 0.07 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.12 | 0.0008 | 0.0008

0600 | 0.31 | 0.18 | 0.09 | 0.10 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.17 | 0.0009 | 0.0009

0615 | 0.59 | 0.44 | 0.12 | 0.14 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.34 | 0.0005 | 0.0005

0630 | 0.69 | 0.48 | 0.22 | 0.38 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.49 | 0.0009 | 0.0009

0645 | 0.94 | 0.81 | 0.78 | 0.60 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.82 | 0.0010 | 0.0010

0700 | 1.18 | 0.96 | 0.85 | 0.67 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.94 | 0.0010 | 0.0010

0715 | 1.25 | 1.15 | 1.07 | 0.80 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.05 | 0.0011 | 0.0011

0730 | 1.41 | 1.28 | 1.07 | 1.03 | 1.46 | 1.46 | 1.46 | 1.46 | 1.46 | 1.24 | 0.0017 | 0.0017

0745 | 1.76 | 1.55 | 1.32 | 1.33 | 1.66 | 1.66 | 1.66 | 1.66 | 1.66 | 1.52 | 0.0031 | 0.0031

0800 | 1.84 | 1.70 | 1.54 | 1.47 | 1.88 | 1.88 | 1.88 | 1.88 | 1.88 | 1.68 | 0.0055 | 0.0055

0815 | 2.08 | 1.82 | 1.76 | 1.63 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.85 | 0.0051 | 0.0051

0830 | 2.22 | 1.96 | 1.83 | 1.67 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.95 | 0.0171 | 0.0171

0845 | 2.30 | 2.11 | 1.92 | 1.74 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 2.03 | 0.0367 | 0.0367

0930 | 2.31 | 2.12 | 1.93 | 1.76 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 2.04 | 0.0551 | 0.0551

0945 | 2.31 | 2.12 | 1.93 | 1.76 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 2.04 | 0.0674 | 0.0674

1000 | 2.36 | 2.12 | 1.93 | 1.76 | 2.21 | 2.21 | 2.21 | 2.21 | 2.21 | 2.08 | 0.0802 | 0.0802

1015 | 2.64 | 2.35 | 2.07 | 2.04 | 2.37 | 2.37 | 2.37 | 2.37 | 2.37 | 2.30 | 0.0920 | 0.0920

1030 | 2.76 | 2.65 | 2.27 | 2.20 | 2.37 | 2.37 | 2.37 | 2.37 | 2.37 | 2.47 | 0.1090 | 0.1090

1100 | 2.88 | 2.76 | 2.29 | 2.23 | 2.41 | 2.41 | 2.41 | 2.41 | 2.41 | 2.54 | 0.1300 | 0.1300

1130 | 2.91 | 2.86 | 2.37 | 2.24 | 2.41 | 2.41 | 2.41 | 2.41 | 2.41 | 2.59 | 0.1507 | 0.1507

1200 | 2.91 | 2.86 | 2.37 | 2.24 | 2.60 | 2.60 | 2.60 | 2.60 | 2.60 | 2.61 | 0.1736 | 0.1736

1230 | 3.28 | 3.30 | 2.78 | 2.68 | 2.93 | 2.93 | 2.93 | 2.93 | 2.93 | 3.02 | 0.1967 | 0.1967

1300 | 3.39 | 3.47 | 3.00 | 2.86 | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 | 3.18 | 0.2305 | 0.2305

1400 | 3.41 | 3.54 | 3.04 | 2.90 | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 | 3.22 | 0.2740 | 0.2740

1430 | 3.41 | 3.54 | 3.04 | 2.90 | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 | 3.22 | 0.3042 | 0.3042

1500 | 3.41 | 3.54 | 3.04 | 2.90 | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 | 3.22 | 0.3488 | 0.3488

1600 | 3.41 | 3.54 | 3.04 | 2.90 | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 | 3.22 | 0.3929 | 0.3929

1700 | 3.41 | 3.54 | 3.04 | 2.90 | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 | 3.22 | 0.4440 | 0.4440

1800 | 3.41 | 3.54 | 3.04 | 2.90 | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 | 3.22 | 0.4650 | 0.4650

1900 | 3.41 | 3.54 | 3.04 | 2.90 | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 | 3.22 | 0.4827 | 0.4827

2100 | 3.41 | 3.54 | 3.04 | 2.90 | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 | 3.22 | 0.4827 | 0.4827

2400 | 3.42 | 3.54 | 3.06 | 2.92 | 3.07 | 3.07 | 3.07 | 3.07 | 3.07 | 3.23 | 0.4961 | 0.4961

MAR. 28

0000 | 3.42 | 3.54 | 3.06 | 2.92 | 3.07 | 3.07 | 3.07 | 3.07 | 3.07 | 3.23 | 0.4961 | 0.4961

0600 | 3.42 | 3.54 | 3.06 | 2.92 | 3.07 | 3.07 | 3.07 | 3.07 | 3.07 | 3.23 | 0.5351 | 0.5351

2400 | 3.42 | 3.56 | 3.09 | 2.92 | 3.07 | 3.07 | 3.07 | 3.07 | 3.07 | 3.24 | 0.5495 | 0.5495

STORM RAINFALL AND RUNOFF RECORD

1980 WATER YEAR

STA. NO. 04158600

WALNUT CREEK AT WEBBHVILLE ROAD, AUSTIN, TEXAS

STORM OF MAY 12, 1980

DISCHARGE IN ACCUM. WEIGHTED PRECIP. IN. CFS IN. RUNOFF

DATE & TIME

DATE & TIME	1WLN	2WLN	3WLN	4WLN	5WLN	ACCUM. WEIGHTED PRECIP. IN.	CFS	IN.
MAY 12								
0000	0.0	0.0	0.0	0.0	0.0	0.0	22.0	0.0029
0835	0.01	0.01	0.0	0.0	0.0	0.00	22.0	0.0059
0915	0.04	0.13	0.0	0.04	0.03	0.05	22.0	0.0062
0930	0.13	0.23	0.02	0.09	0.05	0.11	22.0	0.0064
0945	0.21	0.27	0.03	0.17	0.06	0.15	22.0	0.0066
1000	0.22	0.29	0.05	0.19	0.11	0.17	22.0	0.0067
1015	0.24	0.33	0.04	0.33	0.56	0.28	22.0	0.0069
1030	0.46	1.23	0.67	1.26	0.63	0.92	22.0	0.0072
1115	0.86	1.27	0.73	1.27	0.64	0.95	24.0	0.0076
1130	0.87	1.28	0.73	1.27	0.65	0.95	48.0	0.0080
1145	0.92	1.32	0.74	1.33	0.96	1.03	326.0	0.0104
1200	1.05	1.40	1.08	1.60	1.06	1.22	674.0	0.0155
1215	1.07	1.48	1.16	1.71	1.20	1.29	1040.0	0.0234
1230	1.08	1.73	1.31	1.74	1.20	1.39	1290.0	0.0380
1300	1.08	1.74	1.32	1.75	1.20	1.40	1620.0	0.0624
1330	1.09	1.74	1.32	1.75	1.21	1.40	2050.0	0.0934
1400	1.09	1.74	1.32	1.75	1.21	1.40	2220.0	0.1264
1430	1.10	1.74	1.33	1.76	1.21	1.41	2060.0	0.1658
1515	1.10	1.75	1.33	1.76	1.21	1.41	1630.0	0.2027
1600	1.11	1.75	1.33	1.77	1.21	1.42	1100.0	0.2318
1700	1.11	1.75	1.33	1.77	1.22	1.42	696.0	0.2528
1800	1.12	1.76	1.33	1.77	1.22	1.42	448.0	0.2664
1900	1.12	1.76	1.33	1.77	1.22	1.42	299.0	0.2799
2100	1.12	1.76	1.33	1.77	1.22	1.42	162.0	0.2922
2400	1.12	1.76	1.33	1.77	1.22	1.42	99.0	0.3056
MAY 13								
0000	1.12	1.76	1.33	1.77	1.22	1.42	99.0	0.3056
1200	1.12	1.77	1.33	1.77	1.24	1.43	56.0	0.3256

COLORADO RIVER BASIN

08158640 WALNUT CREEK AT SOUTHERN PACIFIC RAILROAD BRIDGE, AUSTIN, TX
(Reconnaissance partial-record station)

LOCATION.--Lat 30°15'58", long 97°39'24", Travis County, Hydrologic Unit 12090205, at Southern Pacific Railroad bridge, 1.2 mi (1.9 km) south of Webberville Road, and 5.0 mi (8.0 km) east of the State Capitol in Austin.

DRAINAGE AREA.--53.5 mi² (138.6 km²).

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1975 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 29...	1335	26	718	7.0	27.5	15	2.2	4.6	59	8.1
JAN 15...	0900	28	910	7.0	20.0	15	4.2	4.7	52	15

DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
OCT 29...	17000	400	150	--	--	--	--	--	--
JAN 15...	920	88	29	160	32	39	16	93	3.2

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT 29...	--	--	--	--	--	--	--	--	1
JAN 15...	10	160	0	100	89	2.9	12	441	2

DATE	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 29...	1	5.1	.000	5.1	2.700	16	19	9.100	9.6
JAN 15...	2	5.5	4.000	9.5	6.200	8.8	15	8.600	9.9

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JAN 15...	0900	1	20	<1	0	50	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)
JAN 15...	0	20	.1	0	0	20

COLORADO RIVER BASIN

08158640 WALNUT CREEK AT SOUTHERN PACIFIC RAILROAD BRIDGE, AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URIANIUM DIS-SOLVED, EXTRACTION (UG/L)
JAN 15...	0900	<4.8	<.3	<7.1	<.4	7.3	<.4	6.9	<.4	.02	.17

DATE	TIME	PCB TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JAN 15...	0900	.00	.0	.00	.0	.00	.00	.00	.64

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
JAN 15...	.01	.00	.00	.00	.00	.00	.05	.05	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 15...	.00	.00	.00	.00	0	.00	.09	.00	.00

COLORADO RIVER BASIN

08158650 COLORADO RIVER BELOW AUSTIN, TX
(Low-flow partial-record station)

LOCATION.--Lat 30°12'28", long 97°38'15", Travis County, Hydrologic Unit 12090205, at bridge on Farm Road 973, 0.3 mi (0.5 km) northeast of intersection of State Highway 71 and Farm Road 973, 8.8 mi (14.2 km) downstream from Govalle Sewage Treatment Plant outfall, and 9.6 mi (15.4 km) downstream from gaging station at Austin.

PERIOD OF RECORD.--Periodic chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, TOCOCCHI, KF AGAR (COLS. PER 100 ML)
OCT 24...	1250	622	7.3	21.0	5	1.5	8.7	98	1.7	160	K6	K5
NOV 05...	1255	650	7.1	19.0	10	.50	6.0	65	1.8	84	K10	K18
DEC 10...	1340	688	7.0	14.0	5	1.7	4.5	44	8.2	1800	K6	310
JAN 07...	1310	651	6.9	12.0	5	.90	7.1	66	8.9	1100	K19	20
FEB 04...	1425	648	6.9	12.0	10	2.1	7.9	74	8.0	3900	62	400
MAR 03...	1255	652	7.3	12.0	10	2.6	12.2	114	3.7	3400	K8	24
APR 07...	1035	542	7.5	20.5	0	1.8	8.4	95	3.2	700	K40	21
MAY 12...	1140	508	7.3	20.0	0	4.7	8.4	93	1.1	1700	88	140
JUN 09...	1310	495	7.4	23.5	5	12	7.4	87	.9	230	31	24
JUL 07...	1210	510	7.6	23.0	0	3.8	8.6	100	1.1	11000	800	K16
AUG 11...	1315	525	7.3	27.0	0	5.3	6.4	81	2.5	2500	820	85
SEP 08...	1320	471	7.5	25.0	5	3.3	8.6	105	1.0	4700	1100	120

DATE	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM, DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)
OCT 24...	210	42	51	19	39	1.2	5.6	200	0	52	55	.7
NOV 05...	--	--	--	--	--	--	--	200	0	--	--	--
DEC 10...	230	45	59	21	46	1.3	5.3	230	0	52	58	.8
JAN 07...	210	40	57	17	39	1.2	5.9	210	0	55	58	1.0
FEB 04...	200	37	49	19	51	1.6	6.5	200	0	56	62	1.1
MAR 03...	--	--	--	--	--	--	--	200	0	--	--	--
APR 07...	--	--	--	--	--	--	--	200	0	--	--	--
MAY 12...	--	--	--	--	--	--	--	190	0	--	--	--
JUN 09...	190	39	45	20	25	.8	3.5	190	0	31	43	.3
JUL 07...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 11...	180	34	43	18	30	1.0	4.0	180	0	34	46	.5
SEP 08...	--	--	--	--	--	--	--	--	--	--	--	--

COLORADO RIVER BASIN

08158650 COLORADO RIVER BELOW AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS- SOLVED (MG/L AS S102)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEC. 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 24...	8.2	329	0	0	3.3	.66	4.0	.32	.98	1.3	1.700	6.9
NOV 05...	--	--	6	0	3.9	.60	4.5	1.4	.90	2.3	2.400	8.6
DEC 10...	11	366	2	1	.63	.27	.90	.89	2.7	3.6	3.800	7.0
JAN 07...	8.7	345	15	15	1.8	.22	2.0	1.7	1.8	3.5	2.300	7.2
FEB 04...	11	354	10	9	.56	.23	.79	1.7	9.3	11	2.300	7.2
MAR 03...	--	--	0	0	.93	.17	1.1	1.7	2.4	4.1	2.600	7.5
APR 07...	--	--	2	1	.58	.23	.81	.70	1.4	2.1	.530	5.8
MAY 12...	--	--	11	1	.17	.03	.20	.20	.48	.68	.290	5.4
JUN 09...	8.0	270	37	8	.24	.01	.25	.06	.46	.52	.190	3.9
JUL 07...	--	--	18	2	.28	.05	.33	.15	.61	.76	.130	3.1
AUG 11...	9.1	273	74	71	1.0	.20	1.2	.75	.35	1.1	1.700	6.7
SEP 08...	--	--	13	13	.40	.07	.47	.13	.61	.74	.280	14

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 24...	1250	2	50	<1	0	2	<10
FEB 04...	1425	2	60	2	0	2	20
JUN 09...	1310	1	60	<1	0	1	<10
AUG 11...	1315	2	60	<1	0	1	10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 24...	0	10	.2	0	0	5
FEB 04...	0	70	.1	0	0	10
JUN 09...	0	9	.3	0	0	<3
AUG 11...	0	20	.7	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
FEB 04...	1425	.0	.00	.00	.0	.00	.00	.00	.36
AUG 11...	1315	.0	.00	.00	.0	.00	.00	.00	.11

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
FEB 04...	.00	.00	.00	.00	.00	.00	.00	.02	.00
AUG 11...	.00	.00	--	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
FEB 04...	.00	.00	.00	.00	0	.00	.05	.00	.00
AUG 11...	.00	.00	.00	.00	0	.00	.13	.00	.00

ONION CREEK DRAINAGE BASIN

The locations of the data-collection sites in the Onion Creek drainage basin are shown in figure 1.

A summary of storm rainfall and runoff data for the basin is shown in table 13.

The peak discharges associated with the water-quality samples collected during storms at the Onion Creek near Driftwood, Onion Creek at Buda, and Onion Creek at U.S. Highway 183 sites are shown in table 4.

Daily and monthly rainfall totals for the 1980 water year are given in table 18.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 13 -- Storm rainfall-runoff data, 1980 water year, Onion Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
May 12-14, 1980	32	3.29	0.31	0.61	0.98	0.13	0.04	476

Onion Creek near Driftwood, Texas
(Drainage area.--124 mi²).

Onion Creek near Buda, Texas
(Drainage area.--166 mi²)

May 12-16, 1980	97	3.91	.33	.65	.98	.14	.04	960

COLORADO RIVER BASIN

08158700 ONION CREEK NEAR DRIFTWOOD, TX

LOCATION.--Lat 30°04'59", long 98°00'29". Hays County, Hydrologic Unit 12090205, on left bank at upstream side of low-water crossing on Farm Road 150, 3.2 mi (5.1 km) southeast of Driftwood, and 10 mi (16 km) west of Buda.

DRAINAGE AREA.--124 mi² (321 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1958, November 1961 to June 1979 (periodic discharge measurements only), July 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 878.13 ft (267.654 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. Station is part of a hydrologic research project to study rainfall-runoff relationship in the Austin urban-rural areas. There is a digital recording rain gage located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,900 ft³/s (53.8 m³/s) July 27, 1979, gage height, 7.15 ft (2.179 m); minimum daily, 0.27 ft³/s (0.008 m³/s) Sept. 5, 1980.

Flood of Mar. 20, 1979, reached a stage of 11.48 ft (3.499 m), discharge, 4,980 ft³/s (141 m³/s), on basis of peak flow over dam, 1.5 mi (2.4 km) downstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Since 1938, the highest flood peaked at a depth of 18 to 20 ft (5.5 to 6.1 m) over dam 1.5 mi (2.4 km) downstream in 1940 or 1941, and the second highest flood peaked at a depth of 10 to 12 ft (3.0 to 3.7 m) over dam in 1976, according to local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 622 ft³/s (17.6 m³/s) May 21 at 1130 hours, gage height, 5.88 ft (1.792 m), no other peak above base of 500 ft³/s (14.2 m³/s); minimum daily, 0.27 ft³/s (0.008 m³/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	1.4	1.3	1.6	2.2	2.7	7.7	11	91	7.5	.75	.35
2	2.7	1.1	1.3	1.6	2.2	2.7	8.2	11	72	6.1	.75	.35
3	2.7	1.1	1.3	1.6	2.2	2.7	8.3	11	69	5.6	.92	.30
4	2.2	1.1	1.3	1.6	2.2	2.7	8.3	11	61	4.8	1.1	.30
5	1.8	1.1	1.3	1.6	2.2	2.7	8.3	11	53	4.3	1.1	.27
6	1.8	1.1	1.3	1.6	2.2	2.7	8.3	11	44	3.8	1.0	.45
7	2.0	1.1	1.6	1.6	2.3	2.7	8.1	11	42	2.7	.98	9.0
8	2.3	1.2	1.3	1.6	2.7	2.7	7.7	12	39	3.2	1.1	29
9	3.1	1.3	1.3	1.6	3.1	2.7	6.5	13	37	2.2	1.1	16
10	1.6	1.3	1.3	1.6	3.2	2.7	6.5	13	35	2.2	1.8	10
11	2.2	1.3	1.3	1.6	3.2	2.7	6.5	13	32	2.2	2.5	8.6
12	2.9	1.3	2.4	1.6	3.2	3.4	6.5	91	29	2.7	1.5	7.5
13	4.1	1.3	3.7	1.6	3.2	3.3	32	88	28	2.2	1.3	5.2
14	3.9	1.3	1.7	1.6	3.2	3.2	10	225	26	2.7	1.2	4.8
15	3.2	1.3	1.6	1.6	3.2	3.2	10	115	26	2.7	1.1	4.3
16	3.2	1.5	1.6	1.6	4.4	3.2	10	101	26	1.5	1.3	3.8
17	3.8	1.6	1.6	2.2	3.2	3.2	10	87	24	1.3	.92	2.7
18	3.8	2.2	1.6	2.6	3.2	3.2	9.0	77	23	1.1	.97	2.2
19	3.8	2.4	1.6	2.2	2.7	3.2	9.0	82	23	1.1	1.1	41
20	3.8	2.7	1.6	2.2	2.7	3.2	9.0	74	22	1.1	1.0	15
21	3.8	2.7	1.6	3.0	2.7	2.8	9.0	255	21	1.1	.92	8.6
22	3.5	2.7	1.6	3.2	2.7	2.7	9.4	145	20	1.3	.92	7.0
23	2.2	2.7	1.8	3.2	2.7	3.0	9.8	124	18	1.3	.80	5.6
24	2.2	2.3	2.2	2.9	2.7	2.8	9.8	114	17	.96	.67	5.2
25	2.2	3.2	2.1	2.7	2.7	2.7	13	107	15	.92	.55	5.2
26	2.2	2.6	1.8	2.7	2.7	2.7	14	101	14	.92	.50	4.3
27	2.2	2.2	1.8	2.4	2.7	7.0	13	97	12	.90	.47	6.5
28	2.2	1.5	2.6	2.2	2.7	8.3	12	90	10	.75	.43	9.8
29	2.2	1.3	4.0	2.2	2.7	7.5	11	83	9.0	.75	.40	14
30	3.8	1.3	1.8	2.2	---	7.0	11	72	7.9	.75	.38	116
31	2.9	---	1.8	2.2	---	7.0	---	94	---	.75	.35	---
TOTAL	87.0	51.2	55.1	63.7	81.0	112.3	301.9	2350	945.9	71.40	29.88	343.32
MEAN	2.81	1.71	1.78	2.05	2.79	3.62	10.1	75.8	31.5	2.30	.96	11.4
MAX	4.1	3.2	4.0	3.2	4.4	8.3	32	255	91	7.5	2.5	116
MIN	1.6	1.1	1.3	1.6	2.2	2.7	6.5	11	7.9	.75	.35	.27
CFSM	.02	.01	.01	.02	.02	.03	.08	.61	.25	.02	.008	.09
IN.	.03	.02	.02	.02	.02	.03	.09	.70	.28	.02	.01	.10
AC-FT	173	102	109	126	161	223	599	4660	1880	142	59	681
(††)	.43	.44	.11	.86	1.98	3.22	3.25	6.15	.03	.30	1.20	7.79

CAL YR 1979	TOTAL	MEAN	MAX	MIN	CFSM	IN	AC-FT	††	
WTR YR 1980	TOTAL	4492.70	MEAN 12.3	MAX 255	MIN .27	CFSM .10	IN 1.35	AC-FT 8910	†† 25.76

†† Rainfall on watershed, in inches, based on one rain gage.

COLORADO RIVER BASIN
08158700 ONION CREEK NEAR DRIFTWOOD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1974 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 31...	0945	4.3	484	7.9	17.5	5	.40	7.4	79	1.5
JAN 15...	1410	.60	516	8.1	15.0	5	.80	9.6	96	.7
SEP 30...	1210	118	294	7.8	22.0	34	68	8.8	101	1.1

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L CaCO3)	CALCIUM, DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO
OCT 31...	1900	1200	340	--	--	--	--	--	--
JAN 15...	380	K6	K16	250	43	68	19	9.0	.2
SEP 30...	12000	4500	11000	150	15	43	9.5	3.7	.1

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 31...	--	--	--	--	--	--	--	--	1
JAN 15...	1.1	250	0	48	16	.2	8.2	293	0
SEP 30...	1.6	160	0	15	13	.2	8.9	174	32

DATE	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 31...	0	.00	.000	.00	.020	.43	.45	.010	7.6
JAN 15...	0	.04	.000	.04	.000	.08	.08	.010	3.0
SEP 30...	18	.25	.000	.25	.000	.86	.86	.050	10

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 15...	1410	1	30	<1	0	0	<10
SEP 30...	1210	1	20	<1	0	<10	40

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 15...	0	<1	.0	0	0	<3
SEP 30...	<10	1	.0	0	0	<3

COLORADO RIVER BASIN

08158700 ONION CREEK NEAR DRIFTWOOD, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRACTION (UG/L)
JAN 15...	1410	<3.7	<.3	<5.5	<.4	<2.3	<.4	<2.2	<.4	.05	.60
DATE	TIME	PCB TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)		
JAN 15...	1410	.00	.0	.00	.0	.00	.00	.00	.00		
SEP 30...	1210	.00	.0	.00	.0	.00	.00	.00	.00		
DATE	TIME	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE, TOTAL (UG/L)	LINDANE, TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	
JAN 15...		.00	.00	.00	.00	.00	.00	.00	.00	.00	
SEP 30...		.00	.00	.00	.00	.00	.00	.00	.00	.00	
DATE	TIME	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	
JAN 15...		.00	.00	.00	.00	0	.00	.00	.00	.00	
SEP 30...		.00	.00	.00	.00	0	.00	.00	.00	.00	

STORM RAINFALL AND RUNOFF RECORD									
1980 WATER YEAR									
STATION NO. 08158700									
UNION CREEK NEAR DRIFTWOOD, TEXAS									
STORM OF MAY 12-14, 1980									
DATE & TIME	1-ON	GAGE	NUMBER	PRECIP. IN.	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN	ACCUM. RUNOFF	CFS	IN.
MAY 12									
0000	0.0			0.0	0.0	13.0	0.0007		0.0007
0500	0.02			0.02	0.02	13.0	0.0015		0.0015
0930	0.17			0.17	0.17	13.0	0.0016		0.0016
1000	0.54			0.54	0.54	13.0	0.0017		0.0017
1030	0.74			0.74	0.74	13.0	0.0017		0.0017
1100	0.74			0.74	0.74	13.0	0.0018		0.0018
1130	1.14			1.14	1.14	13.0	0.0019		0.0019
1200	1.77			1.77	1.77	13.0	0.0023		0.0023
1600	1.74			1.74	1.74	14.0	0.0027		0.0027
1630	1.80			1.80	1.80	88.0	0.0032		0.0032
1700	1.80			1.80	1.80	260.0	0.0048		0.0048
1730	1.80			1.80	1.80	333.0	0.0069		0.0069
1800	1.80			1.80	1.80	348.0	0.0051		0.0051
1830	1.80			1.80	1.80	348.0	0.0113		0.0113
1900	1.80			1.80	1.80	330.0	0.0144		0.0144
2000	1.80			1.80	1.80	325.0	0.0184		0.0184
2100	1.80			1.80	1.80	281.0	0.0219		0.0219
2200	1.80			1.80	1.80	202.0	0.0245		0.0245
2300	1.80			1.80	1.80	163.0	0.0265		0.0265
2400	1.80			1.80	1.80	144.0	0.0287		0.0287
MAY 13									
0000	1.80			1.80	1.80	144.0	0.0287		0.0287
0300	1.80			1.80	1.80	103.0	0.0352		0.0352
0300	1.80			1.80	1.80	77.0	0.0404		0.0404
1345	1.83			1.83	1.83	61.0	0.0428		0.0428
1415	2.10			2.10	2.10	59.0	0.0432		0.0432
1445	2.23			2.23	2.23	62.0	0.0437		0.0437
1530	2.23			2.23	2.23	65.0	0.0444		0.0444
1630	2.31			2.31	2.31	70.0	0.0455		0.0455
1700	2.35			2.35	2.35	74.0	0.0464		0.0464
1830	2.36			2.36	2.36	73.0	0.0467		0.0467
1845	2.37			2.37	2.37	72.0	0.0465		0.0465
1900	2.53			2.53	2.53	72.0	0.0472		0.0472
1915	2.82			2.82	2.82	72.0	0.0475		0.0475
1945	2.80			2.80	2.80	75.0	0.0481		0.0481
2030	3.01			3.01	3.01	81.0	0.0455		0.0455
2230	3.01			3.01	3.01	83.0	0.0508		0.0508
2300	3.01			3.01	3.01	95.0	0.0514		0.0514
2330	3.01			3.01	3.01	237.0	0.0529		0.0529
2400	3.01			3.01	3.01	345.0	0.0572		0.0572

STATION NO.		STORM RAINFALL AND RUNOFF RECORD				1980 WATER YEAR					
UNION CREEK NEAR DUFFWOOD, TEXAS		STORM OF MAY 12-14, 1980				DISCHARGE ACCUM.					
DATE & TIME		G A G E		N U M B E R		WEIGHTED PRECIP.		IN CFS		ACCUM. RUNOFF	
		I N.		I N.		I N.		I N.		I N.	
MAY 14											
0000	3.01					3.01		345.0		0.0572	
0300	3.01					3.01		476.0		0.0753	
0500	3.01					3.01		355.0		0.0841	
0700	3.01					3.01		305.0		0.0918	
0900	3.01					3.01		222.0		0.0987	
1200	3.01					3.01		159.0		0.1047	
1500	3.02					3.02		133.0		0.1080	
1800	3.04					3.09		131.0		0.1100	
1730	3.24					3.28		127.0		0.1132	
2000	3.24					3.29		121.0		0.1181	
2400	3.24					3.29		118.0		0.1237	
MAY 15											
0000	3.24					3.29		118.0		0.1237	
0700	3.24					3.29		109.0		0.1317	

COLORADO RIVER BASIN

08158800 ONION CREEK AT BUDA, TX

LOCATION.--Lat 30°05'09", long 97°50'52". Hays County, Hydrologic Unit 12090205, on left bank at downstream side of bridge on Farm Road 967 and 0.4 mi (0.6 km) northwest of Buda.

DRAINAGE AREA.--166 mi² (430 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.-- November 1961 to September 1973, January 1978 to July 1979 (periodic discharge measurements only), July 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 657.39 ft (200.372 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. The station is part of a hydrologic-research project to study rainfall-runoff relation for the Austin urban-rural areas. There are two recording rain gages located in the watershed above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,560 ft³/s (44.2 m³/s) May 21, 1980, gage height, 6.48 ft (1.975 m); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 28, 1929, reached a stage of about 36.2 ft (11.03 m), present datum, discharge, 53,200 ft³/s (1,510 m³/s), from slope-area indirect measurement of peak flow. This is probably the highest flood since that date.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,560 ft³/s (44.2 m³/s) May 21 at 0545 hours, gage height, 6.48 ft (1.975 m), no other peak above base of 1,000 ft³/s (28.3 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.03	.33	.69	.00	.58	1.3	.00	.58	.00	.00	.00
2	.00	.00	.42	.67	.00	.58	1.4	.00	.42	.00	.00	.00
3	.00	.00	.42	.62	.08	.58	1.4	.00	.25	.00	.00	.00
4	.00	.00	.42	.49	.08	.58	1.2	.00	.25	.00	.00	.00
5	.00	.00	.42	.42	.08	.58	1.1	.00	.17	.00	.00	.00
6	.00	.00	.50	.42	.08	.58	.83	.00	.17	.00	.00	.00
7	.00	.00	.50	.31	.17	.67	.70	.00	.17	.00	.00	.00
8	.00	.00	.50	.21	.50	.58	.60	.22	.08	.00	.00	.00
9	.00	.00	.50	.08	.58	.33	.50	.03	.00	.00	.00	.00
10	.00	.00	.50	.07	.58	.17	.40	.00	.00	.00	.00	.00
11	.00	.00	.42	.17	.58	.00	.30	.00	.00	.00	.00	.00
12	.00	.00	1.0	.17	.50	.50	.20	.43	.00	.00	.00	.00
13	.00	.00	1.0	.17	.58	.42	.20	18	.00	.00	.00	.00
14	.00	.00	.67	.17	.58	.00	.10	420	.00	.00	.00	.00
15	.00	.00	.58	.17	.58	.00	.10	127	.00	.00	.00	.00
16	.00	.00	.42	.08	.92	.00	.09	79	.00	.00	.00	.00
17	.00	.00	.42	.75	1.0	.00	.08	25	.00	.00	.00	.00
18	.00	.00	.42	.60	.92	.00	.07	4.8	.00	.00	.00	.00
19	.00	.00	.42	.29	.83	.00	.06	1.6	.00	.00	.00	.00
20	.02	.00	.50	.31	.83	.00	.05	1.3	.00	.00	.00	.00
21	.00	.42	.50	.25	.83	.00	.04	568	.00	.00	.00	.00
22	.00	.67	.50	.56	.83	.00	.05	167	.00	.00	.00	.00
23	.00	.58	.49	.41	.75	.00	.04	63	.00	.00	.00	.00
24	.00	.42	.62	.33	.75	.00	.11	23	.00	.00	.00	.00
25	.00	.42	.45	.29	.75	.00	.32	9.3	.00	.00	.00	.00
26	.00	.42	.39	.25	.67	.00	.20	4.5	.00	.00	.00	.00
27	.00	.33	.58	.16	.67	1.4	.10	2.1	.00	.00	.00	.00
28	.00	.25	.84	.08	.58	1.7	.05	1.3	.00	.00	.00	.00
29	.00	.08	1.3	.08	.58	1.6	.00	1.2	.00	.00	.00	.00
30	.03	.17	.97	.08	---	1.4	.00	.83	.00	.00	.00	.00
31	.06	---	.78	.00	---	1.3	---	.75	---	.00	.00	---
TOTAL	.11	3.79	17.78	9.35	15.88	13.55	11.59	1518.36	2.09	.00	.00	.00
MEAN	.004	.13	.57	.30	.55	.44	.39	49.0	.070	.000	.000	.000
MAX	.06	.67	1.3	.75	1.0	1.7	1.4	568	.58	.00	.00	.00
MIN	.00	.00	.33	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.000	.001	.003	.002	.003	.003	.002	.30	.000	.000	.000	.000
IN.	.00	.00	.00	.00	.00	.00	.00	.34	.00	.00	.00	.00
AC-FT	.2	7.5	35	19	31	27	23	3010	4.1	.00	.00	.00
(††)	.64	.55	.75	.82	2.05	3.28	3.09	6.40	.15	.26	1.18	7.78

CAL YR 1979 TOTAL - MEAN - MAX - MIN - CFSM - IN - AC-FT - †† -
WTR YR 1980 TOTAL 1592.50 MEAN 4.35 MAX 568 MIN .00 CFSM .03 IN .36 AC-FT 3160 †† 26.95

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

COLORADO RIVER BASIN

08158800 ONION CREEK AT BUDA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1978 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 31...	0830	.17	455	7.8	17.0	5	3.2	7.4	78	1.5
JAN 17...	1315	1.0	403	7.9	13.0	5	2.5	9.6	91	1.5
MAY 14...	1320	447	331	8.1	22.0	30	28	7.9	92	1.5
MAY 28...	1330	1.3	378	7.7	31.5	--	--	--	--	--

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS./100 ML)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS./100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM, DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)	SODIUM, DISSOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO
OCT 31...	1200	120	96	--	--	--	--	--	--
JAN 17...	1000	260	1500	170	25	57	7.3	13	.4
MAY 14...	21000	780	1100	160	12	48	9.7	4.8	.2
MAY 28...	200	K8	K7	170	21	51	10	6.3	.2

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE, DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 31...	--	--	--	--	--	--	--	--	23
JAN 17...	3.0	180	0	35	15	.1	4.1	223	5
MAY 14...	2.1	180	0	15	8.0	.2	8.6	185	59
MAY 28...	2.2	180	0	20	11	.2	6.6	196	--

DATE	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 31...	3	.46	.020	.48	.020	.50	.52	.010	7.4
JAN 17...	0	.03	.010	.04	.000	.12	.12	.020	6.9
MAY 14...	4	.17	.010	.18	.010	.50	.51	.040	6.2
MAY 28...	--	.01	.000	.01	.010	.49	.50	.010	--

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)
JAN 17...	1315	0	40	<1	0	3	<10
MAY 14...	1320	1	20	<1	0	0	20
MAY 28...	1330	1	30	<1	0	0	10

COLORADO RIVER BASIN

08158800 ONION CREEK AT BUDA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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 17...	0	<1	.0	0	0	<3					
MAY 14...	1	<1	.0	0	0	<3					
28...	0	4	.0	0	0	<3					

DATE	TIME	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JAN 17...	1315	<2.9	.5	<4.2	.8	3.4	.9	3.2	.9	.04	.60

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JAN 17...	1315	.00	.0	.00	.0	.00	.00	.00	.00

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JAN 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 17...	.00	.00	.00	.00	0	.00	.00	.00	.00

STA. NO. 08150800		STORM RAINFALL AND RUNOFF RECORD										1980 WATER YEAR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
UNION CREEK NEAR BUDA, TEXAS		STORM OF MAY 12-16, 1980										DISCHARGE		ACCUM.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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MAY 12																					0000		0.0		0.0									0.0		0.0					0.0	0900		0.02		0.0									0.01		0.0					0.0	0930		0.17		0.01									0.13		0.0					0.0	1000		0.64		0.09									0.49		0.0					0.0	1030		0.79		0.09									0.60		0.0					0.0	1100		0.79		0.09									0.60		0.0					0.0	1130		1.16		0.74									1.05		0.0					0.0	1200		1.77		1.01									1.56		0.0					0.0	2400		1.40		1.03									1.54		0.0					0.0	MAY 13																					0000		1.40		1.03									1.54		0.0					0.0	0015		1.46		1.03									1.54		0.6					0.0000	0600		1.80		1.03									1.54		0.3					0.0000	1130		1.41		1.05									1.60		0.1					0.0000	1345		1.83		1.07									1.62		2.2					0.0001	1415		2.10		1.17									1.85		2.3					0.0001	1445		2.23		1.32									1.98		2.5					0.0001	1530		2.23		1.48									2.03		3.5					0.0001	1630		2.31		1.64									2.13		12.0					0.0003	1800		2.35		1.72									2.18		41.0					0.0006	1830		2.36		1.73									2.19		44.0					0.0008	1845		2.37		1.80									2.22		46.0					0.0010	1900		2.53		2.06									2.40		48.0					0.0012	1915		2.42		2.36									2.79		52.0					0.0014	1945		2.40		2.48									2.79		52.0					0.0021	2015		2.79		2.60									2.88		32.0					0.0025	2230		3.01		2.62									2.90		113.0					0.0033	2315		3.01		2.62									2.90		208.0					0.0048	2400		3.01		2.62									2.90								MAY 14																					0000		3.01		2.62									2.90		208.0					0.0048	0130		3.01		2.62									2.90		196.0					0.0073	0200		3.01		2.62									2.90		204.0					0.0083	0230		3.01		2.62									2.90		614.0					0.0112	0300		3.01		2.62									2.90		889.0					0.0153	0330		3.01		2.62									2.90		960.0					0.0220	0430		3.01		2.62									2.90		940.0					0.0330	0600		3.01		2.62									2.90		797.0					0.0460	0800		3.01		2.62									2.90		605.0					0.0573	1000		3.01		2.62									2.90		479.0					0.0662	1200		3.01		2.62									2.90		393.0					0.0754
0000		0.0		0.0									0.0		0.0					0.0	0900		0.02		0.0									0.01		0.0					0.0	0930		0.17		0.01									0.13		0.0					0.0	1000		0.64		0.09									0.49		0.0					0.0	1030		0.79		0.09									0.60		0.0					0.0	1100		0.79		0.09									0.60		0.0					0.0	1130		1.16		0.74									1.05		0.0					0.0	1200		1.77		1.01									1.56		0.0					0.0	2400		1.40		1.03									1.54		0.0					0.0	MAY 13																					0000		1.40		1.03									1.54		0.0					0.0	0015		1.46		1.03									1.54		0.6					0.0000	0600		1.80		1.03									1.54		0.3					0.0000	1130		1.41		1.05									1.60		0.1					0.0000	1345		1.83		1.07									1.62		2.2					0.0001	1415		2.10		1.17									1.85		2.3					0.0001	1445		2.23		1.32									1.98		2.5					0.0001	1530		2.23		1.48									2.03		3.5					0.0001	1630		2.31		1.64									2.13		12.0					0.0003	1800		2.35		1.72									2.18		41.0					0.0006	1830		2.36		1.73									2.19		44.0					0.0008	1845		2.37		1.80									2.22		46.0					0.0010	1900		2.53		2.06									2.40		48.0					0.0012	1915		2.42		2.36									2.79		52.0					0.0014	1945		2.40		2.48									2.79		52.0					0.0021	2015		2.79		2.60									2.88		32.0					0.0025	2230		3.01		2.62									2.90		113.0					0.0033	2315		3.01		2.62									2.90		208.0					0.0048	2400		3.01		2.62									2.90								MAY 14																					0000		3.01		2.62									2.90		208.0					0.0048	0130		3.01		2.62									2.90		196.0					0.0073	0200		3.01		2.62									2.90		204.0					0.0083	0230		3.01		2.62									2.90		614.0					0.0112	0300		3.01		2.62									2.90		889.0					0.0153	0330		3.01		2.62									2.90		960.0					0.0220	0430		3.01		2.62									2.90		940.0					0.0330	0600		3.01		2.62									2.90		797.0					0.0460	0800		3.01		2.62									2.90		605.0					0.0573	1000		3.01		2.62									2.90		479.0					0.0662	1200		3.01		2.62									2.90		393.0					0.0754																					
0900		0.02		0.0									0.01		0.0					0.0	0930		0.17		0.01									0.13		0.0					0.0	1000		0.64		0.09									0.49		0.0					0.0	1030		0.79		0.09									0.60		0.0					0.0	1100		0.79		0.09									0.60		0.0					0.0	1130		1.16		0.74									1.05		0.0					0.0	1200		1.77		1.01									1.56		0.0					0.0	2400		1.40		1.03									1.54		0.0					0.0	MAY 13																					0000		1.40		1.03									1.54		0.0					0.0	0015		1.46		1.03									1.54		0.6					0.0000	0600		1.80		1.03									1.54		0.3					0.0000	1130		1.41		1.05									1.60		0.1					0.0000	1345		1.83		1.07									1.62		2.2					0.0001	1415		2.10		1.17									1.85		2.3					0.0001	1445		2.23		1.32									1.98		2.5					0.0001	1530		2.23		1.48									2.03		3.5					0.0001	1630		2.31		1.64									2.13		12.0					0.0003	1800		2.35		1.72									2.18		41.0					0.0006	1830		2.36		1.73									2.19		44.0					0.0008	1845		2.37		1.80									2.22		46.0					0.0010	1900		2.53		2.06									2.40		48.0					0.0012	1915		2.42		2.36									2.79		52.0					0.0014	1945		2.40		2.48									2.79		52.0					0.0021	2015		2.79		2.60									2.88		32.0					0.0025	2230		3.01		2.62									2.90		113.0					0.0033	2315		3.01		2.62									2.90		208.0					0.0048	2400		3.01		2.62									2.90								MAY 14																					0000		3.01		2.62									2.90		208.0					0.0048	0130		3.01		2.62									2.90		196.0					0.0073	0200		3.01		2.62									2.90		204.0					0.0083	0230		3.01		2.62									2.90		614.0					0.0112	0300		3.01		2.62									2.90		889.0					0.0153	0330		3.01		2.62									2.90		960.0					0.0220	0430		3.01		2.62									2.90		940.0					0.0330	0600		3.01		2.62									2.90		797.0					0.0460	0800		3.01		2.62									2.90		605.0					0.0573	1000		3.01		2.62									2.90		479.0					0.0662	1200		3.01		2.62									2.90		393.0					0.0754																																										
0930		0.17		0.01									0.13		0.0					0.0	1000		0.64		0.09									0.49		0.0					0.0	1030		0.79		0.09									0.60		0.0					0.0	1100		0.79		0.09									0.60		0.0					0.0	1130		1.16		0.74									1.05		0.0					0.0	1200		1.77		1.01									1.56		0.0					0.0	2400		1.40		1.03									1.54		0.0					0.0	MAY 13																					0000		1.40		1.03									1.54		0.0					0.0	0015		1.46		1.03									1.54		0.6					0.0000	0600		1.80		1.03									1.54		0.3					0.0000	1130		1.41		1.05									1.60		0.1					0.0000	1345		1.83		1.07									1.62		2.2					0.0001	1415		2.10		1.17									1.85		2.3					0.0001	1445		2.23		1.32									1.98		2.5					0.0001	1530		2.23		1.48									2.03		3.5					0.0001	1630		2.31		1.64									2.13		12.0					0.0003	1800		2.35		1.72									2.18		41.0					0.0006	1830		2.36		1.73									2.19		44.0					0.0008	1845		2.37		1.80									2.22		46.0					0.0010	1900		2.53		2.06									2.40		48.0					0.0012	1915		2.42		2.36									2.79		52.0					0.0014	1945		2.40		2.48									2.79		52.0					0.0021	2015		2.79		2.60									2.88		32.0					0.0025	2230		3.01		2.62									2.90		113.0					0.0033	2315		3.01		2.62									2.90		208.0					0.0048	2400		3.01		2.62									2.90								MAY 14																					0000		3.01		2.62									2.90		208.0					0.0048	0130		3.01		2.62									2.90		196.0					0.0073	0200		3.01		2.62									2.90		204.0					0.0083	0230		3.01		2.62									2.90		614.0					0.0112	0300		3.01		2.62									2.90		889.0					0.0153	0330		3.01		2.62									2.90		960.0					0.0220	0430		3.01		2.62									2.90		940.0					0.0330	0600		3.01		2.62									2.90		797.0					0.0460	0800		3.01		2.62									2.90		605.0					0.0573	1000		3.01		2.62									2.90		479.0					0.0662	1200		3.01		2.62									2.90		393.0					0.0754																																																															
1000		0.64		0.09									0.49		0.0					0.0	1030		0.79		0.09									0.60		0.0					0.0	1100		0.79		0.09									0.60		0.0					0.0	1130		1.16		0.74									1.05		0.0					0.0	1200		1.77		1.01									1.56		0.0					0.0	2400		1.40		1.03									1.54		0.0					0.0	MAY 13																					0000		1.40		1.03									1.54		0.0					0.0	0015		1.46		1.03									1.54		0.6					0.0000	0600		1.80		1.03									1.54		0.3					0.0000	1130		1.41		1.05									1.60		0.1					0.0000	1345		1.83		1.07									1.62		2.2					0.0001	1415		2.10		1.17									1.85		2.3					0.0001	1445		2.23		1.32									1.98		2.5					0.0001	1530		2.23		1.48									2.03		3.5					0.0001	1630		2.31		1.64									2.13		12.0					0.0003	1800		2.35		1.72									2.18		41.0					0.0006	1830		2.36		1.73									2.19		44.0					0.0008	1845		2.37		1.80									2.22		46.0					0.0010	1900		2.53		2.06									2.40		48.0					0.0012	1915		2.42		2.36									2.79		52.0					0.0014	1945		2.40		2.48									2.79		52.0					0.0021	2015		2.79		2.60									2.88		32.0					0.0025	2230		3.01		2.62									2.90		113.0					0.0033	2315		3.01		2.62									2.90		208.0					0.0048	2400		3.01		2.62									2.90								MAY 14																					0000		3.01		2.62									2.90		208.0					0.0048	0130		3.01		2.62									2.90		196.0					0.0073	0200		3.01		2.62									2.90		204.0					0.0083	0230		3.01		2.62									2.90		614.0					0.0112	0300		3.01		2.62									2.90		889.0					0.0153	0330		3.01		2.62									2.90		960.0					0.0220	0430		3.01		2.62									2.90		940.0					0.0330	0600		3.01		2.62									2.90		797.0					0.0460	0800		3.01		2.62									2.90		605.0					0.0573	1000		3.01		2.62									2.90		479.0					0.0662	1200		3.01		2.62									2.90		393.0					0.0754																																																																																				
1030		0.79		0.09									0.60		0.0					0.0	1100		0.79		0.09									0.60		0.0					0.0	1130		1.16		0.74									1.05		0.0					0.0	1200		1.77		1.01									1.56		0.0					0.0	2400		1.40		1.03									1.54		0.0					0.0	MAY 13																					0000		1.40		1.03									1.54		0.0					0.0	0015		1.46		1.03									1.54		0.6					0.0000	0600		1.80		1.03									1.54		0.3					0.0000	1130		1.41		1.05									1.60		0.1					0.0000	1345		1.83		1.07									1.62		2.2					0.0001	1415		2.10		1.17									1.85		2.3					0.0001	1445		2.23		1.32									1.98		2.5					0.0001	1530		2.23		1.48									2.03		3.5					0.0001	1630		2.31		1.64									2.13		12.0					0.0003	1800		2.35		1.72									2.18		41.0					0.0006	1830		2.36		1.73									2.19		44.0					0.0008	1845		2.37		1.80									2.22		46.0					0.0010	1900		2.53		2.06									2.40		48.0					0.0012	1915		2.42		2.36									2.79		52.0					0.0014	1945		2.40		2.48									2.79		52.0					0.0021	2015		2.79		2.60									2.88		32.0					0.0025	2230		3.01		2.62									2.90		113.0					0.0033	2315		3.01		2.62									2.90		208.0					0.0048	2400		3.01		2.62									2.90								MAY 14																					0000		3.01		2.62									2.90		208.0					0.0048	0130		3.01		2.62									2.90		196.0					0.0073	0200		3.01		2.62									2.90		204.0					0.0083	0230		3.01		2.62									2.90		614.0					0.0112	0300		3.01		2.62									2.90		889.0					0.0153	0330		3.01		2.62									2.90		960.0					0.0220	0430		3.01		2.62									2.90		940.0					0.0330	0600		3.01		2.62									2.90		797.0					0.0460	0800		3.01		2.62									2.90		605.0					0.0573	1000		3.01		2.62									2.90		479.0					0.0662	1200		3.01		2.62									2.90		393.0					0.0754																																																																																																									
1100		0.79		0.09									0.60		0.0					0.0	1130		1.16		0.74									1.05		0.0					0.0	1200		1.77		1.01									1.56		0.0					0.0	2400		1.40		1.03									1.54		0.0					0.0	MAY 13																					0000		1.40		1.03									1.54		0.0					0.0	0015		1.46		1.03									1.54		0.6					0.0000	0600		1.80		1.03									1.54		0.3					0.0000	1130		1.41		1.05									1.60		0.1					0.0000	1345		1.83		1.07									1.62		2.2					0.0001	1415		2.10		1.17									1.85		2.3					0.0001	1445		2.23		1.32									1.98		2.5					0.0001	1530		2.23		1.48									2.03		3.5					0.0001	1630		2.31		1.64									2.13		12.0					0.0003	1800		2.35		1.72									2.18		41.0					0.0006	1830		2.36		1.73									2.19		44.0					0.0008	1845		2.37		1.80									2.22		46.0					0.0010	1900		2.53		2.06									2.40		48.0					0.0012	1915		2.42		2.36									2.79		52.0					0.0014	1945		2.40		2.48									2.79		52.0					0.0021	2015		2.79		2.60									2.88		32.0					0.0025	2230		3.01		2.62									2.90		113.0					0.0033	2315		3.01		2.62									2.90		208.0					0.0048	2400		3.01		2.62									2.90								MAY 14																					0000		3.01		2.62									2.90		208.0					0.0048	0130		3.01		2.62									2.90		196.0					0.0073	0200		3.01		2.62									2.90		204.0					0.0083	0230		3.01		2.62									2.90		614.0					0.0112	0300		3.01		2.62									2.90		889.0					0.0153	0330		3.01		2.62									2.90		960.0					0.0220	0430		3.01		2.62									2.90		940.0					0.0330	0600		3.01		2.62									2.90		797.0					0.0460	0800		3.01		2.62									2.90		605.0					0.0573	1000		3.01		2.62									2.90		479.0					0.0662	1200		3.01		2.62									2.90		393.0					0.0754																																																																																																																														
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0015		1.46		1.03									1.54		0.6					0.0000	0600		1.80		1.03									1.54		0.3					0.0000	1130		1.41		1.05									1.60		0.1					0.0000	1345		1.83		1.07									1.62		2.2					0.0001	1415		2.10		1.17									1.85		2.3					0.0001	1445		2.23		1.32									1.98		2.5					0.0001	1530		2.23		1.48									2.03		3.5					0.0001	1630		2.31		1.64									2.13		12.0					0.0003	1800		2.35		1.72									2.18		41.0					0.0006	1830		2.36		1.73									2.19		44.0					0.0008	1845		2.37		1.80									2.22		46.0					0.0010	1900		2.53		2.06									2.40		48.0					0.0012	1915		2.42		2.36									2.79		52.0					0.0014	1945		2.40		2.48									2.79		52.0					0.0021	2015		2.79		2.60									2.88		32.0					0.0025	2230		3.01		2.62									2.90		113.0					0.0033	2315		3.01		2.62									2.90		208.0					0.0048	2400		3.01		2.62									2.90								MAY 14																					0000		3.01		2.62									2.90		208.0					0.0048	0130		3.01		2.62									2.90		196.0					0.0073	0200		3.01		2.62									2.90		204.0					0.0083	0230		3.01		2.62									2.90		614.0					0.0112	0300		3.01		2.62									2.90		889.0					0.0153	0330		3.01		2.62									2.90		960.0					0.0220	0430		3.01		2.62									2.90		940.0					0.0330	0600		3.01		2.62									2.90		797.0					0.0460	0800		3.01		2.62									2.90		605.0					0.0573	1000		3.01		2.62									2.90		479.0					0.0662	1200		3.01		2.62									2.90		393.0					0.0754																																																																																																																																																																																																																																																												
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1830		2.36		1.73									2.19		44.0					0.0008	1845		2.37		1.80									2.22		46.0					0.0010	1900		2.53		2.06									2.40		48.0					0.0012	1915		2.42		2.36									2.79		52.0					0.0014	1945		2.40		2.48									2.79		52.0					0.0021	2015		2.79		2.60									2.88		32.0					0.0025	2230		3.01		2.62									2.90		113.0					0.0033	2315		3.01		2.62									2.90		208.0					0.0048	2400		3.01		2.62									2.90								MAY 14																					0000		3.01		2.62									2.90		208.0					0.0048	0130		3.01		2.62									2.90		196.0					0.0073	0200		3.01		2.62									2.90		204.0					0.0083	0230		3.01		2.62									2.90		614.0					0.0112	0300		3.01		2.62									2.90		889.0					0.0153	0330		3.01		2.62									2.90		960.0					0.0220	0430		3.01		2.62									2.90		940.0					0.0330	0600		3.01		2.62									2.90		797.0					0.0460	0800		3.01		2.62									2.90		605.0					0.0573	1000		3.01		2.62									2.90		479.0					0.0662	1200		3.01		2.62									2.90		393.0					0.0754																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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		1-UN	2-UN	1	2	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN	ACCUM. RUNOFF	
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UNION CREEK NEAR BUDA, TEXAS									
	MAY 14								
	1500	3.02	2.63				298.0	2.91	0.0810
	1600	3.04	2.71				276.0	2.99	0.0842
	1730	3.24	2.80				248.0	3.15	0.0888
	2000	3.29	2.81				208.0	3.16	0.0951
	2400	3.29	2.81				160.0	3.16	0.1007
	MAY 15								
	0000	3.29	2.81				160.0	3.16	0.1007
	0700	3.29	2.84				127.0	3.17	0.1087
	0900	3.49	2.88				120.0	3.33	0.1109
	1100	3.64	3.17				120.0	3.51	0.1126
	1200	3.65	3.24				120.0	3.54	0.1165
	1800	3.67	3.26				117.0	3.56	0.1231
	2400	3.67	3.33				127.0	3.58	0.1278
	MAY 16								
	0000	3.67	3.33				127.0	3.58	0.1278
	0400	3.67	3.33				110.0	3.58	0.1321
	0600	3.78	3.50				98.0	3.70	0.1339
	0800	3.85	3.57				89.0	3.77	0.1356
	1000	3.96	3.72				80.0	3.90	0.1389
	1700	3.96	3.75				58.0	3.90	0.1427
	2400	3.97	3.75				46.0	3.91	0.1442

BEAR CREEK DRAINAGE BASIN

The locations of data-collection sites in the Bear Creek drainage basin are shown on figure 14.

A summary of storm rainfall and runoff for the basin is shown in table 14.

The peak discharges associated with water-quality samples collected during storms for the Little Bear Creek at Farm Road 1626 sites are shown in table 4.

Daily and monthly rainfall totals for the 1980 water year are given in table 18.

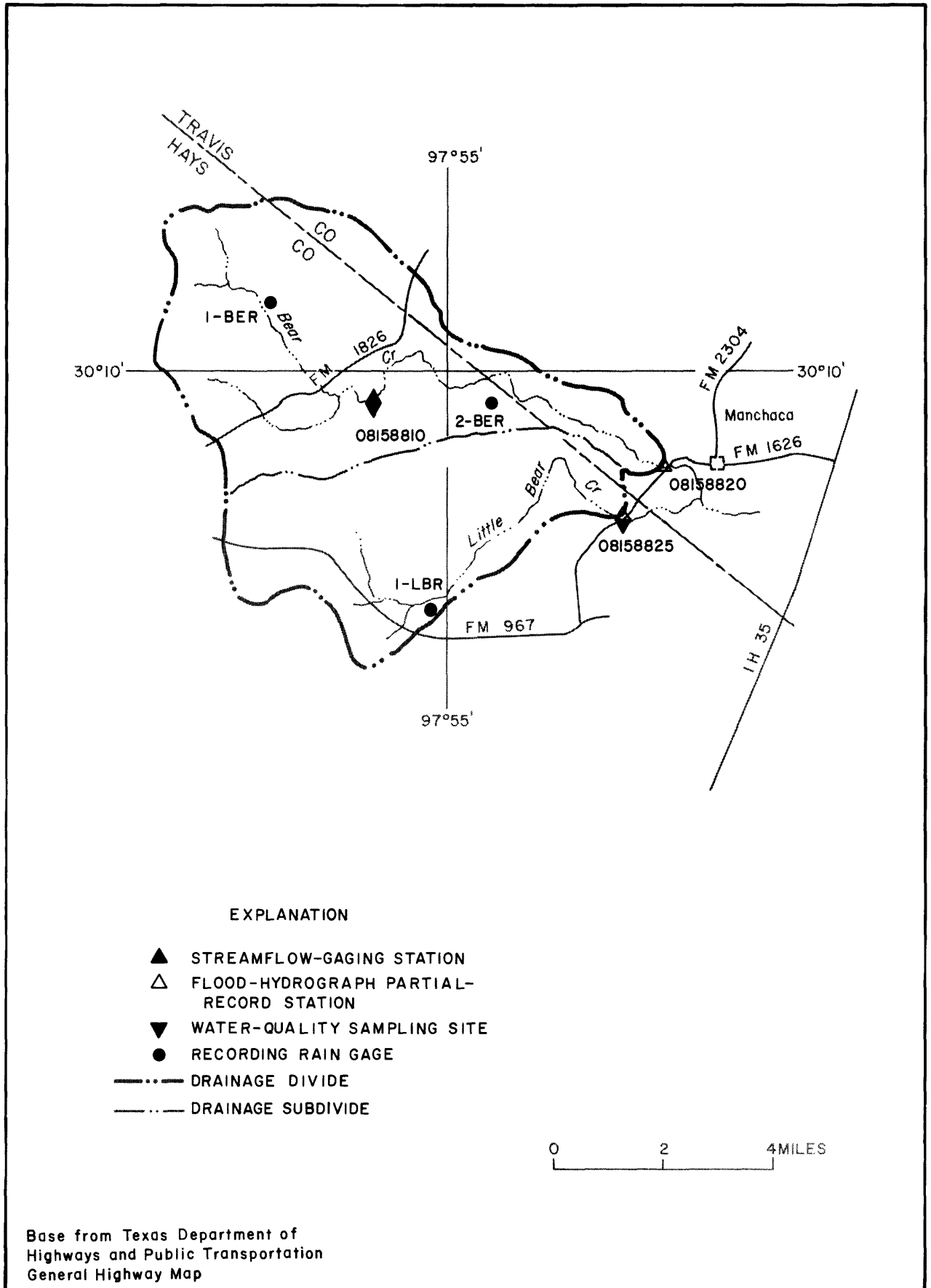


Figure 14.-Locations of surface-water data-collection sites in the Bear Creek drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 14--Storm rainfall-runoff data, 1980 water year, Bear Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Bear Creek at Farm Road 1826 nr Driftwood, Texas (Drainage area.--12.2 mi ²)								
May 12, 1980	7	1.66	0.38	0.61	0.76	0.15	0.05	272
Sept. 29-30, 1980	14	1.51	.59	.93	1.11	.16	.11	269
Bear Creek at Farm Road 1626 nr Manchaca, Texas (Drainage area.--24.0 mi ²)								
May 12, 1980	7	1.45	.40	.61	.79	.05	.02	114

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT
ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 14.--Storm rainfall-runoff data, 1980 water year, Bear Creek--Continued

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
May 12-13, 1980	35	2.53	0.45	0.69	0.78	0.01	0.00	44

Little Bear Creek at Farm Road 1626 nr Manchaca, Texas
(Drainage area.--21.0 mi²)

COLORADO RIVER BASIN

08158810 BEAR CREEK BELOW FARM ROAD 1826 NEAR DRIFTWOOD, TX

LOCATION.--Lat 30°09'19", long 97°56'23". Hays County, Hydrologic Unit 12090205, 0.8 mi (1.3 km) southeast of Farm Road 1826 and 5.9 mi (9.5 km) northeast of Driftwood.

DRAINAGE AREA.--12.2 mi² (31.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1978 to July 1979 (periodic discharge measurements only), October 1978 to June 1979 (peak discharges above base only), July 1979 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 860 ft (262.1 m), from topographic map.

REMARKS.--Water-discharge records fair. Station is part of a hydrologic research project to study rainfall-runoff relation for the Austin urban-rural areas. There is a digital recording rain gage located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,050 ft³/s (86.4 m³/s) Apr. 18, 1979, gage height, 9.24 ft (2.816 m) from floodmarks, from slope-area measurements of peak flow; no flow Aug. 28 to Sept. 5, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 9, 1939, reached a stage of 16.2 ft (4.938 m), discharge unknown, and was the highest since at least 1924, from information by local resident. A flood in 1915 was 2 ft (0.6 m) higher than the 1939 flood; from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 323 ft³/s (9.15 m³/s) May 21 at 0415 hours, gage height, 4.73 ft (1.442 m), no peak above base of 500 ft³/s (14.2 m³/s); no flow Aug. 28 to Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.40	.45	.45	.30	2.2	4.9	1.3	9.7	1.0	.15	.00
2	.63	.40	.45	.45	.33	1.3	4.9	1.3	9.7	.96	.13	.00
3	.70	.40	.45	.40	.33	1.0	4.3	1.3	9.7	.88	.10	.00
4	.51	.40	.45	.40	.33	1.0	3.9	1.3	9.1	.82	.09	.00
5	.45	.45	.45	.40	.33	1.0	3.5	1.2	8.5	.73	.08	.00
6	.57	.45	.45	.40	.33	1.0	3.3	1.1	8.0	.70	.07	.01
7	.70	.45	.45	.40	.34	.96	3.2	1.6	7.3	.69	.06	.20
8	.70	.45	.45	.40	.37	.91	2.9	1.1	6.8	.63	.05	.18
9	.80	.45	.45	.37	.82	.91	2.6	4.1	6.3	.61	.04	.27
10	.80	.45	.45	.37	.51	.91	2.7	3.1	6.1	.59	.13	.23
11	.80	.45	.45	.37	.57	.91	2.7	2.9	5.5	.57	.17	.17
12	.80	.40	.63	.37	.57	1.0	2.7	4.1	5.0	.49	.13	.16
13	.91	.40	1.0	.37	.57	1.0	2.7	7.3	4.6	.45	.10	.15
14	.91	.40	.72	.37	.57	1.0	2.4	5.1	4.0	.44	.09	.13
15	.91	.40	.63	.33	.57	1.0	2.3	4.3	3.7	.40	.09	.12
16	.91	.40	.57	.33	1.1	1.0	2.1	4.3	3.5	.39	.07	.12
17	.91	.40	.57	.37	.80	1.0	1.7	3.4	3.3	.33	.07	.11
18	1.0	.42	.57	.40	.80	.93	1.7	2.9	3.0	.30	.07	.11
19	1.0	.45	.57	.40	.80	.80	1.7	2.8	2.8	.32	.07	1.1
20	1.0	.45	.57	.38	.91	.80	1.7	2.3	2.5	.33	.05	.26
21	.91	.45	.57	.91	.91	.80	1.6	5.5	2.2	.28	.05	.20
22	.91	.45	.57	.80	.91	.80	1.8	1.8	2.1	.29	.05	.18
23	.91	.45	.61	.63	.91	.80	1.7	1.5	1.9	.30	.04	.18
24	.80	.45	.57	.53	.91	.80	1.6	1.4	1.7	.25	.04	.18
25	.70	.45	.51	.37	.91	.80	4.0	1.3	1.6	.25	.03	.26
26	.63	.45	.51	.33	.96	.82	1.7	1.2	1.5	.25	.02	.61
27	.57	.45	.51	.33	1.0	9.0	1.5	1.2	1.4	.22	.01	1.0
28	.51	.45	.86	.33	1.2	6.9	1.5	1.1	1.2	.21	.00	1.9
29	.45	.45	.70	.30	1.6	6.3	1.4	1.1	1.1	.20	.00	2.1
30	.40	.45	.59	.30	---	5.8	1.3	1.1	1.1	.19	.00	5.1
31	.37	---	.49	.30	---	5.2	---	9.9	---	.16	.00	---
TOTAL	22.87	12.97	17.27	12.86	20.56	58.65	76.0	577.1	134.9	14.23	2.05	70.83
MEAN	.74	.43	.56	.41	.71	1.89	2.53	18.6	4.50	.46	.066	2.36
MAX	1.0	.45	1.0	.91	1.6	9.0	4.9	7.3	9.7	1.0	.17	.51
MIN	.37	.40	.45	.30	.30	.80	1.3	1.1	1.1	.16	.00	.00
CFSM	.06	.04	.05	.03	.06	.16	.21	1.53	.37	.04	.005	.19
IN.	.07	.04	.05	.04	.06	.18	.23	1.76	.41	.04	.01	.22
AC-FT	45	26	34	26	41	116	151	1140	268	28	4.1	140
(††)	.95	.50	2.54	1.46	2.22	2.87	2.03	8.23	0	.82	1.64	12.06

CAL YR 1979 TOTAL - MEAN - MAX - MIN - CFSM - IN - AC-FT - †† -
WTR YR 1980 TOTAL 1020.29 MEAN 2.79 MAX 73 MIN .00 CFSM .23 IN 3.11 AC-FT 2020 †† 35.32

†† Rainfall on watershed, in inches, based on one rain gage.

COLORADO RIVER BASIN

08158810 BEAR CREEK BELOW FARM ROAD 1826 NEAR DRIFTWOOD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: March 1978 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 31...	1020	.57	489	7.8	16.0	5	.40	7.7	79	1.0
JAN 16...	1220	.57	501	8.0	17.5	5	--	9.5	100	.8

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CAC03)	HARDNESS, NONCARBONATE (MG/L AS CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
OCT 31...	470	210	100	--	--	--	--	--	--
JAN 16...	200	28	27	240	28	67	18	8.0	.2

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 31...	--	--	--	--	--	--	--	--	5
JAN 16...	1.0	260	0	24	15	.2	8.3	270	0

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE (MG/L AS N)	NITROGEN, NITRITE (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA (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 31...	4	.03	.000	.03	.010	.44	.45	.000	2.8
JAN 16...	0	.03	.000	.03	.000	.10	.10	.010	7.9

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 16...	1220	0	30	<1	0	0	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 16...	0	1	.0	0	0	<3

COLORADO RIVER BASIN

08158810 BEAR CREEK BELOW FARM ROAD 1826 NEAIFTWOOD, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)		
JAN 16...	1220	<3.7	<5.5	<2.7	<2.8	.09	1.0		
DATE	TIME	PCB TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JAN 16...	1220	.00	.0	.00	.0	.00	.00	.00	.00
DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
JAN 16...	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 16...	.00	.00	.00	.00	0	.00	.00	.00	.00

STORM RAINFALL AND RUNOFF RECORD									
STA. NO.	1980 WATER YEAR								
STORM OF MAY 12, 1980									
DATE & TIME	GAUGE NUMBER	IN.	ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. IN	CFS	DISCHARGE IN	ACCUM. IN	RUNOFF
MAY 12									
0000	0.0	0.0	0.0	2.7	0.0015				
0845	0.01	0.01	0.01	2.7	0.0031				
0915	0.13	0.13	0.13	2.7	0.0033				
0945	0.31	0.31	0.31	3.3	0.0034				
1000	0.51	0.51	0.51	4.1	0.0035				
1015	0.83	0.83	0.83	5.2	0.0040				
1115	0.83	0.83	0.83	6.0	0.0044				
1130	0.98	0.98	0.98	6.0	0.0046				
1145	1.36	1.36	1.36	10.0	0.0049				
1200	1.59	1.59	1.59	23.0	0.0060				
1230	1.62	1.62	1.62	47.0	0.0090				
1300	1.62	1.62	1.62	177.0	0.0203				
1330	1.62	1.62	1.62	266.0	0.0329				
1445	1.62	1.62	1.62	272.0	0.0416				
1400	1.62	1.62	1.62	266.0	0.0542				
1430	1.63	1.63	1.63	243.0	0.0697				
1500	1.63	1.63	1.63	173.0	0.0807				
1530	1.63	1.63	1.63	131.0	0.0890				
1600	1.64	1.64	1.64	102.0	0.0955				
1630	1.64	1.64	1.64	76.0	0.1027				
1730	1.64	1.64	1.64	45.0	0.1098				
1900	1.64	1.64	1.64	29.0	0.1163				
2100	1.64	1.64	1.64	19.0	0.1223				
2400	1.64	1.64	1.64	14.0	0.1308				
MAY 13									
0000	1.64	1.64	1.64	14.0	0.1308				
1300	1.66	1.66	1.66	11.0	0.1470				

STA. NO. 08158810		STORM RAINFALL AND RUNOFF RECORD				1980 WATER YEAR			
BEAR CREEK AT FARM ROAD 1826 NEAR DRIFTWOOD, TEXAS		STORM OF SEPTEMBER 29-30, 1980				ACCUM. DISCHARGE ACCUM.			
DATE & TIME	PRECIP.	GAGE	NUMBER	WEIGHTED PRECIP. IN.	CFS	IN.	RUNOFF	IN.	
SEP. 29									
0000	0.0			0.0		1.9	0.0016		
1300	0.01			0.01		2.3	0.0045		
2000	0.03			0.03		2.3	0.0060		
2315	0.16			0.16		2.3	0.0065		
2330	0.30			0.30		2.3	0.0066		
2345	0.64			0.64		2.3	0.0066		
2400	1.23			1.23		3.1	0.0067		
SEP. 30									
0000	1.23			1.23		3.1	0.0067		
0015	1.27			1.27		5.7	0.0069		
0030	1.40			1.40		11.0	0.0074		
0100	1.49			1.49		23.0	0.0089		
0130	1.44			1.49		75.0	0.0125		
0145	1.44			1.49		95.0	0.0170		
0215	1.44			1.44		152.0	0.0267		
0245	1.49			1.49		208.0	0.0366		
0300	1.50			1.50		269.0	0.0451		
0315	1.50			1.50		269.0	0.0579		
0345	1.50			1.50		225.0	0.0722		
0415	1.50			1.50		177.0	0.0863		
0500	1.50			1.50		122.0	0.0979		
0545	1.50			1.50		87.0	0.1089		
0700	1.50			1.50		53.0	0.1199		
0900	1.50			1.50		32.0	0.1300		
1200	1.50			1.50		24.0	0.1438		
1800	1.51			1.51		19.0	0.1582		
2400	1.51			1.51		17.0	0.1647		

08158820 BEAR CREEK AT FARM ROAD 1626 NEAR MANCHACA, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°08'25", long 97°50'50", Travis County, at culvert on Farm Road 1626, 1 mile west of Manchaca, Texas.

DRAINAGE AREA.--24.0 mi².

PERIOD OF RECORD.--July 1979 to current year.

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 643.63 ft NGVD.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,900 ft³/s July 27, 1979 (gage height, 6.57 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft³/s May 21 (gage height, 6.03 ft).

STA. NO. 08158820		STORM RAINFALL AND RUNOFF RECORD				1980 WATER YEAR				
BEAR CREEK AT FARM ROAD 1626 NEAR MANCACA, TEXAS		STORM OF MAY 12, 1980				DISCHARGE ACCUM.				
DATE & TIME	ISEM	ZBER	GAGE	NUM	BER	WEIGHTED	IN	CFS	IN.	RUNOFF
						PRECIP.				
MAY 12										
0000	0.0	0.0				0.0	0.0	0.0	0.0	0.0
0045	0.01	0.0				0.01	0.0	0.0	0.0	0.0
0900	0.00	0.0				0.03	0.0	0.0	0.0	0.0
0915	0.13	0.02				0.09	0.2	0.2	0.0000	0.0000
0930	0.25	0.06				0.19	0.4	0.4	0.0000	0.0000
0945	0.31	0.15				0.26	0.6	0.6	0.0000	0.0000
1000	0.51	0.23				0.41	0.8	0.8	0.0000	0.0000
1015	0.83	0.29				0.65	1.0	1.0	0.0001	0.0001
1115	0.83	0.33				0.66	1.0	1.0	0.0001	0.0001
1130	0.90	0.34				0.76	1.5	1.5	0.0001	0.0001
1145	1.36	0.54				1.08	2.0	2.0	0.0002	0.0002
1200	1.54	0.54				1.37	2.5	2.5	0.0002	0.0002
1215	1.62	0.99				1.41	3.0	3.0	0.0006	0.0006
1600	1.64	1.01				1.43	6.0	6.0	0.0016	0.0016
1715	1.64	1.01				1.43	12.0	12.0	0.0021	0.0021
1730	1.64	1.01				1.43	81.0	81.0	0.0035	0.0035
1745	1.54	1.01				1.43	114.0	114.0	0.0053	0.0053
1800	1.64	1.01				1.43	114.0	114.0	0.0071	0.0071
1815	1.64	1.01				1.43	106.0	106.0	0.0106	0.0106
1900	1.64	1.01				1.43	74.0	74.0	0.0147	0.0147
2000	1.64	1.01				1.43	57.0	57.0	0.0203	0.0203
2200	1.64	1.01				1.43	41.0	41.0	0.0256	0.0256
2400	1.64	1.01				1.43	33.0	33.0	0.0341	0.0341
MAY 13										
0000	1.64	1.01				1.43	33.0	33.0	0.0341	0.0341
1200	1.60	1.03				1.45	14.0	14.0	0.0463	0.0463

COLORADO RIVER BASIN

08158825 LITTLE BEAR CREEK AT FARM ROAD 1626 NEAR MANCHACA, TX

LOCATION.--Lat 30°07'31", long 97°51'43". Hays County, Hydrologic Unit 12090205, on downstream side of culvert on Farm Road 1626 and 2.1 mi (3.4 km) southwest of Manchaca.

DRAINAGE AREA.--21.0 mi² (183.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1979 to current year.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Datum of gage is 668.67 ft (203.811 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,000 ft³/s (28.3 m³/s) May 21, 1980, gage height, 6.77 ft (2.063 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,000 ft³/s (28.3 m³/s) May 21, 1980, gage height, 6.77 ft (2.063 m).

REVISIONS.--The maximum discharge for the 1979 water year has been revised to 995 ft³/s (28.2 m³/s) July 27, 1979, gage height 6.76 ft (2.060 m), superseding figure published in this report series for 1979.

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1978 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, (PERCENT SATURATION)	OXYGEN UNINHIB 5 DAY AS (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)
APR 25...	0940	.20	282	6.7	18.5	60	280	5.9	64	9.3	130	56
25...	1415	.14	--	--	--	--	--	--	--	--	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM DIS-SOLVED (MG/L AS MG)	SODIUM DIS-SOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE DIS-SOLVED (MG/L AS CL)	FLUORIDE DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
APR 25...	50	1.6	3.8	.1	5.1	92	0	60	5.9	.2	8.9
25...	--	--	--	--	5.1	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR 25...	181	266	34	.62	.010	.63	.320	1.5	1.8	.570	18
25...	--	--	--	--	--	--	--	--	--	--	--

DATE	THIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
APR 25...	0940	0	20	<1	0	3	120

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 25...	0	80	.1	0	0	5

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, SOLVED (UG/L AS U-NAT)	GROSS ALPHA, TOTAL (UG/L AS U-NAT)	GROSS BETA, SOLVED (PCI/L AS CS-137)	GROSS BETA, TOTAL (PCI/L AS CS-137)	GROSS BETA, SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM, DIS-SOLVED, EXTRACTION (UG/L)
APR 25...	1415	<2.0	4.8	<3.0	7.0	5.5	7.9	5.6	7.5	.05	.32

COLORADO RIVER BASIN

08158825 LITTLE BEAR CREEK AT FARM ROAD 1626 NEAR MANCHACA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
APR 25...	0940	.00	.0	.00	.0	.00	.00	.00	.27

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
APR 25...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
APR 25...	.00	.00	.00	.00	0	.00	.47	.01	.00

STORM RAINFALL AND RUNOFF RECORD									
SIA. NO. 08150625									
LITTLE BEAR CREEK AT FARM ROAD 1626 NEAR MANCHACA, TEXAS STORM OF MAY 12-13, 1960									
DATE & TIME	LMR	GAGE	NUMBER	PRECIP. IN.	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN	CFS	1960 WATER YEAR	ACCUM. RUNOFF IN.
MAY 12									
0000	0.0			0.0	0.0	0.0		0.0	0.0
0415	0.02			0.02	0.02	0.0		0.0	0.0
0945	0.16			0.16	0.16	0.0		0.0	0.0
1100	0.19			0.19	0.19	0.0		0.0	0.0
1115	0.43			0.43	0.43	0.0		0.0	0.0
1130	0.88			0.88	0.88	0.0		0.0	0.0
1145	0.95			0.95	0.95	0.0		0.0	0.0
1300	0.97			0.97	0.97	0.0		0.0	0.0000
1315	0.97			0.97	2.5	0.0001		0.0001	0.0001
1330	0.95			0.95	0.98	2.8		2.8	0.0001
1345	0.98			0.98	0.98	2.4		2.4	0.0002
1415	0.98			0.98	0.98	1.5		1.5	0.0003
1500	0.99			0.99	0.99	1.0		1.0	0.0003
1600	0.99			0.99	0.99	0.5		0.5	0.0004
1800	0.99			0.99	0.99	0.2		0.2	0.0004
2215	0.99			0.99	0.99	0.1		0.1	0.0005
2400	0.99			0.99	0.99	0.0		0.0	0.0005
MAY 13									
0000	0.99			0.99	0.99	0.0		0.0	0.0005
1330	1.01			1.01	1.01	0.0		0.0	0.0005
1345	1.08			1.08	1.08	0.0		0.0	0.0005
1430	1.36			1.36	1.36	0.5		0.5	0.0005
1445	1.38			1.38	1.38	12.0		12.0	0.0007
1500	1.34			1.34	1.34	44.0		44.0	0.0015
1515	1.44			1.44	1.44	43.0		43.0	0.0027
1545	1.55			1.55	1.55	23.0		23.0	0.0035
1615	1.63			1.63	1.63	11.0		11.0	0.0041
1700	1.69			1.69	1.69	6.3		6.3	0.0045
1800	1.71			1.71	1.71	3.8		3.8	0.0047
1830	1.72			1.72	1.72	3.0		3.0	0.0048
1845	1.89			1.89	1.89	2.7		2.7	0.0048
1900	2.24			2.24	2.24	2.2		2.2	0.0049
1930	2.34			2.34	2.34	4.9		4.9	0.0050
1945	2.44			2.44	2.44	27.0		27.0	0.0055
2000	2.44			2.44	2.49	41.0		41.0	0.0063
2015	2.52			2.52	2.52	34.0		34.0	0.0075
2100	2.52			2.52	2.52	20.0		20.0	0.0086
2145	2.52			2.52	2.52	8.3		8.3	0.0091
2245	2.52			2.52	2.52	3.6		3.6	0.0094
2400	2.53			2.53	2.53	1.6		1.6	0.0095

SLAUGHTER CREEK DRAINAGE BASIN

The locations of data-collection sites in the Slaughter Creek drainage basin are shown on figure 15.

A summary of storm rainfall and runoff for the basin is shown in table 15.

The peak discharges associated with water-quality samples collected during storms at the Slaughter Creek at Farm Road 2304 site are shown in table 4.

Daily and monthly rainfall totals for the 1980 water year are given in table 18.

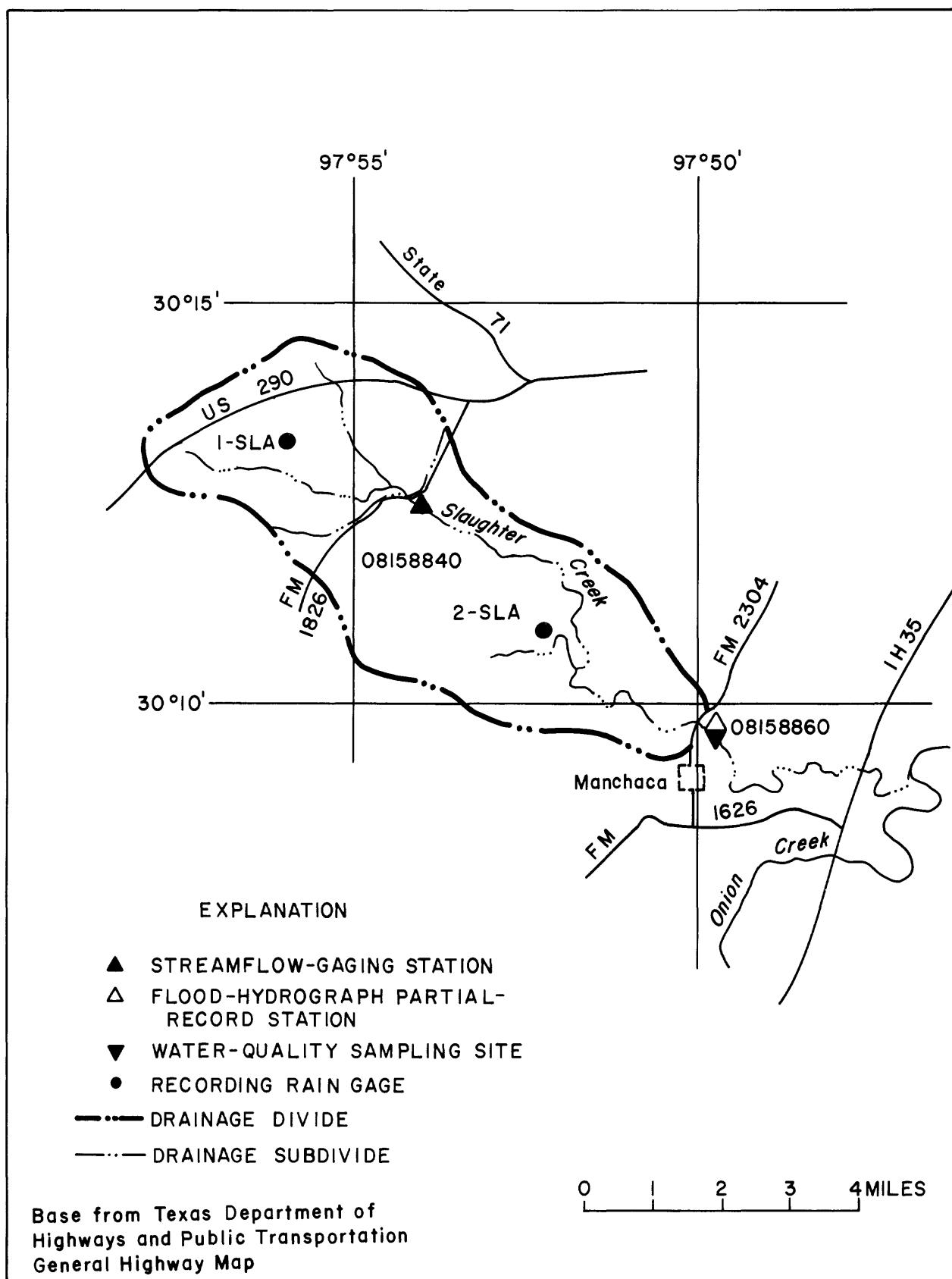


Figure 15.-Locations of surface-water data-collection sites in the Slaughter Creek drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 15.--Storm rainfall-runoff data, 1980 water year, Slaughter Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
May 12, 1980	7	1.97	0.62	0.85	1.02	0.58	0.29	607

Slaughter Creek at Farm Road 1826 nr Austin, Texas
(Drainage area.--8.24 mi²)

COLORADO RIVER BASIN

08158840 SLAUGHTER CREEK AT FARM ROAD 1826 NEAR AUSTIN, TX

LOCATION.--Lat 30°12'32", long 97°54'11", Travis County, Hydrologic Unit 12090205, 1.7 mi (2.7 km) south of the intersection of U.S. Highway 290 and Farm Road 1826 and 11.9 mi (19.1 km) southwest of the State Capitol Building in Austin.

DRAINAGE AREA.--8.24 mi² (21.3 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 876.14 ft (267.047 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. No known regulation or diversion. There is a recording rain gage in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft³/s (70.8 m³/s) May 21, 1979, gage height, 9.00 ft (2.743 m), no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 607 ft³/s (17.2 m³/s) May 12 at 1245 hours, gage height, 6.07 ft (1.850 m), no other peak above base of 500 ft³/s (14.2 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	.01	.01	.01	.00	.22	1.5	.91	3.1	.27	.00	.00
2	.24	.01	.01	.01	.00	.13	2.0	.91	3.1	.24	.00	.00
3	.24	.01	.01	.01	.00	.18	1.2	.88	2.9	.24	.00	.00
4	.21	.01	.01	.01	.00	.18	1.1	.73	2.4	.21	.00	.00
5	.18	.01	.01	.01	.00	.15	1.1	.73	2.2	.21	.00	.00
6	.18	.01	.01	.01	.00	.15	1.1	.67	2.0	.15	.00	.00
7	.18	.01	.01	.01	.01	.18	1.1	1.1	2.0	.15	.00	.03
8	.18	.01	.01	.01	.01	.18	1.0	.76	1.6	.15	.00	.00
9	.13	.02	.01	.01	.02	.18	1.0	7.7	1.6	.15	.00	.00
10	.09	.01	.01	.01	.01	.18	1.0	4.7	1.6	.12	.00	.00
11	.10	.01	.01	.01	.01	.18	1.0	4.4	1.6	.09	.00	.00
12	.10	.01	.04	.01	.01	.18	1.0	104	1.3	.08	.00	.00
13	.10	.01	.02	.01	.01	.18	1.7	99	1.2	.05	.00	.00
14	.09	.01	.01	.01	.01	.18	1.6	134	1.1	.04	.00	.00
15	.09	.01	.01	.01	.01	.18	1.5	108	1.1	.03	.00	.00
16	.08	.01	.01	.01	.11	.19	1.1	94	1.0	.02	.00	.00
17	.07	.01	.00	.01	.08	.21	1.0	48	.90	.00	.00	.00
18	.05	.01	.00	.01	.08	.21	1.0	28	.74	.00	.00	.00
19	.05	.01	.00	.01	.10	.21	.91	27	.74	.00	.00	.01
20	.03	.01	.00	.02	.10	.21	.91	19	.66	.00	.00	.00
21	.02	.01	.00	.02	.13	.21	.91	16	.59	.00	.00	.00
22	.02	.01	.00	.02	.13	.21	.91	12	.52	.00	.00	.00
23	.01	.01	.03	.00	.13	.21	.89	11	.51	.00	.00	.00
24	.01	.01	.02	.00	.13	.21	.73	9.1	.46	.00	.00	.00
25	.01	.01	.01	.00	.11	.19	3.9	7.2	.45	.00	.00	.03
26	.01	.01	.01	.00	.11	.18	1.3	6.7	.42	.00	.00	3.3
27	.01	.01	.01	.00	.14	.12	1.1	5.7	.38	.00	.00	.15
28	.01	.01	.03	.00	.15	1.4	1.0	4.8	.34	.00	.00	.37
29	.01	.00	.02	.00	.56	1.0	.99	4.8	.34	.00	.00	.06
30	.02	.00	.01	.00	---	.91	.91	4.1	.34	.00	.00	4.7
31	.02	---	.01	.00	---	.78	---	3.7	---	.00	.00	---
TOTAL	2.83	.29	.35	.25	2.16	20.96	36.46	844.83	37.19	2.20	.00	8.65
MEAN	.091	.010	.011	.008	.074	.68	1.22	27.3	1.24	.071	.000	.29
MAX	.29	.02	.04	.02	.56	1.2	3.9	134	3.1	.27	.00	4.7
MIN	.01	.00	.00	.00	.00	.13	.73	.67	.34	.00	.00	.00
CFSM	.01	.001	.001	.001	.009	.08	.15	3.31	.15	.009	.000	.04
IN.	.01	.00	.00	.00	.01	.09	.16	3.81	.17	.01	.00	.04
AC-FT	5.6	.6	.7	.5	4.3	4.2	72	1680	74	4.4	.00	17
(††)	.98	.50	3.00	1.49	3.07	3.00	2.44	7.21	.06	.17	.74	10.87

CAL YR 1979 TOTAL 3805.05 MEAN 10.4 MAX 250 MIN .00 CFSM 1.26 IN 17.18 AC-FT 7550 †† 40.06
WTR YR 1980 TOTAL 956.17 MEAN 2.61 MAX 134 MIN .00 CFSM .32 IN 4.32 AC-FT 1900 †† 33.53

†† Rainfall on watershed, in inches, based on one rain gage.

STORM RAINFALL AND RUNOFF RECORD									
1980 WATER YEAR									
STA. NO.	STORM RAINFALL AND RUNOFF RECORD								
08158840	STORM OF MAY 12, 1980								
SLAUGHTER CREEK AT F.M. ROAD 1826 NEAR AUSTIN, TEXAS									
DATE & TIME	ISLA	GAGE	NUMBER	WEIGHTED PRECIP. IN.	DISCHARGE IN	ACCUM. RUNOFF	ACCUM. RUNOFF	CFS	IN.
MAY 12									
0000	0.0			0.0	4.1	0.0033	0.0033		
0840	0.01			0.01	4.1	0.0069	0.0069		
0910	0.10			0.10	4.3	0.0071	0.0071		
0920	0.22			0.22	4.7	0.0074	0.0074		
0940	0.27			0.27	5.9	0.0076	0.0076		
0950	0.36			0.36	6.5	0.0078	0.0078		
0955	0.50			0.50	6.9	0.0079	0.0079		
1000	0.66			0.66	7.2	0.0080	0.0080		
1005	0.89			0.89	9.5	0.0082	0.0082		
1010	1.12			1.12	12.0	0.0089	0.0089		
1045	1.13			1.13	35.0	0.0125	0.0125		
1115	1.13			1.13	90.0	0.0188	0.0188		
1130	1.23			1.23	104.0	0.0221	0.0221		
1135	1.36			1.36	123.0	0.0240	0.0240		
1140	1.62			1.62	143.0	0.0263	0.0263		
1145	1.81			1.81	162.0	0.0313	0.0313		
1200	1.93			1.93	212.0	0.0413	0.0413		
1215	1.94			1.94	372.0	0.0588	0.0588		
1230	1.94			1.94	587.0	0.0864	0.0864		
1245	1.94			1.94	607.0	0.1149	0.1149		
1300	1.94			1.94	600.0	0.1431	0.1431		
1315	1.94			1.94	526.0	0.1679	0.1679		
1330	1.95			1.95	444.0	0.1992	0.1992		
1400	1.95			1.95	322.0	0.2255	0.2255		
1430	1.95			1.95	260.0	0.2478	0.2478		
1445	1.96			1.96	231.0	0.2695	0.2695		
1530	1.96			1.96	249.0	0.2988	0.2988		
1600	1.97			1.97	224.0	0.3198	0.3198		
1630	1.97			1.97	197.0	0.3476	0.3476		
1730	1.97			1.97	158.0	0.3773	0.3773		
1830	1.97			1.97	121.0	0.4058	0.4058		
2000	1.97			1.97	90.0	0.4354	0.4354		
2200	1.97			1.97	66.0	0.4602	0.4602		
2400	1.97			1.97	53.0	0.4802	0.4802		
MAY 13									
0000	1.97			1.97	53.0	0.4802	0.4802		
0400	1.97			1.97	42.0	0.5454	0.5454		
1400	1.97			1.97	33.0	0.5795	0.5795		

COLORADO RIVER BASIN

08158860 SLAUGHTER CREEK AT FARM ROAD 2304 NEAR AUSTIN, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°09'43", long 97°49'55", Travis County, Hydrologic Unit 12090205, at downstream side of bridge on Farm Road 2304 and 9.4 mi (15.1 km) southwest of the State Capitol Building in Austin.

DRAINAGE AREA.--23.1 mi² (59.8 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Flood-hydrograph recorder and crest-stage gage. Datum of gage is 654.80 ft (199.583 m) National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,000 ft³/s (85.0 m³/s) May 22, 1979, gage height, 10.20 ft (3.109 m), from rating curve extended above 100 ft³/s (2.83 m³/s) on basis of computation of flow over dam at gage height 9.64 ft (2.938 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 179 ft³/s (5.07 m³/s) May 14 at 0030 hours, gage height, 3.54 ft (1.079 m).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1978 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
MAY 13...	1030	32	274	8.2	25.0	70	28	8.2	100	2.3
DATE		COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	*CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
MAY 13...	52000	9200	8200	130	20	37	8.2	6.4	.2	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
MAY 13...	3.3	130	0	18	12	.1	11	160	50	
DATE		SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY 13...	38	.07	.010	.08	.010	.85	.86	.060	11	
DATE		ARSENIC DIS- SOLVED (UG/L AS AS)	BARIIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)			
MAY 13...	1030	1	20	<1	0	1	40			

COLORADO RIVER BASIN

08158860 SLAUGHTER CREEK AT FARM ROAD 2304 NEAR AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MH)	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...	0	1	.0	0	0	<3						
DATE	TIME	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)	
MAY 13...	1030	<1.3	2.0	<1.9	2.9	4.8	1.8	4.6	1.7	.10	74	
DATE	TIME	PCB TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)			
MAY 13...	1030	.00	.0	.00	.0	.00	.00	.00	.00	.12		
DATE	TIME	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)		
MAY 13...		.00	.00	.00	.00	.00	.00	.00	.00	.00		
DATE	TIME	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)		
MAY 13...		.00	.00	.00	.00	0	.00	.01	.00	00		

BOGGY CREEK (SOUTH) DRAINAGE BASIN

The locations of data-collection sites in the Boggy Creek (south) drainage basin are shown on figure 16.

Daily and monthly rainfall totals for the 1980 water year are given in table 18.

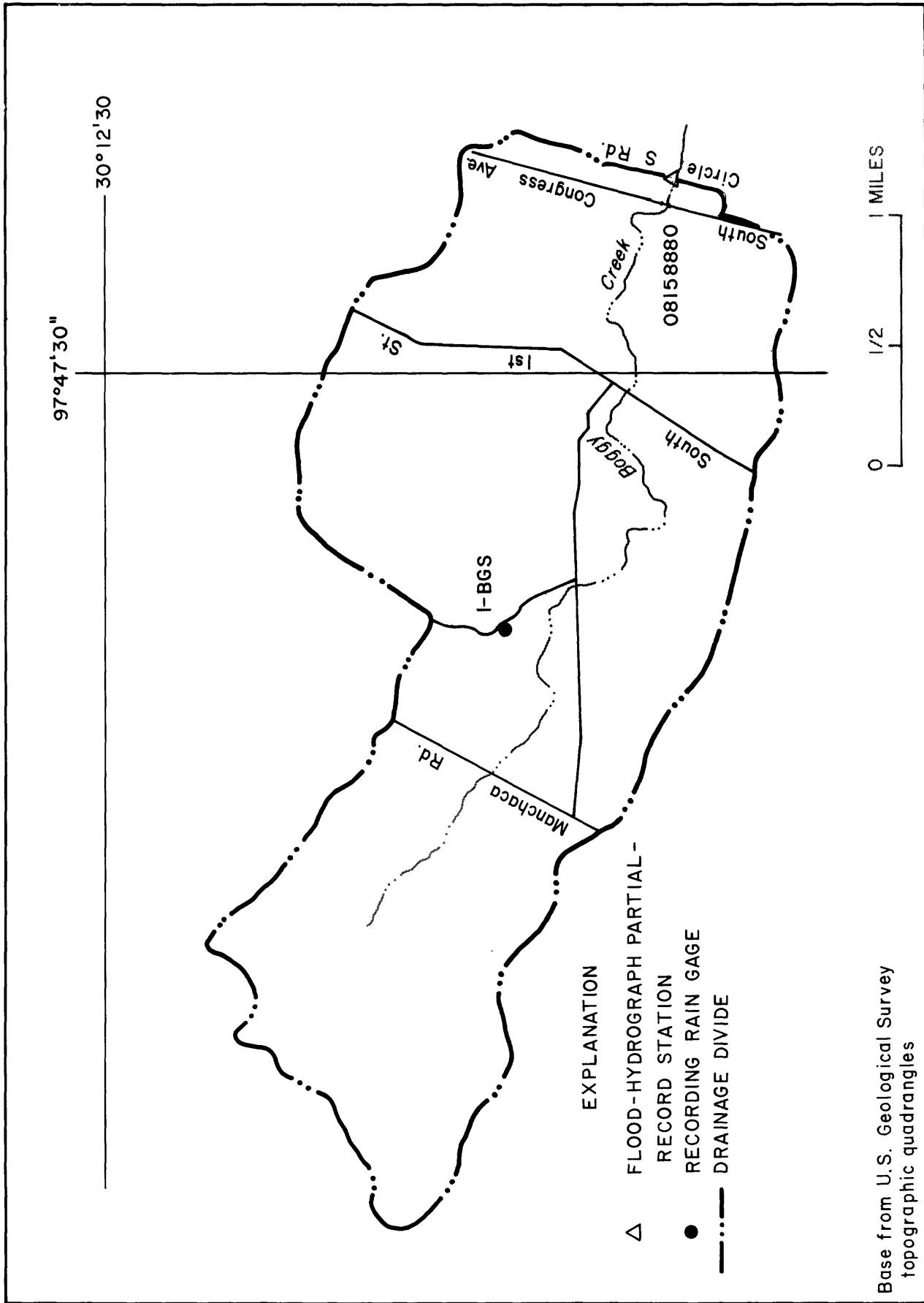


Figure 16.-Locations of surface-water data-collection sites in the Bogy Creek (south) drainage basin

08158880 BOGGY CREEK (SOUTH) AT CIRCLE S ROAD, AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°10'50", long 97°46'55", Travis County, on downstream side of bridge on Circle S Road and 7.0 mi south of the State Capitol Building in Austin.

DRAINAGE AREA.--3.58 mi².

PERIOD OF RECORD.--April 1976 to current year.

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 591.66 ft NGVD.

REMARKS.--Records fair. Because of insufficient data, no storms were analyzed for this station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,940 ft³/s (revised) Feb. 23, 1979 (gage height, 8.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, unknown May 8 (gage height 10.05 ft). Obstruction in channel downstream from gage.

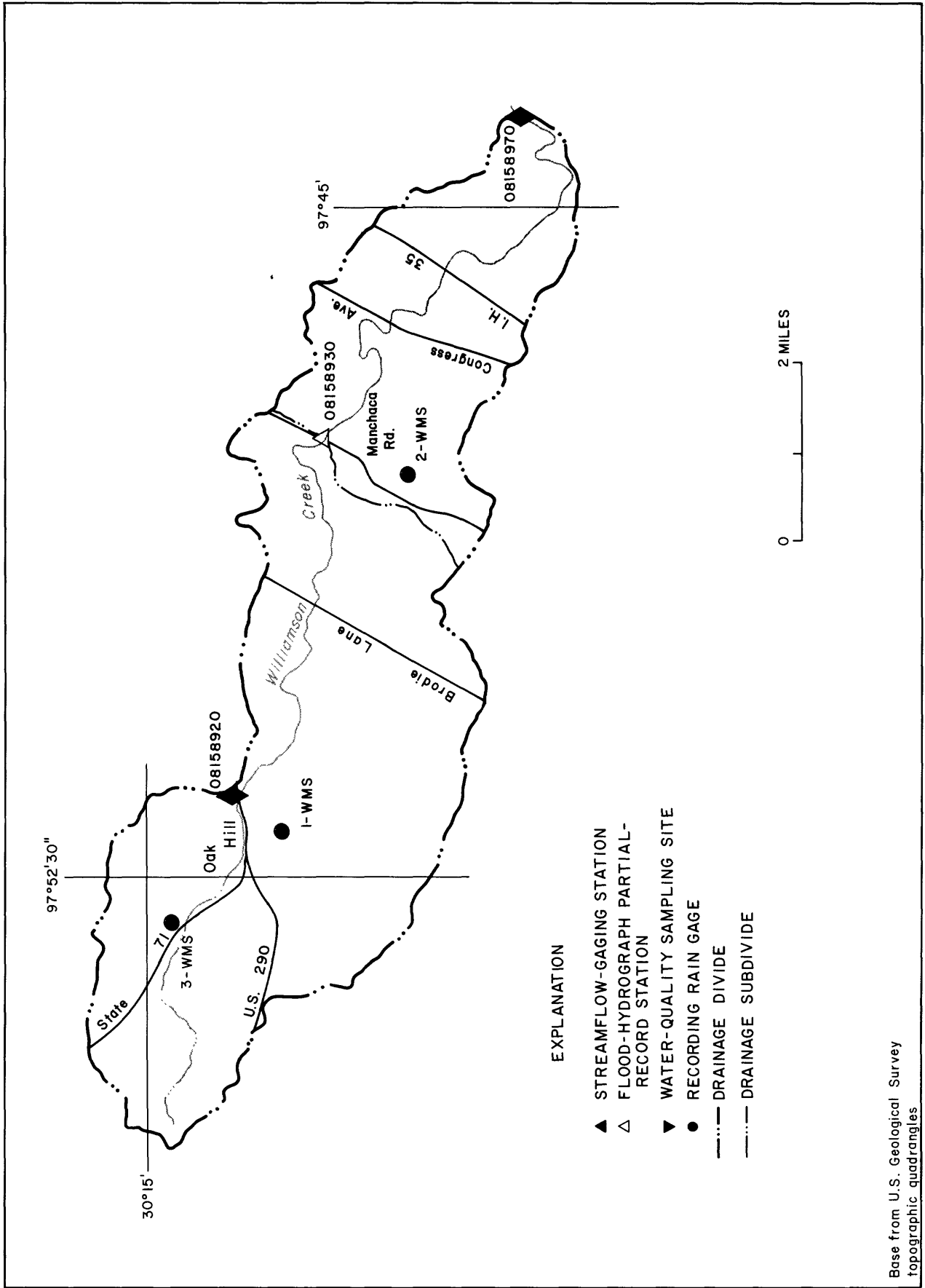
WILLIAMSON CREEK DRAINAGE BASIN

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

A summary of storm rainfall and runoff is shown in table 16.

The peak discharges associated with the water-quality samples collected during storms at the Williamson Creek at Oak Hill site are shown in table 4.

Daily and monthly rainfall totals for the 1980 water year are given in table 18.



UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 15 --Storm rainfall-runoff data, 1980 water year, Williamson Creek

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Williamson Creek at Oak Hill, Texas (Drainage area.--6.30 mi ²)								
Mar 27, 1980	27	2.64	0.42	0.60	0.89	0.27	0.10	159
May 7-8, 1980	32	2.31	.43	.58	.71	.16	.07	164
Williamson Creek at Manchaca Road, Austin, Texas (Drainage area.--19.0 mi ²)								
Mar. 27, 1980	22	2.66	.70	.91	1.18	.35	.13	759
May 7-8, 1980	32	2.69	1.23	1.42	1.55	.35	.13	900

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 15 --Storm rainfall-runoff data, 1980 water year, Williamson Creek--Continued

Date of Storm	Duration (hours)	Total	Rainfall (inches)			Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
			Maximum increment					
			15-minute	30-minute	60-minute			
Williamson Creek at Jimmy Clay Road, Austin, Texas (Drainage area.--27.6 mi ²)								
Mar. 27, 1980	13	2.69	0.70	0.98	1.21	0.25	0.09	517
May 7-8, 1980	34	3.05	.86	1.44	1.52	.23	.08	506

COLORADO RIVER BASIN

08158920 WILLIAMSON CREEK AT OAK HILL, TX

LOCATION.--Lat 30°14'06", long 97°51'36", Travis County, Hydrologic Unit 12090205, on downstream side of bridge on U.S. Highway 290 in Oak Hill, 0.8 mi (1.3 km) east of the intersection of U.S. Highway 290 and State Highway 71, and 7.7 mi (12.4 km) southwest of the State Capitol Building in Austin.

DRAINAGE AREA.--6.30 mi² (16.32 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1974 to February 1977 (periodic discharge measurements only), January 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 798.68 ft (243.438 m) National Geodetic Vertical Datum of 1929 (levels from city of Austin bench mark).

REMARKS.--Water-discharge records fair. Station is part of a hydrologic-research project to study rainfall-runoff relation for the Austin urban-rural areas. Two recording rain gages are located in the watershed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,130 ft³/s (60.3 m³/s) May 21, 1979, gage height, 6.46 ft (1.969 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 696 ft³/s (19.7 m³/s) May 12 at 1215 hours, gage height, 4.24 ft (1.292 m), no other peak above base of 500 ft³/s (14.2 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	1.8	4.3	.18	12	.00	.00	.00
2	.00	.00	.00	.00	.00	.70	6.1	.14	10	.00	.00	.00
3	.00	.00	.00	.00	.00	.70	3.6	.15	10	.00	.00	.00
4	.00	.00	.00	.00	.00	.70	2.6	.17	8.5	.00	.00	.00
5	.00	.00	.00	.00	.00	.70	2.3	.17	7.8	.00	.00	.00
6	.00	.00	.00	.00	.00	.70	2.1	.17	6.9	.00	.00	.27
7	.00	.00	.00	.00	1.0	.70	2.0	2.7	6.2	.00	.00	8.8
8	.00	.00	.00	.00	.54	.70	1.4	23	5.8	.00	.00	.50
9	.00	.00	.00	.00	5.9	.70	1.2	1.8	6.0	.00	.00	.00
10	.00	.00	.00	.00	1.2	.60	1.2	1.3	5.9	.00	.00	.00
11	.00	.00	.00	.00	.97	.46	1.2	1.2	5.4	.00	.00	.00
12	.00	.00	2.2	.00	.71	.40	1.7	63	4.7	.00	.00	.00
13	.00	.00	.10	.00	.46	.29	3.1	56	4.2	.00	.00	.00
14	.00	.00	.00	.00	.46	.29	1.7	51	3.4	.00	.00	.00
15	.00	.00	.00	.00	.32	.29	1.5	44	2.6	.00	.00	.00
16	.00	.00	.00	.00	3.5	.53	1.5	42	2.2	.00	.00	.00
17	.00	.00	.00	.00	1.2	.45	1.5	26	1.7	.00	.00	.00
18	.00	.00	.00	.00	1.2	.29	1.2	17	1.1	.00	.00	.00
19	.00	.00	.00	.00	1.1	.31	1.2	15	.79	.00	.00	22
20	.00	.00	.00	.69	1.0	.41	1.2	11	.48	.00	.00	.00
21	.00	.00	.00	1.8	.95	.29	1.2	9.7	.53	.00	.00	.00
22	.00	.00	.00	.77	.80	.29	1.2	8.8	.52	.00	.00	.00
23	.00	.00	2.6	.01	.72	.42	1.1	8.4	.22	.00	.00	.00
24	.00	.00	.00	.00	.64	.41	1.0	8.8	.12	.00	.00	.00
25	.00	.00	.00	.00	.46	.82	10	9.5	.04	.00	.00	4.8
26	.00	.00	.00	.00	.41	.85	.23	11	.00	.00	.00	13
27	.00	.00	.00	.00	.29	36	.18	11	.00	.00	.00	5.8
28	.00	.00	5.5	.00	.29	9.3	.17	12	.00	.00	.00	8.0
29	.00	.00	.80	.00	3.2	4.8	.17	14	.00	.00	.00	1.5
30	.03	.00	.00	.00	---	3.2	.23	13	.00	.00	.00	2.2
31	.00	---	.00	.00	---	2.7	---	12	---	.00	.00	---
TOTAL	.03	.00	11.20	3.27	27.32	70.80	58.08	475.18	107.10	.00	.00	66.87
MEAN	.001	.000	.36	.11	.94	2.28	1.94	15.3	3.57	.000	.000	2.23
MAX	.03	.00	5.5	1.8	5.9	36	10	63	12	.00	.00	22
MIN	.00	.00	.00	.00	.00	.29	.17	.14	.00	.00	.00	.00
CFSM	.000	.000	.06	.02	.15	.36	.31	2.43	.57	.000	.000	.35
IN.	.00	.00	.07	.02	.16	.42	.34	2.81	.63	.00	.00	.39
AC-FT	.06	.00	22	6.5	54	140	115	943	212	.00	.00	133
(††)	.66	.72	3.72	1.73	2.78	3.04	2.17	6.63	.59	.10	.84	9.93

CAL YR 1979	TOTAL	2617.26	MEAN	7.17	MAX	238	MIN	.00	CFSM	1.14	IN	15.45	AC-FT	5190	††	44.19
WTR YR 1980	TOTAL	819.85	MEAN	2.24	MAX	63	MIN	.00	CFSM	.36	IN	4.84	AC-FT	1630	††	32.91

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

COLORADO RIVER BASIN

081589.0 WILLIAMSON CREEK AT OAK HILL, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Occasional discharge measurements January 1974 to current year. Chemical, biochemical, and pesticide analyses January 1974 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STRFAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
APR 25...	1045	1.7	439	7.0	21.5	10	38	4.4	51	1.9
SEP 26...	1020	.85	455	7.6	23.0	15	44	--	--	2.4

DATE	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS, AS CaCO3 (MG/L)	HARDNESS, NONCARBONATE, AS CaCO3 (MG/L)	CALCIUM, DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
APR 25...	--	--	--	220	39	60	17	11	.3
SEP 26...	K58000	K9500	12000	210	32	62	14	10	.3

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF DISSOLVED TUNENTS, (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
APR 25...	2.0	220	0	31	15	.2	5.5	250	51
SEP 26...	2.3	220	0	32	16	.2	7.3	252	37

DATE	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)
APR 25...	14	.66	.010	.67	.000	.64	.64	.220	6.9
SEP 26...	17	.55	.010	.56	.000	.59	.59	.230	8.3

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
APR 25...	1045	2	30	<1	0	2	20
SEP 26...	1020	1	30	<1	10	<10	30

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 25...	0	5	.4	0	0	<3
SEP 26...	16	<1	.0	0	0	<3

COLORADO RIVER BASIN

08158920 WILLIAMSON CREEK AT OAK HILL, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRACTION (UG/L)
APR 25...	1045	<2.6	1.4	<3.8	2.1	2.3	1.8	2.3	1.7	.06	.70
DATE	TIME	PCB TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)		
APR 25...	1045	.00	.0	.00	.0	.00	.00	.00	.19		
DATE	TIME	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	
APR 25...		.00	.00	.00	.00	.00	.00	.00	.03	.00	
DATE	TIME	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	
APR 25...		.00	.00	.00	.00	0	.00	1.0	.00	.00	

STA. NO. 08158920		STORM RAINFALL AND RUNOFF RECORD				1980 WATER YEAR			
WILLIAMSON CREEK AT OAK HILL, TEXAS		STORM OF MARCH 27, 1980				DISCHARGE ACCUM.			
DATE & TIME	IWS	GAGE	NUMBER	PRECIP.	IN.	CFS	IN.	RUNOFF	ACCUM.
MAR. 27									
0000	0.0			0.0		0.9		0.0006	
0530	0.03			0.03		0.9		0.0012	
0545	0.20			0.20		0.9		0.0014	
0630	0.29			0.29		1.7		0.0016	
0650	0.30			0.30		2.1		0.0017	
0700	0.37			0.37		3.0		0.0018	
0705	0.44			0.44		4.2		0.0019	
0710	0.66			0.66		5.5		0.0020	
0715	0.78			0.78		6.7		0.0021	
0720	0.86			0.86		11.0		0.0025	
0730	0.90			0.90		20.0		0.0035	
0745	1.19			1.19		63.0		0.0074	
0800	1.26			1.26		113.0		0.0143	
0815	1.28			1.28		129.0		0.0223	
0830	1.29			1.29		117.0		0.0255	
0845	1.29			1.29		86.0		0.0347	
0900	1.30			1.30		63.0		0.0406	
0930	1.30			1.30		51.0		0.0463	
0955	1.49			1.49		39.0		0.0487	
1000	1.57			1.57		37.0		0.0498	
1010	1.73			1.73		38.0		0.0526	
1035	1.77			1.77		59.0		0.0574	
1050	1.86			1.86		70.0		0.0610	
1100	1.87			1.87		79.0		0.0675	
1130	1.87			1.87		59.0		0.0741	
1155	1.87			1.87		45.0		0.0769	
1200	2.00			2.00		43.0		0.0782	
1210	2.29			2.29		46.0		0.0806	
1225	2.47			2.47		71.0		0.0835	
1230	2.50			2.50		83.0		0.0869	
1245	2.57			2.57		129.0		0.0948	
1300	2.57			2.57		159.0		0.1046	
1315	2.58			2.58		157.0		0.1191	
1345	2.58			2.58		115.0		0.1332	
1415	2.58			2.58		86.0		0.1570	
1600	2.58			2.58		47.0		0.1787	
1800	2.58			2.58		28.0		0.1959	
2100	2.61			2.61		18.0		0.2092	
2400	2.62			2.62		16.0		0.2230	

STA. NO. 08158920		STORM RAINFALL AND RUNOFF RECORD				1980 WATER YEAR	
WILLIAMSON CREEK AT OAK HILL, TEXAS		STORM OF MARCH 27, 1980				DISCHARGE IN ACCUM. RUNOFF	
DATE & TIME	INCHES	G A G E	N U M B E R	WEIGHTED PRECIP. IN.	CFS	IN.	IN.
MAR. 28							
0000	2.62			2.62	16.0	0.2230	
0800	2.62			2.62	10.0	0.2505	
1600	2.64			2.64	7.4	0.2651	
2400	2.64			2.64	7.4	0.2723	

STORM RAINFALL AND RUNOFF RECORD									
STA. NO.	1980 WATER YEAR								
WILLIAMSON CREEK AT OAK HILL, TEXAS									
STORM OF MAY 7-8, 1980									
DATE & TIME	1WMS	3WMS	G A G E	N U M B E R	W E I G H T E D	ACCUM.	DISCHARGE	ACCUM.	R U N O F F
					P R E C I P.	I N.	I N	I N.	I N.
MAY 7									
0000	0.0	0.0			0.0	0.0	0.2	0.0001	0.2
0345	0.04	0.13			0.12	0.12	0.2	0.0002	0.2
0400	0.41	0.51			0.49	0.49	0.5	0.0002	0.5
0415	0.57	0.66			0.65	0.65	5.5	0.0006	5.5
0430	0.66	0.71			0.70	0.70	3.0	0.0008	3.0
0500	0.72	0.76			0.75	0.75	23.0	0.0030	23.0
0515	0.73	0.78			0.77	0.77	39.0	0.0054	39.0
0530	0.73	0.78			0.77	0.77	33.0	0.0074	33.0
0545	0.73	0.78			0.77	0.77	23.0	0.0095	23.0
0615	0.73	0.78			0.77	0.77	12.0	0.0106	12.0
0630	0.73	0.78			0.77	0.77	8.8	0.0114	8.8
0700	0.73	0.78			0.77	0.77	5.5	0.0124	5.5
0800	0.73	0.78			0.77	0.77	3.9	0.0134	3.9
0900	0.73	0.78			0.77	0.77	3.0	0.0141	3.0
1000	0.74	0.79			0.78	0.78	1.7	0.0147	1.7
1130	0.74	0.79			0.78	0.78	1.0	0.0151	1.0
1330	0.74	0.79			0.78	0.78	0.5	0.0155	0.5
1800	0.74	0.79			0.78	0.78	0.3	0.0159	0.3
2400	0.75	0.79			0.78	0.78	0.2	0.0161	0.2
MAY 8									
0000	0.75	0.79			0.78	0.78	0.2	0.0161	0.2
0430	0.75	0.79			0.78	0.78	0.2	0.0163	0.2
0445	0.77	0.86			0.85	0.85	0.2	0.0163	0.2
0455	0.88	0.90			0.90	0.90	0.2	0.0163	0.2
0500	0.99	0.95			0.96	0.96	0.2	0.0163	0.2
0505	1.16	1.12			1.13	1.13	1.8	0.0163	1.8
0515	1.31	1.20			1.22	1.22	4.9	0.0166	4.9
0530	1.32	1.21			1.23	1.23	2.3	0.0167	2.3
0535	1.32	1.21			1.23	1.23	15.0	0.0171	15.0
0545	1.32	1.21			1.23	1.23	41.0	0.0188	41.0
0555	1.33	1.21			1.23	1.23	70.0	0.0210	70.0
0600	1.33	1.21			1.23	1.23	84.0	0.0227	84.0
0605	1.33	1.21			1.23	1.23	76.0	0.0250	76.0
0615	1.33	1.21			1.23	1.23	59.0	0.0287	59.0
0635	1.33	1.21			1.23	1.23	36.0	0.0320	36.0
0700	1.33	1.21			1.23	1.23	20.0	0.0342	20.0
0730	1.33	1.21			1.23	1.23	10.0	0.0355	10.0
0800	1.33	1.21			1.23	1.23	6.1	0.0363	6.1
0840	1.34	1.22			1.24	1.24	4.6	0.0368	4.6
0845	1.42	1.37			1.38	1.38	4.4	0.0368	4.4

STORM RAINFALL AND RUNOFF RECORD									
1980 WATER YEAR									
STA. NO.	WILLIAMSON CREEK AT OAK HILL, TEXAS			STORM OF MAY 7-8, 1980			DISCHARGE		
DATE & TIME	1WMS	3WMS	G A G E	N U M B E R	PRECIP.	ACCUM.	IN	CFS	IN.
					IN.				
MAY 8									
0850	1.54	1.64			1.62		7.9		0.0371
0900	1.84	1.80			1.81		15.0		0.0380
0920	1.92	1.86			1.87		48.0		0.0410
0930	1.95	1.89			1.90		86.0		0.0445
0940	1.97	1.93			1.94		138.0		0.0487
0945	1.94	1.94			1.95		164.0		0.0521
0950	1.98	1.96			1.96		150.0		0.0567
1000	2.03	1.98			1.99		123.0		0.0630
1015	2.08	2.04			2.05		93.0		0.0706
1040	2.23	2.18			2.19		93.0		0.0821
1115	2.31	2.30			2.30		92.0		0.0972
1200	2.31	2.30			2.30		88.0		0.1134
1245	2.31	2.30			2.30		52.0		0.1230
1330	2.31	2.30			2.30		35.0		0.1305
1430	2.32	2.30			2.30		23.0		0.1362
1530	2.32	2.31			2.31		16.0		0.1411
1700	2.32	2.31			2.31		9.6		0.1446
1830	2.32	2.31			2.31		6.7		0.1479
2100	2.32	2.31			2.31		4.9		0.1512
2400	2.32	2.31			2.31		3.0		0.1529
MAY 9									
0000	2.32	2.31			2.31		3.0		0.1529
0300	2.32	2.31			2.31		2.3		0.1560
0900	2.32	2.31			2.31		1.7		0.1587
1600	2.32	2.31			2.31		1.5		0.1615
2400	2.32	2.31			2.31		1.5		0.1630

08158930 WILLIAMSON CREEK AT MANCHACA ROAD, AUSTIN, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°13'16", long 97°47'36", Travis County, on downstream side of bridge on Manchaca Road, 0.7 mi south of the intersection of Ben White Boulevard and Manchaca Road, and 4.9 mi southwest of the State Capitol Building in Austin.

DRAINAGE AREA.--19.0 mi².

PERIOD OF RECORD.--August 1975 to current year. Periodic measurements only, May to August 1975.

GAGE.--Digital water-stage recorder and crest-stage gage. Datum of gage is 618.39 ft NGVD.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,900 ft³/s May 23, 1975 (gage height, 12.97 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,000 ft³/s May 12 (gage height, 6.19 ft).

STA. NO. 08158930		STORM RAINFALL AND RUNOFF RECORD										1980 WATER YEAR					
WILLIAMSON CREEK AT MANCHACA ROAD, AUSTIN, TEXAS		STORM OF MARCH 27, 1980										ACCUM. HUNOFF					
DATE & TIME	1WMS	2WMS	G A G E N U M B E R										ACCUM. PRECIP. IN.	DISCHARGE IN	ACCUM. HUNOFF		
MAR. 27																	
0000	0.0	0.0													0.0	1.1	0.0000
0050	0.0	0.02													0.00	1.1	0.0003
0535	0.07	0.07													0.07	1.1	0.0005
0545	0.20	0.12													0.18	1.1	0.0005
0610	0.21	0.14													0.19	1.4	0.0006
0625	0.26	0.38													0.29	5.2	0.0007
0700	0.37	0.46													0.39	12.0	0.0011
0705	0.44	0.51													0.46	30.0	0.0013
0710	0.66	0.74													0.68	49.0	0.0016
0715	0.78	0.95													0.82	67.0	0.0021
0720	0.86	1.21													0.95	93.0	0.0027
0725	0.89	1.36													1.01	120.0	0.0043
0740	0.93	1.49													1.07	399.0	0.0111
0750	1.23	1.62													1.33	598.0	0.0213
0805	1.26	1.65													1.36	749.0	0.0340
0815	1.28	1.66													1.37	759.0	0.0469
0830	1.29	1.70													1.39	586.0	0.0588
0845	1.29	1.71													1.39	345.0	0.0659
0900	1.30	1.71													1.40	237.0	0.0707
0915	1.30	1.72													1.40	157.0	0.0739
0930	1.30	1.72													1.40	102.0	0.0781
1015	1.73	2.17													1.84	83.0	0.0815
1030	1.75	2.19													1.86	240.0	0.0863
1045	1.84	2.23													1.94	471.0	0.0960
1100	1.87	2.24													1.96	500.0	0.1061
1115	1.87	2.24													1.96	424.0	0.1148
1130	1.87	2.24													1.96	293.0	0.1238
1200	2.00	2.26													2.06	168.0	0.1289
1215	2.34	2.33													2.34	168.0	0.1323
1230	2.50	2.53													2.51	226.0	0.1370
1245	2.57	2.60													2.58	451.0	0.1462
1300	2.57	2.67													2.59	564.0	0.1577
1315	2.58	2.67													2.60	551.0	0.1745
1345	2.58	2.68													2.60	459.0	0.1979
1430	2.58	2.68													2.60	447.0	0.2207
1500	2.58	2.68													2.60	383.0	0.2363
1530	2.58	2.68													2.60	391.0	0.2562
1615	2.58	2.68													2.60	348.0	0.2775
1700	2.58	2.69													2.61	240.0	0.2947

STORM RAINFALL AND RUNOFF RECORD										
STA. NO. 08158930		1980 WATER YEAR								
WILLIAMSON CREEK AT MANCHACA ROAD, AUSTIN, TEXAS										
STORM OF MARCH 27, 1980										
DATE & TIME	1WMS	2WMS	GAGE	NUMBER	PRECIP. IN.	WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. IN.	ACCUM. RUNOFF IN.	
MAR. 27										
1800	2.58	2.69			2.61		140.0	0.3061	0.3158	
1900	2.58	2.69			2.61		95.0	0.3158	0.3235	
2030	2.58	2.69			2.61		63.0	0.3235	0.3292	
2200	2.62	2.71			2.64		40.0	0.3292	0.3333	
2400	2.62	2.71			2.64		29.0	0.3333		
MAR. 28										
0000	2.62	2.71			2.64		29.0	0.3333	0.3388	
0300	2.62	2.71			2.64		15.0	0.3388	0.3417	
0600	2.62	2.71			2.64		8.1	0.3417	0.3449	
1200	2.63	2.73			2.65		4.3	0.3449	0.3457	
2400	2.64	2.74			2.66		1.7	0.3457		

STORM RAINFALL AND RUNOFF RECORD										
1980 WATER YEAR										
STA. NO.	STORM OF MAY 7-8, 1980									
WILLIAMSON CREEK AT MANCHACA ROAD, AUSTIN, TEXAS										
DATE & TIME	G A G E			N U M B E R			A C C U M .		D I S C H A R G E	
	1 W M S	2 W M S	3 W M S				I N .	I N .	I N .	I N .
MAY 7										
0000	0.0	0.0	0.0	0.0			0.0	1.2	0.0002	0.0002
0345	0.04	0.01	0.13	0.13			0.08	1.2	0.0004	0.0004
0400	0.41	0.16	0.51	0.51			0.38	1.2	0.0004	0.0004
0415	0.57	0.75	0.66	0.66			0.64	21.0	0.0008	0.0008
0430	0.66	0.97	0.71	0.71			0.75	39.0	0.0016	0.0016
0445	0.48	1.08	0.73	0.73			0.79	413.0	0.0100	0.0100
0500	0.72	1.14	0.76	0.76			0.84	380.0	0.0178	0.0178
0515	0.73	1.20	0.78	0.78			0.86	332.0	0.0279	0.0279
0545	0.73	1.22	0.78	0.78			0.87	203.0	0.0362	0.0362
0615	0.73	1.22	0.78	0.78			0.87	95.0	0.0401	0.0401
0645	0.73	1.23	0.78	0.78			0.87	56.0	0.0430	0.0430
0730	0.73	1.23	0.78	0.78			0.87	32.0	0.0452	0.0452
0830	0.73	1.23	0.78	0.78			0.87	20.0	0.0467	0.0467
0915	0.73	1.23	0.78	0.78			0.87	9.9	0.0481	0.0481
1200	0.74	1.24	0.79	0.79			0.88	9.3	0.0495	0.0495
1300	0.74	1.24	0.79	0.79			0.88	2.9	0.0501	0.0501
1700	0.75	1.25	0.79	0.79			0.89	1.7	0.0509	0.0509
2400	0.75	1.25	0.79	0.79			0.89	1.2	0.0513	0.0513
MAY 8										
0000	0.75	1.25	0.79	0.79			0.89	1.2	0.0513	0.0513
0435	0.76	1.25	0.81	0.81			0.90	1.2	0.0517	0.0517
0450	0.81	1.25	0.86	0.86			0.93	1.2	0.0517	0.0517
0500	0.99	1.33	0.95	0.95			1.06	1.1	0.0517	0.0517
0510	1.28	1.41	1.19	1.19			1.29	1.3	0.0517	0.0517
0515	1.31	1.91	1.20	1.20			1.43	1.4	0.0517	0.0517
0520	1.32	2.43	1.21	1.21			1.57	13.0	0.0518	0.0518
0525	1.32	2.64	1.21	1.21			1.62	24.0	0.0521	0.0521
0535	1.32	2.79	1.21	1.21			1.66	38.0	0.0527	0.0527
0550	1.32	2.80	1.21	1.21			1.66	146.0	0.0559	0.0559
0600	1.33	2.80	1.21	1.21			1.66	471.0	0.0623	0.0623
0610	1.33	2.80	1.21	1.21			1.66	757.0	0.0700	0.0700
0615	1.33	2.80	1.21	1.21			1.66	900.0	0.0761	0.0761
0620	1.33	2.80	1.21	1.21			1.66	830.0	0.0846	0.0846
0630	1.33	2.81	1.21	1.21			1.67	691.0	0.0963	0.0963
0645	1.33	2.81	1.21	1.21			1.67	417.0	0.1048	0.1048
0700	1.33	2.81	1.21	1.21			1.67	273.0	0.1104	0.1104
0715	1.33	2.81	1.21	1.21			1.67	231.0	0.1151	0.1151
0730	1.33	2.81	1.21	1.21			1.67	338.0	0.1220	0.1220
0745	1.33	2.81	1.21	1.21			1.67	315.0	0.1316	0.1316
0815	1.33	2.82	1.21	1.21			1.67	203.0	0.1392	0.1392

STORM RAINFALL AND RUNOFF RECORD									
STA. NO.	1980 WATER YEAR								
WILLIAMSON CREEK AT MANCACA ROAD, AUSTIN, TEXAS									
STORM OF MAY 7-8, 1980									
DATE & TIME	1WMS	2WMS	3WMS	G A G E	N U M B E R	ACCUM. WEIGHTEU PRECIP. IN.	DISCHARGE IN	ACCUM. RUNOFF	IN.
MAY 8									
0840	1.34	2.82	1.22			1.68	136.0	0.1420	
0845	1.42	2.82	1.37			1.76	124.0	0.1428	
0850	1.54	2.82	1.64			1.89	117.0	0.1436	
0855	1.75	2.97	1.73			2.05	109.0	0.1443	
0900	1.84	3.15	1.80			2.16	102.0	0.1454	
0910	1.90	3.30	1.84			2.23	141.0	0.1483	
0930	1.95	3.42	1.89			2.30	342.0	0.1599	
1000	2.03	3.51	1.98			2.39	483.0	0.1796	
1030	2.15	3.64	2.13			2.52	366.0	0.1908	
1045	2.24	3.72	2.22			2.60	352.0	0.2015	
1115	2.31	3.77	2.30			2.67	577.0	0.2192	
1130	2.31	3.79	2.30			2.68	533.0	0.2355	
1200	2.31	3.79	2.30			2.68	380.0	0.2548	
1245	2.31	3.80	2.30			2.68	252.0	0.2677	
1315	2.31	3.80	2.30			2.68	280.0	0.2877	
1430	2.32	3.81	2.30			2.69	206.0	0.3108	
1600	2.32	3.81	2.31			2.69	109.0	0.3241	
1730	2.32	3.82	2.31			2.69	69.0	0.3311	
1830	2.32	3.82	2.31			2.69	40.0	0.3352	
2000	2.32	3.82	2.31			2.69	27.0	0.3391	
2200	2.32	3.82	2.31			2.69	10.0	0.3407	
2400	2.32	3.82	2.31			2.69	8.1	0.3417	
MAY 9									
0000	2.32	3.82	2.31			2.69	8.1	0.3417	
0200	2.32	3.82	2.31			2.69	5.3	0.3433	
0600	2.32	3.82	2.31			2.69	2.9	0.3445	
1200	2.32	3.82	2.31			2.69	1.7	0.3458	
2400	2.32	3.82	2.31			2.69	1.3	0.3464	

COLORADO RIVER BASIN

08158970 WILLIAMSON CREEK AT JIMMY CLAY ROAD, AUSTIN, TX

LOCATION.--Lat 30°11'21", long 97°43'56". Travis County, Hydrologic Unit 12090205, at Jimmy Clay Road, 0.5 mi (0.8 km) southeast of the intersection of Jimmy Clay and Buckles Crossing Roads, and 5.9 mi (9.5 km) south of the State Capitol in Austin.

DRAINAGE AREA.--27.6 mi² (71.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1974 to September 1975 (periodic discharge measurements only). September 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 497.18 ft (151.540 m) National Geodetic Vertical Datum of 1929 (city of Austin bench mark).

REMARKS.--Water-discharge records fair. No known regulation or diversion in watershed. There are three recording rain gages located in the watershed. The station is part of a hydrologic research project to study the rainfall-runoff relationships for the Austin urban-rural areas.

AVERAGE DISCHARGE.--5 years, 7.36 ft³/s (0.208 m³/s), 3.62 in/yr (92 mm/yr), 5.330 acre-ft/yr (6.57 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s (286 m³/s) Nov. 23, 1974, gage height, 15.2 ft (4.63 m), from floodmark, by slope-area measurement; minimum daily, 0.03 ft³/s (0.001 m³/s) Sept. 16, 24, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--The maximum flood since 1869 occurred on Sept. 9 or 10, 1921, stage and discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
Mar. 27	1045	517	14.6	5.23	1.594
May 8	0830	506	14.3	5.19	1.582
May 13	2230	*737	20.9	5.94	1.811

Minimum daily discharge, 0.13 ft³/s (0.004 m³/s) July 27, 28, Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.32	1.4	1.1	1.6	5.7	1.6	1.5	1.9	.54	.21	.53
2	.43	.32	1.5	1.0	1.8	1.7	4.6	1.4	1.9	.54	.21	.70
3	.79	.38	1.6	.90	1.9	1.1	2.3	1.3	1.6	.54	.16	.69
4	.72	.38	1.6	.82	1.9	1.1	1.6	1.3	1.6	.46	.16	.63
5	.72	.32	1.5	.82	2.2	1.2	1.3	1.2	1.6	.46	.13	.63
6	.76	.26	1.4	.96	2.5	.98	1.3	1.1	1.6	.44	.16	.84
7	.72	.26	1.5	1.1	3.6	1.0	1.4	21	1.4	.39	.19	.27
8	.72	.26	1.6	.99	10	1.6	1.5	139	1.4	.39	.24	4.1
9	.60	.21	1.6	1.2	14	2.0	1.3	11	1.3	.34	.26	.64
10	.46	.17	1.6	1.3	3.2	2.0	1.3	5.2	1.3	.26	.27	2.6
11	.43	.15	1.6	1.5	2.0	1.9	1.3	4.1	1.2	.26	.25	.37
12	.44	.17	5.0	1.6	1.8	1.6	1.8	65	1.1	.26	.21	.28
13	.46	.19	6.4	1.5	1.7	1.0	5.5	127	.91	.21	.21	.36
14	.39	.24	.54	1.6	1.9	.90	2.1	76	.82	.21	.21	.43
15	.36	.26	.46	1.6	2.2	.98	1.3	32	.82	.21	.21	.46
16	.39	.29	.46	1.6	10	1.2	1.2	19	.72	.21	.28	.46
17	.36	.32	.38	2.0	2.4	1.3	1.2	12	.72	.21	.21	.54
18	.32	.36	.35	1.6	1.5	1.2	1.4	6.0	.81	.21	.21	.54
19	.32	.41	.39	1.3	1.4	1.4	1.4	5.7	.92	.26	.21	.13
20	.31	.49	.39	2.5	1.4	1.5	1.4	3.4	.82	.21	.25	1.8
21	.26	1.2	.42	1.9	1.3	1.3	1.4	4.5	1.5	.20	.26	.69
22	.26	.34	.53	12	1.4	1.3	1.3	2.5	.68	.17	.32	.54
23	.24	.48	4.9	3.6	1.5	1.4	1.0	2.4	.54	.17	.32	.54
24	.21	.68	1.5	2.1	1.3	1.2	.82	2.2	.46	.17	.32	.68
25	.21	.66	.54	2.0	1.3	1.3	48	2.1	.49	.17	.32	2.4
26	.19	.78	.41	1.8	1.2	1.5	2.5	2.1	.54	.17	.39	36
27	.21	.70	.68	1.6	1.3	173	1.2	2.2	.54	.13	.39	7.7
28	.22	1.1	22	1.6	1.4	12	.84	2.0	.54	.13	.39	14
29	.21	1.2	17	1.6	2.0	4.1	.89	2.0	.54	.17	.39	3.0
30	.31	1.2	2.1	1.6	---	2.4	1.2	2.0	.54	.17	.46	22
31	.36	---	1.3	1.6	---	1.9	---	2.0	---	.21	.46	---
TOTAL	12.58	14.10	82.65	58.39	81.7	232.76	95.95	560.2	30.81	8.47	8.26	144.15
MEAN	.41	.47	2.67	1.88	2.82	7.51	3.20	18.1	1.03	.27	.27	4.81
MAX	.79	1.2	22	12	14	173	48	139	1.9	.54	.46	36
MIN	.19	.15	.35	.82	1.2	.90	.82	1.1	.46	.13	.13	.28
CFSM	.02	.02	.10	.07	.10	.27	.12	.66	.04	.01	.01	.17
IN.	.02	.02	.11	.08	.11	.31	.13	.76	.04	.01	.01	.19
AC-FT	.25	.28	1.64	1.16	1.62	4.62	1.90	11.10	.61	.17	.16	2.86
(ft)	.75	.74	3.64	1.64	2.69	3.19	2.64	7.34	.22	.18	.90	9.12

CAL YR 1979 TOTAL 4727.01 MEAN 13.0 MAX 1190 MIN .15 CFSM .47 IN 6.37 AC-FT 9380 †† 44.09
WTR YR 1980 TOTAL 1330.02 MEAN 3.63 MAX 173 MIN .13 CFSM .13 IN 1.79 AC-FT 2640 †† 33.05

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

COLORADO RIVER BASIN

08158970 WILLIAMSON CREEK AT JIMMY CLAY ROAD, AUSTIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: January 1975 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 30...	1040	.21	865	7.6	21.5	5	1.0	3.1	36	3.5
JAN 14...	1335	1.6	727	7.7	14.5	10	--	8.5	86	2.6

DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
OCT 30...	840	240	480	--	--	--	--	--	--
JAN 14...	190	50	K14	290	22	99	11	39	1.0

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT 30...	--	--	--	--	--	--	--	--	2
JAN 14...	3.5	330	0	39	45	.4	10	410	0

DATE	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 30...	2	.73	.150	.88	.440	.86	1.3	.010	24
JAN 14...	0	.81	.120	.93	.940	.26	1.2	.010	9.9

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JAN 14...	1335	3	200	<1	0	0	<10

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN 14...	0	190	.0	0	0	<3

COLORADO RIVER BASIN

08158970 WILLIAMSON CREEK AT JIMMY CLAY ROAD, AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRACTION (UG/L)
JAN 14...	1335	<5.2	<.3	<7.7	<.4	<3.3	<.4	<3.1	<.4	.08	1.4

DATE	TIME	PCB TOTAL (UG/L)	NAPHTHALENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JAN 14...	1335	.00	.0	.00	.0	.00	.00	.00	.00

DATE	DI-ELDRIN, TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE, TOTAL (UG/L)	LINDANE, TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
JAN 14...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 14...	.00	.00	.00	.00	0	.00	.00	.00	.00

STORM RAINFALL AND RUNOFF RECORD										
1980 WATER YEAR										
STA. NO.	WILLIAMSON CREEK AT JIMMY CLAY ROAD, AUSTIN, TEXAS									
STORM OF MARCH 27, 1980										
DATE & TIME	1WMS	2WMS	G A G E N U M B E R				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN	CFS	ACCUM. RUNOFF IN.
MAR. 27										
0000	0.0	0.0					0.0	1.6	0.0000	0.0000
0050	0.0	0.02					0.01	1.6	0.0003	0.0003
0530	0.03	0.06					0.04	1.7	0.0005	0.0005
0545	0.20	0.12					0.16	1.7	0.0006	0.0006
0610	0.21	0.14					0.18	1.7	0.0006	0.0006
0625	0.26	0.38					0.32	2.4	0.0006	0.0006
0650	0.30	0.41					0.35	2.7	0.0007	0.0007
0700	0.37	0.46					0.41	2.7	0.0007	0.0007
0705	0.44	0.51					0.47	2.7	0.0007	0.0007
0710	0.66	0.74					0.70	2.7	0.0007	0.0007
0715	0.78	0.95					0.86	2.7	0.0007	0.0007
0720	0.86	1.21					1.03	5.5	0.0008	0.0008
0725	0.89	1.36					1.12	8.2	0.0008	0.0008
0730	0.90	1.44					1.16	11.0	0.0009	0.0009
0740	0.93	1.49					1.20	15.0	0.0010	0.0010
0745	1.14	1.53					1.36	17.0	0.0011	0.0011
0750	1.23	1.62					1.42	30.0	0.0013	0.0013
0800	1.26	1.65					1.45	55.0	0.0019	0.0019
0815	1.28	1.66					1.47	122.0	0.0045	0.0045
0845	1.29	1.71					1.50	296.0	0.0107	0.0107
0900	1.30	1.71					1.50	370.0	0.0159	0.0159
0915	1.30	1.72					1.51	345.0	0.0232	0.0232
0945	1.30	1.72					1.51	312.0	0.0283	0.0283
0950	1.30	1.72					1.51	329.0	0.0306	0.0306
1000	1.57	1.78					1.67	362.0	0.0331	0.0331
1005	1.61	2.04					1.82	390.0	0.0359	0.0359
1015	1.73	2.17					1.95	445.0	0.0411	0.0411
1030	1.75	2.19					1.97	498.0	0.0481	0.0481
1045	1.84	2.23					2.03	517.0	0.0553	0.0553
1100	1.87	2.24					2.05	509.0	0.0660	0.0660
1130	1.87	2.24					2.05	418.0	0.0768	0.0768
1155	1.87	2.26					2.06	368.0	0.0828	0.0828
1205	2.10	2.26					2.18	347.0	0.0861	0.0861
1215	2.34	2.33					2.34	326.0	0.0851	0.0851
1225	2.47	2.47					2.47	310.0	0.0920	0.0920
1235	2.53	2.55					2.54	301.0	0.0948	0.0948
1245	2.57	2.60					2.58	300.0	0.1004	0.1004
1315	2.58	2.67					2.62	416.0	0.1092	0.1092
1330	2.58	2.68					2.63	498.0	0.1197	0.1197

STORM RAINFALL AND RUNOFF RECORD									
STA. NO.	1980 WATER YEAR								
DATE & TIME	STORM OF MARCH 27, 1980			DISCHARGE			ACCUM.		
	1WMS	2WMS	G A G E N U M B E R	IN	IN	IN	WEIGHTED PRECIP. IN.	CFS	IN.
MAR. 27									
1400	2.58	2.68		2.63	458.0		2.63		0.1325
1430	2.58	2.68		2.63	366.0		2.63		0.1402
1445	2.58	2.68		2.63	345.0		2.63		0.1499
1530	2.58	2.68		2.63	384.0		2.63		0.1661
1615	2.58	2.68		2.63	324.0		2.63		0.1820
1715	2.58	2.69		2.63	239.0		2.63		0.2005
1900	2.58	2.69		2.63	177.0		2.63		0.2191
2100	2.61	2.71		2.66	88.0		2.66		0.2277
2230	2.62	2.71		2.66	55.0		2.66		0.2324
2400	2.62	2.71		2.66	38.0		2.66		0.2356
MAR. 28									
0000	2.62	2.71		2.66	38.0		2.66		0.2356
0300	2.62	2.71		2.66	22.0		2.66		0.2409
0600	2.62	2.71		2.66	14.0		2.66		0.2436
1000	2.63	2.72		2.67	9.9		2.67		0.2464
1600	2.64	2.74		2.69	7.1		2.69		0.2492
2400	2.64	2.74		2.69	4.6		2.69		0.2502

STORM RAINFALL AND RUNOFF RECORD												
1980 WATER YEAR												
STA. NO.	WILLIAMSON CREEK AT JIMMY CLAY ROAD, AUSTIN, TEXAS										ACCUM. DISCHARGE	
	STORM OF MAY 7-8, 1980										IN ACCUM.	
DATE & TIME	G A G E N U M B E R										IN RUNOFF	
	1WMS	2WMS	3WMS								CFS	IN.
MAY 7												
0000	0.0	0.0	0.0								1.0	0.0001
0345	0.04	0.01	0.13								1.0	0.0002
0400	0.41	0.16	0.51								1.0	0.0002
0415	0.57	0.75	0.66								1.6	0.0003
0430	0.66	0.97	0.71								3.1	0.0003
0515	0.73	1.20	0.78								3.7	0.0004
0530	0.73	1.22	0.78								25.0	0.0004
0545	0.73	1.22	0.78								47.0	0.0018
0615	0.73	1.22	0.78								36.0	0.0030
0700	0.73	1.23	0.78								57.0	0.0054
0745	0.73	1.23	0.78								56.0	0.0070
0800	0.73	1.23	0.78								75.0	0.0081
0815	0.73	1.23	0.78								103.0	0.0095
0830	0.73	1.23	0.78								116.0	0.0120
0900	0.73	1.23	0.78								102.0	0.0148
0930	0.73	1.23	0.78								79.0	0.0176
1015	0.74	1.24	0.79								51.0	0.0205
1130	0.74	1.24	0.79								31.0	0.0237
1400	0.74	1.24	0.79								14.0	0.0259
1700	0.75	1.25	0.79								8.2	0.0282
2400	0.75	1.25	0.79								3.5	0.0291
MAY 8												
0000	0.75	1.25	0.79								3.5	0.0291
0445	0.77	1.25	0.86								2.2	0.0297
0500	0.99	1.33	0.95								2.2	0.0297
0515	1.31	1.91	1.20								2.2	0.0297
0530	1.32	2.77	1.21								3.1	0.0298
0615	1.33	2.80	1.21								63.0	0.0320
0645	1.33	2.81	1.21								176.0	0.0370
0715	1.33	2.81	1.21								326.0	0.0507
0815	1.42	2.82	1.21								479.0	0.0708
0845	1.84	3.15	1.37								506.0	0.0815
0900	1.95	3.42	1.80								453.0	0.0910
0930	2.03	3.42	1.89								310.0	0.0997
1000	2.04	3.51	1.98								227.0	0.1077
1045	2.31	3.72	2.22								208.0	0.1223
1230	2.31	3.80	2.30								366.0	0.1454
1300	2.31	3.80	2.30								368.0	0.1558
1330	2.31	3.80	2.30								322.0	0.1693
1430	2.32	3.81	2.30								235.0	0.1825

STORM RAINFALL AND RUNOFF RECORD									
STA. NO.	1980 WATER YEAR								
08158970	WILLIAMSON CREEK AT JIMMY CLAY ROAD, AUSTIN, TEXAS								
STORM OF MAY 7-8, 1980									
DATE & TIME	1WMS	2WMS	3WMS	AGE	NUMBER	WEIGHTED PRECIP. IN.	DISCHARGE IN	ACCUM. RUNOFF	CFS
MAY 7									
1530	2.32	3.81	2.31			3.05	138.0	0.1922	
1700	2.32	3.82	2.31			3.05	96.0	0.2003	
1830	2.32	3.82	2.31			3.05	68.0	0.2060	
2000	2.32	3.82	2.31			3.05	48.0	0.2134	
2400	2.32	3.82	2.31			3.05	24.0	0.2175	
MAY 8									
0000	2.32	3.82	2.31			3.05	24.0	0.2175	
0400	2.32	3.82	2.31			3.05	16.0	0.2233	
1000	2.32	3.82	2.31			3.05	11.0	0.2270	
1600	2.32	3.82	2.31			3.05	7.9	0.2301	
2400	2.32	3.82	2.31			3.05	5.8	0.2314	

COLORADO RIVER BASIN

08159000 ONION CREEK AT U.S. HIGHWAY 183 NEAR AUSTIN, TX

LOCATION.--Lat 30°10'40", long 97°41'18". Travis County, Hydrologic Unit 12090205, on right bank at downstream side of downstream bridge on U.S. Highway 183, 2.4 mi (3.9 km) downstream from Williamson Creek, 3.2 mi (5.1 km) southwest of Del Valle, and 7.5 mi (11.7 km) southeast of the State Capitol Building in Austin.

DRAINAGE AREA.--321 mi² (831 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to March 1930, March 1976 to current year. In 1924-30 station was published as "near Del Valle."

GAGE.--Water-stage recorder. Datum of gage is 442.85 ft (134.981 m) State Department of Highways and Public Transportation datum, May 15, 1924, to Mar. 15, 1930, nonrecording gage at highway bridge 1,700 ft (518 m) upstream at 6.42-foot (1.957 m) higher datum.

REMARKS.--Water-discharge records fair. Flow is slightly regulated by several small ponds on main channel and tributaries above station.

AVERAGE DISCHARGE.--9 years (water years 1925-29, 1977-80), 74.8 ft³/s (2.118 m³/s), 3.16 in/yr (80 mm/yr), 54.190 acre-ft/yr (66.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,000 ft³/s (2,150 m³/s) May 28, 1929, gage height, 30.5 ft (9.30 m), present datum; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1869 occurred about July 3, 1869, stage about 38 ft (11.6 m) from newspaper accounts, and Sept. 9, 1921, stage 38.0 ft (11.58 m) from floodmark, present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,570 ft³/s (72.8 m³/s) May 13 at 2400, gage height, 10.14 ft (3.091 m), no other peak above base of 2,500 ft³/s (70.8 m³/s); no flow July 13 to Sept. 6, Sept. 13-18, and Sept. 23-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	2.9	4.1	2.9	8.0	5.5	22	12	5.5	15	1.6	.00	.00		
2	2.4	2.4	2.4	7.1	5.5	9.8	14	5.4	13	1.3	.00	.00		
3	1.6	2.4	2.4	6.3	5.5	7.2	14	4.8	13	1.0	.00	.00		
4	1.2	2.4	2.4	5.5	6.3	6.4	9.7	4.8	13	.94	.00	.00		
5	.93	2.4	3.0	5.5	5.5	6.3	9.4	4.1	12	.91	.00	.00		
6	.69	2.4	3.0	4.8	5.5	5.5	8.1	4.1	10	.59	.00	.00		
7	.60	2.4	3.0	4.1	6.3	5.5	8.0	4.5	9.3	.49	.00	.39		
8	.60	2.4	3.0	4.1	27	5.5	7.7	448	8.0	.41	.00	12		
9	.60	2.4	3.0	4.1	35	5.5	6.3	47	7.1	.20	.00	5.2		
10	.57	2.4	4.1	4.1	18	5.5	6.3	18	9.1	.16	.00	5.0		
11	.47	2.4	5.5	5.5	11	5.5	6.3	12	9.0	.12	.00	2.6		
12	.47	2.4	6.7	4.8	8.9	5.5	6.3	145	8.8	.08	.00	.50		
13	.68	2.4	30	4.8	8.0	5.5	14	510	7.8	.00	.00	.00		
14	.78	2.7	12	4.1	7.1	5.5	12	1010	6.4	.00	.00	.00		
15	.78	3.1	7.2	4.1	6.3	6.3	7.9	366	4.8	.00	.00	.00		
16	.91	2.9	5.5	4.1	27	6.3	6.4	289	4.9	.00	.00	.00		
17	1.0	2.9	4.8	4.1	21	6.9	5.6	190	4.8	.00	.00	.00		
18	1.0	3.5	4.1	5.5	14	6.3	5.5	93	4.2	.00	.00	.00		
19	1.3	4.1	3.5	8.0	11	6.3	4.9	62	3.7	.00	.00	16		
20	1.3	4.1	3.5	8.9	8.0	6.3	4.8	47	3.4	.00	.00	5.8		
21	1.3	6.3	3.5	8.0	7.2	5.6	4.1	693	19	.00	.00	1.3		
22	1.2	11	3.5	18	6.3	5.8	3.5	316	10	.00	.00	.12		
23	1.0	5.5	18	22	6.3	6.3	3.5	125	5.3	.00	.00	.00		
24	1.0	3.5	21	12	6.2	5.9	3.8	85	3.6	.00	.00	.00		
25	1.0	4.1	8.0	8.9	5.5	5.5	123	62	3.1	.00	.00	.00		
26	1.0	4.8	6.3	7.1	5.5	6.1	19	46	2.6	.00	.00	66		
27	1.1	3.5	5.5	6.3	5.5	424	10	36	2.3	.00	.00	14		
28	1.3	3.0	17	6.3	5.5	112	7.6	28	2.3	.00	.00	32		
29	1.6	3.0	88	5.5	5.5	33	5.6	21	2.0	.00	.00	12.		
30	2.0	2.9	19	5.5	---	20	5.5	18	1.9	.00	.00	74		
31	3.0	---	11	5.5	---	15	---	17	---	.00	.00	---		
TOTAL	36.28	103.8	312.8	212.6	295.9	778.8	354.8	4757.7	219.4	7.80	.00	285.52		
MEAN	1.17	3.46	10.1	6.86	10.2	25.1	11.8	153	7.31	.25	.000	9.52		
MAX	3.0	11	88	22	35	424	123	1010	19	1.6	.00	74		
MIN	.47	2.4	2.4	4.1	5.5	5.5	3.5	4.1	1.9	.00	.00	.00		
CFSM	.004	.01	.03	.02	.03	.08	.04	.48	.02	.001	.000	.03		
IN.	.00	.01	.04	.02	.03	.09	.04	.55	.03	.00	.00	.03		
AC-FT	72	206	620	422	587	1540	704	9440	435	15	.00	566		
CAL. YR 1979	TOTAL	49817.48	MEAN	136	MAX	3790	MIN	.47	CFSM	.42	IN	5.77	AC-FT	98810
WTR YR 1980	TOTAL	7365.40	MEAN	20.1	MAX	1010	MIN	.00	CFSM	.06	IN	.85	AC-FT	14610

COLORADO RIVER BASIN

08159000 ONION CREEK AT U.S. HIGHWAY 183 NEAR AUSTIN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1976 to current year. Sediment analyses: October 1976 to current year. Radiochemical analyses: October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT 23...	1251	1.0	--	--	--	--	--	--	--	--
30...	0940	2.0	656	8.1	22.0	5	1.5	7.1	85	.9
JAN 15...	1045	4.1	641	8.1	13.0	5	--	10.8	104	.8
APR 15...	1150	8.8	--	--	18.0	--	--	--	--	--
MAY 14...	1420	895	313	7.9	20.5	80	130	9.2	103	3.0
28...	1400	19	510	7.8	27.5	--	--	--	--	--

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)
OCT 23...	--	--	--	--	--	--	--	--	--	--
30...	350	51	110	--	--	--	--	--	--	--
JAN 15...	70	23	K4	240	19	75	13	39	1.1	2.6
APR 15...	--	--	--	--	--	--	--	--	--	--
MAY 14...	88000	12000	19000	140	13	42	7.6	9.6	.4	3.6
28...	--	--	--	210	13	66	11	16	.5	2.5

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
OCT 23...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	9	0	.00
JAN 15...	270	0	45	41	.3	6.3	355	3	1	.48
APR 15...	--	--	--	--	--	--	--	--	--	--
MAY 14...	150	0	22	10	.2	13	182	211	10	.26
28...	240	0	.32	17	.2	9.1	272	--	--	.14

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)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT 23...	--	--	--	--	--	--	--	--	--
30...	.000	.00	.000	.61	.61	.010	8.9	--	--
JAN 15...	.010	.49	.080	.14	.22	.010	4.1	--	--
APR 15...	--	--	--	--	--	--	--	67	1.6
MAY 14...	.010	.27	.070	1.0	1.1	.170	11	222	536
28...	.010	.15	.040	.63	.67	.020	5.3	--	--

DATE	TIME	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 15...	1045	1	70	<1	0	1	<10
MAY 14...	1420	1	30	<1	0	1	40
28...	1400	2	50	<1	0	1	<10

COLORADO RIVER BASIN

08159000 ONION CREEK AT U.S. HIGHWAY 183 NEAR AUSTIN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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 15...	0	2	.0	0	0	<3
MAY 14...	0	<1	.0	0	0	<3
28...	0	3	.0	0	0	<3

DATE	TIME	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JAN 15...	1045	<4.7	<.3	<6.9	<.4	3.0	<.4	2.8	<.4	.07	1.1

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JAN 15...	1045	.0	.00	.00	.0	.00	.00	.00	.00

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)
JAN 15...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 15...	.00	.00	.00	.00	0	.00	.00	.00	.00

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDEED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEED (T/DAY)
APR 15...	1150	8.8	18.0	67	1.6
MAY 14...	1420	895	20.5	222	536

WILBARGER CREEK DRAINAGE BASIN

The location of the data-collection site in the Wilbarger Creek drainage basin are shown in figure 1.

COLORADO RIVER BASIN

08159150 WILBARGER CREEK NEAR PFLUGERVILLE, TX

LOCATION.--Lat 30°27'16", long 97°36'02", Travis County, Hydrologic Unit 12090301, on left bank downstream from county road (Pfluger Lane), 800 ft (240 m) downstream from Farm Road 685, 1.6 mi (2.6 km) northeast of Pfluger-ville, and 1.9 mi (3.1 km) downstream from Missouri-Kansas-Texas Railroad.

DRAINAGE AREA.--4.61 mi² (11.9 km²).

PERIOD OF RECORD.--August 1963 to September 1980 (discontinued).

Water-quality records: Chemical, biochemical, and pesticide analyses: October 1970 to September 1971.

GAGE.--Water-stage recorder, concrete control, and crest-stage gages. Datum of gage is 670.61 ft (204.402 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--17 years, 1.86 ft³/s (0.053 m³/s), 5.48 in/yr (139 mm/yr), 1,350 acre-ft/yr (1.66 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,760 ft³/s (49.8 m³/s) June 16, 1964, gage height, 6.92 ft (2.109 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1894, occurred in September 1921, stage unknown from information by local residents, discharge, 2,300 ft³/s (65.1 m³/s), from Corps of Engineers publication "Flood Plain Information, Williamson Creek, Austin, Texas".

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 249 ft³/s (7.05 m³/s) May 15 at 2115 hours, gage height, 3.03 ft (0.924 m), no peak above base of 400 ft³/s (11.3 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.04	.06	.38	1.0	2.4	1.0	.00	.00	.00
2	.00	.00	.00	.04	.06	.25	1.2	.70	.89	.00	.00	.00
3	.00	.00	.00	.03	.06	.25	1.2	.55	.79	.00	.00	.00
4	.00	.00	.00	.03	.06	.25	.89	.49	.79	.00	.00	.00
5	.00	.00	.00	.03	.06	.25	.79	.43	.70	.00	.00	.00
6	.00	.00	.00	.03	.06	.25	.70	.38	.62	.00	.00	.00
7	.00	.00	.00	.03	.09	.25	.70	.70	.49	.00	.00	.00
8	.00	.00	.00	.03	.29	.25	.55	14	.43	.00	.00	.00
9	.00	.00	.00	.03	.38	.25	.49	2.9	.43	.00	.00	.00
10	.00	.00	.00	.03	.25	.25	.49	1.5	.43	.00	.00	.00
11	.00	.00	.00	.03	.25	.25	.49	1.4	.38	.00	.00	.00
12	.00	.00	.00	.04	.25	.25	3.1	29	.33	.00	.00	.00
13	.00	.00	.00	.05	.25	.21	3.6	61	.33	.00	.00	.00
14	.00	.00	.00	.05	.21	.21	1.5	37	.43	.00	.00	.00
15	.00	.00	.00	.05	.21	.21	.89	63	.33	.00	.00	.00
16	.00	.00	.00	.05	.79	.21	.70	39	.25	.00	.00	.00
17	.00	.00	.00	.05	.55	.21	.62	15	.21	.00	.00	.00
18	.00	.00	.00	.04	.49	.18	.55	9.1	.21	.00	.00	.00
19	.00	.00	.00	.04	.43	.18	.49	14	.18	.00	.00	.00
20	.00	.00	.00	.05	.33	.18	.49	6.0	.15	.00	.00	.00
21	.00	.00	.00	.05	.29	.18	.43	4.8	.11	.00	.00	.00
22	.00	.00	.00	.21	.25	.18	.38	3.8	.08	.00	.00	.00
23	.00	.00	.02	.11	.25	.21	.38	2.9	.06	.00	.00	.00
24	.00	.00	.01	.06	.25	.18	.38	2.4	.04	.00	.00	.00
25	.00	.00	.00	.06	.21	.15	5.1	2.2	.03	.00	.00	.00
26	.00	.00	.00	.06	.21	.18	.89	2.0	.02	.00	.00	.00
27	.00	.00	.00	.05	.21	19	.55	1.6	.01	.00	.00	.00
28	.00	.00	.08	.04	.21	3.6	.49	1.4	.00	.00	.00	.00
29	.00	.00	.06	.05	.21	2.0	.43	1.4	.00	.00	.00	.00
30	.00	.00	.04	.06	---	1.4	.38	1.2	.00	.00	.00	.00
31	.00	---	.04	.06	---	1.1	---	1.1	---	.00	.00	---
TOTAL	.00	.00	.25	1.58	7.22	32.90	29.85	323.35	9.72	.00	.00	.00
MEAN	.000	.000	.008	.051	.25	1.06	1.00	10.4	.32	.000	.000	.000
MAX	.00	.00	.08	.21	.79	19	5.1	63	1.0	.00	.00	.00
MIN	.00	.00	.00	.03	.06	.15	.38	.38	.00	.00	.00	.00
CFSM	.000	.000	.002	.01	.05	.23	.22	2.26	.07	.000	.000	.000
IN.	.00	.00	.00	.01	.06	.27	.24	2.61	.08	.00	.00	.00
AC-FT	.00	.00	.5	3.1	14	65	59	641	19	.00	.00	.00

CAL YR 1979 TOTAL 998.30 MEAN 2.74 MAX 129 MIN .00 AC-FT 1980
WTR YR 1980 TOTAL 404.87 MEAN 1.11 MAX 63 MIN .00 AC-FT 803

AUSTIN URBAN HYDROLOGY STUDY

TABLE 17-- DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER PERIOD : 1980 WATER YEAR

G A G E N U M B E R

DATE	18UL	2HUL	15HL	25HL	4-R	5-R	6-R	180G	1WLN	2WLN	3WLN	4WLN	5WLN
ULI													
17	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
30	0.86	0.75	0.81	0.85	1.11	1.52	1.22	0.52	0.66	0.88	0.53	1.16	0.65
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
MIOT	0.91	0.75	0.83	0.85	1.11	1.60	1.22	0.52	0.68	0.89	0.54	1.17	0.65
NOV													
6	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
10	0.15	0.15	0.10	0.00	0.03	0.02	0.02	0.02	0.17	0.16	0.02	0.05	0.01
11	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
17	0.07	0.04	0.06	0.01	0.08	0.10	0.05	0.06	0.09	0.05	0.05	0.04	0.02
18	0.13	0.11	0.02	0.00	0.01	0.02	0.00	0.06	0.05	0.02	0.16	0.01	0.01
21	0.37	0.33	0.36	0.19	0.15	0.19	0.12	0.22	0.34	0.36	0.12	0.19	0.03
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.00	0.01
24	0.11	0.11	0.14	0.27	0.21	0.19	0.19	0.18	0.16	0.17	0.20	0.21	0.20
25	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.02	0.00	0.02	0.01	0.00
MIOT	0.84	0.81	0.69	0.60	0.56	0.59	0.42	0.54	0.84	0.76	0.59	0.55	0.34
DEC													
10	0.02	0.01	0.01	0.00	0.02	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00
11	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01
12	1.15	1.11	0.70	0.66	0.92	0.95	0.98	1.03	0.92	0.74	0.83	0.82	0.79
13	0.05	0.06	0.09	0.09	0.10	0.10	0.10	0.09	0.08	0.08	0.12	0.10	0.09
14	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.06
15	0.02	0.01	0.06	0.06	0.04	0.03	0.03	0.01	0.05	0.05	0.02	0.06	0.00
16	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.41	0.25	0.15	0.09	0.08	0.02	0.02	0.02	0.20	0.21	0.02	0.15	0.14
22	0.02	0.06	0.08	0.02	0.01	0.92	0.54	0.00	0.13	0.13	0.01	0.02	0.01
23	0.46	0.61	0.76	0.54	0.97	0.00	0.00	1.09	0.97	0.99	1.45	1.11	1.15
24	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.01
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
28	1.08	1.23	1.20	1.16	1.27	1.26	1.30	1.31	1.22	1.25	1.30	1.21	1.14
29	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.00	0.01	0.01	0.03	0.03	0.02
MIOT	3.24	3.37	3.09	2.66	3.44	3.31	3.40	3.58	3.60	3.48	3.82	3.52	3.42
CIOT	29.33	29.32	32.58	33.82	36.21	46.06	43.63	39.40	35.17	32.44	35.27	35.58	37.68

MIOT=MONTHLY TOTALS
CIOT=CALENDAR YEAR TOTALS
* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 17.-- DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER --CONTINUED PERIOD: 1980 WATER YEAR

DATE	G A G E N U M B E R												
	16UL	26UL	15HL	25HL	4-R	5-R	6-R	18OG	1WLN	2WLN	3WLN	4WLN	5WLN
JAN													
4	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
5	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
7	0.07	0.07	0.07	0.05	0.08	0.09	0.09	0.09	0.07	0.05	0.04	0.08	0.09
8	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.01
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.43	0.65	0.52	0.07	0.06	0.07	0.06	0.06	0.88	0.70	0.03	0.20	0.05
17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
18	0.04	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.03	0.01	0.00	0.01	0.00
19	0.30	0.09	0.11	0.15	0.20	0.23	0.11	0.11	0.05	0.17	0.08	0.14	0.05
20	0.36	0.12	0.57	0.23	0.45	0.32	0.27	0.19	* 0.29	0.28	0.24	0.44	0.42
21	0.33	0.34	0.30	0.30	0.26	0.37	0.30	0.34	* 0.41	0.39	0.35	0.38	0.26
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
23	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.10	0.10	0.09	* 0.10	0.09	0.09	0.04	0.04	0.00	0.00	0.00	0.14	0.07
26	0.02	0.01	0.01	* 0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.02	0.01	0.01
MIOT	1.67	1.43	1.69	0.93	1.19	1.22	1.08	0.89	2.05	1.73	0.86	1.43	1.01
FEB													
2	0.08	0.08	0.09	* 0.11	0.10	0.10	0.08	0.11	0.10	0.09	0.07	0.05	0.09
3	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02
4	0.00	0.01	0.00	* 0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.01	0.02	* 0.01	0.01	0.01	* 0.01	0.01	0.03	0.03	0.00	0.02	0.02
6	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.66	0.58	0.58	* 0.60	0.56	0.63	* 0.64	0.49	0.72	0.46	0.38	0.53	0.56
8	0.39	0.33	0.27	* 0.17	0.16	0.19	* 0.20	0.16	0.54	0.31	0.20	0.24	0.16
9	0.23	0.39	0.45	* 0.67	0.63	0.66	* 0.67	0.92	0.42	0.39	0.83	0.64	0.62
10	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.05	0.05	0.07	0.08	0.09	* 0.11	0.10	0.10	0.06	0.04	0.06	0.05	0.08
13	0.59	0.57	0.57	0.54	0.50	* 0.52	0.47	0.49	0.69	0.65	0.60	0.63	0.48
14	0.00	0.00	0.04	0.02	0.03	* 0.02	0.02	0.04	0.04	0.03	0.02	0.02	0.03
15	0.00	0.00	0.01	0.00	0.00	* 0.01	0.01	0.01	0.02	0.00	0.02	0.01	0.02
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
17	0.08	0.06	0.06	0.11	0.18	0.18	0.12	0.08	0.05	0.02	0.13	0.08	0.09
MIOT	2.11	2.09	2.17	2.36	2.30	2.43	2.32	2.42	2.68	2.05	2.33	2.37	2.19

MIOT=MONTHLY TOTALS
* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 17. -- DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER --CONTINUED PERIOD :1980 WATER YEAR

DATE	15UL	2MUL	1SHL	2SHL	4-R	5-R	6-R	180G	1WLN	2WLN	3WLN	4WLN	5WLN
MAR													
14	0.05	0.02	0.06	0.03	0.07	0.05	0.05	0.05	0.08	0.08	0.06	0.04	0.09
15	0.01	0.00	0.02	0.00	0.02	0.02	0.00	0.03	0.03	0.02	0.00	0.02	0.04
16	0.11	0.20	0.09	0.05	0.13	0.13	0.10	0.14	0.13	0.12	0.20	0.15	0.13
23	0.05	0.04	0.01	0.00	0.02	0.03	0.01	0.02	0.03	0.02	0.01	0.03	0.04
25	0.22	0.20	0.22	0.10	0.20	0.20	0.20	0.19	0.24	0.25	0.20	0.22	0.20
26	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.00
27	3.92	3.12	3.37	3.22	2.56	2.76	2.81	2.82	3.42	3.54	3.06	2.92	3.07
28	0.00	0.00	0.02	0.00	0.01	0.01	0.01	0.00	0.00	0.02	0.03	0.02	0.02
29	0.00	0.00	0.00	0.04	0.03	0.03	0.03	0.09	0.02	0.02	0.08	0.03	0.02
MTOT	4.37	3.54	3.80	3.44	3.05	3.24	3.21	3.35	3.96	4.08	3.04	3.44	3.61
APR													
1	0.27	0.21	0.17	0.16	0.11	0.14	0.13	0.09	0.22	0.27	0.11	0.08	0.12
2	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00
3	0.03	0.01	0.02	0.01	0.03	0.02	0.02	0.07	0.04	0.03	0.01	0.03	0.04
12	1.24	1.51	0.40	0.22	0.31	0.22	0.34	0.24	1.08	0.76	0.46	0.26	0.32
13	0.32	0.24	0.26	0.30	0.26	0.32	0.26	0.27	0.31	0.31	0.30	0.26	0.24
14	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	1.53	1.46	2.01	1.44	1.31	1.27	1.23	1.48	1.92	1.17	1.75	1.50	1.48
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00
30	1.10	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.93	0.71	0.67
MTOT	4.55	5.04	2.88	2.15	2.03	2.03	1.99	2.15	3.64	2.58	3.56	2.92	2.87

MTOT=MONTHLY TOTALS

AUSTIN URBAN HYDROLOGY STUDY

TABLE 17. -- DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER --CONTINUED PERIOD : 1980 WATER YEAR

DATE	1BUL	2BUL	15HL	25HL	4-H	5-R	6-H	180G	1WLN	2WLN	3WLN	4WLN	5WLN																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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MAY														1	0.01	0.03	0.66	0.56	0.70	0.56	0.36	0.48	1.36	1.28	0.03	0.06	0.03	2	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	7	0.78	0.74	0.82	0.77	0.82	0.87	0.78	0.91	1.01	0.75	0.95	0.74	0.80	8	1.60	2.68	1.24	1.73	1.06	1.14	1.26	1.03	2.99	1.84	0.94	1.49	1.23	9	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS													
1	0.01	0.03	0.66	0.56	0.70	0.56	0.36	0.48	1.36	1.28	0.03	0.06	0.03	2	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	7	0.78	0.74	0.82	0.77	0.82	0.87	0.78	0.91	1.01	0.75	0.95	0.74	0.80	8	1.60	2.68	1.24	1.73	1.06	1.14	1.26	1.03	2.99	1.84	0.94	1.49	1.23	9	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																											
2	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	7	0.78	0.74	0.82	0.77	0.82	0.87	0.78	0.91	1.01	0.75	0.95	0.74	0.80	8	1.60	2.68	1.24	1.73	1.06	1.14	1.26	1.03	2.99	1.84	0.94	1.49	1.23	9	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																									
3	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	7	0.78	0.74	0.82	0.77	0.82	0.87	0.78	0.91	1.01	0.75	0.95	0.74	0.80	8	1.60	2.68	1.24	1.73	1.06	1.14	1.26	1.03	2.99	1.84	0.94	1.49	1.23	9	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																							
4	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	7	0.78	0.74	0.82	0.77	0.82	0.87	0.78	0.91	1.01	0.75	0.95	0.74	0.80	8	1.60	2.68	1.24	1.73	1.06	1.14	1.26	1.03	2.99	1.84	0.94	1.49	1.23	9	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																					
7	0.78	0.74	0.82	0.77	0.82	0.87	0.78	0.91	1.01	0.75	0.95	0.74	0.80	8	1.60	2.68	1.24	1.73	1.06	1.14	1.26	1.03	2.99	1.84	0.94	1.49	1.23	9	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																			
8	1.60	2.68	1.24	1.73	1.06	1.14	1.26	1.03	2.99	1.84	0.94	1.49	1.23	9	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																	
9	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																															
11	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																													
12	0.85	1.05	1.63	1.86	1.60	1.40	1.11	0.92	1.12	1.76	1.33	1.77	1.22	13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																											
13	1.35	0.68	1.06	1.00	0.97	1.00	1.00	1.21	1.10	1.00	1.16	1.35	1.13	14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																									
14	0.04	0.12	0.12	0.12	0.12	0.13	0.12	0.13	0.17	0.11	0.12	0.10	0.12	15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																							
15	0.43	0.88	1.23	1.42	0.56	0.70	0.69	0.69	1.22	0.98	0.70	1.14	0.61	16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																					
16	0.24	0.33	0.19	0.24	0.24	0.20	0.20	0.20	0.24	0.16	0.32	0.14	0.23	17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																			
17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																	
18	0.26	0.19	0.20	0.20	0.17	0.26	0.17	0.17	0.24	0.23	0.13	0.15	0.15	19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																															
19	0.07	0.08	0.07	0.03	0.02	0.01	0.00	0.00	0.10	0.06	0.04	0.05	0.03	20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																													
20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																											
21	0.04	0.04	0.05	0.04	0.07	0.10	0.06	0.06	0.04	0.05	0.05	0.07	0.06	MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																									
MIOT	5.80	6.45	7.28	8.01	6.34	6.44	5.76	5.80	9.63	8.24	5.78	7.11	5.61	JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																							
JUN														6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																					
6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																			
7	0.47	0.13	0.32	0.41	0.13	0.01	0.02	0.02	0.42	0.53	0.10	0.34	0.16	11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																	
11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																															
21	0.45	0.46	0.49	0.43	0.54	0.36	0.17	0.28	0.91	0.74	0.42	0.46	0.54	MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																																													
MIOT	0.92	0.59	0.81	0.85	0.67	0.37	0.20	0.30	1.33	1.27	0.52	0.80	0.70	JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																																																											
JULY														26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																																																																									
26	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																																																																																							
27	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																																																																																																					
28	0.09	0.02	0.14	0.13	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.33	0.14	MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																																																																																																																			
MIOT	0.10	0.02	0.14	0.15	0.45	0.34	0.58	0.28	0.14	0.34	0.05	0.44	0.15	MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																																																																																																																																	
MIOT=MONTHLY TOTALS																																																																																																																																																																																																																																																																																																																																																																																																																																																															

* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 17. -- DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF THE COLORADO RIVER --CONTINUED PERIOD :1980 WATER YEAR

G A G E N U M B E R S

DATE	1HUL	2HUL	1SHL	2SHL	4-R	5-R	6-R	1H06	1WLN	2WLN	3WLN	4WLN	5WLN
AUG	0.00	0.01	0.11	0.02	0.06	0.20	0.21	0.17	0.04	0.08	0.05	0.09	0.10
1	0.07	0.14	0.08	0.08	0.02	0.00	0.00	0.01	0.01	0.00	0.60	0.41	0.62
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
3	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.49	0.24	0.33	0.42	0.50	1.32	1.26	0.73	0.48	0.21	0.30	0.33	0.39
5	0.02	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.03	0.01	0.04	0.03	0.03
6	0.06	0.00	0.29	0.19	0.28	0.31	0.31	0.02	0.14	0.03	0.04	0.01	0.03
7	0.30	0.32	0.00	0.00	0.01	0.00	0.04	0.00	0.10	0.00	0.02	0.01	0.00
8	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.20	0.00	0.00	0.00	0.07	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00
11	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	0.95	0.74	0.83	0.73	1.08	1.93	1.86	1.15	0.80	0.36	1.16	0.96	1.18
SEP	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
2	0.55	0.54	0.67	1.09	1.38	1.11	1.10	1.16	0.95	0.67	0.84	0.82	0.98
3	1.20	1.43	1.26	0.31	1.19	2.01	1.67	0.76	0.95	0.63	0.69	0.83	0.87
4	0.28	0.20	0.20	0.32	0.12	0.19	0.21	0.26	0.22	0.15	0.06	0.08	0.13
5	0.20	0.17	0.24	0.14	0.32	0.13	0.10	0.50	1.10	0.08	0.09	0.22	0.27
6	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	1.59	1.74	0.96	1.57	0.67	0.78	0.79	0.08	1.20	1.02	0.05	0.22	0.09
9	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.01	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.34	0.55	1.72	1.07	1.34	1.55	1.74	* 1.91	1.17	3.03	6.19	3.22	3.45
12	0.73	0.78	0.60	0.55	0.44	0.35	0.32	* 0.35	0.77	0.87	0.55	0.61	0.52
13	0.80	0.74	0.22	0.28	0.27	0.35	0.34	* 0.37	0.22	0.13	0.18	0.21	0.27
14	0.45	0.46	0.62	0.21	0.47	0.43	0.41	* 0.45	0.94	0.47	0.05	0.43	0.25
15	0.19	0.55	0.49	0.28	0.23	0.17	0.11	* 0.12	0.23	0.05	0.22	0.14	0.19
16	0.00	0.00	0.05	0.04	0.10	0.03	0.09	* 0.10	0.02	0.02	0.10	0.00	0.10
MTOT	6.33	6.44	7.15	5.90	6.55	7.15	6.88	6.07	8.25	7.17	9.03	6.78	7.12
WTOT	31.79	32.20	31.36	28.63	28.77	30.65	28.92	27.05	37.60	32.95	31.88	31.49	28.85

MTOT=MONTHLY TOTALS

* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

PERIOD: 1980 WATER YEAR

FALL 1980 DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER

G A G E N U M B E R

DATE	1BEE	1HAR	2BAQ	3BAH	1BOL	1-ON	2-ON	IBER	2BER	1LBR	1SLA	2SLA	1BGS	2WMS	3WMS
01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
02	0.02	0.12	0.00	0.00	0.00	0.14	0.01	0.02	0.00	0.05	0.06	0.00	0.00	0.01	0.00
03	0.85	0.43	0.85	0.85	0.69	0.29	0.11	0.93	1.08	1.20	0.91	0.89	0.51	0.99	0.65
04	0.00	0.00	0.01	0.01	0.01	0.00	1.13	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
MIOT	0.88	0.55	0.86	0.86	0.70	0.43	1.25	0.95	1.08	1.26	0.98	0.90	0.52	1.00	0.65
NOV	0.04	0.05	0.02	0.02	0.03	0.06	0.03	0.03	0.06	0.07	0.04	0.06	0.06	0.02	0.00
10	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03
11	0.09	0.09	0.10	0.10	0.06	0.12	0.06	0.12	0.09	0.05	0.13	0.08	0.07	0.12	0.15
12	0.05	0.29	0.03	0.03	0.01	0.04	0.04	0.07	0.04	0.03	0.03	0.05	0.01	0.09	0.05
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
14	0.26	0.25	0.32	0.32	0.18	0.12	0.46	0.12	0.28	0.37	0.13	0.15	0.28	0.23	0.25
15	0.13	0.11	0.12	0.12	0.22	0.10	0.26	0.14	0.18	0.21	0.15	0.19	0.21	0.15	0.13
16	0.02	0.01	0.02	0.02	0.02	0.00	0.02	0.01	0.00	0.02	0.02	0.02	0.02	0.02	0.03
MIOT	0.63	0.81	0.64	0.64	0.56	0.44	0.87	0.50	0.73	0.76	0.50	0.60	0.65	0.64	0.73
DEC	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.01
11	0.47	0.65	1.35	1.35	1.09	0.03	0.26	0.80	1.23	0.76	0.99	1.51	0.98	1.28	1.62
13	0.09	0.07	0.10	0.10	0.05	0.01	0.06	0.10	0.12	0.10	0.10	0.11	0.14	0.11	0.10
14	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.01	0.01	0.01	0.01
15	0.05	0.01	0.04	0.04	0.02	0.00	0.05	0.05	0.06	0.06	0.05	0.00	0.00	0.06	0.06
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
21	0.13	0.38	0.04	0.04	0.21	0.01	0.00	0.07	0.04	0.03	0.09	0.02	0.02	0.06	0.05
22	0.02	0.07	0.02	0.02	0.03	0.01	0.00	0.02	0.00	0.00	0.04	0.00	0.00	0.01	0.01
23	0.86	0.24	0.76	0.76	0.34	0.02	0.80	0.40	0.80	0.90	0.43	0.67	0.74	0.83	0.74
24	0.01	0.01	0.02	0.02	0.00	0.00	0.02	0.01	0.00	0.01	0.01	0.00	0.00	0.02	0.02
25	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	1.11	0.97	1.14	1.14	1.13	0.05	1.43	1.05	1.14	1.45	1.23	1.14	1.26	1.21	1.08
29	0.04	0.03	0.02	0.02	0.04	0.00	0.02	0.02	0.01	0.02	0.03	0.01	0.02	0.02	0.02
MIOT	3.77	2.44	3.56	3.56	2.57	3.41	2.66	2.54	3.44	3.35	3.00	3.48	3.17	3.61	3.74
CTOT	36.70	35.52	43.14	43.14	43.96	43.96	43.96	43.96	43.96	43.96	39.64	42.08	38.68	43.58	44.48

MIOT=MONTHLY TOTALS
CTOT=CALENDAR YEAR TOTALS
*= Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 18--DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER--CONTINUED PERIOD:1980 WATER YEAR

G A G E N U M B E R

DATE	1BEE	1BAK	2BAR	1BOL	1-ON	2-ON	1BER	2BER	1LBR	1SLA	2SLA	1BGS	2WMS	3WMS
JAN	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
9	0.01	0.00	0.00	0.01	0.00	0.00	0.02	0.02	0.01	0.02	0.01	0.00	0.01	0.00
10	0.07	0.02	0.07	0.08	0.04	0.03	0.07	0.09	0.11	0.08	0.08	0.08	0.10	0.07
11	0.00	0.00	0.02	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
16	0.01	0.00	0.01	0.00	0.00	0.00	0.02	0.10	0.02	0.02	0.07	0.06	0.01	0.00
17	0.05	0.14	0.06	0.06	0.12	0.26	0.21	0.26	0.37	0.14	0.32	0.17	0.11	0.08
18	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
19	0.11	0.09	0.04	0.10	0.05	0.00	0.10	0.10	0.08	0.13	0.05	0.04	0.10	0.10
20	0.35	0.15	0.44	0.24	0.31	0.23	0.06	0.43	0.61	0.52	0.34	0.42	0.59	0.42
21	0.18	0.29	0.14	0.24	0.37	0.09	0.05	0.15	0.22	0.17	0.25	0.27	0.53	0.28
22	0.33	0.33	0.32	0.33	0.40	0.17	0.10	0.31	0.38	0.37	0.36	0.37	0.45	0.33
23	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
25	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.01	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.01	0.01	0.01
29	0.20	0.20	0.04	0.13	0.11	0.10	0.11	0.11	0.15	0.14	0.11	0.10	0.14	0.13
30	0.02	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.03	0.04	0.02	0.02	0.02	0.03
MIUT	1.36	1.26	1.34	1.18	1.41	0.86	0.68	1.46	1.91	1.88	1.49	1.75	1.49	1.95
FEB	0.04	0.10	0.00	0.10	0.02	0.11	0.15	0.11	0.10	0.13	0.09	0.11	0.10	0.11
3	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00
4	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.02	0.01	0.01	0.04	0.03	0.02	0.02	0.03	0.02	0.02	0.04	0.03	0.00	0.03
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
7	0.55	0.20	0.51	0.34	0.55	0.23	0.40	0.34	0.32	0.33	0.42	0.42	0.52	0.53
8	0.41	0.25	0.33	0.33	0.25	0.17	0.10	0.12	0.10	0.14	0.15	0.19	0.14	0.16
9	0.64	0.42	0.64	0.63	0.84	0.71	0.15	0.38	0.47	0.18	0.60	0.44	0.67	0.61
10	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01
14	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.00
15	0.12	0.15	0.11	0.13	0.12	0.67	0.15	0.18	0.16	0.16	0.14	0.15	0.13	0.13
16	0.49	0.51	0.45	0.44	0.56	0.04	0.59	0.40	0.49	0.54	0.50	0.49	0.51	0.53
17	0.03	0.08	0.02	0.06	0.04	0.00	0.05	0.04	0.00	0.05	0.06	0.05	0.04	0.06
18	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.01
19	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.38	0.55	0.63	0.23	0.22	0.03	0.63	0.55	0.70	0.54	1.01	0.55	0.76	0.60
MIUT	2.78	2.48	2.95	2.33	2.75	1.98	2.26	2.22	2.38	2.11	3.07	2.47	2.52	2.75

MIUT=MONTHLY TOTALS

E = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 18--DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER--CONTINUED PERIOD:1980 WATER YEAR

G A G E N U M B E R																
DATE	1BEE	1HAM	2RAY	3RAR	1BOL	1-UN	2-ON	1RER	2BER	1LBR	1SLA	2SLA	1BGS	1WMS	2WMS	3WMS
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.06	0.04	0.04	0.06	0.06	0.07	0.50	0.04	0.10	0.26	0.03	0.04	0.07	0.04	0.05	0.06
2	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.02	0.03	0.03	0.03	0.02	0.00	0.03	0.01	0.02
3	0.16	0.02	0.12	0.11	0.11	0.05	0.07	0.17	0.07	0.05	0.13	0.06	0.07	0.14	0.10	0.16
4	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
6	0.03	0.00	0.02	0.01	0.02	0.02	0.07	0.06	0.05	0.07	0.04	0.04	0.02	0.05	0.04	0.06
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.21	0.21	0.14	0.18	0.19	0.18	0.09	0.18	0.16	0.12	0.20	0.18	0.17	0.20	0.20	0.19
9	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01
10	2.83	3.07	1.92	2.78	2.86	2.87	2.60	2.32	2.32	2.56	2.49	2.68	2.42	2.62	2.71	2.44
11	0.04	0.02	0.01	0.01	0.02	0.02	0.03	0.03	0.01	0.02	0.02	0.02	0.00	0.02	0.03	0.01
12	0.00	0.02	0.00	0.01	0.04	0.01	0.06	0.03	0.08	0.07	0.04	0.04	0.10	0.13	0.05	0.05
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
MTOT	3.33	3.39	2.35	3.17	3.32	3.22	3.46	2.87	2.83	3.19	3.00	3.16	2.87	3.25	3.24	3.00
APH	0.31	0.01	0.31	0.22	0.24	0.07	0.61	0.04	0.50	0.64	0.00	0.39	0.29	0.43	0.30	0.32
1	0.00	0.02	0.02	0.01	0.00	0.01	0.03	0.04	0.03	0.04	0.23	0.02	0.01	0.02	0.02	0.02
2	0.00	0.01	0.01	0.02	0.02	0.00	0.00	0.05	0.00	0.00	0.03	0.01	0.00	0.03	0.05	0.02
3	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.01	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.16	0.08	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.04	0.00	0.00	0.00	0.13	0.00	0.03	0.06	0.00	0.04	0.01	0.00	0.01	0.00	0.00
6	0.31	1.75	0.37	1.30	0.38	1.07	0.21	0.38	0.13	0.28	0.59	0.10	0.27	0.15	0.32	0.61
7	0.24	0.28	0.21	0.33	0.35	0.28	0.15	0.21	0.14	0.15	0.18	0.16	0.34	0.20	0.39	0.25
8	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.02
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
10	1.45	1.77	1.58	1.46	1.65	1.53	1.53	1.28	1.79	1.66	1.36	1.33	1.57	1.49	1.94	0.90
11	0.51	0.09	0.12	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	2.82	3.97	2.62	4.02	2.65	3.25	2.61	2.03	2.70	2.92	2.44	2.03	2.49	2.35	3.02	2.14
MTOT=MONTHLY TOTALS																

*= Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 18--DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER--CONTINUED PERIOD:1980 WATER YEAR

G A G E N U M B E R															
DATE	1BEE	1BAR	2BAR	3BAR	1BOL	1-ON	2-ON	1BEH	2BER	1LBR	1SLA	1BGS	1WMS	2WMS	3WMS
MAY	0.01	0.03	0.01	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	*0.88	0.48	1.03	0.74	1.18	0.47	0.76	0.54	0.54	0.89	0.55	0.63	0.82	0.75	1.25
7	*1.36	1.03	1.60	1.48	1.45	0.77	0.69	2.50	1.04	0.75	2.29	2.30	1.86	1.57	2.57
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.02	0.02	0.03	0.01	0.03	0.01
11	1.78	1.71	2.09	1.49	1.21	1.80	1.03	1.64	1.01	0.99	1.97	1.14	0.81	1.67	1.07
12	0.98	1.40	*0.37	0.93	1.35	1.21	1.59	1.48	1.56	1.54	0.95	1.27	1.37	1.14	2.07
13	*0.03	0.14	*0.17	0.16	0.01	0.28	0.19	0.26	0.16	0.17	0.18	0.14	0.11	0.23	0.15
14	0.21	0.31	0.30	0.17	*0.03	0.38	0.52	0.32	0.45	0.44	0.32	0.32	0.20	0.31	0.36
15	*0.06	0.34	0.33	0.04	0.20	0.30	0.42	0.35	0.29	0.31	0.36	0.25	0.10	0.28	0.24
16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.06	0.00	0.01	0.00	0.00	0.00
17	0.18	0.36	0.14	0.04	0.19	0.50	0.24	0.27	0.25	0.25	0.26	0.28	0.00	0.30	0.14
18	0.04	0.01	0.02	0.00	0.02	0.02	0.03	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.03
19	0.06	0.13	0.10	0.05	0.12	0.47	1.62	0.96	0.11	1.43	0.22	1.24	*0.09	0.13	0.14
21	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	*0.02	0.00	*0.05	0.00
27	0.00	0.00	0.00	0.18	0.01	0.00	0.08	0.00	0.00	0.07	0.07	0.00	0.05	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	5.63	5.94	6.31	5.34	5.85	6.21	7.23	8.38	5.45	6.95	7.23	7.64	5.47	6.42	8.23
JUN	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.01	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.30	0.05	0.03	0.50	0.00	0.08	0.34	0.00	0.04	*0.46	0.04	0.13
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	0.81	0.00	0.14	0.30	0.05	0.03	0.50	0.00	0.08	0.34	0.06	0.09	0.47	0.04	0.13
JULY	0.00	0.37	0.00	0.07	0.00	0.16	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
21	0.00	0.07	0.00	0.13	0.00	0.10	0.15	0.77	0.24	0.13	0.10	0.07	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.45	0.01	0.42	0.04	0.00	0.00	0.16	0.25	0.01	0.06	0.24	0.08	0.27
MTOT	0.00	0.44	0.53	0.21	0.42	0.30	0.15	0.82	0.40	0.38	0.17	0.13	0.24	0.08	0.27

MTOT=MONTHLY TOTALS

* = Estimated

AUSTIN URBAN HYDROLOGY STUDY

TABLE 18--DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF THE COLORADO RIVER--CONTINUED PERIOD:1980 WATER YEAR

G A G E N U M B E R															
DATE	1BEE	1HAR	1HAR	1BOL	1-ON	2-ON	1BEE	2BER	1LBR	1SLA	2SLA	1BGS	2WMS	3WMS	
AUG															
5	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6	0.08	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
7	0.00	0.00	0.00	0.08	*0.07	0.00	0.03	0.00	0.00	0.05	0.01	0.21	0.00	0.09	
8	0.01	0.00	0.00	0.00	*0.00	0.00	0.05	0.06	0.00	0.00	0.00	0.00	0.03	0.00	
9	0.79	0.68	0.31	0.38	0.44	1.08	*0.98	1.22	1.31	1.42	0.64	0.72	0.51	0.53	
10	0.01	0.02	0.01	0.02	*0.04	0.03	0.02	0.02	0.01	0.02	0.01	0.02	0.02	0.48	
11	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12	*0.14	0.00	0.00	0.04	0.00	0.00	0.13	0.06	0.07	0.05	0.04	0.02	0.04	0.03	
13	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.04	0.00	
14	0.04	0.00	0.01	0.05	0.00	0.00	0.17	0.00	0.03	0.01	0.02	0.01	0.00	0.13	
15	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*0.27	0.16	0.03	
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MIUF	1.14	0.74	0.60	0.76	0.69	1.20	1.13	1.64	1.55	1.61	0.74	0.93	0.84	1.06	0.80
SEP															
1	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.07	0.34	0.12	0.00	0.28	0.03	0.28	0.17	0.04	0.63	*0.08	0.15	0.08
3	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.02	*0.12	0.01	0.01
4	0.80	2.70	1.02	0.86	1.04	1.83	1.58	2.72	0.09	2.35	1.57	1.39	*0.94	1.38	0.94
5	*1.91	2.34	1.80	1.38	1.91	2.34	2.60	2.20	3.72	2.71	1.81	1.98	*1.61	1.98	1.61
6	*0.11	0.13	0.10	0.16	0.10	0.12	0.18	0.10	0.09	0.18	0.10	0.05	*0.03	0.09	0.03
7	0.78	0.35	0.74	0.61	*0.15	0.22	0.70	0.78	1.26	0.26	0.55	1.12	0.08	0.15	0.14
8	0.00	0.00	0.00	0.00	*0.01	0.03	0.01	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.01
9	0.00	0.00	0.00	0.00	*0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	*0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	1.67	1.42	1.92	0.25	*1.84	0.71	0.26	2.45	0.26	0.31	1.85	0.71	1.18	1.36	1.70
12	0.00	0.00	0.00	0.00	*0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.83	0.76	1.19	0.60	1.18	*0.61	0.16	0.97	1.30	0.49	1.91	1.08	1.07	2.36	1.55
14	0.57	0.59	0.54	1.07	0.49	*0.23	0.42	0.36	0.47	0.36	0.55	0.30	0.33	0.65	0.40
15	0.44	0.88	0.98	0.61	0.62	*0.40	0.70	0.64	0.85	1.20	0.80	*0.23	0.68	0.71	0.70
16	0.36	0.24	0.51	0.28	0.43	*0.13	0.20	0.31	0.16	*0.05	0.17	*0.34	0.18	*0.58	0.18
17	0.17	0.47	0.14	0.12	0.13	*0.59	0.15	1.23	0.29	0.11	0.58	*0.02	0.05	0.22	0.08
18	0.09	0.12	0.10	0.01	0.11	0.57	0.47	0.28	1.04	0.83	0.94	*0.47	1.42	0.25	0.89
MIUF	7.75	10.00	9.12	6.33	8.16	7.79	7.74	11.97	9.97	9.34	10.87	8.06	7.76	9.65	8.43
WTOT	30.90	32.02	31.07	***	29.97	25.82	30.54	35.34	32.52	34.09	33.55	31.24	28.49	32.80	33.27

MIUF=MONTHLY TOTALS
* = Estimated

Table 19.--Records of wells, test holes, and springs in the Austin urban study area

Water-bearing units: Kea, Edwards and associated limestones; Kgru, Upper Glen Rose; Kgrl, Lower Glen Rose; Kho, Hosston.
 Method of lift and type of power: C, cylinder; cf, centrifugal; E, electric; G, natural gas, butane, or gasoline; H, hand
 J, jet; N, none; S, submersible; T, turbine; W, windmill.
 Use of water: D, domestic; Ind, industrial; Irr, irrigation; N, none; P, public supply; S, livestock.

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Below land surface datum (ft)	Date of latest annual water-level survey	Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)							
Travis County													
YD-58-34-503	Lemens	--	1964	206	7	--	Kgru	740	32.7	Jan. 9, 1980	N	N	Abandoned well.
601	J. R. McElroy	--	1935	85	6	30	Kgru	950	40.85	Jan. 9, 1980	N	N	2/
613	Dr. Mitchell Wong	--	1945	175	6	--	Kea	920	31.05	Jan. 9, 1980	N	N	2/, 3/
902	S. D. Williams	--	--	53	--	--	Kea	902	31.2	Mar. 1, 1978	N	N	4/
904	Great Hills	J. M. Wright	1971	1,122	8-1/2	3	Kgru Kgrl	910	193.0	--	--	N	Reported yield 50 gal/min. Caved in to 932 feet before Oct. 31, 1972. 5/
35-201	Lorene Bolt	A. Z. Daniels	1939	270	6	90	Kea	904	227.70	Mar. 15, 1978	S, E	D, S	2/
206	Joe Bailey	Glass	1945	700	6	650	Kea	820	230.15	Jan. 9, 1980	N	N	--
210	Mrs. Leo Turner	Robertson & McBride	1894	362	5	318	Kea	860	277.70	Jan. 9, 1980	S, E	D, S	6/
212	Stuckey Candy Co.	C. T. Sterzing	1962	320	5	147	Kea	825	120	--	S, E	D	Reported yield 10 gal/min. 7/
309	Edward Burklund	W. H. Glass	Aug. 8, 1970	515	7	377	Kea	810	252.55	Jan. 9, 1980	S, E	D, Irr	6/
407	Austin White Lime	Taylor Virdell	1952	396	10	15	Kea Kgru	845	77.3	Jan. 9, 1980	S, E	P	6/
413	W. F. Morrow	L. Daniels	1929	336	5	3	Kea	855	74.15	Aug. 24, 1978	S, E	N	Pump inoperative.
415	Austin White Lime	--	--	112	6	12	Kea	830	98.70	Jan. 9, 1980	S, E	S, Irr	6/
418	Parker	Glass	1966	88	7	88	Kea	770	70.28	Mar. 1, 1978	S, E	D	Reported yield, 15 gal/min. 4/
420	Albert Paul	Sterzing	1964	280	7	90	Kea	767	59.55	Jan. 9, 1980	S, E	D	7/
501	L. Robinson	--	1989	276	5	--	Kea	831	231.8	Mar. 1, 1978	C, W	S	4/
506	Capital Memorial Park	--	--	533	7	408	Kea	795	--	--	S, E	Irr, D	Reported yield, 250 gal/min. 6/

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Below land surface datum (ft)	Water level		Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)				Date of latest measurement for annual water-level survey	1/			
Travis County--Continued														
YD-58-35-508	Mrs. Karl B. Wagner	Hunter	1939	465	6	165	Kea	740	173.5	Jan. 10, 1980	S, E	S	5/ 3/	
509	Pamela Subdivision	--	1960	550	8	180	Kea	853	278	1971	S, E	P	Supplies 34 homes. 5/ 7/	
510	Tim's Airpark	Dick Sanders	1965	459	7	298	Kea	760	164.7	Jan. 10, 1980	S, E	N	Oily water.	
511	Austin White Lime	C. T. Sterzing	1963	200	7	50	Kea	822	152.1	Jan. 9, 1980	S, E	D	Parnlee well. 6/ 3/	
513	Lamplighter Village	Thomas Arnold	1977	540	6	400	Kea	760	210	--	S, E	P	7/	
514	C M. Diseker	Thomas Arnold	1976	420	4	220	Kea	875	189.69	Feb. 23, 1978	S, E	D	Water level questionable. 4/	
607	William Kuepel	Cribbs & Davidson	1935	609	10	420	Kea	750	184.5	Jan. 9, 1980	N	N	Supplied CCC Camp; drawdown, 130 feet when pumped at 40 gal/min. 2/ 3/ 5/	
701	Balcones Research Center	Texas Water Wells, Inc.	1942	610	4	320	Kea	790	--	--	S, E	Ind, Irr	7/	
702	Mrs. Tom Williams	Martin	1935	49	6	22	Kea	873	12.8	Jan. 9, 1980	N	N	2/ 3/	
710	Koenig	--	--	272	6	--	Kgru	875	46.25	Jan. 9, 1980	N	N	Depth before 1949 was 100 feet.	
713	Harold Strickland	Dick Sanders	1967	314	7	63	Kgru	880	118.4	Jan. 24, 1979	S, E	Ind	Cemented from 0-63 feet. Reported yield, 200 gal/min. 6/	
802	Anton Von Berg	W. H. Glass	1948	465	7	307	Kea	715	--	--	N	N	Filled to 10 feet before Feb. 16, 1973. 4/ 7/	
804	G. F. Roberts	Robert Crouch	1970	416	4	--	Kea	735	167.2	Jan. 10, 1980	S, E	Irr	5/ 6/	
806	John Mus	--	1932	459	6	203	Kea	690	110.66	Jan. 29, 1979	S, E	D	6/	
808	Mrs. Richard Gracy	Roggenkamp	1976	460	5	300	Kea	762	192.75 193.73	Jan. 29, 1979 Aug. 9, 1978	S, E	D	3/ 6/	
809	Mrs. Richard Gracy	A. C. Clements	1933	445	6	--	Kea	772	205	Jan. 20, 1980	N	N	Well destroyed June 6, 1980. 3/ 5/	
906	Baker	Arnold	1976	600	4	500	Kea	750	172.1	Jan. 10, 1980	S, E	D	3/ 6/	

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing Diameter (in)	Depth (ft)	Water-bearing unit	Altitude of land surface (ft)	Below land surface datum	Water level Date of latest measurement for annual water-level survey	Method of lift	Use of water	Remarks
<u>Travis County--Continued</u>													
YD-58-36-205	G. Pruitt	Jimmy Calhoun	1950	800	8	600	Kea	652	75.66	May 8, 1978	N	N	4/
206	G. Pruitt	Jimmy Calhoun	1950	614	8	400	Kea	692	114.85	May 8, 1978	N	N	4/
402	George Pfluger	H. Robertson	1925	610	5	400	Kea	755	176.1	Jan. 9, 1980	S, E	S, Irr	2/ 6/
41-907	Helen Rice	Dick Sanders	1967	640	8	5	Kgrl, Kgru	970	200	--	S, E	D	Reported drawdown, 100 feet after bailing for 1.5 hours at 200 gal/min. 7/
42-306	W. H. Peterson	E. W. Glass	1970	431	7	6	Kgru, Kgrl	590	85.5	Jan. 11, 1980	S, E	Irr	No drawdown when pumped at 20 gal/min. 6/
608	F. M. Pearce	J. R. Johnson	1939	145	10	--	Kea	565	101.45	Jan. 11, 1980	S, E	Pool	3/ 6/
703	Lost Creek Development Co.	Central Texas Drilling	1972	620	6-5/8	510	Kho	680	164.1	--	S, E	P	Measured yield, 75 gal/min. 5/
805	Eanes School	S. W. Glass	1954	876	7	705	Kgrl	770	229.2	Jan. 11, 1980	N	N	Reported drawdown, 190 feet at 22 gal/min in Nov. 1954. 3/ 5/ 7/
809	Carlyle Schnelle	Glass	1949	340	6	98	Kea	720	285.75	Mar. 10, 1978	S, E	D	6/
810	Swenson	Boston Furr	1912	295	6	80	Kea	700	194.25	Jan. 11, 1980	N	N	--
812	W. F. Guyton	C. T. Sterzing	1958	375	7	140	Kea	745	284.0	Aug. 29, 1978	S, E	D	Cemented from 0-140 feet slotted from 237-236 feet. Measured drawdown, 1.5 feet after pumping one hour at 20 gal/min on June 5, 1969 7/
813	G & J Water Co.	C. T. Sterzing	--	300	8	--	Kea	660	214.13	Jan. 11, 1980	S, E	P	This well supplies 15 families.
814	Dellano Hills	C. T. Sterzing	--	300	10	--	Kea	660	213.9	Mar. 15, 1978	S, E	P	This well supplies 24 families. 6/
817	U.S. Geological Survey	Tex. Dept. of Water Resources	1978	257	6	30	Kea	762	218.1	Jan. 11, 1980	N	N	U.S. Geological Survey test well #1. 5/ 3/
818	Swenson	C. T. Sterzing	1953	300	6	--	Kea	700	227.91	Mar. 8, 1978	S, E	D	6/
903	City of Austin	--	1920's	57	5	50	Kea	460	32.67	Jan. 16, 1980	S, E	D, Irr	--

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Below land surface datum (ft)	Water level	Date of latest measurement for annual water-level survey	Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)								
<u>Travis County--Continued</u>														
YD-58-42-911	Bee Caves Properties	Charles Dellana	1920's	135	6	90	Kea	517	77.95	Jan. 11, 1980	S, E	D, Irr	Originally dug to 90 feet then drilled to 135 feet. <u>4/</u>	
913	Park Hills Baptist Church	Richard Bible	1969	180	7	165	Kea	540	104.6	Jan. 11, 1980	S, E	D	<u>6/</u>	
914	City of Austin	--	--	Spring	--	--	Kea	435	--	--	Flow	P	Barton Springs, main springs 1 and 2. <u>6/</u>	
921	City of Austin	--	--	Spring	--	--	Kea	450	--	--	Flow	P	Elina or Park Springs near bathhouse. <u>6/</u>	
922	City of Austin	--	--	Spring	--	--	Kea	465	--	--	Flow	P	Wash or Old Mill Springs. <u>6/</u>	
925	Jimmy Shipwash	Richard Bible	1975	180	5	180	Kea	575	140.5	Jan. 11, 1980	S, E	Irr	<u>2/ 3/</u>	
926	Eugene Jacobs	Hugh Glass	1963	190	6	--	Kea	600	161.1	Jan. 11, 1980	S, E	Irr	<u>6/</u>	
43-101	Jefferson Chem. Co.	Layne-Tex. Co.	1940	458	10-3/4	406	Kea	721	--	--	N	N	<u>4/ 7/</u>	
106	W. F. Robinson	W. Matson	1927	395	5	248	Kea	733	--	--	C, W	D	<u>7/</u>	
205	Houston Instruments	Thomas Arnold	1976	563	411	520	Kea	630	81.75	Jan. 10, 1980	N	N	<u>3/ 5/ 6/</u>	
206	H. M. Reese	E. A. Glass	1970	400	7	220	Kea	700	121.80	Jan. 10, 1980	S, E	D	<u>6/</u>	
303	B. F. Payton	B. F. Payton	1940	1,456	6	460	Kea	633	59.65	Jan. 10, 1980	N	N	<u>5/</u>	
401	North Austin State Hospital	Hugh McGillurray	1895	1,975	--	--	Kho Kgrl	635	--	--	N	N	<u>7/</u>	
403	Tex. Dept. of Public Safety	Tex. Water Wells, Inc.	1962	353	10-3/4	300	Kea	680	--	--	S, E	Ind.	<u>7/</u>	
705	University of Texas	Glass & Tucker	1972	445	7	205	Kea	599	52.5	Jan. 10, 1980	N	N	<u>3/ 5/</u>	
49-309	Jack Mann	Richard Bible	1969	260	7	155	Kea	975	133.50	Mar. 24, 1978	S, E	D	Reported 0 drawdown when bailed at 20 gal/min. <u>2/ 5/</u>	
314	W. E. McCullough	S. W. Glass	1967	375	7	178	Kgrl	850	--	--	S, E	D, S	Reported drawdown 15 feet when bailed at 40 gal/min for 1 hour. <u>7/</u>	

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Below land surface datum (ft)	Water level Date of latest measurement for annual water-level survey	Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)							
Travis County--Continued													
YD-58-49-316	Cecil Herrin	Richard Bible	1968	340	7	18	Kgr1 Kgru	940	241.0	Jan. 23, 1980	S, E	D	--
321	S. V. Water Corp.	Central Tex. Drilling	1977	440	5	--	Kgru Kgr1	920	264.8	Jan. 23, 1980	S, E	P	--
322	W. L. Harris	Frankie Glass	1972	480	7	42	Kgru Kgr1	970	100.6	Jan. 23, 1980	S, E	D	--
507	Appaloosa Run	Red Sanders	1973	575	7	43	Kgru Kgr1	983	227.7	Feb. 8, 1979	N	N	Reported yield, 30 gal/min with 80 feet drawdown on Aug. 3, 1973. <u>5/</u>
603	O. B. McKown, Jr.	Dick Sanders	1949	92	8-6	92	Kgru	890	26.78	Jan. 23, 1980	S, E	D	--
604	O. B. McKown, Jr.	C. T. Sterzing	1957	565	7	450	Kgr1	898	184.05	Jan. 23, 1980	S, E	Irr	Reported yield 28 gal/min. <u>2/ 5/ 7/</u>
605	Circle C Ranch	Hutchins	1922	1,000	5	1,000	Kgr1	785	151.45	June 9, 1978	S, E	S	<u>4/</u>
606	Circle C Ranch	Glass	1977	400	6	400	Kgru	881	131.70	Aug. 22, 1978	S, E	D	<u>4/</u>
50-101	T. A. Beckett, Jr.	Will Beckett	1921	217	7	12	Kea	810	161.5	Jan. 18, 1980	S, E	D	<u>6/</u>
102	T. A. Beckett, Jr.	T. A. Beckett, Sr.	1902	250	6	10	Kea	850	137.54	Feb. 8, 1979	S, E	S	--
105	L. L. Hart	A. C. Clements	--	325	10	--	Kea	810	144.61	Mar. 14, 1978	C, E	N	<u>4/</u>
106	Payne Lewis	--	1898	100	6	12	Kgru	850	82.0	Jan. 11, 1980	N	N	--
107	Elmo Pearson	C. T. Sterzing	--	615	7	155	Kgru	790	170	--	S, E	S, Irr	Reported yield, 10 gal/min. <u>7/</u>
110	--	Will Beckett	1901	217	6	10	Kea	755	135.55	Jan. 18, 1980	S, E	N	--
117	Dahlstrom Corp	Electro Mechanics Co.	1972	767	9-5/8	207	Kgru	763	176.83	May 15, 1978	N	N	Well capped. <u>4/ 5/</u>
201	Elizabeth Jentsch	Gus Sanders	1917	290	4	--	Kea	655	211.35	Jan. 21, 1980	S, E	Irr	--
206	Kenneth Wingfield	W. H. Glass	1968	257	7	53	Kea	680	204	Jan. 11, 1980	S, E	D	Reported yield, 10 gal/min. Cemented from 0-53 feet. <u>6/ 7/</u>

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Below land surface datum (ft)	Water level	Date of latest measurement for annual water-level survey	Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)								
<u>Travis County--Continued</u>														
YD-58-50-209	H. E. Brodie	--	1915	330	8	300	Kea	710	272.60	May 17, 1978	S, E	D	4/	
211	Travis Country Estates	Richard Bible	1973	282	7	265	Kea	670	202.2	Jan. 11, 1980	S, E	Irr	3/ 6/	
212	City of Sunset Valley	C. T. Sterzing	1955	336	7	--	Kea	672	256.25	May 16, 1978	S, E	P		Reported yield, 70 gal/min. 4/
213	Bill Ashbaugh	--	--	300	7	--	Kea	705	218.50	Jan. 18, 1980	S, E	D	--	
214	Ray Brownlea	A. C. Clements	1935	302	5	--	Kea	710	254.8	Jan. 18, 1980	S, E	N		Pump inoperative.
215	City of Sunset Valley	Tom Arnold	1976	360	6-5/8	200	Kea	675	--	--	--	S, E	P	6/
216	U.S. Geological Survey	Texas Dept. of Water Resources	1978	582	4	580	Kea	692	248.75	Jan. 18, 1980	N	N		U.S. Geol. Survey test well #3. 3/ 5/
217	U.S. Geological Survey	Texas Dept. of Water Resources	1978	214	4	144	Kea	567	127.05	Jan. 11, 1980	N	N		U.S. Geol. Survey test well #2A. 3/ 5/
218	U.S. Geological Survey	Texas Dept. of Water Resources	1978	214	4	136	Kea	567	126	Aug. 1978	N	N		U.S. Geol. Survey test well #2. 5/
219	Travis Country Estates	--	--	252	7	--	Kea	732	228.95	Jan. 25, 1980	N	N		3/ 5/
301	John Lovelady	Gus Sanders	1949	388	5	296	Kea	640	168.7	Jan. 18, 1980	N	N		2/ 3/ 5/
305	Ralph Lowry	Nance & Bailey	1923	780	--	--	--	640	--	--	--	N	N	Abandoned oil test. 7/
401	Mrs. Travis Howard	Glass	1967	404	7	252	Kea	750	249.05	Jan. 18, 1980	S, E	D, S		6/ 7/
402	John Rehm	S. W. Glass	1967	355	7	198	Kea	750	212.4	Jan. 18, 1980	S, E	D		Reported drawdown 60 feet, when bailed for one hour at 45 gal/min. 1/
406	George Slaughter	John Glass	1946	360	5	100	Kea	820	298.26	Aug. 11, 1978	S, E	D		6/
408	Donald Rogers	E. W. Glass	1971	439	7	125	Kea	772	180.7	Jan. 18, 1980	S, E	D		Reported drawdown 0 foot when pumped at 25 gal/min for one hour on Mar. 18, 1971. 6/

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Below land surface datum (ft)	Water level measurement for annual water-level survey	Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)							
Travis County--Continued													
YD-58-50-409	Circle C Ranch	W. H. Glass	1972	450	7	450	Kgru	796	180.85	Jan. 18, 1980	S, E	Irr	6/
411	Circle C Ranch	Glass	1940's	380	6		Kea	772	228.85	Jan. 18, 1980	S, E	D	--
412	Circle C Ranch	Glass	1972	295	7	194	Kea	809	157.2	Jan. 18, 1980	N	N	3/ 5/
502	Mrs. R. W. Herndon	Glass	1937	300	5-5/16	168	Kea	740	242.45	Jan. 18, 1980	S, E	Irr, S	4/ 6/
505	Ted Swanson, Jr.	C. T. Sterzine	1963	390	4	290	Kea	710	--	--	S, E	D	Reported drawdown, 50 feet after bailing at 8 gal/min on Feb. 9, 1963. 1/
517	Ted Swanson, Jr.	Central Tex. Drilling	1973	430	6-3/8	290	Kea	695	186.7	Jan. 18, 1980	S, E	Irr	Reported yield, 300 gal/min.
518	Strippiling Blake Lumber Co.	--	1951	431	4	--	Kea	725	257.15	Jan. 18, 1980	N	N	3/
703	Marbridge Foundation	C. T. Sterzine	1966	455	7	232	Kea	680	189.90	Apr. 5, 1978	S, E	Irr	Reported 0 drawdown when bailed at 15 gal/min.
704	Marbridge Foundation	Central Tex. Drilling	1968	345	16 14	68 40	Kea	727	192.80	Jan. 21, 1980	S, E	Irr	Measured drawdown, 12 feet after pumping 72 hours at 942 gal/min, 2 feet at 578 gal/min, and 1 foot at 473 gal/min. 3/ 6/ 1/
714	T. T. Denham	W. H. Glass	1969	190	7	188	Kea	710	160.5	Feb. 8, 1979	S, E	D	Cemented from 0-120 feet. 1/
720	Robert Hejl	Hugh Glass	1968	230	7	125	Kea	660	119.1	Jan. 25, 1980	S, E	S	--
801	C. H. Bird	Williamson & Adair	1939	277	5-1/4	200	Kea	662	92.65	Jan. 21, 1980	S, E	N	Reported yield, 10 gal/min. 2/ 3/
810	A. L. Munneburger	Emmett Glass	1969	359	7	205	Kea	625	50.1	Jan. 18, 1980	S, E	D	Reported drawdown, 20 feet after bailing 1 hour at 40 gal/min. 2/ 6/ 1/
817	Manchaca Methodist Church	C. T. Sterzine	1956	400	7	167	Kea	700	170.75	Jan. 18, 1980	S, E	D	Reported yield, 30 gal/min. 1/

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Elevation of land surface (ft)	Below land surface datum (ft)	Water level	Date of latest measurement for annual water-level survey	Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)								
<u>Travis County--Continued</u>														
YD-58-50-822	Max Ladusch	Owens	1970	356	7	187	Kea	655	142.7	Jan. 18, 1980	S, E	N		Reported drawdown, 70 feet when bailed at 40 gal/min.
836	Onion Creek Golf Course	Central Tex. Drilling	1973	500	8	222	Kea	660	94.65	Jan. 22, 1980	S, E	Irr		Estimated yield, 220 gal/min.
839	Maha Water Supply	Frank Glass	1977	450	12	160	Kea	625	77.36	Aug. 14, 1978	E, T	P	4/	
903	R. B. Gault	S. W. Glass	--	302	--	--	Kea	631	--	--	C, E	Irr	7/	
58-202	Mystic Oaks Estates	Central Tex. Drilling	1969	405	6-5/8	310	Kea	660	--	--	S, E	P	5/	
203	Raymond Canion	W. H. Glass	1967	263	7	131	Kea	630	20.7	Feb. 8, 1979	S, E	D	2/ 7/	
301	United Gas Pipeline	--	1943	703	6	639	Kea	734	137.85	Jan. 22, 1980	N	N		U.S. Geol Survey observation well. 2/ 3/
304	R. C. Brown	Wells	1947	720	8	500	Kea	660	53.15	Jan. 22, 1980	S, E	N		
59-105	Arthur Johnson	Dixie Oil Co.	1925	745	--	--	--	655	--	--	N	N		Abandoned oil test. 7/

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Below land surface datum (ft)	Water level measurement for annual water-level survey	Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)							
Hays County													
LR-57-64-601	Joe Gonzales	Davis Drilling Co.	1976	192	6	20	Kgru	995	90.65	Nov. 30, 1977	S, E	D	Cemented 0-20 feet.
LR-58-49-508	Clara Calhoun	Richard Bible	1960	416	6	20	Kgru	901	150.8	Jan. 24, 1980	C, W	S	--
701	Mike Rutherford	--	--	300	7	20	Kgru	1,079	115.17	Aug. 24, 1978	C, W	S	--
702	Mike Rutherford	--	--	195	7	20	Kgru	1,020	52.34	Aug. 24, 1978	C, W	S	--
801	Clara Calhoun	Tyler	1942	100	6	20	Kea	856	37.05	Jan. 24, 1980	S, E	S	3/ 6/
802	Mrs. Bliss Spillar	--	1940's	200	6	--	Kea	930	131.2	Jan. 24, 1980	C, E	S	--
803	Clara Calhoun	--	1954	105	6	9	Kgru	920	82.7	Jan. 24, 1980	C, W	S	--
804	Clara Calhoun	--	--	243	6	20	Kgru	880	36.41	May 15, 1978	S, E	D	--
805	Mike Rutherford	--	--	315	7	315	Kgru	1,055	136.45	Jan. 24, 1980	C, W	S	--
806	Mike Rutherford	--	--	200	7	--	Kgru	935	71.70	Jan. 24, 1980	C, W	N	--
901	P. J. Brewington	Thomas Arnold	1972	400	4	200	Kgru	790	185.75	Jan. 24, 1980	S, E	D	7/
902	Mrs. Bliss Spillar	--	--	200	4	--	Kea	865	92.69	Apr. 25, 1978	C, W	S	--
903	Mrs. Bliss Spillar	--	--	200	4	--	Kea	830	--	--	C, E	S	6/
57-101	M. O. Rogers	Harvey Harmon	1930's	125	6	120	Kgru	992.7	56.0	Jan. 23, 1980	S, E	D	6/
102	Rutherford Ranch	--	--	200	4	--	Kea	1,055	138.0	Jan. 24, 1980	C, W	S	--
103	Rutherford Ranch	--	--	200	4	--	Kea	1,015	135.3	Jan. 23, 1980	C, W	S	--
104	Joe Rogers	James Tucker, Jr.	1976	527	6	62	Kgru	1,020	260	--	S, E	D	7/
201	Mike Rutherford	--	1945	320	6	--	Kea	925	163.05	Jan. 23, 1980	C, W	S	2/ 3/
202	Farris	Scarly Glass	--	200	7	200	Kea	905	24.3	Jan. 24, 1980	S, E	S	6/
203	Jack Dahlstrom	Raymond Whisenant	1970	225	7	25	Kea	835	80.4	Jan. 23, 1980	C, W	S	7/
204	Cecil Ruby	Hugh Glass	1950	245	6	--	Kea	800	136.2	Jan. 10, 1978	S, E	S	--
301	Cecil Ruby	T. E. Owens	1937	312	6	83	Kea	882.4	259.20	Jan. 9, 1978	S, E	S	2/

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Below land surface datum (ft)	Water level		Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)				Date of latest measurement for annual water-level survey	1/			
Hays County--Continued														
LR-58-57-302	Jack Dahlstrom	W. H. Glass	1973	415	12	158	Kea	809	184.55	Feb. 12, 1979	S, E	S	5/ 7/	
303	W. D. Turner	W. H. Glass	1973	315	7	315	Kea	870	242.12	May 25, 1978	S, E	D	6/ 7/	
402	Tom Fairey	James B. Tucker	1976	380	6	55	Kea	880	94.0	Jan. 25, 1980	S, E.	D	3/ 6/	
403	Rutherford Ranch	--	1952	350	10	--	Kea	982	232.29	Nov. 28, 1977	S, E	D	--	
502	Hoskins	Smith	1938	385	5	--	Kea	885	205.3	Jan. 24, 1980	S, E	D	Deepened to 385 feet by Ed Weige in 1963. 6/	
503	Michaelis Ranch	--	Before 1900	180	4	--	Kea	812	141.10	Aug. 30, 1978	C, W	S	--	
601	Cecil Ruby	E. B. Kutscher	1971	390	8-5/8	160	Kea	792	157.49	Apr. 20, 1978	S, E	S	7/	
602	Cecil Ruby	--	--	150	6-1/2	--	Kea	792	127.00	Jan. 10, 1978	S, E	S	2/	
801	J. C. Ruby, Jr.	C. L. Tyler	1941	365	6	260	Kea	938.2	235.89	Jan. 11, 1978	S, E	D	Deepened from 300-365 feet in 1969 by Kutscher. 7/	
802	Tom Johnson Estate	--	--	242	6	--	Kea	838	164.70	Jan. 11, 1978	C, E	S	2/	
901	Hays Consolidated School District	E. A. Glass	1968	575	10	235	Kea	821	--	--	S, E	S	6/ 7/	
902	Gregg Ranch	--	Before 1943	450	6	--	Kea	821.55	221.35	Jan. 23, 1980	N	N	Originally an oil test well. 2/ 5/	
903	Mountain City Ranch	C. L. Tyler	1943	400	6	--	Kea	822	223	Jan. 25, 1980	C, W	S	2/ 3/	
904	Pedernales Electric	James B. Tucker	1975	428	5-5/8	290	Kgru	825	235.06	Aug. 21, 1978	S, E	Ind	7/	
58-101	Franklin	--	1907	243	5	230	Kea	707.2	112.70	Jan. 21, 1980	N	N	2/ 3/ 5/	
104	Henry Armbruster	T. E. Owens	1937	248	6	--	Kea	730.3	142.8	Jan. 21, 1980	N	N	2/ 5/	
105	Joe Lowke	Tom Arnold	1978	477	4	480	Kea	773	227	Jan. 7, 1978	S, E	D	5/ 6/	
106	City of Buda	Tom Arnold	1977	450	8	--	Kea	706	148	Mar. 2, 1979	S, E	P	6/	
108	Jim Ruby	Kutscher	1971	548	10-3/4	271	Kgru	757	217.25	Aug. 17, 1978	N	N	5/	

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Below surface datum (ft)	Water level	Date of latest measurement for annual water-level survey	Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)								
<u>Hays County--Continued</u>														
LR-58-58-109	Jack Giberson	Frankie A. Glass	1971	270	7	215	Kea	755	--	--	--	S, E	D	<u>1/</u>
110	Julius Eddleman	Thomas Arnold	1976	280	4	200	Kea	745	--	--	--	S, E	D	<u>1/</u>
206	H. B. Granberry	E. A. Glass	1971	415	12	190	Kea	668	86.6	Jan. 21, 1980	Jan. 21, 1980	N	N	Cement d 0-45 feet. <u>5/ 1/</u>
403	City of Buda	J. B. Virdehl	1954	390	10	222	Kea	710	--	--	--	T, E	P	<u>6/</u>
406	Texas Cement	F. S. Tatum	1966	525	10	310	Kea	743	149.1	Jan. 21, 1980	Jan. 21, 1980	S, E	P	Cemented 0-310 feet. <u>2/</u>
407	Texas Cement	J. T. Johnson	1960	634	12	153	Kea	750	--	--	--	T, E	Ind	<u>6/</u>
408	Texas Cement	Forrest S. Tatum	1966	565	7	375	Kea	786	--	--	--	S, E	D	<u>1/</u>
410	D. J. Simon	Sanders Drilling Co.	1978	584	10	--	Kea	762	167.8	Jan. 25, 1980	Jan. 25, 1980	N	N	<u>5/</u>
411	W. I. Dismukes	E. B. Kutscher	1971	510	7	435	Kea	735	145.5	Jan. 21, 1980	Jan. 21, 1980	S, E	D	Cemented, 0-435 feet.
501	Goforth Water Supply	J. M. Wright	1970	649	8	500	Kea	721	--	--	--	S, E	P	<u>1/</u>
502	D. J. Simon	C. L. Tyler	1944	650	6	562	Kea	742	144.45	Jan. 22, 1980	Jan. 22, 1980	N	N	<u>3/ 5/</u>
503	Paul Keller	Dick Sanders	1966	540	7	481.5	Kea	745	137.9	Feb. 8, 1979	Feb. 8, 1979	N	N	--
504	Elmer Israel	C. T. Sterzing	1962	640	7	514	Kea	778	169.7	Jan. 22, 1980	Jan. 22, 1980	S, E	N	--
701	D. A. Dacy	--	1950	492	8	--	Kea	711	113.5	Jan. 22, 1980	Jan. 22, 1980	S, E	S	--
704	O. H. Cullen	E. R. Ownes	1972	532	7	368	Kea	746	149.4	Jan. 22, 1980	Jan. 22, 1980	S, E	D	<u>2/ 6/ 1/</u>
705	Ted Edwards	C. T. Sterzing	1964	667	7	548	Kea	725	127.98	Jan. 9, 1978	Jan. 9, 1978	S, E	D	<u>1/</u>
706	Lex Word	Glass	1959	520	7	300	Kea	695	105.3	Jan. 22, 1980	Jan. 22, 1980	S, E	N	Pump inoperative.
801	A. W. Whitten	C. L. Tyler	1943	502	7	431	Kea	712	120.5	Jan. 22, 1980	Jan. 22, 1980	S, E	N	--
902	David Shubert	Woodward & Co.	1955	3,338	6	--	--	--	--	--	--	--	N	Oil test. <u>5/ 1/</u>
LR-67-01-201	David Allen	Kutscher	--	300	--	--	Kea	672	--	--	--	--	--	<u>5/</u>

See footnotes at end of table.

Table 19.--Records of wells, test holes, and springs in the Austin urban study area--Continued

No.	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water-bearing unit	Altitude of land surface (ft)	Water level		Method of lift	Use of water	Remarks
					Diameter (in)	Depth (ft)			Below surface datum (ft)	Date of latest measurement for annual water-level survey ^{1/}			
Hays County--Continued													
LR-67-01-304	R. Selvera	Fleming Adair	1934	372	5	340	Kea	718	146.2	Jan. 22, 1980	N	N	--
305	A. A. Hale	J. W. Glass	1959	500	8	310	Kea	705.32	133.99	Aug. 21, 1978	C, E	D, S	<u>2/</u>

1/ Selected wells are included in monthly water-level surveys (see table 18).

2/ Texas Department of Water Resources observation well.

3/ Monthly water-level measurements available in table 18.

4/ Discontinued observation well.

5/ Geophysical log (radioactivity or electric log).

6/ Well or spring sampled for quality of water.

7/ Driller's log, sample log, or core data.

Table 20.--Water-quality data from wells and springs in the Austin urban study area

LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	FLOW RATE, INSTANTANEOUS (GPM) (00059)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)
TRAVIS								
YD 58-35-210	80-08-26	0830	20	15	260.00	619	7.1	24.5
YD 58-35-309	80-08-25	1415	20	15	239.50	807	7.4	28.5
YD 58-35-407	80-08-25	1030	20	--	85.00	562	7.6	24.5
YD 58-35-415	80-08-25	0955	20	15	97.50	806	6.8	23.5
YD 58-35-506	80-08-26	0915	20	40	--	793	7.0	24.0
YD 58-35-508	80-08-25	1145	20	15	164.20	728	7.0	24.0
YD 58-35-713	80-08-25	0845	20	--	--	810	6.8	23.0
YD 58-35-804	80-08-26	1345	120	15	156.50	864	7.3	24.0
YD 58-35-808	80-08-26	1130	20	--	180.00	835	7.2	23.0
YD-58-35-906	80-08-26	0955	20	15	152.80	1140	7.1	24.0
YD 58-36-402	80-08-25	1330	20	15	162.60	720	7.1	25.0
YD 58-42-306	80-08-27	1230	20	15	94.00	5850	7.3	24.0
YD-58-42-608	80-08-27	1330	20	--	101.90	547	7.3	19.5
	80-09-09	1400	--	--	--	--	--	--
YD 58-42-809	80-08-27	0930	20	15	--	503	7.4	22.5
YD 58-42-814	80-08-27	1045	20	--	219.00	559	7.3	22.5
YD 58-42-818	80-08-27	1015	20	15	210.00	752	7.4	23.5
YD 58-42-913	80-08-27	0830	20	15	105.90	645	7.1	25.0
YD 58-42-926	80-08-27	1115	20	15	161.40	587	7.4	23.5
YD-58-43-206	80-08-26	1300	20	15	110.50	863	7.3	24.0
YD 58-49-604	80-09-08	0945	20	15	106.00	615	7.0	23.5
YD 58-50-101	80-08-28	1000	20	15	181.80	659	7.1	24.5
YD 58-50-206	80-08-27	1415	20	15	228.40	500	7.4	23.5
YD 58-50-211	80-08-28	0900	60	--	--	592	7.0	22.0
YD 58-50-215	80-08-28	0930	20	--	--	620	7.0	23.0
YD 58-50-216	80-09-08	1030	--	--	250.70	807	7.4	24.5
YD 58-50-401	80-08-28	1115	20	15	247.00	575	7.1	23.0
YD 58-50-406	80-08-28	1045	20	15	--	660	7.2	23.5
YD 58-50-408	80-08-28	1145	20	15	198.30	686	7.2	23.0
YD 58-50-409	80-09-04	1352	20	--	286.00	778	7.3	27.5
YD 58-50-502	80-09-08	1330	20	15	242.00	559	7.1	25.0
YD 58-50-704	80-08-28	1245	60	--	176.00	570	7.1	22.0
YD 58-50-810	80-08-28	1330	60	--	--	826	7.5	23.5

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENT- I- FIFR	DATE OF SAMPLE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, U-7 UM-MF (COLS./ 100 ML) (31625)	STREP- TUOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)
TRAVIS										
YD 5A-35-210	80-08-26	<13	<1	<1	270	0	61	28	14	.4
YD 5A-35-309	80-08-25	<1	<1	K1	250	0	55	27	79	2.2
YD 5A-35-407	80-08-25	23	<1	K1	290	27	82	20	4.2	.1
YD 5A-35-415	80-08-25	63	<1	K1	370	4	110	24	7.5	.2
YD 5A-35-506	80-08-26	K4	<1	<1	330	10	93	23	33	.8
YD 5A-35-508	80-08-25	730	K9	380	330	10	94	23	16	.4
YD 5A-35-713	80-08-25	<1	<1	<1	420	66	89	47	13	.3
YD 5A-35-804	80-08-26	<1	<1	<1	300	6	86	21	63	1.6
YD 5A-35-808	80-08-26	<1	<1	<1	280	0	70	25	70	1.8
YD-5A-35-906	80-08-26	<1	<1	<1	330	16	90	25	120	2.9
YD 5A-36-402	80-08-25	1000	K2	K5	310	82	120	2.8	23	.6
YD 5A-42-306	80-08-27	K7	<1	<1	1100	790	210	140	960	13
YD-5A-42-608	80-08-27 80-09-09	17000 440	3000 51	24000 200	220 --	36 --	52 --	21 --	27 --	.8 --
YD 5A-42-809	80-08-27	<1	<1	<1	240	23	65	18	8.5	.2
YD 5A-42-814	80-08-27	<1	<1	<1	270	9	74	21	7.2	.2
YD 5A-42-818	80-08-27	<1	<1	<1	310	57	62	38	13	.3
YD 5A-42-913	80-08-27	K4	<1	<1	330	18	99	20	6.4	.2
YD 5A-42-926	80-08-27	4400	<1	1500	300	35	86	20	8.4	.2
YD-5A-43-206	80-08-26	<1	<1	<1	260	0	62	26	80	2.2
YD 5A-49-604	80-09-08	25	<1	K9	320	12	77	30	6.8	.2
YD 5A-50-101	80-08-28	39	<1	<1	310	37	67	34	6.3	.2
YD 5A-50-206	80-08-27	<1	<1	<1	250	13	64	22	6.7	.2
YD 5A-50-211	80-08-28	600	K3	K5	300	16	79	24	8.5	.2
YD 5A-50-215	80-08-28	K8	<1	K2	290	3	70	28	9.4	.2
YD 5A-50-216	80-09-08	K220	<1	<1	320	94	90	24	31	.8
YD 5A-50-401	80-08-28	<1	<1	<1	280	13	79	21	6.4	.2
YD 5A-50-406	80-08-28	35	<1	<1	320	66	87	25	16	.4
YD 5A-50-408	80-08-28	K4	<1	<1	340	45	78	35	8.0	.2
YD 5A-50-409	80-09-04	K9	<1	<1	380	130	73	48	6.3	.1
YD 5A-50-502	80-09-08	K1	<1	<1	300	16	72	28	6.1	.2
YD 5A-50-704	80-08-28	K8	<1	<1	280	13	79	19	6.3	.2
YD 5A-50-810	80-08-28	<1	<1	K9	300	74	64	35	50	1.2

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENT- I- FIFR	DATE OF SAMPLE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
TRAVIS										
YD 58-35-210	80-08-26	1.5	330	0	19	12	2.4	12	313	.00
YD 58-35-309	80-08-25	4.0	320	0	98	41	2.8	16	481	.00
YD 58-35-407	80-08-25	.5	320	0	12	10	.2	9.5	296	3.3
YD 58-35-415	80-08-25	.5	450	0	14	16	.2	12	406	1.6
YD 58-35-506	80-08-26	1.5	390	0	41	32	.5	12	428	.90
YD 58-35-508	80-08-25	1.0	390	0	20	18	.5	12	377	1.8
YD 58-35-713	80-08-25	3.0	430	0	60	18	1.5	13	455	.00
YD 58-35-804	80-08-26	2.4	360	0	56	57	.5	11	474	.00
YD 58-35-808	80-08-26	2.2	340	0	47	66	.9	12	461	.00
YD 58-35-906	80-08-26	3.6	380	0	84	120	1.1	13	644	.00
YD 58-36-402	80-08-25	.9	280	0	27	64	.4	7.2	383	1.3
YD 58-42-306	80-08-27	65	380	0	2000	690	.5	8.4	4260	.00
YD 58-42-608	80-08-27 80-09-09	3.4 --	220 --	0 --	41 --	50 --	.3 --	9.9 --	313 --	.07 .05
YD 58-42-809	80-08-27	1.0	260	0	24	14	.2	8.9	268	.11
YD 58-42-814	80-08-27	1.2	320	0	17	12	.2	10	300	.33
YD 58-42-818	80-08-27	4.1	310	0	110	11	.9	12	404	.00
YD 58-42-913	80-08-27	.8	380	0	12	13	.2	10	349	.46
YD 58-42-926	80-08-27	1.1	320	0	26	13	.2	11	323	.62
YD 58-43-206	80-08-26	2.6	340	0	59	81	1.1	12	491	.00
YD 58-49-604	80-09-08	2.7	370	0	25	13	--	10	347	.30
YD 58-50-101	80-08-28	2.1	330	0	50	8.5	.6	13	344	.20
YD 58-50-206	80-08-27	1.2	290	0	7.4	11	.2	11	266	.63
YD 58-50-211	80-08-28	.9	340	0	7.3	14	.2	12	314	1.8
YD 58-50-215	80-08-28	1.2	350	0	5.1	13	.3	15	315	1.1
YD 58-50-216	80-09-08	5.3	280	0	170	38	--	18	514	.21
YD 58-50-401	80-08-28	.9	330	0	13	10	.3	11	304	1.7
YD 58-50-406	80-08-28	1.0	310	0	48	21	.3	14	365	4.7
YD 58-50-408	80-08-28	1.2	360	0	53	15	.3	14	382	.10
YD 58-50-409	80-09-04	4.1	310	0	170	8.1	1.0	13	477	.00
YD 58-50-502	80-09-08	1.1	340	0	20	11	--	11	317	.85
YD 58-50-704	80-08-28	.9	320	0	12	11	.2	11	297	1.3
YD 58-50-810	80-08-28	4.2	280	0	140	38	2.3	12	484	.00

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENT- I- FIFR	DATE OF SAMPLE	NITRO- GEN. NITRITE	NITRO- GEN. AMMONIA	NITRO- GEN. ORGANIC	PHOS- PHORUS.
		TOTAL (MG/L AS N) (00615)	TOTAL (MG/L AS N) (00610)	TOTAL (MG/L AS N) (00605)	TOTAL (MG/L AS P) (00665)
TRAVIS					
YD 58-35-210	80-08-26	.00	.00	.37	.02
YD 58-35-309	80-08-25	.00	.14	.25	.01
YD 58-35-407	80-08-25	.00	.02	.88	.10
YD 58-35-415	80-08-25	.00	.00	.38	.02
YD 58-35-506	80-08-26	.00	.04	.39	.01
YD 58-35-508	80-08-25	.00	.02	.63	.02
YD 58-35-713	80-08-25	.00	.00	.53	.02
YD 58-35-804	80-08-26	.00	.00	.37	.02
YD 58-35-808	80-08-26	.00	.03	.22	.02
YD-58-35-906	80-08-26	.00	.08	.39	.01
YD 58-36-402	80-08-25	.00	.00	1.1	.01
YD 58-42-306	80-08-27	.00	1.60	1.7	.02
YD-58-42-608	80-08-27 80-09-09	.00 .02	.00 .03	2.2 .46	.02 .02
YD 58-42-809	80-08-27	.00	.00	.20	.01
YD 58-42-814	80-08-27	.00	.00	.77	.01
YD 58-42-818	80-08-27	.00	.00	.25	.02
YD 58-42-913	80-08-27	.00	.00	1.1	.01
YD 58-42-926	80-08-27	.00	.00	.34	.01
YD-58-43-206	80-08-26	.00	.00	.29	.02
YD 58-49-604	80-09-08	.01	.00	1.3	.01
YD 58-50-101	80-08-28	.00	.00	.35	.00
YD 58-50-206	80-08-27	.00	.00	.39	.02
YD 58-50-211	80-08-28	.00	.00	.33	.01
YD 58-50-215	80-08-28	.00	.02	1.2	.01
YD 58-50-216	80-09-08	--	--	.39	.08
YD 58-50-401	80-08-26	.00	.00	.30	.01
YD 58-50-406	80-08-28	.00	.00	.32	.00
YD 58-50-408	80-08-28	.00	.02	.30	.00
YD 58-50-409	80-09-04	.05	.06	.40	.01
YD 58-50-502	80-09-08	.01	.00	.36	.02
YD 58-50-704	80-08-28	.00	.00	.56	.01
YD 58-50-810	80-08-28	.00	.11	.47	.00

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENT- I- FIER	DATE OF SAMPLE	TIME			GROSS ALPHA, DIS- SOLVED)	GROSS ALPHA, SUSP, TOTAL	GROSS BETA, DIS- SOLVED	GROSS BETA, SUSP, TOTAL	GROSS BETA, DIS- SOLVED	GROSS BETA, SUSP, TOTAL
			(UG/L AS U-NAT) (80030)	(UG/L AS U-NAT) (80040)	(PCI/L AS CS-137) (03515)	(PCI/L AS CS-137) (03516)	(PCI/L AS SR/ YT-90) (80050)	(PCI/L AS SR/ YT-90) (80060)		
TRAVIS										
YD 58-35-415	80-08-25	0955	--	--	<7.3	<.4	<5.7	<.4	<5.4	<.4
YD 58-36-402	80-08-25	1330	--	--	<6.1	<.4	<2.8	<.4	<2.6	<.4
YD-58-42-608	80-08-27	1330	--	--	<5.6	<.4	4.3	<.4	4.2	<.4
YD-58-43-206	80-08-26	1300	--	--	17	<.4	6.7	<.4	6.4	<.4
YD 58-50-215	80-08-28	0930	--	--	<6.2	<.4	<3.9	<.4	<3.7	<.4
YD 58-50-408	80-08-28	1145	--	--	<6.0	<.4	<2.5	<.4	<2.3	<.4
YD 58-50-810	80-08-28	1330	--	--	15	<.4	<5.6	<.4	<5.4	<.4

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENT- I- FIER	DATE OF SAMPLE	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L) (80020)
TRAVIS			
YD 58-35-415	80-08-25	.27	1.1
YD 58-36-402	80-08-25	.24	.80
YD-58-42-608	80-08-27	.15	1.1
YD-58-43-206	80-08-26	3.2	.03
YD 58-50-215	80-08-28	.34	1.3
YD 58-50-408	80-08-28	.33	1.1
YD 58-50-810	80-08-28	2.0	.40

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENT- I- FIFR	DATE OF SAMPLT	TIME	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH OF WELL, TOTAL (FEET) (72008)	FLOW RATE, INSTAN- TANEOUS (GPM) (00059)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)
HAYS									
LR-58-49-801	80-08-29	1300	20	--	15	37.75	655	7.1	21.0
LR 58-49-903	80-09-04	1306	20	--	10	--	680	7.1	27.0
LR 58-57-101	80-08-29	1120	20	125	15	63.20	631	7.5	22.0
LR 58-57-202	80-08-29	1030	60	200	15	43.94	666	7.9	22.5
LR 58-57-303	80-08-29	0930	20	315	15	--	592	7.7	23.0
LR-58-57-402	80-09-04	1118	20	--	--	97.00	543	7.3	23.5
LR 58-57-502	80-09-04	1030	20	--	--	183.20	562	7.1	24.0
LR-58-57-901	80-09-04	1154	--	--	--	234.20	487	7.3	24.5
LR 58-58-105	80-08-29	0850	60	477	15	--	496	7.6	23.5
LR 58-58-403	80-08-29	0815	60	390	--	124.30	578	7.6	22.0
LR 58-58-407	80-09-04	0805	--	--	--	--	621	7.1	25.0
LR-58-58-704	80-09-04	0900	20	--	15	158.60	1030	7.5	24.5

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENT- I- FIELD	DATE OF SAMPLE	COLI- FORM, TOTAL, IMMED., (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCUCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS, AS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)
HAYS										
LR-58-49-801	80-08-29	65	3	2	360	42	94	31	5.1	.1
LR 58-49-903	80-09-04	33	<1	<1	330	4	100	20	5.5	.1
LR 58-57-101	80-08-29	1700	50	K15	340	23	88	28	5.9	.1
LR 58-57-202	80-08-29	K8	<1	K1	340	4	78	36	5.5	.1
LR 58-57-303	80-08-29	<1	<1	<1	300	5	89	19	12	.3
LR-58-57-402	80-09-04	<1	<1	<1	290	14	58	36	6.2	.2
LR 58-57-502	80-09-04	34	<1	<1	290	12	72	27	6.2	.2
LR-58-57-901	80-09-04	<1	<1	K1	250	5	56	27	5.4	.1
LR 58-58-105	80-08-29	2600	K6	390	240	16	59	22	6.4	.2
LR 58-58-402	80-08-29	K44	<0	K14	240	19	73	26	6.4	.2
LR 58-58-407	80-09-04	K4	<1	<1	310	44	70	32	6.8	.2
LR-58-58-704	80-09-04	<1	<1	<1	310	73	61	39	99	2.4

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	BICARBONATE (MG/L AS HCO3) (00440)	CARBONATE (MG/L AS CO3) (00445)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)
MAYS										
LR-58-49-801	80-08-29	1.6	390	0	39	12	.4	11	386	.93
LR 58-49-903	80-09-04	.6	400	0	35	9.2	.2	11	379	.53
LR 58-57-101	80-08-29	1.9	380	0	23	13	.4	12	359	.00
LR 58-57-202	80-08-29	1.3	410	0	14	12	.3	13	362	.04
LR 58-57-303	80-08-29	.6	360	0	3.1	13	.2	6.4	321	1.3
LR-58-57-402	80-09-04	2.2	340	0	15	11	.4	13	309	.00
LR 58-57-502	80-09-04	1.0	340	0	9.2	10	.4	12	305	2.3
LR-58-57-901	80-09-04	1.0	300	0	15	9.6	.4	11	273	.58
LR 58-58-105	80-08-29	1.3	270	0	18	7.6	.4	10	258	.35
LR 58-58-403	80-08-29	1.0	330	0	27	11	.5	11	319	.30
LR 58-58-407	80-09-04	1.2	320	0	88	11	1.8	11	380	.00
LR-58-58-704	80-09-04	7.9	290	0	170	98	3.2	12	634	.00

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENTI- FIER	DATE OF SAMPLE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)
HAYS					
LR-58-49-801	80-08-29	.00	.00	.38	.04
LR 58-49-903	80-09-04	.01	.04	.39	.02
LR 58-57-101	80-08-29	.00	.02	.43	.00
LR 58-57-202	80-08-29	.00	.00	.60	.00
LR 58-57-303	80-08-29	.00	.02	.69	.01
LR-58-57-402	80-09-04	.01	.02	.32	.01
LR 58-57-502	80-09-04	.00	.00	.92	.01
LR-58-57-901	80-09-04	.00	.00	.76	.01
LR 58-58-105	80-08-29	.00	.02	1.4	.01
LR 58-58-403	80-08-29	.00	.00	.55	.01
LR 58-58-407	80-09-04	.00	.00	.53	.02
LR-58-58-704	80-09-04	.01	.49	.47	.00

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENT- I- FIR	DATE OF SAMPLE	TIME	GROSS	GROSS	GROSS	GROSS	GROSS	GROSS	GROSS	GROSS
			ALPHA, DIS- SOLVED) (PCI/L AS U-NAT) (01515)	ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	ALPHA, DIS- SOLVED) (UG/L AS U-NAT) (80030)	ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)
			MAYS							
LR-58-49-801	80-08-29	1300	--	--	<3.5	<.3	<3.0	<.4	<2.8	<.4
LR 58-57-202	80-08-29	1030	<3.5	<.3	<5.1	<.4	<2.7	<.4	<2.5	<.4
LR 58-57-502	80-09-04	1030	<3.3	<.3	<4.9	<.4	<2.3	<.4	<2.2	<.4
LR 58-58-403	80-08-29	0815	10	<.3	15	<.4	<2.4	<.4	<2.2	<.4
LR-58-58-704	80-09-04	0900	<8.2	<.3	<12	<.4	11	<.4	10	<.4

Table 20.--Water-quality data from wells and springs in the Austin urban study area--Continued

LOCAL IDENT- I- PIER	DATE OF SAMPLE	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L) (80020)
HAYS			
LR-58-49-801	80-08-29	.24	.62
LR 58-57-202	80-08-29	.27	.55
LR 58-57-502	80-09-04	.26	1.4
LR 58-58-403	80-08-29	.56	.85
LR-58-58-704	80-09-04	1.3	.04

Table 21.--Monthly water-level measurements of observation wells in the Austin urban study area, 1980 water year 1/

Well number	Distance below land-surface datum (feet)											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
YD-58-34-613	34.05	34.5	--	31.05	28.05	27.4	26.4	24.0	26.35	30.9	--	29.1
35-508	--	175.0	--	173.5	--	--	165.7	118.7	123.5	151.33	164.15	171.92
511	152.1	155.55	--	152.1	151.2	150.65	150.4	149.85	148.7	148.97	--	150.8
607	174.35	180.25	--	184.5	182.9	173.7	172.2	122.75	127.3	149.5	--	179.2
702	12.0	12.8	--	12.8	12.45	12.1	11.4	9.8	10.85	11.27	--	12.57
808	--	--	--	--	--	--	--	--	145.45	163.5	180.0	185.82
809	197.4	202.6	--	205.0	205.5	198.7	195.3	<u>a/</u>	--	--	--	--
906	162.5	169.1	--	172.1	181.6	161.3	160.1	111.5	116.5	139.55	152.8	168.02
42-608	102.5	101.85	--	101.45	105.65	102.35	102.35	--	101.0	100.38	101.9	100.61
805	--	230.9	--	229.2	227.1	221.65	224.55	224.4	224.4	234.09	--	238.48
817	218.5	217.6	--	218.1	--	219.1	217.75	227.2	217.75	218.0	218.6	--
903	27.54	28.08	--	32.67	32.79	31.96	28.44	26.6	27.10	28.06	--	28.84
925	139.65	139.4	--	140.5	140.7	140.85	140.65	138.5	139.5	--	--	141.54
43-205	69.1	74.0	--	81.75	84.9	87.2	96.8	80.9	75.25	71.14	--	78.9
705	45.1	48.4	--	52.5	54.6	55.5	54.45	54.45	44.5	43.46	--	50.86
LR-58-49-801	37.5	--	--	37.05	36.95	36.3	36.20	33.5	38.0	37.8	37.75	38.67
YD-58-50-216	229.55	238.85	--	248.75	252.0	255.95	249.20	226.15	235.10	241.55	250.7	248.6
217	119.55	123.65	--	127.05	128.6	115.6	91.30	80.15	110.3	123.2	--	--
219	228.9	228.9	--	228.95	227.8	226.75	226.9	228.0	225.7	226.2	--	225.42
301	140.75	151.3	--	168.7	176.0	178.15	178.40	168.7	165.0	168.0	--	178.7
412	154.7	156.0	--	157.2	160.5	162.4	158.20	154.9	155.2	155.9	157.02	158.05
518	233.0	245.0	--	257.15	259.2	257.1	249.40	218.0	226.6	242.72	--	251.55
704	--	180.25	--	192.8	194.5	190.85	--	--	160.5	176.65	--	--
801	84.4	92.6	--	92.65	108.25	100.4	105.43	91.55	97.1	114.29	--	114.55
LR-58-57-201	164.75	166.90	--	163.05	168.3	164.25	167.60	171.9	167.6	163.3	--	166.33
402	94.80	95.45	--	94.0	96.4	95.95	94.40	94.7	94.6	<u>b/</u> 104.0	97.00	95.8
903	205.55	213.05	--	223.0	243.85	227.5	237.55	221.6	215.0	216.28	--	213.05
58-101	110.65	103.7	--	112.70	118.7	123.2	124.60	113.85	102.3	111.0	--	124.7
301	132.75	135.3	--	137.85	144.15	146.2	146.2	151.97	145.65	144.67	146.35	152.44
502	138.35	140.5	--	144.45	151.6	--	151.30	152.0	150.5	149.92	--	152.38

1/ Except for January, all measurements were made during the last week of the month. See table 19 for a listing of water-level measurements of additional wells made for the annual water-level survey.

a/ Well destroyed.

b/ This measurement was made while the well was being pumped.